AN

ESSAY

ON THE

LAW OF PATENTS

FOR

NEW INVENTIONS.

BY THOMAS GREEN FESSENDEN,
COUNSELLOR AT LAW.

"As the West Indies had never been discovered without the discovery of the Mariner's Needle, so it cannot seem strange, if Science be no farther developed, if the Art itself of Invention and Discovery be passed over."

BACON.

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An Essay on the Law of Patents for New Inventions. By THOMAS GREEN FFSSENDEN, Counsellor at Law. "As the West Indies had never been discovered without the discovery of the Mariner's Needle, so it cannot seem strange, if Science be no farther developed, if the art itself of Invention and Discovery be passed over." BACON. Second edition.

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JOHN W. DAVIS,
Clerk of the District of Massachusetts.

Printed by John Cotton, jr.

TO THE

HON. JOSEPH STORY,

ONE OF THE

ASSOCIATE JUDGES OF THE UNITED STATES,

TO WHOSE LEARNED AND LUMINOUS DECISIONS THE AUTHOR IS IN-
DEBTED FOR A GREAT AND VALUABLE PART OF THE

PRESENT EDITION OF HIS TREATISE,

THIS ESSAY ON THE LAW OF PATENTS,

IS RESPECTFULLY INSCRIBED,

BY HIS MUCH OBLIGED AND VERY GRATEFUL SERVANT,

THOMAS GREEN FESSENDEN.

INTRODUCTION.

THE investigations which led to the following essay, were commenced in consequence of the author's having occasion to turn his attention to the subject, without any design of publication. He was, however, induced to place the result of his inquiries before the public, in consequence of his having ascertained that the Law of Patents for New Inventions had received but little attention—much less, in his opinion, than was due to so important a branch of jurisprudence. It was, therefore, hoped that an essay on this topic, though but imperfectly executed, might be recommended as well by its novelty as by its utility.

The course of the author's inquiries, requisite to complete this essay, led him to observe that those persons to whom mankind have been indebted for the most useful discoveries, inventions, and improvements, in the arts, have but rarely met with that reward, either of fame or profit, which their ingenuity has mer-

ited. Yet to men of this description must be attributed the origin not only of the comforts, ornaments, and luxuries of life, but even of those necessaries, the want of which would convert the human race into hordes of wandering, naked, and houseless savages, much more miserable and defenceless than the brute inhabitants of the wilderness.

The writer has seen, with regret, not only that the lower orders in society, for the most part, entertain absurd and unreasonable prejudices against the person who invents, patronises, or adopts, a useful improvement in the arts, but, in some instances, legal men, of great and deserved eminence, have shown dispositions hostile to patentees of new and useful inventions, claiming the only reward for their labors and ingenuity, which they can, in most instances, hope for from the laws of society.*

In Great-Britain, however, the prejudices which formerly subsisted against patents for new and useful inventions seem to have subsided, and the government, the courts of law, and the more enlightened parts of the community, appear to be actuated by that sound and liberal policy, which is alone calculated to call forth and secure to the use of the public the exertions

*It may be said that perpetuities, monopolies, and patents of concealment, were born under an unfortunate constellation, for as soon as they have been brought in question,' judgment has always been given against them, and none at any time given for them ; and all of them have two inseparable qualities, viz. : to be troublesome and fruitless."—*Buller's Nisi Prius, p.* 76.

of genius: they appear to entertain the opinion of an elegant writer, who thus expresses his sentiments on this subject. "Next to a conviction of the moral and political importance of domestic trade, the best means of improving it should engage our attention. There is certainly no department of public service more useful than the patronage of that mechanical ingenuity, by whose inventions and improvements the necessity for animal labor is diminished. No prejudice can be more absurd and mischievous than that which has been frequently objected to improvements in mechanism, on the ground of their tendency to abridge the employments of the more laborious parts of society. Among the principal advantages resulting from the civil association of mankind, we may surely class the opportunity afforded individuals of dedicating their talents to the benefit of the public, and the power of the latter to bestow adequate remuneration for the time and ability so employed.

"In return for such disbursements from the common stock, the personal convenience and profit of every member of the community, are more than proportionally increased.

"A solicitude to reduce animal labor, within moderate and reasonable limits, is not merely recommended on the score of political economy, but as one of the most amiable features of civilization, multitudes of our fellow creatures are thereby rescued from the deplorable ignorance that generally accompanies the lot

of manual drudgery, and being thus advanced a rank higher in the human species, may become eligible to many employments in which the understanding has a share, and which so greatly abound in a wealthy and civilized country.*

Another British writer, whose work may be styled the text book of statesmen, thus complains of the deleterious effects on society and civilization, which arise from the drudgery incident to the manipulations of extensive manufactories, which may be greatly alleviated, and in some instances, almost annihilated, by labor-saving machinery. "In the progress of the division of labor, the employment of the greater part of those who live by labor, that is of the great body of the people, comes to be confined to a few very simple operations; frequently to one or two. But the understandings of the greater part of men are necessarily formed by their ordinary employments. The man whose whole life is spent in performing a few simple operations, of which the effects too, are perhaps, always the same, or very nearly the same, has no occasion to exert his understanding, or to exercise his invention in finding out expedients for removing difficulties, which never occur. He naturally loses, therefore, the habit of such exercise, and becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind renders him not only incapable of relishing or bearing a part in any rational conversation,

* Balmanno's Introduction to Jones' Law of Bailments.

but of conceiving any generous, noble, or tender sentiment, and consequently of forming any just judgment of many, even of the ordinary duties of private life. Of the great and extensive interests of his country, he is altogether incapable of judging; and unless very particular pains have been taken to render him otherwise, he is equally incapable of defending his country in war.*

The ancients paid divine honours to the inventors, patrons, and improvers of those arts, which have a tendency to ameliorate the condition of mankind. Most of their deities were mortals, who had no better claim to an apotheosis than what originated in their having distinguished themselves by their ingenuity and industry in those arts, which too many of our modern patricians deem beneath the notice of any but persons destined to fill the lowest ranks in society. Bacchus was a successful cultivator of the vine; Apollo, Minerva, Ceres, Vulcan, &c. were personages famous for inventions and improvements in agriculture, and other useful and ornamental arts. Virgil assigns the highest place in the Elysian fields to those who improved human life by the invention of arts;

"Inventas qui vitam excoluere per artes."

In Egypt the priests maintained their ascendency over the common people, by blending useful knowledge with the grossest superstition. They were conversant with celestial motions, and were supposed, by the populace to have some influence in causing those heavenly

* Smith's Wealth of Nations.

phenomena, which their science enabled them to predict.* The Egyptians should seem to have been masters of many useful arts, which have been lost and buried in the rubbish of time. No mechanical powers, by any mode of application with which the moderns are acquainted, could have enabled them to rear those stupendous monuments of useless ingenuity, and ill directed industry, which have bid defiance to the ravages of time, and seem destined to endure till the dissolution of the "great globe itself, and all which it inherits."

"In Greece," says an elegant historian, "tradition mentions the original production of the olive, the first culture of the vine, and even the first sowing of corn. The first use of mills for grinding corn is also recorded. The knowledge of the cultivation and use of the olive, of the preparation of a lasting food from milk, by converting it into cheese, and the domestication of bees for their honey and wax, was said to have been brought from Africa by Aristœus: and so important was the information to the wild tribes of hunters, who first occupied Greece, that Aristœus had the fame of being

* Something similar has been observed by modern travellers. When Mr. Bruce arrived at Chendi, he found the people "much alarmed at a phenomenon, which, though it occurs every four years, had by some strange inadvertency, never been observed even in this serene sky. The planet Venus appeared shining with an undiminished light all the day. The people flocked to me from all quarters to know what it meant, and when they saw my telescope and quadrant, could not be persuaded but that the star had become visible by some correspondence with me, and for my use." *Bruce's Travels*, Vol. iv. p. 531. In China the prediction of eclipses still continues a powerful engine of government. *Staunton's Embassy*, Vol. ii. p. 93.

the son of Apollo, the god of science; the herdsmen and rustic nymphs, among whom he had been educated, were raised, in idea, to beings above human condition, and he was reported to have been himself immortal. The goddess of arts, Minerva, according to the oldest Athenian author from whom any thing remains to us, though reputed the peculiar patroness of Athens, was born in Africa, but deified by the gratitude of Greece."*

The patronage of Pericles, combined with other favoring circumstances, gave Athens a pre-eminence in the arts, which made the inhabitants of a diminutive, and naturally barren territory, the masters of Greece, the terror and admiration of cotemporary nations, and caused her to be hailed as the arbitress of taste by all succeeding ages. The whole population of that petty but powerful republic, in the height of its splendor, scarcely amounted to thirty thousand families of free subjects. Yet Athens reached a degree of perfection in the fine arts, which all succeeding ages have attempted to imitate, but never have been able to equal. This excellence was the consequence of the patronage afforded to artists by a great man, who at that time presided over the destinies of the republic. "Pericles," says the Abbe Millot, "gave life to the whole, and the Athenians for a couple of ages, continued to produce the most elegant master pieces. Architecture erected those superb monuments, whose delicate proportions

* Mitford's History of Greece.

enchant the eyes, while the enormous Egyptian masses can only serve to strike with astonishment."

"Before the time of Pericles," continues the same author, "sculpture had produced nothing but clumsy shapeless figures. The Grecian statues, like those of the Egyptians, had their arms hanging down, adhering close to the body, with the legs and feet joined to one another, without gesture, attitude or elegance." Phidias, Mycon, Polyctetus, Lysippus, and Praxitiles, flourished as sculptors. Polygnotus,* Apollodorus, Zeuxis, Pamphilus, Timanthes, and Apelles became immortal for their skill in painting, and the labors of these artists, together with the eulogies of the historian, the orator, and the poet, were at once the incentive and the reward of those astonishing feats of valor and displays of patriotism, which have excited the admiration of all succeeding ages.

Among the successors of Alexander the Great, we find Demetrius, the son of Antigonus, a commander, celebrated as a warrior, and no less renowned for his mathematical and mechanical science. "He had an inventive genius; and it may be justly said that curiosity and a fine turn of mind for the sciences were inseparable from him. He never employed his natural industry in frivolous and insignificant amusements, like

* Polygnotus received the thanks of the council of the Amphyctyons, in a public decree, which entitled him to have his expences defrayed wherever he travelled, for having painted *gratis* the story of the Trojan wars in one of the Porticos at Athens.

many other kings, some of whom valued themselves for their expertness in playing on instruments, others in painting, and some on their dexterity in the turner's art, with a hundred qualities of private men, but not of a prince. His application to the mechanical arts had something great and truly royal in it; his gallies with five benches of oars, were the admiration of his enemies, who beheld them sailing along the coasts; and his engines called helepoles were a surprising spectacle to those whom he besieged. They were exceedingly useful to him in the war with Rhodes."*

But the triumph of intellect, and of mathematical and mechanical knowledge over even well directed and disciplined, (or what is synonymous, Roman) valour was never more strikingly exemplified than in the celebrated siege of Syracuse. In that ever memorable instance the genius of one man baffled and held at bay for a long time the most formidable power the world ever saw, and would in all human probability have finally defeated and disgraced irreparably, the world's masters, had not treachery supplied the want of force to the conquerors. The siege of Syracuse affords so striking an exemplification of the power of mind over matter, and the importance of inventive and mechanical genius to a kingdom or commonwealth, that we cannot withstand the temptation of giving, in this place, an extract from Plutarch, descriptive of that event.

* Rollin.

"When the Romans attacked them (the Syracusans) both by sea and land, they were struck dumb with terror, imagining they could not possibly resist such numerous forces and so furious an assault. But Archimedes soon began to play his engines, and they shot against the land forces all sorts of missive weapons, and stones of an enormous size, with so incredible noise and rapidity that nothing could stand before them; they overturned and crushed whatever came in their way, and spread terrible disorder through the ranks. On the side next the sea were erected vast machines, putting forth on a sudden, over the walls, huge beams with the necessary tackle, which, striking with a prodigious force on the enemy's gallies, sunk them at once; while other ships hoisted up at the prows by iron grapples, or hooks like the beaks of cranes, and set on end on the stern, were plunged to the bottom of the sea; and others again, by ropes and grapples, were drawn towards the shore, and after being whirled about and dashed against the rocks that projected below the walls, were broken to pieces, and the crews perished. Very often a ship lifted high above the sea, suspended and twirling in the air, presented a most dreadful spectacle. There it swung till the men were thrown out by the violence of the motion, and then it split against the walls, or sunk on the engine's letting go its hold. As for the machine, which Marcellus brought forward upon eight gallies, and which was called *Sambuca*, on account of its likeness to the musical instrument of that name, whilst it was at a considerable dis-

tance from the walls, Archimedes discharged a stone of ten talents weight, and after that a second and a third, all which striking upon it with an amazing noise and force, shattered and totally disjointed it.

"Marcellus, in this distress, drew off his gallies as fast as possible, and sent orders to the land forces to retreat likewise. He then called a council of war, in which it was resolved to come close to the walls, if it was possible, next morning before day. For Archimedes' engines they thought, being very strong, and intended to act at a considerable distance, would then discharge themselves over their heads; and if they were pointed at them when they were so near, they would have no effect. But for this Archimedes had long been prepared, having by him engines fitted to all distances, with suitable weapons and shorter beams. Besides, he had caused holes to be made in the walls, in which he placed *scorpions*, that did not carry far, but could be very fast discharged; and by these the enemy was galled without knowing whence the weapons came.

"When, therefore, the Romans were got close to the walls, undiscovered, as they thought, they were welcomed with a shower of darts, and huge pieces of rocks which fell as it were perpendicularly on their heads; for the engines played from every quarter of the walls. This obliged them tc retire; and when they were at some distance, other shafts were shot at them in their retreats, from the larger machines, which

made terrible havoc among them, as well as greatly damaged their shipping, without any possibility of their annoying the Syracusans in their turn. For Archimedes had placed most of his engines under cover of the walls, so that the Romans, being infinitely distressed by an invisible enemy seemed to fight against the gods.

"Marcellus, however, got off, and laughed at his own artillery-men and engineers. Why do we not leave off contending, said he, with this mathematical Briareus who, sitting on the shore, and acting as it were but in jest, has shamefully baffled our naval assault; and in striking us with such a multitude of bolts at once, exceeds as it were the hundred handed giants in the fable? And in truth, all the rest of the Syracusans were no more than the bodies in the batteries of Archimedes, while he himself was the informing soul. All other weapons lay idle and unemployed; his were the only offensive and defensive arms in the city. At length the Romans were so terrified, that if they saw but a rope or stick put over the walls, they cried out that Archimedes was levelling some machine at them, and turned their backs and fled. Marcellus, seeing this, gave up all thoughts of proceeding by assault, and leaving the matter to time, turned the seige into a blockade."

Here we cannot but lament that prejudice which prevented this great man from devoting more of his time and talents to such branches of mathematical and

mechanical science, as would afford results of immediate practical utility. The speculations in which he most delighted, seem to have been too sublime for common understandings, and too subtle to afford any substantial benefit to the bulk of mankind. "He had," says Plutarch "such a depth of understanding, such a dignity of sentiment, and so copious a fund of mathematical knowledge, that though in the invention of his machines, he gained the reputation of a man of divine, rather than human knowledge, yet he did not vouchsafe to leave any account of them in writing. For he considered all attention to *mechanics*, and every art that ministers to common uses, as mean and sordid, and placed his whole delight in those intellectual speculations, which, without any relation to the necessities of life, have an intrinsic excellence, arising from truth and demonstration only."

Surely nothing can be more preposterous than to entertain an opinion that those arts, which minister to common uses are mean and sordid; yet this opinion has been more or less prevalent in every age, among those whose birth, talents, fortune, or education have placed them above the necessity of obtaining a livelihood by the practice of those arts, which minister to the necessities and comforts of life, and has, perhaps, retarded the progress of improvement in such arts more than the ravages of time, or the devastations of war.

The Romans, though originally a horde of barbarians, little more civilized than the rudest tribes of our American aborigines, yet, with the acquisition of power,

acquired a knowledge of the arts from the more polished nations they subdued, which they communicated to other nations, who were obliged to submit to their dominion. Having desolated Europe, they set themselves to civilize it, and, as a consolation for the loss of liberty, communicated their arts, sciences, language and manners to their new subjects. Under their auspices, agriculture was encouraged, population increased, the ruined cities were rebuilt, new towns were founded, an appearance of prosperity succeeded, and repaired in some measure the ravages of war.* Such, however, were the defects in the polity of the Romans, and such, perhaps, as were inevitably incident to an empire of such extent, and composed of such discordant materials, that the whole fabric soon became loose and disjointed; and when assaulted by the hardy and intrepid tribes of the north, was prostrated in the dust, and the arts and sciences, together with even the remembrance of many of the inventions and improvements of the philosophers, mathematicians, and mechanicians, of antiquity, perished from the face of the earth.

When the inundation of northern barbarians had in some measure subsided, and a remnant of the human race in Europe had recovered some degree of comparative tranquillity, many circumstances conspired to render the progress of civilization and improvement in the arts extremely slow, and for a while almost imperceptible. The barbarous nations, says an elegant writer,

* Robertson's Charles V.

were not only illiterate, but regarded literature with contempt. They found the inhabitants of all the provinces of the empire sunk in effeminacy, and averse to war.—Such a character was the object of scorn to a high spirited and gallant race of men. This degeneracy of manners, illiterate barbarians imputed to the love of learning. Even after they had settled in the countries which they had conquered, they would not suffer their children to be instructed in any science, "for," said they, "instruction in the sciences tends to corrupt, enervate and depress the mind; and he who has been accustomed to tremble under the rod of a pedagogue, will never look on a sword or spear with an undaunted eye." Any employment in agriculture, or the useful arts, was thought by these wild and ferocious conquerors too menial for freemen. They disdained to cultivate the earth or touch a plough; and even their chiefs lived in a sort of pompous indigence, destitute of those comforts and conveniences which, in more modern times, are not often denied to the meanest laborer.*

* Observe the accommodation of the most common artificer, or day-laborer, in a civilized and thriving country, and you will perceive that the number of people, of whose industry a part, though but a small part, has been employed in procuring him accommodation, exceeds all computation. The woollen coat, for example, as coarse and rough as it may appear, is the produce of the joint labor of a great number of workmen. The shepherd, the sorter of wool, the wool-comber, or carder, the dyer, the scribbler, the spinner, the weaver, the fuller, the dresser, with many others, must all join their different arts in order to complete even this homely production. How many merchants and carriers, besides, must have been employed in transporting the materials from some of those workmen to others, who often live

In the dawn, which succeeded the dark ages, literature, science, and the arts were first patronized in Italy, by the Medici; and under the auspices of Lorenzo de Medici, the Italian Pericles, whose name alone suggests an idea of all that is elegant in literature, and consummate in science and arts, they rose to an incredible degree of perfection. "Whilst the study of polite literature was emerging from its state of reptile torpor, the other sciences felt the effects of the same invigorating beam; and the city of Florence, like a sheltered garden in the opening spring, re-echoed with the earliest sounds of returning animation. The Platonic Academy existed in full splendor, and served as a common bond to unite, at stated intervals, those who had signalized themselves by scientific, or literary

in a very distant part of the country. How much commerce and navigation in particular, how many ship-builders, sailors, sail-makers, rope-makers, must have been employed in order to bring together the different drugs made use of by the dyer, which often come from the remotest corners of the world. What a variety of labor is necessary in order to produce the tools of the meanest workman. To say nothing of such complicated machines, as the ship of the sailor, the mill of the fuller, or even the loom of the weaver, let us consider only what a variety of labour is requisite to form that very simple machine the shears, with which the shepherd clips the wool. The miner, the builder of the furnace, the mill-wright, the forger, the smith, must all of them join their different arts in order to produce them."* The writer declares that "the accommodation of an European prince does not always so much exceed that of an industrious and frugal peasant, as the accommodation of the latter exceeds that of many an African King, the absolute master of the lives and liberties of ten thousand naked savages."

* Smith's Wealth of Nations.

pursuits. The absurd pretensions to judicial astrology were fully examined, and openly exposed; and observation and experiment were at length substituted in the place of conjecture, and of fraud. Paolo Toscanelli had already erected his celebrated gnomon.* Lorenzo da Valpajez constructed for Lorenzo de Medici, a clock, or piece of mechanism, which not only marked the hour of the day, but the motions of the sun, and the planets, the eclipses, the signs of the zodiac, and the whole revolutions of the heavens."

The art of printing, invented towards the close of the fourteenth century, is said to be of German origin, and is generally attributed to Dr. Faustus, although authors have not agreed to what nation or individual the honour of this invention belongs. This art, however, was fostered and brought to a high degree of perfection under the auspices of Lorenzo de Medici; and though the plant might not have been a native of Italy, it found in that country a congenial soil, in which it flourished in high luxuriance. The art of copper-plate engraving, and the revival of that of engraving on gems and stones, are likewise numbered among the happy results of the munificence of the Medici.

* This gnomon, which has justly been denominated the noblest astronomical instrument in the world, was erected by Toscanelli, about the year 1460, for the purpose of determining the solstices, and thereby ascertaining the feasts of the Romish church. It is fixed in the cupola of the church of St. Maria del fiore, at the height of 277 Parisian feet. A small orifice transmits from that distance the rays of the sun to a marble flag, placed in the floor of the church.—*Roscoe's Life of Lorenzo de Medici, vol. ii. chap. 7.*

In England, the prejudices which formerly existed throughout Europe, against commerce and the useful arts, have, as before observed, in a great degree subsided. In that country we find their first noblemen, emulous of improvements in agriculture, and the useful arts. Societies have been founded in various parts of the kingdom for their patronage, whose transactions are periodically published, and premiums and honorary medals are awarded, with a liberal hand, to those whose inventions and discoveries, give promise of public utility. Many English noblemen, and men of affluence and high standing in society, have obtained letters patent for new inventions, or become interested in patents obtained by others.

To English liberality in encouraging and rewarding the authors of new inventions, may, in a great measure, be attributed the flourishing state of British agriculture, navigation and manufactures. A more contracted policy would have prevented the developement of those resources, which have rendered her able, single-handed, to oppose with success, a power which had nearly overwhelmed continental Europe, and threatened to extend its empire over the habitable globe.

It would far surpass the limits of this introduction to give even a sketch of the important inventions and improvements in the arts, which have so greatly promoted the prosperity of Great Britain. We will, how-

ever, briefly advert to some of those, which appear not the least worthy of notice.*

Under the patronage of Mr. Alderman Boydell, a new and very considerable article of manufacture and commerce, was established, consisting of *engraved prints.* Foreign prints had been so greatly superior to British, that great quantities had been imported. Alderman Boydell, although the person principally concerned in their importation, with a liberality, and public spirit, worthy of a Pericles, or a Lorenzo de Medici, sought after, encouraged and rewarded British artists, with the well founded idea that under the influence of suitable patronage, they might equal, if not excel the engravers of other countries. The result surpassed his expectations, and the exports of British engravings in a few years, became immense, extending from Madrid to Moscow.

Mr. Josiah Wedgwood introduced a great number of improvements in the potter's art, and the Queen, to encourage the artist, gave the product of his manufactory the name of Queen's ware. Of the immense

* It is hoped that the length of this introduction will be pardoned by critics, and prove not altogether unacceptable to artists, and others for whom it is designed. The subject of the Essay, which composes the bulk of the book is dry, abstruse, and metaphysical, and we have attempted to render the introduction amusing, perhaps instructive to some readers, who might think the Essay itself so destitute of entertainment as not to reward a perusal.

importance of this manufactory, some estimate may be formed from the following extract from Anderson's History of Commerce.

"Though the manufacturing part alone gives bread to fifteen or twenty thousand people, he (the inventor and proprietor) looks upon this as a small object, when compared with the many others which are put in motion by it, viz. the immense quantity of land carriage it creates throughout England, both in its raw materials, and finished goods; the great number of people employed in the extensive collieries for its use; the still greater number employed in raising and preparing the raw materials in several distant parts of the kingdom; the coasting vessels, the river and canal navigation, and the re-conveyance of the finished goods to the different parts of the Island."

Although this manufacture was so flourishing, yet at the time the above description was given, it was considered still in its infancy. This, however, was altogether the effect of the inventive genius of the proprietor, and the encouragement, which the policy and the laws of England afford to the authors of new and useful inventions.

But the most valuable present that the arts of life have ever received from the philosopher, and the most curious object, which human ingenuity has yet offered to his contemplation, is the steam engine.

The mariner's compass, the telescope, gun-powder, and many other most useful servants to the wants and weakness of man were the productions of chance, and we do not exactly know to whom we are indebted for them; but the steam engine was, in the very beginning the result of reflection, and the product of ingenuity. Every improvement it has received has likewise been the effect of philosophical study. It has now become almost as necessary to the very existence of many important manufactures, as air to animal life. The steam engine presents us a most indefatigable drudge, whose strength knows no bounds, and to the utility of whose labours no limits can be assigned.*

Next in importance to the steam engine, may, perhaps, be ranked the invention of cotton spinning, generally attributed to Sir Richard Arkwright. This ingenious man constructed a machine, by which, with the power afforded by one large water-wheel, above 4000 threads of cotton were spun at once; and of these the finest muslins were manufactured. Cotton spinning, by the assistance of machinery is now introduced into the United States to a great extent, and has enriched many individuals, embarked in the manufacture, as well as benefited the public to a very great amount.

