LAW AND PRACTICE

RELATING TO

LETTERS PATENT FOR INVENTIONS

A TREATISE

ON THE

LAW AND PRACTICE

RELATING TO

Letters Patent for Inventions

WITH

AN APPENDIX

OF

STATUTES, INTERNATIONAL CONVENTION, RULES, FORMS AND PRECEDENTS, ORDERS, &c.

BY

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SECOND EDITION

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TO

SIR RICHARD EVERARD WEBSTER, G.C.M.G., Q.C., M.P.,

HER MAJESTY'S ATTORNEY-GENERAL,

THIS WORK IS BY PERMISSION

Dedicated

PREFACE.

THE favourable reception which this treatise met with at the hands of the profession has induced me to undertake the preparation of a Second Edition.

The end I have had in view has been to more nearly attain the ideal stated in the Preface to the First Edition—viz., to produce a work which in a reasonable compass shall reliably state the law of England as it at present exists in reference to Letters Patent for Inventions.

It is not necessary to dwell on the importance of the patent law to those engaged in carrying on the manufactures and industries of the country; nor has it been any part of my task to point out or suggest directions, which are probably many, in which, by legislation, our law might possibly be altered in the interests of both inventors and the public.

A comparison of the present with the first edition will demonstrate that the book has been largely re-written. By printing the text slightly closer, and the employment of a somewhat smaller type for extracts from the judgments of the Courts and epitomes of cases given by way of examples of the principles of law involved, a very considerable quantity of new matter has been added to the body of the work whilst its bulk has not been seriously increased.

With the object of rendering reference to the various subjects treated of more easy to the reader in search of information on any particular head, heavy shoulder-notes, together with side-notes, have been employed; further, the various chapters have been freely divided and sub-divided into distinct sections,

and the Index has been increased by more than half its original size.

The decided cases, including some reported during last month, will be found referred to, and in most instances the date is given.

Though fully conscious of its defects, I venture to hope that the result of my labour may be found of use to the profession and to inventors generally.

ROBERT FROST.

5 NEW COURT,
LINCOLN'S INN, W.C.,
September 1898.

PREFACE TO THE FIRST EDITION.

THIS book is my attempt to bring within a reasonable compass our law, as it at present exists, in reference to Letters Patent for Inventions. Any complete history of our legislation in the past upon the subject would have inconveniently added to the bulk of the volume; and, consequently, it has not been referred to, except where necessary to explain the present practice. For the same reason I have omitted all reference to the laws of foreign countries where legal protection to Inventors is afforded.

To the extent that the book approximates to the end I had in view, so must be the measure of its success or failure. Whatever its shortcomings, I hope it may be found of use.

My friend, Mr. H. H. Haldinstein, of the South-Eastern Circuit, has assisted me in the revision of the MSS. and in seeing the work through the press. My best thanks are due to him; I proffer them here.

ROBERT FROST.

8 KING'S BENCH WALK, TEMPLE.
January 1891.

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ABBREVIATIONS USED IN THIS WORK.

A. & E.	Adolphus and Ellis' Reports.
B. & Ad.	Barnewall and Adolphus' Reports.
B. & Ald.	Barnewall and Alderson's Reports.
B. & C.	Barnewall and Cresswell's Reports.
Beav.	Beavan's Reports.
B. & S.	Best and Smith's Reports.
Bing. N. C.	Bingham's New Cases.
B. & P. N. R.	Bosanquet and Puller's New Reports.
Brod. & Bing.	Broderip and Bingham's Reports.
Bull. N. P.	Buller's Nisi Prius.
Camp.	Campbell's Reports.
C. B.	Common Bench Reports.
C. B. N. S.	Common Bench Reports, New Series.
Car. & K.	Carrington and Kirwan's Reports.
Car. & P.	Carrington and Payne's Reports.
Carp. P. C.	Carpmael's Patent Cases.
C. L. R.	Common Law Reports.
Cl. & F.	Clark and Finnelly's Reports.
Co. R.	Coke's Reports.
Coop. Ch. Ca.	Cooper's Chancery Cases.
Cr. M. & R.	Crompton, Meeson, and Roscoe's Reports.
D. & L.	Dawson and Lloyd's Reports.
Dav. P. C.	Davies' Patent Cases.
De G. F. & J.	De Gex, Fisher, and Jones' Reports.
De G. & J.	De Gex and Jones' Reports.
De G. M. & G.	De Gex, Macnaghten, and Gordon's Reports.
De G. J. & S.	De Gex, Jones, and Smith's Reports.
Dowl. & Ry.	Dowling and Ryland's Reports.
Dr. & S.	Drewry and Smale's Reports.
E. & B.	Ellis and Blackburn's Reports.
E. B. & E.	Ellis, Blackburn, and Ellis' Reports.
E. & E.	Ellis and Ellis' Reports.
Eng.	The Engineer (a weekly publication).
Eq. Rep.	Equity Reports.
Exch.	Exchequer Reports.
F. & F.	Foster and Finlason's Reports.
Giff.	Giffard's Reports.
Griff. L. O. C.	Griffin's Patent Cases decided by the Comptroller-General and Law Officers in 1887.
Griff. P. C.	Griffin's Patent Cases.
G. P. C.	Goodeve's Patent Cases.
G. P. P.	Goodeve's Patent Practice.
H. Bl.	H. Blackstone's Reports.
H. & M.	Hemming and Miller's Reports.
H. L. C.	House of Lords Cases.
Holt N. P.	Holt's Nisi Prius Cases.
H. & N.	Hurlstone and Norman's Exchequer Reports.
Ir. Ch. Rep.	Irish Chancery Reports.
Iron	Iron (a weekly publication).

Johns.	Johnson's Reports.
J. & H.	Johnson and Hemming's Reports.
Jur. N. S.	Jurist, New Series.
Jur. O. S.	Jurist, Old Series.
K. & J.	Kay and Johnson's Reports.
L. J. N. S. Ch.	Law Journal Reports, New Series, Chancery.
L. J. N. S. C. P.	" " " Common Pleas.
L. J. N. S. Ex.	" " " Exchequer.
L. J. N. S. Q. B.	" " " Queen's Bench.
L. J. O. S.	Law Journal Reports, Old Series.
L. O. C.	Griffin's Patent Cases decided by the Comptroller-General and Law Officers in 1887.
L. R. App. Cas.	Law Reports, Appeal Cases.
L. R. Ch.	" Chancery Appeals.
L. R. Ch. D.	" Chancery Division.
L. R. C. P.	" Common Pleas Cases.
L. R. E. & I. App.	" English and Irish Appeal Cases.
L. R. Eq.	" Equity Cases.
L. R. Ex.	" Exchequer Cases.
L. R. H. L.	" House of Lords.
L. R. P. C.	" Privy Council Cases.
L. R. Q. B. D.	" Queen's Bench Division.
L. T.	Law Times, Old Series.
L. T. N. S.	Law Times, New Series.
M. & G.	Manning and Granger's Reports.
M. & W.	Meeson and Welsby's Reports.
Mac. & G.	Macnaghten and Gordon's Reports.
Macr. P. C.	Macrory's Patent Cases.
Marsh.	Marshall's Reports.
Mer.	Merivale's Reports.
Moo. P. C. N. S.	Moore's Reports of Cases in the Privy Council, New Series.
Moo. P. C. O. S.	Moore's Reports of Cases in the Privy Council, Old Series.
Myl. & Cr.	Mylne and Craig's Reports.
N. R.	The New Reports.
Newt. L. J. C. S.	Newton's London Journal of Arts and Sciences, Conjointed Series.
Newt. L. J. N. S.	Newton's London Journal of Arts and Sciences, New Series.
Parl. Rep.	Parliamentary Reports.
Phill.	Phillips' Reports.
P. O. R.	Patent Office Reports of Patent Cases.
Q. B.	Queen's Bench Reports.
R.	The Reports.
R. P. C.	Patent Office Reports of Patent Cases.
R. S. C.	Rules of the Supreme Court.
Russ.	Russell's Reports.
Russ. & M.	Russell and Mylne's Reports.
Ry. & M.	Ryan and Moody's Reports.
Scott N. R.	Scott's New Reports.
Stark. R.	Starkie's Reports.
Taunt.	Taunton's Reports.
T. R.	Term Reports.
Times R.	Times Law Reports.
Tyr.	Tyrwhitt's Reports.
Ves.	Vesey's Reports.
W. N.	Weekly Notes.
W. P. C.	Webster's Patent Cases.
W. R.	The Weekly Reporter.
Y. & C.	Younge and Collyer's Reports.

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ADDENDA ET CORRIGENDA.

Page 105, line 15, *add* Milner's Patent, [1898] 15 R. P. C. 205.

Page 107, note (*q*), *add* Dowler *v.* Keeling, [1898] 15 R. P. C. 214.

Page 122, note (*f*), *add* Milner's Patent, [1898] 15 R. P. C. 205.

Page 171, note (*m*), *add* Osmond's, Ld., *v.* Balmoral Cycle Co., [1898] 15 R. P. C. 505.

Page 186, note (*m*); page 227, note (*d*); page 241, note (*k*); and page 494, note (*t*), *add* 15 R. P. C. 421.

Page 291, note (*p*), *add* See also Graham *v.* Eli, [1898] 15 R. P. C. 259.

Page 312, note (*r*), *add* as to reopening cases decided by the Comptroller or law officer, see Thomas and Prevost's Patent, [1898] 15 R. P. C. 257.

Page 360, note (*h*), *add* See also New Ixion and Cycle Co. *v.* Spilsbury, [1898] 15 R. P. C. 380.

Page 372, note (*f*) *add* Coppin *v.* Lloyd, [1898] 15 R. P. C. 373.

Page 401, note (*b*), *add* Cerckel's Patent,]1898] 15 R. P. C. 500.

Page 495, note (*c*), *add* Innes *v.* Beal, [1898] 15 R. P. C. 449.

Page 532, note (*g*), *add* Mica Insulator Co. *v.* Electrical Co., [1898] 15 R. P. C. 489.

Page 607, note (*b*), *add* See Pneumatic Tyre Co. *v.* Puncture Proof Pneumatic Tyre Co., [1898] 15 R. P. C. 405.

Page 626, note (*l*), *add* See also Dunlop Pneumatic Tyre Co. *v.* New Ixion Tyre and Cycle Co., [1898] 15 R. P. C. 389.

Page 720, Rules 45, 46, and 47 should be omitted—*see* Erratum facing p. 840.

ERRATUM.

THE fees on certificate of renewal and enlargement of time for payment of renewal fees printed at p. 840 *ante*, and numbered 14 to 28 inclusive, are erroneous. The following fees were substituted by the Patent Rules, 1892 (second set):

On certificate of renewal:—

		£	s.	d.
14.	Before the expiration of the 4th year from the date of the patent and in respect of the 5th year . .	5	0	0
15.	Before the expiration of the 5th year from the date of the patent and in respect of the 6th year . .	6	0	0
16.	Before the expiration of the 6th year from the date of the patent and in respect of the 7th year . .	7	0	0
17.	Before the expiration of the 7th year from the date of the patent and in respect of the 8th year . .	8	0	0
18.	Before the expiration of the 8th year from the date of the patent and in respect of the 9th year . .	9	0	0
19.	Before the expiration of the 9th year from the date of the patent and in respect of the 10th year . .	10	0	0
20.	Before the expiration of the 10th year from the date of the patent and in respect of the 11th year . .	11	0	0
21.	Before the expiration of the 11th year from the date of the patent and in respect of the 12th year . .	12	0	0
22.	Before the expiration of the 12th year from the date of the patent and in respect of the 13th year . .	13	0	0
23.	Before the expiration of the 13th year from the date of the patent and in respect of the 14th year . .	14	0	0

On enlargement of time for payment of renewal fees:—

24.	Not exceeding one month	1	0	0
25.	,, two months	3	0	0
26.	,, three months	5	0	0

Rules 45, 46, and 47 of the Patent Rules, 1890 (p. 720 *ante*) are repealed, and it is provided by the Patent Rules, 1892 (second set) as follows:—

PAYMENT OF ANNUAL FEES FOR CONTINUANCE OF PATENT.

4. If a Patentee intends at the expiration of the fourth year from the date of his patent to keep the same in force, he shall, before the expiration of the fourth and each succeeding year during the term of the patent, pay the prescribed fee. The Patentee may pay the whole or any portion of the aggregate of such prescribed annual fees in advance.

The Form J in the Second Schedule, duly stamped, should be used for the purpose of this payment.

LETTERS PATENT FOR INVENTIONS.

CHAPTER I.

THE PATENTEE.

INTRODUCTORY.

Early monopolies.

BEFORE the reign of James I., the Sovereigns of England laid claim to, and exercised, the right of granting monopolies of carrying on certain trades, or producing various articles within the realm, or importing them from other countries.

These monopolies were given to the recipients in respect of services rendered by them, or as marks of royal favour.

The system of creating monopolies was made the means on various occasions of raising large sums of money for the expenditure of the government, and the support of the Crown, to the detriment of the public at large.

Statute of Monopolies.

Under the Tudor Sovereigns monopolies were granted to such an extent, and became so monstrously oppressive, that, finally, in the twenty-first year of James I., Parliament passed the celebrated Statute of Monopolies,(*a*) which, *as a declaration of the Common Law on the subject* must be considered as the foundation of our modern patent laws.

The Statute of Monopolies is the earliest statute which relates to grants of the sole use and exercise of inventions, though several Acts had been previously passed for suppressing various illegal monopolies.(*b*)

There is no doubt, however, that the Crown, previous to the Statute of Monopolies,(*c*) did exercise the right, which it claimed at Common Law, of granting to inventors the sole use and exercise of their inventions. There are several reported

(*a*) 21 Jac. I. c. 3.

(*b*) See Mag. Ch. c. 30; 9 Edw. III. st. 1, c. 1; Stat. of Cloths (25 Edw. III. c. 2); Stat. 27 Edw. III. st. 2; 28 Edw. III. c. 13, s. 3; 31 Edw. III. c. 10; 2 Ric. II. st. 1, c. 1; 7 Hen. VII. c. 9; and 12 Hen. VII. c. 6.

(*c*) 21 Jac. I. c. 3.

Introductory.

cases dealing with grants of letters patent from the Crown to inventors previous to 1623, the date of the statute,(*d*) and the practice is referred to by the early text-writers.(*e*)

Statute of Monopolies.

The unrepealed portions of the Statute of Monopolies (*f*) recite and enact shortly as follows:—

Preamble.

The preamble recites:

> "Forasmuch as your most excellent Majesty, in your royal judgment, and of your blessed disposition to the weal and quiet of your subjects, did in the year of our Lord God one thousand six hundred and ten, publish in print to the whole realm and to all posterity, that all grants of monopolies, and of the benefit of any penal laws, or of power to dispense with the law or to compound for the forfeiture, are contrary to your Majesty's laws, which your Majesty's declaration is truly consonant and agreeable to the ancient and fundamental laws of this your realm: And whereas your Majesty was further graciously pleased expressly to command that no suitor should presume to move your Majesty for matters of that nature; yet, nevertheless, upon *misinformations* and *untrue pretences of public good*, many such grants have been unduly obtained and unlawfully put in execution to the great grievance and inconvenience of your Majesty's subjects, contrary to the laws of this your realm, and contrary to your Majesty's most royal and blessed intention so published as aforesaid: For avoiding whereof and preventing the like in time to come, may it please your excellent Majesty," &c.

First section.

The first section of the statute declares and enacts that:—

> "All monopolies and all commissions, grants, licences, charters, and letters patent heretofore made or granted, or hereafter to be made or granted, to any person or persons, bodies politic or corporate, whatsoever, of or for the sole buying, selling, making, working, or using of anything within this realm or the dominion of Wales, or of any other monopolies, or of power, liberty, or faculty to dispense with any others; or to give licence or toleration to do, use or exercise anything against the tenor or purport of any law or statute; or to give or make any warrants for any such dispensation, licence, or toleration, to be had or made, or to agree or compound with any others for any penalty or forfeitures limited by any statute, or of any grant or promise of the benefit, profit, or commodity of any forfeiture, penalty, or

(*d*) Darcy *v.* Allin, (1602) Noy R. 182; Hastings' Case, (1561) Noy R. 182; Clothworkers of Ipswich Case, (1615) Godb. 252; S. C. 1 Rol. R. 4; Mitchell *v.* Reynolds, (1713) 1 P. Wms. 181; 10 Mod. 130.

(*e*) Sheppard's Abridgment, part iii. tit. Prerog. p. 61; Hawkins, Pleas of the Crown, bk. i. c. 79, s. 20; Coke, 3 Inst. 184.

(*f*) See Appendix.

sum of money, that is or shall be due by any statute before judgment thereupon had, and all proclamations, inhibitions, restraints, warrants of assistance, and all other matters and things whatsoever, any way tending to the instituting, erecting, strengthening, furthering, or countenancing of the same or any of them, *are altogether contrary to the laws of this realm, and so are and shall be utterly void and of none effect, and in nowise to be put in use or execution.*"

Introductory

Statute of Monopolies.

The second section declares and enacts that all monopolies, and all such grants, letters patent, &c., ought to be, and shall be, tried by the common laws of the realm, and not otherwise. Second section.

The third section enacts that all persons shall be disabled and incapable to have or exercise any monopoly, or any such grant, letters patent, &c., as aforesaid. Third section.

The fourth section provides that any person aggrieved by any monopoly, or any such commission, grant, letters patent, &c., shall have a remedy by action to recover treble damages and double costs, and imposes the penalties of præmunire upon persons delaying such actions except by authority of the Court. Fourth section.

The fifth and sixth sections refer to letters patent for inventions, and exclude them from the effect of the foregoing clauses, which effectually suppressed all illegal monopolies, and deprived the Crown of all claims to grant such monopolies in the future, and also of all power to prevent persons aggrieved from pursuing their legal remedies.

The fifth section referred to patents already granted, and declared that none of them should be of any force for a longer period than twenty-one years from the date of the grant. Fifth section.

The terms of the sixth section, which deals with patents to be granted in future, are as follows:— Sixth section.

> "Provided also and be it declared and enacted, that any declaration before mentioned shall not extend to any letters patent and *grants of privilege*, for the term of fourteen years or under, hereafter to be made, *of the sole working, or making of any manner of new manufactures within this realm, to the true and first inventor and inventors of such manufactures, which others at the time of making such letters patents and grants shall not use*, so as also they be not contrary to the law, nor mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient; the said fourteen years to be accounted from the date of the first letters patents or grants of such privilege hereafter to be made, but that the

Who may Apply.

same shall be of such force as they should be if this Act had never been made and of none other."

WHO MAY APPLY FOR LETTERS PATENT.

Any person may be an applicant,

From the above quoted sixth section it is clear that the grantee of letters patent for an invention must be the true and first inventor, and, if there are two or more grantees, the true and first inventor must be included in their number, otherwise the Crown, as the dispenser of the privilege, has no power to make the grant.(*g*)

It is expressly provided by the Patents Designs and Trade Marks Act 1883, and subsequent recent enactments, that any person, whether a British subject or not, may make an application for letters patent for an invention,(*h*) and that two or more persons may make a joint application, and a patent may be granted to them jointly.(*i*) Moreover, a patent granted to several persons, jointly, is not invalid because some or one of them only are or is the true and first inventors or inventor,(*k*) and, consequently, a capitalist may advance money to a needy inventor and obtain an interest in the patent from the beginning.

if he can make the necessary declaration.

Every application must contain a declaration to the effect that either the applicant is in possession of an invention, whereof he claims to be the true and first inventor, or, in the case of a joint application, one or more of the applicants claims or claim to be the true and first inventor or inventors, and for which he or they desires or desire to obtain a patent.(*l*)

Previous to the direct enactment above referred to it had long been the practice for the Crown to grant letters patent for inventions to foreigners who were, in law, the true and first inventors thereof within this realm: (*m*) and in one case the question was raised whether a patent granted to a person in trust for an alien enemy would be valid, but the Court did not determine the point, as the patent was found defective on other grounds.(*n*)

Married woman.

A married woman may be a patentee, and the property in the invention will be her separate estate.(*o*)

(*g*) Marshall's Application, (1888) 5 R. P. C. 661.
(*h*) 46 and 47 Vict. c. 57, s. 4 (1).
(*i*) 46 & 47 Vict. c. 57, s. 4 (2).
(*k*) 48 & 49 Vict. c. 63, s. 5.
(*l*) 46 & 47 Vict. c. 57, s. 4 (2). See chap. vii.
(*m*) Chappell *v.* Pendry, (1845) 14 M. & W. 318; *In re* Wirth's Patent, (1879) L. R. 12 Ch. D. 303; Beard *v.* Egerton, (1846) 3 C. B. 97.
(*n*) Bloxam *v.* Elsee, (1827) 1 C. & P. 558; 6 B. & C. 169; see p. 19 *post*.
(*o*) M. W. P. Act (45 & 46 Vict. c. 75).

Who may Apply.

Infant.

It might be doubted whether the grant of letters patent to an infant inventor alone would be valid, as there does not appear to be any case which judicially decides the point; but it would seem that in the case of a grant to two persons, one of whom is an infant, the infancy of such joint grantee does not affect its validity.(*p*)

Lunatic.

A patent may be granted to a person found lunatic; but, in such case, the declaration, which must accompany the application, must be made by the committee of the lunatic, or a person appointed by the Court or a Judge.(*q*)

The Comptroller of the Patent Office does not inquire as to the age, coverture, or sanity of an applicant.

Legal representative.

The legal representative of a person dying possessed of an invention in respect of which no application for a patent has been made, may apply for, and obtain, a patent in respect of it, if such application be made within six months after the decease of such person, and contains a declaration by the legal representative that he believes such person to be the true and first inventor.(*r*)

The application of such a personal representative must be accompanied by an official copy of, or extract from, the will of the deceased, or the letters of administration granted of his estate and effects if he died intestate.(*s*)

The legal representative of a person dying possessed of an invention in respect of which he has made an application for a patent within fifteen months prior to his decease, may obtain a grant of a patent in respect of the invention within twelve months of the decease of the person so dying.

It is the practice for the legal representative of a person so dying, after having made an application for a patent, to produce with the application the probate of the will, or letters of administration granted of the estate and effects of the deceased, for the inspection of the Comptroller, and subsequently to carry out the later stages of the application in his own name.

True and First Inventor.

Patent invalid unless true and first inventor is a grantee.

Letters patent for an invention can, except in the above cases of the legal personal representatives of deceased persons,

(*p*) Cheavin *v.* Walker, (1877) L. R. 5 Ch. D. 858; 46 & 47 Vict. c. 57, s. 4 (2); 48 & 49 Vict. c. 63.

(*q*) Chap. vii.

(*r*) 46 & 47 Vict. c. 57, s. 34.

(*s*) See Patent Rules, (1890) r. 20.

True and First Inventor.

be validly granted only to the true and first inventor either alone or together with another person or persons.(*t*)

Any patent obtained by any person or persons who is not, or none of whom is or are, the true and first inventor or inventors, would be absolutely void, for the Crown would have been deceived in its grant.(*u*)

It therefore becomes a very important question to decide what, in the patent law, is the meaning of the words "true and first inventor."

Except in the case of an invention communicated from abroad (*x*) a person will not be considered the true and first inventor if he himself did not make the invention, or if the idea of it did not originate in his own mind,(*y*) or if it was suggested to him by another,(*z*) or taken from a book or other document circulated in Great Britain,(*a*) or if the invention had been previously used by the public.(*b*)

It is not an objection to a patent that the discovery was the result of accident; and it is immaterial whether it be the outcome of some happy thought, or great study, labour, and expense.(*c*)

The true and first inventor must have invented every part of that for which he claims protection.(*d*) If he claims a number of things, as being the inventor of them, whether they consist of improvement or original inventions, and it turns out that some of them are not original, his patent is void.(*e*)

Inventor who first discloses the invention.

The person who himself actually makes an invention and is the first to disclose that invention will be the true and first inventor in the legal sense of the term, and a valid patent may be granted to him notwithstanding the fact that it may possibly be shown that the invention had been previously made by another who did not disclose it.(*f*)

(*t*) In the Matter of Marshall's Application, (1888) 5 P. O. R. 661; 46 & 47 Vict. c. 57, s. 5.

(*u*) Com. Dig. Grant, c. 8 & 9; Earl of Devon's Case, 11 Co. 90; R. *v.* Mussary, 1 W. P. C. 41; Minter *v.* Wells, (1834) 1 W. P. C. 129.

(*x*) pp. 15–17 *post*.

(*y*) Jones *v.* Pearce, (1832) 1 W. P. C. 124.

(*z*) Tennant's Case, (1798) 1 W. P. C. 125.

(*a*) Arkwright's Case, (1785) Dav. P. C. 61; Hill *v.* Thompson, (1817) 8 Taunt. 375; 2 B. Mo. 424, S. C.; The Household Co. *v.* Neilson, (1843) 1 W. P. C. 673; Lang *v.* Gisborne, (1862) 31 Beav. 133; Plimpton *v.* Malcolmson, (1876) L. R. 3 Ch. D. 531; Plimpton *v.* Spiller, (1877) L. R. 6 Ch. D. 412; chap. iii.

(*b*) Carpenter *v.* Smith, (1841) 1 W. P. C. 535; chap. iv.

(*c*) Crane *v.* Price, (1842) 1 W. P. C. 411.

(*d*) Tennant's Case, (1798) 1 W. P. C. 125; Arkwright's Case, (1785) Dav. P. C. 61.

(*e*) Losh *v.* Hague, (1838) 1 W. P. C. 203.

(*f*) Chap. iii.

Thus *Tindal*, C.J., in *Cornish* v. *Keene*,(*g*) stated the law as follows:—

True and First Inventor.

Law as to first discloser stated by Tindal, C.J.

"Sometimes it is a material question to determine whether the party who got the patent was the real and original inventor or not; because these patents are granted as a reward, not only for the benefit that is conferred upon the public by the discovery, but also to the ingenuity of the first inventor; and although it is proved that it is a new discovery, so far as the world is concerned, yet if anybody is able to show that although that was new—that the party who got the patent was not the man whose ingenuity first discovered it, that he had borrowed it from A. or B., or taken it from a book that was printed in England, and which was open to all the world—then, although the public had the benefit of it, it would become an important question whether he was the first and original inventor. . . . . A man may make experiments in his own closet for the purpose of improving any art or manufacture in public use; if he makes these experiments and never communicates them to the world, and lays them by as forgotten things, another person who has made the same experiments, or has gone a little further, or is satisfied with the experiments, may take out a patent, and protect himself in the privilege of the sole making of the article for fourteen years; and it will be no answer to him to say that another person before him made the same experiment, and, therefore, that he was not the first discoverer of it—because there may be many discoverers starting at the same time, many rivals that may be running on the same road at the same time, and the first which comes to the Crown and takes out a patent, it not being generally known to the public, is the man who has a right to clothe himself with the authority of the patent and to enjoy its benefits."(*h*)

And again in *Gibson* v. *Brand* (*i*):

"A man may publish to the world that which is perfectly new in all its use, and has not before been enjoyed, and yet he may not be the first and true inventor; he may have borrowed it from some other person, he may have taken it from a book, he may have learnt it from a specification, and then the Legislature never intended that a person who had taken all his knowledge from the art of another—from the labours and assiduity or ingenuity of another—should be the man who was to receive the benefit of another's skill."

The proof of publication must be very clear indeed in order

(*g*) (1835) 1 W. P. C. 501, 507.
(*h*) See however chap. vii.
(*i*) (1841) 1 W. P. C. 627, 628.

True and First Inventor.

to invalidate a patent granted to a person for a process producing a useful article at an economical rate when that person was, *de facto*, the first to produce the thing to the public practically in a working state.(*k*)

Dollond's Case.

In *Dollond's Case*, one of the earliest on the subject of true and first inventor, which is not reported, but is often referred to (*l*) in subsequent decisions, and always with approval, it was objected that *Dollond* was not the inventor of a new method of making object-glasses, but that a Dr. *Hall* had made the same discovery before him. It was, however, held, that as Dr. *Hall* had confined it to his closet, and the public were not acquainted with it, *Dollond* was to be considered as the inventor.

Tennant's Case.

In *Tennant's Case* (*m*) the patent was declared void on the ground that though the utility of the invention and the general ignorance of it of those engaged in the trade to which it referred were proved, yet the plaintiff was not the true and first inventor, as the process had been used by one engaged in the trade for five or six years previous to the date of the patent.

Result of above cases.

From the principles of these two cases it appears that in order to invalidate a patent on the ground that the patentee is not the true and first inventor, it is not enough to show that the alleged invention is only a disclosure of what was known to others before; but it must be shown that it was communicated to some extent, or that it was more or less made use of, so as to constitute discovery as applied to the subject with which the invention deals—*i.e.*, that the alleged prior user was not merely experimental, but was a user of the completed invention.(*n*)

Several inventors.

If several persons about the same time discover the same thing, but keep it secret, and make no use of it, the party first making application for a patent becomes the true and first inventor, and is entitled to the benefit of a grant of letters patent; (*o*) provided that no application has been made by or on behalf of a foreigner, who has within seven months secured protection in respect of the same invention in any State with the Government of which Her Majesty has made any arrangement for mutual protection of inventions.(*p*)

If a man makes a discovery and is enabled to produce an effect from his own experiments, judgment, and skill, it is no objection that some one else has made a similar discovery by his

(*k*) Von Heyden *v.* Neustadt, (1880) 50 L. J. N. S. Ch. 126; L. R. 14 Ch. D. 230. (*l*) Boulton *v.* Bull, (1795) 2 H. Bl. 463.
(*m*) (1798) Dav. P. C. 429; 1 W. P. C. 125.
(*n*) Hill *v.* Thompson, (1818) 1 W. P. C. 239. (*o*) p. 102 *post*.
(*p*) 46 & 47 Vict. c. 57, s. 103, chap. vii.

mind unless it has become public (*q*) or been put to practical use.(*r*)

True and First Inventor.

There is no case in which a patentee has been deprived of the benefit of his invention because another also had invented it, unless he had also brought it into practical use or disclosed it.(*s*)

First person who produces a commercial success.

An inventor who succeeds in producing in abundance, suitable for economic and commercial purposes, that which was before only produced as a rarity and unsuited for either of the above purposes, will be considered the true and first inventor of the process, and entitled to a patent in respect of it.

Thus, in *Young* v. *Fernie* (*t*) the plaintiff's claim was for "obtaining paraffin oil, or an oil containing paraffin, and paraffin, from bituminous coals by treating them in the manner hereinbefore described." The defendant proved that paraffin was discovered in 1830, twenty years previous to the date of the plaintiff's patent, by Dr. *Reichenbach*, and was first obtained from beechwood tar. On the other hand the plaintiff had found out and stated in his specification that cannel coal, or other highly bituminous coal, was suitable for producing paraffin, but that the temperature should be much lower than that employed in the dry distillation of coal for gas-making, and should not rise above a low red-heat which was visible in the dark. An American book containing the following extract from a publication of *Reichenbach*, in 1854, was adduced in evidence, "So remained paraffin until this hour a beautiful item in the collection of chemical preparations, but it has never escaped from the rooms of the scientific man." *Stewart*, V.C., who tried the case, pointed out that this illustrated the important distinction between the discoveries of the merely scientific chemist and of the practical manufacturer who invents the means of producing in abundance, suitable for economic and commercial purposes, that which had previously existed as a beautiful item in the cabinets of men of science. It was established to the satisfaction of the Vice-Chancellor that the plaintiff *Young* was an inventor of the latter class, and that his patent was entitled to the protection of the law. *Young* had ascertained, by a course of laborious experiments, a particular class of material among many, and a particular process among many, which enabled him to create and introduce to the

(*q*) Per Baley, J., Lewis *v.* Marling, (1829) 1 W. P. C. 496; also p. 102 *post*.

(*r*) See pp. 105–123 *post*.

(*s*) Lewis *v.* Marling, (1829) 1 W. P. C. 497; as to practical use see chap. iv.

(*t*) (1863) 33 L. J. Ch. 192; 35 L. J. Ch. 523.

True and First Inventor.

public a useful manufacture which amply supplied the market with that which, until the use of the materials, process, and temperature indicated by him, had never been supplied for commercial purposes. At the date of his patent something remained to be ascertained which was necessary for the useful application of the chemical discovery of paraffin and paraffin oil. This brought it within the principle laid down by Lord *Westbury*, L.C., in *Hill* v. *Evans*,(*u*) and the Court held that the manufacture, with the materials and process indicated by the inventor, according to the sense in which the word "manufacture" is used in the Statute of Monopolies, was a new manufacture not in use at the date of the patent.(*v*)

Inventors with similar objects in view.

It is no objection to a person being the true and first inventor to show that a patent having a similar object had been previously obtained by another, or that an apparatus or process giving similar results had been previously used, if the means employed by the person seeking to obtain the protection of the law are substantially different to those comprised in the alleged anticipating patent or previous user.(*w*)

For example, in the year 1828 *W. E. Knoller* obtained a patent for "improvements in evaporating sugar." The patent related to a method of evaporating water from a solution of sugar by blowing air into the liquid. This was done according to the specification by an apparatus consisting of a large horizontal pipe, placed near the surface of the liquid, from which a number of small blowing tubes radiated downwards in different directions. Two things were described as essential to the invention. (1) That a stream of air should issue from each blowing tube at the same time. (2) That the ends should all be in the same horizontal plane, whereby the fluid would exert the same pressure at each orifice. At the trial of an action(*y*) brought for the infringement of this patent, the defendant put in evidence the specification of a patent obtained in 1822 for a similar apparatus, consisting of a set of perforated pipes, coiled or otherwise, shaped and accommodated to the nature and form of the vessel. The pipes might be replaced by a shallow metallic vessel, in the nature of a colander. *Knoller's* patent was, however, declared valid, and Lord *Tenterden*, C.J., said, "I cannot forbear saying that I think a great deal too much critical acumen has been applied to the construction of

(*u*) (1862) 31 L. J. Ch. 457.
(*v*) See judgment of Stuart, V.C., 33 L. J. Ch. 192; 35 L. J. Ch. 523.
(*w*) Walton *v.* Potter, (1841) 1 W. P. C. 590; see chap. ii.
(*y*) Hullett *v.* Hague, (1831) 9 L. J. O. S. K. B. 242: 2 B. & Ad. 370.

patents, as if the object was to defeat and not to sustain them. It is evident that the object of the two patents is the same. But the mode of effecting that object is different."

