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June 11.
Aug. 21.

GEORGE E. PRENTICE PLAINTIFF;

AND

DOMINION RUBBER COMPANY, LTD.. DEFENDANT.

Patents—Commercial success—Utility—Description—Specification—Anticipation.

The patent in question is for an improvement in interlocking fastener construction, consisting essentially of two helically wound springs, whose convolutions constitute the fastening elements, together with an actuating slider, an important feature of the alleged invention consisting in the fact that instead of making the locking members in separate and individual units, each secured to the fabric independently, each series of fastener members is made up of a single integral piece of wire in the form of a helical spring. The patent is attacked for want of utility and as being anticipated.

Held, that a definite amount of utility is not required by law to sustain an invention; a slight amount of utility being sufficient. Commercial utility is the very essence of a patent, and a favourable reception by the purchasing public is strong evidence of that degree of utility required by law.

2. That the inventor must fully describe his invention and its operation or use as contemplated by him, and he must set forth clearly the various steps in the method of constructing, making or compounding the machine, manufacture, or composition of matter, as a consideration for receiving the grant of letters patent, and so that the public may have it at its expiration, and may know what they are prohibited from infringing in the meantime. The inventor, however, is not ordinarily required to state what particular tools or machines should be used in constructing the invention.

ACTION by plaintiff to have it declared that certain patent granted to him was infringed by the defendant.

The action was tried before the Honourable Mr. Justice Maclean, President of the Court, at Ottawa.

D. L. McCarthy, K.C., for plaintiff.

O. M. Biggar, K.C., R. S. Smart, K.C., and Errol McDougall, K.C., for defendant.

The facts are stated in the reasons for judgment.

THE PRESIDENT, now (August 21, 1928), delivered judgment.

This is an action brought by the plaintiff alleging infringement of a Patent, no. 253,251, issued to him pursuant to the Patent Act and dated the 1st day of September, 1925, for new and useful improvements in Interlocking

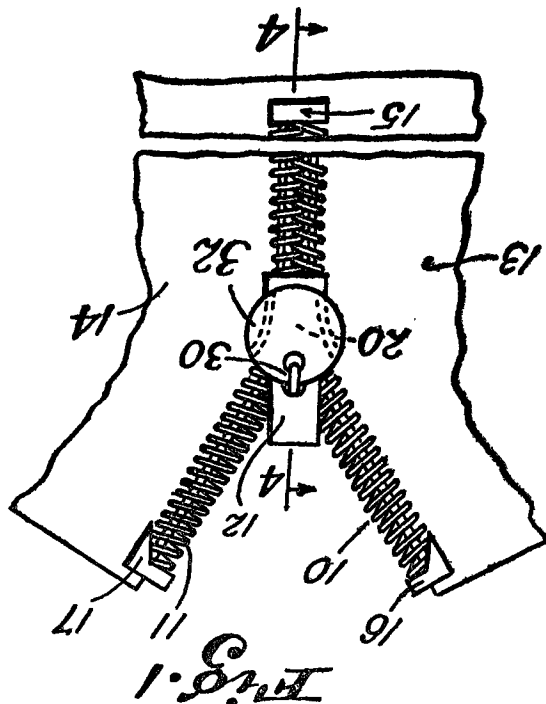
Fastener Construction. The improved fastener consists essentially, it is said, of two helically wound springs whose convolutions constitute the fastening elements, together with an actuating slider.

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The inventor describes his invention in a general way in his specification as follows:—

This invention relates to interlocking fasteners of the kind in which a series of complementary mating or interlocking members are arranged along the opposed edges of a gap or opening in a garment, shoe, receptacle, or other article made of such flexible material as textile fabric, leather or rubber. Fasteners of this kind are operated by a slider, the movement of which in one direction closes the gap and interlocks the complementary fastener members, and the movement of which in the opposite direction unlocks the fastener members and opens the gap.