In France, Germany, and other nations of continental Europe, useful science and the arts, have been per-

* Encyclopedia Britannica.

secuted by bigots, and too frequently sacrificed at the shrine of superstition. The immortal Galileo fell a victim to popish intolerance. The edict of Nantz, equally cruel, unjust, and impolitic, forced thousands of ingenious and industrious mechanics to seek refuge in England, and gave rise to some of the most flourishing manufactures in Great Britain.

The leaders of the French revolution appeared to act according to the axiom "knowledge is power," and the rapid and astonishing success of the "terrible republic," and still more formidable monarchy which succeeded under Buonaparte, may in a great measure be attributed to the patronage given to military science, and to new inventions in the art of war. "A man," says an excellent historian of the French Revolution, "who would have been obliged to dance attendance half his life-time after the minister of war, or of the marine, only to receive the honour of an audience, where he was more likely to be treated with contempt, than to be encouraged, could now make himself certain of a candid hearing, and a fair trial; and the vices of a government, which produced such advantages, he very naturally overlooked, and became zealous in their cause."*

From the preceding imperfect sketches of the history of the arts, it appears that they have flourished in proportion to the patronage bestowed on artists;

* Playfair's History of the French Revolution.

and that, wherever they have flourished, they have exalted the character, increased the resources, and added to the power of a nation. When fostered by a Pericles, a Lorenzo de Medici, or a Colbert, the arts have sprung up as it were by enchantment, like the wizard palaces of romance, and the most arid deserts of barbarism have suddenly bloomed like Palmyra in the wilderness.

In the United States, useful inventions have still stronger claims on public patronage than in older and more populous countries. In Great Britain, any important improvements in manufactures have frequently a temporary effect apparently injurious to very many of the poorer classes, by depriving them of the manipulations superseded, or curtailed by such improvements. Thus it has been said to be impracticable, in many parts of that country, to erect machinery for sawing timber by water or steam, on account of the opposition of those, who have been accustomed to obtain their sole support from the laborious process of sawing timber by hand. Machinery for spinning cotton, on improved plans, is reported to have been burned by those who had been accustomed to derive a support by processes, which were abridged, or rendered useless, by such machinery. But, in the United States, such is the demand for labour, the plenty of provisions, and the spareness of population in proportion to the extent of teritory, that the inconveniences experienced in

Europe cannot occur in so serious a shape as to form any valid objection to useful inventions for the purpose of lessening animal labor.

Notwithstanding these circumstances, and the state of society in the United States, would seem extremely favorable to the introduction of useful inventions, we were informed by one of the most distinguished of the American artists, whose own inventions have proved of great and extensive utility, that "the ingenious inventors of useful improvements in this country, are still left to struggle, not only with the taunting sarcasms and embarrassing opposition of those, who, wise in their own conceit, apparently take delight in condemning and opposing projects, until they are brought successfully into operation; but with heavy losses, and oftentimes ruin, even if the attempt succeeds. Nine tenths of the exclusive rights granted, will injure the inventor for the first fourteen years in this country; especially if the patent be taken out before the improvement is in full operation; and if not till then, some pilfering genius may attempt, surreptitiously, to take out a patent for the principles of the invention before the true inventor, and occasion him the heavy expense of a law-suit, before his right can be established." The same ingenious man, after pointing out certain principles, which might lead to the discovery of a variety of useful and important inventions, complains that "the expense of the experiments, necessary to bring these principles into operation, would be too great.

No prudent man will risk the attempt, until the prospects of a sufficient reward brighten. We unite in a belief, that fate has ordained that ingenious men shall never be rich; not considering that the injustice and impolicy of governments have passed the decree. Who would get rich, if the property he acquired by his industry, was to become common as soon as he gained it? What prudent man will spend his thoughts, time, labour and money, for property no better secured to him? Ingenuity makes none poor; on the contrary, it has made many rich, whose prudence directed them to the pursuit of permanent property. To ingenuity, we owe all our superiority over savage nations. England has made herself more rich and powerful than other nations, by her liberal policy of securing to ingenious men, an exclusive right to their inventions, so long as to afford them an opportunity of being amply rewarded.*

Notwithstanding, however, the impediments and discouraging circumstances, which, according to the worthy artist above quoted, are opposed to the efforts of American ingenuity, it appears that the native genius of our countrymen has surpassed every obstacle opposed to its splendid display in devising numerous inventions, some of which are of great and acknowledged utility. The cotton gin, invented by Eli Whitney, Esq.

* Evans' Tract on the Steam Engine. The laws of the United States, however, are more favourable to inventors than those of England, and we believe our courts are not less inclined to protect the rights of patentees.

gave a new staple to several of the southern states, and is said to have more than doubled the value of their lands under cultivation. Improvements in flour-mills, by Oliver Evans, threshing-machines, spinning-machines, machines for nail-making, for weaving, for impelling boats by steam, for dressing and spinning flax and hemp, for making cards, for splitting leather, for ruling paper, for pulverising dye woods, for making earthern and stone pipes for aqueducts, improvements in manufacturing morocco leather, the substitution of steel plates for copper in engraving, various processes for facilitating the excavation of canals, invented and carried into effect by those concerned in forming the Grand Western Canal; a work, which for grandeur of design, industry and skill displayed in its execution, and the utility of its results, has no rival on this side of the Atlantic; together with a great number of others, evince the ingenuity of Americans, and have greatly increased the power and resources of the United Empire.

It has been the absurd and infatuated policy of some of the most ancient nations of the eastern world, to oppose modern improvements in science and arts, as useless or injurious innovations. The consequence has been, that their science has gone but little beyond first principles; their arts have been confined to simple processes, and they have, long since, stopped in their progress to improvement, at a point far short of attainable perfection. The Chinese adhere with tenacious

formality to processes, whose inconveniences are sanctioned by time; and in India the arts have made but little progress since the days of Alexander, in consequence of a superstitious dread of novelty. Americans will not imitate those examples, when they reflect that improvements in the arts, if fostered by that liberal encouragement, which true policy dictates; will proceed with an accelerated motion to a degree of perfection, now almost inconceivable. Every improvement opens a door to farther and more important improvements; and every step in our progress, facilitates further advances, by furnishing new means, instruments, and a knowledge of intermediate processes, which may lead to results, surpassing the anticipations of the most sanguine. The field of invention and discovery is inexhaustible; and the fruits of our researches beyond all price.* "Men of genius," says an elegant writer, "are the most productive of all classes of mankind. Their inventions not only fix and realize themselves in some subject, and for some time, but they direct the mode of storing and setting in motion future industry; and instead of perishing in the performance, they are renovated in every renewed action

* "Sir Isaac Newton and Dr. Bentley met accidentally in London, and on Sir Isaac's inquiring what *philosophical pursuits* were carrying on at Cambridge, the Doctor replied, "none;" for when you go a hunting, Sir Isaac, you kill all the game; you have left us nothing to pursue." "Not so," said the philosopher; "you may start a variety of game in every bush, if you will but take the trouble to beat for it." "And so in truth it is," observes bishop Watson; "every object in nature affords occasion for philosophical experiment." *Pursuits of Literature.*

of a similar nature, and endure forever; shortening the labors, and multiplying the comforts of mankind."

It is true, that many novelties attempted to be introduced, are not improvements; and sometimes patents are solicited for *new* inventions as *old* as the days of *Tubal Cain.* But the abuse of a privilege, is no argument against the privilege itself; and if the law upon this subject is generally well understood, pseudo-inventions, and pretended discoveries, will not often be palmed upon the public; and those who deal in impositions of that kind, will soon meet the common lot of dishonesty in the loss of property and reputation.

In a moral, as well as a political point of view, the author of a new and useful invention, has the best of all possible titles to a monopoly of the first fruits of his ingenuity. The invention is the work of his hands, and the offspring of his intellect; and after he is allowed a temporary monopoly, becomes, at the expiration of the patent, a valuable donation to society. In the United States, so long as they retain their freedom, the public can be the only efficient patrons of men of inventive faculties; and the patronage of the public can be obtained in no way so effectually, as by securing to the inventor an exclusive right for a term of years, to his invention.* We have no Pericles, Lo-

* It is the dictate of sound policy, that a nation, by stimulating encouragements, draw forth *all* the useful products of inventive genius, while the possessor is alive. Reward is the only engine in the hands of the public, whereby they *can* draw forth the powers of genius; and if it be bestowed

renzo de Medici, nor Colbert, possessing wealth and influence sufficient to enable them to give adequate rewards to the inventors of improvements in the arts. It is therefore of the highest importance that the law, which is intended to secure to useful ingenuity its only appropriate, and adequate remuneration, should be destitute of that ambiguity, which would render it rather an instrument of oppression than a barrier of right.

In the plan and execution of this treatise, the author has aimed rather at perspicuity than elegance. "Other productions of the human genius may be allowed to derive their charms from the beauty of metaphor, and the grandeur of general expression; but the utility and praise of a municipal code, will depend on the dry simplicity, and scrupulous detail, with which it is adapted to the purposes of public security and social confidence."* The author's wish has been, to render the work useful to those men of inventive powers, who are unacquainted with the niceties of legal distinctions, and to render them less liable to suffer by the wiles

liberally, the inventor will be enabled to make experiments upon the sketches lying upon paper in his desk; and on those, which are in embryo upon his memory, from some of which it is probable valuable results may be drawn. He should therefore, be furnished with the means of bestowing his undivided attention upon them, during the vigour of life and intellect; which he may now be wasting under the pressure of pecuniary embarrassments." *Remarks on the Rights of Inventors, by a Committee of the Massachusetts Association, for the encouragement of useful inventions.*

* Balmanno's Introduction to Jones' Law of Bailments.

of unprincipled and rapacious speculators, who so frequently defraud patantees of those emoluments, which were intended to excite and reward their exertions, to meliorate the lot of humanity.

The author has been indebted to a number of gentlemen of the bar in Boston and elsewhere, for many useful hints and emendations, furnished on submitting the manuscript to their inspection. The remarks in the Appendix, on the policy of granting patents for imported inventions, together with extracts from the Patent Law of France, are from the pen of a French gentleman, resident in Boston. The forms which immediately succeed the statutes, in the Appendix, it is believed, may be safely relied on, as they have been submitted to the inspection, and have met the approbation of gentlemen eminent for their legal science.

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TO THE SECOND EDITION.

THE first edition of this work being nearly exhausted, and many important cases relating to Patent Rights having occurred since its publication, the author has been induced to revise and correct his ESSAY, and to incorporate therein the substance of all the late decisions, connected with the subject, of which he has been able to obtain accurate reports. He has re-written the whole of his production, and bestowed upon it such corrections and additions as the new lights, derived from the above mentioned, and various other sources, have enabled him to exhibit. His manuscript, thus improved, has been submitted to the inspection of several gentlemen of great and deserved eminence for juridical science; and the author is happy in being able to state, that it has met with their approbation. To one of the gentlemen alluded to, who, in a high official capacity, has been very instrumental in systematizing and establishing the principles of Patent Law, the author is indebted for the solution of some points, which had appeared doubtful, and suggestions of improvements, which have been adopted, and the value of the book is thus materially enhanced.

ESSAY

ON THE

LAW OF PATENTS.

THE privileges allowed to inventors and discoverers of new and useful arts in the United States, are founded upon statutes. Of these, there are two, which are now in force; the one entitled, "An act to promote the progress of useful arts; and to repeal the acts heretofore made for that purpose;" bearing date February 21st, 1793: and the other, entitled, "An act to extend the privilege of obtaining patents for useful discoveries, and inventions, to certain persons therein mentioned; and to enlarge and define the penalties for violating the rights of patentees;" dated April 17, 1800.*

In prosecuting my inquiries into the subject of this essay, I shall attempt

1st. To shew wherein these statutes coincide with, and are elucidated by, foreign laws and decisions; enacted and decided for the

* These statutes are given at large in the Appendix.

same, or similar purposes ;† and to give such decisions in the Courts of the United States, as I may deem of importance in determining the law of the land, on the subject of patent monopolies: and 2ndly, To give a synthetical view of the Law of Patents for New Inventions; together with such rules as may appear best calculated to prevent, as far as possible, future disputes on this subject.

In order to shew the coincidence between our own statutes, and the laws of Great Britain relative to patents for new inventions; we shall give Lord Coke's definition of *Monopoly*, in its most general legal acceptation; together with an extract from the statute law of Great Britain, which is the foundation of patent monopolies for new inventions. I shall then, proceed to examine, consecutively, our own

† To those who may object that the privileges given to patentees in the United States, being derived solely from our *own* statutes; the laws and decisions of foreign nations, on this subject, have no validity in the United States: I would reply in the sentiments, and nearly the words of Sir William Jones; expressed in his excellent treatise on the Law of Bailments:—

In questions of law, no cause can be assigned why we should not shorten our labours, by resorting, occasionally, to the wisdom of foreign jurists, many of whom were the most sagacious of men. What is good sense in one age, or country, must, all circumstances remaining, be good sense in another; and pure, unsophisticated reason, is the same in Italy, England, and the United States; in the mind of a Papinian, a Blackstone, a Washington, or a Marshall.

statutes, which authorize such monopolies; adverting to such decisions in British and American courts of Justice, as may have a tendency to explain and determine their meaning and legal effect.

A monopoly is described by Lord Coke, to be "an institution or allowance by the king, by his grant, commission or otherwise, to any person, or persons, bodies corporate or politic, of or for the sole buying, selling, making, working, or using of any thing, whereby any person or persons, bodies politic or corporate, are sought to be restrained of any freedom or liberty they had before, or hindered in their lawful trade.

And therefore, all grants of this kind, relating to any known trade, are made void by the common law; as being against the freedom of trade, discouraging labour and industry; restraining persons from getting an honest livelihood, by a lawful employment; and putting it in the power of particular persons, to set whatever price they please on a commodity; all which are manifest inconveniences to the public.*

By the 21 Jac. 1. c. 3, it is enacted, (Sec. 1.) "that all monopolies, and all commissions,

* 3. Bacon's Abridgment, 626.

"grants, licences, charters, and letters patent "to any person or persons, bodies politic or "corporate, whatsoever, of or for the sole "buying, selling, making, working, or using any "thing, within the realm, or walls; or of any "other monopolies; and all proclamations, ex- "hibitions, restraints, warrants of assistance; "and all other matters whatsoever, any way "tending to the instituting, strengthening, fur- "thering or countenancing of the same, or any "of them; are altogether contrary to the laws "of the realm; and so are, and shall be, utter- "ly void, and of none effect; and in no wise to "be put in execution."

But it is provided by Sec. 6, of the same statute, that "no declaration in the statute "mentioned, shall extend to any letters patent "and grants of privileges, for fourteen years "or under; 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 "patent and grants, shall not use; so as also "they be not contrary to the law, nor mis- "chievous 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 patent, or grant of such privi-
"leges; but that the same should be of such
"force, as they should be if the said act had
"never been made, and of none other."*
This proviso and the decisions of Courts of justice thereon constitute the whole of the English law upon the subject of patents for new inventions.

The first section of the patent law of the United States, of February 21, 1793, declares "that when any person, or persons, being a "citizen, or citizens, of the United States, shall "allege that he or they have invented any "new and useful art, machine, manufacture, "or composition of matter, or any new and "useful improvement, on any art, machine, man-"ufacture, or composition of matter, not known "or used before the application, and shall pre-"sent a petition to the Secretary of State, sig-"nifying a desire of obtaining an exclusive "property in the same, and praying that a "patent may be granted therefor, it shall and "may be lawful for the said Secretary of "State to cause letters patent to be made "out in the name of the United States, bear-"ing test by the President of the United "States, reciting the allegations and sugges-"tions of the said petition, and giving a short

* 3. Bac. Aln. 628.

" description of the said invention, or discove-
" ry, and thereupon granting to such petition-
" er, or petitioners, his, her, or their heirs,
" administrators, or asssigns, for a term not
" exceeding fourteen years, the full and exclu-
" sive right and liberty of making, construct-
" ing, using, and vending to others to be used,
" the said invention, or discovery, which let-
" ters patent shall be delivered to the Attor-
" ney General of the United States, to be ex-
" amined, who within fifteen days after such
" delivery, if he finds the same conformable
" to this act, shall certify accordingly at the
" foot thereof, and return the same to the Sec-
" retary of State, who shall present the letters,
" thus certified, to be signed, and shall cause
" the seal of the United States to be thereto
" affixed, and the same shall be good and
" available to the grantee, or grantees, by
" force of this act, and shall be recorded in
" a book to be kept for that purpose, in the
" office of the Secretary of State, and deliv-
" ered to the patentee or his order."

I shall now proceed to examine the several parts of this section, according to the order in which they are presented in the statute.

It is enacted, " that when any person, or per-
" sons, being a citizen, or citizens, of the United

States," &c. The privileges limited by this clause to a citizen, or citizens of the United States, are extended by the Act of April 17, 1800, which declares "that all and singular "the rights and privileges, given, intended, "or provided to citizens of the United States "respecting patents for new inventions, dis- "coveries and improvements, by the Act en- "titled, An Act to promote the progress of "useful arts, and to repeal the Act hereto- "fore made for that purpose, shall be and "hereby are extended, and given to all aliens, "who, at the time of petitioning in the man- "ner prescribed by said Act, shall have re- "sided for two years within the United States, "which privileges shall be obtained, used, "and enjoyed in as full and ample manner, "and under the same conditions, limitations and "restrictions, as by the said Act is provided "and directed in the case of citizens of the "United States."

The English law has no restrictions, which confine the right of petitioning for, and obtaining letters patent to British subjects; and it is every day's practice to grant patents for new inventions to Americans and other foreigners.*

* Edgebury *vs.* Stevens. Salkeld, 447.

The act of April 17th, 1800, (Sec. 2.) authorizes the legal representatives of a deceased inventor, in certain cases therein described, to obtain a patent.

According to the first section of the act of February 21, 1793, "any person or *persons*," &c. shall be entitled to the privileges stipulated in said act; and the following remarks of Mr. Justice *Story*, expressed in the case of *Barret* and al. *vs. Hall*, and al.† are applicable to this part of the statute. A joint patent may well be granted upon a joint invention. There is no difficulty in supposing in point of fact, that a complicated invention may be the gradual result of the combined mental operations of two persons acting together, *pari passu*, in the invention. And if this be true, then as neither of them could justly claim to be the sole inventor in such a case, it must follow, that the invention is joint; and that they are jointly entitled to a patent. And so are the express words of the patent act; which declares, that if any person or persons shall allege that he or they have invented, &c. a patent shall be granted to him or them for the invention.

† Mason, 472.

A joint patent cannot be sustained upon a sole invention of either of the patentees, for the patent act gives no right to a patent, except to the inventor; and requires an oath from the party, who claims a patent, that he is the true inventor.

A joint patent for an invention, is utterly inconsistent with several patents for the same invention by the same patentees. For it is impossible, that any person can be, at the same time, the joint and the sole inventor of the same invention. If, therefore, each of the joint patentees obtain a several patent for the same invention, as his own exclusive invention; and afterwards, without surrendering the first patent, they obtain a joint patent for the same, as a joint invention; either the former sole patents are void, or the joint patent is void. For, besides the apparent inconsistency of the patents, if all could be sustained, then a recovery upon the joint patent would be no bar to a suit upon the several patents; and the parties might obtain a double recompense for the same infringement. There is an additional reason, which deserves great consideration; and that is, that if sole and joint patents could be sustained by the same parties for the same invention, they

might be successively taken out; so that the term of the exclusive right, might be prolonged for a great length of time; instead of being limited to fourteen years. I am, therefore, clearly of opinion, that a grant of a subsequent patent for an invention, is an estoppel to the patentee, to set up any prior grants for the same invention; which is inconsistent with the terms of the last grant. And I have very great doubts, whether, when a patent is once granted to any person for an invention, he can legally acquire any right under a subsequent patent for the same invention; unless his first patent be repealed for some original defect; so that it might truly be said to be a void patent.

In the next place, if several patents are taken out by several patentees for a several invention, and the same patentees afterwards take out a joint patent for the same, as a joint invention; the parties are not absolutely estopped by the former patents, from asserting the invention to be joint: but the former patents are very strong evidence against the joint invention. The reason of this doctrine, is, not that estoppels are odious in the law, but that a party may innocently mistake as to the extent of his own claims: and though a

sole and joint invention, by the same persons of the same thing, cannot exist in fact; yet a party may suppose that he has invented, what in truth has been partly suggested by another mind.

In the present case, each of the plaintiff's (*Barrett* and *Stearns*) obtained, in the year 1809, a several patent for the present invention, as his sole invention; and the patent, on which this action is brought, is a joint patent granted in 1818. In this view, the doctrine already stated, directly applies in the case.

The invention or discovery for which a patent can be sustained, must be "*new.*"

By decisions in British Courts, it appears that "a manufacture, *newly brought* into the kingdom from beyond sea, though not *new there*, is allowed by the statute of James; and whether it be learned by travel, or by study, it is the same thing.* These decisions were founded, as it should seem, upon the express letter of the statute; which allows a patent, not for any new manufacture, generally, but "for any new manufacture *within this realm.*" In the United States, the inventor, if an alien resident, is required to make oath or affirma-

* Salkeld, 447. Hawkin's, 223.

tion, that the invention, art, or discovery, for which a patent is solicited, hath not, to the best of his or her knowledge, or belief, been known in this or any foreign country. And by the 6th section of the Patent Act, if the thing secured by patent was not originally discovered by the patentee, but had been in use, or had been described in some public work, anterior to the supposed discovery of the patentee; the patent, in an action on the case, shall be declared void.*

In Great Britain, if a patent be granted in case of a new invention, the king cannot grant a second patent, for the charter is granted as an encouragement to invention and industry, and to secure the patentee in the profits for a reasonable time; but when that is expired, the public is to have the benefit of the discovery.†

In Great Britain, however, the term of the patent monopoly may be extended by a private act of Parliament; and in the United States, the same thing may be effected by act of Congress.

According to some English decisions, the publisher of an invention, or discovery, is

* 1. Sec. Patent Act of April 17, 1800.

† 10. Mod. 110.

entitled to a patent, whether he happen to be the original inventor or not. It is contended that it is the publisher, who confers the benefit upon Society; not the man who hoards it up in his own breast: for where one person had discovered a new method of making refracting telescopes, but never having made it public, another had obtained a patent for it, the patent was deemed valid. This was Dolland's case, as stated by Buller J. in Boulton, and Watt *vs.* Ball, and Hornblower, 2. H. Black. 470. See likewise 3. Mod. 77.

The original inventor of a machine, who has reduced his invention to practice, is entitled to a priority of patent right; although subsequently the same machine may have been invented by another person. This point was discussed in an action, *John Woodcock* vs. *David Parker*, and another.*

This was an action on the case for a violation of a patent right of the plaintiff for splitting leather. The cause was tried before *Story J.* in the absence of the District Judge. The plaintiff, at the trial, produced his letters patent, dated 8th May, 1809, securing to him the patent right of a machine for splitting

* 1 Gal. 438.

leather. The defendants admitted the use of a similar machine; but contended that the machine was the invention of one *Samuel Parker*, (under whom they claimed) who had obtained his original letters patent for the same invention, dated 9th July, 1808; and letters patent for certain improvements therein, dated the 26th of April, 1809. One of the questions between the parties was, whether Woodcock, or Parker was the first inventor of the machine in controversy, and entitled to the patent.

Story J. in summing up the cause, directed the jury as follows: The first inventor is entitled to the benefit of his invention; if he reduce it to practice, and obtain a patent therefor; and a subsequent inventor cannot, by obtaining a patent therefor, oust the first inventor of his right; or maintain an action against him for the use of his own invention. In the present case, as the defendants claim their right to use the machine in controversy, by a good derivative title from *Samuel Parker*, if the jury are satisfied that the said Parker was the first and original inventor of the machine, the plaintiff cannot, under all the circumstances, maintain his action; notwithstanding, he may have been a subsequent inventor, without any knowledge of the prior

existence of the machine, or communication with the first inventor. It is not necessary to consider, whether, if the first inventor should wholly abandon his invention, and never reduce it to practice, so as to produce useful effects; a second inventor might not be entitled to the benefit of the statute patent: because here there is not the slightest evidence of such abandonment. *Parker* is proved to have put his machine is operation: it produced useful effects; and he followed up his invention, by obtaining a patent from the department of state.

It is likewise asserted by *Story J.* in the case of *Odiorne* vs. *Winkley*, that "The original inventor of a machine, is exclusively entitled to a patent for it. If another person invent an improvement on such machine, he can entitle himself to a patent for such improvement only; and does not thereby acquire a right to patent and use the original machine: and if he does procure a patent for the whole of such a machine, with the improvement, and not for the improvement only; his patent is too broad, and therefore void."*

The following decision, goes far to secure the right of the original inventor, in certain

* 13. Gal. 53.

cases; to inventions known and used, even before application for a patent.†

Evans brought an action on the case against *Weiss*, for a violation of the plaintiff's patent right, which came up on the following case agreed.

The plaintiff, being the inventor of the improvements in the manufacture of flour, hereafter mentioned, and the patent right for the same, heretofore obtained, having been declared by the Court void in the action of Evans against Chambers; and the time for which the said patent was granted having also run out, an act of Congress, entitled "An act for the relief of Oliver Evans," was passed on the 21st of January, 1808, notice whereof was given to the defendant in February last.

