

BETWEEN:

HARRY ZIMMERMAN PLAINTIFF;

AND

CANADIAN HANSON & VAN }
 WINKLE CO. LIMITED..... } DEFENDANT.

1937
 May 18-20.
 1938
 July 21.

Patent—Infringement—Invention—Subject-matter—Prior art.

The action is one for infringement of Canadian Patent No. 271,159, issued to one, Yerges, assigned to the plaintiff. The invention claimed is said to relate to new and useful improvements in Bias Buffer manufacture, or the manufacture of a polishing wheel, made usually of cotton or other textile fabric, and rotated by suitable means from a hole in the central portion. The Court found that the buffer construction disclosed by the patentee is in principle one that was well known and any modifications suggested by the patentee were not patentable improvements.

Held: There is no subject-matter in plaintiff's patent.

ACTION by plaintiff to have it ordered and adjudged that defendant is infringing his patent, No. 271,159.

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

H. G. Fox for plaintiff.

F. B. Fetherstonhaugh, K.C. and *J. F. Mahon, K.C.* for defendant.

The facts and questions of law raised are stated in the reasons for judgment.

THE PRESIDENT, now (July 21, 1938) delivered the following judgment:—

This is an action for infringement of patent 271,159, issued on May 31, 1927, on an application made by Frank L. Yerges, and by assignment now claimed to be owned by the plaintiff. It does not appear when the application was filed, but it is dated December 10, 1925. Another patent issued to Yerges, no 255,196, was also sued upon, but this was later abandoned; while this patent was, I think, referred to in argument by counsel for the defendant,

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by way of anticipation of the other patent, it does not seem to have been put in evidence, and consequently I have not had an opportunity of seeing it.

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The invention here is said to relate to new and useful improvements in "Bias Buffer Manufacture," which in plain language means the manufacture of a polishing wheel, made usually of cotton or other textile fabric, and rotated by suitable means from a hole in the central portion. Buffing in general is the practice of producing a smooth uniform face on any metal surface, by means of a revolving buff coming in contact with that surface, and may be divided into two operations, first, cutting down or smoothing the metal surface, and secondly, giving to that surface a high polish or finish by means of a mild buffing operation. The material most widely used in the construction of buffs is bleached or unbleached cotton; when a high lustre or polish is required buffs are frequently made of flannel or some such soft material, and to give the desired effect to articles of silver and gold, loose buffs, made of sheepskin, are used. Buffs may also be built up from a number of pieces of flexible fabric, or rags and scraps of textile fabric, and united in the form of a wheel by some form of stitching. Standard buffs are usually of two forms, first, the loose buff, sewn around the central hole only by a few circular stitches, and second, the full sewn buff, that is, one in which all the plies of material forming the buff are tied together throughout by circular stitching, or by both circular and radial stitching, or by criss-cross stitching. They are usually constructed of a number of plies or discs, or layers, of cotton cloth, each being approximately a circular piece, but, as already stated, a buff may be built up of irregular and waste pieces of textile fabric. The several plies of material, which may be folded or pleated, in varying ways and degrees, are assembled one above the other so that the threads of one ply are at an angle to the threads of the plies immediately above and below it; the assembled plies are then trimmed around the periphery into perfect wheel shape, and stitched together between two plain circular covers or backs of the same material. To the periphery of the revolving buff when in operation, for cutting or polishing any particular article, there is applied, from time to time as required, from an

independent source, an abrasive and adhesive compound, the quantity depending upon the character of the work to be performed. Buffs are used for cutting and polishing flat and contour surfaces of articles made of aluminum, nickel, brass, sheet or cast metal, or other materials. This action arises from the fact that the defendant manufactures one type of buff which the plaintiff claims infringes the patent in suit, and this buff the defendant sells to General Motors Corporation for cutting and polishing automobile parts, such as hub caps and bumpers; the plaintiff also sells the same type of buff to the same corporation. This will indicate generally the method of manufacture and the use to which buffs or polishing wheels are put. Buffs belong, it is conceded, to an art which is old, but the plaintiff claims that his patentee invented a patentable improvement.