Hitherto it has been the practice to make fasteners of this kind of a series of separate, individual locking members attached respectively to the opposite edges of the gap or opening. An important feature of the present invention consists in the fact that instead of making the locking members in separate and individual units, each secured to the fabric independently of the others, each series of fastener members is made up of a single integral piece of wire in the form of helical spring. The helical spring may be cylindrical in its general form, in which case each convolution is round, or it may be flattened, in which case each convolution has a substantially oval form, or it may be otherwise shaped in order best to meet the requirements of the use to which the fastener is to be put. In any case each convolution constitutes a fastener member for interlocking between a pair of the convolutions of the opposite helical spring.



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Fig. 1 of the drawings accompanying the specification, as below shows a front elevation, partly broken away, of the fastener made with round coil springs, and presents a general outline of the invention and its construction in its various forms.

The inventor states that the helical springs 10 and 11 in fig. 1 may be substantially alike except that one is coiled in a right hand direction and the other in a left hand direction; and that these springs may be conveniently made of wire of approximately .029 inch in diameter, wound upon a one-eighth mandrel to form open helices. He states that the wire employed should be stiff enough to prevent distortion in use and preferably resistant to corrosion, and that the physical characteristics of nickel-silver wire is well adapted for the purpose. He describes the manner of assembling the fastener and states that a convenient way to do this is to apply the respective springs to the opposed edges of two strips of stout fabric, such as braid or tape, which may be readily attached to the margin of the gap or opening in the garment, shoe, pouch or other articles with which the fastener is to be used. He describes a preferred method of uniting the springs 10 and 11 to the strips, by threading the springs spirally through the material of the strips which is provided with salvage edges having cord or heavy warp threads, or alternatively, he states that the springs may be united to the strips during the manufacture by a process of weaving. The slider 12 in the fig. above is described and also its operation, but this element is not in any way in controversy and besides is well known.

In reference to the arrangement in figs. 1, 2, and 3, inclusive, in the specification, the inventor states:—

In the arrangement shown in Fig. 1 to 3 inclusive the coil springs 10 and 11 are of circular transverse section and of like construction except that one is coiled with a right hand twist and the other with a left hand twist.

Variations in the form of the fastener, that is in the helical springs, is indicated by figs. 6 to 8, inclusive, and in this regard the inventor states:—

In some cases it is desirable to decrease the thickness of the fastener in a front and rear direction and this may be accomplished by flattening the spring coils after winding, thereby producing elongate convolutions such for example as those shown in Figs. 6 to 8 inclusive. The convolutions of one or both springs whether flattened or not may also be bent

or otherwise shaped to enable them more positively to interlock with one another, this feature also being shown in Figs. 6 to 8.

* * * * *

In this embodiment of the invention the springs 10a and 11a are so flattened so that their individual convolutions are of generally oval or egg shape in contour with their longer axes lying substantially in the plane of the strip of material to which they are fastened.

Preferably the outwardly projecting smaller or more pointed ends 33 (Fig. 8) of the convolutions of one spring are opposed to the outwardly projecting larger ends 34 of the other. The projecting smaller end 33 of each convolution of the first spring is bent out of the general plane of the convolution as indicated at 33a in Fig. 7 so that when engaged between adjacent convolutions 34 of the opposite spring these bent ends tend to hook over the latter convolutions then enhancing the interlocking effect of the convolutions.

In the preferred arrangement the springs are so bent or swaged that the pitch or change in elevation from one convolution to the next of each spring is confined wholly or mainly to those parts 35 of the convolutions which engage the strips of webbing 13a and 14a so that the sides of each loop which projects out beyond the edge of the strip of webbing lie in a level plane substantially perpendicular to such edges.

The defendant contends that there is no invention in Prentice; that it was not new; that it was anticipated by others; and that it is not useful. The defendant also contends that the specification does not sufficiently describe the alleged invention or its construction.