True and First Inventor.

A person may be the true and first inventor of an invention, which merely consists of the omission of one of several component parts of something previously known, if it requires the exercise of invention to make such omission.(*z*)

Omission of component parts.

Thus, *Minter* took out a patent for "an improvement in the construction, making, or manufacture of chairs," and claimed as his invention "the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of such chair." When the validity of the patent was contested, it appeared that one *Brown* had previously made chairs embodying the principle patented by this *Minter*, though *Brown's* chair was encumbered with additional machinery. The patent was declared void on the ground of the specification claiming too much.(*a*) But Lord *Denman* having asked the jury to suppose that *Brown's* chair would have been a chair with a self-adjusting leverage if the additional encumbering part had been taken away, said, "then the question is, whether the principle of self-adjustment was at all discovered or thought of at that time. Because, it seems to me, if that principle might have been deduced from the machinery of the chair that was made, but that it was so encumbered and connected with other machinery that nobody did make that discovery, or ever found out that they could have a chair with a self-adjusting leverage, by reason of that or any other defect in the chair actually made; I confess, it seems to me, that does not prevent this from being a new invention when the plaintiff says, I have discovered, throwing aside everything but this self-adjusting leverage itself, that will produce an effect, which I think a very beneficial one."(*b*)

Previous failures.

A person who produces an invention which successfully does that which a previous or similar invention failed to do will be the true and first inventor, and entitled to a patent.(*c*)

If the result produced by a new method is either a new article, or a better article, or a cheaper article to the public than that produced before by an old method, such new method is an invention, or manufacture intended by the statute to be

(*z*) See chap. ii.

(*a*) See chap. v.

(*b*) Minter *v.* Mower, (1835) 1 W. P. C. 140; 4 L. J. Ex. 72; see also Saxby *v.* The Gloucester Waggon Co., (1881) L. R. 7 Q. B. D. 305; 50 L. J. Q. B. 577.

(*c*) Chap. ii.

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protected, and may become the subject of a patent,(*d*) and there does not appear to be any principle or authority upon which the exhibition of a useless machine which turns out a failure can be held to affect the right of a patentee who has made a successful machine, although there may be a degree of similarity between some of the details of the two machines.(*e*)

Joint inventors.

A true and first inventor must have invented every part of that which he claims to have invented ;(*f*) hence, if different parts of an invention are the outcome of the inventive faculty of different minds, it will be necessary that all the inventors join in applying for a patent to be granted to them jointly.

Inventors may employ assistants.

Master and Servant.—There is nothing in law to prevent an inventor from availing himself of the assistance of workmen or servants in the prosecution of his search after a new manufacture. Indeed, many processes cannot be conducted by the unaided exertions of a single individual, and in almost all cases actual experiments are a necessity in order to find out how a desired end may be best obtained. It would, therefore, be absurd to confine the rewards given to inventors to that small class of them only, who have entirely, and without any assistance whatever, brought their discoveries to perfection, and it is grave matter of doubt whether, strictly speaking, any such could be found. The law, therefore, considers workmen and servants merely as tools of the inventor, and instruments in his hands, carrying out the ideas which originate in the master mind; and a person who has invented a main and leading idea remains the true and first inventor, and, as such, entitled to apply for a patent notwithstanding that he avails himself of the assistance and suggestions of workmen and servants in bringing his invention to a state of perfection.(*g*)

Cases.

This principle has been frequently acted upon by the Courts in cases of which the following are examples :—

In *Minter* v. *Wells*, (1834) 1 W. P. C. 132, *Alderson*, B., addressing the jury, said : "*Minter* and *Sutton* were together about the time the invention took place: which of the two suggested the invention, and which carried it into effect, is the question for you to decide. If *Sutton* suggested the prin-

(*d*) Judgment of Tindal, C.J., (1842) Crane *v.* Price, 4 M. & G. 580 ; 1 W. P. C. 393.

(*e*) Murray *v.* Clayton, (1872) L. R. 7 Ch. 570 ; L. R. 15 Eq. 115.

(*f*) See p. 6 *ante*.

(*g*) Minter *v.* Wells, (1834) 1 W. P. C. 132 ; Bloxam *v.* Elsee, (1832) 1 C. & P. 567 ; 1 W. P. C. 132 ; Allen *v.* Rawson, (1845) 1 C. B. 551 ; David *v.* Woodley, (1884) Griff. L. O. C. 26 ; Kurtz *v.* Spence, (1888) 5 P. O. R. 181 ; Healey's Application, Johnson's Pat. Man., 6 ed. 165 ; Macfarlane's Patent, *ibid.*

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ciple to Mr. *Minter*, then he would be the inventor. If, on the other hand, Mr. *Minter* suggested the principle to *Sutton*, and *Sutton* was assisting him, then Mr. *Minter* would be the first and true inventor, and Sutton would be a machine, so to speak, which Mr. *Minter* uses for the purpose of enabling him to carry his original conception into effect. You will judge which is the more probable of the two. Mr. *Minter* makes out his *prima facie* case; he is the person who takes out the patent, if *Sutton* has received a compensation, nothing would have been more simple and easy that he should have taken out the patent, and still Mr. *Minter* might have the same benefit to-day; and there is no apparent reason why *Sutton* should not have taken out the patent which Mr. *Minter* has taken out, unless they were both desirous to ruin the invention: for suppose two persons are engaged on an invention of this description, they know perfectly well between themselves who is the real inventor of it, and who is the workman to carry into effect the conception, but they would destroy the value of it to both if they did not take it out in the name of the right person.(*h*)

In *Bloxam* v. *Elsee*, (1825) 1 C. & P. 558, an action in respect of two patents granted to *John Gamble*, it was objected that the improvements on the first invention, which formed the subject of the second patent, were the invention of one *Donkin*, an engineer. It was established that the improvements were the invention of *Donkin*, but it appeared that at the time he invented them he was employed by the patentee and one *Foudrinier*, his partner, as an engineer, for the purpose of bringing the machine to perfection, and was paid by them for so doing; and therefore he was acting as their servant for the purpose of suggesting improvements in the machine. The plaintiff, on the other hand, contended that the improvements were the patentee's inventions, and that *Donkin* was employed by him to carry his ideas into effect, and this view of the case seems to have prevailed with the Court.

Allen v. *Rawson*, (1845) 1 C. B. 551, is another case supporting the same principle. In this case it was sought to upset a patent for improvements in the manufacture of felted fabrics on the ground that parts of the invention were discovered by two workmen. *Erle*, J., in directing the jury, put his idea of the law thus: "I take the law to be that, if a person has discovered an improved principle, and employs engineers, agents, or other persons to assist him in carrying out that principle, and they, in the course of experiments arising from that employment, make valuable discoveries accessory to the main principle and tending to carry that out in a better manner,

(*h*) See also Makepeace *v.* Jackson, 4 Taunt. 770.

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such improvements are the property of the inventor of the original improved principle, and may be embodied in his patent; and if so embodied the patent is not avoided by evidence that the agent or servant made the suggestion of the subordinate improvement of the primary and improved principle." A motion for a new trial on the ground that the Judge had misdirected the jury was refused, *Tindal*, C.J., (1 C. B. 574) saying: "It would be difficult to define how far the suggestions of a workman employed in the construction of a machine are to be considered as distinct inventions by him so as to avoid a patent incorporating those taken out by his employer. Each case must depend upon its own merits. But when we see that the principle and object of an invention are complete without it, I think it is too much that a suggestion of a workman employed in the course of the experiments, of something calculated more easily to carry into effect the conceptions of the inventor should render the whole patent void."

Master is not entitled to the invention of his servant,

The mere relationship of master and servant gives no right to the master in the invention of his servant.(*i*) If an employer takes out a patent for an invention discovered and worked out by a workman in his employ, and the patentee has no more connection with the invention than that he is the employer of the workman, the patent will be void, on the ground that the workman and not the patentee is the true and first inventor. Thus, in *Arkwright's Case* (*k*) it appeared that the patentee *Arkwright* had been told of a particular roller, part of the machinery, by one *Kay*, and, perceiving the value of the invention, he took *Kay* into his service for two years, and employed him in making models, and subsequently applied for and obtained a patent for the invention as his own. In the same way *Arkwright* adopted a crank invented by one *Hargrave*. At the trial *Arkwright* was declared not to be the true and first inventor.(*l*)

but only to improvements in details made by him.

When, however, a workman, who is employed by his master to make models, or to carry out experiments, in the course of his employment, makes improvements in details, the improvements so made are the property of the master,(*m*) and the workman cannot patent them.(*n*) There is in fact a confiden-

(*i*) Saxby *v.* Gloucester Waggon Co., (1883) Griff. L. O. C. 56.

(*k*) (1785) R. *v.* Arkwright, Dav. P. C. 61 : 1 W. P. C. 64; Barker *v.* Shaw, 1 W. P. C. 126 *n.*

(*l*) Rex *v.* Arkwright, (1785) Dav. P. C. 61 ; 1 W. P. C. 64.

(*m*) p. 12 *ante.*

(*n*) David *v.* Woodley, (1884) Griff. L. O. C. 26 ; Kurtz *v.* Spence, (1888) 5 R. P. C. 181 ; Healey's Application, Johns. Pat. Man. 6 ed. ; Conniff's Application, *ibid.* ; Macfarlane's Patent, *ibid.* 165.

tial relationship between a master who experiments with a view to taking out a patent for an invention, the leading idea of which originated with him, and the workmen he employs in aiding him to perform those experiments, and anything suggested by the workman during such confidential employment will not vitiate the subsequent patent of the master.(*o*) It is always, however, a question of evidence whether such confidential relationship actually existed between the employer and employed.(*p*)

True and First Inventor.

In the absence of special contract, the invention of a servant, even though made in the employer's time, and with the use of the employer's materials, and at the expense of the employer, does not become the property of the employer so as to justify him in opposing the grant of a patent for the invention to the servant, who is the proper patentee.(*q*)

There is no necessary confidential relationship between a workman and his fellow workmen which prevents the communication of an invention being made by one workman to another, violating, on the ground of lack of novelty, a patent taken out in respect of it.(*r*)

Communicators of Foreign Inventions.—We next come to the subject of patents for inventions communicated from abroad which are new within this realm. Before the passing of the Patent Act 1883, the law had long allowed grants of patents, in their own name, to persons who were in possession of inventions which they had received from others resident in foreign countries, but which inventions had never before been published within this realm.

Inventions communicated from abroad.

It was stated in the celebrated *Clothworkers of Ipswich Case*,(*s*) which was prior to the Statute of Monopolies, "if a man hath brought in a new invention and a new trade within the kingdom in peril of his life and consumption of his estate, or stock, &c., or if a man hath made new discovery of anything, in such cases the King of his grace and favour in recompense of his costs and travail may grant by charter unto him that he only shall use such trade or trafique for a certain time, because at the first the people of the kingdom are ignorant, and have not the knowledge or skill to use it. But when that patent

(*o*) Saxby *v.* Gloucester Waggon Co., (1883) Griff. L. O. C. 57; Homan's Patent, (1889) 6 P. O. R. 104.

(*p*) Humpherson *v.* Syer, (1887) 4 R. P. C. 407, 413.

(*q*) Healds, (1891) 8 R. P. C. 430; Homan's Case, (1889) 6 R. P. C. 184; Siddell *v.* Vickers, (1888) 5 R. P. C. 93; Saxby *v.* Gloucester Waggon Co., (1880) Griff. L. O. C. 56.

(*r*) Saxby *v.* Gloucester Waggon Co., (1883) Griff. L. O. C. 56.

(*s*) (1615) Godb. 252; S. C. 1 Rol. R. 4.

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is expired the King cannot make a new grant thereof." This practice was continued after the framing of the Statute of Monopolies of 21 James I., and has frequently been sanctioned by the judges in many cases, from *Edgebury* v. *Stephens*,(*t*) which decided that if the invention be new in England, a patent may be granted though the thing was practised beyond sea before; "for the statute speaks of new manufactures within this realm; so that if it be new here it is within the statute; for the Act intended to encourage new devices useful to the kingdom, and whether learned by travel or by study it is the same thing," down to cases such as *Carpenter* v. *Smith*,(*u*) *Nickels* v. *Ross*,(*x*) and *Plimpton* v. *Malcolmson*,(*y*) from which the proposition is established that the first actual importer of an invention into this country is *in law the true and first inventor*.

First importer is the true and first inventor.

The Act of 1883 and subsequent legislation does not contain anything to prevent a person who has become acquainted with an invention abroad, though it was not actually made by him, coming over to this country and applying for a patent for it in his own name, and making the declaration (*z*) as to true and first inventor comprised in Form A1,(*a*) in the schedule to the Patent Rules 1890, which is especially prepared to meet such a case. Before the Act of 1883 it was long the practice for a person applying for a patent in respect of a communication from abroad in his declaration (*b*) to state that he was the true and first inventor *within this realm*—though the words "within this realm" might have been omitted, without detraction, from the validity of the declaration; and in the form of declaration given in the schedule to the repealed Act of 1852 they were in fact so omitted. It was objected by some that under the Act of 1883 a person cannot obtain a valid patent for an invention communicated from abroad, seeing that the Act requires him to declare himself the true and first inventor, which it was said he cannot be unless he himself actually made the discovery, and the case of *Milligan* v. *Marsh*,(*c*) decided in 1856, and *Renard* v. *Levenstein*,(*d*) decided in 1885, were relied on as supporting this view. On a reference to these cases it will be found that

(*t*) (1691) Salkeld's Rep. 477; 1 W. P. C. 35; Dav. P. C. 36.
(*u*) (1841) 1 W. P. C. 530, 535.
(*x*) (1849) 8 C. B. 679.
(*y*) L. R., (1876) 3 Ch. D. 531.
(*z*) Chap. vii.
(*a*) See Appendix; see also Société Anonyme du Générateur du Temple's Patent, (1896) 13 R. P. C. 54.
(*b*) Chap. vii.
(*c*) (1856) 2 Jur. N. S. 1083.
(*d*) (1885) 10 L. T. N. S. 177.

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neither of them amounts to a decision on the point; they are at most dicta of *Wood*, V.C., and *Knight Bruce*, L.J.

The Act of 1883 defines "invention" to be "any manner of new manufacture as defined in 21 Jac. I. c. 3," and it is only reasonable to infer that "inventor" has the same meaning as it has been declared to have in the latter statute—*i. e.*, it includes the actual importer of a communicated invention.(*e*)

Communicators of foreign inventions.

Many patents have in fact been granted under the Act of 1883 to importers in respect of inventions communicated to them from abroad, and it has never been established that the grantees of such patents are not entitled to hold them for their own benefit in the absence of a fiduciary relationship between them and the actual foreign inventor.(*f*)

It must also be noticed that the clauses in the Act of 1883 relating to opposition to the grant of a patent provide for the case of a person without the knowledge or against the will of a foreigner endeavouring to forestall him in this country, and give the Comptroller and law officers ample powers to prevent any injustice from being done.(*g*)

Preference to foreign inventor who has made an application abroad.

In virtue of sec. 103 of the Act of 1883, and the International Convention of 1884,(*h*) a foreign inventor who has applied for a patent in any State or States to which the powers of sec. 103 of the Act of 1883 have been applied, has a right of priority to a British patent, if he applies for it during a period of seven months from the date of his first foreign application, notwithstanding any intermediate publication of the invention in this country.(*i*)

Communications made in England.

The communication, made in England, by one British subject to another of an invention does not make the person to whom the communication is made the true and first inventor within the meaning of 21 Jac. I. c. 3, so as to enable him to obtain letters patent for the invention in his own name alone;(*k*) and it would appear that a valid patent could not be granted in respect of a communication by an alien permanently domiciled in this country.

Communications made abroad.

Wirth's patent (*l*) decided that letters patent may be granted to a foreigner resident abroad for an invention communicated

(*e*) Marsden *v.* Saville Street Foundry and Engineering Company, (1878) L. R. 3 Ex. D. 203.

(*f*) See Nickels *v.* Ross, (1849) 8 C. B. 679; Steadman *v.* Marsh, (1856) 2 Jur. N. S. 391; Avory's Patent, (1887) L. R. 36 Ch. D. 307, 318, 324; See chap. vii. *post*.

(*g*) See Edmunds' Patent, (1886) Griff. P. C. 281.

(*h*) See Appendix.

(*i*) See p. 303 *post*.

(*k*) Marsden *v.* Saville Street Foundry and Engineering Company, (1878) L. R. 3 Ex. D. 203.

(*l*) (1879) L. R. 12 Ch. D. 303.

Persons incapable of being Patentees.

to him by another foreigner resident abroad; but patents will not in future be granted to agents resident abroad in respect of inventions communicated to them by foreigners also resident abroad.(*m*)

Patentee need not be meritorious importer.

In *Beard* v. *Egerton*,(*n*) it was held that a person taking out a patent for a communication from abroad need not necessarily be the *meritorious* importer; he may be the mere clerk or agent of the foreign inventor.

The law recognises, however, only the person to whom the patent is granted. Thus it is no objection to the sufficiency of a specification that a foreign inventor was possessed of knowledge, which ought to have been indicated in the specification, when it appeared that the actual patentee, who was merely the agent of the foreign inventor, was not possessed of that information.(*o*) And again, it is not a sufficient answer to an objection that a specification is insufficient to say that it contains all the information which the foreign inventor communicated to his agent, the actual patentee.(*p*)

Persons Incapable of being Patentees.

We have seen that any person, whether a British subject or not, may make an application for a patent,(*q*) but there are certain persons who, by virtue of their position, could not obtain a valid grant.

The Queen.

It seems that the Queen herself could not become a patentee, for she could not grant to herself.

Body corporate.

Rule 73 of the Patent Rules 1890, provides that a body corporate may be registered as a proprietor by its corporate name; but it is clear that such a body could not alone obtain a grant of a patent for an original invention, for it could not make the requisite declaration,(*r*) invention being the act of the mind, which could not proceed from such a body in its corporate capacity.

Letters patent may be granted to a body corporate, together with the true and first inventor, since "person," as defined by the Act of 1883,(*s*) includes a body corporate.(*t*) It would appear, also, that in the case of an invention communicated from abroad a patent may be granted to a corporation alone,

(*m*) Notice 21st April, 1884; P. O. J. 9th May, 1884.

(*n*) (1846) 3 C. B. 97; see also Chappell *v.* Purday, (1845) 14 M. & W. 310.

(*o*) Plimpton *v.* Malcolmson, (1876) L. R. 3 Ch. D. 531, 582.

(*p*) Wegmann *v.* Corcoran, (1878) L. R. 13 Ch. D. 65; 44 L. T. N. S. 357.

(*q*) p. 206 *post*.

(*r*) p. 292 *post*.

(*s*) Sec. 117.

(*t*) *Ibid*.

since such corporation, as the first introducer of the invention into this country, might be in law the true and first inventor.(*u*) At any rate, a foreign corporation is entitled to apply for a patent under the provisions of Sec. 103 of the Act of 1883.(*x*)

Persons incapable of being Patentees.

A corporation sole, *as such*, cannot become a patentee of an original invention; for he must make the invention by his own mind in his individual capacity, and in that capacity only could he, therefore, become a patentee.

Corporation sole.

It is to be doubted whether the exercise of a patent privilege by a beneficed clergyman would not be trading within the meaning of the Statute 57 Geo. III. c. 99, s. 3,(*y*) and, therefore, prohibited by that Act. And, if that be so, it might well be that a grant to such clergyman would be void, for the intent that the patentee should derive profit from the exercise of the privilege could not take effect.(*z*)

Beneficed clergyman.

Official persons are in certain cases incapable of obtaining a patent for an invention connected with the subject-matter of their official position.

Official persons.

Thus, in *Patterson* v. *Gas Light and Coke Company*,(*a*) the House of Lords held that *Patterson*, who had obtained a knowledge of the patented process in the discharge of the duties of his official position of gas referee, appointed by the Board of Trade, under the City of London Gas Act of 1868, was incapable of obtaining a valid patent, as such process was described in an official report of himself and his two colleagues, and thus was public property, notwithstanding that the report was kept back from the authorities to whom it was addressed till after the date of the patent.

It is doubtful whether a patent granted to an alien enemy would be valid. It has been doubted whether letters patent taken out on a secret trust, to be held for the benefit of the real inventor, who was an alien enemy, were void or not. To hold that such a trust could not exist would appear contrary to the spirit and policy of the patent law, in recognising communications from foreigners as good subject-matters for letters patent; but no action could be maintained by such alien, or by the trustee on his behalf, on any contract, because the resulting moneys might be employed against the country.(*b*)

Alien enemy.

(*u*) In the Matter of Carez's application, (1889) 6 R. P. C. 552, p. 18.

(*x*) Carez's patent, (1889) 6 R. P. C. 18; Société Anonyme du Générature du Temple, (1896) 13 R. P. C. 56; see p. 303 *post*.

(*y*) Hall *v.* Franklin, (1838) 3 M.&W. 259.

(*z*) Hindmarch on Patents, p. 35.

(*a*) (1875) L. R. 2 Ch. D. 812; L. R. 3 App. Cas. 239.

(*b*) Webster on Patents, p. 23; also 1 W. P. C. 418 n.

CHAPTER II.

SUBJECT-MATTER.

Subject-matter defined by Jac. I. c. 3, s. 6.

Any Manner of Manufacture.—The Statute of Monopolies, in a sense the statutory foundation of our modern patent laws,(*a*) defines, by its *sixth* section, the Common Law right of the Crown to grant letters patent for inventions as limited to the granting of patents for "the sole working or making of any manner of new manufactures within this realm to the true and first inventor of such manufactures, which others at the time of making such letters patent and grants shall not use, so as also they be not contrary to the law, nor mischievous to the State, by raising prices of commodities at home, or hurt of trade, or generally inconvenient."

Subsequent enactments have not in any way altered the provisions of the Statute of Monopolies as regards subject-matter of letters patent for inventions; and the Act of 1883(*b*) expressly states that the word "invention" shall mean any manner of new manufacture the subject of letters patent and grants of privilege within section "six" of the Statute of James I.—*i.e.*, the above quoted words.

The effect of this sixth section of the celebrated statute is twofold: (i) it exempts all patents and grants of privilege which its terms embrace from the abolition of monopolies in general which the preceding section of the Act effected, and (ii) it expressly declares that such patents and grants of privilege shall have the same effect as they would have had if the Act had never been passed and none other—*i.e.*, they are not rendered valid by virtue of the Act, but obtain their force from the Common Law.

The words "working and making of any manner of new manufacture," coupled with the fact that "manufacture" is capable of more than one meaning, suggest the question, What

(*a*) pp. 1, 3. (*b*) Sec. 46.

is it the working and making of which the enactment contemplates as forming the subject-matter of a patent?

Subject-matter must be an Art.

"Manufacture" used as a noun may mean either (i) the art or practice of making or constructing any piece of workmanship, or (ii) anything made by art. The words "working or making" used in conjunction with the word "manufactures," seem to imply both these meanings, and the decisions of various Courts warrant the statement that in the contemplation of the patent law the word bears both significations.(*c*)

"Manufacture."

It is to be noticed that the word "manufactures," construed with the word "working," signifies the arts or processes of making, and the words "working of manufactures" refer to the exercise of arts of making or constructing; whereas the word "manufactures" construed with the word "making" signifies articles or things made, and the words "making of manufactures" therefore mean the art of making articles or things which, when made, may properly be denominated manufactures, and which must be articles of trade or commerce.(*d*)

The subject of a valid patent must, consequently, be the working or making of a manner of new manufacture (in one or other of its two meanings) which must be new, useful, and not contrary to the law; new and useful because if it were not so the consideration for which the Crown makes the grant would fail, and not contrary to the law, for the Crown has not the power to make such a grant.

Subject-Matter must be an Art.—The subject-matter of letters patent for an invention must be an *art*. For, if any person other than the patentee makes any article or articles in accordance with the patentee's specification, he thereby commits an infringement of the patent, and yet the patent does not vest in the grantee the right to use the particular materials of which the articles made in infringement consist, for they may never have been his property. What the infringer does besides using the materials, which he has a right to do, and the physical power, which he is also entitled to avail himself of, is to use the art of applying the physical power to the materials in the manner set forth in the specification.(*e*) It

Subject-matter must be an art.

(*c*) Crane *v.* Price, (1842) 4 M. & G. 580; Household Co. *v.* Neilson, (1843) 1 W. P. C. 683; Hornblower *v.* Boulton, (1799) 8 T. R. 98; Dav. P. C. 225; R. *v.* Wheeler, (1819) 2 B. & Ald. 349; 1 Cary. P. C. 393; Stevens *v.* Keating, (1847) 2 W. P. C. 182.

(*d*) Boulton *v.* Bull, (1795) 2 H. Bl. 463; Hindmarch on Patents, pp. 80, 81.

(*e*) Huddart *v.* Grimshaw, (1803) Dav. P. C. 278; 1 W. P. C. 86.

Subject-matter defined by Courts and early Text-Writers.

is this *art*, therefore, which is the exclusive property of the patentee, and which he, his agents or licensees, and no one else, is entitled to use during the continuance of the privilege. In the case of an article made in infringement of a patent the right of property remains in the infringer,(*f*) though he may be ordered to destroy such article, completely or partially, as may be necessary to render further infringements by its use impossible.(*g*)

By which vendible articles can be produced,

Only an art by the exercise of which vendible articles, or articles of trade or commerce, are capable of being produced can form the subject-matter of valid letters patent,(*h*) for two reasons:—(i) If the articles made by the exercise of the protected art cannot be sold, the invention will not be used, and therefore will not give any new employment to the people, and the public will receive no benefit from the invention. (ii) The intent of the patent is to reward the inventor by means of the profit arising from the making and selling the patent articles during the continuance of the privilege.(*i*)

and which is not to be exercised for illegal purposes.

An art which is to be exercised for the sole object of breaking the law, or for the sole purpose of producing anything designed to be used for an illegal purpose—*e.g.*, implements for housebreaking, picking pockets, locks, &c.—cannot form the subject-matter of valid letters patent. A grant of letters patent for such an object would be void, both on the ground of want of utility,(*k*) and as being contrary to public policy. "It would be absurd if by one law patents might be granted to reward persons for providing the means of violating any other law.(*l*) It is, however, no objection to a patent that it was taken out for the purpose of evading a statute—*e.g.*, the Pharmacy Act.(*m*)

Definition by Court of King's Bench.

Subject-Matter defined by the Courts and Early Text-Writers.—The Court of King's Bench, in *Mitchell* v. *Reynolds*(*n*) stated what may be deemed capable of forming the subject-matter of a patent—viz.:

> "A grant of the sole use of *a new invented art* is good, being indulged for the encouragement of ingenuity; but this is tied up by the Statute of 21 James I. c. 3, s. 6, to the term of

(*f*) Vavasseur *v.* Krupp, (1878) L. R. 9 Ch. D. 351.

(*g*) See chap. xiii. *post.*

(*h*) Boulton *v.* Bull, (1795) 2 H. Bl. 463; R. *v.* Wheeler, 2 B. & Ald. 349; Cornish *v.* Keene, (1837) 3 Bing. N. C. 570.

(*i*) See Hindmarch on Patents, pp. 101–102.

(*k*) Chap. iv. *post.*

(*l*) See Hindmarch on Patents, p. 142.

(*m*) Vaisey's Patent, (1894) 11 R. P. C. 593.

(*n*) 1 P.Wms. 181; 10 Mod. 130 S. C.

Subject-matter defined by Courts and early Text-Writers.

fourteen years; for after that time it is presumed to be a known *trade*, and to have spread itself among the people." After a statement of the reasons why monopolies are generally void at Common Law, the judgment of the Court continues: "But none of the cases of customs, by-laws to enforce these customs, and *patents for the sole use of a new invented art*, are within any of these reasons; for here no man is abridged of his liberty or disseised of his freehold; a custom is *lex loci*, and foreigners have no pretence of right in a particular society exempt from the laws of that society; *and as to new-invented arts nobody can be said to have a right to that which was not in being before;* and therefore it is but a reasonable reward to ingenuity and uncommon industry." (*o*)

Definition by Sir Edward Coke.

The Chapter of Monopolies in Sir *Edward Coke's* Third Institute of the Laws of England (*p*) contains the following commentary respecting the exception specified in the Statute of Monopolies as being fit subject-matter of letters patent:

> In reference to the proviso in section 5 the learned author writes: "The first is that this Act shall not extend to any letters patents, or grants of privilege heretofore made of the sole working, or making, of any manner of new manufacture, but that new manufacture must have seven properties.
>
> "*First*, it must be for twenty-one years or under.
>
> "*Secondly*, it must be granted to the first and true inventor.
>
> "*Thirdly*, it must be of such manufactures which any other at the making of such letters patent did not use, for albeit it were newly invented, yet if any other did use it at the making, of the letters patents, or grants of privilege, it is declared and enacted to be void by this Act.
>
> "*Fourthly*, the privilege must not be contrary to law: such a privilege as is consonant to law must be substantially and essentially newly invented; but if the substance was *in esse* before, and a new addition thereunto, though that addition make the former more profitable, yet is it not a new manufacture in law; and so was it resolved in the Exchequer Chamber, Pasch, 15 Eliz., in *Bricot's Case*, for a privilege concerning the preparing and melting, &c., of lead ore: for then it was said that that was to put but a new button to an old coat, and it is much easier to add than to invent. And then it was also resolved, that if the new manufacture be substantially invented according to law, yet no old manufacture in use before can be prohibited.

(*o*) See also The Master, Wardens, and Society of Gunmakers *v.* Fell, Willes, R. 388.

(*p*) 3 Inst. c. 85. pp. 181, 184.

Subject-matter defined by Courts and early Text-Writers.

"*Fifthly*, nor mischievous to the State, by raising of prices of commodities at home. In every such new manufacture that deserves a privilege there must be *urgens necessitas* and *evidens utilitas*.

"*Sixthly*, nor to the hurt of trade. This is very material and evident.

"*Seventhly*, nor generally inconvenient.

"There was a new invention found out heretofore that bonnets and caps might be thickened in a fulling mill, by which means more might be thickened and fulled in one day than by the labours of four-score men who got their living by it. It was ordained that bonnets and caps should be thickened and fulled by the strength of man and not in a fulling mill, for it was holden inconvenient to turn so many labouring men to idleness.

"If any of these seven qualities fail, the privilege is declared and enacted to be void by this Act, and yet this Act, if they have all these properties set them in no better case than they were before this Act."

In reference to Section 6 of the Statute of Monopolies, Sir *Edward Coke* says:

"The *second* proviso concerneth the privilege of new manufacturers *hereafter* to be granted: and this also must have seven properties: first, it must be for the term of fourteen years, or under; the other six properties must be such as are aforesaid, and yet this Act maketh them no better than they should have been if this Act had never been made, but only excepts and exempts them out of the purview and penalty of the laws.

"The cause wherefore the privileges of new manufacturers, either before this Act granted, or which after this Act should be granted, having these seven properties, were not declared to be good was, for that the reason wherefore such a privilege is good in law is, because the inventor bringeth to and for the commonwealth a new manufacture by his invention, cost and charges; and therefore it is reason that he should have a privilege for his reward (and the encouragement of others in the like), for a convenient time, but it was thought that the times limited by this Act were too long for the private, before the commonwealth should be partaker thereof, and such as served such privileged persons by the space of seven years, in making or working of the new manufacture (which is the time limited by law of apprenticehood), must be apprentices or servants still during the residue of the privilege, by means whereof such numbers of men would not apply themselves thereunto as should be requisite for the commonwealth after the privilege ended, and this was the true cause wherefore, both for the time past and for the

time to come, they were left of such force as they were before the making of this Act."

Discovery and Invention.

It is impossible to give any definition which will enable the question to be at once answered whether a given example is capable of forming the subject-matter of a valid patent. Each instance must be considered on its own merits.

Exhaustive definition is not possible.

The Common Law authorities, respecting what may be the subject of a valid patent, decided before the passing of 21 Jac. I. c. 3, are not very numerous, but they agree perfectly with the construction which the modern law has placed upon the words of the sixth section of that Act.

Common Law authorities.

In the *Case of Monopolies* (Noy, 182) it was held that the Crown may grant a patent of "*a new trade*" or "*any engine tending to the furtherance of a trade that never was used before.*"

In *The Clothworkers of Ipswich Case*, (1615) Godb. 252, 253, it was said that, "if a man hath brought in *a new invention and a new trade*, or *a new discovery of anything*," the Crown may grant to him that he only shall use such a trade.

Edgebury v. *Stephens*, (1691) 2 Salk. 447; 1 W. P. C. 35, held that the exception contained in the sixth section of the Statute of Monopolies intended to encourage *new devices* useful to the kingdom.

It is stated in Sheppard's Abridgment (Part iii., tit. Prerog., p. 61) that the King may grant a patent for a new *trade* or *device*, or any new *engine* tending to the furtherance of it.

And Serjeant *Hawkins* says (Hawk. P. Cr. part i. c. 79, s. 20) the King may grant the sole use of "*An Art* invented or first brought into the realm by the grantee."

