

United States District Court,
N.D. Illinois, Eastern Division.

PACTIV CORPORATION, formerly known as Tenneco Packaging and Consumer Products, Inc,
Plaintiff.

v.
S.J. JOHNSON & SON, INC. and KCL Corporation,
Defendants.

Nov. 29, 2000.

MEMORANDUM OPINION AND ORDER

KENNELLY, J.

In this patent infringement action, plaintiff Pactiv Corp. (formerly known as Tenneco Packaging and Consumer Products, Inc.), the manufacturer of Hefty One Zip reclosable plastic storage bags, claims that the Slide-Loc reclosable plastic storage bag, manufactured by defendant KCL Corporation for defendant S.J. Johnson & Son, Inc., infringes U.S. Patent No. 5,007,143, which Pactiv holds. Just over a year ago, the Court issued a Memorandum Opinion and Order in which it construed four disputed terms found in various claims in the '143 patent. *Tenneco Packaging Specialty and Consumer Products, Inc. v. S.C. Johnson & Son, Inc.*, No. 98 C 2679, 1999 WL 1044840 (N.D.Ill. Nov. 16, 1999). Now that discovery has been completed, the parties have filed a series of motions seeking summary judgment on various claims and defenses and to limit evidence on certain issues. Among other motions, defendants have moved for summary judgment on the issue of infringement, and plaintiff has likewise moved for summary judgment on that issue. For the reasons that follow, the Court denies plaintiff's motion and grants defendants' motion.

Background

Pactiv's One Zip bags open and close by means of a "rolling action zipper profile," *see* U.S. Patent No. 5,007,143, col. 1, line 9, which consists of a slider that passes over and interlocks or disengages the male and female (or rib and groove) elements of the zipper. The profile is designed to make the bags both resealable and leakproof. Defendants' Slide-Loc bags also include a zipper with rib and groove elements and a slider that passes over those elements, interlocking or disengaging them.

The One Zip bag consists of a single rib and a single groove. The following diagrams, derived from figures in the '143 patent, illustrate a cross-section of the zipper and slider and show how the zipper closes:

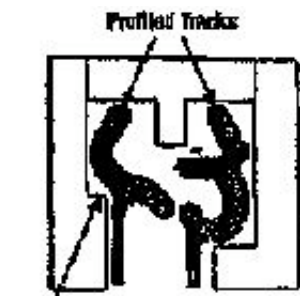


FIG. 4

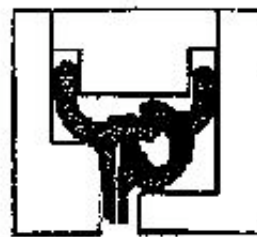


FIG. 5

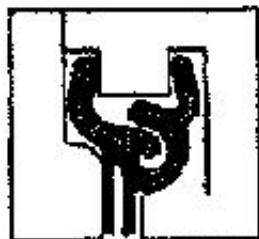


FIG. 6

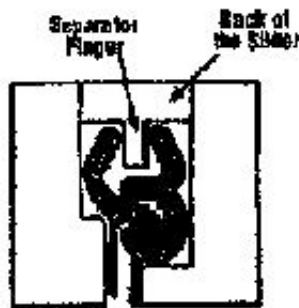
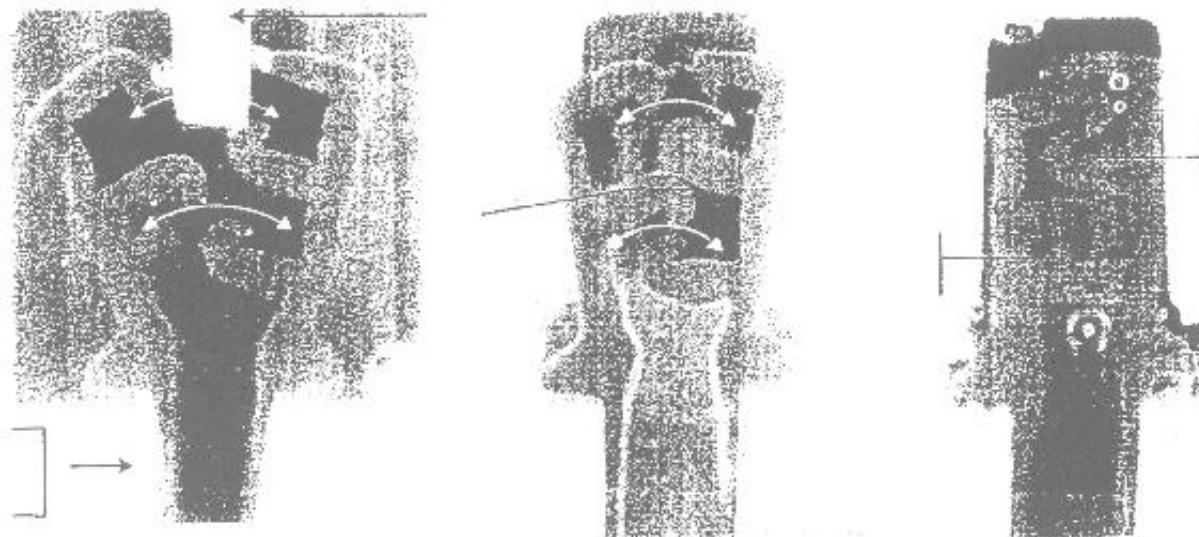


FIG. 7

The Slide-Loc bag includes two rib-groove pairs, rather than just one like the One Zip bag. Each rib includes a hook-like protrusion that ultimately engages a similar protrusion on the lower side of each groove. The following diagrams, taken from photographs of cross-sections of a Slide-Loc bag, illustrate the configuration:



Pactiv claims that the Slide-Loc bag infringes a number of the claims of the '143 patent. The language on which our decision turns appears in each of these claims. FN1 For illustrative purposes, we quote in full Claim 1, with the language in question in bold type:

FN1. The one exception is claim 11, but that claim uses the term "rolling action," which we have held means the same thing as "rolling" as that term is used in the other claims.

A plastic reclosable fastener with slider particularly suited for thermoplastic bags and the like comprising a pair of flexible plastic strips having separate fastener means extending along the length thereof comprising reclosable interlocking male and female profile elements on the respective strips, said strips including profiled tracks extending along the length thereof parallel to the male and female elements, said male and female elements having complimentary cross sectional shapes such that they are closed by pressing the bottom of the elements together first and then rolling the elements to a closed position toward the top thereof, a straddling slider on said tracks for closing or opening the reclosable fastener elements comprising an inverted U-shaped plastic member having a back for moving along the top edges of said tracks with side walls depending therefrom for cooperating with said tracks and extending from an opening end of the slider to a closing end, said side walls having a greater spacing at the opening end than the closing end, a separator finger depending from said back between said side walls and inserted between said tracks, said separator finger being shaped throughout the length thereof for first holding the top of the male and female elements open while the slider first presses the bottom of the elements together and then permitting the slider to press the top of the elements together while the slider moves in a closing direction, said slider having shoulder projecting inwardly from said depending side walls and shaped throughout the length thereof for cooperation with said depending separator finger in creating the rolling action in opening and closing said reclosable interlocking male and female profile elements.

U.S. Patent No. 5,007,143, col. 6, line 53-col. 7, line 17 (emphasis added).

Construction of the terms "rolling" and "rolling action" as used in the '143 patent was the primary disputed issue at the *Markman* hearing. As noted above, the claims disclose "male and female elements having complimentary cross sectional shapes such that they are closed by pressing the bottom of the elements together first and then rolling the elements to a closed position toward the top thereof." The Court concluded that the term "rolling" was used in the claims to describe the nature of the motion used to close the bag from bottom to top, and that it referred to a rotational motion, achievable because of the shape of the male and female elements and the flexibility of the material with which they are made. *Tenneco Packaging*, 1999 WL 1044840, at *4.