It might be convenient first to deal with the question of utility. A definite amount of utility is not required by law to sustain an invention; a slight amount of utility is sufficient. Commercial utility is the very essence of a patent; a favourable reception by the purchasing public affords strong evidence of that degree of utility required by the law. Prentice, in the preferred form at least, has been applied to some millions of overshoes, and if the fastener sold by the company from whom the defendant purchased the alleged infringing fastener, is Prentice or its equivalent, then the commercial adoption of Prentice has been very substantial indeed, and its utility completely demonstrated. I do not think it is possible to hold otherwise than that Prentice does possess utility, at least that is my conclusion. It may be that the fastener constructed of the plain undeformed helical spring has not the same range of utility that the inventor's preferred form of spring has, but where the strain or flexion is negligible or slight, I know of no reason to doubt but that it possesses sufficient utility to sustain the claim of the patentee. To put it to any test

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not inherent in the purposes to which it was intended to be applied or used should not be the criterion of its utility.

The next point for decision is whether the patent in question represents invention, and this is purely a question of fact. I think it does in all its forms. To obtain the interlocking or fastening accomplished by Prentice from two integral pieces of wire in the form of a helical spring, operated by a slider, so that each convolution constitutes a fastener member for interlocking between a pair of the convolutions of the opposite spring, was I think something distinctly new and original. In the prior art locking members operated by a slider was known, but there, each locking member was a separate and individual unit, each secured to the fabric independently of the other, such as in the hook and eye and the lug and socket types of fastener. Prentice is I think an altogether different conception, and at least is a new way of accomplishing the same end, and I think required invention.

But Prentice, it is claimed, had been anticipated. Several prior patents were cited as being in anticipation of Prentice. I need only consider one of them, a German patent issued to one Chaim in 1908. I need only consider this one instance of the cited prior art, because if Chaim is not an anticipation, then I feel quite confident that none of the others are. Chaim describes his invention as a method of closing together the edges of openings in all kinds of articles of clothing, particularly of ladies garments, the closing being made by means of the known running slide and opening by pushing the slide back. Chaim had I think in mind the well known hook and eye principle. A spiral wound wire is used by Chaim, in which at definite intervals the wire is bent out to form hooks and eyes, and Chaim states that these are held in strict relation to each other so as to fit each other exactly. The coil is covered with the material of the garment and only the hooks and eyes protrude. There is no interlocking of the coils. The fastening is effected by the hooks and eyes only. The specification and drawings present variations in the construction of this invention, but I need not I think discuss them as the same principle of construction is to be found in each of them, that is the wire coils are bent out at definite points to form hooks and eyes, or as described in

the claim, the wire coils are sewn into the closing strips and are bent out at several places to form hooks and eyes. That was not new although forming the hooks and eyes by deforming the coils may have been new. The novelty, if any, lay in a new way of making the hooks and eyes, and that was the basic thing in the inventor's mind. As Mr. McCarthy put it the coils act as an anchor for the hooks and eyes. There is no complimentary mating or interlocking of the coils, which was what Prentice sought to do and did do, which I think is a different thing altogether from Chaim. I think it is probable that as claimed, Prentice has many advantages over Chaim, and particularly has it a wider range of application.

I cannot agree with the plaintiff's contention that Chaim is an anticipation of Prentice. It accomplishes the same end it is true, but the means are altogether different, and the whole principle or conception of the means of accomplishing that end are altogether different. To the eye it is most manifest, and I should say, to use a well known expression, that altogether Prentice lies so much out of the track of Chaim as not naturally to suggest itself to a person turning his mind to the subject, but would require some application of thought and study. Prentice showed a new way of accomplishing a known result, and I think his particular means may very safely be said to be different in principle and construction to that of Chaim, or any other.

