

1937  
 April 13-16;  
 19-23;  
 26 & 27.  
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 1938  
 March 22.  
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BETWEEN:

BEELDING - CORTICELLI LIMITED,  
 SUPERSILK HOSIERY MILLS LIMITED,  
 WELDREST HOSIERY LIMITED,  
 THE BUTTERFLY HOSIERY COMPANY LIMITED,  
 NORDIC HOSIERY LIMITED, HOLEPROOF HOSIERY COMPANY OF CANADA LIMITED AND THE TORONTO HOSIERY COMPANY LIMITED... } PLAINTIFFS;

AND

CHARLES A. KAUFMAN .....DEFENDANT.

*Patents—Impeachment action—Prior user—Subject-matter—Application of known method in analogous manner—Patent Act, 25-26 Geo. V, c. 32, s. 61, ss. 1—“Other inventor.”*

The action is one to impeach defendant's Canadian Patent No. 336,234; the invention claimed relates to full-fashioned hosiery, particularly of silk, and to methods for making the same. The defendant counter-claims for infringement of the same patent, and for damages therefor. The plaintiffs allege that the patent in suit is invalid because (a) it lacks invention, being merely an analogous use of principles previously applied in the manufacture of other woven and knitted fabrics, (b) that there was prior user of the invention by others, and (c) that the defendant was not the first inventor.

The Court found that there was no subject-matter in defendant's patent; that he was not the first to make the alleged invention; that as between the defendant and one, Krenkel, the latter was an “other inventor” as contemplated by the Patent Act, 25-26 Geo. V, c. 32, s. 61, ss. 1, and that Krenkel was the first inventor.

*Held:* That the invention was not subject-matter for a patent, being only the application of a known method which did not require an inventive step.

2. That if a known article is applied to an analogous purpose, the application is not patentable simply because it produces advantages not produced before.
3. That the present case is one contemplated by the Patent Act, 25-26 Geo. V, c. 32, s. 61, ss. 1, and that the question of priority of invention arises thereunder as between the defendant and one, Krenkel, and on the facts Krenkel was the first inventor.
4. That s. 61, ss. 1 (c), of the Patent Act may be invoked in impeachment proceedings by others than the patentee or the applicant for a patent.

THE ACTION was tried before the Honourable Mr. Justice Maclean, President of the Court, at Ottawa.

*O. M. Biggar, K.C., A. S. Bruneau, K.C. and Christopher Robinson* for plaintiffs.

A. J. Thomson, K.C. and B. V. McCrimmon for defendant.

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

THE PRESIDENT, now (March 22, 1938) delivered the following judgment:

This is a consolidation of seven separate actions but it will be sufficient now to say that in the above style of cause the plaintiffs seek to impeach a patent, numbered 336,234, issued to the defendant Kaufman on October 10, 1933, upon an application therefor filed April 7, 1933. Kaufman filed application for the corresponding patent in the United States on May 20, 1932, and the same was granted on August 7, 1934. The invention claimed in the patent here in suit relates to what is called full-fashioned hosiery, particularly of silk, and to methods for making the same. The defendant counter-claims for infringement of the same patent, and damages therefor. It is the contention of the plaintiffs that there is not subject-matter for letters patent in Kaufman, and in the alternative, that if there were invention Kaufman was not the first inventor. In the whole field of dispute those two points are the important ones for decision.

The question of the validity of the corresponding United States patent was tried in the case of *Julius Kayser & Company and Textile Patents Corporation v. Rosedale Knitting Company*, in the District Court of the United States for the Eastern District of Pennsylvania, and it was there held that there was no invention in Kaufman, and that in any event Kaufman was not the first inventor of that which he claimed in his patent. By agreement between counsel much of the evidence heard in the United States case became evidence here, but that was supplemented by evidence given at the trial of this case; all that evidence, together with the exhibits, reach extensive proportions, but, I think, any extended reference to the evidence may be avoided, and considerable of it appears to me to have been unnecessary.