Discovery and Invention.—The words of the excepting clause of the statute of James I. appear so wide and extensive as to embrace almost the whole domain of the inventive faculty of the human mind, but there are, nevertheless, certain discoveries which may be most highly beneficial to mankind, and yet, for meritorious reasons, are not capable of forming the subject-matter of a valid patent. Moreover, if a part of what the patentee claims as being his invention is not proper subject-matter, it will vitiate the whole and render the grant entirely void so long as the specification remains unamended.(*q*)

Difference between discovery and invention.

Many instances of discoveries which are incapable of pro-

(*q*) p. 207 *post*.

Discovery and Invention.

tection by letters patent, and the reasons why, will be found in the following pages.

Discovery and invention are clearly not the same thing. A discovery will not form the basis of a patentable invention unless the discoverer thereby adds something to the stock of public knowledge, which, besides being new and useful is, on the facts of the particular case, the outcome of skilful ingenuity.(*r*) The following words of *Lindley*, L.J., taken from his judgment in *Lane Fox* v. *Kensington and Knightsbridge Electric Lighting Co.*(*s*) are most instructive upon this point.

Per Lindley, L.J.

> "An invention is not the same thing as a discovery. When *Volta* discovered the effect of an electric current from the battery on a frog's leg he made a great discovery, but no patentable invention. Again, a man who discovered that a known machine can produce effects which no one knew could be produced by it before may make a great and useful discovery, but if he does no more his discovery is not a patentable invention. *Britain* v. *Hirsch*, (1888) 5 R. P. C. 226 (on p. 232); *Harwood* v. *Great Northern Railway Co.*, (1865) 11 H. L. C. 654; *Horton* v. *Nabon*, (1862) 12 C. B. N. S. 437; *Saxby* v. *Gloucester Waggon Co.*, (1880) L. R. 7 Q. B. D. 305. He has added nothing but knowledge to what previously existed. A patentee must do something more; he must make some addition, not only to knowledge, but to previously known inventions and must use his knowledge and ingenuity so as to produce either a new and useful thing or result, or a new method of producing an old thing or result. On the one hand, the discovery that a known thing—such for example as a *Planté* battery—can be used for a useful purpose for which it has never been used before is not alone a patentable invention; but, on the other hand, the discovery how to use such a thing for such a purpose will be a patentable invention, if there is novelty in the mode of using it as distinguished from novelty of purpose; or if any new modification of the thing, or any new appliance is necessary for using it for its new purpose, and if such mode of using or modification or appliance involves any appreciable merit. It is often extremely difficult to draw the line between patentable inventions and non-patentable discoveries; but I have endeavoured to state the distinction as I understand it, and so far as is necessary for the purpose of the present case. I have, of course, been guided by the previous decisions on the subject, and especially by *Harwood* v. *Great*

(*r*) See p. 95 *post*.

(*s*) (1892) 9 R. P. C. 416.

Northern Railway Co., (1865) 11 H. L. C. 654, which is the most instructive of them all. I have been induced to make these observations in order to apply them to the question whether the plaintiff's invention is anything more than a discovery that *Planté* cells can be usefully employed for incandescent lighting."

Amount of Invention.

Amount of Invention.—The Crown has authority to grant letters patent for inventions to the true and first inventor only, *i.e.*, to the true and first inventor alone, or in conjunction with some other person or persons. This is the effect of the statements of the Common Law contained in the Statute of Monopolies.(*t*) It is evident, therefore, that the grantee of the patent, or one of the grantees as the case may be, must be an inventor. That is to say he must, in arriving at the discovery, which is the subject-matter of the patent, have exercised that faculty of the mind which is called invention.

Mere scintilla of invention is sufficient to support a patent.

The question arises as to whether any particular quantum of invention, in this sense, is necessary to the support of a grant of letters patent. The result of the cases on the point is that, provided the subject-matter of the patent is a manufacture within the meaning of the Statute of Monopolies,(*u*) which is new and useful, a mere *scintilla* of invention is sufficient.(*x*)

It is true that every invention capable of supporting a patent must be a new manufacture, but it does not follow that every novelty, though an important and useful one, is good subject-matter. In order to support a patent the novelty must be the outcome of thought, design, or skilful ingenuity. It is not, however, necessary that any great amount of thought, design, or skilful ingenuity must have actually been expended in making the invention, for the discovery may have been the outcome of a mere guess or happy accident, suggesting the novel application which is the real meritorious invention. Thus, the discovery of water tabbies was made by mere accident. A man having spat upon the floor, placed his hot iron on it, and observed that the moisture spread out into a kind of flower. He afterwards tried the experiment upon linen, and found it

(*t*) See p. 3 *ante*.

(*u*) p. 20 *ante*.

(*x*) American Braided Wire Co. *v.* Thomson, (1889) 6 R. P. C. 518; Vickers *v.* Siddel, (1890) 7 R. P. C. 292; Rickmann *v.* Thierry, (1896) 14 R. P. C. 105; Longbottom *v.* Shaw, (1891) 8 R. P. C. 333; Harwood *v.* Great Northern Ry. Co., (1865) 11 H. L. C. 654; 35 L. T. Q. B. 27; Losh *v.* Hague, (1837) 1 W. P. C. 202, 207; R. *v.* Cutler, (1847) 4 Q. B. 372 n.; 3 C. & K. 215; Neilson *v.* Harford (1841) 8 M. & W. 806; 11 L. J. Ex. 20; 1 W. P. C. 331; Crane *v.* Price, (1842) 4 M. & G. 580; 12 L. J. C. P. 81; 1 W. P. C. 393; Hayward *v.* Hamilton, (1879-81) Griff. P. C. 115.

Amount of Invention.

produced the same effect. He then obtained a patent for a process based on the accidental discovery, which proved of great value.(*y*)

Unsatisfied demand.

Where there is a long unsatisfied demand, and an article suddenly springs into existence which meets the demand, the length of time during which the demand was unsatisfied is matter from which it may be inferred that it is ingenuity alone which has enabled the inventor to surmount the obstacle, which otherwise would seem, from the mere existence of the long unsatisfied demand, to have existed somewhere, or in some shape. The fact, however, must not be overlooked that the demand itself may be quite new, and the novelty of the demand may have produced immediately, and without any operation of ingenuity, an obvious article to satisfy it, which consequently could not be good subject-matter.(*z*)

Essential considerations.

If the alleged invention is obvious, and it cannot be presumed that the exercise of thought, design, or skilful ingenuity was required in making it, the patent is void, on the ground of lack of subject-matter.(*a*)

It has been authoritatively stated that in point of law the labour of thought or experiment, and the expenditure of money, are not the essential grounds of consideration on which the question whether the invention is, or is not, the subject-matter of a patent ought to depend; for if the invention be new, and useful to the public, it is not material whether it be the result of long experiment and profound search, or of some sudden and lucky thought, or mere accidental discovery.(*b*)

Conception of the idea may be the whole merit.

The conception of the idea is, in many cases, the whole merit of the invention; and its application, when once conceived, becomes the simplest thing in the world, and, consequently, does not evidence the expenditure of much thought, design, or skilful ingenuity.(*c*)

(*y*) Liardet *v.* Johnson, (1778) 1 W. P. C. 54; see also 2 H. Bl. 486; Crane *v.* Price, (1842) 1 W. P. C. 411.

(*z*) Gosnell *v.* Bishop, (1888) 5 R. P. C. 158; American Braided Wire Co. *v.* Thompson, (1888) 5 R. P. C., 5 P. O. R. 125; Blakey *v.* Latham, (1889) 6 R. P. C. 187; Elias *v.* Grovesend Tinplate Co., (1890) 7 R. P. C. 455; Morgan *v.* Windover, (1890) 7 R. P. C. 131.

(*a*) White *v.* Toms, (1867) 32 L. J. Ch. 204; Britain *v.* Hirsch, (1888) 5 R. P. C. 74, 226; Jackson *v.* Needle, (1885) 2 R. P. C. 191; Sharp *v.* Bauer, (1886) 3 R. P. C. 193; Guilbert-Martin *v.* Kerr, (1887) 4 R. P. C. 18; Rowcliffe *v.* Longford Wire Co., (1887) 4 R. P. C. 281; Haslam *v.* Hall, (1888) 5 R. P. C. 21; Longbottom *v.* Shaw, (1888) 5 R. P. C. 497; 6 P. O. R. 143; Goulard & Gibb's Patent, (1888) 5 R. P. C. 525; Herrburger *v.* Squire, (1889) 6 R. P. C. 194; Morgan *v.* Windover, (1890) 7 R. P. C. 131; Wood *v.* Raphael, (1897) 14 R. P. C. 496; Haws *v.* Harding, (1897) 14 R. P. C. 640, 930.

(*b*) Per Tindal, C.J., Crane *v.* Price, (1842) 1 W. P. C. 411.

(*c*) See pp. 35, 36 *post*.

Amount of Invention.

Therefore, the question whether any alleged invention is proper subject-matter depends, not on whether it was the result of great thought, design, or skilful ingenuity, but whether it required the exercise of some thought, design, or skilful ingenuity to arrive at the result claimed by the patentee—*e.g.*, a new combination which is obvious and consists merely in putting together two inventions without making any other experiment, or gaining any further information, is not proper subject-matter,(*d*) neither is the mere duplicating of a known thing, though the result is eminently useful.(*e*)

An obvious combination is not subject-matter.

For example, in *Williams* v. *Nye*,(*f*) the patent was for a sausage-making machine, and it appeared that there was known an old machine, *Nye's*, in which there was a combination of a cutting process and a forcing forward or filling into the skin which was to enclose the meat when cut up. *Nye's* cutting process was defective. There was also known an old cutting process, *Donald's*, which was satisfactory. What the plaintiff did, was to introduce into *Donald's* cutting machine, and on the shaft which worked it, a screw to force the meat when minced into the sausage skin. Such a forcing screw was used in *Nye's* machine. Though the plaintiff did in fact turn *Donald's* machine into a machine which filled as well as cut, and so produced a machine which was new and better than *Nye's* cutting and filling machine, yet the Court of first instance and the Court of Appeal held that there was no sufficient invention, and the patent was bad on the ground of lack of subject-matter.

Leading cases to the effect that a scintilla of invention is sufficient.

The following are the leading authorities on the point that a mere *scintilla* of invention is sufficient to support a patent for subject-matter which is in fact a new and useful "manufacture" within the meaning of the Statute of Monopolies.

Harwood v. Great Northern Railway Co.

Harwood v. *Great Northern Railway Co.*, (1865) 11 H.L.C. 654; 35 L.J.Q.B. 27. In this case the patent related to "improvement in fishes and fish-joints for connecting the rails of railways," and was declared invalid. When the case reached the House of Lords the Judges were summoned and requested to give their opinions as to whether upon the findings of the jury on the facts of the case a verdict should be entered for the plaintiffs or the defendants.

(*d*) Saxby *v.* Gloucester Waggon Co., L. R. (1880) 7 Q. B. D. 305; 50 L. J. Q. B. 577; Williams *v.* Nye, (1890) 7 R. P. C. 62; Ormson *v.* Clarke, (1862) 13 C. B. 339; 14 C. B. 490; Newsum *v.* Mann, (1890) 7 R. P. C. 307; Heys *v.* Hallmark, (1891) 9 R. P. C. 25.

(*e*) Elias *v.* Grovesend Tinplate Co., (1890) 7 R. P. C. 455; Morgan *v.* Windover, (1890) 7 R. P. C. 131.

(*f*) (1890) 7 R. P. C. 37, 62, 66.

Amount of Invention.

Leading cases.

Blackburn, J., in delivering the opinions of himself and *Shee*, J., stated the law in the following terms, with which all the Judges consulted and the House agreed (11 H. L. C. 666): "The Statute of Monopolies (21 Jac. I. c. 3, s. 6) excepts from the abolition of monopolies patents for 'the sole working or making of any manner of new manufactures within this realm to the true and first inventor and inventors of such manufactures, which others at the time of making such letters patents and grants shall not use.' In order to bring the subject-matter of a patent within this exception, there must be *invention* so applied as to produce a practical result. And we agree with the Court of Exchequer Chamber that a *mere* application of an old contrivance in the old way to an analogous subject, *without any novelty or invention* in the mode of applying such old contrivance to the new purpose, is not a valid subject-matter of a patent. There are many decisions to that effect, which were referred to at your Lordships' Bar; and, if the matter were now, for the first time, to be decided on the construction of the statute, without reference to the cases, we should think on principle that such should be the conclusion of the Court. But then in every case arises a question of fact whether the contrivance before in use was so similar to that which the patentee claims that there is no invention in the differences, if any, between the old contrivance and that for which the patentee claims a monopoly; and, if there is none, there arises a further question—viz., whether the purpose to which the contrivance was before applied and the new purpose are so analogous or cognate that there is no discovery or invention in the new application? Whether, in short, it is a *mere* application or not? For if there is invention or discovery producing a practical benefit, as in the case of *Crane* v. *Price*, (1840) 1 W. P. C. 377; 4 Man. & Gr. 580, it is the valid subject of a patent. And we think it always must be a question of degree—a question of more or less—whether the analogy or cognateness of the purposes is so close as to prevent them being an invention in the application. Mr. *Grove*, in his very able arguments, contended, we believe correctly enough, that if there was any real invention, though a slight one, producing a practical beneficial result, the patent was good. But the question still remains, was there such an amount of cognateness in the purposes that there was no real invention or discovery?"

Lord *Westbury*, L.C., in moving the House to confirm the decision of the Court of Exchequer Chamber, said (11 H. L. C. 682): "Then, my Lords, the question is, whether there can be any invention of the plaintiff in having taken that thing which was a fish for a bridge, and having applied it as a fish to a railway. Upon

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that I think the law is well and rightly settled, for there would be no end to the interference with trade and with the liberty of adopting any mechanical contrivance, if every slight difference in the application of a well-known thing should be held to constitute ground for a patent. There is the familiar contrivance of the button to the button-hole taken from the waistcoat or the coat, which may be applied in some particular mechanical combination in which it has not hitherto been applied; but it would be an idle thing, if it were possible, to take a well-known mechanical contrivance, and by applying it to a subject to which it had not hitherto been applied to constitute that application the subject of a patent to be granted as for a new invention. No sounder or more wholesome doctrine, I think, was ever established than that which was established by the decisions which are referred to in the opinions of the four learned Judges who concur in the second opinion delivered to your Lordships, namely, that you cannot have a patent for a well-known mechanical contrivance merely when it is applied in a manner or to a purpose, which is not quite the same, but is analogous to the manner or the purpose in or to which it has been hitherto notoriously used."

Elias v. Grovesend Tinplate Co.

In *Elias* v. *Grovesend Tinplate Co.*, (1890) 7 R. P. C. 455, *Smith*, L.J., pointed out that when Lord *Westbury*, L.C., stated that you cannot have a patent for a well-known mechanical contrivance *merely* when it is applied in an analogous manner or to an analogous purpose his Lordship meant "unless there is invention in the adaptation or mode of application."

Penn v. Bibby.

In *Penn* v. *Bibby*, (1866) L. R. 2 Ch. 127; 36 L. J. Ch. 453, the patent related to "an improvement in the bearings and brushes for the shafts of screw and submerged propellers."

It was objected against the patent that it was a case of mere analogous use of bearings known in connection with grindstones and water-wheels. Lord *Chelmsford*, L.C., to whom there was an appeal for a new trial, in reference to the question of invention, said (L. R. 2 Ch. 135): "It was objected that the finding was erroneous, because the alleged invention was merely a new application of an old and well-known thing. It is very difficult to extract any principle from the various decisions on this subject which can be applied with certainty to every case; nor indeed is it easy to reconcile them with each other. The criterion given by Lord *Campbell* in *Brook* v. *Aston*, 8 E. & B. 485, has been frequently cited (as it was in the present argument), that a patent may be valid for the application of an old invention to a new purpose, but to make it valid there must be some novelty in the application. I cannot help thinking that there must be some inaccuracy in his Lordship's words, because

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according to the proposition, as he stated it, if the invention be applied to a new purpose there cannot but be some novelty in the application.

"In every case of this description one main consideration seems to be whether the new application lies so much out of the track of the former use as not naturally to suggest itself to a person turning his mind to the subject, but to require some application of thought and study. Now, strictly, applying this test to the present case, it appears to me impossible to say that the patented invention is merely an application of an old thing to a new purpose."

Thomson *v.* American Braided Wire Co.

Thomson v. *American Braided Wire Co.*, (1889) 6 R. P. C. 518, was a case near the border line, but the patent was upheld by the House of Lords on the ground that there was quite sufficient invention in the mode of application. Lord *Herschell's* judgment contains the following passage (6 R. P. C. 527): "It cannot be denied that both the prior patents to which I have referred afford some colour to the defendants' contention that the patentee has done nothing more than apply a known substance in a manner and to a purpose analogous to that in and to which it had been already applied, and that the patent therefore cannot be supported. If I thought that the patentee had claimed the mere use of tubular sections of braided wire as a bustle, however fastened or secured, I should arrive at the conclusion that the defendant's contention was well founded, but I do not thus construe the specification. I have already stated that in my opinion it is the combination alone for which protection is sought, and that the method of fastening the ends by clamping plates is an essential part of that which is claimed. Taking this view of the patent, I think that, even with the state of knowledge which existed at the time the patent was applied for, some invention was required to produce the bustle claimed to be protected by it. All the learned Judges in the Court of Appeal, although they arrived at the same conclusion, stated that they had done so with hesitation, and expressed the opinion that but little invention was requisite, and that the case was near the border line. I entirely agree, and have not been without doubt as to the proper decision to be arrived at."

Vickers *v.* Siddell.

In *Vickers* v. *Siddell*, (1890) 7 R. P. C. 292, the subject-matter of the patent related to an improved mechanical appliance for making or operating on large forgings in iron or steel. In the House of Lords, Lord *Herschell* said, 7 R. P. C. 304: "The objections of want of novelty and subject-matter cover to some extent the same ground, but it will be expedient to deal with them as far as possible separately. The invention, so far as we are concerned with it in this part of

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the case, consists of an apparatus for turning heavy forgings, composed of a wheel and endless chains, the wheel being internally toothed, and having a ratchet working in it, by means of which the wheel is caused to rotate, and the forging which rests in the endless chain is thus turned from time to time to the extent desired. It is admitted by the respondent that the elements which form this combination are all old. On the other hand the appellants admit that the combination was never in use prior to the date of the patent. But they allege that to combine these well-known elements into the apparatus needed no invention, and that it is therefore not proper subject-matter for a patent. Forgings, they say, had long rested in an endless chain, the idea of turning such forgings by turning the wheel over which the chain passed was not a new one, and a ratchet, working in teeth was a well-known device for causing a wheel to rotate to the desired extent. All this, I think, cannot be denied. But the result is an apparatus of extremely simple character, which possesses the advantage of being easily moved from place to place and applied wherever wanted. And the question remains whether this mode of dealing with forgings which require to be gradually turned was so obvious that it would at once occur to any one acquainted with the subject and desirous of accomplishing the end, or whether it required some invention to devise it. There is no doubt about the law applicable to such a question, though it is often difficult to apply it to the circumstances of a particular case, and its application is perhaps most difficult when the alleged invention consists of a new apparatus combining known elements. If the apparatus be valuable by reason of its simplicity, there is a danger of being misled by that very simplicity into the belief that no invention was needed to produce it. But experience has shown that not a few inventions, some of which have revolutionised the industries of this country, have been of so simple a character that when once they were made known it was difficult to understand how the idea had been so long in presenting itself, or not to believe that they must have been obvious to every one."

Invention purely a question of fact.

It is thus purely a question of fact in each instance whether, upon a consideration of the circumstances peculiar to each case and the state of public knowledge at the date of application for the patent, there has been an exercise of invention or not; and a decision of fact in one case is neither an authority, nor a help, to a decision of fact in another case.(*g*) In the words of the late Lord

(*g*) Crossley *v.* Beverley, (1829) 1 W. P. C. 107; Lewis *v.* Marling, (1829) 1 W. P. C. 496; King Brown *v.* Anglo-American Brush Corporation, (1889) 6 R. P. C. 414; 7 R. P. C. 436; 9 R. P. C. 313; United Telephone Co. *v.*

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Bowen (*h*): "Has there been an exercise of the inventive faculties? That depends on a true view of all the circumstances, and it cannot be governed in any one case by a finding of fact, on a totally different invention, by a tribunal like the House of Lords. We must apply our mind to the specific facts in the case before us; and nothing is more pernicious, or likely to lead the Court astray, than, when it has to decide a question of fact in one case, to wander into another case; to look at the decision of fact in that case and then to see what differentiations there can be between the facts in the cited case and the one before the Court. The Court that travels on these lines always goes wrong."(*i*)

Simplicity no bar to invention.

No apparent smallness or simplicity in what the patentee does will prevent the patent being good, if some invention was requisite to produce the new result; but, on the other hand, mere novelty of manufacture, or usefulness in the application of known materials to analogous uses or the arrangement of old parts in combination, will not necessarily establish invention within the meaning of the patent law.(*k*)

Sometimes an invention which is an improvement on what has gone before appears extremely simple when discovered and explained, but it does not at all follow that it was obvious before, or did not require invention, or is not of great merit, and the proper subject-matter of a patent. Thus in the case of the discovery of Lanolin the invention consisted in freeing the known commercial wool-fat from fatty acids and other impurities and so leaving only the cholesterine fats, which it was discovered when kneaded and worked take up water and form the highly useful product Lanolin. At the date of the patent the methods used for separating the cholesterine fats were old and known, and a preparation of wool-fat described by *Dioscorides* and called *œsypus*, from which the fatty acids had not been

Harrison, Cox, Walker & Co., (1882) L. R. 21, Ch. D. 720; Actien Gesellschaft fur Cartonagen Industrie *v.* Schroeder, (1896) 13 R. P. C. 466.

(*h*) Lyon *v.* Goddard, (1893) 10 R. P. C. 346.

(*i*) See also Saxby *v.* Gloucester Waggon Co., (1883) L. R. 7; Q. B. D. 305; 50 L. J. Q. B. 577; Griff. L. O. C. 54; Cropper *v.* Smith, (1884) L. R. 26, Ch. D. 700; 53 L. J. Ch. 891; 1 R. P. C. 90; Morgan *v.* Windover, (1890) 7 R. P. C. 131; Gadd *v.* Mayor of Manchester, (1892) 9 R. P. C. 516.

(*k*) Rickman *v.* Thierry. (1896) 14 R. P. C. 105; Hinks *v.* Safety Lighting Co., (1876) L. R. 4 Ch. D. 607; Brook *v.* Aston, (1857–9) 8 Ell. & B. 478; Ormson *v.* Clark, (1862) 13 C. B. 339, 14 C. B. 400; Saxby *v.* Gloucester Waggon Co., (1880) L. R. 7 Q. B. D. 305; 50 L. J. Q. B. 577; Williams *v.* Nye, (1890) 7 R. P. C. 62; Newsum *v.* Mann, (1890) 7 R. P. C. 307; Elias *v.* Grovesend Tinplate Co., (1890) 7 R. P. C. 455; Morgan *v.* Windover, (1890) 7 R. P. C. 131; Heys *v.* Hallmark, (1891) 9 R. P. C. 25; Duckett *v.* Whitehead, (1895) 12 R. P. C. 376; Actien Gesellschaft fur Cartonagen Industrie *v.* Schroeder, (1896) 13 R. P. C. 466.

completely removed, was known as an unguent to the ancients. The Courts nevertheless found that the process which yielded the highly useful product Lanolin was the outcome of great invention and the subject-matter of a valid patent.(*l*)

Amount of Invention.

Sometimes the merit of an invention consists in clearly appreciating some particular useful end to be attained, or, as has been aptly said, in "apprehending a desideratum," the merit of the patent consisting not so much in the way in which the idea was carried out as in conceiving the idea itself.(*m*) Thus it has been held the fact that a chemist would know *a priori* that by mixing two known substances together an explosive would be the result, did not destroy the patent of a man, who by experimentally mixing them together and treating the result in a certain known way so as to waterproof it found he did get an explosive, Roburite, which satisfied commercial requisites which were not satisfied by explosives known before.(*n*) In this case the invention consisted, as it often does in other cases, of putting together items of common knowledge which no one else has ever thought of combining —common knowledge that you may mix, common knowledge that you may waterproof—but the essence of the invention was that the inventor had taken a great many things which were common knowledge and tried which of them would produce a useful and new result, and he thus ascertained that, following the process described by him in his specification, he arrived at a new and useful result, which was undoubtedly invention, and in the particular case invention of a somewhat high order.(*o*)

Conception of an idea may be the merit of an invention.

Invention, again, may sometimes consist in the selection of particular members of a class of substances, which possess properties by means of which the inventor is able to produce a result which is new and useful, or, if old, is attained in a better or more economical way than hitherto.(*p*)

Selection of a member of a class may be invention.

So, though a class of bodies may have been employed before for a particular purpose, there may be sufficient invention in selecting one member of the class which possesses particular advantages not shared by the other members of the

(*l*) Benno Jaffé und Darmstaedter Lanolin Fabrik *v.* Richardson, (1893) 11 R. P. C. 93, 261; see also *ibid.*

(*m*) See Fawcett *v.* Harrison, (1896) 13 R. P. C. 405, 410; also p. 41 *post.*

(*n*) Lancashire Explosives Co. *v.* Roburite Explosives Co., (1895) 12 R. P. C. 470, 482.

(*o*) See per Rigby, L.J.; 12 R. P. C. 482.

(*p*) Farbenfabriken vorm F. Bayn *v.* Bowker, (1891) 8 R. P. C. 389; Lancashire Explosives Co. *v.* Roburite Explosives Co., (1895) 12 R. P. C. 470, 478; 13 R. P. C. 429; 14 R. P. C. 303.

Classes of Inventions.

class to support a patent for the use of that particular member.(*q*)

New application of known machine may be invention.

So also, though different machines of a certain general class or character be well known, if a person selects and applies one specially adapted for his purpose to effect a new object and produce a new article, or an old article in a substantially more expeditious and economical way than it was produced before, then he may properly claim, as subject-matter of a patent, that machine as applied to the new object, notwithstanding that he could not have claimed the machine *per se*—that is to say, without limitation as to its application.(*r*)

Mere adaptation of old idea,

On the other hand, it is not invention to adapt, without ingenuity, a well-known idea in a well-known manner for a well-known purpose, though the identical adaptation has not been made before and a very useful effect is the result.(*s*)

or mere alteration of shape or proportions of parts is not invention.

Neither is it invention merely to alter the shape of a known thing, though to do so might possibly be the subject of a new design; (*t*) or to alter the proportions of parts used in combination before where proportion is not of the essence of success.(*u*)

Classes of Inventions.—Any invention which possesses all the attributes imposed as conditions by the law—viz., that it is included in the term "new manufactures" as used in the sixth section of the Statute of Monopolies (*x*) and is new and useful—may be the subject of a grant of letters patent.

Exhaustive classification not possible.

It is not possible to give a classification of inventions, including all which may be held to fall within the definition given in 21 Jac. I. c. 3, s. 6. The difficulty which exists in giving an exhaustive classification of all inventions which could possibly support a grant of letters patent arises from the fact that the arts and manufactures of the country are in a continual state of progression, and consequently desirable results, never before contemplated, are continually presenting themselves, and the most minute changes may constitute new and useful inventions when they are the outcome of thought, design, or skilful ingenuity.

It may, however, be pointed out that all inventions for

(*q*) Hills *v.* The London Gas Light Co., (1857) 27 L. J. Ex. 60; 5 H. & N. 312; 29 L. J. Ex. 409; Wylie *v.* Norton's Patents, (1896) 13 R. P. C. 97, in which a patent was refused on the ground that there was in that case no invention in making the selection.

(*r*) Adamant Stone and Paving Co. *v.* Corporation of Liverpool, (1896) 14 R. P. C. 21.

(*s*) pp. 71–74 *post*.

(*t*) Heys *v.* Hallmark, (1892) 9 R. P. C. 25.

(*u*) Savage *v.* Harris, (1896) 13 R. P. C. 364.

(*x*) 21 Jac. I. c. 3, s. 6.

which letters patent have hitherto been upheld on the ground of subject-matter may be classed under one or more of the following heads:— Principles.

I. New or old methods of applying new principles.
II. New methods of applying old principles.
III. New contrivances applied to new objects or purposes.
IV. New contrivances applied to old objects or purposes.
V. New combinations of new or old, or partly new and partly old, parts, which result either in the production of a material object or process.
VI. New methods, involving the exercise of invention, of applying old things or processes.
VII. Improvements on known methods, processes or combinations consisting in the addition to, the omission from, or the rearrangement of, old parts.
VIII. Applications, with ingenuity, of materials, processes, or things previously unapplied to useful purposes to some one or more specific useful purpose or purposes.

PRINCIPLES.

A new principle—*i.e.*, an abstract law of Nature, a fundamental law of science—cannot be the subject-matter of a valid patent. Principles alone are not subject-matter.

Principles may be of the utmost value to mankind, as, for instance, the principle of gravitation or the doctrine of evolution, which have in the hands of their discoverers and others been productive of the greatest usefulness. The law, however, will not attempt to secure to the discoverer the sole use and enjoyment of such a bare principle, nor to prohibit others from making use of it. In the language of Lord *Kenyon*, it would be difficult to frame a specification of a philosophical principle, it would be something like an idea without a substratum.(*y*)

Moreover, the very statement of what a principle is proves it not to be a ground for a patent. It is a first ground and rule for arts and sciences, or, in other words, the elements and rudiments of them. A patent must be for some production from those elements, and not for the elements themselves; for some new manufacture, whether with or without principle, produced by art or accident.(*z*)

(*y*) Hornblower *v.* Boulton, (1799) 8 T. R. 95; Dav. P. C. 221; see also Boulton *v.* Bull, (1795) 2 H. Bl. 463.

(*z*) Boulton *v.* Bull, (1795) Dav. P. C. 196, 198.

Principles.

A principle cannot of itself, apart from a practical application, produce any vendible article or manufacture, and therefore, unless the discoverer of a principle points out some practical application of it, it is clear that he cannot give the public the consideration necessary to support a patent—viz., a new and useful manufacture.

but may be together with a method of application.

Principles in a concrete form, together with a method of applying them to a new and useful purpose, may form the subject of a grant of letters patent. In other words, a new principle or a new idea as regards any art or manufacture, together with a mode of carrying it into practice, may be patented, though the idea alone, and very likely the machine alone, because the machine might not be new, is not proper subject-matter.(*a*)

The following remarks of *Jessel*, M.R.,(*b*) in reference to the patent for the *Otto* gas engine are most instructive in this connection :

"The first objection is that this is not the subject-matter of a patent, because it is said that what is claimed is a principle . . . . or, as it is sometimes termed, the idea of putting a cushion of air between the explosive mixture and the piston of the gas motor engine, so as to regulate, detain, or make gradual what would otherwise be a sudden explosion. Of course that could not be patented. I do not read the patent so. I read the patent as being to the effect that the patentee tells us that there is the idea which he wishes to carry out, but he also describes other kinds of machines which will carry it out, and he claims to carry it out substantially by one or other of these machines. That is the subject of a patent. If you have a new principle, or a new idea, as regards any art or manufacture, and then show a mode of carrying that into practice, you may patent that, though you could not patent the idea alone, and very likely could not patent the machine alone, because the machine alone would not be new. One of the strongest illustrations that I know of is the patent for the hot blast in the iron manufacture, where there was nothing new at all except the idea that the application of hot air instead of cold air to the mixture of iron ore and fuel would produce most remarkable results in the shape of economy in the manufacture of iron. The inventor or discoverer could not patent that, but what he did was this. He said: 'I will patent that idea in

(*a*) Otto *v.* Linford, (1881) 46 L. T. N.S. 35; L. R. 18 Ch. D. 394; Crossley *v.* Porter, (1853) Moor, P. C. 240; Cassel Gold Extracting Co. *v.* Cyanide Gold Recovery Syndicate, (1895) 12 R. P. C. 232, 256.

(*b*) Otto *v.* Linford, (1881) 46 L. T. N. S. 35; L. R.

Principles.

combination with the mode of carrying it out; that is, I tell you you may heat your air in a closed vessel next your furnace, and then that will effect the object.' It was held that that would do. . . . . Now that is a much stronger illustration than this of the validity of a patent as regards the subject-matter. For here is a complicated machine. . . . . In the case of the hot blast the man did not pretend to invent anything; he said a machine of any shape in which you can heat air is sufficient. Mr. *Otto* does allege he has invented a machine. It appears that he did, although a machine which, *per se*, was not of sufficient novelty probably to support a patent. It comes therefore to this, that we have a principle and a mode of carrying it out, and, I will assume for this purpose, sufficiently described, and that is good subject-matter for a patent."

Claim to all methods of application amounts to claim to principle itself.

A claim to every mode of carrying a new principle or idea into effect amounts to a claim for the principle or idea itself,(*c*) and therefore renders the patent void.

Thus, in *Patterson* v. *Gas Light and Coke Co.*,(*d*) a patent, which claimed the employment of sulphide of calcium in separate purifiers as a means of purifying coal-gas from sulphur existing in other forms than that of sulphuretted hydrogen, was declared void, on the ground that the claim amounted to a claim to the principle apart from a means of carrying it out. The judgment of *James*, L.J., which was affirmed in the House of Lords, contains the following passage in reference to the claim for "the employment of sulphide of calcium in separate purifiers as a means of purifying coal-gas from sulphur existing in other forms than that of sulphuretted hydrogen":

"There is nothing in this but the enunciation of a chemical truth that pure sulphide of calcium will absorb the sulphur compounds. The plaintiff believed that he had discovered that chemical truth, although it had been taught for many years in many books, and was well known to chemists. There is no invention of any particular process or means of employing the pure sulphide of calcium. If pure sulphide of calcium is to be used, it must be used in some separate purifier, and there is nothing therefore in any previous part of the specification to

(*c*) Neilson *v.* Harford, (1841) 1 W. P. C. 295; Booth *v.* Kennard, (1856) 2 H. & N. 84; 26 L. T. Ex. 23, 305; Wyeth *v.* Stone, 1 Story, 273; Arnold *v.* Bradbury, (1871) L. R. 6 Ch. App. 711; Patterson *v.* Gas Light and Coke Co., (1875) L. R. 2 Ch. D. 812; 3 App. Cas. 239; Automatic Weighing Machine Co. *v.* Knight, (1889) 6 R. P. C. 297.