On the 7th of May, 1802, during the continuance of the former patent, the defendant purchased of the plaintiff a right to use the

† There is a difference between our statute and that of Great Britain on this subject. In England, if the invention has been put *in use before the patent is obtained*, it is void. But our act does not, like the English statute, refer to the time of the *grant of letters patent*, but to the time of the *invention*. See 6th Section. The terms of the first section, ought to be construed with reference, and in subordination to the 6thsection.

said improvement at his mill on Wissahicon creek, in Philadelphia county, in this district, for one wheel and pair of stones; but prior to the passing of said act of Congress, he had applied and used, and continued to apply and use the same improvements for two wheels, and two pair of stones, in the same mill. The questions submitted are, whether the defendant is liable for damages for the use of the said improvements in application to this second wheel and pair of stones, since the act of the 22d of Januay, 1808, and whether, if so, he is liable before notice from the plaintiff. If the opinions of the court be in favor of the plaintiff, judgment to be entered generally, and amount to be afterwards adjusted by the attornies.

Judge Washington delivered the opinion of the Court, as follows: It is contended by the plaintiff that the defendant is liable for using the plaintiffs improvements in application to the second wheel and pair of stones, since the 22d day of Jan. 1808, or at all events, since the time when the defendant received notice of the plaintiff's patent; because the proviso in the act passed the 21st January, 1808, for the relief of Oliver Evans, extends only to cases of improvements erected for use,

or used *prior* to the passing of said law, and does not protect the defendant from damages, for using, after issuing of the patent under this law, an improvement erected prior thereto.

On the other side, it is insisted that such a construction would render this an *ex post facto* law, and consequently repugnant to the constitution. To avoid which, it should be so construed as to connect with the use of the improvement the erection of it subsequent to the grant of the patent.

Although the court at the last term, and upon the first argument, felt strongly inclined to give the construction contended for by the defendant; yet, upon further reflection, we are satisfied that we should do a violence to the words, which no rule of construction should warrant.

The words of that proviso are, "that no person who shall have used the said improvement, or have erected the same for use before the issuing of the said patent, shall be liable to damage therefor." That is, shall be liable for having erected, or for having used the improvement at any time

prior to the patent, but with respect to the use of it after the issuing of the patent, no protection whatever is afforded against the claim for damages under this law.

The next inquiry is, does the general law give to the plaintiff a right of recovering against a person who erected a machine prior to the issuing of the patent to the first inventor of it, and who afterwards made use of the same.

The act of the 17th of April 1800, which as to this point is the only law in force, declares, that "if any person, without permission from the inventor, shall make, devise, use, *or* sell, the thing, whereof the exclusive right is secured to the patentee, he shall pay three times the damage sustained by the patentee, to be ascertained by a jury." Now, whatever doubts might have existed as to the meaning of the words "devise *and* use," in the 5th section of the act, of the 21st of February, 1793, thus connecting the using with the devising of the improvement, there can be none under the third section of the act of 1800, which repeals the whole of the 5th section of the old law.

It is plain that the *using* of an improvement invented by another, and secured by

patents, is of itself an offence, no matter at what time such improvement was devised or made, whether the word "devise," which has been a good deal criticised, is synonymous with *make* as one of the plaintiff's council seemed to think, or means to invent, a mere act of the mind, a construction, which whether it be to make or *contrive*, to *plan*, *form* or *design*, it is unnecessary in this case to decide, because the charge against the defendant is the *using* of the plaintiff's improvement unconnected with the making and devising it.

But it is objected to this construction, that it would render the law *ex post facto* in its operation, in respect to one who has erected his improvement prior to the granting of the patent of the plaintiff.

It must be confessed that cases of great hardship may occur, if after a man shall have gone to the expense of erecting a machine for which the inventor has not then, and never may obtain a patent, he shall be prevented from using it by the grant of a subsequent patent, and its relation back to the patentee's prior invention. But the law, in this case cannot be termed *ex post facto*, or even retrospective in its operation, because the general law declares before hand that the right to the

patent belongs to him who is the first inventor, even before the patent is granted; and therefore, any person, who, knowing that another is the first inventor, yet doubting whether that other will ever apply for a patent, proceeds to construct a machine, of which it may afterwards appear that he is not the first inventor, acts at his peril, and with full knowledge of the law, that by relation back to the first invention, a subsequent patent may cut him out of the machine thus erected.

Not only may individuals be injured by a liberal construction of the words in the law, but the public may suffer, if an obstinate or negligent inventor should decline obtaining a patent, and at the same time keep others at arm's length, so as to prevent them from profiting by the invention for a length of time; during which the fourteen years are not running on. But these hardships must rest with Congress to correct. It is beyond our power to apply a remedy. No such hardships exist in the present case, where the defendant erected the improvement with a knowledge not only that the plaintiff was the first inventor, but had absolutely obtained a patent, although it was afterwards declared invalid.

The circumstances of this case render it unnecessary to give an opinion as to the right of a first inventor, after a patent obtained, to recover against one, who, believing himself the first inventor, constructs a machine or improvement, upon the principles of his new invention, or uses the same, after such patent is issued.*

Since the time of this decision it has been determined by Mr. Justice STORY as follows:

The statute declares it a good defence to an action for the infringement of the patent right, that the thing secured by the patent was not originally discovered by the patentee, but had been in use, or had been described in some public work anterior to the supposed discovery of the patentee. The first inventor who has put his invention in practice, and he only, is entitled to a patent. Every subsequent patentee, although an original inventor, may be defeated of his patent right upon proof of of such prior invention's being put into use. The law in such case cannot give the whole patent right to each inventor, even if each be equally entitled to the merit of being an origi-

* This point, however, was decided in favor of the original inventor in the case of Woodcock *vs.* Parker, cited *into* p. 47 of this work. See likewise the next following case.

nal and independent inventor; and it therefore adopts the maxim, *qui prior est in tempore, potior est in jure.* And to the present defendant it is perfectly indifferent, whether the first inventor has taken out a patent, or has dedicated the invention to the public, or not, for he may stand upon the defence that the plaintiff is not the first inventor, who put the invention in use.

It has been argued by the plaintiff, that the defence set up by the statute does not apply, except in cases, where the invention, or (as the statute expresses it) the thing originally discovered, has been before generally known and in general use, among persons engaged in the art or profession, to which it properly belongs. But I do not so understand the statute. To entitle a person to a patent as a first inventor, it is certainly not necessary for him to establish, that he has put his invention into general use, or that he has made it generally known to artizans engaged in the same business; and yet, upon the argument we are considering, unless it were so generally known and in use, he would be defeated by a patentee, who was a subsequent independent inventor.

The intent of the statute was to guard against defeating patents, by the setting up of a prior invention, which had never been reduced to practice. If it were the mere speculation of a philosopher or a mechanician, which had never been tried by the test of experience, and never put into actual operation by him, the law would not deprive a subsequent inventor, who had employed his labour and his talents in putting it into practice, of the reward due to his ingenuity and enterprise. But if the first inventor reduce his theory to practice, and put his machine or other invention into use, the law never could intend, that the greater or less use, in which it might be, or the more or less widely the knowledge of its existence might circulate, should constitute the criterion, by which to decide upon the validity of any subsequent patent for the same invention. I hold it, therefore, to be the true interpretation of this part of the statute, that any patent may be defeated by shewing, that the thing secured by the patent, had been discovered and put in actual use, prior to the discovery of the patentee, however limited the use or the knowledge of the prior discovery might have been.*

* Bedford *vs.* Hunt. 1 Mason, 305

The principles enforced by Mr. Justice Story, in the above case, are recognised in the case of Evans *vs.* Eaton; 3. Wheaton, 513—514, where Mr. Chief Justice Marshal observed, that without a critical inquiry into the accuracy, with which the term invention or discovery may be applied to any other than the first inventor, the court considers this question as completely decided by the 6th section of the general patent act. That declares that if the thing was not *originally* discovered by the patentee, but had been in use, or had been described in some public work, anterior to the supposed discovery of the patentee, judgment shall be rendered for the defendant, and the patent declared void.

Admitting the words "*originally* discovered," to be explained or limited by the subsequent words, still if the thing had been in use, or had been described in a public work, anterior to the supposed discovery, the patent is void. It may be that the patentee had no knowledge of this previous use, or previous description; still his patent is void: the law supposes he may have known it.

An invention which can entitle a man to a patent, must be "*useful*," as well as "*new*." But by "useful" is meant, not an invention in

all cases superior to the modes now in use for the same purpose, but "useful" in contradistinction to frivolous and mischievous inventions. This point was determined in the case of Francis C. Lowell *vs.* Winslow Lewis.*

This was an action on the case for the infringement of a patent right. In the year 1813, Mr. *Jacob Perkins* obtained a patent for a new and useful invention in the construction of pumps; and afterwards assigned his interest therein to the plaintiff. The defendant became the assignee of a similar patent, taken out in 1817, by a Mr. James Baker; and it was for the constructing and vending pumps under this second patent, that the action was brought. The principal object of both the inventions, was, by dispensing with the box used in the common pumps, to obtain a larger water way. To effect this, Perkins so constructed the valves of his pump, that they completely filled the area of the shaft, and fell upon its sides, in the same manner, as by the old construction, they did upon the box; thus leaving the whole of the area, excepting that occupied by the valves themselves, for a water way. The valves were

* 1 Mason's Rep. 182.

of a triangular shape, and adapted only to a pump of a square form. This pump seemed to be principally useful, when it was desirable to throw up large quantities of water in a short space of time, and a number of hands could be put to the working of it.

The valves of *Baker's* pump were fitted to a round shaft, and occupied, like the other, the whole of its area: but instead of resting upon the sides of the shaft, were supported by a brass rim, which prevented the friction against the sides of the shaft consequent upon the other construction, and to obviate which Perkins since obtaining his patent had adopted a check bolt. It appeared that Baker's invention required fewer hands to work it, and could be applied to the common house pump.

STORY J. in summoning up the cause to the jury stated as follows :—To entitle the plaintiff to a verdict, he must establish that his machine is a new and useful invention; and of these facts his patent is to be considered merely *prima facie* evidence of a very slight nature. He must, in the first place establish it to be a useful invention; for the law will not allow the plaintiff to recover, if the invention be of a mischievious or injurious tenden-

cy. The defendant, however, has asserted a much more broad and sweeping doctrine; and one which I feel myself called upon to negative in the most explicit manner. He contends that it is necessary for the plaintiff to prove, that his invention is of general utility; so that in fact, for the ordinary purposes of life, it must supersede the pumps in common use; in short, that it must be for the public, a better pump than the common pump; and that unless the plaintiff can establish this position, the law will not give him the benefit of a patent, even though in some peculiar cases his invention might be applied with advantage. I do not so understand the law. The patent act uses the phrase "*useul invention*" merely incidentally; it occurs only in the first section, and there it seems merely descriptive of the subject matter of the application, or of the conviction of the applicant. The language is "when any person or persons shall allege that he or they have invented any new and useful art, machine," &c. he or they may, on pursuing the directions of the act, obtain a patent. Neither the oath, required by the second section, not the special matter of defence allowed to be given in evidence by the sixth section of the act, contains any such qualification or reference to general utility, to establish the validity of the patent. Nor is it

alluded to in the tenth section as a cause for which the patent may be vacated. To be sure, all the matters of defence or of objection to the patent are not enumerated in these sections ;* but if such an one as that now contended for had been intended, it is scarcely possible to account for its omission. In my judgment the argument is utterly without foundation. All that the law requires is, that the invention should not be frivolous or injurious to the well being, good policy or sound morals of society. The word "*useful*," therefore, is incorporated into the act in contradistinction to mischievous or immoral. For instance, a new invention to poison people, or to promote debauchery, or to facilitate private assasination, is not a patentable invention. But if the invention steers wide of these objections, whether it be more or less useful, is a circumstance very material to the interest of the patentee ; but of no importance to the public. If it be not extensively useful, it will silently sink into contempt and disregard. There is no pretence that Mr. *Perkins'* pump, is a mischievous invention ; and if it has been used injuriously to the patentee, by the defendant, it certainly does not lie in his mouth to contest its general utility. Indeed,

* *Whittemore* vs. *Cutler*, 1 *Gallis.* 429, 435.

the defendant asserts that Baker's pump is useful in a very eminent degree; and if it be substantially the same as *Perkins'*, there is an end of the objection: if it be not substantially the same, then the plaintiff must fail in his action. So that in either view, the abstract question, seems hardly of any importance in this cause.

And, in the case of Bedford *vs.* Hunt, 1. Mason, 303, Mr. Justice Story observes, that no person is entitled to a patent under the act of Congress, unless he has invented some new and useful art, machine, manufacture, or composition of matter, not known or used before.

By useful invention, in the statute, is meant such a one as may be applied to some beneficial use in society; in contradistinction to an invention, which is injurious to the morals, the health, or the good order of society. It is not necessary to establish, that the invention is of such general utility, as to supersede all other inventions now in practice to accomplish the same purpose. It is sufficient, that it has no noxious or mischievous tendency; that it may be applied to practical uses; and that so far as it is applied, it is salutary. If its practical utility be very limited, it will follow, that it will be of little or no profit to the

inventor; and if it be trifling, it will sink into utter neglect. The law, however, does not look to the degree of utility; it simply requires, that it shall be capable of use; and that the use is such as sound morals and policy do not discountenance or prohibit.

I shall now proceed more immediately to the subject, or essence of the *thing* or *matter* for which monopolies can be legally granted, by letters patent. The statute of 21 *Jac.* before cited, allows the grant of letters patent for "the sole working or making of any manner of *new manufactures*, to the true and first inventor." The statutes of the United States, allow a similar monopoly to the person or persons, who shall allege that he or they have invented any *new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter,"* &c. These clauses may be said to be the pivots, on which turns the whole law of patents for new inventions, in Great Britain, and the United States. They are descriptive of the *kind of property*, which may be obtained by patents for new inventions; while the other regulations in the law of both countries, point out the methods by which the title to

this species of property may be ascertained, and secured; and the persons to whom such titles may be granted. The words, "any manner of new manufactures" in the statute of *Jac.* I. as understood and explained in British Courts of Justice, are co-extensive in signification with the words "new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter," made use of in our statute. British authorities, therefore, so far as circumstances are similar, and the reason of the cases remains the same, will be pertinent for determining what kinds of new invented things may be the legal subjects of patent monopolies.

The famous cases of Boulton and Watt *vs.* Bull, and Hornblower and Maberly *vs.* Boulton and Watt, are the most prominent, interesting and important, as respects the kinds of invention, discovery or improvement, which may be secured by patent to the inventor; and afford many rules and observations, which ought not to be omitted in the present essay. The patent on which the action of Boulton and Watt *vs.* Bull was commenced, was for a new *invented method* of using an old engine in a more beneficial manner than heretofore, by

the mechanical employment of certain principles. The case is reported in 2 Hen. Black. 463, as follows:

Boulton and Watt, *vs.* Bull.

This was an action on the case for infringing a patent, by which the plaintiff was secured in "the sole benefit and advantage of making, using, and exercising, and vending, a *certain invention* of him, the said plaintiff; being a *method* by him *invented*, of lessening the consumption of steam and fuel in fire engines:" which patent was, by a private act of Parliament, (15 Geo. 3. c. 61.) continued to the plaintiff for twenty-five years. The general issue being pleaded, the cause came on to be tried after the sitting of Trinity Term, 1793; when a case was reserved for the opinion of the court; which stated, that by letters patent of 5th January, 1769, the king granted to the plaintiff Watt, who had duly assigned two thirds of the patent right to the plaintiff Boulton, that he might for fourteen years, make, use, exercise and vend, *his new invented method* of lessening the consumption of steam and fuel in fire-engines, under the usual condition of enrolling a specification:— That Watt, by his specification, declared, that *his new invented method of lessening the consumption of steam, and consequently fuel, in*

fire-engines, consisted of certain principles: setting them forth particularly; by which it appeared that the object of the patentee, was to condense the steam, without cooling the cylinder or steam vessel; and that the means adopted to effectuate this, were in substance, to enclose the cylinder or steam vessel, in a case of wood, or any other material, which will confine the heat, or transmit it slowly: to surround it with steam, or other heated bodies, and to suffer neither water, nor any other substance colder than steam, to enter or touch it during that time.* The case

* The specification was as follows. "My method of lessening the consumption of steam, and consequently of fuel, in fire-engines, consists in the following principles.

"*First*. That vessel in which the powers of steam are to be employed to work the engine, which is called the cylinder in common fire engines, and which I call the steam vessel, must, during the whole time the engine is at work, be kept as hot as the steam that enters it; first, by enclosing it in a case of wood, or any other materials that transmit heat slowly: secondly, by surrounding it with steam or other heated bodies; and thirdly, by suffering neither water, or any other substance colder than steam, to enter or touch it during that time.

"*Secondly*, In engines that are to be worked wholly or partially by the condensation of steam, the steam is to be condensed in vessels distinct from the steam vessels or cylinders, although occasionally communicating with them: those vessels I call condensers; and while the engines are working, these condensers ought at least to be kept as cold as the air in the neighbourhood of the engines, by the application of water or other cold bodies.

then, described the old engine; and stated that the plaintiff's was a *new* and *an useful invention*; and that the specification was of *itself* sufficient to enable a mechanic, acquainted with the fire engines previously in use, to construct fire engines producing the effect of lessening the consumption of fire and steam in fire engines. And the questions for the opinion of the court were, 1st. whether the

"*Thirdly*, Whatever air, or other elastic vapor, is not condensed by the cold of the condenser, and may impede the working of the engine, is to be drawn out of the steam vessels or condensers, by means of pumps, wrought by the engines themselves, or otherwise.

"*Fourthly*, I intend in many cases, to employ the expansive force of steam to press on the pistons, or whatever may be used instead of them, in the same manner as the pressure of the atmosphere is now employed in common fire engines. In cases where cold water cannot be had in plenty, the engine may be wrought by the force of steam only, by discharging the steam into the open air, when it has done its office.

"*Fifthly*, When motions round an axis are required, I make the steam vessels in form of hollow rings, or circular channels, with proper inlets, and outlets for the steam, mounted on horizontal axles, like the wheels of a water mill; within them are placed a number of valves, that suffer any body to go round the channel in one direction only: in these steam vessels are placed weights, so fitted to them as entirely to fill up a part or portion of their channels; yet rendered capable of moving freely in them, by means hereafter specified. When the steam is admitted in these engines, between these weights and the valves, it acts equally on both; so as to raise the weight to one side of the wheel, and by the reaction of the valves, successively to give circular motion to the wheel; the valves opening in the direction in which the weights are pressed, but not in the contrary; as the steam vessel moves round, it is supplied with

said patent was good in law, and continued by the act of Parliament above mentioned? 2dly, whether the specification was sufficient to support the above patent? On the part of the defendant, it was argued on three grounds: 1st. on the patent itself. 2ndly, upon the act of Parliament. 3dly, upon the act and patent taken together. 1st. upon the patent itself, it was objected, that it was for a formed instrument, or machine, and as such void; because it was admitted that there was *no specification* descriptive of any formed instrument whatever; nor any drawing or model; but that supposing it to be a patent for mere principles, (as the specification stated the invention to consist of principles,) it was neither originally good in law, nor continued

steam from the boiler, and that which has performed its office, may be discharged by means of condensers, or into the open air.

"*Sixthly*, I intend in some cases, to apply a degree of cold, not capable of reducing the steam to water, but of contracting it considerably; so that the engines shall be worked by the alternate expansion and contraction of the steam.

"*Lastly*, Instead of using water to render the piston, or other parts of the engine air and steam tight; I employ oils, wax, resinous bodies, fat of animals, quicksilver, and other metals in their fluid state.

To the above specification, this memorandum was added by Watt; that he did not intend that any thing in the fourth article, should be understood to extend to any engine where the water to be raised enters the steam vessel itself, or any vessel having an open communication with it.

by the act 15 Geo. 3 c. 61. Not good in law, because it did not fall within the construction of the statute, 21 Jac. 1. c. 3. against monopolies; which, in excepting letters patent, speaks of them as patents for the sole working or *making*, of any manner of *new manufactures;* which is descriptive either of the practice of making a thing by art, or of the thing when made; and that therefore, for a mere principle, without having carried it into effect, and produced some new-found matter or substance, a patent cannot be good: that the patent was not continued by the act 15 Geo. 3. c. 61.* it was shown that

* The act was entitled "An act for vesting in J. Watt, his executors, &c. the sole use and property of steam engines, commonly called fire engines, of his invention;" described in the said act for a limited time.

It recited that the king had, by letters patent, 5 Jan. 9. Geo. 3. granted to *Watt*, his executors, &c. the sole benefit and advantage of *making*, and *vending certain engines*, by him invented for lessening the consumption of steam and fuel in fire engines, for fourteen years, &c." on condition that he should enrol a specification, &c. that Watt had accordingly enrolled a specification of the said engine, (which specification was then set forth as above.) It farther recited that *Watt* had employed many years, and a considerable part of his fortune, in making experiments upon steam and steam engines, commonly called fire engines, with a view to improve them; by which several considerable advantages over the common steam engines, are acquired; but on account of the many difficulties which arise in the execution of such large and complex machines, and of the long time requisite to make the necessary trials; he could not complete his intention before the end of the year 1774; when he finished some large engines as specimens of his con-

the title of the act was for vesting in the plaintiff Watt, the sole property of certain *steam engines, called fire engines, of his invention ;* which, after reciting and taking notice among other things, that the king had, by his letters patent, granted to Watt the sole benefit and advantage of *making, constructing,* and selling *the engines,* therein before particularly described ; shall be vested in Watt for twenty-five years. It was therefore contended, that if the patent was really for princi-

struction, which had succeeded so as to demonstrate the utility of the invention ; and in order to manufacture these engines with accuracy, and so that they might be sold at a moderate price, a considerable sum of money must be previously expended in erecting mills, and other apparatus ; and that several years and repeated proofs would be required, before any considerable part of the public could be convinced of the utility of the invention, and of their interest to adopt the same : the whole term granted by the letters, might probably elapse, before Watt could receive an advantage adequate to his labour and invention ; and then it enacted, that from and after passing of the act, the sole privilege and advantage of *making, constructing,* and *selling the said engines,* herein before particularly described, within the kingdom of Great Britain, and his Majesty's colonies and plantations abroad ; should be, and were thereby vested in Watt, his executors, administrators ; and assigns, for and during the term of twenty-five years ; and it prohibited any other person's making, using, and putting into practice the said invention ; or counterfeiting, or imitating the same ; or making any addition to, or subtraction from it, without Watt's licence, &c. with a proviso, that the act should not extend to prevent any person's making any fire or steam engine, or any contrivance relating to the same, which was not the invention of Watt ; or which had been publicly used before.

ples, it was not continued by the act; or supposing it to be well continued, as being described according to its import, it would not be within the protection of the statute against monopolies, for the foregoing reasons. 2ndly, upon the act itself it was argued, that the recital that the king had granted a patent for *making and vending certain engines*, was false: and it had been adjudged, that if a private act of parliament, like the present, be founded upon a false recital, the act is void. 3dly, that if the subject was viewed as arising from the patent and act, taken together, the arguments respecting these instruments, separately, applied more strongly, inasmuch as if the act was to be considered as explanatory of the patent, or as a part of it; there could not be a doubt but that it meant to grant a monopoly for a formed engine or machine. That *upon the whole of the case, it appeared either that the patent was for an entire formed machine, when it ought to have been for an improvement only; and in which case, the specification did not correspond with it: or it was for mere principles, which according to the statute of* 21 Jac. 1. c. 3. *against monopolies, could not be the subject of a patent.* The case was very elaborately argued on both sides; and after full consideration, the judges gave their respective opinions.