As already stated the defendant contends that the Prentice specification is insufficient, because generally it does not disclose sufficient information to enable those, to whom it is addressed, to produce it. It is contended that the specification does not precisely state what the interval between the convolutions of the spring coils should be; that the specification is silent upon the mode of manufacture particularly of the elongated and hooked form of coil; and that the inventor Prentice having the knowledge how the fastener could be constructed by mechanical aids, consciously withheld the same, so that no skilled mechanic could construct this device without lengthy experiment. In other words it is urged that the inventor left the public with a mechanical problem which should vitiate the patent. It is quite correct to say that the inventor must fully de-

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scribe his invention and its operation or use as contemplated by the inventor. He must set forth clearly the various steps in the method of constructing, making or compounding a machine, manufacture, or composition of matter. The obligation rests upon the inventor to give this information to the public as the consideration for receiving the grant of letters patent, and also so that the public may know what they are prohibited from doing without the license of the patentee, during the currency of the patent. The patentee must complete his specification with the utmost of good faith, in such clear and concise language as is possible, so that it may be intelligible to those skilled in that branch of the art to which the invention relates. Has Prentice failed to comply with these requirements? I do not think there is any indication of bad faith, misrepresentation, misdescription, misdirection or ambiguity in the specification of Prentice. In his specification he first describes generally his alleged invention. He says the helical springs may be cylindrical in form in which case each convolution is round, but coiled in different directions, or it may be otherwise shaped in order to best meet the requirements to which the fastener is to be put. In some cases he says it may be desirable to flatten the spring coils after winding, thus decreasing the thickness of the fastener in a front and rear direction, and producing elongated convolutions as shown in figs. 6 to 8 inclusive. He also says that the convolutions of one or both springs whether flattened or not, may be bent or otherwise shaped, so as to enable them the more positively to interlock with one another. In the embodiment of the invention as shown in figs. 6 to 8, he sets forth that the springs are flattened so that their individual convolutions are of generally oval or egg shape in contour with their longer axes, lying substantially in the plane of the strip of material to which they are fastened. He goes on to say that preferably the outwardly projecting smaller or more pointed ends (33 fig. 8) of the convolution of one spring, are opposed to the outwardly projecting larger ends (34) of the other; that the projecting smaller end, of each convolution of the first spring, is bent out of the general plane of the convolution so that when engaged between adjacent convolutions of

the opposite spring, these bent ends tend to hook over the latter convolutions, thus enhancing the interlocking effect of the convolutions. In this preferred arrangement he explains that the springs are so bent or swayed that the pitch or change in elevation from one convolution to the next of each spring is confined mainly to those parts of the convolutions which engage the strips of webbing, so that the sides of each loop which projects out beyond the edge of the strip of webbing, lie in a level plane substantially perpendicular to such edges. The springs he says, may be made of wire approximately .029 inch in diameter and wound upon a one-eighth inch mandrel to form the open helics, and he further states the wire should be stiff enough effectually to prevent distortion in use, and should be resistant to erosion, and he indicates that a nickel-silver wire is well adapted for the purpose. He suggests the most convenient means of applying the fasteners or springs to the opposed edges of the two strips of fabric, such as braid or tape, which may be attached to the opening of the garment, shoe, etc. He explains the operation of the slider but this need not be mentioned as this element of the improvement was not attacked for insufficiency of description in the specification. All this appears to me as a fairly clear and complete description of the invention itself, and should I think, afford a fairly clear picture of the invention, its method of operation, and the manner in which it is to be applied.

But it is claimed, Prentice did not tell us how to make his invention, he did not tell us what tools to employ in elongating or flattening the spring coils, how to give the hook or bent turn to the edges of one of the coils, or what space should intervene between the convolutions of the coils. All this constitutes the alleged insufficiency of description or information in the specification, and the defendant in support of this alleges that it required about two months for skilled workmen of the Mishawaka Rubber and Woollen Co., of the State of Indiana, U.S.A., to make Prentice. It was this company which made and sold the infringing fastener to the defendant.