While this describes generally the construction of a buff, yet perhaps it is proper that the construction of the plaintiff's buff should be described with more particularity. First, the material is cut on a bias into a cigar shaped strip or blank as shown by numeral 6 in Fig. 1. The blank is then folded on itself by pleating to approximately one-third its length, which pleats are parallel to each other, and are assembled by lines of stitching parallel to each other and approximately at right angles to the folds or pleats. The requisite number of folded and stitched plies are then placed together and, as to the folds, are staggered or placed at a slightly angularly shifted position and assembled between outer plies and stitched to form a unitary structure, which stitches are parallel and intersect the parallel stitches of the plies at approximately right angles to result in a criss-cross structure. The assembled plies are then trimmed to circular form, and a central opening is provided for the purpose of rotating the buff or wheel by the appropriate means. I should also mention that the bias cutting of the ply material as to the warp and woof is to provide against the fraying of the margin of the ply, and that the ends of the folds or pleats are symmetrically grouped so as to provide, it is said, pockets in peripheral series, in addition to the pockets provided by the criss-cross stitching, for holding the abrasive composition, and this feature is stressed by the plaintiff in his claim to

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invention. To ensure accuracy, I had better allow the patentee to describe his buff. The specification states:—

Strip material 1 is shown as having opposite edges 1, 2, 3, from which extend diverging cuts 4 to parallel cuts 5 thereby completing the long strip 6 as a blank with tapered ends 7. Blank strip 6 is folded on itself herein by pleating to approximately one-third its length comprising pleats 8 perpendicular to the edges 5, which pleats are parallel to each other, and are assembled by stitching 9 parallel to each other and approximately at right angles to the folds or pleats 8. These folds 8 may in practice be formed by a pleating machine and the stitches 9 run by a multiple needle stitcher for producing such stitches simultaneously in parallel across the ply as folded to approximate ply area. These pleated and stitched plies 10 are placed, as to the folds 8, at a slightly angular shifted position and assembled between outer plane plies 11 by stitching 12, 13. These stitches 12 are parallel and intersect the parallel stitches 13 at approximately right angles to result in a criss-cross structure. Such assembled sections are trimmed to circular form and central opening 14 is provided for mounting an arbor 15 against collar 16 to be held in position by a washer 17 set up by nut 18. Bearings 19 mount arbor 15 with driving pulley 20 to be actuated by belt 21. The bearings 19 are mounted on jack-frame 22.

In building up a buffer section from a pleated ply, as herein, a pleated ply may be the equal of three single plies and a section may be built up say of seven pleated plies, and the outer plain or binding plies to have the equivalent in material of a twenty-three ply section. These sections are of approximately uniform character radially as to the quantity of fabric. The labour of production is not in excess of similarly stitch-assembled flat ply section of the same quantity of cloth. The bias cuttings for the blanks are effected, as herein disclosed, with a reduction in the total waste, and reduction in the cost of cutting which may be done three times as fast as the plain diskbuff.

There is a gain in assembly, due to the fewer number of plies. The labour of the folding or pleating and the pleat laying stitches 9 about offsets the handling of the greater number of plies and the grouping thereof. The resulting structure is one wherein the bias cutting of the sheet material 1 as to the warp 23 and the woof 24, is such that at no margin of the ply is there a fray-out region. The termini of the folds 8 are symmetrically grouped and provide additional composition or adhesive carrying pockets in peripheral series in addition to the pockets provided by the criss-cross stitching 12, 13.

The resulting section is bias as to the peripheral exposure of the plies with the folds or pleats so distributed and held by the stitchings, that there may be no catching of the material being acted upon therein to be pulled from the hands of the operator. Such material whether of aluminum, brass, or other sheet or cast metal is quickly acted upon herein for an output or life of the wheel from two to three times that of the same material as assembled independently of the pleating or folding. Accordingly, there is efficiency and economy hereunder. The cutting saving runs from two to three per cent. The operation increases economy at least one hundred per cent over the plain ply type of section. The folds are symmetrical and the stitchings are symmetrical for disk rotation in either direction. The bias is uniform for the entire radial extent of the disk.

Spiral stitching 25 (Figs. 6, 7) may be used either alone or with the criss-cross stitches to add stiffness to the completed buff.

The claims are as follows:—

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1. A multi-ply buffing section having a central arbor opening through said section plies, each throughout its periphery having bias ply providing warp and woof fray ends.
2. A fabric buffing ply of parallel pleatings on opposite sides from a diametrical pleating.
3. A pleated buffing ply and ply laying stitches transversely of the pleats of the ply.
4. A bias strip transversely folded for length approximation of width in forming a buffing element ply.
5. A bias strip transversely folded for length approximation of width, and parallel lengthwise stitching assembling said folded strip into a buffing ply.
6. A buffing section comprising a parallel pleated ply, and at an angle thereto an adjacent parallel pleated ply.
7. A buffing section comprising intermediate plies, respectively having parallel pleatings.
8. A buffing section comprising individually stitched pleated plies, and symmetrical stitching assembling the plies into a section.
9. A buffing ply comprising pleating providing peripheral folds as pockets in opposite annular series.
10. A buffing section comprising peripherally fold-formed pockets and stitch-formed pockets.