Rooke J. The objections are merely formal; they do not affect the substantial merits of the patentee, nor the meritorious consideration which the public have a right to receive in return for the protection which the patentee claims. With regard to the first objection, it is, that the patent is not for a fire engine of a particular construction, but for a new invented method. It pre-supposes the existence of the fire engine, and gives a monopoly to the patentee of his new invented method of lessening the consumption of steam and fuel in fire engines. The obvious meaning of these words is, that he has made *an improvement in the construction of fire engines;* for what doth method mean, but mode or manner of effecting? What method can there be of saving steam, or fuel in engines, but by some variation in the construction of them? *A new invented method*, therefore, conveys to my understanding, the idea of a *new mode of construction.* I think these words are tantamount to *fire engines of a newly invented construction:* at least I think they will bear this meaning, if they do not necessarily exclude every other. If they will bear this interpretation, then I think the objection, which is merely verbal, is answered: to which I add, that patents for a method, or art of doing particular things, have been so numer-

ous, that *method* may be considered as a common expression in instruments of this kind. It would therefore be extremely injurious to the interest of the patentees to allow this verbal objection to prevail. As to the second objection, that no particular engine is described, that no model or drawing is set forth; I hold this not to be necessary; provided the patentee so describes the improvement, as to enable artists to adopt it when his monopoly expires. The jury find he has so described it. It is objected that he professes to set forth principles only; but we are not bound by what he professes to do, but what he has really done. If he had proposed to set forth a full specification of his improvement, and had not set it forth intelligibly, his specification would have been insufficient, and his patent void. It seems, therefore, but reasonable, that if he sets it forth intelligibly, his specification should be supported; though he professes only to set forth the principle. The term *principle*, is equivocal: it may denote either the radical elementory truths of a science, or those consequential axioms, which are founded on radical truths; but which are used as fundamental truths by those who do not find it expedient to have recourse to first principles. The radical principles on which all steam engines

are formed, are the natural properties of steam; its expansiveness and condensibility; whether the machines are formed in one shape or another; whether the cylinder is kept hot or suffered to cool; whether the steam is condensed in one vessel or another, still the radical principles are the same. When the present patentee set his inventive faculties to work, he found fire engines already in existence; and the natural qualities of steam already known, and mechanically used. He only invented an improvement in the mechanism, by which they might be employed to greater advantage. There is no newly discovered natural principle as to steam, nor any new mechanical principle in his machine. The only invention, is a new mechanical employment of principles already known. The specification describes a practical use of improved mechanism, the basis on which the improvement is founded. The object of the patentee was, to condense the steam without cooling the cylinder: the means adopted to effect this, were to inclose the cylinder in a case which will confine the heat, or transmit it slowly; to surround it with steam or other heated bodies; and to suffer neither water, nor any other substance, colder than the steam, to enter or touch it during that time. These means are set forth. The objection

is, that there is no drawing or model of a particular engine; and where is the necessity of such drawing or model, if the specification is intelligible without it? Had a drawing or model been made, and any man copied the improvement, and made a machine in a different form, no doubt this would have been an infringement on the patent: why? because the mechanical improvement would have been introduced into the machine, though the form was varied. It follows from thence, that the mechanical improvement, and *not the form* of the machine, is the object of the patent; and if this *mechanical improvement* is intelligibly specified, of which a jury must be the judges; whether the patentee calls it a *principle*, invention, or *method*, or by whatever other appellation, we are not bound to consider his terms, but the real nature of his improvement, and the description he has given of it; and we may, I think, protect him without violating any rule of law. The patent is for a method already adopted; and the two first and most material articles, are set forth as already accomplished; and the case states it was new and useful at the time of making the patent. I therefore consider the most essential part of the patent, the keeping the cylinder hot, inclosing it in a case, and surrounding it with steam, as carried into practi-

cal effect at the time of granting the patent: this the defendant has infringed. As to the objection of the want of a drawing or model, that at first struck me as of great weight. I thought it would be difficult to ascertain what was an infringement of a method, if there was no additional representation of the improvement, or thing methodized. But I have satisfied my mind thus: infringement or not, is a question for the jury. In order to decide this case, they must understand the the nature of the improvement, or thing infringed. If they can understand it without a model, I am not aware of any rule of law which requires a model, or drawing, to be set forth, or which makes void an intelligible specification of a *mechanical improvement*, merely because no drawing or model is annexed. In the present case, the want of a drawing or a model did not occasion any difficulty to the jury: they have expressly decided, that Mr. Watt has the merit of a new and useful invention; and that this invention was infringed by the defendant. How then can I say that they could not understand it for want of a drawing? especially, when they have added that the specification is sufficient to enable a mechanic, acquainted with fire engines previously in use, to construct fire engines producing the effect of lessening the

consumption of fuel and steam, upon the principle invented by the plaintiff. For these reasons, I think the second objection, that no particular engine is set forth, is not of sufficient weight to destroy the effect of the patent.

*Heath, J.**—This patent is expressly for a new invented method for lessening the consumption of steam and fuel in fire engines.—It appears that the invention of the patentee is original, and may be the subject of a patent; but the question is, inasmuch as his invention is to be put in practice by means of machinery, whether the patent ought not to have been for one or more machines; and whether this is such a specification as entitles him to the monoply of a *method*? If method and machinery had been used by the patentee as convertible terms, and the same consequences would result from both, it might be too strong to say that the inventor should lose the benefit of his patent, by the misapplication of his term. In truth, it is not so. His counsel have contended for the exclusive monopoly of a *method* of lessening the consumption of steam and fuel in fire-engines,

* The opinion of Judges Heath and Butler in this cause are controverted, in the case of Hornblower and Maberly against Boulton and Watt, cited hereafter.

and that therefore would better answer the purposes of the patentee, for the method is a principle reduced to practice; it is in the present instance the general application of a principle to an old machine. There is no doubt that the patentee might have obtained a patent for his machinery, because the act of parliament he obtained acknowledged his patent, and he himself, in 1782, procured a patent for his invention of certain new improvements upon steam and fire engines, for raising water, &c. which contained new pieces of mechanism, applicable to the same. Upon this statement, the following objections arise to the patent, which I cannot answer, viz.: that if there may be two different species of patents, the one for an application of a principle to an old machine, and the other for a specific machine, one must be good, and the other bad. The patent that admits the most lax interpretation should be bad, and the other alone conformable to the rules and principles of common law, and to the statute on which patents are founded. The statute 21 Jac. 1. prohibits all monopolies reserving to the king by an express proviso, so much of his ancient prerogative as shall enable him to grant letters patent, and grants of privileges for the term of fourteen years, or under, 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.* Watt then falls within the scope of this proviso. Such manufactures as are reducible to two classes. The first class includes machinery; the second, substances, such as medicines formed by chemical and other processes, where the visible substance is the thing produced; and that which operates preserves no permanent form. In the first class, the machine, and in the second, the substance produced, is the subject of the patent. I approve of the term *manufacture* in the statute, because it precludes all nice refinements; it gives us to understand the reason of the proviso; that it was introduced for the benefit of trade. That which is the subject of a patent, ought to be specified; and it ought to be that which is vendible; otherwise it cannot be a manufacture: this is a new species of manufacture; and the novelty of the language, is sufficient to excite alarm. It has been urged that the other patents have been litigated and established: for instance, Dolland's, which was for a refracting telescope. I consider that as subsequently an improved machine. A patent for an improvement of a refracting telescope, and a patent for an improved refracting telescope, are in substance the same; the same specification

would serve for both patents: the new organization of the parts is the same in both. I asked in the argument for an instance of a patent for a *method;* and none such could be produced: I was then pressed with patents for chemical processes, many of which are for *a method;* but that is from an inaccuracy of expression; because the patent is in truth, for a vendible substance. To pursue this train of reasoning still farther; I shall consider how far the arguments in support of this patent, will apply to the invention of original machinery, founded on a new principle. The steam engine furnishes an instance. The Marquis of Worcester, discovered in the last century, the expansive force of *steam;* and first applied it to machinery. As the original inventor, he was already entitled to a patent. Would the patent have been good applied to all machinery, or to the machine which he had discovered? the patent decides the question. *It must be for the vendible matter, and not for the principle.* Another objection may be urged against the patent, upon the application of the principle to an old machine; which is, that whatever machinery may be hereafter invented, would be an infringement of the patent, if it be founded on the same principle. If this were so, *it would reverse the clearest position of law respecting patents*

for machinery, by which it has been always holden; that the organization of a machine may be the subject of a patent, but principles cannot. If the argument for the patentee were correct, it would follow, that where a patent was obtained for the principle, the organization would be of no consequence. Therefore, *the patent for the application of the principle, must be as bad as the patent for the principle itself.* It has been argued by the patentee, that he could not specify all the cases in which his machinery could be applied. The answer seems obvious, that what he cannot specify, he has not invented. The finding of the jury, that steam engines may be made upon the principles stated by the patentee, by a mechanic acquainted with the fire engines previously in use, is not conclusive.

This patent extends to all machinery that may be made on this principle; so that he has taken a patent for more than he has specified; and as the subject of his patent is an entire thing, the want of a full specification, is a breach of the conditions, and avoids the patent. Indeed, it seems impossible to specify a principle, and its application to all cases; which furnishes an argument that it cannot be the subject of a patent. It has been usual to examine the specification, as a condition on

which the patent was granted. I shall now consider it in another point of view. It is a clear principle of law, that the subject of every grant must be certain. The usual mode has been for the patentee to describe the subject of it, by the specification: the patent and the specification must contain a full description. Then in this, as in most other cases, the patent would be void for the uncertain description of the thing granted if it were not aided by statute. The grant of a method is not good, because it is uncertain: the specification of a method, or the application of a principle is equally so, for the reasons I have alleged.

Buller J. It was expressly admitted in the argument, that there was no new particulars in the mechanism; that it was not a machine or instrument which the plaintiff had invented; that mechanism was not pretended to be invented in any of its parts; that this engine consists of all the same parts as the old engine; and that the particular mechanism, is not necessary to be considered. The fact of there being nothing new in the engine, drove the counsel to argue on very wise grounds, and to touch upon the idea of maintaining a patent for an idea or principle; though I think it was admitted, that a patent could not

be sustained for an idea or principle alone. *The very statement of what a principle is, proves it not to be a ground for a patent.* It is the first ground and rule for arts and sciences, or in other words the elements and rudiments of them. *A patent must be for some new production* from those elements, and not for the elements themselves. The arguments, which have been introduced, were very much calculated to keep clear of difficulties, which it was foreseen might be introduced into the case; as 1st, That unless the principle can be supported as the ground of the patent, there may be some danger of confirming the defendants objection to it:—2ndly, That unless the principle can be supported, it may open a fatal objection to the specification; because that does not state in what manner the new machine is to be constructed, how it varies from the old one, or in what way the improvements are to be added: or 3dly, Because the patent embraces the whole principle, and is founded on that alone; but the invention is taken to consist of an improvement, or addition only. Another objection may arise, both to the patent and specification, viz: that the patent is granted for the whole engine, and not for the addition or improvement only. Perhaps it may be convenient and judicious to keep those objections as

much as possible in the back ground, and out of the view of the court; but it is our duty to sift, and dive into the facts and circumstances of the case, and the bearings and consequences of them, as far as our abilities or knowledge of the subject will admit. There is one short observation arising on this part of the case, which seems to me to be unanswerable; and that is, that if the principle alone be the foundation of the patent, it cannot possibly stand, with that knowledge or discovery which the world were in possession of before. The effect, the power, and the operation of steam were known long before the date of this patent: all machines which are worked by steam, are worked on the same principle; the principle was known before; and therefore if the principle alone be the foundation of the patent, though the addition may be a great improvement, as it certainly is, yet the patent must be void, *ab initio;* but then it was said, that though an idea, or a principle alone would not support the patent, yet that an idea reduced into practice, or a practical application of a principle, was a good foundation for a patent, and was the present case. The mere application or mode of using a thing, was admitted not to be a sufficient ground: for on the court putting the question, whether if a man by science, were to de-

vise the means of making a double use of a thing, known of before, he could have a patent for that? it was rightly and candidly admitted that he could not. *The method* and the mode of doing a thing are the same; and I think it impossible to support a patent for a method only, without having carried it into effect, and produced some new substance. but here it is necessary to inquire, what is meant by a principle reduced to practice. It can only mean a practice founded on principle, and that practice is the thing done or made; or, in other words, the manufacture which is invented. This brings us to the true foundation of all patents, which must be the manufacture itself; and so says the statute, 21 *Jac.* 1. c. 3. All monopolies, except those allowed by that statute, are declared to be illegal and void; they were so at common law; and the sixth section excepts only those of the sole *working* or *making* any manner of *new manufactures*: and whether the manufacture be with, or without principle; produced by accident or art, is immaterial. *Unless this patent can be supported for the manufacture, it cannot be supported at all.* I am of opinion, that the patent is granted for the manufacture; and I agree that verbal criticisms ought not to avail; but that principle in the patent, and *engine* in the act of Parliament, mean, and are the same thing. Be-

sides, the declaration is founded on a right to an engine; and therefore, unless the plaintiffs can make out their right to that extent, they must fail. In most of the instances of the different patents mentioned, the patents were for the manufacture, and the specification rightly stated the method by which the manufacture was made: but none of them go the length of proving, that a method of doing a thing, without the thing being done, or actually reduced into practice, is a good foundation for a patent. When the thing is done or produced, then it becomes the manufacture, which is the proper subject of a patent. Dolland's patent was for object-glasses; and the specification properly stated the method of making those glasses. And as I mentioned in the course of the argument, the point contested in that case was, whether *Dolland* or *Hall* was the first and true inventor within the meaning of the statute, Hall having first made the discovery in his own closet, but never made it public; and on that ground Dolland's patent was confirmed. Mechanical and chemical discoveries, all come within the description of manufactures: and it is no objection to either of them, that the articles of which they are composed were known, and were in use before, provided the *compound article*, which is the object of the in-

vention is new. But then the patent must be for the specific compound, and not for all the articles or ingredients of which it is made. The first inventor of a fire engine could never have supported a patent for the method and principle of using iron. Nor could Dr. James, supposing his patent had been clear of other objections, have sustained a patent for the method and principle of using antimony. In the first place the patent must have been for the fire engine *eo nomine*, and in the second, for the specific compound powder. Suppose the world were better informed than it is how to prepare Dr. James' fever powder, and an ingenious physician should find out that it was a specific cure for a consumption, if given in particular quantities? I think it must be conceived that such a patent would be void; and yet the use of the medicine would be new, and the effect of it as materially different from what is known, as life is from death. So in the case of the late discovery, which as far as experience has hitherto gone, is said to have proved efficacious, that of the medicinal properties of arsenic in curing agues, could a patent be supported for the sole use of arsenic in aguish complaints? The medicine is not new, and any patent for it, would be void. The case of water-tabbies, which has been often mentioned in West-

minster Hall, may afford some illustration of this subject. That invention first owed its rise to the accident of a man's spitting on a floor-cloth, which changed its colour; from whence he reasoned on the effect of intermixing water with oils or colours, and found out how to make water-tabbies, and had his patent for water-tabbies only: but if he could have had a patent for the principle of intermixing water with oils or colours, no man could have had a patent for any distinct manufacture produced on the same principle, yet as the floor-cloth and the tabby are distinct substances, calculated for distinct purposes, and were unknown to the world before, a patent for one would be no objection to a patent for another. *The true question in this case is whether the plaintiff's patent can be supported for the engine?* I have already said I consider it as granted for the engine; and if that be the right construction of the patent, that alone lays all the arguments about ideas and principles out of the case. The objections to this patent, as a patent for the engine are two, 1st. That the fire engine was known before: and secondly, though the plaintiff's invention consisted only of an improvement of the old machine, he has taken a patent for the whole machine, and not for the improvement alone. As to the first, the fact which

the plaintiff's counsel were forced repeatedly to admit, viz. that there was nothing new in the machine, is decisive against the patent. And the second objection is equally fatal: *that a patent for an addition or improvement may be maintained is a point which has never been decided.* For of late times, whenever the point has arisen, the inclination of the court has been in favour of the patent or the improvement; and the parties have acquiesced, when the objection might have been brought directly before the court. "In Morris *vs.* Branson, which was tried at the session after Easter term, 1776, the question was whether a patent for making oilet holes or net work, in silk, thread, cotton, or worsted, and which was done only by an addition to the old stocking frame was valid? Lord *Mansfield* said that he had paid great attention to it and mentioned it to all the Judges. And that if the general point of law, viz. that there can be no patent for an addition only was with the defendant, it was open on the record, and he might move in arrest of judgment; but that the objection would go to repeal almost every patent that ever was granted."* There

* The United States' law of February 21, 1793 expressly grants the right of obtaining a patent for a "new and useful *improvement* on any art, machine, manufacture, or composition of matter," and decisions in England allow of patents for the same purpose.

was a verdict for the plaintiff, with 500l. damages, and no motion was made in arrest of Judgment. Though his lordship did not mention what were the opinions of the judges, or give any direct opinion himself, yet we may safely collect that he thought, on great consideration, that the patent was good; and though the objection was taken at the trial it was not afterwards generally persisted in: since that time it has been the generally received opinion in Westminster-Hall that a patent for an addition only was good: but it must be for the addition only and not for the old machine too. In Jessop's case for an improvement in watches, the patent was held to be void, because it extended to the whole watch, and the invention was of a particular movement only. It was admitted that the patent should be applied to the invention itself; but it was contended, that if in consequence the patent gave a right to the whole engine, that would be no objection. To this I answer, that if the patent be confined to the invention, it can give no right to the *engine*, or to any thing beyond the invention itself. When a patent is taken for an improvement only, the public have a right to purchase that improvement by itself, without being encumbered with other things. A fire engine, of any considerable size will cost about

1200*l.* and suppose the alteration made by the plaintiff, with a fair allowance of profit, would cost 50*l.* or 100*l.* is it to be maintained that all the persons who already have fire engines, must be at the expense of buying new ones from the plaintiff, or be excluded from the use of the improvement? So in the case of the watch, may not other persons in the trade buy the new improvement and work it up in watches made by themselves? Where men have neither fire engines nor watches, it is highly probable that they will go to the inventor of the last and best improvements for the whole machine: and if they do, it is an advantage which the inventor gets from the monopoly vested in him. But here the plaintiffs claim the right to the whole machine. To that extent their right cannot be sustained, and therefore I am of opinion that there ought to be judgment for the defendant.

Eyre, Ch. J. Patent rights are no where that I can find, accurately discussed in our books; we must therefore resort to the statute, 21 Jac. 1. c. 3. we there find a *monopoly* defined to be "the privilege of the sole buying, selling, making, working, or using *any thing*, within this realm;" and this is generally condemned as contrary to the fundamental

law of the land: but the 5th and 6th sections of that statute, "save letters patent, and grants of privileges of the sole working or making of any manner of *new manufactures*, within this realm, to the first and true inventor, or inventors of such *manufactures*, with this qualification; so they be not contrary to the law, nor mischievous to the state," in these three respects; first, "by raising the prices of commodities at home:" secondly, "by being hurtful to trade;" or thirdly, "by being generally inconvenient." According to the letter of the statute, the saving goes only to the *sole working and making; the sole buying and using*, remain under the general prohibition; and with apparent good reason for so remaining, for the exclusive privilege of buying, selling, and using, could hardly be brought within the qualification of not being contrary to law, and mischievous to the state, in the respects which I have mentioned. I observe also, that according to the letter of the statute, the words "any manner of *new manufacture*," in the saving, fall very short of the words *any thing*, in the first section.

It was admitted in the argument at the bar, that the word *manufacture* in the statute, was of extensive signification; 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 pursue 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 made 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 should seem that the privilege of the sole making, or working, 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. Upon this ground, Dolland's patent, was perhaps exceptionable; for that was for a *method* of producing a new object glass, instead of being for the object glass produced. If Dr. James' patent had been for his *method* of preparing his powders, instead of *the powders themselves*, this patent would have been objectionable on the same ground. When

the effect produced, is no substance, or compostion of things, the patent can only be for the mechanism, if new mechanism is used; or for the process, if it be a new mode of operating, with or without, old mechanism, by which the effect is produced. To illustrate this, the effect produced by David Hartley's invention for securing buildings from fire, is no substance or composition of things. It is a mere negative quality, the absence of fire. The effect is produced by a new method of disposing of iron plates in buildings. In the nature of things, the patent could not be for the effect produced. I think it could not be for the making the plates of iron, which, when disposed in a particular manner, produced the effects; for these things are in common use. But the invention consisting in *the method of disposing these plates of iron*, so as to produce their effect, and their effect, being an useful and meritorious one; the patent seems to have been very properly granted to him, for *his method of securing* buildings from fire; and this compendious analysis of *new manufactures*, mentioned in the statute, satisfies my doubts, whether any thing could be the subject of a patent, but something organized, and capable of precise specification. But for the more satisfactory solution of the other points, which are made in this case, I shall pursue this sub-

ject a little farther. In Mr. Hartley's method, plates of iron are the means which he employs; but he did not invent these means, the invention wholly consisted in the *new manner of using*, or I would rather say of *disposing of a thing in common use*; and which thing every man might make at his pleasure; and which therefore I repeat, could not in my judgment be the subject of the patent. In the nature of things, it must be that in the carrying into execution any new invention, use must be made of certain means proper for the operation. Manual labour to a certain degree must always be employed, the tools of artists frequently; often things manufactured, but not newly invented, such as Hartley's iron plates; all the common utensils used in conducting any process, and so up to the most complicated machinery that the art of man ever devised. Now let the merit of the invention be what it may, it is plain that the patent, in almost all these cases, cannot be granted for the *means* by which it *acts*, for in them there is nothing new, and in some of them nothing capable of appropriation. Even where the most complicated machinery is used, if the machinery itself is not newly invented, but only conducted by the skill of the inventor, so as to produce a new effect, the patent cannot be for the machinery. In Hart-

ley's case it could not be for the *effect* produced, because the effect as I have already observed, is merely negative. though it was meritorious. 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 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*, in one of the common acceptations of the word, as we speak of the manufactures of glass or any other thing of that kind. The advantages to the public from improvements of this kind are beyond all calculation important to a commercial country, and the ingenuity of artists who turn their thoughts to such improvements, is in itself deserving of encouragement; and, in my apprehension it is strictly agreeable to the spirit and meaning of the statute of Jac. 1, that it should be encouraged: and yet the validity of these patents, in point of law must rest upon the same foundation with that of Hartley's.

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 ques-

tion upon a patent, no new substance, but an old one, produced advantageously to the public. It cannot be for the mechanism, for there is no 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 copy right, it must be for *method*, detached *from all physical existence whatever.* And I think we should well consider what we do in this case, that we may not shake the foundation upon which these patents stand. Probably I do not overrate it, when I state that two thirds, I believe I might say three fourths, of all patents granted since the statute passed, are for *methods of operating*, and of manufacturing; producing no new substances, and employing no new machinery. If the list were examined, I dare say there might be fifty patents, for methods of producing all the known salts, either the simple salt, or the old compounds. The different sorts of ashes used in maufactures, are many of them inventions of great merit; many of them, probably, merely speculations of wild projectors: the latter ought to fall, the former to stand. If we wanted an illustration of the possible merit of a new method of operating with old machinery, we might look to the identical case now in judgment before the court. If we consider into what general use

fire engines have come; that our mines cannot be worked without them; that they are essentially necessary to the carrying on many of our principal manufactures; that these engines are worked at an enormous expense in coals, which, in some parts of the kingdom, can with difficulty be procured in large quantities; it is most manifest that any method found out for lessening the consumption of steam in the engines, which, by necessary consequence, lessens the consumption of coals expended in working them, will be of great benefit to the public, as well as to the individual, who thinks fit to adopt it. And shall it now be said, after we have been in the habit of seeing patents granted, in the immense number in which they have been granted, for *methods of using old machinery*, to produce substances that were old, but in a more beneficial manner; and also for producing negative qualities, by which benefits result to the public, by a narrow construction of the word *manufacture* in this statute; that there can be no patent for *methods* producing this new and salutary effect, connected, and intimately connected as it is, with the trade and manufactures of the country? This, I confess, I am not prepared to say. An improper use of the word *principle* in the specification, set forth in this case, has, I think.

served to puzzle it. Undoubtedly there can be no patent for a mere principle; but for a principle so far embodied and connected with corporeal substances, as to be *in a condition to act*, and to *produce effects in any art, trade, mystery, or manual occupation, I think there may be a patent.* Now this is, in my judgment, the thing for which the patent stated in the case, was granted; and this is what the specification describes; though it *miscals it a principle.* It is not that the patentee has conceived an abstract notion, that the consumption of steam in fire engines may be lessened; but he has discovered a *practical manner of doing it;* he has taken the patent. Surely this is a very different thing from taking a patent for a principle; it is *not for a principle*, but *for a process.* I have dwelt more largely on this part of the case, because, in my apprehension, this is the foundation upon which the whole argument will be found to rest. If, upon the true construction of the statute, there may be a patent for a *new method* of manufacturing or conducting, chemical processes, or of working machinery, so as to produce new and useful effects; then am I warranted to conclude, that this patent was in its original creation good. I will next consider the specification, before I proceed to the consideration arising upon the statute for contin-

uing this patent. The specification has reference to the patent, and not to the statute; and therefore it will be proper to consider it in this stage of the argument. I distinctly admit, that if this patent is to be taken for a patent for a fire engine, the specification is not sufficient: it is not a specification of mechanism of any determinate form, having component parts, capable of precise arrangement, and of particular description. On the other hand, if the patent is not for a fire engine, but in effect for *a manner of working a fire engine, so as to lessen the consumption of steam*, which, as I conceive, the words of the patent import; let us see whether this specification does not sufficiently describe the manner of working the fire engines, so as to produce the effects expressed in the patent; and whether the only objection to this specification, is not that it is loaded with a redundancy of superfluous matter.

The substance of the invention is a discovery, that the condensing the steam out of the cylinder, the protecting the cylinder from the external air, and keeping it hot to the degree of steam heat, will lessen the consumption of steam. This is no abstract principle; it is, in its very statement, clothed with practical application. It points out what is *to be done*,

in order to lessen the consumption of steam. Now the specification of such a discovery, seems to consist in nothing more than saying to the constructor of a fire engine, "for the future, condense your steam without the body of the cylinder, instead of condensing it within it: put something round the cylinder to protect it from the external air, and to preserve the heat within it; and keep your piston air tight without water." Any particular manner of doing this, one should think, could hardly need to be pointed out; for it can scarcely be supposed that a workman, capable of constructing a fire engine, would not be capable of making such additions to it, as should be necessary to enable him to execute that which the specification requires him to do. But if a very stupid workman should want to know how to go about this improvement, and in answer to this question, was directed to conduct the steam, which was to be condensed, from the cylinder into a close vessel, to keep the close vessel in a state of coldness, sufficient to produce condensation, and to extract from it any part of the steam which might not be condensed by the pump; and was also told to inclose the cylinder in a wooden case, and use a resinous substance, instead of water, to keep the piston air tight; can it be imagined that he would be so stupid as not to be

able to execute this improvement, with the assistance of these plain directions? If any man could for a moment imagine that this was possible, I observe that difficulty is put an end to, because the jury have found that a workman can execute this improvement in consequence of the specification. Some machinery, it is true, must be employed; but the machinery is not of the essence of the invention, but incidental to it. The steam must pass from the cylinder to the condensing vessel; for which purpose, there must be a valve to open, a pipe to convey, and a vessel to receive the steam. But this cannot be called new invented machinery, whether considered in the parts or in the whole; and therefore there can be no patent for this addition to the fire engines. Suppose a new invented chemical process, and the specification should direct that some particular chemical substance should be poured upon gold in a state of fusion; it would be necessary, in order to this operation, that the gold should be put in a crucible, and should be melted in a crucible; but it would hardly be necessary to state in the specification, the manner in which, or the utensils with which, the operation of putting gold into a state of fusion, was to be performed. They are mere incidents, with which every man acquainted with the subject, is familiar.