(*d*) (1875) L. R. 2 Ch. D. 812; 3 App. Cas. 239; 45 L. J. Ch. 843; 47 L. J. Ch. 402.

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limit the universality of the claim to the employment of sulphide of calcium for the removal of sulphur in other forms than sulphuretted hydrogen. It is obviously impossible to support such a claim as that, which was plainly based on the plaintiff's mistaken idea that he had discovered that peculiar property in sulphide of calcium."

Illustrations of good claims to principles coupled with methods of application.

Neilson *v.* Harford, and Househill Co. *v.* Neilson.

The patent, the validity of which was questioned in *Neilson* v. *Harford*,(*e*) and also in *Househill Company* v. *Neilson*,(*f*) was for an improved method of applying air to produce heat in furnaces, and the specification stated that "a blast or current of air must be produced by blowing apparatus in the ordinary way. The blast so produced is to be passed from the blowing apparatus into an air-vessel, and from that vessel by means of a pipe into the furnace. The air-vessel must be kept artificially heated at a considerable temperature. It is better to be kept to red heat, or nearly so, but so high a temperature is not absolutely necessary to produce a beneficial effect. The size of the air-vessel must depend upon the blast and on the heat necessary to be produced. *The form or shape of the vessel*, or receptacle, *is immaterial to the effect*, and may be adapted to the local circumstances or situation." There was no separate claim. The defendants contended that the patent was bad, as being for a principle only, but the Court of Exchequer, after much debate, came to the conclusion that it claimed not only a principle, but also a practical means of carrying the principle into effect—viz., heating the air in a separate vessel, and was therefore good.

In the *Househill Company* v. *Neilson*,(*g*) Lord Justice Clerk *Hope*, addressing the jury and referring generally to the validity of patents for methods of carrying principles into effect, used the following words, which were not objected to by the House of Lords in that case, and have often been quoted with approval by Judges in subsequent cases:

> "It is quite true that a patent cannot be taken out solely for an abstract philosophical principle—for instance, for any law of Nature, or any property of matter, apart from any mode of turning it to account in the practical operations of manufacture, or the business, and arts, and utilities of life. The mere discovery of such a principle is not an invention in the patent law sense of the term. Stating such a principle in a patent may be

(*e*) (1841) 1 W. P. C. 295, 328, 331.
(*f*) (1843) 1 W. P. C. 673.
(*g*) (1843) 1 W. P. C. 673, 683.

a promulgation of the principle, but it is no application of the principle to any practical purpose. And without that application of the principle to a practical object and end, and without the application of it to human industry, or to the purposes of human enjoyment, a person cannot in the abstract appropriate a principle to himself. But a patent will be good, though the subject of the patent consists in the discovery of a just, general, and most comprehensive principle in science or law of Nature, if that principle is by the specification applied to any special purpose, so as thereby to effectuate a practical result and benefit not previously attained. The main merit, the most important part of the invention, may consist in the conception of the original idea—in the discovery of the principle in science, or of the law of Nature, stated in the patent—and little or no pains may have been taken in working out the best manner and mode of the application of the principle to the purposes set forth in the patent. But still if the principle is stated to be applicable to any special purpose, so as to produce any result previously unknown, in the way and for the objects described, the patent is good. It is no longer an abstract principle. It comes to be a principle turned to account to a practical object, and applied to a special result. It becomes, then, not an abstract principle, which means a principle considered apart from any special purpose or practical operation, but the discovery and statement of a principle for a special purpose, that is, a practical invention, a mode of carrying a principle into effect. That such is the law, if a well-known principle is applied for the first time to produce a practical result for a special purpose, has never been disputed. It would be very strange and unjust to refuse the same legal effect, when the inventor has the additional merit of discovering the principle as well as its application to a practical object. The instant that the principle, although discovered for the first time, is stated, in actual application to, and as the agent of, producing a certain specified effect, it is no longer an abstract principle, it is then clothed with the language of practical application, and receives the impress of tangible direction to the actual business of human life."

Principles.

In *Dangerfield* v. *Jones*,(*h*) a patent for a mode of bending wood for the handles of walking-sticks, &c., in which the claim was "the application of a flame of gas or other combustible fluid or liquid as described for softening the fibres of the wood while being bent in combination with a clamping apparatus for securing the wood in its bent form until the fibres are set,

Dangerfield v. Jones.

(*h*) (1865) 13 L. T. N. S. 142.

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so that the work may remain permanent as herein set forth," was declared to be perfectly valid, Vice-Chancellor *Wood*, before whom the case was tried, saying: "If, having a particular purpose in view, you take the general principles of mechanics, and apply one or other of them to a manufacture to which it has never been before applied, that is a sufficient ground for taking out a patent, provided that the Court sees that that which has been invented is new, desirable, and for the public benefit."(*i*)

Minter v. Wells.

In *Minter* v. *Wells*,(*k*) on motion to nonsuit the plaintiff, who had succeeded in an action against the defendant for infringement of a patent, in the specification of which *Minter* claimed "the application of a self-adjusting leverage to the back and seat of a chair, whereby the weight on the seat acts as a counterbalance to the pressure against the back of such chair, as above described," the defendant contended that *Minter* had claimed the principle of the lever, but the Court held that it was the application of a self-adjusting leverage to the back and seat of a chair, the patentee having described what that self-adjusting leverage was. And it was further held that any application of a self-adjusting leverage to the back and seat of a chair producing this effect, that the one acts as a counterbalance to the pressure against the other, would be an infringement of the patent, and it was not a leverage only, but the application of a self-adjusting leverage; and it was not a self-adjusting leverage only, but a self-adjusting leverage producing a particular effect, by means of which the weight on the seat counterbalanced the pressure against the back. *Parke*, B., in reply to the statement that this was nothing more than one of the first principles of mechanics, observed: "But that not being in combination before cannot that be patented? It is only for the application of a self-adjusting leverage to a chair—cannot he patent that? He claims the combination of the two, no matter in what shape you may combine them, but if you combine the self-adjusting leverage, which he thus applies to the subject of a chair, that is an infringement of his patent."

Electric Telegraph Co. v. Brett.

In the *Electric Telegraph Company* v. *Brett* (*l*) the patentees claimed, substantially: (1) "We wish it to be understood that we make no claim to the application of the multiplying coils of conducting wires herein described (meaning thereby the

(*i*) (1865) 13 L. T. N. S. 142.
(*k*) (1834) 1 W. P. C. 134.
(*l*) (1851) 10 C. B. 838; 20 L. J. C. P. 123.

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galvanometer coils and magnetic needles), but the improvement and the adaptation of magnetic needles for giving signals consists in disposing the needles in vertical planes with fixed horizontal axes, making them heavier at one end than the other, so that they hang perpendicularly, and limiting the angular motion by stops, against which the needles may rest in suitable inclining directions for pointing out on a vertical dial the signification of the signals. (2) The combining several needles, so as to give signals by determinate angular motions. (3) The improvement whereby the complete apparatus for giving signals and sounding alarms, as described, may have duplicates of such apparatus at intermediate places between the two ends, all such duplicates operating simultaneously with each other." In the judgment, *Cresswell*, J., said: "It was insisted that the giving of duplicate signals at intermediate stations was not the proper subject of a patent, being an idea or principle only, and not a new manufacture. But we think that the patentees not only communicated the idea or principle that duplicate signals might be given, but showed how it might be done—*i.e.*, by duplicate apparatus at each station—and that this is a fit subject of a patent."

Claim to a general arrangement distinguished from claim to a principle.

A claim to a particular general arrangement must be distinguished from a claim to a principle itself. If it falls short of a claim to a principle, it does not invalidate the patent. This may be illustrated by a reference to the history of the development of the phonograph. Phonographs were at one time made with a single diaphragm, with a single tool or point for recording and reproducing. Later, two diaphragms were used with separate recording and reproducing points, together with a floating weight applied to give the proper pressure to the reproducing point. Edison then discovered that the floating weight might also be applied to the recording point, and so a single diaphragm with both the points on it might be used. For this discovery a patent was obtained, and the specification claimed (*inter alia*) "In a phonograph, attaching both the recording point and the reproducing point to the same diaphragm, means being provided whereby either of the points may be brought into operative position on the surface of the phonogram." In an action brought for the infringement of this patent, it was sought on the defendant's behalf to invalidate the grant on the ground that the above claim was a claim for a mere idea of having both points on a single diaphragm divorced from the idea of carrying it out, and might so prevent any one

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else making a useful and totally different arrangement. It was however held, both by the Judge of first instance and the Court of Appeal, that on the evidence the claim was not for a principle, but for a novel and useful arrangement.(*m*) Lord *Esher*, M.R., in the Court of Appeal, adopted the decision of *Wright*, J., *ipsissimis verbis*, and said (*n*):

"Now, I have said I have confined this mode of dealing with this patent to the case of a machine, and I therefore adopt precisely the way in which Mr. Justice *Wright* has stated the matter: 'There remains the question whether the patent is invalidated by the first claim. That claim appears to me to be, on the face of it, a claim of monopoly for every form of phonograph in which two styles are attached to one diaphragm, so that each style can be brought to bear on the cylinder. It is stated that such a claim is a claim to monopolise a principle. I think not.' Now that is the part with which I say I agree. 'It is a claim for a particular arrangement of essential parts of a machine, which arrangement has obvious advantages, but has never before been made practicable in a way disclosed by the specification. Such a claim ought properly to be construed as a claim of monopoly for that arrangement carried out by any means substantially similar to those disclosed in the specification, and that appears to be sufficient.' I agree with that, and therefore I think that so far as this objection is concerned, applying it to each and every one of the claims, it shows that these claims are none of them wanting in that respect."

Ambit of patent for carrying a new principle into effect.

A patent for carrying a principle which is new into effect protects the grantee against all other modes of carrying the same principle into effect,(*o*) provided they can be construed as colourable imitations—*i.e.*, provided it can fairly be said that the real substance of the invention claimed has been pirated.(*p*)

When a new principle is applied for the first time, the Court looks very narrowly at what a person does who claims to carry the principle into effect by a means different to that employed by the patentee.(*q*)

(*m*) Edison-Bell Phonograph Corporation *v.* Smith, (1894) 11 R. P. C. 148, 389.

(*n*) 11 R. P. C. 397.

(*o*) Jupe *v.* Pratt, (1837) 1 W. P. C. 146; Minter *v.* Wells, (1834) 1 W. P. C. 127; Household Co. *v.* Neilson, (1843) 1 W. P. C. 685; Otto *v.* Linford, (1881) 46 L. T. N. S. 35; Crossley *v.* Beverley, (1829) 1 W. P. C. 106; Badische Anilin und Soda Fabrik *v.* Levenstein, (1883) L. R. 24, Ch. D. 156, 171; Easterbrook *v.* The Great Western Ry. Co., (1885) 2 R. P. C. 201.

(*p*) Automatic Weighing Machine Co. *v.* Knight, (1889) 6 R. P. C. 297, 304, 308; see also Moore *v.* Thomson. (1890) 7 R. P. C. 325; 6 R. P. C. 426.

(*q*) Automatic Weighing Machine Co. *v.* Knight, (1889) 6 R. P. C. 304; Automatic Weighing Machine Co. *v.* Combined Weighing Machine Co., (1889) 6 R. P. C. 367.

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In order that a patent may secure to the patentee the application of a principle by means different to those described in the specification, it is only necessary that the principle itself be new, and the patentee sufficiently describes a means of applying it. It is not necessary that the means, as well as the principle, should be new, for the novelty of the invention consists in applying the new principle by the means specified. If, however, not only the principle but the means is also new, then the means may form the subject of a distinct claim or a separate patent.

Dictum of Alderson, B., explained.

In *Jupe* v. *Pratt*,(r) *Alderson*, B., in the course of the argument, laid down the law thus:

> "You cannot take out a patent for a principle; you may take out a patent for a principle coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle, but invented some mode of carrying it into effect. But then you must start with having invented some mode of carrying the principle into effect; if you have done that, then you are entitled to protect yourself from all other modes of carrying the same principle into effect, that being treated by the jury as piracy of your original invention."

The above expressions of *Alderson*, B., would at first sight appear to establish the proposition, that if a man has invented a new principle, and shows one method of carrying it into effect, he thereupon becomes entitled to protection against every other possible method of carrying out the new principle. *Cotton*, L.J., however, pointed out that the above language of *Alderson*, B., was used during the discussion of the case, probably to meet something that was said by counsel, and did not express his full opinion. A patentee can prevent any one from using the same method of carrying a new principle into effect, or from using the same thing with only a colourable difference. Where there is a principle first applied in a machine, capable of carrying it into effect, the Court looks more narrowly at those who carry out the same principle, and say they do it by a different mode, and looks to see whether, in effect, although the mode is not exactly the same, it is only a colourable difference—a mechanical equivalent for a substantial part of the patentee's invention, being looked upon as a mere colourable difference and therefore he is entitled to an injunction against that mode of carrying out his principle,

(r) 1 W. P. C. 145, 146.

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which is only the same in substance as that which he patented, though there are colourable differences.(*s*)

Ambit of patent for carrying old principle into effect.

If a principle is not new, then a patent for a method of applying it only secures to the patentee protection in respect of the particular method specified, and there may be other perfectly valid patents in respect of different methods of carrying the same principle into effect.(*t*)

Thus it has been held that finishing hosiery and other goods by pressing them between rollers heated by steam was no infringement of a patent for finishing such goods by pressing them between flat-sided boxes filled with steam.(*u*)

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Processes are subject-matter.

The proposition that a method or process of itself and apart from the thing produced, or result, can be the subject-matter of a valid patent was finally established by the decision in *Crane* v. *Price*,(*x*) in 1842.

History of the cases.

For some time prior to that decision there were many cases and dicta of the Judges indicating the general opinion that grants made in respect of such subject-matter were not invalid. *Abbot*, C.J., in *R.* v. *Wheeler*,(*y*) pointed out that the word "manufacture" "may perhaps extend to a new process to be carried on by known implements, or elements, acting upon known substances, and ultimately producing some other known substance, but producing it in a cheaper or more expeditious manner, or of a better or more useful kind." In *Boulton* v. *Bull*,(*z*) the Court was divided in opinion, but *Eyre*, C.J., made the following remarks:

"It was admitted in the argument at the Bar that the word '*manufacture*' in the statute(*a*) was of extensive significa-

(*s*) See judgment of Cotton, L.J., Automatic Weighing Machine Co. *v.* Knight, (1889) 6 P. O. R. 304–305; see also Automatic Weighing Machine Co. *v.* Combined Weighing Machine Co., (1889) 6 P. O. R. 367; Automatic Weighing Machine Co. *v.* National Exhibitions Association, (1891) 8 R. P. C. 345; 9 R. P. C. 41, 44; Nobel's Explosives Co. *v.* Anderson, (1894) 11 R. P. C. 527, 530.

(*t*) Proctor *v.* Bennis, (1887) 4 R. P. C. 333; L. R. 36 Ch. D. 740; Automatic Weighing Machine Co. *v.* Knight, (1889) 6 R. P. C. 113; Siddell *v.* Vickers, (1888) 5 R. P. C. 416; Needham *v.* Johnson, (1888) 5 R. P. C. 49; Bovill *v.* Pimm, (1856) 1 Ex. R. 718, 739; Barber *v.* Grace, (1847) 1 Ex. R. 339; 17 L. J. Ex. 122; Jupe *v.* Pratt, (1837) 1 W. P. C. 145; Curtis *v.* Platt, (1863) L. R. 3 Ch. D. 135 n.; Lister *v.* Leather, (1857) 8 E. & B. 1004, 1033; Saxby *v.* Clunes, (1877) 43 L. J. Ex. 228; Dudgeon *v.* Thomson, (1877) L. R. 3 App. Cas. 34; Nordenfelt *v.* Gardner, (1884) 1 R. P. C. 61; Hocking *v.* Hocking, (1889) 6 R. P. C. 76.

(*u*) Barber *v.* Grace, 1 Ex. R. 339; 17 L. J. 122.

(*x*) 4 M. & G. 580; 1 W. P. C. 393; 12 L. J. C. P. 81; see p. 48 *post*.

(*y*) (1850) 2 B. & Ald. 493.

(*z*) (1795) 2 H. Bl. 463.

(*a*) 21 Jac. I. c. 3.

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tion, that it applied not only to things made but to the *practice of making*, to principles carried into practice in a new manner, to new results of principles carried into practice. Let us presume this admission. Under *things made* we may class, in the first place, new compositions of things, such as manufactures in the most ordinary sense of the word; secondly, all mechanical inventions, whether to produce old or new effects, for a new piece of mechanism is certainly a thing made. Under the *practice of making* we may class all new artificial manners of operating with the hand, or with instruments in common use, new processes in any art producing effects useful to the public. When the effect produced is some new substance or composition of things, it would seem that the privilege of the sole working or making ought to be for such new substance, or composition, without regard to the mechanism or process by which it has been produced, which, though perhaps also new, will be only useful as producing the new substance. . . . When the effect produced is no substance or composition of things, the patent can only be for the mechanism, if new mechanism is used, *for the process, if it be a new method of operating*, with or without old mechanism, by which the effect is produced. . . . In the list of patents with which I have been furnished there are several for *new methods* of manufacturing articles in common use, where the sole merit and the whole effect produced are the saving of time and expense, and thereby lowering the price of the article and introducing it into more general use. Now I think these *methods* may be said to be new manufactures. . . . The patent cannot be for the effect produced, for it is either no substance at all, or, what is exactly the same thing as to the question upon a patent, no new substance, but an old one produced advantageously for the public. It cannot be for the mechanism, for there is no new mechanism employed; it must then be for the method; and I would say, in the very significant words of Lord *Mansfield*, in the great case of the copyright,(*b*) it must be for the method detached from all physical existence whatever."

Hall v. *Jarvis*,(*c*) decided that though the application of the flame of oil to remove the superfluous fibres from lace and other goods was a mere process, yet a patent for this invention could be upheld on the ground of subject-matter. In *Hill* v. *Thompson*,(*d*) Lord *Eldon*, L.C., stated that "there may be a

(*b*) 4 Bun. 2397.

(*c*) (1822) 1 W. P. C. 100, approved in Losh *v.* Hague (1838), 1 W. C. P. 207, and Crane *v.* Price, (1842) 5 M. & G. 580; 1 W. P. C. 393; 12 L. J. C. P. 81.

(*d*) (1817) 1 W. P. C. 237.

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valid patent for a new combination of materials previously in use for the same purpose, *or for a new method of applying such materials.*" So also in *Morgan* v. *Seaward*,(*e*) *Park*, B., said that the word "manufacture" in the statute (*f*) must be construed in one of two ways; it may mean the machine when completed, *or the mode of constructing the machine;* but in *Gibson* v. *Brand*,(*g*) *Tindal*, C.J., pointed out that it was not necessary in that case to go into the question whether or not a patent can be supported for a *process* only. If the specification were properly prepared it probably might be considered a fit subject for a patent.

Law settled by Crane *v.* Price.

Crane v. *Price*,(*h*) tried in 1842, finally settled the question. In this case the patent related to the use of anthracite or stone coal, in conjunction with a hot-air blast, for the smelting of iron, and the claim was in the following terms; "The application of anthracite or stone coal combined with the using of a hot-air blast in the smelting and manufacture of iron." In delivering the judgment of the Court of Common Pleas, *Tindal*, C.J., said:

> "The question becomes this, whether admitting the using of the hot-air blast to have been known before in the manufacture of iron with bituminous coal, and the use of anthracite or stone coal to have been known before in the manufacture of iron with the cold blast, but that the combination of the two together (the hot-air blast and the anthracite) was not known before in the manufacture of iron—such combination can be the subject of a patent. We are of opinion that, if the result produced by such a combination is either a new article, or a better article, or a cheaper article to the public than that produced before by the old method, such combination may well become the subject of a patent."

Decision in Crane *v.* Price doubtful upon the facts.

Though the above statement of the law by *Tindal*, C.J., in *Crane* v. *Price* has never been questioned, Judges have expressed doubts as to whether, upon the facts, the case was correctly decided.(*i*) Novelty of the result is, no doubt, evidence of invention in the process which produces it, but it is not necessarily conclusive evidence.(*k*) If the case were open

(*e*) (1837) 2 M. & W. 544; 1 W. P. C. 171.

(*f*) 21 Jac. I c. 3, s. 6.

(*g*) (1841) 4 M. & G. 179; 1 W. P. C. 627.

(*h*) (1842) 4 M. & G. 580; 1 W. P. C. 393; 12 L. J. C. P. 81.

(*i*) See Bamlett *v.* Picksley, (1875) Griff. 40; Rushton *v.* Crawley, (1870) L. R. 10 Eq. 522; Murray *v.* Clayton, (1872) L. R. 7 Ch. 570.

(*k*) Steiner *v.* Heald, 6 Exch. 607; Booth *v.* Kennard, (1856) 1 H. & N. 527, 531; Higgs *v.* Goodwin, (1858) E. B. & E. 585.

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to review on the facts, another Court would probably come to the conclusion that since the hot-air blast was known with bituminous coal, and the cold blast was in use with anthracite, and both processes were used for the manufacture of iron, the patent could not be supported; for all that the patentee did was to apply the hot blast in conjunction with anthracite to the manufacture of iron in a manner analogous to its former application to bituminous coal for the same purpose, and though the discovery was commercially very important, it was not one involving the exercise of invention. Further, the grant of the patent was an undue curtailment of the right of the public to use the hot blast in the manufacture of iron with bituminous coal, anthracite, or any other known fuel.

The analogous case of Partington v. Hartlepools Pulp and Paper Co.

In the somewhat recent and analogous case of *Partington* v. *Hartlepools Pulp and Paper Co.*,(*l*) it appeared that paraffin had been used to make wood-pulp pass more easily through the meshes of machines in which it was manufactured, and had also been used for the purpose of cleaning the machine from resin deposited from the pulp. The patentee discovered that if the machine were perfectly clean to start with, the addition of paraffin to the contents of the machine thus prevented the formation of objectionable specks of a pitchy or resinous nature in the pulp, and also the partial coating or fouling of the machine. *Romer*, J., held that this commercially important discovery was not the subject-matter for a patent, since all the patentee claimed was to use the old process of adding paraffin, but in a clean machine where the process effected the additional advantages discovered by him. Had the patent been upheld the public would have been prevented from using the old process *with clean machines*, whether for the purpose of making the wood-pulp pass through the meshes as previously, or for the sake of the additional advantage discovered by the patentee. A patent which so curtailed the public right could not be supported.(*m*)

Discovery of theory of what was done before only empirically.

A man cannot have a patent merely because he discovers the theory and reason of that which has before been done empirically. On the other hand, if by reason of knowing the theory he is enabled to make some improvements he may take out a patent for those improvements, but he cannot have a patent to prevent others from using what they had used before, though empirically.(*n*)

(*l*) (1895) 12 R. P. C. 295.

(*m*) See also Patterson *v.* Gas Light and Coke Co., (1875) L. R. 2 Ch. D. 812; 3 App. Cas. 239.

(*n*) Patterson *v.* Gas Light and Coke Co., (1877) L. R. 3 App. Cas. 246; judgment of Lord Blackburn.

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Discovery of a hidden property or virtue.

The discoverer of a hidden and concealed virtue in something known before, which enables him to apply the known thing to some useful purpose of life to which it has not been applied before, is entitled to patent the novel application. Thus, in *Muntz* v. *Foster* (*o*) it appeared that *Muntz*, by experiment, ascertained that a certain mixture of the alloy of zinc with copper in certain proportions, when made into plates and used for the purpose of sheathing the bottoms of ships, possessed great advantages over the ordinary copper plates previously in use for the same purpose, by reason of the plates of the alloy possessing the property of oxydating just in sufficient quantities—*i.e.*, not too much, so as to wear away and impair the sheathing and render the vessel unsafe, but enough at the same time to keep, by its wearing, the bottom of the vessel clean from those impurities which attached to it. *Muntz* obtained a patent for his invention, the title of which was "An improved manufacture of metal plates for sheathing the bottoms of ships or other vessels." The action was brought for the infringement of the patent, and the defendant objected to the validity on the ground (*inter alia*) that the invention above described was not subject-matter; but the objection was not sustained. *Tindal*, C.J., in his charge to the jury, directed them thus (*p*):—

> "I cannot think, as at present advised, that if it was shown —as possibly it might be—that sheets had been made of metal before, in the same proportions which he has pointed out, that if this hidden virtue or quality had not been discovered or ascertained, and consequently the application never made, I cannot think the patent will fail on that ground—that is the opinion which I form upon it. I look upon it that there is as much merit in discovering the hidden and concealed virtue of a compound alloy of metal as there would be in discovering an unknown quality which a natural earth or stone possessed. We know by the cases that have been determined, that where such unknown qualities have, from the result of experiments, been applied to useful purposes of life, such application has been considered as the ground, and a proper ground, of a patent; and therefore when I come to that part of the case in which they seek to show this is not so, because these metal plates have been invented before—that is, persons have used them before—in my judgment it will not go far enough, unless they can show there has been some application of them before to this very useful purpose."

(*o*) (1844) 2 W. P. C. 96; see also Newton *v.* Vaucher, p. 89 *post*.
(*p*) 2 W. P. C. 103.

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In the case of the valuable patent for Lanolin, the patentee discovered that if wool-fat (which was known in the days of *Dioscorides*, and a preparation of which was then used as an unguent) be thoroughly freed from the constituent fatty acids and other impurities, the remaining cholesterine fats when kneaded with water possess a great capacity for taking up water, and yield the highly useful unguent Lanolin. The process formed the subject-matter of a patent, which was declared valid both by the Judge of first instance and the Court of Appeal.(*q*)

Again, a valuable process for the extraction of gold from its ore, was founded on the discovery of the selective action possessed by a dilute solution of cyanide of potassium, and its application in a process to the extraction of gold from ores in which other baser metals occur.(*r*)

Objection to the term "patentable process."

It is sometimes objected that to speak of a patentable process is in reality a misuse of terms, for the subject of the patent is *a manufacture according to a new process*, and therefore a new manufacture. To take the above case of *Crane* v. *Price*,(*s*) the subject there was the manufacture of iron by a new process —*i.e.*, the combination of a hot-air blast and anthracite in the furnace.

This idea seems to have been in the mind of *Pollock*, C.B., when he gave judgment in *Stevens* v. *Keating*,(*t*) and made use of the words, "the real invention may be, not so much the thing when produced, as the mode in which it is produced; and its novelty may consist, not so much in its existence as a new substance as in its being an old substance, but produced by a different process. In one sense, an old substance produced by a new process is a new manufacture; of that there cannot be a doubt, and therefore, although the language of the Act has been said to apply only to manufactures and not to processes, when you come to examine it, either literally or even strictly, it appears to me the expression 'manufacture' is free from objection, because, though an old thing, if made in a new way, the very making of it in a new way makes it a new manufacture; therefore, although I think this is a patent for the process rather than the product, I think it may be a patent for the product."

Bearing in mind, however, the very wide interpretation given

(*q*) Benno Jaffé und Darmstaedter Lanolin Fabrik *v.* Richardson, (1893) 11 R. P. C. 93, 261.

(*r*) Cassel Gold Extracting Co. *v.* Cyanide Gold Recovery Syndicate, (1895) 12 R. P. C. 232.

(*s*) (1842) 2 M. & G. 580; p. 48 *ante*.

(*t*) (1847) 2 W. P. C. 182.

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to the word "manufacture" as used in the Act of James I., the exposition of which term, "as far as usage will expound it, has gone very much beyond the letter," (*u*) the above excuse by way of explanation becomes unnecessary. For instance, the word "manufacture" has a very wide and extended meaning, and may be interpreted "invention" (*x*) and it includes both process and result.(*y*) Lord *Westbury*, in discussing the meaning of the word, said, "By the large interpretation given to the word 'manufacture,' it not only comprehends productions, but it also comprehends the means of producing them. Therefore, in addition to the thing produced it will comprehend a new machine, or a new combination of machinery; it will comprehend a new process or an improvement of an old process." (*z*)

Many patents have been granted for processes pure and simple. Examples.

A reference to the cases will show that patents have again and again been granted and held valid for processes pure and simple. For example, the application of a known detonating powder to the discharge of known kinds of fire-arms was held (*a*) to be a patentable invention. And (*b*) a patent was granted and upheld for the application of metal plates, made in a known way, to ships and buildings, for the purpose of protecting them against fire by preventing the access of air. In the case of the *Electric Telegraph Company* v. *Brett*,(*c*) a patent was upheld for a method of giving duplicate signals at intermediate stations; and in *Newall* v. *Elliott*,(*d*) where the patent was for improvements in apparatus employed in laying down submarine telegraph wires, and the claim was, "First, coiling the wire or cable round a cone; secondly, the supports placed cylindrically outside the coil round the cone; thirdly, the use of the rings in continuation with the cone as described," the Court declared the patent valid, and overruled the objection that the invention claimed was merely a mode of coiling and paying out cables, and not a new manufacture, and therefore incapable of being the subject-matter of a patent.

A new process which consists merely in the omission of a step hitherto thought to be important from an old process will support a patent.

Thus a process for the manufacture of gelatine by cutting

(*u*) Eyre, C.J., in Boulton *v.* Bull, (1795) 2 H. Bl. 463.
(*x*) Cornish *v.* Keen, (1835) 1 W. P. C. 508.
(*y*) Bush *v.* Fox, (1852) Macr. P. C. 176.
(*z*) Ralston *v.* Smith, (1865) 11 H. L. C. 223.
(*a*) Forsyth *v.* Riviere, (1819) 1 Carp. Rep. 401.
(*b*) Hartley's Patent, (1777) 1 W. P. C. 54.
(*c*) (1851) 1 C. B. 838.
(*d*) Newall *v.* Elliott, (1858) 13 W. R. 11.

hides into thin slices and then submitting them in that state to the action of caustic alkali, whereby the use of blood, as in the method previously used, was rendered unnecessary, was declared to be subject-matter.(*e*) Processes.

And vegetable gas having been obtained from oils which were separated from seeds and other oleaginous substances by pressure, the discovery that the same gas might be distilled at once from the seeds, &c., without separating the oils, was held to be fit subject-matter,(*f*) though the patent was upset on other grounds.

Questions sometimes arise as to the ambit of patents for processes. As a result of the cases,(*g*) the apparently wide dicta in the earlier of which have been modified by the later ones, it may be stated that when a person has discovered a process for arriving at a new result not known before, or utilised a principle for the first time—*i.e.*, the patent is a pioneer patent(*h*)—and in the specification there is described one means which is effectual for the purpose of arriving at that result, new at the time when the patent is taken out, the patentee will be protected against all other *analogous* processes for arriving at the same result, and no one can without infringing his patent adopt simply a different process to achieve the same result. Where, on the other hand, the patent is one which achieves what at the date of the patent is a known result, any other person may obtain another patent for any new process for arriving at the same result; or he may use any other process without infringing the patent first taken out.(*g*) Ambit of patent for a process.

Lord *Westbury*, L.C., in *Curtis* v. *Platt*,(*i*), referring to a patent for a new means of attaining an old object, laid down the law thus:— Per Lord Westbury, L.C.

> "If the invention be, as I have already described, nothing more than a particular means to attain a given result which is perfectly well known, then you can no more say that the inven-

(*e*) Wallington *v.* Dale, (1852) 7 Exch. 888.

(*f*) Booth *v.* Kennard, (1856) 1 H. & N. 527.

(*g*) Jupe *v.* Pratt, (1837) 1 W. P. C. 145; The Househill Co. *v.* Neilson, (1843) 1 W. P. C. 673; Curtis *v.* Platt, (1863) L. R. 3 Ch. D. 135 n.; L. R. 1 H. L. 337; The Badische Anilin und Soda Fabrik *v.* Levinstein, (1885) 2 R. P. C. 89; 4 R. P. C. 449; 6 R. P. C. 387; Proctor *v.* Bennis, (1887) 4 R. P. C. 333; L. R. 36 Ch. D. 740; 57 L. J. Ch. 11; Gosnell *v.* Bishop, (1888) 5 R. P. C. 158; Bovill *v.* Pimm, (1856) 11 Exch. 718, 739; Barber *v.* Grace, (1847) 1 Exch. 339; 17 L. J. Exch. 122; Automatic Weighing Machine Co. *v.* Knight, (1889) 6 R. P. C. 304; Nobel's Explosives Co. *v.* Anderson, (1894) 11 R. P. C. 519, 527; Incandescent Gas Light Co. *v.* De Mare Incandescent Gas Light System, Ltd., (1896) 13 R. P. C. 331.

(*h*) See chap. xiii. *post*.

(*i*) (1863) L. R. 3 Ch. D. 139 n.

Processes.

tion of one distinct set of means interferes with the invention of another than you could say originally that there ought not to be patents for the inventions of distinct means to an end. I would illustrate it familiarly by this example. If we suppose a patent may be for a ladder to go down a pit, that patent may be made to comprehend all ladders, whether constructed of wood or of iron, or of hemp or of wire; but if another man invented a mode of letting men down the pit by a rope and pulley, it would be impossible to say that the one means of attaining that particular end was to be regarded as identical with or comprehended in the other. . . . It is extremely desirable that when a beneficial idea has been started by one man he should have the benefit of his invention, and that it should not be curtailed or destroyed by another man simply improving upon the idea; but if the idea be nothing in the world more than the discovery of a road to attain a particular end, it does not at all interfere with another man discovering another road to attain that end, any more than it would be reasonable to say that if one man has a good road to go to Brighton by Croydon, another man shall not have a road to go to Brighton by Dorking."