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The construction of the defendant's "Duro Buffs," the offending buff, is described in an exhibit as follows:—

These buffs are a recent development and are made by cutting the cotton into cigar-shaped pleated blanks, about five times as long as the diameter of the finished buff. They are pleated in such a way that there is a pleat every half inch, and the thickness at any point is five ply; therefore, the buffs can be made only in multiples of five. In laying the buff, the individual blanks are rotated so that the pleats of adjacent blanks are at an angle with each other. Duro Buffs are made in 22 and 27 ply.

Standard sewing consists of seven rows of circular sewing and thirty-eight rows of radial sewing from edge of circular sewing to periphery; this type of sewing forms crevices or pockets around the periphery of the buff to collect buffing composition, and the pleated construction also increases the wearing quality of the cloth and tends to ventilate the cutting surface.

Duro Buffs may also be had with spiral sewing one-quarter inch, three-eighths inch or half-inch from around arbor hole to periphery.

The simplest form of a buff would be one composed of a number of plain circular plies of cotton, placed one upon the other, the central portion of which would be stiffened by a limited number of circular stitches. This, one can easily visualize without reference to any drawing. From that central portion to the periphery there would be no further stitching and the plies would be loose. There would, of course, be a central opening through which the buff would be rotated by the usual means. I assume it is the high speed at which the wheel is rotated that main-

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tains the loose plies in operative position and stiffness. That probably was one of the earliest forms of buffs, and, I understand, that type is still in use for certain purposes. Then, a buff might be bound together by circular stitching from the centre to the periphery, or there might be spiral stitching from the end of a small number of rows of circular stitching at the central portion and extending to the periphery, or there might be a combination of both circular and spiral stitching, any of which would give a stiff or hard buff. An old form of buff construction was to have each ply or layer made up of a few pieces of cotton, radially folded from the centre to the periphery, the larger and open ends of the radially folded pieces being at the periphery of the buff, and the smaller ends at the centre. These pieces were assembled by placing the same over, against or between each other, and pockets of angular shape would thus be formed extending from the periphery of the buff towards the centre. Another well known construction was composed of a series of relatively small pieces of fabric, folded and arranged in such manner as to form a series of pockets extending circumferentially around the periphery. Another known form of construction was one with a central hard coil with the different plies of material crimped and doubled over, from the centre outwards to the periphery; in this case there would, of course, be a greater thickness in the crimped material at the centre than at the periphery. It was conceded by Mr. Fox that the various forms of stitching, concentric, spiral, radial and criss-cross, were all old; the cutting of the material on a bias to avoid fraying of the edges, and the folding of plies, were also conceded to be old.

I might refer to one of the prior patents cited by the defendant. In 1920, a United States patent no. 1,431,157 issued to one Gooley. The importance of that patent in this case is that it describes, *inter alia*, a construction in which the pieces of fabric composing each ply of the wheel are folded in such manner as to form a series of pockets extending circumferentially around the periphery and facing in a direction opposite to the direction of rotation of the wheel, the folds of each layer are substantially parallel and nested one within the other, and the several plies are so arranged that the folds of one ply will cross the folds

of the next adjacent ply preferably at right angles. The entire assemblage of layers is preferably stitched together by concentric rows of stitching.

The specification states:—

This invention relates to certain improvements in buffing wheels of laminated fabric type in which the several layers are firmly stitched together to form a unitary structure. An abrasive paste is usually applied to the periphery of wheels of this character for burnishing and polishing purposes and while the polishing surface must be sufficiently flexible to enable it to contact with the varying contours of the article operated upon, it must also possess sufficient resistance to enable it to withstand the pressure necessary to produce the desired burnishing or polishing effect and, at the same time, retain its circular form and thickness or face width and also to retain a sufficient quantity of the abrasive paste evenly distributed over the surface thereof for efficient burnishing without too frequent reapplication of the paste thereto

This retention of the paste on the periphery of the wheel, together with the flexibility and necessary resistance to pressure thereon, is found to be most effective by making each layer of a series of relatively small fabric pieces, folded and arranged in such manner that their folds will form a series of pockets extending circumferentially around the periphery with the closed sides of the pockets facing in a direction opposite to the direction of rotation of the wheel, so as to prevent piling up and centrifugal discharge of the abrasive paste, when the rotating wheel is applied to the work, thereby producing more even distribution of the paste around the entire periphery of the wheel, while the pockets formed by the folds serve as reservoirs for relatively small portions of the paste to maintain a supply thereof at the periphery for a longer period of service than would be possible without the use of the folds.