Throughout the specification of the patent, and the evidence, there will be found many references to "full-fashioned" stockings or hosiery and it might be well to

1938

BELDING-  
CORTICELLI  
ET AL.

v.

CHAS. A.  
KAUFMAN.

Maclean J.

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v  
 CHAS. A.  
 KAUFMAN.  
 Maclean J.

explain at once that a full-fashioned stocking is knitted on a flat knitting machine, called a full-fashioned machine, as a flat piece of looped fabric with a selvage on either side and is shaped, or altered in width, during the process of knitting, so as to fit the leg. It is then joined together at the back by seaming the entire length of the leg and heel; any further operations in the completion of the stocking from the heel to the toe we need not pause to describe. Full-fashioned hosiery is, I understand, considered superior to other types and is readily distinguishable from them, largely because it is shaped during the process of knitting. In the knitting of full-fashioned hosiery very fine needles are used, and placed closely together, which permit the formation of very small loops and the use of delicate yarns, sometimes as fine as what is called "a one-thread" silk yarn. There is nothing novel about full-fashioned stockings, or other full-fashioned articles of wear, nor is there any novelty in the full-fashioned knitting machine, as distinguished from the circular knitting machine, which, I understand, is in more general use in the manufacture of hosiery. As the specification explains, "thread" and "yarn" are often employed as meaning substantially the same thing, but that is not altogether accurate, and I propose to employ the word "yarn" when reference is made to the unitary element entering into the manufacture of a stocking, or any fabric. In the case of natural silk a thread is composed of a varying number of cocoon filaments, and a number of these filaments are combined to constitute a thread. Kaufman states in his specification that a light silk yarn would be composed of two to five threads, a heavier yarn of six to eight threads, and a still heavier yarn of nine to twelve threads, and sometimes more; there is pretty general agreement upon this, and any difference of opinion in respect of that grouping in the weight of silk yarns, is not of serious importance.

The evidence puts it beyond controversy that natural silk yarns are uneven or irregular in their average thickness or diameter, and this has long been recognized. In any silk yarn numerous sections may be found to be of greater or less than average thickness or diameter, and of such lengths as to form a number of courses of knitting of the width required in the knitting of full-fashioned hosiery.

That irregularity in silk yarns is equally true of cotton, woollen, linen, rayon, and other yarns and this has long been recognized in the textile trade generally. No yarn is absolutely uniform in size, but ordinarily yarn irregularities of this nature are not troublesome; in pattern fabrics it is usually of little importance, though in some specialties it might require correction. It is in the manufacture of full-fashioned silk hosiery, when the same is made of silk yarns of light weight—the yarn of the fewer threads—and of the solid and darker colours, that irregular yarns produce undesirable results. The juxtaposition of a number of courses of knitting made of yarn sections of greater thinness or thickness than the average produces a disfiguration in the product. This undesirable result is invariably characterized by horizontal “streaks,” “rings” or “bands”—I shall employ the latter term—of varying widths, observable to the eye and distinguishable from the courses of knitting immediately above or below the band, and which by being conspicuous when displayed to the eye are regarded as objectionable in silk hosiery, rendering them unsaleable in some cases, and subject to a reduction in price in other cases. This, as I have said, is due to variations in the size of the silk yarn being fed from any one spool or cone to a knitting machine, with the result that in the manufacture of full-fashioned silk hosiery the inequalities of the silk yarns manifest themselves in the form of horizontal bands.

It is not disputed that there came a time in the development of the full-fashioned silk hosiery trade when the appearance of horizontal bands was regarded as objectionable by dealers and consumers, and when the practical elimination or substantial reduction of such bands was generally deemed to be desirable. And it was to this problem that Kaufman came to direct his attention, the result, he claims, being the invention here claimed. He proposed the elimination of the objectionable bands by what he claimed to be a new method of yarn feeding during the knitting operation of full-fashioned silk hosiery, and this is the essence of the invention claimed by Kaufman. That method is known as the three-carrier system of yarn feeding and consists in having three cones, or spools, of silk instead of one at each section for producing the major

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v.  
 CHAS. A.  
 KAUFMAN.  
 Maclean J.