Per Lord Halsbury, L.C.

Lord *Halsbury*, L.C., in *Moore* v. *Thomson*,(*k*) referring to the ambit of Lord *Kelvin's* invention of a card for the mariner's compass—which was in fact the first card in which the principle or system of employing a very light card with the greater part of its weight thrown on to the periphery was successfully applied in practice with all the attendant advantages of reduction of frictional and other sources of error—and overruling the judgment of the Irish *Master of the Rolls*, who had construed the patent as being merely for a new means of attaining an old object, stated the law applicable to the case in like manner thus:—

"Now what appears to me with all submission to be the fallacy, to be found in the very lucid and learned judgment of the *Master of the Rolls*, is that he has used the phrase 'a new instrument, and a new end, and a new means of attaining an old end,' as if those words in themselves were sufficient to explain the subject-matter to which he applied them. In certain relations those words may be sufficiently clear; but I will take the illustration which I think is that of Lord *Westbury* in one of the cases relied on (*l*), in which he points out that the end and object (that is to say, the end in the Greek sense) of a ladder is to get down to the bottom of a pit, and that a man

(*k*) (1890) 7 R. P. C. 332.
(*l*) See quotation from Lord Westbury's judgment in Curtis *v.* Platt, above.

might have taken out a patent for a ladder which would include all sorts of instruments of that kind, but that, if somebody invented a mode of lowering a man to the bottom of a pit with a rope, that could not be said to be an infringement of a patent for any sort of ladder, and yet the end and object of the invention would be the same, to get to the bottom of the pit. When the *Master of the Rolls*, using the word 'end' in that sense, says that the end and object of both instruments here is to obtain a mariner's compass which shall, under all circumstances, as nearly as possible point to the true north, he seems to me to omit to consider the machinery by which that is effected. I do not mean merely the construction of the particular machine, but he omits to consider that there may be new principles of construction by which that end is to be attained, as distinct as the lowering by a rope is from the lowering by a ladder. . . . . The moment you come to apply yourself to see how this compass differs from all other compasses which have been hitherto in use, you perceive (at least it appears to me to be so, as a matter of fact, upon the evidence) that it is absolutely different from any compass which anybody has ever seen before. Upon principles, the ascertainment of which was the result undoubtedly of great study and wonderful powers of invention, Sir *William Thomson* found out that he could obtain those great things which had been pointed out as most material for the purpose of securing the steadiness of the needle, that which should keep the needle in its position, notwithstanding the rolling of the ship, in whatever direction it should take place, and he invented an instrument accomplishing that object. I think it is a fallacy to say that this is an old instrument; it is not an old instrument; it is a new instrument. It is an instrument in which the end is attained by certain expedients, by the weight being thrown on to the circumference, and being in the position in which it is and the weight of the whole compass card, as it is called, being reduced."

Products.

Upon the motion of his Lordship the House held that a compass card, which differed in its details from the card specified and claimed by the patentee, but resembled it in that it possessed the characteristics above described, which were the real substance of the invention, was an infringement of the patent.

Products.

The question arises whether a grant of a patent for a product is valid. There is no reported case in which the point has been fully discussed and definitely decided, though there

Is a patent for a product valid?

Products.

are dicta of various Judges which appear, at first sight at any rate, to be conflicting.(*m*)

The word "product" is defined in "Webster's Dictionary" as "anything that is produced, whether as the result of generation, growth, labour, or thought, or by the operation of involuntary causes."

When a claim for a product is good and when bad.

It is submitted that a patent for a product is valid when the claim of the patentee to the product involves a claim to the use of a newly invented art,(*n*) which is the real invention of the patentee; but a patent for a product would be bad in law, if the claim amounted to a claim to something which, though new, is not the result of the exercise of an art invented by the patentee.

The following three hypothetical examples may be taken as illustrating the submission above made.

First, suppose a man finds a deposit of ore which is new to science, and contains a metal never isolated by chemists before. The discoverer of the ore applies to it a perfectly well-known process of refining and treatment which has been applied to other ores before, but he obtains, to his astonishment, the new metal, instead of what he expected, some known metal, *e.g.*, iron. Could he prevent, by means of a patent, other people from obtaining the new metal in the same way from similar ore, should they find it on their land? It is submitted he could not do so. The discoverer of the new ore could not have a patent for the application of the old process to the new-found ore, for it is *ex hypothesi* a mere analogous use,(*o*) though it yields a result which in a sense is new.

To grant the man a patent which would enable him to stop others from applying the old process to the new-found ore, and so obtaining the new metal, would be unduly to curtail the right of the public to apply the old process to any ore which comes to their hands, and would surely be "mischievous to the State . . . by hurt of trade and generally inconvenient," and consequently void at Common Law, as stated in the sixth section of the Statute of Monopolies.(*p*) The new metal is not a new product, in the sense of an article made by a new art. In

(*m*) See Ralston *v.* Smith, (1865) 35 L. J. C. P. 49; 11 H. L. C. 223; Vorwerk *v.* Evans, (1890) 7 R. P. C. 265; Automatic Weighing Machine Co. *v.* Knight, (1889) 6 R. P. C. 297; Nobel's Explosives Co. *v.* Anderson, (1894–5) 11 R. P. C. 519; 12 R. P. C. 164; Rickmann *v.* Thierry, (1896) 14 R. P. C. 106; Lancashire Explosives Co. *v.* Roburite Co., (1896) 13 R. P. C. 429, 476; 14 R. P. C. 303.

(*n*) See p. 21 *ante*.

(*o*) See p. 71 *post*.

(*p*) p. 3 *ante*.

the words of *Cotton*, L.J.,(*q*) "a thing is not to be called new, in the sense of *Crane* v. *Price*, simply because that particular thing has never been seen before. To be new, in a patent sense, it is necessary that the novelty must show invention." Products.

Secondly, take the case of a man who by the exercise of invention produces a new machine—*e.g.*, a gig-mill, as in *Moser* v. *Marsden*.(*r*) This is a product produced as the result of labour and thought. The claim to the new machine is good. The real invention here was the arrangement, in combination, of parts forming the new and useful machine, and it is this *art* which is really protected by the claim to the product or machine.

Thirdly, take the case of a new chemical dye. Suppose a chemist by experiment finds a process of treating certain salts never treated in the same way before, and thereby obtains a new compound which is a valuable dye. After describing how he obtains the new product he could, no doubt, claim the product as a "new manufacture" within the Statute of Monopolies. Here the claim to the product, when construed as it must be by reference to the specifications as a whole,(*s*) is really a claim to the product produced substantially by the exercise of the new art or process which is the real invention, and the novelty of which is evidence of the novelty of the result. In the words of *Eyre*, C.J.,(*t*) "When the effect produced is some new substance or composition of things the patent ought to be for such new substance or composition without regard to the mechanism or process by which it has been produced. When the effect produced is no substance or composition of things the patent can only be for the mechanism or for the process."

Ambit of legitimate claim to a new product,

In the first supposed case the claim to the new product could not be supported, because it does not involve a claim to any new invented *art*; whereas in the second and third cases the claim to the product could be sustained because it does involve a claim to a new invented *art*.

It is submitted that a claim to a new product, which under the circumstances of the case is a legitimate one, does not, where it is possible that the product may be produced by some means or method not described by the patentee in his specifi-

(*q*) Blakey *v.* Latham, (1889) 6 R. P. C. 187; see also Thierry *v.* Rickman, (1895) 12 R. P. C. 547–548; judgment of Key, L.J.

(*r*) (1893–6) 10 R. P. C. 205, 350; 13 R. P. C. 24.

(*s*) p. 247 *post*.

(*t*) Boulton *v.* Bull, (1795) Dav. P. C. 208.

Combinations.

cation upon a fair construction, secure to the patentee protection against all such other means or methods of producing the new product. It would appear that, as in the analogous instance of a patent for the application of a new principle,(*u*) a claim to a *new* product, when the claim is legitimate, differs only in its scope from a claim to a new means or method of producing an *old* product in so far as in the former case the Courts look very closely at the acts of one who claims to produce the new product, without licence by a means or method different to those described by the patentee.(*x*)

a new means of producing an old product.

In the case of a claim to a new means or method of producing an *old* product the Courts restrict the patentee very closely to the new means or method described.(*y*)

Combinations.

A new combination is subject-matter.

The art of combining two or more parts, whether they be new or old, or partly new and partly old, so as to obtain a new result, or a known result in a better, cheaper, or more expeditious manner, is valid subject-matter if it is presumable that invention in the sense of thought, design, or skilful ingenuity was necessary to make the combination.

In fact, many of the most important inventions, from a practical and commercial point of view, are inventions of this kind, being merely the combination in a new way of new or old, or partly new and partly old, parts.

The *ratio decidendi* for holding valid such grants of letters patent is, that there is sufficient evidence of the presumption of thought, design, or skilful ingenuity in the invention and novelty in the combination.(*z*)

Merit depends largely on result produced.

The merit of a new combination very much depends on the result produced. When a very slight alteration turns that

(*u*) p. 44 *ante*.
(*x*) p. 45 *ante*.
(*y*) p. 46 *ante*.
(*z*) Boulton *v.* Bull, (1795) 2 H. & Bl. 487; Dav. P. C. 199; Bovill *v.* Moor, (1815) 2 Coop. App. Cas. 56; Dav. P. C. 361; 2 Marsh, R. 211; Brunton *v.* Hawkes, (1820) 4 B. & Ald. 541; Huddart *v.* Grimshaw, (1803) Dav. P. C. 265; 1 W. P. C. 85; Lister *v.* Leather, (1857) 8 E. & B. 1004; 27 L. J. Q. B. 295; Hill *v.* Thompson, (1817) 1 W. P. C. 237; Lewis *v.* Davis, (1829) C. & P. 502; 1 W. P. C. 488; 1 Carp. P. C. 471; Saunders *v.* Aston, (1832) 1 Carp. P. C. 510; Carpenter *v.* Smith, (1841) 1 W. P. C. 538; Allen *v.* Rawson, (1845) 1 C. B. 551; Bovill *v.* Keyworth, (1857) 7 E. & B. 725; 29 L. T. 194; Spencer *v.* Jack, (1862–1864) 3 De G. J. & S. 346; 11 L. T. N. S. 242; Morton *v.* Middleton, 1 Court of Session, 3rd series, 721; Foxwell *v.* Bostock, (1863) 4 De G. J. & S. 298; Wright *v.* Hitchcock, (1870) L. R. 5 Ex. 37; 39 L. J. Ex. 97; Murray *v.* Clayton, (1872) L. R. 7 Ch. 570; Watling *v.* Stevens, (1886) 3 R. P. C. 37; Moseley *v.* Victoria Rubber Co., (1887) 4 R. P. C. 251.

which was practically useless into what is useful and important, the Courts consider that, though the invention was apparently small, yet the result being the difference between failure and success, it is fit subject-matter.(*a*) Thus, the mere placing of two flat wicks parallel to each other in an oil lamp, two concentric round wicks having been previously combined, and flat wicks being perfectly well known, has been held sufficient to merit a patent ;(*b*) so also has the substitution of a filament, carbonised before formation, for a thin rod in an incandescent electric lamp ; (*c*) the alteration, in the shape of the handle of a tennis racket ; (*d*) and the combination of a basin and chamber, formerly separated, forming an automatic-flushing water-closet, which was a great improvement on all others known at the date of the patent, since the combination allowed the putting in the chamber of a tipper so large that it protruded into the basin and gave a very strong vertical flow.(*e*) Combinations.

In the words of *Tindal*, C.J.,(*f*) there are numerous instances of patents which have been granted where the invention consisted in no more than the use of things already known and acting with them in a manner already known, and producing effects already known, but producing those effects so as to be more economically or beneficially enjoyed by the public.(*g*)

In *Crane* v. *Price* (*h*) a patent for a new combination of the use of the known hot-air blast with the use of the known anthracite or stone-coal in the process of smelting iron was declared valid by *Tindal*, C.J.(*i*) *James*, L.J., in the case of *Murray* v. *Clayton*,(*k*) took objection to the use of the word "combination" by *Tindal*, C.J., in *Crane* v. *Price*, but agreed with the principle of the decision of the learned Chief Justice in the following words: "No doubt this case (*Crane* v. *Price*) has been questioned, but, if I may be permitted to say so, with

Objection to the use of the word "combination" in Crane v. Price.

(*a*) Hinks *v.* Safety Lighting Co., (1876) L. R. 4 Ch. D. 615 ; *Re* Bell's Patent, (1846) 1 Moo. P. C. N. S. 49 ; Wallington *v.* Dale, (1852) 7 Exch. 888 ; Moss *v.* Malings, (1886) 3 R. P. C. 373 ; Edison *v.* Woodhouse, (1887) 4 R. P. C. 79.

(*b*) Hinks *v.* Safety Lighting Co., (1876) L. R. 4 Ch. D. 615.

(*c*) Edison *v.* Woodhouse, (1887) 4 R. P. C. 92 ; Edison *v.* Holland, (1889) 6 R. P. C. 243.

(*d*) Moss *v.* Malings, (1886) 3 R. P. C. 373.

(*e*) Ducketts *v.* Whitehead, (1895) 12 R. P. C. 187, 376.

(*f*) Crane *v.* Price, (1842) 4 M.& G. 580 ; 1 W. P. C. 408.

(*g*) *E.g.*, Hall's Patent, (1817) 1 W. P. C. 97 ; Derosne's Patent, (1830) 1 W. P. C. 152 : Hill's Patent, (1863) 3 Mer. 629 ; Daniell's Patent, Godson Pat. 274.

(*h*) (1842) 4 M. & G. 580 ; 1 W. P. C. 393 ; 12 L. J. C. P. 81.

(*i*) p. 48 *ante*.

(*k*) (1872) L. R. 7 Ch. 570 ; L. R. 15 Eq. 115 ; 21 W. R. 498, 42 L. J. Ch. 191 ; see also Lyon *v.* Goddard, (1893) 10 R. P. C. 346.

Combinations.

all respect to the very powerful tribunal which decided that case, I have never been satisfied with the decision. That, however, is simply because I could not see how the word 'combination' could be properly applied to the introduction of a particular kind of fuel into a machine which had been patented for the use of every kind of fuel in the making of iron; and neither I, nor, so far as I am aware, any other Judge has ever questioned the principle upon which that case was decided."

A combination, the result of which is a new, better, or cheaper article than that produced by an old method, is good subject-matter;

When the result of a combination is "either a new article, or a better article, or a cheaper article to the public than that produced before by the old method, such a combination may well become the subject of a patent."(*l*)

For example, in *Hayward* v. *Hamilton*,(*m*) a patent for an improved pavement light was upheld by the Court of Appeal, under the following state of facts. Pavement lights, prior to the date of the patent, had been made by fastening in an iron frame, by certain ledges, certain lumps of glass of a rhomboidal or rectangular form, or sometimes in a bull's-eye shape. It occurred to the inventor that it would be a very good thing to take prisms such as were used in a camera obscura, and put the prism forms into an old iron frame, fitted in the old way. The consequence of this arrangement was that the perpendicular rays of light falling upon the horizontal surface were reflected from the inclined surface, and were so caused to enter into a room, cellar, or any other place that it was desired to illuminate. It was proved in evidence that prisms had been used as deck lights in ships, in cameras, and that a man named *Darke* had put one in the shutter for the purpose of directing an intense pencil of light to fall upon his work, whilst doing some fine metallic work, the rest of the room being dark. The Court of Appeal upheld *Hayward's* patent, on the ground that his pavement light was a new manufactured thing, and though all the parts were old, the introduction of the old prism constituted a new and improved result, and the combination was good subject-matter. The judgment of *Bramwell*, L.J., contains the following passage:—

"It seems to me then that the plaintiff really is an inventor; he has found out something. He makes an article that was not made before. This particular case may be, no doubt, upon the verge, but one cannot help making this remark, that it is very strange, if it is no invention, that it has never been done before.

(*l*) Per Tindal, C.J., Crane *v.* Price, 1 W. P. C. 409.
(*m*) (1879-81) Griff. P. C. 115.

Why has it never been done before? Why, because nobody had found it out, which I take to be equivalent to invention." Combinations.

In *Morgan* v. *Windover*,(*n*) the House of Lords held a patent bad for applying "C" springs to the front wheels of a carriage when they had been previously applied to the back wheels. The case was decided on the view that what was claimed was not a new combination of "C" springs on both back and front wheels, but the mere analogous use of the old "C" spring as regards the front wheels, it having been used on the back wheels. Had the claim been for the new combination, the patent might possibly have been supported on the above principle.

In *Fawcett* v. *Homan*,(*o*) the patentee produced by a new and useful combination of old parts a self-supporting concrete floor not abutting on lintels, which, if the lintels were removed, would still be a fire-proof floor. The Court of Appeal reversing the Court below held that the objections of want of novelty and subject-matter urged against the patent failed.

A combination of parts which attains an old result in a manner similar to that in which a previous known combination attained it, but which is simpler and more direct in its operation, is good subject-matter—*e.g.*, a combination of detector mechanism in a machine for winding, doubling and twisting yarn or thread, whereby a detector lever was enabled to stop the winding at once on the breaking of a thread without the intervention of any intermediate parts.(*p*) also a new combination which attains an old result in a simpler manner.

A new combination of materials previously in use for the same purpose, or a new method of applying such materials, will support a patent, but the inventor must claim only the new combination, under pain of vitiating his grant.(*q*) The combination must also be the outcome of invention. The mere addition to a well-known article of an old and well-known part for an old and well-known purpose without invention will not do.(*r*) New combination of materials previously used for same purpose, or new method of applying such materials, may be good subject-matter.

When a thing is old, but has not been used for the particular purpose for which the patentee uses it, a claim may be valid for its use in the particular combination described, Claim to use of an old thing in a particular combination.

(*n*) (1888) 7 R. P. C. 131.
(*o*) (1896) 13 R. P. C. 268, 398.
(*p*) Boyd *v.* Horrocks, (1886-89) 5 R. P. C. 557; 6 R. P. C. 152; 9 R. P. C. 77.
(*q*) Hill *v.* Thompson, (1817) 8 Taunt. 375; 3 Mer. 622; 1 W. P. C. 232; chap. v.
(*r*) Wood *v.* Raphael, (1896) 13 R. P. C. 730.

Combinations.

but the patentee will be strictly limited to the particular arrangement shown. Thus, where a friction clutch or apparatus was old, but had never been previously employed in a hoisting machine, the House of Lords held a patent valid which claimed protection for an arrangement by which the friction clutch was adapted to and employed in a hoisting machine, but the House held also that the patentee could not patent the mere idea of so employing it, or obtain a monopoly of its use in such a machine, apart from the particular method of using it which he described.(*s*)

Novelty of parts not necessary.

Each of the parts of which the combination consists may, in itself, be old,(*t*) or some of the parts may be old and some new,(*u*) or the whole of the parts may be new.(*x*)

If a new combination consists of some new parts, together with others which are old, or entirely of new parts, the patentee may claim as his invention the combination as a whole, and also each of the new parts separately, but a claim to the combination will not entitle him to a new part separately, nor will a claim to a new part separately entitle him to the combination.(*y*)

In what a new combination may consist.

A new combination which will support a patent may consist merely in the omission of something from an old combination, when that something was previously thought to be essential, and the omission required the exercise of invention on the part of the person making it;(*z*) or similarly it may consist in the addition to an old combination of a part used for a similar purpose;(*a*) or in the addition of a device to an old combination which enables results to be attained that could not be attained before.(*b*)

The parts of which a combination consists may be old or

(*s*) Morris *v.* Young, (1895) 455, 462.

(*t*) Lister *v.* Leather, (1857) 8 E. & B. 1004; 27 L. J. Q. B. 295; Bovill *v.* Moor, (1815) 2 Coop. App. Cas. 56; Dav. P. C. 361; 2 Marsh R. 211; Bovill *v.* Keyworth, (1857) 7 E. & B. 725; 3 Jur. N. S. 817; Crane *v.* Price, (1842) 4 M. & G. 580; 1 W. P. C. 377; 12 L. J. C. P. 81.

(*u*) Potter *v.* Parr, 2 B. & S. 216 n.; Harrison *v.* Anderston Foundry Co., (1876) L. R. 1 App. Cas. 574; Clark *v.* Adie, (1873) L. R. 2 App. Cas. 327; Nordenfelt *v.* Gardner, (1884) 1 R. P. C. 61.

(*x*) Lister *v.* Leather, 2 El. & Bl. 1004; Clark *v.* Adie, (1873) L. R. 2 App. Cas. 327.

(*y*) p. 228 *post;* Lister *v.* Leather, (1857) 8 El. & Bl. 1004; 27 L. J. Q. B. 295; Foxwell *v.* Bostock, (1863) 12 W. R. 723; 4 De G. J. & S. 298; Harrison *v.* Anderston Foundry Co., (1876) L. R. 1 App. Cas. 574; Clark *v.* Adie, (1873) 2 App. Cas. 328; Westinghouse *v.* Lancashire and Yorkshire Ry. Co., (1884) 1 R. P. C. 239.

(*z*) Russel *v.* Cowley, (1834) 1 W. P. C. 459; 1 Cr. M. & R. 864; Minter *v.* Mower, (1835) 6 A. & E. 735; 1 W. P. C. 142; Booth *v.* Kennard, (1856) 1 H. & N. 527; 2 H. & N. 84.

(*a*) Vickers *v.* Siddel, (1890) L. R. 15 App. Cas. 496; 7 R. P. C. 292.

(*b*) Moser *v.* Marsden, (1895) 13 R. P. C. 30.

new processes, and the combination of such processes will support a patent if the result be new and useful.(*c*) Combinations.

Thus in *Cannington* v. *Nuttall*,(*d*) *Pocheron's* patent for "improvements in the manufacture of glass" was upheld by the House of Lords on the ground of subject-matter. The process consisted in the combination of a tank, instead of pots, the fire placed laterally to the tank instead of immediately beneath it, and a channel formed all round the tank in order that the atmospheric air might circulate freely and exert a cooling effect. Lord *Westbury*, in moving the judgment of the House, said: "Now, the only thing that appears to have been regarded by the patentee as a new discovery (apart from the apparatus) was the application of the external air to the sides of the tank. It was a discovery, certainly, but it was a thing for which, independently of the other apparatus, probably no patent could have been obtained. . . . . The refrigerating effect of the air upon the sides of the tank was not a thing for which, *per se*, a patent could be claimed; but an apparatus so constructed as to bring into operation that particular property of the external atmospheric air, so as to produce a most useful effect, constitutes an invention to which the merit of novelty attaches, and for which a patent may be taken out."

A special rearrangement of old parts acted upon as described by the patentee may constitute a new combination, which will support a patent—*e.g.*, *Birch's* sewing machine.(*e*) Special rearrangement of old parts.

A definite relative arrangement of parts may also be of the essence of the invention in the case of a new combination by placing the parts in particular positions.(*f*) But in one case (*g*) it was held that, on the facts, there was no invention in altering the position of the centre of a bent lever in an old combination, and in another case (*h*) it was no invention to substitute a pivot for a hinge in a nail-punching machine. Neither is there invention in merely relatively altering parts which have been used in combination for an analogous purpose before.(*i*). Definite relative arrangement of parts.

A combination which differs only from a previous combination in that there is substituted an equivalent part or process in the place of some part or process found in the prior com- Substitution of equivalents in prior combinations.

(*c*) Cannington *v.* Nuttall, (1871) L. R. 5 E. & I. App. 205; Moseley *v.* Victoria Rubber Co., (1887) 4 R. P. C. 241.

(*d*) (1871) L. R. 5 E. & L. App. 205.

(*e*) Birch *v.* Harrop, (1896) 13 R. P. C. 615.

(*f*) Muirhead *v.* Commercial Cable Co., (1894) 12 R. P. C. 54.

(*g*) Herrberger *v.* Squire, (1889) 6 R. P. C. 194.

(*h*) United Horse Shoe and Nail Co. *v.* Swedish Horse Nail Co., (1889) 6 R. P. C. 1.

(*i*) Savage *v.* Harris, (1896) 13 R. P. C. 364.

Combinations.

bination, is good subject-matter when the equivalent part or process was not known to be an equivalent at the date of the prior patent,(*k*) but if the equivalent was known to be an equivalent at the date of the former patent the mere substituting it in the combination would most probably be an infringement, and is not subject-matter for a fresh patent.(*l*)

Examples of patents held void as being merely for substitution of known equivalents.

The following may be taken as instances of patents which have been held void on the ground of lack of subject-matter, the novelty being merely the substitution of one equivalent for another in an old combination of parts or processes, and requiring the exercise of no invention. *Rushton's* patent for "improvements in the manufacture of artificial hair," which consisted of the use of Russian tops or similar wool in the manufacture of chignons, which were formerly made from mohair.(*m*) *Amet's* patent for "improved means of distending articles of dress," which consisted in making the hoops of a petticoat of steel instead of whalebone.(*n*) *Horton's* patent for "improvements in the construction of gas-holders," which consisted in forming a joint of double-angle iron instead of two pieces of single-angle iron.(*o*) *Parkes'* patent for "improvements in lamps," which consisted in the substitution of a hinge for a slide in a known glass lamp.(*p*) *Fletcher's* patent for "improvements in apparatus for cooking and heating by means of gas," which consisted merely in the substitution of a hinge for a slide.(*q*) *Jensen's* patent for "improvements in oil boxes or lubricators for revolving and other parts of machinery," which consisted in the alteration of a known combination of an oil-box with a piston actuated by a screw for the purpose of forcing the oil out, by substituting in the place of the piston a screw filling the whole of the box.(*r*). *Murray's* patent for "improvements in machinery for making bricks," which consisted in moving

(*k*) Unwin *v.* Heath, (1855) 5 H. L. Cas. 505, 522, 543; Badische Anilin und Soda Fabrik *v.* Levinstein, (1885) 2 R. P. C. 90.

(*l*) Bateman *v.* Gray, (1853) Macr. P. C. 102; Electric Telegraph Co. *v.* Brett, (1851) 10 C. B. 838; 20 L. J. C. P. 123; Ormson *v.* Clarke, (1862) 13 C. B. 339; 14 C. B. 490; Stevens *v.* Keating, (1847) 1 Ex. R. 339; 17 L. J. Ex. 122; Gamble *v.* Kurtz, (1846) 3 C. B. 435; Walton *v.* Potter, (1841) 1 W. P. C. 586; Rassel *v.* Cowley, (1834) 1 W. P. C. 463; Morgan *v.* Seaward, (1836) 1 W. P. C. 171; Bovill *v.* Moore, (1815) Day. P. C. 405; Hill *v.* Thompson, (1818) 1 W. P. 242; R. *v.* Lister, (1826) Webster on Patents, 80; Hancock *v.* Moulton, (1852) Johns. Pat. Man. 6th ed. 254; Cochrane *v.* Braithwaite, 3 Lon. Journ. N. S. 42; Neilson *v.* Harford, (1841) 1 W. P. C. 310.

(*m*) Rushton *v.* Crawley, (1870) R. 10 Eq. 522.

(*n*) Thompson *v.* James, (1863) 32 Beav. 570.

(*o*) Horton *v.* Mabon, (1862-64) 16 C. B. N. S. 141; 31 L. J. C. P. 255.

(*p*) Parkes *v.* Stevens, (1869) L. R. 8 Eq. 358.

(*q*) Fletcher *v.* Arden, (1888) 5 R. P. C. 46.

(*r*) Jensen *v.* Smith, (1884) 2 R. P. C. 249.

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the cutting wires against the clay instead of the clay against the cutting wires.(*s*) *Brunton's* patent for "improvements in the manufacture of ship's anchors," &c., which consisted merely in making the two flukes in one with a thickness of metal in the middle sufficient to pierce with a hole for the insertion of the shank instead of joining the flukes by welding them to the shank, as was done formerly.(*t*) *Tickelpenny's* patent for "improvements in, and connected with, the construction and support of fire-proof floors and ceilings," which consisted merely in filling known hollow iron columns with water.(*u*) *Brown's* patent for "improvements in punching nails for shoeing horses and other animals," which consisted merely in the substitution of a pivot for a hinge in a nail-making machine.(*x*) *Winby's* patent for "improvements in points and crossings for tramways," which consisted in the introduction of a spring for a weighted lever in a switch arrangement for a tramway crossing.(*y*) *Nuttall's* patent for a beer barrel tap which substituted a gauze strainer for a metal strainer to keep impurities floating in the beer out of the tap.(*z*)

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Improvement may be subject-matter.

If a man takes an existing and already known manufacture, and by the exercise of invention makes an alteration, which really is novel and an improvement, whether it be the addition to,(*a*) the omission from,(*b*) or only the rearrangement of(*c*) old parts, the alteration so made is a fresh arrangement. It is now established beyond doubt that such an improvement, pro-

(*s*) Murray *v.* Clayton, (1872) L. R. 7 Ch. 570; L. R. 15 Eq. 115.

(*t*) Brunton *v.* Hawkes, (1820) 4 B. & Ald. 541.

(*u*) Tickelpenny *v.* Army and Navy Co-operative Society, (1888) 5 R. P. C. 405.

(*x*) United Horseshoe and Nail Co. *v.* Swedish Horsenail Co., (1888) 6 R. P. C. 1; see also Deutsche Nähmaschinen Fabrik Vorm Wertheim *v.* Pfaff, (1890) 7 R. P. C. 251.

(*y*) Winby *v.* The Manchester, &c., Steam Tramways Co., (1890) 8 R. P. C. 61.

(*z*) Nuttall *v.* Hargreaves, (1891) 8 R. P. C. 273, 450.

(*a*) Morris *v.* Branson, (1776) Bull, N. P. 76; 1 Carp. P. C. 30; 1 W. P. C. 51; R. *v.* Arkwright, (1785) 1 W. P. C. 71; Boulton *v.* Bull, (1795) 2 H. Bl. 463; Dav. P. C. 162; Hornblower *v.* Boulton, (1799) Dav. P. C. 221; 8 T. R. 95; *Ex parte* Fox, (1812) 1 V. & Br. 67; 1 W. P. C. 431; Bovill *v.* Moore, (1815) 2 Coop. Ch. Ca. 56; Dav. P. C. 361; 2 Marsh. R. 211; Lister *v.* Leather, (1857) 8 E. & B. 1017; Ralston *v.* Smith, (1865) 11 H. L. C. 223; Fox *v.* Dellestable, (1866) 15 W. R. 195.

(*b*) Russel *v.* Cowley, (1843) 1 W. P. C. 463, 465; Wallington *v.* Dale, (1852) 7 Exch. 888; Booth *v.* Kennard, (1856) 1 H. & N. 527.

(*c*) p. 63 *ante*.

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vided that it be new and useful, may be the subject-matter of a patent.(*d*)

As was pointed out by Lord *Mansfield*,(*e*) if there could be no patent for an improvement on an existing invention, that objection would go to repeal almost every patent that was ever granted.

Patentee of improvement may not be able to use original invention without licence.

Though an improvement on the subject of a prior and existing patent may be the subject of a second, the second patentee must wait till the expiration of the first grant before he can use the prior invention without the licence of the prior patentee.(*f*)

Argument against legality of patents for improvements.

It may be argued that if a subsequent patent for a combination includes part of an invention already protected it infringes on the property of another, and so is a violation of his right, and ought to be held illegal on account of his interest, and further because the second patent prolongs the monopoly granted by the first. The following words of Lord *Campbell* form a complete answer to this contention:—

"The patent for an improvement on an invention, already the subject of a patent, if confined to the improvement, is not an infringement of the former patent. The use of the improvement with the former invention, during the existence of the former patent, without licence, would be an infringement; but with licence, that also would be lawful, as in constant experience. Indeed, the objection was carried to the extent that a patent for an improvement on a patent invention of the same patentee would be void; but this rests only on the assumption that the improvement cannot be distinguished from the invention on which it is made. The assertion that all patents for improvements on existing patents must be void is obviously untenable. The third argument on this point, that a patent for an improvement on a patent is void as contrary to policy because it prolonged the monopoly granted by the first, till the last expired, is already virtually answered. The monopoly in the second patent is for the improvement only; and the use of the former invention without the improvement is free at the expiration of the first patent." (*g*)

(*d*) R. *v.* Arkwright, (1785) Dav. P. C. 61; 1 W. P. C. 64; Hill *v.* Thompson, (1817) 8 Taunt. 375; 2 B. & Mo. 448; 1 W. P. C. 232; Lewis *v.* Davis, (1829) 3 C. & P. 502; Boulton *v.* Bull, (1795) 2 H. Bl. 489; Harmar *v.* Playne, (1809) 11 East, 101; Crane *v.* Price, (1842) 1 W. P. C. 410.

(*e*) Morris *v.* Bransom, (1776) Bull, N. P. 76; 1 W. P. C. 51.

(*f*) *Ex parte* Fox, (1812) 1 V. & B. 67; 1 W. P. C. 431 n.; Fox *v.* Dellestable, (1866) 15 W. R. 195; Crane *v.* Price, (1842) 4 M. & G. 580; 1 W. P. C. 410; 12 L. J. C. P. 81; Lister *v.* Leather, (1857) 8 E. & B. 1017.

(*g*) Lister *v.* Leather, (1857) 8 E. & B. 1017.

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The fact of a patent for an improvement on an existing invention having been obtained is not proof of the inutility of the original patent, and does not throw the original invention open to the world.(*h*)

Patent for improvement no proof of inutility of original invention.

If a person obtains a patent for an improvement on a known process, he is protected against the use of his improvement with the original process, however much it is further altered and improved by subsequent discoveries, so long as it remains substantially the same.(*i*)

Ambit of patent for improvement.