The plaintiff's position on this aspect of the case is, that his description of the invention is so complete and clear,

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that any person skilled in the art to which this invention relates, should be able to make the invention in all its forms without any serious difficulty. The means of constructing the invention as embodied in figs. 1, 2, and 3, that is the plain helical spring, is I think made sufficiently clear in the specification. I do not think it was necessary to state the space intervening between the convolutions, because obviously it had to be not less than the diameter of the wire. That I think is to be inferred. With many variations in the intervening space between the convolutions, the device might successfully operate. The inventor says that even now, with his experience in manufacturing it since the date of his invention, he could not fix any precise space, that should in practise be followed between the convolutions, and that with slight variations in the spacing the device will work satisfactorily. There must of course be the same number of convolutions in each spring. I do not see that more could be said in the specification. The size and character of the wire is suggested and also the form of winding; that is all I think the inventor could say at the time of his application. But the defendant says, that in deforming one of the coils as already mentioned, so as to more effectually ensure the interlocking of the complementary members, the specification is silent as to how this is to be best done, or how the inventor would do it when he patented his invention, and it is said that Prentice does not state what tools should be used in flattening a coil or in bending the end of the coil. This silence it is claimed voids the patent. But has not Prentice complied with the statute in setting forth clearly the method of constructing his manufacture? I think this has been done quite fully and clearly. He has stated the method of constructing his invention by describing it and from his description its essential qualities are discernable and a complete knowledge of the manufacture is afforded. He has not stated what tools or machines should be used in constructing his fastener, particularly in connection with the flattening and bending of the coil. He says any one skilled in the art to which this device appertains would know that a die should be used to perform this particular work. No independent evidence was given on behalf of the plaintiff that his device

could be made from his specification in a workable form by any one skilled in this particular art, and perhaps this should have been done. But the plaintiff's contention that any skilled person could produce the invention from the specification and drawings, is I think, sustained by the fact that Mr. DeGroote with little help, made what I think is Prentice within two months, and that with only intermittent work upon it. DeGroote was not particularly experienced in this kind of work, but still he succeeded in making Prentice. I do not think that an inventor of a manufacture is required to state what particular tools or machines should be used in constructing the invention. He must describe it and also its form of construction but it is a mechanic's job to do the rest if it can be done, and if it cannot be done there is no invention. A person might I think make a real invention and still be unable to state by what mechanical means the invention itself should or could be constructed. The same would be true of any process patent. In the case of a manufacture, when it can be fully described and explained so as to distinguish it from all other inventions, nothing more is necessary. Where this is impossible, the process by which the manufacture is produced may be particularly delineated and the manufacture described as the result of that peculiar process. If an inventor specified certain tools or machines wherewith to make an invention, and they proved impracticable, his invention might possibly be held void on that ground. Conceivably there may be some classes of invention where the inventor might be required to go quite a distance in this direction, but in a case of this kind, I have not been satisfied that Prentice should lose his invention because he did not state with what tools or machines his coiled springs should be deformed or manipulated so as to enhance the interlocking effect. I know of no authority supporting such a proposition. In actual practice it is not customary for inventors to enter into such details in their specifications. In these days, skilled engineers and mechanics are usually available to construct anything a designer or inventor can outline or describe. In any event the employees of the company manufacturing the infringing fastener made Prentice, and I think remarkably well, and without

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any unreasonable amount of experimental work. I am inclined to the belief that no serious difficulty would be encountered in constructing Prentice by any person skilled in the art to which that invention relates, and I am confirmed in this belief by the success attending the efforts of DeGroote and his assistants.

It is to be inferred from what I have already said that there has been infringement of Prentice by the defendant. There is not I think any real distinction between Prentice and the defendant's fastener and the latter is in substance identical with Prentice. The elements in the defendant's fastener are the same as in Prentice. One of the coils in the defendant's fastener is what is called a corrugated coiled spring, the corrugations functioning in the same way as the bent end of the coil in Prentice to enhance the interlocking. All the corrugations appearing on the defendant's coil do not I think function to enhance the interlocking effect, only a portion of them do so. I am of the opinion that there is no such degree of novelty in the corrugated coiled spring as used by the defendant, as to warrant the conclusion that the device used by the defendant is a new means of producing the results obtainable from Prentice.

I therefore find that there has been infringement, and that the plaintiff is entitled to the relief claimed together with his costs of action.

Judgment accordingly.