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v.  
 CHAS. A.  
 KAUFMAN.  
 Maclean J.

portion of the leg of the stocking. Each of these yarns is threaded to its own carrier so that there are three carriers available for knitting the leg, instead of the one carrier ordinarily used. The mechanical part of the device, for which no invention is claimed, consists of automatic means for traversing one of the carriers for a stroke, say from right to left, leaving this carrier idle at the left end of the machine, traversing a second carrier from left to right and leaving it idle at the right end of the machine, and then traversing a third carrier from right to left and leaving it idle at the left end of the machine, thereafter traversing the first carrier from left to right and following this sequence of carrier operation throughout the knitting of the leg portion of the stocking. That is substantially the manner in which the three-carrier method of yarn feeding and knitting was described in some book or trade publication put before me at the trial, and that, I think, substantially sets forth the method of knitting described and claimed by Kaufman. The idea in alternating the silk yarns is to diffuse and distribute the inequalities of the same yarn, among the more perfect yarns, and to make such irregularities less apparent. If, therefore, all the yarns fed to the knitting machine do not simultaneously run thick or thin in succeeding courses, the result and effect on the stocking will be one of relatively even translucency. It would be improbable that all the different yarns used would have their heavy parts at the same spot, and that they would follow each other within one rotation of courses. At any rate, it is common ground that this method of yarn feeding has greatly decreased the yarn irregularities mentioned, and therefore the bands; and that method has been adopted by all the plaintiffs, and many other silk hosiery manufacturers. The patentee states that while his invention is of importance in all shades or colours of hosiery, the undesirable bands are particularly observable in light weight hosiery in dark shades, whether black or some other dark colour. I think this will sufficiently describe for our purposes here, what is claimed as invention by the patentee, and for the present at least it will not be necessary to refer to the descriptive portion of the specification, or the claims.

Mr. Biggar, for the plaintiffs, conceded that the appearance of bands in the type of hosiery with which we are here

concerned was objectionable and that their elimination was desired by the trade and by consumers; that Kaufman's three-carrier method was the first ever put into practice that reduced or eliminated bands in full-fashioned silk hosiery and this was of advantage to all interested parties; that Kaufman's method of knitting such hosiery was widely adopted by manufacturers of full-fashioned silk hosiery, including the plaintiffs; that Kaufman's three-carrier method of knitting was successful, in the financial sense, to the owners of the patent. It was also conceded that there was no prior published patent describing Kaufman, and that no manufacturer had manufactured full-fashioned silk hosiery, on full-fashioned knitting machines, according to the method described by Kaufman, prior to June, 1931, the approximate date of Kaufman's alleged invention. These were bold admissions to make and ordinarily they would go far to sustain a claim to invention in any patent attacked on the ground of lack of subject-matter. These admissions obviously limit the area of dispute. The chief attacks against the patent are that there is no invention in Kaufman because the same method had been earlier used in the manufacture of other woven and knitted fabrics, or articles of wear, from a variety of yarns, for analogous purposes, which, it is claimed, negatives any inventive step in Kaufman; and that if there were invention in the method claimed by Kaufman, others, whose names will later be mentioned, earlier made and disclosed the same. There is a third point of attack but I do not think, in my view of the case, it will be necessary to consider it, but at least it need not be stated presently.

This would seem to be an appropriate stage to refer to certain evidence introduced by the plaintiffs for the purpose of showing certain trends in the development of the silk hosiery industry, for some years prior to the invention claimed by Kaufman. The evidence to which I propose to refer was no doubt intended, partially at least, to account for the delay in introducing multiple yarn feeding in the knitting of silk stockings for the purpose of diffusing the inequalities in silk yarns, which method of yarn feeding it is claimed was obvious, or was suggested by the use of the same method in the knitting of other articles of wear, for an analogous purpose. As already stated, it was known

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v.  
 CHAS. A.  
 KAUFMAN.  
 Maclean J.