In its motion for summary judgment on infringement, Pactiv argues that the evidence shows beyond dispute that "rolling" takes place in opening and closing the rib and groove elements of the Slide-Loc bag. In their motion for summary judgment of non-infringement, Defendants argue that the evidence shows beyond dispute that the Slide-Loc bag does not open or close in the manner described in the claims of the '143 patent.

Discussion

An infringement analysis entails two steps. The first is determining the meaning and scope of the patent claims alleged to be infringed. The second step is comparing the properly construed claims to the device accused of infringing. *See, e.g., Bayer AG v. Elam Pharmaceutical Research Corp.*, 212 F.3d 1241, 1247 (Fed.Cir.2000); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed.Cir.1995) (*en banc*), *aff'd*,

517 U.S. 270 (1996). To prove literal infringement, the patent holder must show that the accused device contains every limitation in the asserted claims. *Elkay Manufacturing Co. v. Ebco Manufacturing Co.*, 192 F.3d 973, 980 (Fed.Cir.1999). To prove infringement under the doctrine of equivalents, the patent holder must show that the accused device contains each limitation of the claim or its equivalent; an element in an accused product is equivalent to a claim limitation if the differences between the two are insubstantial to one of ordinary skill in the art. *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 40 (1997); *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1359 (Fed.Cir.2000). Conversely, "[f]or any given claim, 'infringement is avoided when one element (or substitute falling within a permissible range of equivalents) is absent.'" *Watts v. XL Systems, Inc.*, No. 99-1256, 2000 WL 1693057, at *7 (Fed.Cir. Nov. 14, 2000) (quoting *Senmed, Inc. v. Richard-Allen Medical Industries, Inc.*, 888 F.2d 815, 818 n. 2 (Fed.Cir.1989)); *see also* *Elkay*, 192 F.3d at 980.

Infringement is a question of fact. *See, e.g.*, *Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091, 1105 (Fed.Cir.2000). However, if no fact finder reasonably could find that the patent's claims literally read on the accused device, summary judgment of no literal infringement is appropriate. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1580 (Fed.Cir.1989). Similarly, where the evidence is such that no reasonable jury could determine two elements to be equivalent, "a district court is obliged to grant summary judgment of non-infringement" under the doctrine of equivalents. *Warner-Jenkinson*, 520 U.S. at 39 n. 8.

A. Pactiv's motion for summary judgment on infringement

Pactiv contends that it is entitled to summary judgment on the issue of literal infringement. It argues that the undisputed evidence demonstrates that "rolling" takes place in the opening and closing of the Slide-Loc bag. Pactiv's own experts, Dr. Steven J. Grossman and Dr. James G. Conley, say this is so; we will discuss the particulars of their testimony when we address defendants' motion for summary judgment. *Infra* at 10-14.

According to Pactiv, defendants have effectively admitted that their device closes by means of rolling or rolling action as the '143 patent uses that term. The Slide-Loc bag is said to represent the commercial embodiment of U.S. Patent No. 5,664,299. The specification found in the '299 patent says that the device described by the patent can be closed by squeezing the lower rib and groove and the upper rib and groove together at approximately the same time, or "[a]lternatively, the profiles can be interlocked by a rolling action, as described in U.S. Pat. No. 5,007,143." U.S. Patent No. 5,664,299, col. 4, lines 24-25. According to Pactiv, this is an admission that the Slide-Loc closes by way of rolling action as the Court has construed that term with respect to the '143 patent . FN2

FN2. Defendants acquired the rights to the '299 patent from Dow Brands, to whom the inventors had assigned the patent. For purposes of this discussion, we assume but do not decide that any "admissions" made by the inventors in the patent would be binding on defendants (a proposition that defendants dispute).