The patentee of an improvement must be very careful not to lay claim in his specification to the old art or invention which he alleges he has improved, but he must limit his claim to the new art or invention produced by his labour; otherwise he will render his patent void, as claiming in part that which is not new.(*k*)

Patentee must claim only the improvement.

Thus if the real invention is an improvement on an existing machine, the claim must be for the improvement, and must not include a claim to the old machine, which would render the patent bad; (*l*) and, moreover, the patentee's exclusive right cannot be permitted to exceed the exact terms of his claim as construed with reference to the rest of his specification.(*m*)

Invention necessary to support a patent for an improvement.

In order that an improvement may be good subject-matter it is absolutely necessary that there be the presumption of some degree of invention having been required to make the improvement.(*n*) Thus, in the case of a patent granted to *J. White* for "improvements in ladies' mourning bonnet and hat falls," which claimed forming both sides of ladies' mourning bonnet and hat falls alike by applying thereto the fold above the bottom fold on each side thereof, as explained, the patent was held void on the ground of want of invention, *Malins*, V.C., saying: "Whereas formerly the fold was sewn on one side only, now it is sewn on both sides, so that whichever way it is turned it has a good side outwards. There is no invention in it. However meritorious as an im-

(*h*) Thomson *v.* Batty, (1889) 6 R. P. C. 100; Edison *v.* Holland, (1889) 6 R. P. C. 243.

(*i*) Electric Telegraph Co. *v.* Brett, (1851) 10 C. B. 881.

(*k*) p. 222 *post;* Hill *v.* Thompson, (1817) 8 Taunt. 375; 2 B. Mo. 448; 1 W. P. C. 229; Bovill *v.* Moor, (1815) 2 Marsh, 211; Dav. P. C. 361; Minter *v.* Mower, (1835) 1 W. P. C. 142; Williams *v.* Brodie, (1785) Dav. P. C. 26; 1 W. P. C. 75; Hornblower *v.* Bolton, (1799) 8 T. R. 103; Jessop's Case, 1 W. P. C. 42 n.; Dav. P. C. 182, 203; Crane *v.* Price, (1842) 1 W. P. C. 413; (1857) Lister *v.* Leather, 8 E. & B. 1004.

(*l*) Leggott *v.* McGeoch, (1893) 10 R. P. C. 429, 435; p. 222 *post.*

(*m*) See judgment of Lord Watson, Brown *v.* Jackson, (1895) 12 R. P. C. 324.

(*n*) Blakey *v.* Latham, (1889) 6 R. P. C. 188; Thierry *v.* Rickman, (1895) 12 R. P. C. 548; 14 R. P. C. 105.

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provement, which might probably have been registered for one or two years, it is not the subject of a patent."(*o*)

Mere working direction though valuable is not subject-matter.

So, an improvement which consists merely in the application of a more skilful and efficient mode of working a known process will not be subject-matter when the application is obvious.(*p*) Thus, in *Patterson* v. *The Gas Light and Coke Co.*,(*q*) in reference to a claim in the specification of a patent for "improvements in the purification of coal gas," which claimed "a method or system of employing lime purifiers in the manner hereinbefore described, whereby the contents of all the said purifiers, or of any required number of them, can be converted into sulphides of calcium, and also (if required) be maintained in that condition," *James*, L.J., delivering the judgment of the Court of Appeal, said :—

Per James, L.J.

> "There is in that no suggestion of any new apparatus—of any new process. There is no device or scheme of any kind. Lime purifiers in succession were in general, almost universal, use wherever lime could be freely used. . . . . What he (the patentee) claims to have discovered is, that if the carbonic acid, which is the first thing taken up by the lime, is not wholly taken up at the beginning, and is allowed to enter the last purifier or purifiers, it in fact poisons the latter, decomposes the sulphide of calcium already formed, disengages the other sulphur absorbed by the sulphide, and of course fills the gas again with the sulphur impurities which had been removed. This is a very valuable working caution and direction, but it is impossible to make anything more of it than a working caution and direction. It really amounts to nothing more than a direction to be sufficiently liberal in the use of the caustic lime in the first stage, and an instruction that the moment it is so far carbonated as not to arrest the carbonic acid it should be removed and a fresh supply of lime got. It may be a direction and an instruction of the greatest possible value and utility; but it is utterly impossible to make such a direction and instruction, however valuable, the subject of a patent."

Per Lord Blackburn.

The decision of the Court of Appeal was affirmed by the House of Lords, and Lord *Blackburn* observed :—

> "The appellant appears, from what he says in his specification, to be of opinion that, if he first discovered the theory and reason of that which had before been done empirically, he is

(*o*) White *v.* Toms, (1867) 37 L. J. Ch. 204.
(*p*) Tetley *v.* Easton, (1857) 2 C. B. N. S. 706.
(*q*) (1875) L. R. 2 Ch. D. 834.

entitled to a patent. I need hardly point out that this is a mistake; if by reason of knowing the theory he is enabled to make some improvements, he may take out a patent for those improvements, but he cannot take out a patent to prevent others using what they had used before, though empirically." (*r*)

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In another case it appeared that in the process of calendering woven fabrics the use of a roller and a bowl, and the method of regulating the relative speed of their motions, were well known at the date of the patent. In the process of *calendering* a smooth roller was used, and the speeds of the roller and bowl were different, whilst in the process of *embossing* a roller with a pattern on it was used, and the speeds of the roller and bowl were equal. A patent was obtained for a combination of a patterned roller with a bowl, the roller and bowl moving at unequal speeds. It was held by the Court of Common Pleas and the House of Lords that the alleged invention was not the proper subject-matter of a grant of letters patent, as it was nothing more than the use of an existing machine in a more beneficial manner than previously.(*s*)

Mere use of known machine in a more beneficial manner is not subject-matter.

Neither is there invention in a mere adaptation of a well-known idea, in a well-known manner, for a well-known purpose, without ingenuity, though the adaptation effects an improvement, which supplants articles already in the market, and is commercially very successful.(*t*)

Mere adaptation of a well-known idea is not subject-matter.

It is to be noticed that an improvement in the sense in which the word has been used in the foregoing pages is not always the subject of the invention when the word is used in the title of letters patent—*e.g.*, the title may be "improvements in the manufacture" of a certain article, the object being either the production of the article of a better quality, or at a lower price, and yet the means by which that object is attained may be some entirely new art, or some machine totally different from anything before known or used for the manufacture of that article. Such a title may refer to novelty in a machine, novelty in an improvement on a machine, or a new combination.(*u*)

Meaning of "improvement" as used in titles of letters-patent.

When an invention is an improvement on an existing invention the amount of the improvement does not affect the validity of a patent granted in respect of it; if there is an improvement,

Amount of improvement does not affect validity.

(*r*) L. R. 3 App. Cas. 246, p. 49 *ante*.

(*s*) Ralston *v.* Smith, (1860) 9 C. B. N. S. 117; 11 H. L. Ca. 223.

(*t*) Longbottom *v.* Shaw, (1888-91) 5 R. P. C. 497; 6 R. P. C. 143; 8 R. P. C. 333.

(*u*) See p. 237 *post*.

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however small, which is the outcome of invention, that is quite sufficient to support the patent.(*x*)

Examples.

In *Sykes* v. *Howarth*,(*y*) a patent for "improvements in fancy rollers of machines for carding wool and other fabrics" was held valid. Before the invention, the machines used for carding wool, &c., consisted of a series of large cylinders on which smaller cylinders revolved, the last of the series of smaller cylinders termed a "fancy roller" was used to raise the fibre on the surface of the larger roller. The rollers were covered with "cards" (strips of leather thickly studded with short wires). These cards were cleaned by means of a hand-scraper, an objectionable method, from the fact that the person using the scraper had to stand at the side of the machine, and was therefore unable to draw the scraper in an exact line with the "gates" of the "cards" (passages between the wires), and other cards were liable to be injured. The improvements for which the patent was granted consisted in the introduction of wide spaces between the cards, which produced an exhaust current of air, and made the rollers operate in their function as fancy rollers. Also the fancy rollers were applicable and employed for cleaning the other card-covered cylinders.

In *Heath* v. *Unwin*,(*z*) the defendant was charged with infringing the plaintiff's patent, which was for "certain improvements in the manufacture of iron and steel," consisting among others in the use of carburet of manganese in any process, whereby iron is converted into cast steel. The alleged infringement consisted in the substitution of the elements of carburet of manganese in the place of the carburet of manganese itself in the plaintiff's process. The evidence showed that the elements combined first in the crucible and formed carburet of manganese, which then acted on the iron in the same way as the ready formed carburet of manganese introduced according to the plaintiff's original process. The Court of Exchequer Chamber, taking this view of the evidence, reversed the decision of the Courts below, and held that the process had been infringed; but the House of Lords, having had the assistance of the opinions of the Judges,(*a*) reversed the decision of the Court of Exchequer Chamber. The process, as carried out by *Unwin*, was a great improvement on that mentioned in the

(*x*) See Alderson, B., in Morgan *v.* Seaward, (1836) 1 W. P. C. 173, 186.

(*y*) (1879) L. R. 12 Ch. D. 826; 48 L. J. Ch. 769; see also Murray *v.* Clayton, (1872) L. R. 7 Ch. 570.

(*z*) (1843) 2 W. P. C. 216, 218, 221, 223, 228, 236, 279; 5 H. L. 505.

(*a*) (1854) 2 W. P. C.; 5 H. L. C. 505.

plaintiff's patent, being much neater and effecting a considerable reduction in the cost of the steel; and it was held to be no infringement of the plaintiff's process, and would, therefore, probably have of itself formed the subject of a patent.

New Uses of Old Appliances.

New Uses of Old Appliances.

The question whether a new use of an old appliance is competent to form the subject-matter of a valid patent must in each particular instance be answered in the affirmative or negative according as invention and ingenuity are present or absent in the new application.(*b*)

New use of old appliance may be subject-matter.

If the new use requires no sufficient exercise of invention, *i.e.*, if it is merely analogous to a use of the known thing made before, then a patent cannot be validly granted in respect of it(*c*); but if the new use is one which lies so far outside and removed from those previously made as necessarily to imply the exercise of invention it will be perfectly good subject-matter.(*d*)

(*b*) See pp. 27–36 *ante*.

(*c*) Losh *v.* Hague, (1838) 1 W. P. C. 207; R. *v.* Cutler, (1816) 14 Q. B. 372 n.; Macr. P. C. 133; Tetley *v.* Easton, (1852) 2 C. B. N. S. 706; 26 L. J. C. P. 269; Patent Bottle Envelope Co. *v.* Seymer, (1858) 5 C. B. N. S. 164; 28 L. J. C. P. 22; 5 Jur. N. S. 174; Kay *v.* Marshall, (1839) 2 W. P. C. 71, 79; Horton *v.* Mabon, (1862) 31 L. J. C. P. 255; 12 C. B. N. S. 437; 16 C. B. N. S. 141; Ormson *v.* Clarke, (1862) 32 L. J. C. P. 8; 13 C. B. N. S. 337; 32 L. J. C. P. 291; 14 C. B. N. S. 475; Willis *v.* Davison, (1863) 1 N. R. 234; Harwood *v.* G. N. Ry. Co., (1860) 2 B. & S. 194, 222; 11 H. L. C. 654; Ralston *v.* Smith, (1865) 11 H. L. C. 223; Jordan *v.* Moor, (1866) L. R. 1 C. P. 624; Parkes *v.* Stevens, (1869) L. R. 5 Ch. 36; Cropper *v.* Smith, (1884) 1 R. P. C. 90; Sharp *v.* Bauer, (1886) 3 R. P. C. 196; Rowcliff *v.* Longford Wire Co., (1887) 4 R. P. C. 281; Albo-Carbon Light Co. *v.* Kidd, (1887) 4 R. P. C. 535; 5 R. P. C. 581; 6 R. P. C. 194; Blakey *v.* Latham, (1889) 6 R. P. C. 184; Longbottom *v.* Shaw, (1889) 6 R. P. C. 143; Morgan *v.* Windover, (1888) 5 R. P. C. 304; 7 P. O. R. 131; Calvert *v.* Ashburn, Pract. Mech. Journ. vol. vii. 2nd ser. p. 97.

(*d*) Hartley's Case, 2 H. Bl. 493; Brunton *v.* Hawkes, (1820) 1 Carp. P. C. 405; Hall *v.* Jarvis, (1822) 1 W. P. C. 100; Kay *v.* Marshall, (1839) 2 W. P. C. 71, 79; Walton *v.* Potter, (1841) 1 W. P. C. 597; Muntz *v.* Foster, (1844) 2 W. P. C. 103; R. *v.* Cutler, (1816) Macr. P. C. 124; Bush *v.* Fox, (1852) Macr. P. C. 164, 178; 5 H. L. C. 707; Pow *v.* Taunton, (1845) 9 Jur. 1056; Steiner *v.* Heald, (1851) 6 Exch. R. 607; 11 Jur. 875; 20 L. J. Ex. 410; Mackelean *v.* Rennie, (1862) 13 C. B. N. S. 52; Penn *v.* Bibby, (1866) L. R. 2 Ch. 127; 36 L. J. Ch. 455; White *v.* Toms, (1867) 36 L. J. Ch. 204; 17 L. T. N. S. 399; Rushton *v.* Crawley, (1870) L. R. 10 Eq. 522; Newton *v.* Vaucher, (1851) 6 Exch. 865; Reynolds *v.* Amos, (1886) 3 R. P. C. 215; American Braided Wire Co. *v.* Thompson, (1887) 4 R. P. C. 316; 5 R. P. C. 113; 6 R. P. C. 518; Pirrie *v.* York Street Flax Spinning Co., (1893) 10 R. P. C. 34; 11 R. P. C. 429; Adamant Stone and Paving Co. *v.* Corporation of Liverpool, (1897) 14 R. P. C. 21; Tucker *v.* Kaye, (1891) 8 R. P. C. 58, 230; Embossed Metal Plate Co. *v.* Saupe, (1891) 8 R. P. C. 355; Fairfax *v.* Lyons, (1891) 8 R. P. C. 401; Longbottom *v.* Shaw, (1888) 5 R. P. C. 497; 6 R. P. C. 143, 510; 8 R. P. C. 333; Wilson *v.* Union Oil Mills, (1892) 9 R. P. C. 57; Baker *v.* Kinnell, (1892) 9 R. P. C. 441; Nicoll *v.* Swears, (1893) 10 R. P. C. 240; Sudbury *v.* Lee,

New Uses of Old Appliances.

Lindley, L.J., referring to the numerous cases bearing upon new uses of old things, stated the result of them thus:

Result of cases referring to new uses stated by Lindley, L.J.

"These cases, and many others which might be cited, establish the following proportions:

1. A patent for the mere new use of a known contrivance, without any additional ingenuity in overcoming fresh difficulties, is bad, and cannot be supported. If the new use involves no ingenuity, but is in manner and purpose analogous to the old use, although not quite the same, there is no invention, no manner of new manufacture within the meaning of the Statute of James.

2. On the other hand, a patent for a new use of a known contrivance is good and can be supported if the new use involves practical difficulties which the patentee has been the first to see and overcome by some ingenuity of his own. An improved thing produced by a new and ingenious application of a known contrivance to an old thing is a manner of new manufacture within the meaning of the statute. Under which of these rules any particular case falls depends on its own special circumstances, and is often a question of very great difficulty, giving rise to considerable difference of opinion, as in the well-known bustle case *American Braided Wire Co.* v. *Thompson*, 6 R. P. C. 518. But the rules themselves are intelligible enough. Their application involves a correct estimate of the degree of ingenuity which amounts to invention. The difficulty of saying where invention sufficient to support a patent exists and where it does not is well known to all persons conversant with patent law." (*e*)

No rule possible.

It is obviously impossible to frame any rule which will serve as a guide to show at once whether any particular instance is one involving invention or not. The authorities are necessarily decisions on particular cases, and are useful only as affording some guide to the correct conclusion in any particular instance coming under consideration. Each case must be decided on its own merits, and with reference to its own especial circumstances.(*f*)

There may be an element of novelty in an alleged invention, and yet that novelty may consist only in the new occasion or new use to which an old and well-known thing or method is

(1894) 11 R. P. C. 58; Rose's Patents Co. *v.* Braby, (1894) 11 R. P. C. 198; Singer *v.* Rudge Cycle Co., (1894) 11 R. P. C. 463; Shaw *v.* Barton, (1895) 12 R. P. C. 282; Rickmann *v.* Thierry, (1896) 14 R. P. C. 105; Haws *v.* Harding, (1897) 14 R. P. C. 105.

(*e*) Gadd *v.* Mayor, &c., of Manchester, (1892) 9 R. P. C. 524.

(*f*) See Lister *v.* Norton, (1886) 3 R. P. C. 205; Morgan *v.* Windover, (1887) 4 R. P. C. 426; see also p. 33 *ante*.

New Uses of Old Appliances.

applied. The principle—*i.e.*, the method of operation, or order of combination—of the alleged new invention may have been discovered and applied before, though not on precisely the same occasions and uses, or with the same materials. If the new application is nothing more than a double use, and shows nothing beyond the mere skill of a constructor in adapting a well-known method to different occasions, the patent cannot be supported.

If there is no novelty in the effect produced, but the occasion only is new, then the use to which the known thing or method has been applied is simply analogous to what was done before; but if the effect is new, then the first application of the known thing or method may constitute the subject-matter of a valid patent.

Novelty in the sense of doing what has not been done before is not in itself sufficient.

For a patentee to succeed in upholding his patent, it is necessary for him to show, not merely newness in the sense of doing a thing which has not been done before, but he must show newness in the shape of novelty by producing a thing which, it may be presumed, requires some exertion of mind that could properly be called invention. To apply an old tool to a new material could not be the subject of a patent, although all mankind had been previously using another sort of tool which produced a much inferior effect, and although, therefore, the new application of the old tool had the merit in it that it produced a useful result in the easier working of a material to which that tool had not been applied before: since the new use of the old tool was merely for an analogous purpose to that which all mankind knew it was useful for before, although the application might be new, it could not be said that the application was a novelty, in the sense of invention, which would sustain a patent.(*g*)

Apprehension of a new use may be invention.

In some cases however the apprehension of the new use of the old thing is invention sufficient to support a patent for the new use—*e.g.*, the application of an old thing to remove a defect in an old machine(*h*) or the use of retorts inclined at a particular angle for the purpose of saving labour and expense in gas-making though inclined retorts had been used before for purposes other than gas-making.(*i*)

In the following cases, patents which, in each instance,

(*g*) Tatham *v.* Dania, (1869) Griff. P. C. 213, judgment of Willes, J.
(*h*) Edison-Bell Phonograph Corporation *v.* Smith, (1894) 11 R. P. C. 398, 399.
(*i*) Automatic Coal Gas Retort Co. *v.* Mayor, &c., of Salford, (1897) 14 R. P. C. 450.

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related to some new application of an old thing or method, were declared invalid, on the ground of insufficiency of invention and consequent want of proper subject-matter.

Cases in which patents for new uses were held bad.

Kay *v.* Marshall.

In *Kay* v. *Marshall*, (1836) 2 W. P. C. 36, 39, 47, 48, 69, 71, 77, 79; 8 L. J. C. P. 261, (*k*) it appeared that before the patent flax and other fibrous substances were spun with machines, by which the reach was varied according to the staple or fibre of the article to be spun, and that it had been a fundamental principle of dry spinning, known and used before the granting of the patent; and, further, that the reach used in cotton spinning had been less than two and a half inches. The real question in the case was whether, with public knowledge in the state above indicated, a patent could be upheld for placing the retaining rollers, and the drawing rollers, of a spinning machine, which was known and in use before, within two and a half inches of each other, and the Court of Common Pleas held that it could not. *Tindal*, C.J., in delivering the judgment of the Court, said: (*l*)

"The application of a reach of two and a half inches to the spinning of flax, when in a state of maceration, by which the fibre of flax will not hold together beyond two and a half inches, does not appear to us to be any new invention or discovery, but is merely the application of a piece of machinery, already known and in use, to the *new* macerated state of flax. . . . . And if a patent, taken out for that object separately, would be invalid, so also a patent taken out for an invention consisting of two distinct parts, one of which is the precise object, would be void also. . . . . If a part of what is claimed is not properly the subject of a patent, or is not new, the whole must be void."

Losh *v.* Hague.

In *Losh* v. *Hague*, (1837) 1 W. P. C. 200; 5 M. & W. 387, which was an action brought for the alleged infringement of a patent for "improvement in the construction of wheels for carriages *to be used on railways*," it was objected by the defendant that Losh was not the true and first inventor; and it was proved that wheels made on the same principle as that claimed by the patent had been previously known, though they had never been used on railways. The jury by their verdict upheld this objection on the part of the defendant. Lord *Abinger*, C.B., in directing the jury, referred to the case of *Hall* v. *Jarvis*, (1822) 1 W. P. C. 100, and said: "That was the application of a new contrivance to the same purpose; but it is a different thing when you take out a patent for applying a new contrivance to

(*k*) See also Blakey *v.* Latham, (1889) 6 R. P. C. 187; Thierry *v.* Rickman, (1895) 12 R. P. C. 548.

(*l*) 2 W. P. C. at p. 75.

an old object, and applying an old contrivance to a new object—that is a very different thing. In the case the learned counsel put, he says, 'If a surgeon goes into a mercer's shop and sees the mercer cutting velvet or silk with a pair of scissors with a knob to them, he, seeing that, would have a right to take out a patent in order to apply the same scissors to cutting a sore or a patient's skin.' I do not quite agree with that law. I think if a surgeon had gone to him and said, 'I see how well your scissors cut,' and he said, 'I can apply them instead of a lancet by putting a knob at the end,' that would be quite a different thing, and he might get a patent for that; but it would be a very extraordinary thing to say that because all mankind have been accustomed to eat soup with a spoon, a man could take out a patent because he says you might eat peas with a spoon. The law on the subject is this: that you cannot have a patent for applying a well-known thing, that might be applied to fifty thousand different purposes, for applying it to an operation which is exactly analogous to what was done before. Suppose a man invents a pair of scissors to cut cloth with, if the scissors were never invented before he could take out a patent for it. If another man found he could cut silk with them, why should he take out a patent for that?"

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Cases in which patents for new uses were held bad.

In *Regina* v. *Cutler*, 4 Q. B. 372; Macr. P. C. 124; 3 C. & K. 215, the patent was for improvements in the construction of the tubular flues of steam boilers and the patentee claimed the application of iron tubes coated with copper or brass to this purpose. It having been proved that such tubes were not new and that there was no novelty in the manner in which they were applied in the flues, since uncovered tubes had been applied in the same way before the date of the patent, Lord *Denman*, C.J., and *Wightman*, J., on different occasions held that this was the mere application of a known article to a new use, the mode of application having been previously employed in applying analogous articles to the same purpose, and could not therefore be the subject of a valid patent.

Regina v. Cutler.

In *Bush* v. *Fox*, Macr. P. C. 164; 23 L. J. Ex. 275; 24 L. J. Ex. 251; 5 H. L. Cas. 707, the patent was for "Improvements in the means of, and in the apparatus for, building and working under water," and the patentee claimed "the mode of constructing the interior of a caisson in such manner that the workpeople may be supplied with compressed air, and be able to raise the materials excavated, and to make or construct foundations and buildings, as above described." The defendant proved that the apparatus described in a prior patent was the same in all material respects as the plaintiff's caisson, the mode of working was the same in both cases, and they differed only in their application,

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the prior patent being for excavating and sinking shafts, &c., on land, the plaintiff's for sinking, excavating and constructing foundations under water. In directing the jury, *Pollock*, C.B., said: "I am of opinion, upon the evidence as it now stands, that the said supposed invention in the declaration mentioned was not an invention of a certain manner of new manufacture in processes and forms as the plaintiff has alleged. I think that an invention must be a production of something that can be used or sold or made use of for some purpose, or some method which results in something of the same sort. And I think that a man cannot, if he has applied—supposing this to be a new application—an old invention, or part of an old invention, to a new purpose, obtain a patent for such an application. Now, if the construction of this caisson, or pile, or whatever it is to be called, is to be looked upon as old, and the object of the patent is for applying it to a new purpose, that is not a manufacture: and the application is such an operation (if so it can be called) that nothing new which results from it can, I think, be the subject of a patent. . . . . I think if one man invents a new mode of looking at the moon, somebody else cannot take out a patent for using the same mode to look at the sun, nor for any mere application of it to a different purpose. If a man were to take out a patent for a telescope to be used for making observations on land, I do not think any one could say, 'I will take out another patent for that telescope to be used for making observations on the sea.' I therefore direct you, that, in point of law, in my judgment, the supposed invention was not an invention of any manner of new manufacture in manner and form as the plaintiff has alleged." This ruling was affirmed in the Exchequer Chamber and the House of Lords.

It must be noticed that the learned Judges did not refer to the question of the amount of invention required to adapt the caisson which had been previously used on land to the use under water. If this had required the expenditure of any considerable amount of ingenuity no doubt the patent would have been supported on the ground of subject-matter. From the report of the case it must be concluded that the jury below were of opinion that the evidence showed the application of the caisson under water did not imply the exercise of any ingenuity, but it must be observed that the Court of Exchequer Chamber and the House of Lords upheld the decision of the Court of first instance, not on the ground of mere analogous use, but because the specification describing the mode of construction of a machine for a particular purpose was to be considered as claiming the machine itself, which the evidence showed was old.

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Cases in which patents for new uses were held bad.

In *The Patent Bottle Envelope Company* v. *Seymer*, (1858) 5 C. B. N. S. 164; 28 L. J. C. P. 22, the patent was for "improvements in the manufacture of cases or envelopes for covering bottles." The claim was for "the combination of mechanism, and the making of envelopes for bottles, as herein described." The defendants worked a patent for "improvements in the manufacture of cases or packings for bottles or jars," in which they employed a mould or mandril similar to the plaintiff's, and this was the infringement complained of. In delivering the judgment of the Court of Common Pleas, *Willes*, J., said: "The fact that the mould or mandril constitutes part only of the plaintiff's process does not of itself affect the question. The infringement of any part of a patent process is actionable, if that part is of itself new and useful, so as that it might be the subject-matter of a patent, and is used by the infringer to effect the object, or part of the object, proposed by the patentee. The question, therefore, is, whether the plaintiffs could have taken out a patent simply for applying a model or mandril in the form of a bottle, or, indeed, a bottle itself, in making envelopes for bottles. We are of opinion that they could not. The use of a model or mandril, for producing given forms of pliable materials, was admitted at the trial, and indeed, without such admission, is well known to have been for ages common and usual in various arts. Such use was part of common knowledge, and a model or mandril for purposes similar to that of this patent was an ordinary and well-known tool. It is merely in respect of the sort of material to which it is applied, and the form of the utensil produced by it, that the plaintiff's application of the model possesses any novelty. The application of a well-known tool to work previously untried materials, or to produce new forms, is not, in my opinion, the subject-matter of a patent. The observations of the Court, in giving judgment in the recent case of *Tetley* v. *Easton*, (1857) 26 L. J. C. P. 269, sustained this proposition. Indeed, to hold the contrary might tend to produce oppressive monopolies in the application of old and well-known implements to new materials, without any further novelty or merit than the discovery of the material or the form into which it is to be worked. Such discovery is not, in our opinion, one of a new 'manufacture' within the statute of James, and a patent for it alone cannot be maintained."

Patent Bottle Envelope Co. v. Seymer.

In *Brook* v. *Aston*, (1857) 8 E. & B. 478; 27 L. J. Q. B. 145; 28 L. J. Q. B. 175; affirmed 5 Jur. N. S. 1025, the action was brought for the infringement of a patent for "improvement in finishing yarns of wool or hair, and in the finishing of woven fabrics." The defendant pleaded that it was not the working

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or making of any manufacture for which letters patent could by law be granted. The specification stated: "This invention has for its object an improvement in finishing yarns of wool or hair, and consists in causing *yarns of wool or hair*, whilst distended and kept separate, to be subjected to the action of rotatory beaters, or burnishers, by which such yarns will be burnished or polished on all sides." Then followed a description and drawings of the machinery, showing the manner in which the threads were distended and kept separate, and were passed over a revolving circular brush, on their way to some rapidly revolving beaters or burnishers, which gave smoothness to their surface. The first claim was: "causing yarns of wool or hair, whilst distended and kept separate, to be subjected to the action of rotatory beaters or burnishers, whereby the fibre is closed and strengthened and the surface effectually polished."

The defendant put in evidence the specification of a former patent granted to *W. L. Brook*, and *C. Brook*, in 1853, for certain improvements in finishing cotton and linen yarns, and in the machinery connected therewith. This specification stated: "Our improvements relate, first, to a method of finishing *cotton and linen* yarns by the application of friction, produced by a peculiar combination of horizontal brushes, with revolving beaters or burnishers, the yarns being extended from end to end, instead of being dressed in the hank or skein, by which means a more perfect adhesion of the fibre with smoothness and a *glacé* effect is produced. The yarns or threads are wound upon a roller at one end of the machine, and pass through the operation of sizing, as in common use, and thence to the finishing end of the machine." The jury found for the plaintiff.

On application to the Court of Queen's Bench, a rule *nisi* to enter a nonsuit was made absolute, Lord *Campbell*, C.J., saying: "It may well be that a patent may be valid for the application of an old invention to a new purpose, but to make it valid there must be some novelty in the application. Here there is none at all. We may suppose that the specification of 1853, instead of extending to cotton and linen yarns, had been confined to cotton yarns only. Could, in that case, a new patent have been supported for applying the same process precisely to linen threads? It is clear it could not. In all the cases in which a patent has been supported there has been some discovery, some invention. It has not been, as in this case, merely the application of the old machinery, in the old manner, to an analogous substance. That cannot be the subject of a patent, and this patent claiming it is void."

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Brook *v.* Aston.

On a writ of error being brought in the Court of Exchequer Chamber, *Cockburn*, C.J., said: "Our duty is to look to the two specifications, and construing them in the best manner, to see whether the second involves any infringement of the first. I am of opinion that it does. The second patent includes every material portion of that which was the subject-matter of the first. Mr. *Bovill* has argued on the assumption that the sizing process, which is omitted in the second patent, was an essential part of the first. But I cannot look upon it in that light. . . . . There is a *glacé* appearance produced on the linen, and not in the wool. But the main purpose, which is to give strength to the matter operated on, is the same in both. . . . . The polish is no essential part of the patent."

Martin, B., said: "The question is, whether there was any evidence to go to the jury at the end of the plaintiff's case. . . . . I quite concur in the judgment of the Court of Common Pleas in the *Patent Bottle Envelope Company* v. *Seymer*, (1858) 28 L. J. C. P. 22, that the application of a well-known tool to work previously untried materials, or to produce new forms, is not the subject of a patent. When a machine is well known it becomes in fact a tool. I am therefore of opinion that the application of this machinery to woollen yarn is not the subject of a patent."

Willes, J., said: "I am of the same opinion. The machinery is admitted to be the same in the two patents; the thing operated upon in each is the same, or similar, the one being vegetable, the other animal fibre. The *modus operandi* is the same, namely, by friction, and the result aimed at is the same —the improvement of the thread or yarn to be produced by the friction of the brushes or beaters—the two patents are, in my opinion, for similar, if not for identical purposes."

Bramwell, B., said: "The two specifications are substantially identical. Doing to wool identically the same thing which has been done to linen or cotton is not, in my opinion, a new manufacture."

Harwood *v.* Great Northern Railway Company.

In *Harwood* v. *The Great Northern Railway Company*, (1860) 2 B. & S. 194, 222; 11 H. L. Cas. 654; 29 L. J. Q. B. 193; 31 L. J. Q. B. 198; 35 L. J. Q. B. 27, a patent for the purpose of connecting the rails of railways by "fishes" was held void on the ground that similar fishes had been previously used to fasten pieces of timber together in the construction of bridges, and also in various articles of machinery. *Willes*, J., in the Court of Exchequer Chamber, held the invention was the mere application of an old contrivance in the old way to an analogous subject without novelty or invention in the mode of applying such old

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contrivance to the new purpose. On the appeal to the House of Lords, Lord *Westbury*, L.C., thus expressed himself: "The question is, whether there can be any invention in taking that thing which was a fish for a bridge and having applied it as a fish to a railway. Upon that I think the law is well and rightly settled, for there would be no end to the interference with trade and with the liberty of adopting any mechanical contrivance if every slight difference in the application of a well-known thing should be held to constitute ground for a patent. There is the familiar contrivance of the button to the button-hole taken from the waistcoat or the coat, which may be applied in some particular mechanical combination in which it has not hitherto been applied. But it would be an idle thing, if it were possible, to take a well-known mechanical contrivance and by applying it to a subject to which it has not hitherto been applied, to constitute that application the subject of a patent to be granted as for a new invention. No sounder or more wholesome doctrine, I think, was ever established than that which was established by the decisions referred to in the opinions of the four learned Judges who concur in the second opinion delivered to your Lordships—namely, that you cannot have a patent for a well-known mechanical contrivance merely when it is applied in a manner, or to a purpose, which is not quite the same, but is analogous to the manner or purpose in or to which it has been hitherto notoriously used."

Jordan v. Moore.

In *Jordan* v. *Moore*, (1866) L. R. 1 C. P. 624; 35 L. J. C. P. 268, the question was whether the application of wooden planking to the iron frame of a ship (without any peculiarity in the nature of the planking) could be the subject of a patent. The Court of Common Pleas held it could not, on the ground that it was not only the substitution of one well-known and analogous material for another—that is, wood for iron—to effect the same purpose on an iron ship, but it was the application of an old invention—viz., planking with timber, which was formerly done on a wooden frame—to an analogous purpose, or rather the same purpose on an iron frame, and *Harwood* v. *Great Northern Railway Company*, (1860) 2 B. & S. 194, 222; 11 H. L. Cas. 654; 29 L. J. Q. B. 193; 31 L. J. Q. B. 198; 35 L. J. Q. B. 27, was directly in point, and decisive against the patent.