1938  
BELDING-  
CORTICELLI  
ET AL.  
v.  
CHAS A  
KAUFMAN.  
—  
Maclean J.  
—

that bands usually appeared in full-fashioned silk stockings, particularly in those of light weight and dark shades, owing to the inequalities inherent in silk yarns. There is evidence tending to show that for a time this was not objectionable to the trade or consumers, but eventually it came to be generally recognized that the presence of bands in this type of stocking was objectionable to all concerned, and should, if possible, be eliminated. The witness, Feustal, in one way or another interested in the sale of knitting machinery for many years in the United States and Canada, testified that in his long association with the sale of knitting machinery of various kinds he was obliged to familiarize himself with the manufacturing problems of his customers, including the matter of bands in silk stockings. At first, speaking particularly of the period between 1922 and 1923, he stated, the matter of bands in silk stockings would rarely be the subject of discussion with his customers, the reason being that in that period, silk stockings were knitted of such weight and colour of yarns that bands did not appear readily to the eye, and their existence was not therefore the subject of such criticism from customers as would disturb the manufacturer; he said, speaking generally, I think, of the same period, the demand for silk stockings exceeded the supply, the sales were high in volume and correspondingly the prices, and this was calculated to leave the manufacturer satisfied with his existing methods of knitting silk stockings. Then, a change in the situation occurred, somewhat synchronizing with the advent of the trade depression, the supply had caught up with the demand; silk stockings had gradually been coming to lighter weights in the darker colours, competition became keener between hosiery manufacturers, and the matter of bands in silk stockings, and improvements in manufacture generally, began to receive more serious consideration from manufacturers. Feustal stated that in the years 1922 and 1923 about ninety per cent of silk stocking yarns were of ten or eleven threads and over. Then, shorter skirts, low shoes, and prosperous business conditions, influenced the buying by women of finer silk stockings, that is a lighter weight stocking. Around 1925, Feustal stated, about ninety per cent of silk stockings would be made of eight silk thread yarns; in 1926 and 1927 seventy-five per cent would

be of six thread and over, in 1928 and 1929 the five thread silk yarn slightly exceeded, or was on a parity with, the heavier weight yarns. Now, a very substantial proportion of the entire production of silk stockings are of four thread yarns, the balance being divided between those that are lighter or heavier than the four thread yarn. Stockings of the lighter weight, Feustal stated, tend to show any unevenness in the silk yarns more readily, because, light weight yarns are apt to run more unevenly and light weight stockings are knitted more closely, and when uneven sections of yarns happen to be laid in courses of close contiguity the unevenness of the silk yarns becomes more conspicuous and the bands will show more readily than in the heavier silk yarn stockings. Fuestal also stated that in the knitting of silk stockings with silk yarns of six threads and over, the three-carrier method is not generally employed, but in silk yarns of five threads and under the three-carrier method is generally employed. The evidence of Feustal is, I think, substantially correct.

The contention that there is no invention in Kaufman's idea of multiple yarn feeding, for the purpose of diffusing silk yarn inequalities, rests on the ground that it was obvious by reason of the prior use of multiple yarn feeding methods in knitting articles of wear other than full-fashioned silk stockings, and the equivalent thereof in weaving, for an analogous purpose, the suppression of bands. Another basis for that contention is that prior suggestions, and others almost contemporaneous, were made by several persons other than Kaufman, for the employment of multiple yarn feeding methods in the knitting of silk stockings, which, it is contended, illustrates the obviousness of the step taken by Kaufman, and indicates that there were no difficulties to be overcome in adapting a method of knitting already known in the art for the purpose of diffusing yarn inequalities which produced bands, even though used in the making of fabrics other than full-fashioned silk stockings.

The doctrine of analogous use seems to be clearly defined by the authorities, to many of which I was referred by counsel. The following propositions were laid down by

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v  
 CHAS. A.  
 KAUFMAN.  
 Maclean J



1938

BELDING-  
CORTICELLI  
ET AL.

v.

CHAS. A.  
KAUFMAN.

Maclean J.