The Court does not agree. The fact that the '299 patent uses the same terminology as the '143 patent is actually of little assistance here. We are required to compare the claims of the '143 patent not with another patent but rather with the alleged infringing product itself, i.e., the Slide-Loc bag. *Cf. Hap Corp. v. Heyman Manufacturing Co.*, 311 F.2d 839, 843 (1st Cir.1962) ("The question is not what [a device] might have been made to do, but what it was intended to do and did do."), *quoted in* *High Tech Medical Instrumentation, Inc. v. New Image Industries, Inc.*, 49 F.3d 1551, 1555 (Fed.Cir.1995). Moreover, there is no evidence that Elisabeth Jozwiak, the Dow Chemical patent attorney who drafted the '299 patent, had any knowledge of

how a Slide-Loc device actually closed.

Pactiv also argues that defendants' experts have effectively admitted that some "rolling" as we have defined that term takes place in closing the Slide-Loc bag. Specifically, Pactiv contends that Dr. Charles F. Reinholtz, Dr. Karthik Ramani, and Steven Ausnit all conceded that some rotation or rolling takes place in the course of closing or opening a Slide-Loc bag. Though acknowledging that these experts all contend that any rotation they observed is incidental and/or insignificant to the process of opening or closing the bag, Pactiv argues that neither the '143 patent nor our claim construction decision require any particular amount of "rolling." So long as some rolling occurs in closing the Slide-Loc bag, Pactiv says, the '143 patent reads on the defendants' device in this regard.

Once again, the Court does not agree. Pactiv's argument is based on a misunderstanding of what the claims require. This misunderstanding is illustrated by Pactiv's description of our inquiry: it says we are to determine whether "each of the four disputed '143 claim limitations-(1) 'rolling,' (2) 'profiled tracks,' (3) 'reclosable interlocking rib and groove profile elements on the respective sides of the bag mouth,' and (4) a separator finger 'shaped throughout the length thereof'-is literally present in Slide-Loc." Pactiv Summ. Judgt. Reply Mem. at 2. That misstates the issue-at least with respect to "rolling." An element of a claim must be read as a whole, not as a series of disjointed words; the claim terms cannot be divorced from the context in which they are presented. The claims do not say that the closing and opening of the bag involves a process that includes rolling, or that some rolling takes place during the process. Rather, "rolling" *is* the process by which the rib and groove elements are closed. Thus the question is not, as Pactiv puts it, whether " 'rolling' ... is literally present in the Slide-Loc," or whether "rolling" occurs at some point during the opening or closing of the Slide-Loc. Rather, the question is whether the Slide-Loc closes "by pressing the bottom of the elements together first and then rolling the elements to a closed position toward the top thereof." And as this Court construed the term, "rolling" takes place in the device described by the '143 patent because of the shape of the elements, as well as their composition. *Tenneco Packaging, 1999 WL 1044840, at *4.*

According to defendants' experts, this is not the way that the Slide-Loc bag closes. We will discuss their testimony in greater detail in the following section of this Memorandum Opinion; for present purposes, suffice it to say that defendants' experts state that the opening and closing motion of the Slide-Loc bag's ribs and grooves consists principally of sliding and deformation, not rolling, and that any rotation or rolling is slight and is purely incidental to the process. And lest it be objected that the experts' testimony consists mainly of describing their visual observations of how the Slide-Loc device actually works, the Court has reviewed the photographs and animations of the Slide-Loc submitted by the parties and concludes that the experts' descriptions of what occurs are supported by the evidence. *See also infra* at 9-10.

For these reasons, the Court disagrees with Pactiv regarding the effect of the claimed admissions by defendants' experts. The experts' so-called admissions are not sufficient to entitle Pactiv to summary judgment. Rather, if the claim terms are read in context, using the construction we have previously determined, the photographs and animations of the Slide-Loc, together with the testimony of defendants' experts, are sufficient to preclude entry of summary judgment in Pactiv's favor.

B. Defendants' motion for summary judgment of non-infringement

Defendants have moved for summary judgment on both the theory of literal infringement and that of infringement by equivalents.