Some objections were made, in the course of the argument at the bar, on its being left unascertained, both in the specification and case, to what extent the consumption of steam would be lessened by the invention; but the method does not profess to ascertain this: it professes to lessen the consumption, and to make the patent good,—the method must be capable of lessening the consumption to such extent as to make *the invention useful.* More precision is not necessary, and absolute precision is not practicable. The quantity of steam which will be saved in each machine, must depend on a great variety of circumstances respecting each individual fire engine; such as the accuracy of casting or boring the cylinder, or the dimensions of it; the accuracy of the workman in putting his apparatus together; the care in keeping the cylinder in a proper degree of heat; and the more or less perfect order for working, in which the engine is kept. All these circumstances will affect the quantity of steam that is to be lessened.

Some weighty observations have been made upon parts of this specification; but these parts appear to me not properly to relate to the method described in the patent: they are rather intimations of new projects of im-

provement in fire engines; and some of them, I am very ready to confess, either very loosely described, or not accurately conceived. I do not undertake to pronounce which, but one or the other is pretty clear. They are the fourth and fifth articles: the first, second, and third, appear to me to belong to this method, and very clearly to point out and explain the method, to every man who has a common acquaintance with the subject; and to be intelligible even to those who are unacquainted with it. If there be a specification to be found in that paper, which goes to the subject of the invention, as described in the patent; I think the rest may very well be rejected as superfluous. If, indeed, the defendant could have shown that he had not pirated the invention, which is sufficiently specified, but that what he hath done, hath a reference to another method of lessening the consumption of steam, to which the questionable parts of the specification were meant to relate; the objections which have been alluded to, might have been taken both to the patent and specification. But I would observe here, that with regard to this, and some other difficulties, there is no question reserved in this case respecting the infringement of the patent, The general fact only is stated; that it has been infringed by the defendant; and

in the consideration of a case reserved, we are not to search for difficulties, upon which the parties have not proposed to state any point to us for our judgment, and into which, I think, we are not at liberty to go. The difficulty which struck me, as it did my brother *Buller*, with respect to the declaration, is applied to the patent as it originally stood; not as it now stands, continued by act of Parliament. If we were at liberty to go into it, that difficulty might perhaps produce a nonsuit, and that nonsuit a new action, in which the difficulty would be removed. But this cause was instituted to try the merits of the patent: I thought, therefore, that a formal objection was very wisely overlooked. Supposing then the difficulties upon the patent itself and the specification, to be got over, the act of Parliament remains to be considered. The objection stated in the strongest manner, would amount to this; that the act continues a patent for a *machine*, when in fact the patent is for a *process*. It is to be observed that there is nothing technical in the composition or language of an act of Parliament. In the exposition of statutes, the intent of Parliament is the guide. It is expressly laid down in our books, (I do not here speak of penal statutes,) that every statute ought to be expounded, not according to the letter,

but to the intent: 2 Roll. Abr. 113. Plowd. 350, 363. This doctrine has been carried into effect by cases. Though a corporation be misnamed in an act of Parliament, if it appears that the corporation was intended, it is sufficient: 10 Co. 576. So the statute of *quia emptores terrarum*, has said that every one shall hold of the Lord paramount *secundum quantitatem terræ;* but this shall be construed *secundum valorem terræ*, for so was the intent: Plowd. 10, 57. We all know that an act of Parliament may be extended in equity.

No authority has been cited which amounts to proof, that a mistake in point of description in an act of Parliament of this nature, when the true meaning can be discovered, and when there is a foundation on which the act can be supported, shall vitiate it. The case cited from Plowden, differs essentially from this case. The act of Parliament in that case gave effect to a supposed legal attainder, and proceeded upon it altogether. If the ground work fell,and there was no legal attainder, nothing remained; the supposed attainder in that case fell, consequently all fell. Now the difference between that case and the present, is this, here the true patent meant to be described, exists; and may therefore be a ground work to support the act.

This case was compared to the case of the king being deceived in his grant. But I am not satisfied that the king proceeding by, and with advice of Parliament, is in that situation, in respect of which he was under the special protection of the law; and that he could on that ground, be considered as deceived in his grant: no case was cited to prove that position. The objection on the act of Parliament, is of the same nature as one of the objections to the specification. The specification calls a method of lessening the consumption of fuel in fire engines, a *principle*, which it is not: the act calls it an engine, which perhaps also it is not: but both the specification and the statute, are referable to the same thing; and when they are taken with their correlative, are perfectly intelligible. Upon the wider ground, I am therefore of opinion, that the act has continued this patent. A narrower ground was taken in the argument, which was to expound the word *engine*, in the body of the act, in opposition to the title of it, to mean a method; and I am ready to say, I would resort to that ground if necessary, in order to support the patent *ut res magis valeat quam pereat.* But it is not necessary; for let it be remembered, that though monopolies in the eye of the law, are odious, the consideration of the privilege created by this patent, is

meritorious; because, to use the words of Lord Coke, "the inventor bringeth to, and for the commonwealth, a new manufacture, by his invention, costs and charges." I conclude therefore, that the judgment of the court ought to be for the plaintiff.

The principles advanced in this case, by judges Rooke and Eyre, were corroborated by the unanimous opinions of the judges of the King's bench, in the case of Hornblower and Maberly, against Boulton and Watt, in Error 8. T. R. 95. The defendants below, pleaded not guilty; and a general verdict having been found for the plaintiffs below, and judgment given for them by the Court of Common Pleas, the defendants brought a writ of error; and besides the general error assigned for error, that the invention for which the letters patent were granted, is not an invention of any formed or organized machine, instrument or manufacture, but of mere principles only, for which no such letters patent could by law be granted. The court delivered their opinions *seriatim*, as follows.

8 Durn. and East. 95.

Lord *Kenyon*, Ch. J. It was rather from a deference to the very respectable opinions given in the Court of Common Pleas, on the

former occasion,* than from any doubt we entertained on the subject that a second argument was awarded here; but the case having been most ably argued, and every argument advanced at the bar that bears upon it, I wish to deliver my opinion now, to prevent any farther delay to the parties interested. I confess I am not one of those who greatly favour patents; for though in many instances, and particularly in this, the public are benefited by them; yet on striking the balance upon this subject, I think that great oppression is practised on inferior mechanics, by those who are more opulent. The principal objection made to the patent by the plaintiffs in error, is that it is a patent for a philosophical principle only, neither organized, or capable of being organized; and if the objection were founded in fact, it would be decisive; but I do not think that it is so; as Lord Hardwicke said upon another occasion, there is no magic in words. The questions here are, whether, by looking at the patent as explained by the specification, it does not appear to be a patent for a new manufacture: and whether the specification is not sufficient to enable a mechanic to make the thing described? The jury have not, indeed, answer-

* See the case of Boulton and Watt *vs.* Bull, quoted last above.

ed those questions in the affirmative, in terms; but they have impliedly done so, by finding a general verdict for the defendant below. By comparing the patent and the manufacture together, it evidently appears that the patentee claims a monopoly for an engine or machine, composed of material parts, which are to produce the effect described; and that the mode of producing this, is so described as to enable mechanics to produce it. Having said thus much, it appears that the subject, so far as we have to treat of it, is exhausted. I have great respect for the contrary opinions that are given in the Common Pleas; and probably if I had been called upon on a sudden to determine upon this case, I should have been at a loss to decide. But having now heard every thing that can be said on the subject, I have no doubt in saying this is a patent for a manufacture, which I understand to be something made by the hands of man.

Ashurst J. Every new invention is of importance to the wealth and convenience of the public; and when they are enjoying the fruits of an useful discovery, it would be hard on the inventor to deprive him of his reward. In this case the jury have found by their verdict, that all allegations in the declaration were proved; one of which was, that the in-

ventor had, by his specification, particularly described the nature of his invention, and the manner in which it was to be performed, and having thus complied with the terms of the patent, I think he is in point of law as well as justice entitled to the benefit, which the patent and the act of Parliament intended to confer on him.

Grose J. This is an action for violating that right supposed to have been given originally for 14 years, by the patent in 1769, and contended to be continued to *James Watt*, his representatives and assigns, for 25 years, by the statute in 1774, The statute recites the patent, the benefit of which is now determined by the flux of time; and therefore the action can only be sustained on the continuance of the benefit to the patentee by the legislature. The statute, however, expressly provides that every objection in law, competent against the patent, shall also be competent against the statute, that is, against the benefit to be derived to the patentee under the statute. The question then is, whether the patent be good in law; in other words, whether it be conformable to the statute of the 21 Jac. 1. c. 3, s. 6, under which the plaintiff, or any party can alone claim the privilege of a monopoly. The power thereby re-

served to the king is, "that any declaration before mentioned shall not extend to letters patent, and grants of privileges for the term of fourteen years or under, to be made for the sole *working or making* of any manner of *new manufactures* within the realm, to the true and first inventor or inventors of such manufactures, which others at the time of making such letters patent shall not use; so as also they be not contrary to the law, nor mischievous to the state, by raising the prices of commodities at home, or hurt of trade, or generally inconvenient." The questions then upon this patent are, whether it be a patent for the sole working or making any manner of new manufacture: whether the patentee were the first inventor; whether it be contrary to law, mischievous to the state or to trade, or generally inconvenient? By a proviso in the patent the patentee is bound particularly to describe and ascertain his invention, and in what manner the same was to be performed, by an instrument under his hand and seal, and cause the same to be enrolled in the Court of Chancery. On which another question arises, namely, whether the specification enrolled be sufficient. The aim of the legislature is obvious; on the one hand it was to encourage ingenious artificers, and able and studious men to invent and bring forward for

the use of the public new manufactures, the produce of their ingenuity, by holding out to them the reward of fourteen years monopoly: on the other hand, to secure to the public the benefit of the discovery, by causing to be enrolled a complete description of the thing to be done, and the manner of doing it, that others might be fully informed of it, and at the end of fourteen years be enabled to work or make the manufacture of which the patentee was the inventor. Upon some of the questions there seems to be no doubt. There is no doubt on record, coupled with the finding of the jury, that the patentee was the inventor of that which is stated in the declaration, to be (by whatever name it may be called) an invention, method, principle or manufacture. Neither is it contended that the "subject of the patent is mischievous to the state, hurtful to trade, or generally inconvenient." On the contrary, every man's experience, as far as report goes, tells him that the invention has infinite merit; is for very many purposes highly beneficial to the public, and is in great request. As to the specification, I shall content myself with repeating what was said by one of the learned Judges of the Court of Common Pleas, that if the specification be such as will enable artists to adopt the invention, and make the manufac-

ture, it is sufficient. It is averred in the declaration, that the patentee did, in pursuance of the proviso, particularly describe and ascertain the nature of the invention, and in what manner the same was to be performed by an instrument in writing, under his hand and seal in the court of Chancery: that fact was necessary to be proved to entitle the plaintiffs to a verdict, and by the verdict obtained, I consider that fact as ascertained and concluded in their favour.

The important question is, whether it be a patent "for the making or working of any manner of new manufacture." It is argued by the plaintiff in error, first, that it is a patent for a mere *principle*, and not a *new manufacture*, and that nothing can be the object of a patent but a new manufacture. 2dly, That if it be a patent for a *new manufacture*, namely, the *steam engine*, it is *not new*, and that the patent should have been for the addition only, and not for the whole engine. As to the first of these propositions, that under the statute of James, there cannot be a patent for a new principle, which this is contended to be, it is not necessary for me, in my way of considering the case, to form a decided opinion on that point; for if I can shew that this is a patent for a *new manufacture*, whether a pa-

tent for a new principle be good or not will be immaterial. Upon that point I shall only say, that having very much turned the question in my mind, and weighed and considered again and again the words of the statute, specifying what patents the crown may grant, upon which alone I conceive the question must ultimately depend, I am not prepared to say that a patent for a mere principle was intended to be comprehended in these words. It is indeed difficult to conceive that the legislature, in giving power to the crown to grant patents for the sole *working or making* of any manner of *new manufacture* intended a power to grant patents for any other purpose than that expressly mentioned. But as I said before, this is not material for me to determine, inasmuch as it seems to me upon the best consideration that this is not a patent for a new principle, but for working and making a new manufacture, within the words of the statute. I have been led to adopt this opinion by considering, the words and description of the invention in the patent as referring to and explained by the specification, and the specification itself as a part of the patent. The ground on which I have felt myself at liberty so to do is this. The benefit to the public is from the specification, disclosing to the world how others may make and use the

same manufacture; without the specification the public have not the information, and by the condition of the letters patent, without the specification the patentee is not entitled to this monopoly. Providing therefore by the patent, that there must be a specification, and there being necessarily one in consequence of the proviso, I consider the patent and specification so connected together as to make a part of each other, and that to learn what the patent is, I may read the specification, and consider it as incorporated in the patent.

Now the patent recites, that Mr. Watt had invented a method of lessening the consumption of fuel and steam in fire-engines; it grants to him the sole use and exercise of that invention, upon condition that he would disclose the nature of the invention, and in what manner the same was performed by an instrument enrolled. He does so, and that instrument describes the principles of the method, and the method by which those principles are to be carried into effect. The method is founded on the principle of keeping the steam-vessel the whole time the engine is at work, as hot as the steam that is in it: this is to be done by the manufacture of a case of wood or some other material that transmits heat slowly, and by

surrounding it with steam, or other heated bodies, and suffering neither water or any other substance colder than steam, to touch it. Secondly, he points out a mode of condensing the steam by vessels to be used distinct from the steam vessels, at some times, at others they are to communicate with them, which he calls condensers; and these are new, at least not part of the old engine, and are to be kept as cold as the air in the neighborhood of the engines. Thirdly, he gives directions as to drawing out the air not condensed by the cold of the condenser. Fourthly, he states how he means to employ steam to press on the piston in given cases. Fifthly he directs how steam vessels should be formed where rotatory motions, or motions round an axis, are required, namely, with weights and valves; and directs how, in such case, the steam-vessel shall be supplied with steam, and how that which has done its office shall be discharged. And he also states a method by which the engine shall be worked by the alternate contraction and expansion of the steam. This method, however, if not effected or accompanied by a manufacture, I should hardly consider within the statute of James. But it seems to me that in this specification he does describe a new manufacture, by which his principle is realized, that is by which his

steam-vessel is kept as hot as the steam, during the time the engine is at work by which means the consumption of steam and fuel is lessened. Thus he specifies the particular parts requisite to produce the effect intended, and states the manner how they are to be applied. He describes the case of wood in which the steam vessel is to be inclosed, the engines that are to be worked wholly or partially, by condensation of steam, the vessels that he denominates condensers, and the steam vessels where rotatory matters are required. Can it then be said that the making and combining of these parts is not some manner of new manufacture? I cannot say that it is not. But if that had been doubtful the verdict ascertains the fact. But then it is objected that the patent should have been for that manufacture; whereas it is for principles which the specification describes. To which I answer, that the patent is not merely for principles, nor does the specification describe principles only. The patent states the principles on which the invention proceeds, and shews in the specification the manufacture, by means of which these principles are to take effect, which effect is to be the lessening of the consumption of steam and fuel, by keeping the steam-vessel of one uniform

temperature with the steam, so long as the engine is worked.

Taking it, however, as a patent for an engine, it is objected that the thing was made before, and that the patent should have been for the addition only, and not for the whole engine. But I do not consider it as a patent for the old engine; but only for the addition to, or improvement of, the old engine: and so the act of Parliament considers it. The old engine consumed too much steam and fuel; and it was considered that by a case of wood, or of other materials that would transmit heat slowly, surrounding it with steam by the use of condensers, and doing that which was not done in the old engine, but is in this, the defects in the old engine might be corrected, and the new one by its additions, made more useful. Experiments were tried, as appears by the act of Parliament; and the purpose for which these additions were made, is ultimately found to be completely attained by the methods pointed out in the specification. It possibly occurred to the inventor, that if the patent were to be obtained for the whole engine, it might be open to cavil; and therefore he took out his patent, not for the engine, but for the *invention of lessening the consumption of steam and fuel in fire engines.*

The method is disclosed in the specification; and it is by the addition of what is there disclosed, and by managing it in the way described. The patent, therefore, is only for the additional improvement, as described in the specification; and there is no pretence to say, that he claims, or could claim, the sole making of the old engine. But a doubt is entertained, whether there can be a patent for an addition to an old manufacture. This doubt rests altogether upon Driscott's case: 3 Ins. 184; and if that were to be considered as law at this day, it would set aside many patents for very ingenious inventions, in cases where the additions to manufactures before existing, are much more valuable than the original manufactures themselves. I shall content myself with referring to what Lord Chief Justice Eyre said in this case, in the Court of Common Pleas, in answer to this passage; and to the case of Morris *vs.* Branson, cited by my brother *Buller* upon the same point. If, indeed, a patent could not be granted for an addition, it would be depriving the public of one of the best benefits of the statute of *James.* Lord Coke's opinion, therefore, seems to have been formed without due consideration; and modern experience shows that it is not well founded. The statute, 15 Geo. 3. (I observe,) secures to the patentee

the privilege of constructing and selling the engines in words: on which account, it has been observed, that it falsely recites the patent, and therefore cannot operate in support of it: but the statute must have a reasonable construction, to support, rather than defeat, the intention of the legislature in their grant; and by attending to every part of the statute, it is obvious that the engines, secured to the patentee, are such as are improved in the manner stated in the specification; and not the original fire engines. For the statute, reciting the patent, recites it as a grant of the benefit and advantage of making, and vending certain engines, *by him invented, for lessening the consumption of steam and fuel in fire engines.* Now these were not the original fire engines, but the improved ones; and those that were so improved, were the only ones invented for lessening the consumption of steam and fuel in fire engines: which shows that the legislature considered the patent as a patent for the improvement of the engine, described in the specification; and not as a patent for a mere method, or for the original fire engine. The subject is new to me, not affecting to be a mechanic; and I have had great difficulties in making up my mind upon it. I am inclined to think, however, that a patent cannot be granted for a mere principle: but I think that

although in words, the privilege granted, is to exercise a method in making or doing any thing, yet if that thing is to be done by any manufacture, and the mode of making that manufacture is described, it then becomes an effect: (by whatever name it may be called) not a patent for a mere principle, but for a manufacture, for the thing so made; and not for the principle upon which it is made. Where then is the mischief to the public; or how, in this case, is the intention of the legislature defeated? They intend that after the fourteen years, the public should, from the specification, be in possession of the manufacture, and the art of making it; and that for those fourteen years, the patentee should have the monopoly of it as his reward. The patent is nothing without the specification; and the patentee can gain no advantage by it. It is also useless, unless the specification be such from which the public can gain information: therefore, whether the patent call the manufacture by its own name, or style it an invention, a mode, or method, or in any other manner, it signifies nothing; for the specification, describing the thing as required by the patent, must be resorted to, and may be fairly deemed a part of the patent itself. If that be so, I read this patent, and find that it is for a method to be pursued, according to

the directions of the specification; and looking to the specification, I see that by pursuing the method pointed out, a manufacture is produced by the ingenuity of the inventor, and of which the public are to have the benefit. Then the intention of the legislature is fulfilled; the public enjoy the fruits of the author's ingenuity, and the author enjoys the monopoly for a certain term. It signifies nothing to either, whether the patent be for the engine so made, or for the method of making it, if that method be sufficiently described in the specification. Upon these grounds, with that deference I ought to feel upon a subject with which I do not profess to be much conversant, my opinion is, that the judgment of the court ought to be affirmed.

Laurence J. Two objections have been made by the plaintiffs in error; 1st, that this is not an invention for any formed or organized machine, instrument, or manufacture, but of mere principles only: 2ndly, that the specification is bad. As to the first, the claim of the plaintiffs below, is founded on the proviso in the statute of James, which allows the crown to grant patents in favour of new manufactures; and therefore it must rest on the ground of *Watt's* having invented some new manufacture. If it were necessary to consid-

er whether or not mere abstract principles are the subject of a patent, I should feel great difficulty in deciding what they are; but that consideration is unnecessary on the present occasion; because by looking at the patent and the recital in the act of Parliament, it appears that *Watt* applied for, and obtained a patent for an *engine, or mechanical contrivance*, for lessening the consumption of steam in fire engines. The letters patent recite that he had invented a method of lessening the consumption of steam, and grant to him the sole right of using the said invention for fourteen years.

In order to see what the invention was, it is necessary to refer to the specification; that states what the invention is, and that the method consists of certain principles, as they are called, which are described in the specification. Then followed the statute, which after reciting that the king had granted to *Watt* the sole benefit of making and vending *certain engines*, invented by him, for lessening the consumption of steam in fire engines; and that he had enrolled in the Court of Chancery, a description of the *said engine*, vests in him the sole right of making and selling the said engines for twenty-five years.

From this, therefore, it is clear, that the legislature understood that the patent was for an engine for some mechanical contrivance; and the form of the patent and the specification does not contradict this. Engine and method mean the same thing, and may be the subject of a patent. "Method," properly speaking, is only placing several things, and performing several operations, in the most convenient order: but it may signify a *contrivance* or device: so may an *engine;* and therefore, I think it may answer the word method. So "principle" may mean a mere elementary truth; but it may also mean constituent parts. And in effect, the specification is this; "the contrivance, by which I lessen the consumption of steam, consists in principles, that is, constituent and elementary parts; a steam vessel, in which the powers of steam are to operate, to be kept as hot as the steam by a case; a distinct vessel to condense the steam, and pumps to draw off such vapour as is likely to impede the motion of the fire engine, &c." That is the description of the thing, when put into different language.

Then taking this to be a patent for an engine, it is objected that the specification is bad. In considering that question, it is necessary to see for what Mr. *Watt* has obtain-

ed his patent. He does not claim it for an improvement to a fire engine for any particular purpose, e. g. for raising water out of mines, or any other specific thing: but his claim is generally to an invention, for lessening the consumption of steam; applicable to all fire engines, for whatever purpose they may be used, and whatever may be their construction; by an alteration and addition to parts, which are common to all, and upon which their powers of working depend. The objection that requires a more full description of the engine, goes the length of requiring a description of every engine, that is acted upon, and worked by, the force of steam. But I do not think that if his specification had been so comprehensive, his invention would have entitled him to a patent for the sole vending and working the whole engine, so altered and improved: for such patent would have been more extensive than the thing invented. The patent must be supported as granted for an improvement, and addition to old engines, known and in use; and I think that the patent is good in this point of view. For *Watt* claims no right to the construction of engines for any determinate object, except that of lessening the consumption of steam in fire engines. His patent supposes the existence of such engines; and his contrivance,

method, or engine, is for lessening the consumption of fuel in such fire-existing engines, and for nothing else. In the argument, the engine to diminish the consumption of steam, was confounded with that which it was intended to improve. Some of the difficulties in the case have arisen from considering the word *engine* in its popular sense; namely, some mechanical contrivance to effect that to which human strength without such assistance is unequal; but it may also signify, "device," and that *Watt* meant it in that sense, and the legislature so understood, it is evident from the word "engine" and "method" being used as convertible terms. Now there is no doubt but that for such a contrivance a patent may be granted, as well as for a more complicated machine; it equally falls within the description of a manufacture, and unless such devices did fall within that description, no addition, or improvement could be the subject of a patent. If this be so, it only remains to be considered whether or not for the improvement of fire engines, *Watt* has with sufficient accuracy stated a definite alteration or addition, which may be made in all fire engines, in such a way as to enable a workman to execute it: and it seems to me that he has. For he has directed him to make a vessel for the condensation, distinct from that in which

the powers of steam operate, and to convey steam as occasion requires, from the cylinder to the condensing vessel; to keep the cylinder hot by means distinctly described, and to extract by pumps the vapour which may impede the work. Therefore, it seems to me that he has given distinct directions for the purpose. Whether those directions were or were not sufficient is not now a question for our decision; it was a question for the determination of the jury; and they have decided it.

Whitney *vs.* Carter.

At a Circuit Court of the United States, for the district of Georgia was tried the case of Eli Whitney *vs.* Isaiah Carter, for infringing a right vested by patent for a new and useful improvement in the mode of ginning cotton. The plaintiff supported his declaration, by proving the patent, model and specification, and proving the use of the machine in question by the defendant. He also introduced the testimony of several witnesses, residing in New-Haven, to prove the origin and progress of his invention.

The defendant rested his defence on two grounds. First, That the machine was not originally invented by Whitney. Second, that

the specification does not contain the whole truth relative to the discovery.