Lindley L.J. in the case of *Gadd and Mason v. The Mayor &c. of Manchester* (1):

(1) A patent for the mere new use of a known contrivance, without any additional ingenuity in overcoming fresh difficulties, is bad, and cannot be supported. If the new use involves no ingenuity, but is in manner and purpose analogous to the old use, although not quite the same, there is no invention; no manner of new manufacture within the meaning of the statute of James. (2) On the other hand, a patent for a new use of a known contrivance is good and can be supported if the new use involves practical difficulties which the patentee has been the first to see and overcome by some ingenuity of his own. An improved thing produced by a new and ingenious application of a known contrivance to an old thing, is a manner of new manufacture within the meaning of the statute.

He then proceeded to say:

If, practically speaking, there are no difficulties to be overcome in adapting an old contrivance to a new purpose, there can be no ingenuity in overcoming them, there will be no invention, and the first rule will apply. The same rule will, I apprehend, also apply to cases in which the mode of overcoming the so-called difficulties is so obvious to every one of ordinary intelligence and acquaintance with the subject-matter of the patent, as to present no difficulty to any such person. Such cases present no real difficulty to people conversant with the matter in hand, and admit of no sufficient ingenuity to support a patent. If, in these two classes of cases, patents could be supported, they would be intolerable nuisances, and would seriously impede all improvements in the practical application of common knowledge \* \* \* \* But, unless an invention can be brought within one or other of the above classes, a patent for it cannot be held bad on the ground of want of subject-matter.

And as Lord Halsbury observed in *Morgan and Co. v. Windover and Co.* (2),

\* \* \* \* but if it is simply the application of well-known and well-understood things to an analogous use, although it may be true that it is accompanied by advantages not thought of or practised before, that will not save him from the fatal objection that there is no invention.

I apprehend that all this embodies a fair statement of the law in respect of the application of an old use, method or device, to a new purpose, in all English speaking jurisdictions, but much of course would depend upon the special circumstances of each case. The principles just stated mean that if the alleged new use so nearly resembles the other uses to which the invention was applied, or known to be applicable, that it might have been suggested by them to persons skilled in the art, the new use is regarded as resulting from an exercise of the imitative not the creative faculties, and hence is not an invention in which the discoverer can have an exclusive right. If, on the other

(1) (1892) 9 R.P.C. 516.

(2) (1890) 7 R.P.C. 131. at 134.

hand, the new use is so unlike in its essential character to the preceding ones that it required an exercise of inventive skill to produce it, then the use is a new invention and is patentable.

There are two methods of manufacturing fabrics, that is, by weaving or knitting, the weaving art being much the older. Weavers experienced the difficulty of inequalities in yarn, and they used a device, called a "box loom," for diffusing such inequalities, and laying individual courses from different ends. For many years knitters of articles of wear, other than silk stockings, resorted to the same practice, for the same purpose, by using multiple carriers to diffuse the irregularities in yarns. Multiple yarn feeding would, of course, be resorted to when a variety of coloured yarns were being used in knitting any particular fabric, but it seems to have been long known that multiple yarn feeding could be successfully resorted to for diffusing inequalities in yarns of the same colour. In this connection there is a mass of testimony showing the prior use of multiple carriers for the analogous purpose described and claimed by Kaufman, but I do not propose attempting a review of the testimony of the many witnesses on this point, because if I did this judgment would reach an intolerable length. The evidence shows that in the weaving trade box looms were used to avoid the effect of irregularities in yarn. The evidence also shows that in some dozen or more knitting mills in Canada, United States and England, the same practice was resorted to for the purpose of avoiding or minimizing the effect of unevenness in yarns, or unevenness in shade, in the knitting of outerwear on full-fashioned machines, goods, such as ladies' suits, dresses, sweaters, caps and other articles, the yarns used being silk, wool, cotton, rayon, linen, and others I think; and likewise this practice was resorted to in the knitting of silk neckties of a solid colour, and in the knitting of woollen hose such as golf stockings. In all these instances various types of knitting machines were used, the number of carriers employed varied, and the number of courses knitted by each carrier also varied. However, it is true that in all these cases there was not one instance of the combination of the yarn silk, the article stockings, and the machine full-fashioned, if that is the invention described and claimed

1938

BELDING-  
CORTICELLI  
ET AL.

v.