Parkes v. Stevens.

In *Parkes* v. *Stevens*, (1869) L. R. 5 Ch. 36; L. R. 8 Eq. 358; 38 L. J. Ch. 627, Lord *Hatherley*, L.C., held that the adaptation of a sliding door to a spherical lamp—sliding doors having been previously applied to cylindrical lamps and other glazed surfaces—could not of itself be the subject of a patent.

Horton v. Mabon.

In *Horton* v. *Mabon*, (1862) 12 C. B. N. S. 437; 16 C. B. N. S.

141; 31 L. J. C. B. 255, the patent sued on was held void by the Court of Common Pleas, and on appeal the Court of Exchequer Chamber upheld the judgment below, and came to the conclusion that what the plaintiff claimed as part of his invention was merely the substitution of *double* angle iron for two pieces of *single* angle iron, in the formation of hydraulic cups or joints to telescopic gas-holders. It was matter of general knowledge that the cups might be formed by riveting two pieces of *single* angle iron to a plate, and the Court held that the mere substitution of *double* angle iron—an article well known in the trade—was not an invention for which a patent could be granted.

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In *Ormson* v. *Clarke*, (1862) 13 C. B. N. S. 337; 14 C. B. N. S. 475; 32 L. J. C. P. S. 291, the patent was for "an improvement in the manufacture of cast tubular boilers," and the invention consisted in causing the upright tubes and the lower hollow ring (which connected the tubes together at their lower ends) to be cast at one time, and thus form one casting. It appeared that similar boilers had been previously made in several pieces, which were afterwards fastened together by means of cement. The Court of Common Pleas and, on appeal, the Court of Exchequer Chamber, held that the alleged invention, which was merely the casting in one piece that which used formerly to be cast in several pieces, was not proper subject-matter.

Ormson *v.* Clarke.

In *Bamlett* v. *Picksley*, (1875) Griff. P. C. 40, the patent related to improvements in machines for both reaping and mowing, and the alleged invention consisted in making the cutting knife revolve quicker for mowing grass than for cutting corn. This was accomplished by the application of an arrangement of shaft and wheels identical with one used by a previous inventor in a hay-making or tedding machine, for the purpose of driving the tossing rakes slower or faster at will. The patent was declared void on the ground that the alleged invention was not proper subject-matter.

Bamlett *v.* Picksley.

In *Philpot* v. *Hanbury*, (1885) 2 R. P. C. 33, an action for the infringement of a patent for "improvements in apparatus for use in drafting patterns for ladies' dresses and under garments," *Grove*, J., held that the state of public knowledge at the date of the plaintiff's specification, disclosed by three prior specifications, made his claim to be for what was virtually an application of a known method in a known way, or in a variety of ways open to everybody else.

Philpot *v.* Hanbury.

In *Sharp* v. *Brauer*, (1886) 3 R. P. C. 193, the plaintiff's patent was for "a new or improved window screen or blind," and the specification stated that the invention related to screens

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or blinds for windows, and the improvement consisted in forming them of cardboard, millboard, &c. The evidence showed that similar screens were old and well known, and all that the patentee had done was to apply them in an obvious way to a window.

Rowcliffe v. Longford Wire Co.

In *Rowcliffe* v. *Longford Wire Co.*, (1887) 4 R. P. C. 281, a patent for "improvement in frames for woven or elastic wire net mattresses" was declared invalid on the ground that the patentees claimed merely a rectangular framework which differed only from the old four-post bedstead in not having any legs or posts, by sliding the transverse piece not in grooves but on the top of the sides, and by making the foot and head, instead of being flush with the sides, raised above the sides.

Albo-Carbon Light Co. v. Kidd.

In *Albo-Carbon Light Co.* v. *Kidd*, (1887) 4 R. P. C. 535, the patent called in question by the defendant related to the use of solid naphthaline for the purpose of enriching gas, and the patentee claimed "The use of solid naphthaline, prepared in the form of sticks, rods or pellets, for the enrichment of combustible gas, substantially as herein described." The defendant proved that liquid naphthaline prior to the patent had been used for the purpose for which the patentee used solid naphthaline, and that solid naphthaline had been prepared before the patent as a well-known article of commerce.

Calvert v. Ashburn.

In *Calvert* v. *Ashburn*, Pract. Tech. Journ. vol. vii. 2nd ser. p. 97, it was held, that as caustic alkali had been previously used to dissolve gluten in the manufacture of *starch*, it was not the subject-matter of a patent to apply caustic alkalis to dissolve gluten in the manufacture of *size* from flour.

Herrburger v. Squire.

In *Herrburger* v. *Squire*, (1888) 5 R. P. C. 581; 6 R. P. C. 194, it was held that the mere alteration of the arc in which a damper for a pianoforte string was worked, though useful, was not proper subject-matter, on the authority of *Kay* v. *Marshall*, (1836) 2 W. P. C. 36.

Blakey v. Latham.

In *Blakey* v. *Latham*, (1889) 6 R. P. C. 29, 184, it was held that to put a plate on the heel of a boot, which had been previously used on the toe, was not subject-matter.

Longbottom v. Shaw.

In *Longbottom* v. *Shaw*, (1888–1891) 5 R. P. C. 497, 6 R. P. C. 143, 510, 8 R. P. C. 333, a patent which related to reels or frames for holding pile or other fabrics was declared void by the Courts below and the House of Lords under the following circumstances. The invention claimed by the patentee consisted in forming a row of hooks upon a foundation piece of metal, either by stamping the hooks out of the metal, or by soldering the hooks on to the metal in a groove and then attaching the row of hooks so formed to a reel or frame for the purpose of holding the pile. It was admitted

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that reels or frames with a row of hooks were well known at the date of the patent, and also that the idea of attaching a row of hooks to a strip of metal so that the strip of metal with the hooks could be applied when required was not new, though it had in fact never been applied to reels or frames. It was proved in evidence that the plaintiff had effected an improvement, and that the article produced by him had supplanted the old article in the market; but there was no evidence that the defects of the old article had been much felt, or had caused a demand for an improved article, or that attention had been called to the removal of those defects.

Morgan v. Windover.

In *Morgan* v. *Windover*, (1888) 5 R. P. C. 304; 7 R. P. C. 131, the Court of First Instance and the Court of Appeal upheld a patent for turning springs, which had been formerly used at the back of carriages, and inverting them and putting them to the front of carriages in such a manner as not to interfere with the fore wheels and their motion in turning the carriage. The Court thought that there was invention in selecting the proper spring to effect the desired purpose of giving horizontal motion, and in adopting it in the proper way to the carriage. The House of Lords, however, held the patent void on the ground that it was merely the application of a known article to an analogous purpose without any ingenuity, and that it was not patentable, though advantages were produced that were not produced before.

Tucker v. Kaye.

In *Tucker* v. *Kaye*, (1891) 8 R. P. C. 58, 230, the patent was for a door lock consisting of a combination with the main bolt urged forwards by a spring, a detent holding the bolt back when the door is open, but released by the projection on the striking plate in the act of closing the door. Each part of the combination was old, but in the prior locks the mechanism for moving the catch was placed at the side and the bolts projected or protruded. The Courts held that no invention was required to change the side action to a facial action, and to provide bolts which did not project or protrude; and the patent was therefore bad for want of subject-matter.

Embossed Metal Plate Co. v. Saupe.

In *Embossed Metal Plate Co.* v. *Saupe*, (1891) 8 R. P. C. 355, a patent for embossing thick metal plates by stamping them from the reverse side on to a soft indiarubber pad was declared void upon proof that, at the date of the patent, it was old to emboss thick metal sheets between non-elastic dies; also to emboss thick metal by tools upon pitch; and it was also old to emboss thin plates between engraved rollers and india-rubber.

Fairfax v. Lyons.

In *Fairfax* v. *Lyons*, (1891) 8 R. P. C. 401, a patent for mechanical means for moving targets was declared void on

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the ground that substantially similar means had been used for the same purpose before.

Wilson v. Union Oil Mills Co.

In *Wilson* v. *Union Oil Mills Co.*, (1892) 9 R. P. C. 57, the patentee sought to protect a process for bleaching and deodorising soap made from soda and "railway grease," which is dark in colour and has a bad smell, by the application of chlorine or boiling hypochlorite of soda to it. It was proved that hypochlorite of soda had been used for bleaching other kinds of soap, and that chlorine water had been used to bleach cotton-seed soap. The patent was therefore void as being for a mere analogous use.

Baker v. Kinnell.

In *Baker* v. *Kinnell*, (1892) 9 R. P. C. 441, it was held that a certain joint having been applied to hot-water coil pipes, there was no invention in making the mere analogous application of the joint to boiler tubes in which the heat was applied outside the tubes.

Nicoll v. Swears.

In *Nicoll* v. *Swears*, (1893) 10 R. P. C. 240, riding habits having been made with a burstable seam part way up, the discovery that if the burstable seam was extended further up —*i.e.*, right up to the waist—it would work very much better was held not to be subject-matter as being merely the use of a known contrivance for a known purpose.

Sudbury v. Lee.

In *Sudbury* v. *Lee*, (1894) 11 R. P. C. 58, the patentee claimed, in the manufacture of hose, half-hose, and socks, the addition, during the process of manufacture, of one or more widenings to the upper portion of the backs of the heels thereof, so as to make the said heels conform more closely to the shape or contour of the heel of the human foot. The Court held that widening, being an old process, and an obvious method of shaping the upper parts of the heels of hose, although it had never been so employed before the date of the patent, the invention, though useful, was not subject-matter, and the action was dismissed.

Rose's Patents Co. v. Braby.

In *Rose's Patents Co.* v. *Braby*, (1894) 11 R. P. C. 198, a patent for a portable oil spray lamp for use in large public works where the aid of a powerful light is required, which claimed the application of known mechanical principles to the creation of pressure on the surface of water (which had been previously used for the purpose of creating pressure on the surface of oil) for the purpose of neutralising a back-pressure, was held bad on the ground that there was no patentable subject-matter. It was further held that the system of a continuous current being known, there was no merit in producing it from steam and not from oil, nor in applying a current of steam to produce an oil spray.

Singer v. Rudge Cycle Co.

In *Singer* v. *Rudge Cycle Co.*, (1894) 11 R. P. C. 463, the mere application of an old locking device to the front wheel of a

bicycle for the purpose of locking the steering gear when the bicycle was at rest was held not to be subject-matter in face of the fact that the same locking device had been used formerly for the purpose of locking the steering gear when the bicycle was being ridden.

New Uses of Old Appliances.

Cases in which patents for new uses were held bad.

In *Shaw* v. *Barton*, (1895) 12 R. P. C. 282, the patentee claimed wire rings for use in securing elastic tyres on bicycles and other wheels in which the joints were made by inserting the two ends of the wire into a longitudinal split-tube and then introducing solder along the split. Joints of the same kind had been used in ordinary wire work for lamps, hats, and also for centrifugal machines revolving at the rate of 1000 times a minute. The Court held that, though the patentee had made an improvement on the joints previously used for bicycle wheels, there was not sufficient invention to support a patent for the analogous application of such joints to bicycle wheels.

Shaw *v.* Barton.

In *Rickmann* v. *Thierry*, (1896) 14 R. P. C. 105, the coating of an eyelet for boots with celluloid and so producing an eyelet which was very useful and largely adopted, was held by the House of Lords, though not unanimously and differing from both Courts below, not to be subject-matter, having regard to the fact that studs and the upper part of lacing hooks had been treated in the same way, and the patentee made no claim to any particular process, but claimed merely "any eyelet of any metal if covered with celluloid or any similar material."

Rickmann *v.* Thierry.

In *Haws* v. *Harding*, (1897) 14 R. P. C. 105, the combination of various old parts to form a watering pot possessing alleged advantages was, in the absence of any special novelty and advantage arising from the combination, held not to be subject-matter.

Haws *v.* Harding.

New uses of old appliances which are not analogous to previous ones.

The preceding cases are all illustrations of the rule that a patent cannot be obtained for a mere analogous use of a known thing. When, however, the new use produces an important effect never before produced, or develops or makes practical some new property of matter not previously known, the new use is not analogous to the former uses, and the novelty of the agent becomes immaterial, and a good patent may be granted in respect of such a use. The subject of the patent is really the new art, consisting of the production of the new effect, or the utilisation of the new property of matter, by the use of the known and old thing, and the monopoly is granted as a reward to the patentee for the invention and ingenuity which it is implied he has exercised in making this new application.

New Uses of Old Appliances.

There are cases in which an old and known thing is used to produce a new result, when applied to something which is so totally different to anything to which it was previously applied that there is an obvious invention in making the application, *e.g.*, though it was known that macaroni pipe could be made by spinning tough dough into a pipe, an invention of a method of taking red-hot iron and spinning that into pipes in the same manner, might be a subject-matter of a patent.(*m*)

A patent for making salicylic acid by the alleged application of a known process was declared valid, when it appeared that no one before the patentee had ever practically or theoretically taught the world how to make, out of such abundant and cheap materials as soda, carbolic acid, carbonic acid gas, and hydrochloric acid, the rare and expensive thing, salicylic acid; no one had ever taught the world the simple and chemical truth that all that was required to effect this, was to make the carbonate of soda perfectly anhydrous and perfectly desiccated.(*n*)

Applications of newly discovered qualities of natural or artificial products.

When unknown qualities possessed by a natural or artificial product are discovered, and, from the result of experiments, applied to useful purposes, such application is the proper subject-matter of letters patent.(*o*)

Mere advantage in a new use is not sufficient to support a patent.

It should be carefully borne in mind that in order to support a patent for a new use of a known thing there must be evidence that some invention was required to make the analogous application; and it is not sufficient to point out that advantages are obtained which were never before produced.(*p*)

In this connection, Lord *Watson*, in supporting a motion in the House of Lords that the judgment of the Court of Appeal in *Morgan* v. *Windover* (*q*) should be reversed, referred to the decision of the House in *American Braided Wire Company* v. *Thompson* (*r*) in the following terms: "The learned Judges do not appear to me to have sufficiently considered the principle enunciated by Lord *Westbury*, and accepted by this House in *Harwood* v. *Great Northern Railway Company*, to the effect that there cannot be a patent 'for a well-known mechanical contrivance merely when it is applied in a manner and to a purpose which is not quite the same, but is analogous to, the manner or the purpose in or to which it has hitherto been notoriously

(*m*) See Bamlett *v.* Picksley, (1875) Griff. P. C. 40, 42.

(*n*) Von Heyden *v.* Neustadt, (1880) L. R. 14 Ch. D. 230; 50 L. J. Ch. 126.

(*o*) See pp. 50-51 *ante*.

(*p*) See Cole *v.* Saqui, (1888) 5 R. P. C. 489; Blakey *v.* Latham, (1889) 6 R. P. C. 29; Morgan *v.* Windover, 7 P. O. R. 131.

(*q*) (1890) 7 R. P. C. 131.

(*r*) (1889) 6 R. P. C. 518.

applied.' Your Lordships had recent occasion to consider that principle in *Thompson* v. *American Braided Wire Company*.(s) In that case, although your Lordships were not agreed in the result, there was no difference of opinion as to the soundness of the rule which formed the ground of the judgment in *Harwood's Case*. The majority, of whom I happened to be one, rested their judgment upon the fact, which they held to be established, that the particular forms of 'dress improvers' specified and claimed were not *mere* applications of wire braid to an analogous purpose, but that the patentee in his peculiar modes of adapting the old material to its new, though analogous, use had exercised and exhibited a degree of inventive ingenuity just sufficient to protect him from the incidence of the rule. It was for that reason only that the patent was sustained."(t)

New Uses of Old Appliances.

In the following cases, patents which, in each instance, related to some new application of an old thing or method were declared valid on the ground that there was some invention in making the new application.

Cases in which patents for new uses were held good.

In *Muntz* v. *Foster*, (1844) 2 W. P. C. 96, it appeared that at the date of the plaintiff's patent, alloys of zinc and copper were known, but it was not known that an alloy consisting of zinc and copper, in certain definite proportions, by virtue of its oxidating properties, was especially adapted for sheathing the bottoms of ships, which was the object of the invention. The novelty consisted in this, that the patentee by an experiment ascertained that a mixture of the alloy of zinc with copper, in certain definite proportions, has the effect of producing a better sheathing than the copper sheathing previously in use, by reason and by means of its oxidating just in sufficient quantities, and not too much, so as to wear away and impair the sheathing and render the vessel unsafe, but enough at the same time to keep by its wearing the bottom of the vessel clean from the impurities which before attached to it. *Tindal*, C.J., was of opinion that the subject-matter was good, and the jury by their verdict upheld the patent.

Muntz v. Foster.

In *Penn* v. *Bibby*, (1866) L. R. 1 Eq. 548; 2 Ch. 127, the patent related to the construction of hard wood bearings for the shafts of screw propellers. The complete specification described the manner of performing the invention by reference to drawings, and stated (in substance): The inner surfaces of the bearings for a propeller shaft are grooved to receive strips or fillets of wood, which project beyond the inner surfaces of the metal bearings, and allow the water to circulate in the channels

Penn v. Bibby.

(s) (1889) 6 R. P. C. 518. (t) (1890) 7 R. P. C. 136.

New Uses of Old Appliances.

Cases in which patents for new uses were held good.

Penn *v.* Bibby.

so formed. The wood is by preference *lignum vitæ*, the grain being either longitudinal with the fillets, or at right-angles to the bearing surfaces thereof. In other words, the bearings are not continuous metal surfaces, as previously constructed, but a series of wooden fillets or ridges, having water spaces between them, which support the rubbing action of the shaft. It was further stated that the several pieces of wood employed in a bearing might be inclined to the axis instead of parallel to it as shown. Also, that it was not essential that the fillets of wood should be fitted in the interior of fixed metal bearings, as a like effect would be obtained if they were attached to the shaft and revolved therewith, in metal bearings, in the manner shown in the drawings. The claim was "the employment of wood in the construction of the bearings, and brushes for the shafts of screw and submerged propellers, as herein described." The defendant objected that this was not subject-matter, but without success, because the alleged invention was merely the new application of an old and well-known thing, and alleged, as examples of old use, certain grindstones and water-wheels.

Lord *Chelmsford*, L.C., dismissed an application for a new trial, which was made on the ground (*inter alia*) that the invention was not the subject-matter of a patent, saying, "The criterion given by Lord *Campbell*, in *Brook* v. *Aston*, (1857) 8 E. & B. 485, has been frequently cited (as it was in the present argument), that a patent may be valid for the application of an old invention to a new purpose; but to make it valid there must be some novelty in the application. I cannot help thinking that there must be some inaccuracy in his Lordship's words, because, according to the proposition as he stated it, if the invention be applied to a new purpose there cannot but be some novelty in the application. In every case of this description one main consideration seems to be, whether the new application lies so much out of the track of the former use as not naturally to suggest itself to a person turning his mind to the subject, but to require some application of thought and study. Now, strictly applying this test to the present case, it appears to me impossible to say that the patented invention is merely the application of an old thing to a new purpose. The only examples of old use alleged by the defendant were in grindstones and water-wheels. No doubt these have what may be called bearings; but they are of a totally different character, and for a totally different object from the bearings patented. It is difficult to believe that bearings of this description could ever have suggested the application of wood to bearings of screw propellers in the way described in the patent. It is, to my mind, not merely a different application, but something in itself

essentially different. It has been found that, in the mode of constructing screw propellers by making metal work upon metal they soon wore out, and occasioned a violent, irregular motion on the vessel. Mr. *Penn* devised the plan of placing fillets of wood upon the inner surface of the bearings, so as to prevent the shaft coming into contact with the metal of the bearings, and so as to admit of the water flowing freely between the shaft and the inner surfaces of the metal bearings, thereby keeping the wood constantly lubricated. The success of this invention has been proved in a remarkable manner. It would be an extraordinary fact if an invention of this kind, so long wanted, and of such great utility, should have been lying in everybody's way who knew anything of the construction of water-wheels or grindstones, and yet should never have been discovered."

New Uses of Old Appliances.

Cases in which patents for new uses were held good.

In *Steiner* v. *Heald*, (1851) 6 Exch. 620; 20 L. T. Ex. 410; 17 Jur. 875, it appeared that, prior to the plaintiff's patent, a dye called *garancine* had been extracted by a certain process from *fresh* madder. The plaintiff found that it could be extracted by the same process from "*spent*" madder—*i.e.*, madder which had been used in dyeing, and which up to the date of the plaintiff's patent had always been regarded as a waste product. The defendant pleaded that this was no manner of new manufacture, and at the trial the Judge directed the jury to find for the defendant, thereby treating the conclusion to be derived from the evidence as one of law. But the Court of Exchequer granted a new trial, being of opinion that it was a question of fact whether *fresh* madder and *spent* madder were so much alike chemically as to be practically the same thing. And if they were not the same thing, then it might require invention to make the application of the old process to the new substance.

Steiner *v.* Heald.

In *Newton* v. *Vaucher*, (1851) 6 Exch. 865; 21 L. T. 305, the defendant was the owner of a patent for an improvement in packing hydraulic and other machines by means of a lining of soft metal, the effect of which was to make certain parts of the machine air and fluid tight. The plaintiff discovered that soft metal had the effect of diminishing friction, and of preventing the evolution of heat, when applied to the surfaces in contact of machines in rapid motion, and subject to pressure, and obtained a patent of later date than the defendants, whereby he claimed as his invention the making or constructing the boxes within which the journals or axles of machinery are to move, by providing them with rims or fillets along their edges, &c., and the lining such boxes with soft metal. The Court held that the plaintiff's application of the soft metal differed essentially from

Newton *v.* Vaucher.

New Uses of Old Appliances.

Cases in which patents for new uses were held good.

Reynolds *v.* Amos.

that of the defendant, and that the plaintiff's patent was valid.

In *Reynolds* v. *Amos*, (1886) 3 R. P. C. 215, the patent was for "improved appliances to be used in the manufacture of ensilage," and the invention and value of the process consisted in obtaining the requisite pressure with heaps of ensilage by means of chains furnished with a peg contrivance for retaining the pressure. Before the plaintiff's patent nobody had ever proposed to deal with fodder in the way he did, and his process enabled him to sell for 7*s.* what the defendant had to charge £3 10*s.* for. Though the use of chains was sufficiently obvious, *Bacon*, V.C., held the patent a good one, but he did not in his judgment refer to the fact that the use to which the chain was applied was not one so analogous to the old uses, and self-evident, as not to call for a considerable amount of invention, and he seems to have considered that there was a new combination.

American Braided Wire Co. *v.* Thompson.

In *American Braided Wire Co.* v. *Thompson*, (1887–1889) 4 R. P. C. 316; 5 R. P. C. 113; 6 R. P. C. 518; see 86 *ante*, a patent for "improvements in bustles or dress-improvers" was declared void by the Court of First Instance, but the decision was reversed by the Court of Appeal, and a majority of the House of Lords saw no reason for dissenting from the decision of the Court of Appeal, which was accordingly upheld. The invention consisted substantially in the application of tubular sections of braided hard wire to bustles. A specification was produced which specified certain applications of braided wire to satchel-handles and other articles, and mentioned that the material might be applied to bustles. On the hearing of the appeal fresh evidence was adduced as to the state of public knowledge at the date of the patent, from which it appeared that the application of braided hard wire to cushions and pillows had been specified, and that it was known that hard wire could be braided in the same manner as soft wire—*i.e.*, in a tubular form on a core—but that there had not been any use of tubular sections of braided hard wire within the realm. The majority of the House of Lords held that the invention was not the mere application of a known thing to an analogous use, but that sufficient ingenuity to support the patent was shown by the patentee's combination in the adoption of tubular wire braids (though a known elastic material) and their application in substitution for other known elastic materials in making bustles, the result obtained being a complete article, effective and capable of being manufactured and sold cheaply.

Pirrie *v.* York Street Flax Spinning Co.

In *Pirrie* v. *York Street Flax Spinning Co.*, (1893) 10 R. P. C. 34; 11 R. P. C. 429, it appeared that paper tubes had been

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used in the *dry* spinning of cotton and other yarns, and that the patentee had adapted paper tubes to the *wet* spinning of flax and other yarns. The novelty and real invention was the combination of the paper tube with a wooden pivot, bobbin, or socket, serving as a support for the tubes during the process of winding, which would otherwise lose its shape and become useless from the moisture of the yarn, and adapting the paper tubes, previously used only in the *dry* spinning of cotton and such yarns to the *wet* spinning of flax. Two useful results were thus achieved: (1) Greater adhesiveness of the yarn to the tube when wound; (2) Superior cheapness—and the validity of the patent was upheld.

Adamant Stone and Paving Co. v. Corporation of Liverpool.

In *Adamant Stone and Paving Co.* v. *Corporation of Liverpool*, (1897) 14 R. P. C. 21, it appeared that the patentee had, by the selection of a known form of filter press from amongst others of a less suitable kind and by its application to the purpose of moulding cement slip, produced from cement a stone or stone-like substance, which was thus produced in a quicker and more economical way than any known before, and being cheap could be used as a paving material and was of great commercial importance. The patent for the process was under these circumstances upheld.

CHAPTER III.

NOVELTY.

Novelty at Common Law.

Novelty an essential at Common Law.

It is absolutely essential that every invention capable of sustaining a grant of letters patent must be new at the time the grant is made. The novelty of the invention is, in fact, in every case in which a patent is in practice granted part of the consideration in exchange for which the Crown,(*a*) acting on behalf of,(*b*) and for the benefit of, the public,(*c*) gives the monopoly conferred by the grant.

The Sovereign has no prerogative extending to anything injurious to her subjects,(*d*) nor can she by her patent do wrong,(*e*) or enable another to do so.(*f*)

Primâ facie right of public.

Everybody has alike a *primâ facie* right to make experiments, and to use in any manner he pleases any invention which is the product of his skill or good fortune. The grant of letters patent vesting in one individual the exclusive privilege of making, using, exercising and vending an invention, curtails this *primâ facie* right of the public, for it excludes the rest of the public from using that invention, even though they should, quite independently of the information contained in the patentee's specification, make it for themselves. It is, therefore, only equitable that the public should receive some consideration in return for the curtailment of their rights which the patent thus effects.

Consideration fails if invention is not new.

The only consideration which the patentee gives to the public is a knowledge of the invention, which they are at liberty to use freely after the expiration of the term for which the patent is granted. If the invention were not new, it is quite evident the patentee would not have given to the public any consideration at all, for the invention being public

(*a*) Harmar *v.* Playne, (1807) 14 Ves. 131, 136.
(*b*) Harmar *v.* Playne, (1807) 14 Ves. 132.
(*c*) Bac. Abr. tit. Prerog. ; Year Book, 40 Edw. III. fol. 18.
(*d*) Finch, 84.
(*e*) 1 Co. R. 44^{b}, 45^{b} ; Noy, R. 182 ; 3 Shep. Abr. 48. (*f*) Godb. 254.

Novelty at Common Law.

property at the date of the patent, the public would be in the same position after its expiration that they were in before it was granted. The patent would, therefore, be void for want of consideration. A patent may be considered as, in effect, a bargain made by the Crown on behalf of the public (*g*) on the one hand, and the patentee on the other, and, as in the case of other contracts not made by deed, it would upon this view be void if there were no consideration for the grant.(*h*) In the language of Lord *Loughborough*, L.C., "A bargain without consideration is a contradiction in terms and cannot exist."(*i*)

Common Law authorities.

The Common Law, as expressed in the cases decided before the passing of the Statute of Monopolies, required that an invention should possess the element of novelty in order to render a patent for it valid.(*k*)

Limit of Crown's authority to grant patents for inventions.

The power retained to the Crown by the Statute of Monopolies, of granting patents for inventions, is limited to granting patents and grants of privilege "of the sole working or

(*g*) Harmar *v.* Playne, (1807) 14 Ves. 132.
(*h*) Rann *v.* Hughes, (1797) 7 T. R. 350 *n.*; Anson on Contracts, 68.
(*i*) Myddelton *v.* Lord Kenyon, (1794) 2 Ves. Jr. 408.
(*k*) It was laid down in Darcy *v.* Allin, (1602) Noy, R. 178; 1 W. P. C. 6, decided in 1602, that: "where any man, by his own charge and industry, or by his own wit or invention, doth bring any *new* trade into the realm, or any engine tending to the furtherance of a trade *that never was used before*, and that for the good of the realm, that in such cases the King may grant to him a monopoly patent, for some reasonable time, until the subjects may learn the same, *in consideration of the good that he doth bring by his invention to the Commonwealth*, otherwise not."

In Hastings' patent (Noy, R. 182; 1 W. P. C. 6), it appeared that a patent was granted to Mr. Hastings in consideration that he brought in the skill of making frisadoes, as they were made in Haarlem and Amsterdam, beyond the seas, *being not used in England*, and on action brought for the infringement of the patent it was upset on the ground that such frisadoes as Mr. Hastings' were made in England before the date of the patent.

In Humphrey's patent (Noy, R. 183; 1 W. P. C. 7), the Court of Exchequer Chamber held that, if the sieve or instrument for melting lead which formed the subject of the patent were used in this country before, the patentee should not have the sole use thereof.

In Moore's Reports (p. 672) it is laid down that the King cannot grant a patent to restrain people in their usual trades and occupations; and that no occupation can be prohibited or put in monopoly, *but only such thing as is newly invented* by the skill of man.

In The Clothworkers of Ipswich Case, (1615) Godb. R. 252; 1 Roll R. 4, it was decided that: "If a man hath brought in a new manufacture, and a *new* trade within the kingdom in peril of his life, and consumption of his estate or stock, or if a man hath made a *new* discovery of anything; in such cases the King of his grace and favour in recompence of his costs and travail, may grant by charter unto him that he only shall use such a trade or traffique for a certain time, *because at the first the people of the kingdom are ignorant, and have not the knowledge or skill to use it;* but when the patent is expired the King cannot make a new grant thereof. For when the trade is become common, and others have been bound apprentices in the same trade, there is no reason that such should be forbidden to use it." And again: "Of a *new invention* the King can grant a patent;" but "*where there is no invention* the King cannot by his patent hinder any trade."

Novelty at Common Law.

making of any manner of *new* manufacture within this realm, to *the true and first inventor and inventors* of such manufacture, *which others at the time of making such letters patents and grants shall not use.*"(*l*) Thus, it appears that, in virtue of this statute, as well as of the Common Law, novelty is a requisite of a valid patent, for the section concludes with the statement that the grants thereby allowed "shall be of such force as they should be if this Act had never been made and of none other."

Novelty requisite by statute as well as Common Law.

The section provides that (1) the subject of the grant must be a manufacture which is *new* within this realm; (2) the grantee must be the true and *first* inventor; and (3) the subject of the grant must be a *new* manufacture which others shall not use. All these three conditions necessarily imply the element of novelty.

We have seen(*m*) what is the meaning of the words "true and first inventor," and that they do not imply that the grantee must necessarily be the man who actually first made the discovery, but that, if he be the man who first published the invention within this realm, he is deemed to be the true and first inventor within the legal meaning of the term.

Prior use by others renders patent bad.

Although the grantee be the true and first inventor, the patent will be void if he has allowed the invention to be used by others before obtaining the grant, and there is a "sound distinction in the abstract" between the two issues raised by a denial that the patentee is the true and first inventor and that the invention has not been used before.(*n*) Moreover, in an action for the infringement of the patent, each ought to be pleaded separately if either party desires to rely on both.(*o*)

The grantee may, in fact, have made the discovery himself without assistance from any source other than his own ingenuity. Yet, if it turn out that the invention was the property of the public before, although unknown to the patentee, his patent will be void, for it is not because a patentee does not know what was in existence before that he can get a monopoly; otherwise, as a learned Judge once said, a patentee would get a patent for exclusive ignorance instead of exclusive knowledge.(*p*)

It should be borne in mind that not every novelty which is

(*l*) 21 Jac. I. c. 3, s. 6.
(*m*) pp. 5–18 *ante*.
(*n*) The Household Co. *v.* Neilson, (1843) 1 W. P. C. 689; Cornish *v.* Keene. (1835) 1 W. P. C. 507.
(*o*) *Ibid.*; see chap. xiii *post*.
(*p*) Young *v.* Rosenthal, (1884) 1 R. P. C. 32.

useful can be the subject-matter of a patent.(*q*) A thing is not patentable merely because it is new and useful and has not been made before; to be patentable the novelty must show invention.(*r*)

Public Knowledge.

Public Knowledge.

If the public once become possessed of an invention, by any means whatever, no subsequent patent for it can be granted, either to the true and first inventor himself or to any other person. In such circumstances the public cannot be deprived of the right to use the invention, and a patentee could not give to the public any consideration for the grant, as the public already possess everything he could give. It is not necessary that the invention should be used by the public as well as known to the public; if the invention and the mode in which it can be used has been made known to the public, it is public property, and any subsequent patent in respect of it would be invalid. (*s*)

Meaning of public knowledge.

If some of the public, therefore, not under terms of secrecy or confidence to the inventor, become, at any time before the date of the patent, acquainted with the invention, this will be quite sufficient to render the grant void; and the question in an action upon a patent, the validity of which is put in issue on the ground of previous publication, is: "Is it the fair conclusion from the evidence that some English people, under no obligation of secrecy (*t*) arising from confidence or good faith towards the patentee, knew of the invention at the date when the plaintiff took out his patent." (*u*)

Jessel, M.R., in *Plimpton* v. *Malcolmson*, (*x*) discussing the question, What is meant by a thing being known to the public in England, said:—

Per Jessel, M.R.