As we have noted, defendants' experts say that the opening and closing motion of the Slide-Loc consists of sliding and deformation, not rolling. As they describe it, the hooks (the rib elements) on either side of the fastener come into contact and slide across each other. The hook (or rib) element is wider than the groove opening, so each hook deforms the other in order to allow the hook to enter the groove. After the hooks pass by each other, they snap back into shape, preventing them from opening easily. This process, according to defendants' experts, cannot be described as "rolling," using the Court's definition of the term. There may be some slight "rolling" (as we have defined that term) at the end of the process, but that, defendants' experts say, is incidental to the overall process.

The Court has likewise reviewed and examined the photographs and animations of the Slide-Loc device. They depict the profiled tracks of the Slide-Loc as they approach each other and interlock. The Slide-Loc closes from bottom to top and opens from top to bottom; thus the lowermost of the Slide-Loc's two sets of ribs and grooves approach each other first. As they do so, the rib element (depicted on the left in the photographs and animations) begins to slide across the lower side of the groove element. However, because the advancing end of the rib element includes a hook-shaped protrusion, that element is larger than the groove opening. As a result, deformation and displacement takes place, and must take place, in order for the rib to enter the groove so that the device can close. The rib element pushes apart the sides of the groove element (there appears to be more displacement on the upper side than on the lower side), and the hook-shaped protrusion on the end of the approaching rib compresses or deforms as it comes into contact with the two sides of the groove opening. The combination of these movements permits the rib to enter the groove. Once it does so, both elements return to their original shapes and positions. This same process is then repeated, though with less displacement and deformation, with respect to the upper rib and groove elements.

Pactiv's experts Dr. Steven Grossman and Dr. James Conley both say that what they call "rolling" takes place in the process of closing and opening the Slide-Loc. Grossman's report is illustrative of his explanation for his conclusion:

As noted above, the Slide-Loc elements are: (1) shaped such that the profiles engage in a bottom to top, sequential engagement, and disengage in reverse manner; (2) shaped such that the male element rotates across the female element as they engage and disengage; and (3) made from polyethylene, which is known to be well-suited as a material which will flex in response to a given force. As depicted by the curved arrows identified in "Ziploc4 New Style Photo # 8," a rotational motion occurs in the Slide-Loc due to the shape-flexibility of the elements as the elements are first closed by pressing the bottoms of the elements together and then rolling towards the top.

The rotational motion is best illustrated in the accompanying animation file of "Ziploc 4 New Style." As the slider proceeds to a closing position, the action of the slider causes flex in the polyethylene zipper and profile elements and the interlocking male (rib) elements and female (groove) elements rotate together as they contact and interlock. In addition, as the interlocking male (rib) and female (groove) elements come in contact with one another, the zipper profile and profile elements flex and there is rotational motion as the male and female elements move across one another. The reverse occurs upon opening.

For all of the above reasons (rotational motion achieved because of the shape of the elements and materials [from] which the elements are made, i.e., flexible plastic) the elements of the Slide-Loc are rolled together to a closed position toward the top thereof, and the element of rolling is literally present.

Pltf. Ex. 2, pp. 7-8. Dr. Conley states the following:

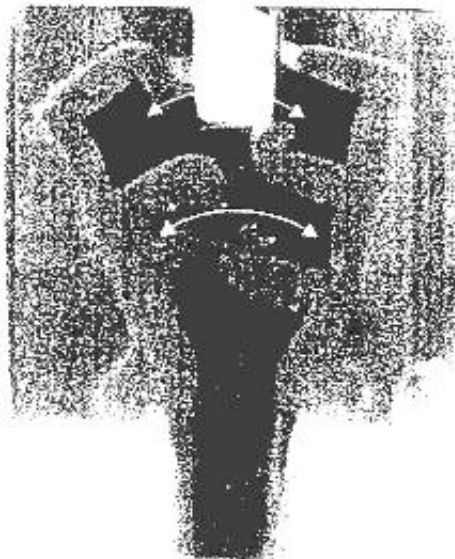
In evaluating the rolling action described in this claim element, I have adopted the language of the *Markman* ruling. The Court defined rolling as "a rotational motion which is achieved because of the shape of the elements and because of the materials from which the elements are made, i.e., flexible plastic." As shown in the animations, when the slider is moving in a closing direction, the flexible plastic male and female elements in the Defendant's product cooperate with the slider in a manner that rolls the male and female elements together from bottom to top. Specifically, in the bottom to top rolling sequence, the flexible plastic strips including male and female elements roll together as would two sheets of flexible plastic material unrolling against each other. Furthermore, as shown in the animation during the closing sequence the male element contacts the female element, rotates into it, and interlocks because of the elements' shape and flexible materials of construction. The reverse occurs during the opening of the fastener (While claim 1 does not address rolling during the opening of the fastener, I include it here because rolling open is referenced in later claims of the '143 Patent.). As such this claim element is literally present in the Defendant's product.

Pltf. Ex. 9, pp. 7-8.

In large part, Grossman and Conley describe what they see in examining the Slide-Loc as well as photographs and animations depicting the device, viewed by cross-section, as it opens and closes. It is not entirely clear why or how any of the experts' visual observations are entitled to any weight at all; we are skeptical whether their descriptions of what the Court and jurors can just as easily observe for themselves would truly assist the jury. FN3 *See* Fed.R.Evid. 702. We will nonetheless analyze Grossman and Conley's opinions to determine whether they are sufficient to give rise to a triable issue on literal infringement.

FN3. The same, of course, is true of plaintiffs' experts' descriptions of what they observed.

Both Grossman and Conley seem to talk about two types of what they call "rolling," the first an overall motion that they claim is present in the closing of the Slide-Loc, and the second a particular type of movement that they say occurs as the hook-shaped end of the advancing rib element enters the groove element. What they mean by the former is best illustrated by a diagram attached to Grossman's report (the "Ziploc 4 New Style Photo # 8" referenced in the quoted section of his report), in which he has inserted arrows that trace what he refers to as the "rolling" or rotational movement:



Essentially what Grossman and Conley are saying is that the upper parts of the elements move a greater distance than the lower parts; they describe this as a rotational or rolling motion. The only way, however, that this constitutes "rolling" within the meaning of the '143 patent is if the claim term is redefined to mean closing from bottom to top and opening from top to bottom. For if the closing process begins by pressing together the bottom parts of the elements (as the '143 patent requires by its clear terms), the upper parts of the elements *necessarily* will travel further than the lower parts, and the overall movement thus *necessarily* will trace some sort of an arc. But bottom to top closing and top to bottom opening is the very definition proposed by Pactiv that the Court rejected in its claim construction ruling. *Tenneco Packaging*, 1999 WL 1044840, at *3-4. In short, what Grossman and Conley rely upon for their first type of "rolling" is outside the definition of the claim term as determined by the Court.

The second aspect of what Grossman and Conley call "rolling" or rotation takes place as the rib element enters the groove element. As we have described (and as Grossman describes it in the section of his report quoted above), the end of the advancing rib element deforms as it must in order to enter the groove, and then after entering the groove it returns to its original shape. The motion by which it returns to its original shape is a counterclockwise rotational motion of sorts. Grossman and Conley may also be referring to what then happens as the rib settles into its final closed position: the hook-shaped protrusion on the end of the rib travels in a downward direction so that it ultimately engages with the hook-shaped protrusion found on the lower side of the groove. "Rotation" is conceivably one way to describe that particular motion.