CHAS. A.  
KAUFMAN.

Maclean J.

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v.  
 CHAS A.  
 KAUFMAN.  
 Maclean J.

by Kaufman, and if the use of that precise combination would be necessary in order to show prior use of a method similar to Kaufman, for analogous purposes. It is, however, sufficiently established that the problem due to yarn irregularities, confronting the manufacturers of light weight and dark coloured silk stockings, had been known also to manufacturers of other knitted articles of wear, and they met it by diffusing the yarns in the manner stated, during the process of knitting. I leave that point without further comment for the present.

I now turn to certain evidence of another character. It will be convenient first to review this evidence, without stating to which of the main grounds of attack against Kaufman, the same is applicable, and without any designed order of presentation. This evidence tends to show that before Kaufman conceived his invention, others had earlier formulated and disclosed the idea of multiple yarn feeding, and others a little later than Kaufman. It is suggested therefrom that there was either an anticipation of Kaufman, or, that the idea of yarn diffusion was obvious to any one competent in the art, when his mind was seriously directed to the problem of eliminating the appearance of bands in the manufacture of silk stockings, or when the remedy for the so-called problem became urgent. It was contended that the occurrence of so many disclosures or suggestions of multiple yarn feeding, in principle the same as Kaufman, within a period of about five years, add weight to the contention that no inventive step was required to provide the remedy for avoiding bands in silk stockings. This point is, of course, also involved in the defence relative to analogous use, which I have already mentioned.

I will first refer to a case where the disclosure or suggestion was made subsequent to Kaufman's date of invention, say June, 1931. The witness Friedlander, sales manager of the Duplan Silk Corporation, of New York, on December 9, 1931, wrote a letter to the representative of that corporation in North Carolina, a Mr. Cannon, and that letter reads thus:

You will recall that years ago, when the dyeing of rayon was very unreliable, we very often resorted to the use of box looms for what otherwise would be a single shuttle job.

We have in mind now the widespread trouble that is being reported throughout the full-fashioned hosiery industry with the irregular shades in the legs and feet. A simple thought occurs to us: why not finish full-fashioned hose from two cones by the use of two yarn carriers instead of one?

Mr. Wheeler thinks it could be done and we wonder whether Mr. Fred Gaddy thinks the same. We really would suggest this because it seems so very simple that we think someone must surely have tried it and found it lacking. At the same time we do not know of such trial having been made and would like to get Mr. Gaddy's reaction.

Concerning this letter a few observations might be made. Friedlander, who, so far as we know, had never heard of Kaufman's three-carrier method, or of any other disclosed method, suggests that the "trouble" concerning "irregular shades" in the legs and feet of full-fashioned hosiery was at that time quite "widespread," and was "being reported throughout the full-fashioned hosiery industry." This is rather confirmatory of certain evidence to which I earlier referred, namely, that the problem of irregular shades, caused by silk yarn irregularities, while known to be existent was not a very troublesome one, until about the period of 1930 or 1931. Friedlander's mind reverts back to the time, "years ago," when irregular shades, which spells bands, were encountered in the weaving of rayon fabrics, due to the irregular dyeing of rayon yarns, when, he states, his concern resorted to the use of "box looms" for what would otherwise be "a single shuttle job," and he suggests the analogous or equivalent method in knitting full-fashioned hosiery, to avoid "irregular shades." And then he speaks of his suggestion as a "simple thought," and I have no doubt by that he meant to say: "Why cannot we do in the case of full-fashioned silk hosiery, what we did in the weaving of rayon fabrics, to avoid irregular shades?" He thought that this was the obvious solution of the trouble to which he refers in connection with the knitting of full-fashioned hosiery, and so simple and obvious does it appear to him that he fears "some one must surely have tried it and found it lacking." And he states one Mr. Wheeler "thinks it can be done," and he wonders what a Mr. Gaddy thinks about it. It is true Friedlander suggests two carriers only, and, I think, Kaufman had this in mind originally, but later he found that for the particular purpose he had in mind, the three-carrier method was preferable, if not necessary. I assume

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v.  
 CHAS. A.  
 KAUFMAN.  
 Maclean J.