> "Here, again, we must have recourse to authority, and also must consider what the principle is that is to be deduced from the authorities. When you say a thing is known to the public, and part of common knowledge, of course you do not mean that

(*q*) See p. 27 *ante*; Ralston *v.* Smith, (1866) 11 H. L. C. 223; Brook *v.* Ashton, (1857) 8 Ell. & B. 472; 27 L. J. Q. B. 145; 28 L. J. Q. B. 175; Longbottom *v.* Shaw, (1888) 8 R. P. C. 333; 6 R. P. C. 143; 5 R. P. C. 497; Rickmann *v.* Thierry, (1896) 14 R. P. C. 185.

(*r*) See p. 26 *ante*; Thierry *v.* Rickmann. (1895) 12 R. P. C. 548.

(*s*) Patterson *v.* The Gas Light and Coke Co., (1875) L. R. 3 App. Cas. 239; Humpherson *v.* Syer, (1887) 4 R. P. C. 414.

(*t*) p. 123 *post*.

(*u*) Per Fry, L.J.: Humpherson *v.* Syer, (1887) 4 R. P. C. 407, 414; Tickelpenny *v.* Army and Navy Co-operative Society, (1888) 5 R. P. C. 405.

(*x*) (1876) L. R. 3 Ch. D. 556.

Public Knowledge.

Meaning of public knowledge.

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every individual member of the public knows it. That would be absurd. What is meant is, that if it is a manufacture connected with a particular trade the people in the trade shall know something about it; if it is a thing connected with a chemical invention people conversant with chemistry shall know something about it. And it need not go so far as that. You need not show that the bulk or even a large number of those people know it. If a sufficient number know it or if the communication is such that a sufficient number may be presumed or assumed to know it, that will do. Now, how are they to know it? They are to know it by being told of it, or informed of it in some way. You may show that they know it by showing that the trade had commonly used it. That is the best evidence you can have. You may show the thing was known because it was used and brought into practice, which is a case I have not now to consider. But you may show that they knew it in another way—that it was published or made known to the public. I use the word 'published' in that sense. How made known to the public? It has been held that if it is in a specification, certainly in a modern specification, which has been enrolled in the Patent Office, and not published besides, that will do. And it has also been held that, as a common rule, if the description has been printed in *England*, and published in *England*, in a book which circulates in *England*, that will do. But, after all, it is a question of fact. The Judge must decide, from the evidence brought before him, whether it has, in fact, been sufficiently published to come within the definition of being made known within the realm."

Test of novelty.

It has been shown (*y*) that an invention may be perfectly good subject-matter for a patent, though some or all of the parts of which it consists may be old, if the entire combination is a new manufacture. The proper test as to the novelty of the invention is whether the subject-matter claimed *as a whole is new*, though it may consist of old parts, provided the patentee does not claim them, but only the combination of the old with the new. (*z*)

Per Lord Hatherley, L.C.

Lord *Hatherley*, L.C., in *Cannington* v. *Nuttall*, (*a*) stated the test of novelty in the following words:

> "Few things come to be known now in the shape of new principles, but the object of an invention generally is the applying of well-known principles to the achievement of a

(*y*) p. 62 *ante*.

(*z*) Newton *v.* The Grand Junction Railway Co., (1846) 5 Exch. 331; 20 L. J.Ex. 427 n.; Cannington *v.* Nuttall, (1871) L. R. 5 H. L. 205; 40 L. J. Ch. 739.

(*a*) (1871) L. R. 5 H. L. 216.

particular result not yet obtained, and I take it that the test of novelty is this: Is the product which is the result of an apparatus for which the inventor claims letters patent effectively obtained by means of your new apparatus, whereas it had never before been effectively obtained by any of the separate portions of the apparatus which you have combined into one valuable whole for the purpose of effecting the object you have in view?"

Public Knowledge.

Test of novelty.

Lord *Westbury*, L.C., in *Hill* v. *Evans*,(*b*) referring to the principle upon which prior publication will vitiate a subsequent patent for an invention, said:—

Per Lord Westbury, L.C.

> "The invention must be shown to have been before made known. Whatever, therefore, is essential to the invention must be read out of the prior publication. If specific details are necessary for the practical working and real utility of the alleged invention, they must be found substantially in the prior publication. Apparent generality, or a proposition not true to its full extent, will not prejudice a subsequent statement which is limited, accurate, and gives a specific rule of practical application. The reason is manifest, because much further information, and therefore much further discovery, are required before the real truth can be extricated and embodied in a form to serve the uses of mankind. It is the difference between the ore and the refined and pure metal which is extracted from it. . . . . Upon principle, therefore, I conclude that the prior knowledge of an invention to avoid a patent must be a knowledge equal to that required to be given by a patent—viz., such a knowledge as will enable the public to perceive the very discovery and to carry the invention into practical use."

The mere statement of the desirability of achieving an unattained result does not invalidate a patent for an invention which actually achieves that result. (*c*)

Statement that a result is desirable is no anticipation.

Also an alleged anticipation which is merely a scientific curiosity of no practical value for the purpose for which the patentee proves his invention to be practically valuable will not destroy the subsequent patent, *e.g.*, the unguent *œsypus* described by *Dioscorides* was no publication of Lanolin, which formed the subject-matter of a valid and valuable patent.(*d*)

Mere scientific curiosity is no anticipation.

A combination which is, in fact, capable of yielding a result

(*b*) (1862) 31 L. J. Ch. 457.

(*c*) Thomson *v.* Batty,(1889)6 R.P.C. 84.

(*d*) Benno Jaffé und Darmstaedter Lanolin Fabrik *v.* Richardson, (1893) 11 R. P. C. 93, 261; see also Young *v.* Fernie. (1863) 4 Griff. 577, 611.

Want of Novelty in Part.

Combination capable of yielding unobserved result does not anticipate invention which utilises it.

which has never been observed and appreciated by any person using the combination is not a publication which will vitiate the patent of a man who perceives the result, points it out and utilises it. (*e*) Thus, *Hopkinson's* patent for the three-wire system for the economic distribution of electricity was not anticipated by a previous and similar arrangement of three wires, which had only been used for the purpose of working lamps in "wings," as was evident from the fact that the return cable was of thick section. This did not anticipate the patentee's discovery that the three-wire system could be used to effect a great saving, by making the centre and return cable of thin cross section, and using it according to the patentee's plan shown in the specification. (*f*) Again, when the invention of the patentee is a combination which is designed for a particular class of purposes, and is the first combination actually applied with success to carry out such purposes, then prior similar combinations, not identically the same, are not considered publications of the combination which actually does accomplish the patentee's object. The Courts consider that in such a case invention was requisite to make the necessary alterations from the old combinations to enable them to be applied to the object the patentee had in view.(*g*)

A patent for an apparatus, which is suitable for a particular and novel purpose—*e.g.*, disinfecting by steam at high pressure—for which no previous apparatus is suited, and is also stated in the specification to be suited for a purpose for which a previous and very similar apparatus is suited, is not vitiated by that previous apparatus if the claim is confined to the use of the new apparatus for the new purpose.(*h*)

Want of Novelty in Part.

Consideration is entire.

The consideration upon the strength of which a patent is granted is in law said to be "entire," that is, a failure of part of the consideration will have the same effect on the validity of the patent as the failure of the whole consideration would have. Hence it follows that, if the patent includes more than one head of invention, the want of novelty in any one of those heads will invalidate the whole on the ground of failure of part

(*e*) Hopkinson *v.* St. James's and Pall Mall Electric Light Co., (1893) 10 R. P. C. 46. 60.

(*f*) *Ibid.*

(*g*) See Chadburn *v.* Mechan, (1895) 12 R. P. C. 120. 134.

(*h*) Lyon *v.* Goddard, (1893) 10 R. P. C. 121, 334; 11 R. P. C. 354, at p. 362.

of the consideration.(*i*) And that, if, in the case of a single invention, any material part turns out to be old the patent will be rendered entirely void.(*k*)

Want of Novelty in Part.

In either of the above cases the patent would also be void on the ground of false suggestion, for before the grant was made the patentee in his application must have declared himself to be in possession of an invention of which he, or, in the case of a joint application, one of the applicants, was the true and first inventor, and which was not in use by any other person or persons.(*l*) Moreover, the patent contains an express condition avoiding it in the event of the representation as to true and first inventor, and prior use, turning out to be untrue.(*m*) Although the Statute of Monopolies invalidates a patent in the event of there being no novelty in the invention, and consequently the patent would be void so far as related to that which was old, yet the principle on which the patent has been held to be void altogether in the event of a material part turning out to be old is that "the consideration for the grant is the novelty of all, and, the consideration failing, or, in other words, the Crown having been deceived in its grant, the patent is void, and no action maintainable upon it."(*n*)

Consideration is entire.

For example, in *Brunton* v. *Hawkes* (*o*) the patent was for an invention of improvements in the manufacture of ships' anchors, windlasses, and chain cables. At the trial it was proved that the mode of manufacturing anchors described in the plaintiff's specification had never been applied before to ships' anchors. But it had been applied to the adze anchor and the mushroom anchor. These anchors are used only for the purpose of mooring floating lights or vessels intended to be stationary; and are never taken on board. The jury found a verdict for the plaintiff, and the defendant obtained a rule *nisi* for a new trial, which the Court made *absolute*. In delivering judgment, *Abbott*, C.J., said:—

(*i*) Turner *v.* Winter, (1787) 1 W. P. C. 77; 1 T. R. 602: Bloxam *v.* Elsee, (1825) 6 B. & C. 178; 1 Carp. 444; Morgan *v.* Seaward, (1837) 1 W. P. C. 196; Kay *v.* Marshall, (1837) 2 W. P. C. 71; Cropper *v.* Smith, (1884) 1 R. P. C. 87; 2 P. O. R. 61; Fairfax *v.* Lyons, (1891) 8 R. P. C. 401.

(*k*) Crossley *v.* Beverley, (1829) 1 W. P. C. 106; Hill *v.* Thompson (1817) 8 Taunt. 382; 2 B. Moore, 433; Morgan *v.* Seaward, (1837) 1 W. P. C. 192; Manton *v.* Parker, (1815) Dav. P. C. 327; 1 W. P. C. 192 n.; Bloxam *v.* Elsee, (1825) 6 B. & C. 169; 1 Carp. 444; Roberts *v.* Heywood, (1879) 27 W. R. 454; Gibson *v.* Brand, (1842) 1 W. P. C. 636; Hill *v.* Tombs, (1881) Engineer, 51, p. 274. Under the Act of 1883 patents do not usually comprise more than one invention. See pp. 214 and 296 *post*. (*l*) p. 292 *post*.

(*m*) See Form of letters patent in Appendix.

(*n*) Per Parke, B., in Morgan *v.* Seaward, (1837) 2 M. & W. 544; Mur. & H. 55; 1 Jur. 527; 1 W. P. C. 196.

(*o*) (1820) 4 B. & Ald. 541.

Want of Novelty in Part.

Consideration is entire.

Judgment of Abbott, C.J., in Brunton v. Hawkes.

"I think that so much of the plaintiff's invention as respects the anchor is not new, and that the whole patent is therefore void. The mode of joining the shank to the flukes of the anchor is to put the end of the shank, which is in the form of a solid cylinder, through the hollow and conical aperture, and it is then made to fill up the hollow and to unite itself with it. Now that is precisely the mode by which the shank of the mushroom anchor is united to the mushroom top, by which the shank of the adze anchor is united to its other parts. It is indeed the mode by which the different parts of the common hammer and the pickaxe also are united together. Now a patent for a machine each part of which was in use before, but in which the combination of the different parts is new, and a new result produced, is good, because there is a novelty in the combination. But here the case is perfectly different: formerly three pieces were united together; the plaintiff only unites two, and, *if the union of those two had been effected in a mode unknown before, as applied in any degree to similar purposes, I should have thought it a good ground for a patent;* but unfortunately the mode was well known and long practised. I think that a man cannot be entitled to a patent for uniting two things instead of three, *when that union is effected in a mode well known and long practised for a similar purpose.* It seems to me, therefore, that there is no novelty in that part of the patent as affects the anchor, and if the patent had been taken out for that alone I should have had no hesitation in declaring it bad. Then, if there be no novelty in that part of the patent, can the plaintiff sustain his patent for the other part as to the mooring chain? As at present advised, I am inclined to think that the combination of a link of this particular form with the stay of the form which he uses, although the form of the link might have been known before, is so far new and beneficial as to sustain a patent for that part of the invention, if the patent had been taken out for that alone. But inasmuch as one of the things is not new, the question arises whether any part can be sustained. It is quite clear that a patent granted by the Crown cannot extend beyond the consideration of the patent. The King could not, in consideration of a new invention in one article, grant a patent for that article and another. The question then is, whether, if the party applies for a patent, reciting that he has discovered improvements in three things, and obtains a patent for these three things, and in the result it turns out that there is no novelty in one of them, he can sustain his patent. It appears to me that the case of *Hill* v. *Thompson*, which underwent great consideration in the Common Pleas, is decisive upon that question. In that case the patent

was granted to the plaintiff for the invention of certain improvements in the smelting and working of iron; and the Court of Common Pleas appears to have considered that the improvement introduced by the plaintiff into what may properly be called the smelting of iron was the obtaining iron from that cinder and slag which before had been thrown away as refuse, and that may be considered as new. It appeared, however, that the plaintiff claimed further the merit of having discovered that the application of lime in certain stages of the process would cure a disease common to all iron, not merely to that which he was to produce, but to iron originally manufactured from the fresh ore. Now it turned out that that was not a discovery, for the application of lime to iron made from the cinder, originally used in making ore, was known and practised before. No two things can be more distinct in their nature than the obtaining of iron from a material from which it was impracticable to obtain it before, and the cure or prevention of a disease to which all iron was subjected. In that case, however, the Court of Common Pleas held that, admitting there was novelty in the one, yet as there was no novelty in the other, the patent was wholly void. The only difference between that case and this is, that here the plaintiff, instead of saying that he has made certain improvements, states the improvements; but still he claims the merit of having invented improvements in all the three, and that they are new; and the consideration of the patent is the improvement in the three articles, and not in one; for an improvement in only one of them would render the patent bad. The consideration is the entirety of the improvement of the three; and if it turns out there is no novelty in one of the improvements the consideration fails in the whole, and the patentee is not entitled to the benefit of that other part of his invention."

Want of Novelty in Part.

Consideration is entire.

Though want of novelty in an essential part of an invention (*p*) invalidates a patent, if a specification claims an old thing for use only in connection with, and as subsidiary to, something else which is new, want of novelty in the old thing forming the basis of the subsidiary claim does not invalidate the grant.(*q*)

Claim to an old thing is not fatal if subsidiary to something new.

Thus, in *Plimpton* v. *Spiller*,(*r*) a patentee claimed first a mode of applying rollers and runners to the footstand of skates so that they might be cramped or turned so as to cause the skate to run in a curved line by the canting or tilting of the footstand; and secondly, the mode of securing the runners and making them reversible, as described. The Court of Appeal

(*p*) p. 99 *ante*. (*q*) p. 232 *post*. (*r*) (1877) L. R. 6 Ch. D. 412.

Analogous Uses. Novelty and Discovery.

held that, assuming there was nothing novel in the mode of securing the runners to the footstand, yet the want of novelty in the second claim did not invalidate the patent, because the second claim was for a subsidiary invention to be used only in connection with the principal invention.

Analogous Uses.

Prior analogous use may or may not be publication.

A perfectly valid patent may be obtained for an invention which consists in a new application of a thing which was perfectly well known before. Of course the application which is the subject of the subsequent patent must be totally distinct and novel as compared with any application previously made, and it is always a question of evidence as to whether former applications are so analogous to the one claimed by the subsequent patentee as to amount virtually to the same and so render his patent bad as claiming that which is in fact not new.(*s*) The use of a thing for one purpose is not an anticipation of a patent which claims the use of the same thing for a totally different purpose.(*t*)

Novelty and Discovery.

Distinction between novelty and discovery.

There is a great distinction between novelty and discovery; for a thing may have been discovered before, and in that sense not be new, but if the previous discovery has never been made public, or substantially used, it will not be sufficient to upset the patent of a subsequent discoverer on the ground of want of novelty.(*u*)

This will appear from a contrast of *Dollond's Case* (*x*) with *Tennant's Case*,(*y*) and *R.* v. *Arkwright*.(*z*) In *Dollond's Case* the question was, "Who was the true inventor within the meaning of the statute? *Hall* had made the discovery in his closet, but had never made it public; and, on this ground, *Dollond's* patent was confirmed. In *Tennant's Case* the great utility of the invention, which related to bleaching, on the part of persons engaged in the trade was proved in evidence. On the other hand, a bleacher near Nottingham deposed that

(*s*) pp. 71–96 *ante*.

(*t*) *Ibid.*; Westley *v.* Tolly, (1894) 11 R. P. C. 602; Mathews *v.* Parmenter, (1896) 13 R. P. C. 511.

(*u*) Hill *v.* Thompson, (1818) per Dallas, J., Holt, N. P. C. 636; 2 Moore, 429; 8 B. Taunt. 382; 1 W. P. C. 244; see also p. 121 *post*.

(*x*) (1776) 1 W. P. C. 43.

(*y*) (1795) 1 W. P. C. 125 n.

(*z*) (1785) 1 W. P. C. 71.

he had used the same means of preparing bleaching liquor for six years previous to the date of the patent, but that he had kept his method a secret from all but his two partners and his two servants concerned in preparing it. In addition to this, different conversations were proved to have passed between *Tennant* and a chemist of Glasgow, before the patent, and in these conversations the chemist had suggested to *Tennant* the basis of the improvement in question. Under these circumstances, *Tennant* was deemed not to be the inventor, and a nonsuit was obtained. In the case of *Arkwright's* patent, with respect to a particular roller forming part of the machine, the evidence was that Arkwright had been told of it by one *Kay*; that, being satisfied of its value, he took *Kay* as a servant, kept him for two years, employed him to make models, and afterwards claimed it as his own invention, and made it the foundation of a patent. The same fact was proved as to a crank, which had been discovered by a person of the name of *Hargreave*, which also had been adopted by *Arkwright*. And although it had been made use of to some extent before by a few, a general ignorance with respect to it was proved by a great number of persons in the trade. *Buller*, J., was of opinion that, though it might be perfectly true—that is, the general ignorance as to these improvements—it signified nothing; the fact that the witnesses on the part of the defendant had not heard of those improvements was no contradiction of previous knowledge and previous use by others.

Anticipation and Publication. Equivalents.

Anticipation and Publication.

It must also be noticed that there is a great distinction between anticipation and publication. An invention has been anticipated when it has been previously made; and it has been published when it has been previously made and disclosed. In the case of *Dollond's* patent,(*a*) *Hall's* discovery was an anticipation of *Dollond's*, but not a publication of it, whereas in *Tennant's Case*, and *R.* v. *Arkwright*,(*b*) the subject of the patent, in each, had not only been anticipated, but had also been published before.

Distinction between anticipation and publication.

Equivalents.

If an invention differs only from a previous invention in that for one part in the former invention there is substituted an

Prior use of equivalents may or may not be publication.

(*a*) p. 102 *ante*. (*b*) p. 102 *ante*.

Rediscovery of a Lost Art.

equivalent, though somewhat different part in the latter, the mere substitution of the equivalent will not be sufficient to sustain a patent for the second invention, if the analogous parts were known at the date of the first patent to be equivalents ;(*c*) but any person may obtain a patent, valid as regards novelty, for the use of equivalents, which were not taken to be equivalents at the time the patent for the former discovery was granted.(*d*)

Rediscovery of a Lost Art.

Is the rediscovery of a lost art a patentable novelty?

It may be questioned whether if an invention had been formerly used and abandoned many years ago, and the whole thing had been lost sight of, such a state of facts would prevent, on the ground of want of novelty, a person who subsequently rediscovered the invention from obtaining a valid patent in respect of it.

There does not appear to be any judicial decision one way or the other on this point, which was noticed by Lord *Lyndhurst*, L.C., in *The Househill Co.* v. *Neilson*.(*e*) The House of Lords in that case purposely refrained from expressing an opinion on the question, which did not then call for decision. It would appear from an application of the principles in this chapter discussed, that if the invention has ever been the subject of a patent, or has been described in some written document, however long ago, which can be produced, the fact that the invention has been lost sight of, and not been used by the public for a long time, will not enable a later discoverer to obtain a patent for it, as he would clearly not be the true and first inventor.(*f*) A state of facts might, however, be supposed in which the case would be different. For instance,(*g*) an encaustic tile or a particular kind of stained glass might be perfectly well known to exist at the present day, but the mode of producing the tile, or the particular kind of glass, might be a long-lost art. In such a case, if an inventor newly discovers the art of producing the encaustic tile, or the particular kind of glass, there does not appear to be any rule of law depriving the Crown of the right to grant a patent securing to the inventor the monopoly of the art which he has newly discovered. For it must be observed that the

(*c*) Heath *v.* Unwin, (1854) 5 H. L. Cas. 505 ; 2 W. P. C. 279 ; see p. 64 *ante*.
(*d*) Heath *v.* Unwin, (1854) 5 H. L. Cas. 505, 538 ; The Badische Anilin und Soda Fabrik *v.* Levinstein, (1885) 2 R. P. C. 90 ; see p. 63 *ante*.
(*e*) (1843) 1 W. P. C. 717.
(*f*) See p. 5 *ante*.
(*g*) 1 W. P. C. 718 n.

fact of the existence of the result which the newly discovered art produces only proves conclusively that *an art* of producing that result must have been previously known, not that *the art* which the patentee has described was ever before practised. There may be many ways of arriving at a known result, and, as has been pointed out,(*h*) each one of those ways, provided they are all different, may be the subject of a patent.(*i*) If the existing result convey at once to an observer information as to the way in which it was obtained, and that way is an exercise of the art which the patentee has described, then the previous existence of the result would make the patent void, there being no consideration given to the public. In such circumstances the patentee would only have described an invention which the public was already possessed of, as shown by the existence of the result.

Prior User.

Publication by Prior User.

It is evident that a knowledge of an invention cannot possibly be communicated to the public until the invention has been completed either by the patentee or some one else before him, and it therefore follows that any experiment made prior to the date of the patent, which resulted in failure, or only a partial success, cannot, even though published, amount to a disclosure of a perfected discovery. A machine which is useless, and a failure, is not an anticipation of a similar machine effecting the object for which the useless machine was designed, though there may be a degree of similarity in the details of the two.(*k*)

Prior unsuccessful experiment or useless machine is no publication.

Thus, a machine designed by the patentee to be used for the novel process of disinfecting by steam at high pressure, was held not to be anticipated by a very similar machine which was structurally incapable of being used with steam at high pressure.(*l*)

A mere experiment, supposed by the person making it to

(*h*) p. 54 *ante*.

(*i*) See Morgan *v.* Windover, (1888) 5 R. P. C. 306.

(*k*) Cornish *v.* Keene, (1835) 1 W. P. C. 508; Household Co. *v.* Neilson, (1843) 1 W. P. C. 673; Murray *v.* Clayton, (1872) L. R. 7 Ch. 570; 15 Eq. 115; 1 W. R. 498; 42 L. J. Ch. 191; Tangue *v.* Stott, (1865) W. N. 1886, p. 63; Jones *v.* Pearce, (1832) 1 W. P. C. 124; Stead *v.* Williams, (1843) 2 W. P. C. 135; Barlow *v.* Bayliss, (1875) 1 Griff. P. C. 44; Shaw *v.* Jones, (1889) 6 R. P. C. 336; Cannington *v.* Nuttall, (1871) L. R. 5 H. L. 205, is often quoted in support of this proposition, but there the case was decided on the ground that the two machines were not the same.

(*l*) Lyon *v.* Goddard, (1893) 10 R. P. C. 121, 334; 11 R. P. C. 354.

Prior User.

be fruitless, and abandoned because it was not brought to a complete result, will not prevent a more successful investigator, who adds the last link of improvement towards bringing it to a state of perfection, from maintaining a patent for the invention;(*m*) nor does the publication of a method of achieving a particular result vitiate a patent for achieving that result by different means involving the exercise of invention.(*n*)

Law of anticipation by experiments stated by Tindal, C.J.

Tindal, C.J., in *Cornish* v. *Keene*,(*o*) stated the law of anticipation by experiments in the following words:—

> "A man may make experiments in his own closet for the purpose of improving any art or manufacture in public use; if he makes these experiments and never communicates them to the world, and lays them by as forgotten things, another person who has made the same experiments, or has gone a little further, or is satisfied with the experiments, may take out a patent, and protect himself in the privilege of the sole making of the article for fourteen years; and it will be no answer to him to say that another person before him made the same experiments and therefore that he was not the first discoverer of it, because there may be many discoverers starting at the same time, and many rivals that may be running on the same road at the same time, and the first which comes to the Crown and takes out a patent, it not being generally known to the public, is the man who has a right to clothe himself with the authority of the patent and enjoy its benefits."

And again, the same learned Judge directed a jury that a mere experiment, or a mere course of experiments, for the purpose of producing a result, which is not brought to its completion, but begins and ends in uncertain experiments, is not such an invention as should prevent another person, who is more succesful or pursues with greater industry the chain in the line that has been laid out for him by the preceding inventor, from availing himself of it, and having the benefit of it.(*p*)

(*m*) Galloway *v.* Bleaden, (1839) 1 W. P. C. 529; Jones *v.* Pearce, (1832) 1 W. P. C. 124; Tangue *v.* Stott, (1865) W. N. 1886, p. 68; Stead *v.* Williams, (1843) 2 W. P. C. 135; Hill *v.* London Gas Light Co., (1860) 5 H. & N. 312; Otto *v.* Linford, 46 L. T. N. S. 39.

(*n*) pp. 53–55; Hill *v.* London Gas Light Co., (1861) 5 H. & N. 312; Otto *v.* Linford, (1881) 46 L. T. N. S. 39; Hullett *v.* Hague, (1831) 1 Carp. R. 501; 2 B. & A. 370; Minter *v.* Mower, (1835) 1 W. P. C. 140.

(*o*) Cornish *v.* Keene, (1835) 1 W. P. C. 508; but see chap. vii.

(*p*) Galloway *v.* Bleaden, (1839) 1 W. P. C. 525; see also Bereton *v.* Richardson, (1884) 1 R. P. C. 165; Mcseley *v.* Victoria Rubber Co., (1887) 4 R. P. C. 211; Humpherson *v.* Syer, (1887) 4 R. P. C. 184, 188; Morgan *v.* Windover, (1887) 4 R. P. C. 417; 5 R. P. C. 295; 7 R. P. C. 131; Edison *v.* Swan, (1889) 6 R. P. C. 277; Winbey *v.* Manchester Tramways Co., (1889) 6 R. P. C. 359; 7 R. P. C. 30.

Prior User.

Publication by experiment or abandoned user is a question of fact.

An invention abandoned is presumed to have been a failure.

It is a question of fact in each case whether a prior user, which is relied on as a publication of the invention claimed by a subsequent patentee, was a complete publication or only an incomplete experimental user.(*q*)

An invention abandoned must be *primâ facie* presumed not to have been completed, but to have rested in experiment and trial; but if it was completed it does not signify whether it was completely abandoned, or whether it was continued to be used down to the very date of the patent, provided that it was published.(*r*)

Illustrative cases.

The following cases illustrate this point:—

Taylor's patent.

In *Taylor's patent*, (1896) 13 R. P. C. 482, it appeared that the patentee had made certain experimental trials of the patented article (a grate) in his own house, and also had used the complete article in the presence of visitors to whom it had been explained. The Court held that though part of the use relied on to invalidate the patent was merely experimental, yet there had also been public user before the date of the patent, and so made an order for its revocation.

Jones v. Pearce.

In *Jones* v. *Pearce*, (1832) 1 W. P. C. 122, the patent called in question was for "improvements in wheels for carriages," and the defendant proved at the trial that, prior to the date of the plaintiff's patent, wheels similar to those described in the specification had been made by a Mr. *Strutt*. *Patterson*, J., directed the jury that if they were of opinion that Mr. *Strutt's* invention was an experiment, that he found it did not answer, and ceased to use it altogether, and abandoned it as useless, and nobody else followed it up, and that the plaintiff's invention, which came afterwards, was his own invention, and remedied the defects of Mr. *Strutt's* wheel, then there was no reason for saying that the plaintiff's patent was not good.

Carpenter v. Smith.

In *Carpenter* v. *Smith*, (1841) 1 W. P. C. 534, Lord *Abinger*, C.B., expressed the same thing thus: "A man is entitled to a patent for a new invention, and if his invention is new and useful he shall not be prejudiced by any other man having invented that before and not made any use of it; because the mere speculations of ingenious men, which may be fruitful of a great variety of inventions, if they are not brought into actual use, ought not to stand in the way of other men equally ingenious who may afterwards make the same inventions and apply them."

(*q*) Mathews *v.* Parmenter, (1896) 13 R. P. C. 514; Williams *v.* Gowan, (1895) 12 R. P. C. 387; Hagginmacher *v.* Watson, (1897) 14 R. P. C. 349, 631; Dutton *v.* Brierley, (1897) 14 R. P. C. 685.

(*r*) The Household Co. *v.* Neilson, (1843) 1 W. P. C. 709, 713; Galloway *v.* Bleaden, (1839) 1 W. P. C. 525; Morgan *v.* Windover, (1888) 5 R. P. C. 295, 303.

Prior User.

Publication by experiment or abandoned user is a question of fact.

Illustrative cases.

Household Co. v. Neilson.

In *Household Co.* v. *Neilson*, (1843) 1 W. P. C. 673, the Lord Justice-Clerk *Hope* had directed the jury to the effect that a prior abandoned user of the invention was not fatal to the validity of the patent, and, on the finding of the jury, had entered a verdict for the plaintiff. The defendant company thereupon appealed to the House of Lords, and the House held that the direction of the learned Lord Justice-Clerk was bad in law, and that the patent was rendered void by the abandoned prior user proved. The judgment of Lord *Brougham* contains the following passage (1 W. P. C. 713):—

"Now, see how this mistake, with respect to the abandonment and continuance, arose. If an invention has not been completed, but if it all rests in experiment and trial, then it is a most material circumstance as a test whether any given act of a party other than the invention [*sic*, inventor] was trial or complete invention; it is a most salutary and important test to apply with a view to ascertain that, to see whether he abandoned or continued it. If he abandoned it, if he gave it up altogether, and for twenty or thirty years did nothing, it is a very strong presumption that it was only experimental—not an invention completed. But suppose it was complete, and suppose it is admitted not to have been a trial—suppose it is allowed to have been an invention executed, if I may so speak, not merely executory, or not merely in the progress of invention, but an invention completed—then it is one of the greatest errors that can be committed, in point of law, to say that, with respect to such an invention as that, it signifies one rush whether it was completely abandoned or whether it was continued to be used down to the very date of the patent. Provided it was invented and publicly used at the time, twenty or thirty years ago, in this case forty years ago, it is perfectly immaterial, not immaterial to the second question, the second condition—namely, whether it was used or not at the time of the granting of the patent—but totally immaterial to the other question, which is equally necessary to be ascertained in the inventor's favour, whether or not he was the first and true inventor—for he must be the first and true inventor, as well as the only person using it at the time, otherwise he is not entitled to the letters patent. Therein lies the error which has been committed by the learned Judge."

Walton v. Bateman.

In *Walton* v. *Bateman*, 1 W. P. C. 619,(*s*) the validity of *Walton's* patent for "improvements in cards for carding wool, cotton, silk, and other fibrous substances," was questioned, on the ground that the improvement consisting in using caoutchouc as a substitute for leather as an elastic bed in which to fix the

(*s*) See also Tangye *v.* Stott, W. N. 1866, p. 68; 14 W. R. 128, 386.

teeth, was not novel. It appeared in evidence that a certain material called "*Hancock's* patent leather," had been manufactured and sold prior to the date of the patent, and it was contended that this "*Hancock's* patent leather" was substantially the same thing as the elastic bed in which the teeth of the plaintiff's cards were fixed, and further, that *Hancock's* material had been supplied to certain manufacturers during a period of about a year and a half, several years before the date of the plaintiff's patent, and that it had been used in the construction of cards, but had not been so used since that time. *Cresswell*, J., said to the jury: "Supposing that the article did embody the principle of the plaintiff so as to present to persons using it the properties, qualities, and advantages in principle of that article which the plaintiff makes, the question for you will be whether that use is not to be considered rather in the nature of an experiment than of any public user of the article, so as to deprive the plaintiff of the fruit of his discovery in respect of this manufacture."

Prior User.

Publication by experiment or abandoned user is a question of fact.

Illustrative cases.

And, in *Stead* v. *Williams*, (1843) 2 W. P. C. 135, the same learned Judge observed: "I take it that there is a great difference between the knowledge of an invention as a thing that would answer and was in use, and the knowledge of it as a new experiment that had been found to be a failure, and thrown aside. If a person has had a scheme in his head and has carried it out, but after a trial has thrown it aside, and the thing is forgotten and gone by, then another person re-introducing it may, within the meaning of the Act, be the inventor and the first user of it, so as to justify a patent."

In *Hills* v. *London Gas Light Co.*, (1860) 5 H. & N. 312, the finding of the jury that one *Croll* had by means of the method for which the plaintiff had subsequently obtained a patent, purified many thousand feet of gas, but that this user was by way of experiment only, saved *Hill's* patent from being upset on the ground of want of novelty. And the Court refused to grant a new trial, the judgment containing the following passage: "The word 'experiment,' in the cases referred to, has been used, not as the sole test upon a matter of this sort, but as indicating a class of practice, and for the purpose of showing that if there has been a user of an invention not of a substantial character, but in the character of an experiment, then, although the thing has been done before, it does not preclude a person from taking out a patent for it; so that although what *Croll* did may not have been strictly in the nature of an experiment, still the jury have so found it, and we cannot grant a new trial."(*t*)

Hills v. London Gas Light Co.

(*t*) See also Lewis v. Marling, (1829) 10 B. & C. 22; 4 Car. & P. 57; 1 W. P. C. 493.