General Mitchel, of counsel for the defendant, produced a model, which was intended to represent a machine used in Great Britain, for cleaning cotton, denominated the "Teazer or Devil." A witness was produced, who testified that he had seen in England, about seventeen years ago, a machine for separating cotton from the seed, which resembled in principle, the model now exhibited by the defendant.

Another witness testified, that he had seen a machine in Ireland, upon the same principle; which was used for separating the motes from the cotton, before going to the carding machine.

By the machine of which a model was exhibited, the cotton is applied in the first instance to the rollers, made of iron, revolving inversely. By these rollers, the fibres are separated from the seeds, and protracted within the sweep of certain straight pieces of wire, revolving on a cylinder, which tear and loosen the cotton as they revolve. It was contended by the defendant's counsel, that this model conforms in principle, to Mr. Whit-

ney's machine; and that the evidence given in support of it, established the presumption, that he must have derived the plan of his machine from a similar one, used in the manufactures in Great Britain.

In support of the second ground of defence, evidence was produced to show that Mr. Whitney now uses, and that the defendant also uses teeth, formed of circular plates, instead of teeth made of wire. And it was contended that this was a departure from the specification, and an improvement on the original discovery, which destroys the merit of that discovery, and the validity of the plaintiff's patent. It was also contended that the plaintiff had concealed the best means of producing the effect contemplated.

Mr. Noel, of counsel for the plaintiff, in opposition to the first ground of defence, stated two points: 1st, That if the principle be the same, yet the plaintiff's application of the principle being new, and for a distinct purpose, has all the merit of an original invention. 2ndly, That the principle of Mr. Whitney's machine is entirely different from that exhibited by the defendant. He defined the term principle, as applied to the mechanic arts, to mean the elements and rudiments of those

arts; or in other words, the first grounds and rule for them. That for a mere principle, a patent cannot be obtained. That neither the elements, nor the manner of combining them, nor even the effect produced, can be the subject of a patent; and that it can only be obtained for the application of this effect to some new and useful purpose.

To prove this position, several examples were stated of important inventions, for which patents had been obtained, which had resulted from principles in common use; and an argument of a celebrated judge at Westminster Hall was cited; in which it was asserted "that two thirds or three fourths of all patents granted since the statute passed, are for methods of operating and manufacturing, producing no new substances, and employing no new machinery; and he adds in the significant words of Lord Mansfield, "a patent must be for a method detached from all physical existence whatever."*

The second point was principally relied on: to wit, That the principle of Mr. Whitney's machine, is distinct from that produced by the defendant, and new in its origin.

* See *ante* p. 99.

It consists of teeth, or sharp metallic points, of a particular form and shape; and its application is, to separate cotton from the seed: whereas, the principle of that model exhibited by the defendant, and of every other machine before invented, and used for the same or a similar purpose, consists of two small rollers, made of wood or iron. In illustration of this point, the plaintiff's council cited the following extracts from the opinion of the court, delivered by Judge Johnson, in December term, 1807, in the case of Whitney and others *vs.* Fort, upon a bill of injunction.

"To support the originality of the invention, the complainants have produced a variety of depositions of witnesses, examined under commission, whose examinations expressly prove the origin, progress, and completion of the machine by Whitney, one of the co-partners. Persons who were made privy to his first discovery, testify to the several experiments which he made in their presence, before he ventured to expose his invention to the scrutiny of the public eye. But it is not necessary to resort to such testimony to maintain this point. The jealousy of the artist to maintain that reputation which his ingenuity has justly acquired, urged him to take unnecessary pains on this subject.

"There are circumstances within the knowledge of all mankind, which prove the originality of this invention more satisfactorily to the mind, than the direct testimony of a host of witnesses. The cotton plant has furnished clothing to mankind before the age of Herodotus. The green seed is a species much more productive than the black, and by nature adapted to a much greater variety of climate; but by reason of the strong adherence of the fibre to the seed, without the aid of some more powerful machine for separating it, than any formerly known among us, the cultivation of it could never have been made an object. The machine, of which Mr. Whitney claims the invention, so facilitates the preparation of this species for use, that the cultivation of it, has suddenly become an object of infinitely greater importance than that of the other species ever can be. Is it then to be imagined that if this machine had been before discovered, the use of it would ever have been lost, or could have been confined to any tract of country left unexplored by commercial enterprise? But it is unnecessary to remark further on this subject. A number of years have elapsed since Mr. Whitney took out a patent; and no one has produced, or pretended to prove the existence of a machine of similar construction or use.

With regard to the utility of this discovery, the court would deem it a waste of time to dwell long on this topic. Is there a man who hears us, who has not experienced its utility? The whole interior of the southern states was languishing, and its inhabitants emigrating, for want of some objects to engage their attention, and employ their industry, when the invention of this machine at once opened views to them which set the whole country in active motion. From childhood to age, it has presented us a lucrative employment. Individuals who were depressed with poverty, and sunk in idleness, have suddenly risen to wealth and respectability.—Our debts have been paid off; our capitals increased; and our lands have trebled in value. We cannot express the weight of obligation which the country owes to this invention; the extent of it cannot now be seen; some faint presentiment may be formed from the reflection that cotton is rapidly supplanting wool, flax, silk, and even furs, in manufactures, and may one day profitably supply the want of specie in our East-India trade. Our sister states also participate in the benefits of this invention: for besides affording the raw materials for their manufactories, the bulkiness and quality of the article afford a valuable employment for their shipping.

The second objection relied on by the defendant was, "that the specification does not contain the whole truth respecting the discovery." To this it was answered, that by the testimony it appears Mr. Whitney, in the original construction of his machine, contemplated each mode of making the teeth, and doubted which mode was best adapted to the purpose. If the alteration, which forms the basis of this objection, has the merit of an improvement, how far does it extend? An improvement, not in the principle, nor in the operation of the machine, but in making one of its component parts: merely in forming the same thing to produce the same effect by means somewhat different. In the case above cited, Judge Johnson remarked on this point as follows:—

A Mr. Holmes has cut teeth in plates of iron and passed them over the cylinder. This is certainly a meritorious improvement in the mechanical process of constructing this machine. But at last, what does it amount to except a more convenient mode of making the same thing? Every characteristic of Mr. Whitney's machine is preserved. The counsel for Whitney admitted that an improvement in a particular part of the machine, would entitle the inventor to a patent for that

specific part, but not for the whole machine, as in the case of Boulton *vs.* Bull, where a patent was granted for an invention to lessen the quantity of fuel in the use of a certain steam engine. It was decided "that the patent was valid for the improvement; but that it gave no title to the machine itself."

It was also stated, that by experiments made on the plaintiff's model, in the face of the court and jury, and by testimony produced, it was apparent, no improvement had resulted from this alteration; that no beneficial change, or amendment in the principle, had taken place; nor had the effect been aided or facilitated. In the charge of the court to the jury, Judge Stevens remarked, that the case cited, Whitney and others, *vs.* Fort, was decided without any evidence on the part of the defendant: that from the testimony now produced, his opinion is, that the plaintiff must have received his first impressions from a machine previously in use on a similar principle; and that an improvement had been made as to the teeth, by which the merit of Mr. Whitney's invention was diminished.—For these reasons, Judge Stevens had some doubts whether the plaintiff ought to recover.

Judge Johnson remarked, that after hearing the evidence which had been relied on by

the defendant, he remained content with the opinion which he had given in the case of Whitney against Fort; and that he was also as fully satisfied with the charge he was about to give, as any he had delivered. That as to the origin of this invention, the plaintiff's title remained unimpeached by any evidence which has been adduced in this cause. He agreed with the plaintiff's counsel, that the legal title to a patent consists not in a principle merely, but in an application of a principle, whether previously in existence or not, to some new and useful purpose. And he was also of opinion, that the principle of Mr. Whitney's machine was entirely new; that it originated with himself, and that it had no resemblance to that of the model exhibited by the defendant.

He considered the defendant's second objection equally unsupported, and referred to the sixth section of the patent law of the United States, by which it is required that the concealment alleged (in order to defeat the patentee's recovery) must appear to have been made for the purpose of deceiving the public. That Mr. Whitney, in the original formation of this machine could have no motive for such concealment, and that in making use of wire in preference to any other mode,

he appears to have acted according to the dictates of his judgment, the error related to a point, not affecting the merits of his invention, or the validity of his patent. Verdict for the plaintiff. Damages 1500 dollars.

A patent can in no case be for an effect only, but for an effect produced in a given manner, or by a peculiar operation. For instance, no patent can be obtained for the admeasurement of time, or the expansive operations of steam; but only for a new mode or new application of machinery, to produce these effects; and therefore, if new effects are produced by an old machine in its unaltered state, I apprehend that no patent can be legally supported; for it is a patent for an effect only.

On the other hand, if *well known effects* are produced by machinery in all its combinations *entirely new*, a patent may be claimed for the whole machine. So if the principles of the machine are new, either to produce a new or an old effect, the inventor may well entitle himself to the exclusive right of the whole machine.*

A patentee in his specification sums up the principle on which his invention consists; but

* Whittemore *vs* Cutter, 1 Gal. 486.

if this principle is not new, the patent cannot be supported although it appear that the application of the principle, as described in the specification is new. This was decided in the case of Rex *vs.* Cutler, 1 Starkie's Rep. 354.

This was a *scire facias* brought to repeal letters patent, which had been granted for an invention claimed by the defendant.

The material question arising on the pleadings was whether the invention was new. It appeared upon the defendant's specification that the invention consisted in a new mode of feeding the fire in a grate, by a supply of fuel from below, instead of from above, in the usual way. The coals intended to be consumed in the course of the day, were to be deposited in a chamber beneath the grate, so placed, that at first the higher surface of the chamber was to be on a level with the lower surface of the grate. The fire being afterwards lighted in the grate, as the coals in the grate were gradually consumed, their place was to be supplied by winding up the coals from the chamber by means of a rack and pinion. The coals, as long as they remained in the box, were unignited, the air being excluded from below, and did not become

ignited, until, by being wound up into the grate, they had been brought into contact with the coals previously ignited, and exposed to the access of the air.

The defendant, in his specification, had summed up the amount of his claim; stating, "my invention consists in this, that the fuel necessary for supplying the fire shall be introduced at the lower part of the grate, in a perpendicular or in an oblique direction: as to the manner of performing it, it is set forth in the annexed descriptions and drawings."

In order to disprove the novelty of this invention, evidence was given that Mr. *Marriott*, a manufacturer of grates and stoves, had, in the year 1812, made a model (which was produced) of a grate, and its appendages for cooking. The grate, which was of considerable length, was furnished with a door; when this door was open the grate in no respect differed from an ordinary one, but when the door was shut no part of the grate was visible, except a few of the highest bars, and the whole of the grate, having been filled with coals, and the coals within the bar above the door having been lighted, the coals in the lower part of the grate were carried up, for the purpose of supplying the consumption

above by means of a rack and pinion, at the discretion of the cook. The principle of this grate, it was contended, was precisely the same with that for which the patent was claimed: the lower part of the grate, when the door was shut, being in effect a closed chamber, to which the air had no access, and the coals being gradually wound up from this chamber so as to afford a supply to the fire above. *Marriott* stated that he had also applied the same principle to a common grate, long before the date of the patent.

Another manufacturer of the name of *Coombe* exhibited a grate for cooking, nearly on the same construction. The grate was supplied with two doors, one above the other; when both were shut, the air was supplied by a ventilator from below; when the lower door was shut, and also the ventilator, and higher door thrown open, the closed part of the grate supplied the place of a chamber, from which the coals were wound up by a rack and pinion, in order to supply the fire above, as it was wanted for culinary purposes.

It was contended for the defendant, that the invention went beyond that exhibited in these grates, in the latter there was no fresh introduction of fuel into the grates, so as to

give a perpetual supply, there was nothing more than a means of contracting or compressing coals already within the grate, which could not be done without diminishing the size of the grate itself. According to the defendant's construction, on the contrary, the chamber was independent of the grate, placed below it, and the fuel was gradually wound up from the chamber, without at all contracting the size of the grate itself. It was also contended that there were some minor advantages, which the patent grate possessed over those which had been exhibited in evidence.

Lord *Ellenborough* was of opinion that the principle on which the two grates were constructed was identical with that described in the terms of the specification, which was for a mode of supplying fuel from below, and there was nothing predicated in the specification of raising the fuel from below the grate, it was merely for elevating fuel from below, and that the defendant had confined himself, by thus summing up the extent of his invention to the benefit of this principle.—Verdict for the Crown.

A patent may be sustained not only for "any new and useful art, machine, manufacture or composition of matter;" but likewise

for "any new and useful *improvement* on any art, machine, manufacture, or composition of matter."

But the patent must not be more extensive than the invention, therefore if the invention consists in an addition, or improvement only, and the patent is for the whole machine, it is void. Bull. N. P. 76.

In the case of Lowell *vs.* Lewis quoted in part *ante* p. 60, *Story, Justice*, observed that the patentee is bound to describe, in full and exact terms, in what his invention consists; and if it be an improvement only upon an existing machine, he should, distinguish what is new and what is old in his specification, so that it may clearly appear for what the patent is granted. The reason of this principle of law will be manifest upon the slightest examination. A patent is grantable only for a new and useful invention; and unless it be distinctly stated in what that invention specifically consists, it is impossible to say whether it ought to be patented or not; and it is equally difficult to know, whether the public infringe upon or violate the exclusive right secured by the patent. The patentee is clearly not entitled to include in his patent the exclusive use of any machinery already known; and if he does, his patent will be broader than his I Mas. 182.

invention, and consequently void. If therefore the description in the patent mixes up the old with the new, and does not distinctly ascertain, for which in particular the patent is claimed it must be void; since if it covers the whole it covers too much, and if not intended to cover the whole it is impossible for the Court to say what, in particular, is covered as the new invention. The language of the patent act itself is decisive on this point. It requires (§ 3) that the inventor shall deliver a written description of his invention "in such full, clear and exact terms, as to distinguish the same from all other things before known; and in the case of any machine, he shall fully explain the principles and the several modes, in which he has contemplated the application of that principle, or character, by which it may be distinguished from other inventions."

It is, however, sufficient, if what is claimed as new appear with reasonable certainty on the face of the patent, either expressly or by necessary implication. But it ought to appear with reasonable certainty, for it is not to be left to minute references and conjectures, from what was previously known or unknown; since the question is not, what was before known, but what the patentee claims

as new; and he may in fact claim as new and patentable, what has been long used by the public. Whether the invention itself be thus specifically described with reasonable certainty, is a question of law upon the construction of the terms of the patent, of which the specification is a part. 1. Mason 187. II. Gal. 53.

With regard to what constitutes the identity, or diversity of two machines the following observations by *Story* Justice, in the case of *Odiorne* vs. *Winkley*, are pertinent: II. Gal. 54.

It is often a point of intrinsic difficulty to decide, whether one machine operates upon the same principles as another. In the present improved state of mechanics, the same elements of motion and the same powers must be employed in almost all machines. The lever, the wheel, and the screw, are powers well known; and if no person could be entitled to a patent, who used them in his machine, it would be in vain to seek for a patent. The material question, therefore, is not whether the same elements of motion, or the same component parts, are used, but, whether the given effect is produced substantially by the same mode of operation, and the same combination of powers in both machines. Mere colourable differences, or slight improvements,

cannot shake the right of the original inventor. To illustrate these positions; suppose a watch was first invented by a person, so as to mark the hours only, and another person added to the work to mark the minutes, and a third the seconds; each of them using the same combinations and mode of operations to mark the hours as the first. In such a case the inventor of the second hand could not have entitled himself to a patent embracing the inventions of the other parties. Each inventor would undoubtedly be entitled to his own invention, and no more.

A patent may well be for a new combination of machines, whether the machine be old or new. But one patent cannot, at the same time, include an exclusive right in the combination, and in each of the machines: and it is no infringement of a patent for the combination, to use either of the machines separately.

In the case of *Barrett* and al. vs. *Hall*, (1 Mason 474) it is affirmed by Mr. Justice Story, that a patent may be for a new combination of machines, to produce certain effects; and this, whether the machines constituting the combination, be new or old. But in such case, the patent being for the combination only, it is no infringement of the patent to use

any of the machines separately, if the whole combination be not used; for in such a case the thing patented is not the separate machines, but the combination; and the statute gives no remedy, except for a violation of the thing patented. This was the doctrine of Mr. Justice *Washington*, in his most able opinion in *Evans* vs. *Eaton*; and it has not in the slightest degree been shaken in the Supreme Court.* I hesitate not one moment in adopting it, as established on solid foundations. It has indeed been said, that where there is a patent for the whole of a machine, whoever imitates it, either in whole or in part, is subject to an action at the suit of the patentee.† But supposing this doctrine to be true in any case, and under any qualifications, (which may well be doubted) it can only apply where the whole machine is entirely new; and cannot apply where the patent is limited, by its very terms, to the combination of several machines.

Further. A patent under the general patent act, cannot embrace various distinct improvements or inventions; but in such case, the party must take out separate patents. If the patentee has invented certain improv-

* Evans vs. Eaton. 3 Wheaton's R. 454, 476, 508.

† Bovil vs. Moore, 2 Marsh. R. 211.

ed machines, which are capable of a distinct operation; and has also invented a combination of these machines, to produce a connected result, the same patent cannot at once be for the combination, and for each of the improved machines; for the inventions are as distinct as if the subjects were entirely different. A very significant doubt has been expressed on this subject by the Supreme Court; and I am persuaded, that the doubt can never be successfully removed.*

A patent for an improved machine, must show in what the improvement precisely consists; and the patent be limited to those improvements. If not specified, the patent is void for ambiguity: if broader than the improvement, it is void on other grounds.

Mr. Justice *Story*, in the case *Barrett* and al. vs. *Hall*, and al. 1 *Mason R.* 475, observes, if a patent be for an improved machine, or for an improvement of a machine, (for I follow Mr. Justice *Heath*,† and the Supreme Court,‡ in thinking that the meaning of the terms is substantially the same,) then the patent must state in what the improvement spe-

* *Evans* vs. *Eaton*, 3 *Wheaton's* R. 454, 506.

† *Boulton* vs. *Bull*, 2 *H. Bl.* 463, 482.

‡ *Evans* vs. *Eaton*, 3 *Wheaton's* R. 454.

cifically consists; and it must be limited to such improvement. If, therefore, the terms be so obscure or doubtful, that the Court cannot say what is the particular improvement, which the patentee claims, and to what it is limited, the patent is void for ambiguity.* And if it covers more than the improvement, it is void for another reason, that it is broader than the invention.

Further. Where a combination of machinery already exists up to a certain point, and the patentee makes an addition or improvement to the machinery, he must confine his patent to the improvement: for if he takes a patent for the whole machine as improved, not distinguishing between the new and the old, nor limiting his patent to the improvement, it is void; because, as so claimed, it is not his invention.†

Further. If an invention consist in a new combination of machinery, or in improvements upon an old machine, to produce an old effect, the patent should be for the combined machinery, or improvements on the old machine; and not for a mere mode or device for pro-

* *Mc Farlane* vs. *Price*, 1 *Starkie's* R. 199.

† *Bovill* vs. *Moore*, 2 *Marsh* R. 211.

ducing such effects, detached from the machinery. This appears to have been the doctrine of all the judges in *Boulton* vs. *Bull*;* and was illustrated by several of the cases there put. And in a recent case, where a patent was obtained for "an improved mode of lighting cities," it was held, that it was not supported by a specification, describing an improved street lamp; and that the patent ought to have been for an improved street lamp.† So where the patent was for a new invented manufacture of lace, called French, otherwise ground lace; "and the specification went generally to the invention of mixing silk and cotton thread upon the frame, it being proved, that, prior to the patent, silk and cotton thread had been used together, and intermixed upon the same frame; the court held the patent bad, since the plaintiff claimed the exclusive liberty of making lace, composed of silk and cotton thread mixed, and not of any particular mode of mixing it; and the evidence proved that it had been mixed before."‡ This doctrine may not be of as extensive consequence under our patent act, where the specification forms a part of the patent, and controls its generality as in *Eng-*

* 2 H. Bl. 462.

† *Cochrane* vs. *Smilhurst*, 1 *Starkie*, R. 206.

‡ The *King* vs. *Else*, 11 East. R. 109.

land, where the specification is separated from it; but it distinctly shews the necessity of an exact description, so that the patent may conform to the invention.

Where the patent is for several improvements in a machine, and each improvement is summed up in the patent as the invention of the patentee, he is bound by his summary, and if any one of the improvements is proved not to be new, his patent is void. And

When several improvements in a machine are distinctly claimed in a patent, an action lies for the piracy of the improvements, although the defendants have not used the whole improvements.

Paul Moody *vs.* Jon. Fisk.

These points were decided in the case of *Paul Moody* vs. *Jonathan Fisk* and another, in the Circuit Court of the United States, held in Boston, October, 1820. The action was brought for an infringement of certain patent rights granted to the plaintiff. There were two counts in two distinct patents in the declaration, but the first was the only one relied on at the trial, being a patent for "an improvement in the Double Speeder for roping cotton." &c, The cause was tried on the general issue. The patent was dated the

third of April, 1819, and the specification annexed to it contained a very minute description of the Double Speeder, as improved by the plaintiff under distinct articles.

The defence at the trial turned mainly on two points; 1st, That the machines used by the defendants were not identical with those of the plaintiff—2d, That part of the improvements claimed by the plaintiffs were known before, and so the patent was broader than the invention, and void. The counsel for the defendants contended—1st, That the position of the rollers was not new—2d, That the plaintiff had no right to the two upper cones, they not being his invention, and as to the machinery connected with them, it was not used by the defendants—3d, That the method of moving the belt of the lower cone, &c. and the mechanism connected with it, was not used by the defendants—4th, That the methods of communicating motion from the driver cone to the arbors or axis of the perpetual or endless screw, and perpendicular rack, were not used by the defendants.

The proof in the cause being very strong that the position of the rollers was not new, two questions arose—1st, whether the plaintiff was concluded by the summing up in his

patent from contending that the position of the rollers was not a substantial part of his invention, or was not, *per se* patentable—2d, If not so precluded, and if the patent was not void, whether the defendants were not liable in this action if they used any one of the plaintiff's improvements, although the proof should be satisfactory that they did not use *all* the improvements.

Story J. Upon the last point there has hitherto been considerable difficulty on my mind. But after a good deal of reflection on it, I have come to the result, that when the plaintiff claims, as in this case, several distinct and independent improvements in the same machine, and procures a patent for them in the aggregate, he is entitled to recover against any person, who shall use any one of the improvements so patented, notwithstanding there has been no violation of the other improvements. In such a case, the patent goes for the whole of the improvements, and if each be new, will be claimed distinctly in the patent, as such, there does not seem any good reason why the party who pirates any part of the invention should not be liable in damages. Take the case of a copy right. It has never been supposed that in order to maintain an action, the whole

book should be pirated. It has been adjudged sufficient if a considerable part of the book be pirated, so that such part be that of which the plaintiff is truly and substantially the author.* To be sure a mere extract would not be piracy, but if the substance of the book be taken, or so large a part of it as makes it a substitute for the original, and materially injures the literary property of the author, it is thought to be actionable.†

There is no doubt that by the law of England, a party who pirates any part of the invention of the patentee is liable in damages, notwithstanding he has not violated the whole. I say pirate any part of the *invention*, for any person may lawfully use any machinery combined with the patentee's invention, which he does not claim as new, or which, if so claimed has been previously known and used. This is the doctrine in Bovill *vs* Moore,‡ which was an action for the violation of a patent for a machine for the manufacture of bobbin lace, or twist net, similar to and resembling the Buckinghamshire lace, and French lace net, as made by the hand with bobbins on pillows. Lord Chief Justice

* Carey *vs.* Longman, I East. R. 358, and cases cited.
† Raworth *vs.* Wilks, I Camp. R. 94.
‡ 2d Marsh. R. 211, and Davies on Patents, 361.

Gibbs there said, "We must consider what the patent purposes to give the patentee, and what privileges he would possess under the patent. Now the patentee is entitled to the sole use of this *machine*, and whoever imitates it, either in whole or *in part* is subject to an action at the suit of the patentee." The defendant had used the invention *in part*, but he obtained a verdict on the ground that the plaintiff had not invented the whole machine, but had only made improvements in it; the combination having existed up to a certain point before, therefore his patent was void, as covering more than his invention. It may be that the decisions have turned upon the peculiar language of the English patents, for in all the precedents which I have seen, the patent gives the exclusive right of the whole invention, and prohibits all other persons, "directly and indirectly to make, use, and put in practice the said invention, or *any part of the same*.* But as no such intimation is given by the reporter, I incline to believe that the doctrine stands upon the general principle of law, that he who has the exclusive right to the whole of a thing, has the same right to all the parts, which the general right legally includes, that

* See forms in Collier on Patents, 54 and 57, and Davies on Patents, 27, 30.

is, in cases like the present, to all the parts which he has invented.