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v.  
 CHAS. A.  
 KAUFMAN.  
 Maclean J.

that for certain purposes the two-carrier method would be quite satisfactory. Any person once seized with the idea of multiple yarn feeding would quickly discover by slight experimental work, whether or not the two-carrier method would meet his particular problem, and if not he would increase the number of carriers. There could be no invention as between two, and three or four or more carriers in knitting, for the purpose of diffusing yarns in order to avoid a result likely to occur if there were no multiple yarn feeding. Trial and error would easily and quickly determine what degree of yarn diffusion was necessary to effect the desired result in any particular case.

Then there is the memorandum of one, Luhn, written in June, 1928. Luhn was the private secretary of one, Janssen, an executive officer of two or three textile manufacturing concerns in the United States. Luhn dictated this memorandum to his own secretary, and he afterwards handed the same to Janssen. This memorandum seems to be a complete formulation of the very idea or principle underlying Kaufman. The memorandum is as follows:

#### Method of Avoiding Horizontal Stripes in Stockings

By using the same thread course after course in knitting the appearance of the knitted material will change according to the variation of the thickness of the thread. The well known shady stripes will appear and will be more or less pronounced, according to the quality of the silk.

In order to obtain a stocking of even appearance it will be necessary to use a most even silk of first choice. This, of course, reflects in the cost of the product and brings up the price of the stocking to an undesirably high level. A stocking made from rayon will be much better in appearance and still be reasonable in price because a difference in thickness of the thread does not exist.

In order to eliminate the formation of the stripes and also to permit the use of average quality of silk thread it is suggested not to use one and the same thread course after course, but to alternate two, three or more individual silk threads and to work with an according number of carriers. The carriers should be changed in rotation either after every course or after every two courses.

Then follows a pen sketch of his suggested multiple carrier system, and he proceeds:

By alternating the threads in the knitted fabric the heavier parts of a thread will occur only every 2nd, 3rd or 4th course or double course and will be spread over a wider area. The thinner part of the second thread will offset the heavy part and an average appearance of the thread quality will result. It is very unlikely that all of the different threads used have their heavy parts at the same spot and that they will follow each other within one rotation of courses. However, it is obvious that

thick and thin spread parts will follow each other without rule and with the high probability of offsetting each other's irregularities.

Luhn apparently was not under the impression at the time that he had made an invention, though later he applied for a patent in the United States but not, I think, in Canada. He freely communicated his idea to others, as well as to Janssen, and the latter communicated it to others. Janssen applied, in May, 1933, for a patent in the United States for the same thing described by Luhn. It is possible that had Luhn applied for a patent in the United States, concurrently with Kaufman, he would be confronted with the difficulty of not having proceeded with due diligence to reduce to practice his idea, but that of itself would not, I think, have been an obstacle to him in Canada, had he there applied for a patent prior to the issuance of the patent to Kaufman. However, it would appear that about three years before Kaufman's alleged date of invention, Luhn had disclosed the same method of knitting silk stockings, and any distinction between what each described is, in my opinion, of no consequence.