Both of these types of so-called rotational motion are incidental to the process of closing the Slide-Loc. The fact that the first type—the movement by which the hook-shaped protrusion springs back to its original form—takes place cannot possibly mean that the Slide-Loc device closes by rolling as that term is used in the '143 patent: the rotation takes place in the opposite direction from that which occurs in the device described in the '143 patent, and it is very much a footnote to the process of closing the Slide-Loc (indeed, it occurs only because of the particular shape of the Slide-Loc rib elements). And the fact that the very last part of what occurs in the Slide-Loc closing—when the hook-shaped protrusion settles into place—arguably may be described as a rotational-type movement likewise does not mean that the process of closing the device consists of rotation. The flaw in Grossman and Conley's conclusions is essentially the same flaw contained in Pactiv's argument—they take the term "rolling" out of context and assume that if some rolling occurs, then

the '143 patent reads on the Slide-Loc device. That is not so, for the reasons previously discussed.

When the Court referred to rotation in its claim construction ruling, we were referring to the fact that because of the shape of the elements on the One Zip device and the manner in which they approach each other, a rotational movement takes place by which the rib element engages the groove element at the bottom and then rotates into place. This motion, which defendants' expert Dr. Charles Reinholtz refers to as "rolling contact," is described on pages 6 and 8 of Dr. Reinholtz's report and is depicted at page 7 of that report. That is not the motion by which the Slide-Loc closes and opens.

The fundamental difference between the '143 patent and the Slide-Loc in this regard, essentially ignored by Pactiv's experts, is that the '143 patent describes closing *by* a rolling action, whereas the Slide-Loc closes by deformation and displacement, with incidental rolling taking place at the very end of the process. The fact that some incidental rotation occurs does not alter the fact that the Slide-Loc closes in a very different manner than the '143 patent describes. Under the circumstances, we conclude that no reasonable jury could find that the Slide-Loc closes by "rolling" in the way that the '143 patent uses that term. Because this element is missing from the accused device, defendants are entitled to summary judgment on the issue of literal infringement.

This brings us to the doctrine of equivalents. Equivalence is shown by evidence that the accused device contains an element that is not "substantially different" from the claim element, or that the claim element and the accused component "perform substantially the same function in substantially the same way to achieve substantially the same result." *Kraft Foods, Inc. v. International Trading Co.*, 203 F.3d 1362, 1371 (Fed.Cir.2000) (internal quotation and citation omitted). If either the function, or the way, or the result of the substitute structure is substantially different from that described in the claim, equivalence is not established. *E.g.*, *Odetics, Inc. v. Storage Technology Corp.*, 185 F.3d 1259, 1267 (Fed.Cir.1999); *see Warner-Jenkinson*, 520 U.S. at 39-40.

Pactiv's claim of equivalence founders on the prong of the test requiring the accused component to act in substantially the same way as the claim element. For the reasons we have previously discussed, the manner in which the Slide-Loc closes and opens cannot reasonably be described as substantially the same as the way in which the device described by the '143 patent closes and opens. Drs. Grossman and Conley's conclusions that equivalence exists consist of nothing more than their say-so. This is insufficient to create a genuine issue of fact requiring denial of defendants' summary judgment motion. A district court is not required even to admit in evidence opinion testimony "that is connected to existing data only by the *ipse dixit* of the expert," *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 156-57 (1999); *a fortiori* such testimony cannot possibly be sufficient to preclude summary judgment. *See Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 876 (Fed.Cir.1998).

"Although equivalence is a factual matter normally reserved for a fact finder, the trial court should grant summary judgment in any case where no reasonable fact finder could find equivalence." *Sage Products, Inc. v. Devon Industries, Inc.*, 126 F.3d 1420, 1423 (Fed.Cir.1997). That is precisely the case here. Defendants are entitled to summary judgment on the claim of infringement by equivalents.

Conclusion

For the foregoing reasons, the Court denies plaintiff's motion for summary judgment of infringement [Docket Item # 175-1] and grants defendants' motion for summary judgment of non-infringement [122-1].

All remaining motions are terminated as moot [140-1, 152-1, 168-1, 173-1, 174-1, 174-2]. The Clerk is directed to enter judgment in favor of defendants.

N.D.III.,2000.

Pactiv Corp. v. S.J. Johnson & Son, Inc.

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