The principal difficulty that arises in the application of the doctrine, and that may, in most cases, be removed by considering the nature and extent of the patent, or rather of the thing invented and patented. When the patent goes for the whole of a machine as a new invention, and the machine is in its structure substantially new; any person who pirates a part of the machine, substantially new in its structure, deprives the inventor, so far of his exclusive right in his invention, and may in a great measure destroy the value of the patent. When the patent is for several distinct improvements in an existing machine, or for an improved machine, incorporating several distinct improvements, which are clearly specified there, if a person pirates one of the improvements, he violates the exclusive right of the patentee, for the patent is as broad as the invention, and the invention covers all the improvements; and it is a wrong done to the patentee to deprive him of his exclusive right in any of his improvements. Where a patent is for a new *combination* of existing machinery or machines, and does not specify or claim any improvements or inventions except the combination, unless that combination be

substantially violated, the patentee is not entitled to any remedy, although parts of the machinery be used by another, because the patent by its terms stands upon the combination only. In such a case, proof that the machines, or any part of their structure, existed before, forms no objection to the patent unless the *combination* has existed before, for the reason that the invention is limited to the combination. And yet, if the combination itself be not wholly new, but up to a certain point has existed before, and the patentee claims the whole combination as new instead of his own improvement only, as by taking out a patent for the whole machine, doubtless his patent is void, for it exceeds his invention. But if there are different and distinct improvements, constituting parts of the combination, which are specified as such in the patent specification, and any one of them be pirated, the same rule would seem to apply as in the cases where part of an invention is pirated, for the patent then shews that the invention is not limited to the mere combination, but including the particular improvements. It is often a serious difficulty from the obscure language of the specification, to ascertain what is the nature and extent of the invention claimed by the patentee. Whether his patent be valid or not must materially depend upon the accu-

racy and distinctness with which the invention is stated. But in all cases where the patentee claims any thing as his own invention in his specification, courts of law cannot reject the claim, and if included in the patent, and found not to be new, the patent is void, however small and unimportant such asserted invention may be. This leads me to the first point made at the bar, as to which it appears to me clear, both upon principles and authority, that when a man in his specification states and sums up the particulars of his invention, and his patent covers them, he is confined to such summary, and he cannot, afterwards, be permitted to sustain his patent by shewing that some part, which he claims in his summing up as his invention, though not in fact his invention, is of slight value or importance in his patent.* His patent covers it, and if it be not new, the patent must be void. Here the plaintiff claims a particular position of machinery as his invention, and it clearly appears in evidence that the position is not new. It has existed before, not in machines exactly like the present, but in machines, applied to analogous purposes, viz. in machines for roping cotton, and ap-

* Rex *vs.* Cutler, 1 Starkie's R. 355. Davies on Patents 398, 404. Bovill *vs.* Moore, S. C. Marsh. R. 211.

plied for the same purpose as the plaintiff applies them. Without doubt, he supposed that he was the first inventor, but that was his mistake, and will not help the case.—The objection is therefore fatal.

I wish it to be understood in this opinion, that though several distinct improvements in one machine may be united in one patent, it does not follow that several improvements in two different machines, having distinct and independent operations, can be so included, much less that the same patent may be for a combination of different machines, and for distinct improvements in each.

The plaintiff upon this intimation agreed to take a verdict against him, declaring his patent void, that he might obtain a new patent. Verdict for the Defendants.

An invention, to be a proper subject for a patent, must be "not known or used before the application." In Great Britain it has been thought necessary that every operation, connected with the invention for which a patent is proposed, should be kept a profound secret, till after the letters patent are obtained. It appears to have been generally supposed, in that country, that if an invention or

discovery ceased to be a secret, the inventor lost his right to a patent, for the thing invented or discovered. In consequence of this supposition, experiments for testing the practicability of running carriages by steam, &c. have been made in the night. And in the case of *Wood and others* vs. *Zimmer and others*,* it was stated by *Gibbs, C. J.* that to entitle a man to a patent, the invention must be new to the world. The public sale of that which is afterwards made the subject of a patent, though sold by the inventor only, makes the patent void. In England the patent is void, if the invention is used before *granting the patent.* In the United States the patent is void if the thing for which it is granted is in use before the *supposed invention.*

The patentee must not only be the inventor, but the sole and first inventor of the thing which is the subject of his patent. This will appear from the following report of Tenant's case.

Mr. Tenant brought his action for an infringement of his patent for a bleaching liquor; several witnesses were called in sup-

* Davies' Law of Patents, 129. 3 C. Holt N. R 58

port of the patent, who proved the great utility of the invention, and the general ignorance of the bleacher with respect to such bleaching liquor, until after the date of Mr. Tenant's patent. On the other side, a bleacher near Nottingham deposed that he had used the same means for preparing his liquor for five or six years anterior to the date of the patent. He also stated that he had kept his method a secret from all but his two partners, and two servants concerned in preparing it. A chymist at Glasgow deposed, that having had frequent conversations with Mr. Tenant on the means of improving bleaching liquor, he had, in one of them, suggested to Mr. Tenant that he would probably attain his end by keeping the lime-water constantly agitated. Mr. Tenant afterwards informed the witness that this method had succeeded. These conversations took place in 1796, and Mr. Tenant obtained his patent in 1798. Lord Ellenborough declared this to be a scandalous patent, equally unfounded in law and justice. The plaintiff was nonsuited on two grounds, first that the process had been used five or six years prior to the date of the patent, and therefore was not a new invention; and secondly, that the chymist had suggested to Mr. Tenant the agitation of the lime water, which was indispensable in the process.

and therefore it was not the invention of the patentee.

This invention being known before the patent to five different persons, it might perhaps also have been considered as both hurtful to trade and mischievous to the state; hurtful to trade, as confining the use of an article to one person for fourteen years, which was before known to five who might, during that time, ave disseminated it to the various persons engaged in that trade, if not prevented by the patent; and injurious to the state, as by granting the exclusive benefit of a thing already used by, or known to the public, the patentee would not pay for his privilege in the coin required by the patent, namely, a disclosure of a *new* invention, having othing to give as a consideration for his monopoly.

The United States Statute of Feb. 21st, 1793 next points out the *mode of proceedidg* necessary to be adopted by the patentee, in order to obtain a patent. The inventor of any new and useful art, &c. "Shall present a "petition to the Secretary of State, signifying "a desire of obtaining an exclusive property "in the same, and praying that a patent may "be granted therefor," and, "it shall and may

"be lawful for the said Secretary of State to
"cause letters patent to be made out in the
"name of the United States, bearing test by
"the President of the United States, reciting
"the allegations and suggestions of the said
"petition, and giving a short description of
"the said invention or discovery, and there-
"upon granting to such petitioner, or petition-
"ers, his, her, or their heirs, administrators, or
"assigns, for a term not exceeding fourteen
"years, the full and exclusive right and liber-
"ty of making, constructing, using, and vend-
"ing to others to be used, the said invention
"or discovery, which letters patent shall be
"delivered to the Attorney General of the
"United States, to be examined, who, within
"fifteen days after such delivery, if he finds
"the same conformable to this act, shall cer-
"tify accordingly, at the foot thereof, and re-
"turn the same to the Secretary of State,
"who shall present the letters patent, thus
"certified, to be signed, and shall cause the
"seal of the United States to be thereto af-
"fixed; and the same shall be good and avail-
"able to the grantee or grantees, by force of
"this act; and shall be recorded in a book, to
"be kept for that purpose, in the office of the
"Secretary of State, and delivered to the
"patentee, or his order."

A brief account of the mode of proceeding to obtain letters patent in Great-Britain may perhaps be acceptable, especially as information on this subject is often a desideratum with American inventors, who propose to obtain a patent monopoly in that country, and its colonies.

Grants, or letters patent must first pass by bill, which is prepared by the Attorney or Solicitor General, in consequence of a warrant from the crown; and are then signed, that is superscribed at the top with the king's own sign manual, and sealed with his privy signet, which is always in custody of the principal Secretary of State; and then, sometimes, it passes immediately under the great seal, in which case the patent is subscribed in these words: "*per ipsum regem*"—by the king himself. Otherwise, the course is to carry an extract of the bill to the keeper of the privy seal, who makes out a writ, or warrant, thereupon to the chancery, so that the sign manual is the warrant to the privy seal, and the privy seal is the warrant to the great seal; and, in this last case, the patent is subscribed, "*per breve de privato sigillo*"—by writ of privy seal.

In the letters patent which are granted for new inventions, the improvements or inventions are first stated; the prayer of the petitioner to have the exclusive benefit for himself, or his assigns, for fourteen years, is next given; and this prayer is declared to be complied with according to the statute. After commanding all subjects not to interfere with the patent right, and issuing a mandate to all officers not to molest the patentee in the exercise of it, the letters patent declare the patent to be void, if it appear that the grant is contrary to law, or prejudicial to the subject; or if the thing invented have been in use before the date of the grant; or if the patentee be not the inventor; or if it interfere with prior letters patent; or if the patent be transferred to more than five persons, or to any who act as a corporate body; or, finally, if the nature of the invention be not described, or the description be not enrolled within one calendar month after the date of the letters patent. The letters patent conclude with a declaration that they shall be construed in the most beneficial sense for the patentee.

It is frequently for the convenience or interest of a person who has invented or improv-

ed a machine, &c. to delay taking out a patent for it; in this case he may enter a *caveat*. A *caveat* will protect his invention, or improvement for the space of one year, after which if he have not brought his contrivance to maturity, he may renew it again for an equal period, and so on for any successive number of years. The caveat must be delivered at the chambers of the Attorney and Solicitor General; and if an application be made for a patent for an invention of the same nature, notice is given to the person who has entered the caveat: if he requires it, the Attorney General gives a separate audience to each of the rival inventors, and makes his report to the king, according to his opinion of the priority of invention. A petition to the king, stating the nature of the invention, and praying letters patent, accompanied by an oath taken before a master in chancery, that the invention is new, are the steps preparatory to taking out a patent. Separate patents must be taken out for England, Scotland, and Ireland; but in a patent for England, the patentee may, on the payment of a small additional sum, have the colonies and plantations abroad included. The petition and oath are referred by the Secretary of State for the home department, to the Attorney General, and on his report, recommending letters patent, his ma-

jesty issues his warrant, in consequence of which the bill is made out, which is the grant of his majesty, and of this the patent is a transcript.

The second section of the act of Feb. 21, 1793, is as follows. "Provided always, and be it further enacted, that any person, who shall have discovered an improvement in the "principle of any machine, or in the process "of any composition of matter, which shall "have been patented, and shall have obtain-"ed a patent for such improvement, he shall "not be at liberty to make, use or vend the "original discovery, nor shall the first invent-"or be at liberty to use the improvement. "And it is hereby further enacted and de-"clared, that simply changing the form or "the proportions of any machine, or compo-"sition of matter, in any degree shall not be "deemed a discovery."

M'Farlane *vs.* Price.

In the specification of a patent for an *improved* instrument, it is essential to point out precisely what is new, and what is old; and it is not sufficient to give a general description of the instrument, without making such distinction, although a plate is annexed containing a detached and separate representation of the parts in which the improvement

consists. This principle was decided in the case of Macfarlane *vs.* Price 1 Starkie's Rep. 199.

This was an action upon the case for infringing a patent. The patent was described, generally, as a patent for certain improvements in the making of umbrellas and parasols. The specification professed to set out the improvements as specified in certain descriptions and drawings, annexed.

The subjoined description contained a minute detail of the construction of umbrellas and parasols, partly including the usual mode of stretching the silk of the umbrella by means of metallic stretchers or rods, attached to a tube, moveable along the stem, and also certain improvements which consisted chiefly in the insertion of the stretchers, which were knobbed at the end, in sockets formed in the whalebone, instead of attaching them to the whalebone in the usual way, by means of forked ligaments, which came in contact with the silk. The advantage of which was, that by the specified mode, the bone being interposed between the stretchers and the silk, the stretcher did not wear the silk in stretching the umbrella, as it was apt to do in umbrellas of the old construction, where the

stretcher came in contact with the silk. Some other advantages of minor importance were also stated, and drawings were given of the umbrellas and parasols in their improved state. Throughout the whole specification no distinction was made between what was new and what was old.

The Attorney General for the plaintiff, contended that the specification was sufficient, since one of the annexed drawings contained a representation of the particular invention, which had been pirated and was confined to the exhibition of the insertion of the knobbed stretchers in the whalebone sockets, from which an artist would be able to construct an umbrella on the improved plan.

Lord *Ellenborough*. The patentee in his specification ought to inform the person, who consults it, what is new, and what is old. He should say, my improvement consists in this, describing it by words if he can, or if not, by reference to figures. But here the improvement is neither described by words, nor by figures, and it would not be in the wit of man, unless he were previously acquainted with the construction of the instrument, to say what was new and what was old. The specification states that the improved instrument is

made in the manner following; this is not true, since the description comprises that which is old, as well as that which is new. Then it is said that the patentee may put in aid the figures, but how can it be collected from the whole of these in what the improvement consists. A person ought to be warned by the specification against the use of the particular invention, but it would exceed the wit of man to discover from what he is warned in a case like this. Plaintiff nonsuited.

Section 3 enacts, that "Every inventor, "before he can receive a patent, shall swear "or affirm that he does verily believe that "he is the true inventor or discoverer of the "art, machine, or improvement, for which he "solicits a patent, 'which oath or affirmation "may be made before any person authorised "to administer oaths.'" &c.

Whittemore vs. Cutter.

In the case of Whittemore *vs.* Cutter, (1 Gal. 429.) *Story J.* observes—"Another objection to the direction of the Court is that the oath taken by the inventor not being conformable to the statute, formed no objection to the recovery in this action. The statute requires that the patentee should swear "that he is the true inventor or discoverer of the art, machine or improvement." The oath taken by

Whittemore was, that he was the true "*inventor* or *improver* of the machine." The taking the oath was but a prerequisite to the granting the patent, and in no degree essential to its validity. It might as well have been contended that the patent was void, unless the thirty dollars required by the 11th Section of the act had been previously paid.

It is further enacted in the third Section, that the inventor "shall deliver a written "description of his invention; and of the "manner of using, or process of compounding "the same in such full, clear and exact terms, "as to distinguish the same from all other "things before known, and to enable any per-"son, skilled in the art or science of which it "is a branch, or with which it is most near-"ly connected, to make, compound and use "the same. And in the case of any machine, "he shall fully explain the principles, and the "several modes in which he has contemplat-"ed the application of that principle, or cha-"racter, by which it may be distinguished "from other inventions; and he shall accom-"pany the whole with drawings aud written "references, where the nature of the case "admits of drawing, or with specimens of the "ingredients, and of the composition of mat-"ter, sufficient in quantity, for the purpose of

"experiment, where the invention is of a "composition of matter; which description, "signed by himself, and attested by two wit- "nesses, shall be filed in the office of the Sec- "retary of State, and certified copies thereof "shall be competent evidence, in all courts, "where any matter or thing, touching such "patent right shall come in question. And "such inventor shall moreover, deliver a mo- "del of his machine, provided the Secretary "shall deem such model to be necessary."

The operation of the part of the section last quoted is modified and controlled by the sixth section of the same act in such a manner, that it has been decided "that no defect or concealment in any specification is sufficient to avoid a patent, unless it be *with intent to deceive the public.*" This decision took place in the case of *Whittemore* vs. *Cutter*, 1. Gal. 429.

Whittemore vs. Cutter.

This was an action for the violation of a patent right in a machine for the making of cotton and wool cards. A verdict having been returned against the defendant, he moved for a new trial upon several grounds, one of which was to the direction of the Judge respecting the specification, which was as follows: "That if the jury should be satisfied

that the specification and drawings filed by the patentee, in the office of the Secretary of State, were not made in such full, clear, and exact terms and manner as to distinguish the same from all other things before known, and to enable any person skilled in the art or science, of which it is a branch, or with which it is most nearly connected, to make and use the same, this would not be sufficient to defeat the right of the plaintiff, to recover in this action, unless the jury were also satisfied that the specification and drawing were thus materially defective and obscure, *by design*, and the concealment made for the purpose of deceiving the public. In this respect, our law differed from that of England. That if the specification and drawings were thus materially defective, it afforded a presumption of a designed concealment, which the jury were to judge of. That in deciding as to the materiality of the deficiencies in the specification and drawings, it was not sufficient evidence to disprove the materiality, that by studiously examining such specification and drawings, a man of extraordinary genius might be able to construct the machine by inventing parts, and by trying experiments. The object of the law was, to prevent the expenditure of time and money in trying experiments, and to obtain such exact directions.

that if properly followed, a man of reasonable skill in the particular branch of the art or science might construct the machine, and if, from the deficiencies, it was impracticable for such a man to construct it, the deficiencies were material." In order fully to understand the objections to this direction, it is necessary to advert to the third section of the act of 1793, which specifies the requisites to be complied with in procuring a patent, and the sixth section of the same act, which states certain defences, of which the defendant may avail himself to defeat the action and to avoid the patent. The third section, among other things, requires the party applying for a patent to deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear, and exact terms, as to distinguish the same from all other things before known, and to enable any person skilled in the art or science, of which it is a branch, or with which it is most intimately connected, to make compound, and use the same; and, in the case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle, or character, by which it may be distinguished from other inventions. The sixth section provides, among other things, that the

defendant may give in his defence, that the specification filed by the plaintiff does not contain the whole truth relative to his discovery, or that it contains more than is necessary to produce the described effect, *which concealment, or addition, shall fully appear to have been made for the purpose of deceiving the public.*

It is very clear that the sixth section does not enumerate all the defences of which the defendant may legally avail himself; for he may clearly give in evidence that he never did the act attributed to him, that the patentee is an alien not entitled under the act, or that he has a license or authority from the patentee. It is therefore argued, that if the specification be materially defective, or obscurely or so loosely worded, that a skilful workman in that particular art could not construct the machine, it is a good defence against the action, although no intentional deception has been practised. And this is, beyond all question, the doctrine of the common law; and it is founded on good reason; for the monopoly is granted upon the express condition that the party shall make a full and explicit disclosure, so as to enable the public, at the expiration of his patent, to make and use the invention or improvement in as ample and

beneficial a manner as the patentee himself. If, therefore, it be so obscure, loose, and imperfect that this cannot be done, it is defrauding the public of all the consideration upon which the monopoly is granted.* And the motive of the party, whether innocent or otherwise, becomes immaterial, because the public mischief remains the same.

It is said that the law is the same in the *United States*, notwithstanding the wording of the sixth section, for there is a great distinction between a concealment of material parts, and a defective and ambiguous description of all the parts; and that in the latter case, although there may be no intentional concealment, yet the patent may be avoided for uncertainty as to the subject matter of it. There is considerable force in this distinction at first view; and yet, upon more close examination, it will be difficult to support it. What is a defective description but a concealment of some parts necessary to be known in order to present a complete view of the mechanism? In the present case, the material defects were stated, among other things, to consist of a want of a specific description of the dimensions of the component parts, and of the

* Buller, N. P. 77. Turner v. Winter 1 T. R. 62

shapes and positions of the various knobs.—Were these a concealment of material parts, or a defective and ambiguous disclosure of them? Could the legislature have intended to pronounce that the concealment of a material spring should not, unless made with a design to deceive the public, avoid the patent, and yet that an obscure description of the same spring should at all events avoid it? It would be somewhat hazardous to attempt to sustain such a proposition.

It was probably with a view to guard the public against the injury arising from defective specifications, that the statute requires the letters patent to be examined by the Attorney General, and certified to be in conformity to the law, before the great seal is affixed to them. In point of practice, this must unavoidably be a very insufficient security, and the policy of the provision that changed the common law may be very doubtful. This, however, is a consideration proper before another tribunal. We must administer the law as we find it. And without going more at large into this point, we think that the manifest intention of the legislature was not to allow any defect or concealment in a specification, to avoid the patent, unless it arose from an intention to deceive the public.

In the case of *Lowell* vs. *Lewis*, 1. Mason, 189, *J. Story* observes that: "By the common law, if any thing material to the construction of the thing invented be omitted or concealed in the specification, or more be inserted or added than is necessary to produce the required effect, the patent is void. This doctrine of the common law our patent act has (whether wisely, admits of serious doubts) materially altered; for it does not avoid the patent in such case, "unless the concealment or addition shall fully appear to have been made for the purpose of deceiving the public." (Sect. 6.) Yet certainly the public may be as seriously injured by a materially defective specification resulting from mere accident, as if it resulted from a fraudulent design. Our law, however, is as I have stated; and the question here is, and it is a question of fact, whether the specification be so clear and full, that a pump-maker of ordinary skill, could, from the terms of the specification, be able to construct one upon the plan of Mr. *Perkins*. The principal objection to the specification in this case is, that it does not describe the check bolt, or the form, or use, or the size of the leather, or the mode of forming the edge and fixing it upon the valve, or the exact position or elevation of the valve. (Here the Judge read the specification, and

commented on the evidence applicable to the objections; and left it to the jury to say, upon the facts, whether the specification was materially defective, and if so, whether it was by design to deceive the public.)

With regard to the requisites according to British law to make a valid specification the following decisions are in point.

Turner *vs* Winter, 1 Term Rep. 202.

This was an action on the case brought against the defendant for infringing on the plaintiff's patent, which was granted to him for producing a yellow colour, for painting in oil or water, and making white lead, and separating the mineral alkali from common salt, all by one process. On the trial before *Buller, J.* at the last sittings at Westminster, a verdict was found for the plaintiff, and on a motion to set aside that verdict, and grant a new trial, these facts were reported. The plaintiff within the usual time had enrolled the following specification. "Take any quantity of lead and calcine it, or minium or red lead, litharge, lead ash, or any calx or preparation of lead fit for the purpose: to any given quantity of the abovementioned materials, add half the weight of sea salt, with a sufficient quantity of water to dissolve it, or rock salt, or sal gem, or fossil salt, or any marine

salt, or salt water, proper for the purpose; mix them together by trituration till the lead becomes impalpable, or sufficiently comminuted. When the materials have been ground, let them stand for twenty-four hours, in which time the lead will be changed into a good white, and the salt decomposed; if not, the trituration must be repeated with a further addition of salt, till the white colour be obtained; the decomposition of the salt may also be brought about by digestion, or by calcination. The materials may be suffered to remain together, before the alkali is separated by the addition of water for a longer time than is specified above, according to the discretion of the operator, and the end he wishes to obtain. The yellow colour is produced by calcining the lead after the alkali has been separated from it till it shall acquire the colour wanted: This will be of different tints, according to the continuance of the calcination, or the degree of heat employed. The white lead must be finished by repeated ablutions, and by bleaching it till the white be made perfect." On the part of the plaintiff, it was proved that the first effect of the process was the separating of the mineral alkali from common salt; that that produced white lead; and that by continuing the process to a certain degree, and afterwards exposing the

matter, the yellow colour was produced. That as the specification required the heat to be continued till the colour was obtained, any person trying the experiment would necessarily be led to fusion. That a chymist would see by the specification, that if less heat would not answer the purpose, he must go on to fusion. The difference between fusion and calcination, both of which proceed from different degrees of heat operating on the subject matter, was that the substance to be calcined continued in a solid form; whereas fusion is a liquid state, to which the substance may be reduced by continuing the heat. Instances were produced of persons who had made the colour by help of the specification, after trying some experiments. In trying these experiments, minium had been used in the first instance. The white lead produced by following the directions in the specification, was not what was sold as such, but a white substance, the basis of which was lead. For the defendant it was proved that the patent colour could not be made by following the directions in the specification. The calcination was not sufficient to produce the effect intended; it was necessary to go on to fusion. That, as it appeared upon the specification, minium, or red lead, might be considered most convenient for the purpose, be-

cause a previous process was necessary to reduce lead to minium or litharge, before the other parts of the process were to be begun; minium and litharge differing only in having undergone different degrees of calcination. But that minium would not produce the effect unless first fused. And that if red lead were calcined, the experiment would not succeed without fusion: whereas, according to the terms of the specification, fusion should be cautiously avoided. That the specification was calculated to mislead also with respect to the salts. For *fossil sal* is a generic term, including all mineral salts; but only one species of fossil salt, namely, *sal gem*, has marine acid, without which the colour could not be produced. That several persons had tried to make white lead by the specification, but had not succeeded. They could only produce a greyish white powder, quite unfit for painting, and not merchantable.

Mr. J. Buller, after stating the facts, observed that at the trial, these objections had been taken to the specification—1st That after directing that lead should be calcined, it directed another ingredient to be taken, which would not answer the purpose, namely minium. Neither was it said that the minium should be calcined, or fused; but if it

had any reference to the preceding words, then it should be calcined, which would not produce the effect, fusion being necessary.—2dly, That fossil salt was improperly mentioned. There were many kinds of fossil salt, only one of which, namely, "*sal gem*," would answer the purpose, because it must be a marine salt.—3dly, That all these things put together did not produce the thing intended: and that the patent was for an invention to do three things in one process, whereas, one of them, namely, white lead, could not be produced at all: for that a white substance like lead remained, applicable only to some of the purposes of common white lead. The learned Judge then said, that at the trial he had told the jury, that if either of these objections were well founded it would avoid the patent.

Erskine and Pigot shewed cause against the rule for granting a new trial, and contended that in actions for infringing patents, it is not necessary for the plaintiff to give any evidence to shew what the invention is, but it is incumbent on the defendant, if he objects to the specification, to show that it is defective, and that persons acquainted with the subject could not, by the assistance of the specification effect the thing intended. The consider-

ation which the patentee gives for the monopoly, is the benefit which the public are to derive from his invention, after the patent is expired: and that benefit is secured to them by means of a specification of the invention. But it is not necessary that the specification should be such as that persons unacquainted with the terms of art, which must necessarily be used in writing it, should be able to understand it. It is sufficient if persons of skill can understand the process by means of the specification, so as to keep alive the discovery after the patentee's exclusive title has expired.