I am aware that buffing wheels of this character have heretofore been constructed from folded pieces of fabric arranged to form pockets and, while that is one of the important objects of my invention, the main object is to arrange the folded strips of the several layers so that the folds of one layer will cross the folds of the next adjacent layer, preferably at right angles thereto, so that when the several layers are stitched together, those of each layer will be firmly bound together by those of the next adjacent layer thereby greatly reinforcing and strengthening the wheel as a whole and still maintaining a highly flexible peripheral surface

Another object is to provide each strip or piece of fabric with two or more folds arranged so that they will face in opposite directions to form closed pockets at the folds, so that the wheel may be rotated in either direction with equal efficiency in retaining the abrasive material and distributing it evenly around the entire periphery of the wheel.

Another object is to permit the use of relatively small pieces of fabric, which might otherwise be regarded as waste, although it is to be understood that the folded strips may be cut from whole cloth of any suitable quality, if desired.

Another object is to nest the folded strips of each layer one within the other preferably in parallelism from side to side and entirely across the wheel, not only for reinforcing purposes but also to further increase the uniform distribution of the abrasive substance around and upon the periphery of the wheel. Other objects and uses will be brought out in the following description.

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That further description I need not quote.

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It was conceded by Mr. Fox that the patent in question was, in any event, a very narrow one. I should think the field for invention in this art was long since pretty well occupied. It does not appear to me to be reasonable to contend that there is invention in Yerges, and in my opinion that patent discloses no inventive step. The buff construction disclosed by the patentee is in principle one that was well known, and any modifications of the same suggested by Yerges are, I think, merely matters of detail and could hardly be said to call for the exercise of the inventive faculty; and what was said by the courts in the case of *Crosley Radio Corporation v. Canadian General Electric Co.* (1) is, I think, quite applicable here. The plaintiff seems to claim invention because the ply material is cut on a bias, because the folds are parallel, because the folded plies when assembled are staggered, and because the criss-cross stitching of the assembled plies result in the formation of pockets on the periphery of the buff, and inwardly, and which will capture a portion of the abrasive composition used. While all these several features were conceded to be old, and they had been earlier disclosed or used, yet it is said that they are here combined together for the first time, and this, it is claimed, constitutes invention. In any event, I should very much doubt if this would constitute what is known as a combination patent. The utility of some of these features is, I think, greatly exaggerated. For example, the idea of constructing a buff so that it would have pockets at the periphery for the purpose of retaining the composition was not a new idea, and if there is utility therein it had long ago been conceived and in principle practised. But, I think it is very probable, as was stated by one of defendant's witnesses, that cleaning or polishing is effected largely by the abrasive compound attaching to the projecting threads or fibres on the periphery of the buffer. When the buff is revolving the small ends of threads are projected. This witness compared it to the paint that is held on the bristles of a paint brush. But, if there is utility in the presence of the pockets which the patentee described, that in principle was old, and if there is any difference in the formation of the pockets

(1) (1935) Ex. C.R. 190; (1936) C.L.R. 551.

between Yerges and what was already known, that would not, in my opinion, be a difference or improvement that was patentable. And that is true of the form of stitching, the form of folding or pleating, and the form of assembling the different layers, suggested by the patentee; any distinction, in all this, between what Yerges has described and what was earlier disclosed or used does not spell invention. The principle of construction of a buff, and its manner of use, being long known, a little experience, experiment, trial and error, would soon point out the way to any observing and competent workman how to eliminate any disadvantages that had developed in any particular form of buff, and how to effect slight improvements, but this would not be invention. It would be intolerable if every slight change, every little improvement, such as, in this case, the position, size and formation of the pockets, the form of stitching, the size and number of pleats in a ply, the particular staggering of the plies, merited a monopoly, without obtaining a result that was novel, or obtaining an old result in such a new manner that it manifestly required research, experiment and skill, to find the way of so doing. The patent law was not designed for such a purpose. I do not think there is any sound foundation for the claim to subject-matter, in any of the claims of the patent in question, and I am bound to say that I think that is very clear. The action is therefore dismissed and with costs.

The validity of the assignment of the patent in suit to the plaintiff, from the widow and executrix of the patentee, is subject to some doubt, and an application was made on behalf of the plaintiff to join Mrs. Yerges as a plaintiff. In the circumstances, I think I should be justified in granting the application, and this I do. This does not cause any embarrassment to the defendant.

Judgment accordingly.

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