The first objection which has been raised against the sufficiency of the specification has no weight; for though the direction to calcine is applicable to all the ingredients in the first part of the description, yet scientific persons would instantly discover what degree of heat was necessary to be used to each of those ingredients; and that minium, being already a calx, must be fused. 2dly. The heat is ordered to be continued till the experiment succeeds, and the colour is produced. Fusion is a necessary consequence of continuing the heat; and this direction would be sufficiently understood by all persons acquainted with the subject.

As to the second objection, with respect to the fossil salt, the specification begins with "sea salt," which is the genus, then it afterwards states not "*any* fossil salt," but "fossil salt" or "*any marine salt*;" the marine salt is therefore the basis of the experiment. So that no *fossil salt*, but what is likewise a *marine salt* can be taken under this description.

The answer to the third objection is, that a species of white lead is produced, though not the common ceruse; and the patent does not profess to make the common white lead. Besides, the making of white lead was not the subject of the present action, which was for making the yellow colour; this accounts for the plaintiff's not being prepared to prove this part of the specification. Upon the whole this was a mere matter of evidence, as to the sufficiency of the specification, upon which the jury have exercised a sound discretion.

Bearcroft, in support of the rule was stopped by the Court.

Ashurst, J. I think that as every patent is calculated to give a monopoly to the patentee, it is so far against the principles of law, and would be a reason against it, were it not for the advantages which the public de-

rive from the communication of the invention, after the expiration of the time for which the patent is granted. It is therefore incumbent on the patentee to give a specification of the invention in the clearest and most unequivocal terms of which the subject is capable. And if it appear that there is any unnecessary ambiguity affectedly introduced into the specification, or any thing which tends to mislead the public, in that case the patent is void. Here it does appear that there is at least such a doubt on the evidence that I cannot say this matter has been so fully and fairly examined as to preclude any further investigation of the subject. Three objections have been made to this specification. The first is, that in the specification the public are directed to "take any quantity of lead and calcine it, or minium or red lead;" from whence it is inferred that *calcining* is only to be applied to *lead*. I confess, if the objection had rested here, I should have entertained some doubt. The next objection is, that in the subsequent materials to be added, the public are directed "to add half the weight of 'sea salt,' or 'sal gem,' or 'fossil salt, or any marine salt." Now "fossil salt" is a generic term, including "sal gem," as well as other species of "fossil salt." And I understand that "sal gem" is the only one which can be applied to this pur-

pose; so that throwing in fossil salt can only be calculated to mislead the public. Those words could not have been added with any good view; they must produce many unnecessary experiments; therefore, in that respect, the specification is not so accurate as it ought to have been.

Another objection was taken as to the white lead; to which it is answered, that the invention did not profess to make common white lead. But that is no answer; for if the patentee had intended to produce something only like white lead, or answering some of the purposes of common white lead, it should have been so expressed in the specification. But in truth, the patent is for making white lead and two other things by the same process. Therefore, if the process as directed by the specification, does not produce that which the patent professes to do, the patent itself is void. It is certainly of consequence that the terms of the specification should express the invention in the clearest and most explicit manner; so that a man of science may be able to produce the thing intended, without the necessity of trying experiments.

Buller, J. Many cases upon patents have arisen in our memory, most of which have been decided against the patentees, upon the ground of their not having made a full and fair discovery of their inventions. Wherever the patentee has made a fair disclosure, I have always had a strong bias in his favour, because in that case he is entitled to the protection which the law gives him. How far that law is politic, it is not for us to determine. When attempts are made to evade a fair patent, I am strongly inclined in favour of the patentee: but where the discovery is not fully made, the Court ought to look with a very watchful eye to prevent any imposition on the public. Then the question is, whether the present plaintiff has made a fair discovery. I do not agree with the counsel, who have argued against the rule, in saying it was not neccessary for the plaintiff to give any evidence to show what the invention was, and that the proof that the specification was improper lay on the defendant; for I hold that a plaintiff must give some evidence to show what his invention was, unless the other side admits that it has been tried and succeeds. But wherever the patentee brings an action on his patent, if the novelty or effect of the invention is disputed he must show in what his invention consists, and that he

produced the effect proposed by the patent in the manner specified. Slight evidence of this on his part is sufficient; and it is then incumbent on the defendant to falsify the specification. Now in this case no evidence was offered by the plaintiff to show that he had ever made use of the several different ingredients, mentioned in the specification, as, for instance, minium, which he had nevertheless inserted in the patent; nor did he give any evidence to show how the yellow colour was produced. If he could only make it with two or three of the ingredients specified, and he has inserted others, which will not answer the purpose, that will avoid the patent. So if he makes the article for which the patent is granted, with cheaper materials than those which he has enumerated, although the latter will answer the purpose equally well, the patent is void, because he does not put the public in possession of his invention, or enable them to derive the same benefit from it which he himself does.

As to the first objection, which has been taken with respect to the minium, it was not pretended by any of the plaintiff's witnesses that he ever made use of minium. And it was proved from the defendant's witnesses, that

from the specification, they should be led to use minium, because minium is lead already calcined, which is what the specification directs in the first instance. But minium will not answer the purpose. Then, as to fusion; it is said, that the public are directed by the words of the specification to continue the heat till the effect is produced, which must necessarily lead to fusion though fusion is not expressly mentioned. But that is no answer to the objection; for the specification should have shown by what degree of heat the fusion was to be produced. Now it does not mention fusion, and as one of the witnesses said, in order to produce the effect "you must go out of the patent," for fusion is beyond calcination, and in some sense contrary to it; and by mentioning calcination, it should seem that fusion was to be avoided.

The next objection was to the salts. "Fossil salt" is mentioned as a distinct species of salt, and many other salts are also mentioned as indifferent whether one or the other be used. But it was proved that fossil salt was a generic term, including several species, and that "*sal gem*" was the only species of it that would answer the purpose; because none of the others contained a marine acid, which was essential.

There was no contradiction by the witnesses on the third objection, for the most that the plaintiff witnesses said, was, that following the specification the experiment only produced a white substance like lead.

Now on either of these grounds the patent was void. Because, if the patentee says that by one process he can produce three things, and he fails in any one of them, the consideration of his merit, and for which the patent was granted fails, and the crown has been deceived in the grant. Slight defects in the specification will be sufficient to vacate the patent. In a case before Lord Mansfield, for infringing a patent for steel trusses, it appeared that the patentee, in tempering the steel, rubbed it with tallow, which was of some use in the operation, and because this was omitted, the specification was held to be insufficient, and the patent was avoided.

It has been decided in the Court of King's Bench, that one having obtained a patent for a certain manufacturing machine of which he duly enrolled a specification, afterwards obtained another patent for certain *improvements in the said machine*, in which the grant of the former patent was recited: and the latter patent contained the usual condition

that it should be void if the patentee did not within one mouth enrol a specification *particularly describing and ascertaining the nature of said invention, and in what manner the same was to be performed,* a specification containing a full description of *the whole machine* so improved, but not distinguishing the new improved parts from the old parts, or referring to the former specification, otherwise than as the second patent recited the first, was a performance of that condition. The following is the report of the case, which was stated for the opinion of the court by the Lord Chancellor.*

By letters patent of the 20th of March, 1787, the king granted to *John Harmar* (the plaintiff) for 14 years the sole privilege of making, using, and vending, a certain machine by him invented, for raising a shag on all sorts of woollen cloths, and cropping or shearing them, which together come under the description of dressing woollen cloths, and also for cropping and shearing of fustians; with the usual condition or provision for avoiding the patent on failure of enrolling a specification. In pursuance of this proviso, *Harmar* duly enrolled a specification of the said inven-

* Harmar *vs.* Playne and another, II. East. 101.

tion, with drawings of the same in the margin thereof. On the 29th of March, 1794, his majesty granted another patent to *Harmar* whereby, after reciting that Harmar had obtained letters patent on the 20th of March, 1787, authorising him to make, use, and vend his invention of a machine for raising a shag on all sorts of woollen cloths, &c. for 14 years; and further, that he had invented considerable improvements in the said machine, for which improvements in the said machine he prayed his majesty's letters patent for the exclusive enjoyment thereof for fourteen years, pursuant to the statute; the letters patent, therefore, granted to him the sole privilege and authority to make, use, and vend *his said invention*, and have the whole profit thereof.

The letters patent also contained a proviso that if *Harman* should not particularly describe and ascertain the nature of his invention, and in what manner the same was to be performed, by an instrument in writing under his hand and seal, and cause the same to be enrolled in the Court of Chancery, within one calendar month next and immediately after the date of the said letters patent, then they should become void. In pursuance of this proviso, *Harmar* did, in due time, enrol a spe-

cification in Chancery, with drawings of the machine in the margin thereof; the introductory part of which specification is as follows: "To all, &c. I, *John Harmar*, of *Sheffield*, "send greeting. Whereas his majesty, by his "letters patent, dated the 29th of March, in "the 34th year of his reign, hath granted to "me especial license, and sole privilege, &c. "that I, my executors, &c. and assigns, at all "times during the term of years therein ex- "pressed, should and lawfully might make, "use, and vend, *the machine* by *me invented* and "found out, for raising a shag on all sorts of "woollen cloth, &c. (as before) within *Eng-* "*land*, &c.; and that I should enjoy the whole "profit, and benefit, &c. of said invention, for "fourteen years from the date of the said "letters patent, according to the statute, &c. "and, whereas, in the said letters patent, "there is a proviso, or condition, that if I, "*John Harmar*, should not *particularly describe* "*and ascertain the nature of the said invention,* "*and in what manner the same is to be perform-* "*ed*, by an instrument in writing under my "hand and seal, and cause the same to be en- "rolled in Chancery, within one calendar "month next after the date of said letters "patent, then the said letters patent, &c. "should become void—Now, know you that, "in obedience to the said letters patent, and

"proviso, &c. I, *John Harmar*, do by these "presents particularly describe and ascertain "the nature of the said invention, referring to "the drawings in the margin of these pre-"sents, which I explain as follows." The specification then proceeds under different letters of the alphabet, corresponding with similar letters on the drawing, to set forth a full description of *the whole* of the machine; and the specification ends with these words: "And I, *John Harmar*, do hereby declare that "my said invention is intended to be worked "in the manner hereinbefore particularly mentioned." It was admitted by the defendants that the improvements for which the second patent was granted are included in the general description of the second, or improved machine, as set forth in the specification of the second patent; and that the second specification does contain a full and proper description of *the whole machine in its improved state*: but the second specification does not in any manner point out or describe the improvements upon the former machine by any verbal description, or by any delineation or mark in the drawing; and which drawing is not a representation of the *improvements alone*, but of the *whole machine in its improved state*: nor are the improvements in any manner substantively and individually explained by the second

specification; nor is the machine in the improved state, contradistinguished from the state and condition of it under the former patent, by any explanation whatever, nor by any delineation, or mark, in the drawing; but what the former machine was, and what were the said improvements thereupon, are ascertainable and appear by referring to the first specification and the drawings thereon, and comparing the second specification and the drawings thereon with the same. The defendants insisted that the second specification was not a due performance of the condition of the second patent; and the question, therefore, for the opinion of the Court, was, whether the proviso, or condition, in the letters patent of the 29th of *March*, 1794, had been duly performed by the enrolment of the said specification thereof.

Holroyd, for the plaintiff, contended that the condition had been duly performed. The patent, and the specification referring to it, are to be construed together as one instrument, as in *Hornblower* vs. *Boulton*; and the second patent recites the first, and that the patentee had invented certain improvements in the former patent machine, for which improvements another patent was prayed, which the king grants. The first patent and specification be-

ing enrolled, the public must be taken to know their contents ; or, at least, the second patent, by referring to the first, directs the party to the source from whence information may be obtained in the manner required by law. The very nature of the second patent, which is for improvements in a machine for which a former patent had been granted, points to such former patent and the specification annexed: there need not be an express reference: and by comparing the two patents and specifications together, the party seeking for information as to what he may lawfully make without the license of the patentee, must necessarily see for what particular parts of the improved machine the second patent was granted ; and the patentee was not bound to state in his second specification that which he had before stated separately in his first, and which the subject was bound to know. A specification need not contain every thing at length relating to the subject matter, but may refer to other public instruments, or to the general sources of knowledge, which every person of reasonable skill and information on the subject may fairly be presumed to know. There is a constant reference in these instruments to drawings which accompany them, and without which the description of the particular invention would not be intelligible :

(Lord *Ellenborough*, *C. J.* asked whether it were meant to be contended that a specification might refer to such and such articles in *Chamber's* Dictionary for a description of one part of a machine, and to certain other descriptions in other books, for other parts, and so on, which would lead to great inconvenience, and make the new invented parts described wholly unintelligible to those who were not furnished with their works; when the object of requiring a specification to be enrolled seemed to be to enable persons of reasonable intelligence and skill in the subject matter to tell from the inspection of the specification itself what the invention was for which the patent was granted, and how it was to be executed.) The public must take notice at their peril of all patents on record, and the last of them to which the specification belongs, refers to the other. No person can be misled by the specification of a patent for an *improved* machine, describing the *whole* machine *so improved*; it is even more convenient than merely stating what the improvements are, which would be a literal compliance with the condition, but far less intelligible; for such a bare method of describing the new invention would require a much higher degree of knowledge and memory of the subject matter, and of every former patent

than this, which describes the whole combination of new and old parts, forming the entire improved machine. The patentee has only an exclusive right to the *whole combination* for which his patent is granted, and the use of particular parts only is no breach of his rights; the description, therefore, of the particular improvements, distinct from the parts in general use before, would be useless to all, and less intelligible to many. Patents were formerly considered as injurious monopolies, and were, therefore, construed by the Courts with great strictness; but now, when a more liberal and just view of the subject prevails, they are properly considered as highly advantageous to the public, by holding out an encouragement to ingenious men to disclose their inventions: and Lord *Elden*, when presiding in *C. B.* said in the case of *Cartright* vs. *Arnott*, in Easter term, 1800, in that court, that they were to be considered as bargains between the inventors and the public, to be judged of on the principle of keeping good faith by making a fair disclosure of the invention, and to be construed as other bargains.

Lord *Ellenborough*, *C. J.*—The difficulty that presses most is, whether this mode of making the specification be not calculated to mislead a person looking at it, and induce him

to suppose that the term for which the patent is granted may extend to preclude the imitation of other parts of the machine than those for which the new patent is granted, when he can only tell by comparing it with some other patent what are the new and what are the old parts; and if this may be done by reference to one, why not by reference to many other patents, so as to render the investigation very complicated. It may not be necessary indeed, in stating a specification of a patent for an improvement, to state precisely all the former known parts of the machine, and then to apply to these the improvements; but, on many occasions, it may be sufficient to refer generally to them. As in the instance of a common watch, it may be sufficient for the patentee to say—take a common watch and add or alter such and such parts—describing them. And when Lord *Mansfield* said* that the meaning of the specification was that others might be taught to do the thing for which the patent was granted, it must be understood to enable persons of reasonably competent skill in such matters to make it; for no sort of specification would probably enable a ploughman, utterly ignorant of the whole art, to make a watch.

* *Liardet* vs. *Johnson*, sittings at *Westminster*, after *Hilary*, 1778, *Bull.* Ni. Pri. (76.)

Wetherell, contra.—The proviso in the second patent is express that the patentee shall "*particularly describe and ascertain* the nature of the *said invention*, (*i e.* the *improvements*,) and in what manner *the same* was to be performed," &c.: if that condition be not performed, the patent is declared void. Now it is not pretended that the improvements of the machine, for which alone the second patent was granted, are *particularly described and ascertained* in the specification, but the whole machine, including indeed those improvements, is so described, without ascertaining the newly invented parts. But the patent was not for the *whole machine*, but for a part only; so that no person looking only to the second specification, or to that and the patent to which it appertained, could inform himself for what parts of the machine that patent was granted; and that knowledge can only be acquired by looking to both the patents and specifications. Unless the alteration of, or addition to, an old machine be *bona fide* an improvement, and useful* to the public, the crown cannot grant a patent for it; and, therefore, it should appear upon the face of the instrument itself what the improvement is. Mr. Justice *Buller*,

* Vide *Bull.* N. P. (77.) pl. 4. Rule the fourth.

in the case of *The King* vs. *Arkright*,* lays down certain rules for the construction of patents, under the third and fourth of which the objections to the patent range—3dly, If the specification be in any part of it materially false or defective " the patent is void.—4thly, The patent must not be more extensive than the invention; therefore, if the invention consist in an addition or *improvement* only, and the patent be for the whole machine or manufacture, it is void.†" Now here the specifica-

* Sitting at *Westminster*, after *Trinity*, 1785. *ib.*

† For this latter is cited (among other cases, in which it was so ruled by Lord *Mansfield*,) the case of the *King* vs. *Else*, sittings at Westminster *Michaelmas*, 1785, cor. *Buller, J.* The patent there was for a new invented manufacture of lace, called French, otherwise, Ground Lace. The specification went generally to the mixing of silk and cotton thread on the frame. On the part of the prosecutor it was clearly shown that prior to the patent, silk and cotton thread had been used together and intermixed upon the same frame; and the defendant's counsel acknowledged the fact; but said he could prove clearly that the former method of using the silk and cotton thread was quite inadequate to the purpose of making lace, on account of its coarseness, and that the defendant alone had invented the method of intermingling them so as to unite strength with fineness. But per *Buller, J.* It will be to no purpose.—The patent claims the exclusive liberty of making lace composed of silk and cotton thread mixed; not of any particular mode of mixing it; and, therefore, as it has been clearly proved and admitted that silk and cotton thread were before mixed on the same frame for lace in some mode or other, the patent is clearly void, and the jury must find for the crown. Verdict accordingly.

tion is materially defective, in not ascertaining how much of the whole machine described is the new invention: and though the plaintiff has not taken out this patent for the whole machine, yet having obtained his patent for the *improvement* of *the machine*, he has not made a specification of that improvement, as he was bound by the condition of the grant to do: but has made a specification larger than the patent, upon the face of which the particular improvement cannot be ascertained. In *Turner* vs. *Winter*,* it was held that if the specification were ambiguous, or gave directions which tended to mislead the public, it avoided the patent. It is not enough, then, that persons of great skill and experience may be able to find out the invention from the specification: but it should be plainly stated, so that a person of reasonable knowledge and experience upon the subject, may immediately be made acquainted with the invention. The specification ought to inform the public what the thing is for which the patent was granted, and how it is to be made, and not merely inform them where else that information is to be acquired, for that is not a compliance with the condition. No person applying to the specification of one

* 1, Term Rep. 602.

patent is bound to know that another has been granted. If inquiry be necessary to be made for facts dehors the instrument itself, it is difficult to say where the line is to be drawn: references may as well be made to dictionaries of arts and sciences, philosophical transactions, &c. as to other patents and specifications; the patentee is not to throw on the party inquiring the trouble and expense and loss of time of acquiring the knowledge of his invention, by investigation and comparison. The generality of the whole description may render it as ambiguous and difficult to be understood, as the too great generality of the particular terms in *Turner* vs. *Winter*, did.—The public may well imagine from this specification that the plaintiff had a patent for the *whole* machine, when in truth it was only for a part of it. It may be doubtful whether a direct reference to the former specification would have sufficed; but here is no such reference, but the two instruments are endeavoured to be connected through the invention of the second and first patents. If there were a succession of patents for several improvements, ending at different periods, it might be extremely difficult for a person to collect from specifications of this kind the periods when the several inventions would be open to the public. But the true sense of

the condition is to give the public direct and complete information of the manner of executing the invention, without further search or trouble. (*Le Blanc J.* There lies the difficulty: for suppose the specification had merely described the improvements, such as the addition of a crank or a screw to such or such a part; must not the party still have referred to the original specification, or at least have brought a full knowledge of it with him, before he could understand fully how to adapt the new parts described to the old machine?) Admitting that there may be some difficulty in satisfying the object of the specification by a mere description of the new parts to be added to the old machine, the patentee would be bound to state so much of the original specification as would makehis description of the improvement intelligible; and perhaps the better and safer way would be to state the whole, and then to mark by references the new parts: but in whatever way it be done, the public should be able to ascertain at once, without looking to any other instrument, which are the new parts for which the patent is granted; and no objection could be made to any surplusage of explanation, provided it was not given in a manner to confound the enquirer as to the new invention.

Holroyd, in reply, said, That if references to other instruments were made in such a manner as to obscure the subject and confound the inquirer, that would avoid the patent: but so far as the public are interested in having a perspicuous description of the machine in its most improved state, it cannot be done more effectually than by describing the entire improved machine; and those who are interested in discriminating between the old and new parts can have no difficulty in doing so by comparing the two specifications; the latter of which through the medium of the patent having express reference to the former one: and every person being bound at his peril to notice the enrolments, and being liable to an action for infringing the patent, without having personal notice of it. Admitting therefore that a patentee cannot refer an inquirer to books and other writings which he may or may not be able to obtain, or can only obtain by paying for it, or by the indulgence of another; yet here he is referred to a public source of information appropriated to this express purpose, which the patentee himself has afforded, and which the other has a right to have. (*Bayley, J.* Suppose the former patent and specification to be lost by accident, how is the public to know from the specification of the second patent how

much of the whole improved machine they may use?) The law presumes that all records will be properly preserved. The same difficulty, however, would occur if a drawing annexed to the specification in question were lost: and indeed in the case put, there would be an advantage to the public in this mode of specification more than sufficient to counterbalance the loss of the particular information, as thereby the knowledge of the whole improved invention would be preserved. The greater difficulty would be thrown upon the patentee himself in shewing what the precise improvement was, in an action for the infringement of his patent: his claim of monopoly being confined to the whole combination described. As to the labour or difficulty of comparing the second with the first specification in order to find out the invention, some labour and difficulty of the sort must always occur where drawings are referred to in the annexed specification; they must be read and compared together, and the party must bring his general scientific or mechanical knowledge, and perhaps other general information, to bear upon the subject. If the first specification had been actually recited in the second, there must have been the same labour of comparison as in this case: the only differ-

ence here is, that the party must refer to another parchment on record.

Lord *Ellenborough, C. J.* I own I was disposed to think that it was a departure from the terms of the proviso for the patentee merely to tell the inquirer, who came to consult the specification, how he might learn what the invention was, instead of giving him the information directly. But I feel impressed by the observation of my brother *Le Blanc*, that the trouble and labour of referring to and comparing the former specification with the latter, would be fully as great if the patentee only described in this the precise improvements upon the former machine. Reference must, indeed, often be necessarily made in these cases to matters of general science, or the party must carry a reasonable knowledge of the subject matter with him, in order clearly to comprehend specifications of this nature, though intended to be fairly made. We will, however, consider of the case, and certify our opinions.

The *Court* afterwards certified to the Lord Chancellor, that they had heard the case argued by counsel, and were of opinion that the proviso or condition of the letters patent, bearing date the 29th of March, 1794, had

been performed by the enrolment of the specification thereof set forth in the case.

A patent taken out for "a method of more completely lighting cities, towns and villages," when the specification described improvements upon street lamps, was held to be taken out too large; it was in substance a patent for an improvement in street lamps, and should have been so taken.

This principle was decided in the case of Lord Cochran *vs.* Smethhurst. This was an action brought in the Court of King's Bench under an order of the Lord Chancellor, to try the validity of a patent granted to the plaintiff, dated 3d March, 53 Geo. III. for "a method or methods of more completely lighting cities, towns, and villages," and an alleged infringement by the defendant; in which letters patent was contained the usual proviso relative to enrolling the specification in Chancery within six months, from the date of the patent, and the specification was enrolled within the term prescribed. The declaration states, that the plaintiff had from the date of the patent exercised the said invention to his great profit, yet the defendant had without license of the plaintiff, made and sold lamps in

Cochran *vs.* Smethurst.

imitation of the invention of the plaintiff. Defendant pleaded the general issue.

The Attorney-General explained the principle of the construction of Lord Cochran's lamps, stating that there must be a current of pure air, but a current of air was no part of Lord Cochran's invention: the placing of flame betwen two currents of air was not new, it was the principle of Argand's lamp; but if Argand's lamp was put into a case without a regular supply of atmospheric air, it would not answer; the air being burnt and burnt again would become exhausted, and incapable of any longer feeding the flame. There must be a succession of pure air to feed the flame, which should not mix with the contaminated air: this was accomplished by Lord Cochrane's invention, by taking care that the foul air should not return to burn over and over again, by means of an air tube through the external part of the lamp, which conducts the air to the flame. Argand's chimney must be brought down close to the flame and surround it: in this invention it was different, the heated air ascends out of the glass vase, with no possibility of returning to it: it goes out like smoke from a chimney.

Upon the patent and specification being put in and read, an objection was taken to the patent, which does not appear upon the declaration, because the reference to the *said invention* being connected with the introductory averment of invention and discovery, namely, "That the plaintiff, before and at the time of granting the patent, had invented and discovered divers improvements upon lamps, and was therefore the true and first inventor of a method or methods of more completely lighting cities, towns and villages,* &c. and the patent is stated in the declaration to be for the "said invention." An objection was also taken to the specification, as it extends to ship lights, convoy signals, theatres, churches, &c. being therefore larger than the patent, which is for "a method or methods of more completely lighting cities, towns, and villages," and also to the generality of the words "*or otherwise* by preserving it in a state of purity."

Mr. Justice Le Blanc thought the cause had better proceed, but reserved to the defendant the benefit of the objections taken.

The plaintiff proceeded to call his witnesses in support of his case.

* This introductory averment appears to have been introduced in order to cure the defect in the title which the plaintiff had given to his invention.