Then one, Meinig, president of the Meinig Hosiery Company, manufacturers of full-fashioned hosiery, in the state of Pennsylvania, stated that he conceived, in June, 1927, the idea of multiple yarn feeding to overcome the band effect of unevenness in yarns. He disclosed this idea to one, Hamel, his mill superintendent, and he directed him to do some experimental work in the way of demonstrating the practicability of his idea, but Hamel, after attempting manually to knit a piece of fabric according to Meinig's suggestion, reported it was not practical. Apparently nothing further was done about the matter until the latter part of 1932, when Hamel, at the instance of Meinig, succeeded in producing a piece of fabric, upon a machine, and knitted according to Meinig's idea. Shortly afterwards Meinig began the commercial production of full-fashioned hosiery according to the method which he conceived in 1927. He applied for a patent in the United States in March, 1933, and he filed an application in Canada in July, 1933, some four months subsequent to Kaufman's application, and a patent actually issued to him in 1934, although in the meantime a patent had issued to Kaufman. I see no grounds for disbelieving the evidence of

1938

BELDING-  
CORTICELLI  
ET AL.  
v.  
CHAS. A.  
KAUFMAN.  
Maclean J.

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v.  
 CHAS. A.  
 KAUFMAN.  
 Maclean J.

Meinig, and while it might indicate that he had abandoned his idea after the reception of an unfavourable report from Hamel, yet there can be no doubt, I think, he had conceived in 1927 the same thing which Kaufman later patented. It is possible that had he submitted, in 1927, his suggestion about multiple yarn feeding to some person other than Hamel he might have succeeded in making an early and practical application of his idea. Meinig would appear to be of the opinion that Hamel never carried out the instructions he gave him in 1927, and that he did not seriously attempt to demonstrate the practicability of his idea. It would seem that in 1932 Hamel did not have any great difficulty in giving practical shape to the idea.

Then we come to the case of Krenkel, who for many years had been interested in the textile industry. In the latter part of January, 1931, Krenkel informed one, Waechtler, superintendent of a hosiery mill at Berlin, N.J., that he had conceived a method of avoiding "rings" in the manufacture of silk hosiery, but he did not then confide to him his method of doing so. A week later Waechtler called upon Krenkel requesting a disclosure of his method of avoiding "rings," and this Krenkel did, which was the three-carrier system, or a multiple yarn feeding method. He gave Waechtler three cones of silk and requested him to experiment in a practical way with his idea, that is, knitting one course from each cone alternately. A short piece of stocking leg was knitted in the month of February by Waechtler and one, Suess, from Krenkel's silk yarn, according to Krenkel's suggestion, on a hand operated machine. Nothing further seems to have been done by Krenkel, owing largely it would seem to lack of financial resources, until March, 1932, when Krenkel took the piece of stocking leg knit by Waechtler and Suess to Mr. Eberly of the Oakbrook Hosiery Mills, at Reading, Pa., to whom he explained his three-carrier method, hoping to secure his interest and assistance in providing the necessary mechanical equipment to produce stockings according to his suggested method. In August or September, 1932, Suess, who in the meanwhile had become associated with Krenkel in developing his multiple yarn feeding method, made drawings and patterns and superintended the making of some carrier attachments, at the plant of the Oakbrook Hosiery

Mills, and, in October following, the first silk stocking was produced by Krenkel and Suess on a machine having the three-carrier attachments. They also experimented with a two-carrier system but found it unsatisfactory. The knitting machine and attachments referred to would not function at the speed required and by December, 1932, a high speed knitting machine had been developed by Krenkel, Waechter and Suess, and full-fashioned silk stockings were produced therefrom. On December 5, 1932, Krenkel filed an application in the United States for a patent of his three-carrier method of knitting, and in Canada on November 6, 1933, Krenkel and his associates then engaged in the manufacture and sale of his three-carrier knitting machine and continued to do so for some time. That Krenkel conceived his multiple yarn feeding method in the latter part of January, 1931, has been satisfactorily established by the evidence, and there is nothing suggesting that he ever abandoned his idea.

1938  
 BELDING-  
 CORTIGELLI  
 ET AL.  
 v.  
 CHAS. A  
 KAUFMAN  
 Maclean J.

There is an additional feature incidental to the facts which I have just narrated which should be mentioned, and while they have reference to proceedings and occurrences in the United States, touching the same subject-matter, yet they, or some of them, have some bearing upon the question of priority of invention as raised in this case. In December, 1933, there were seven applicants, inclusive of Kaufman, for letters patent in the United States Patent Office, for the invention here in issue. They were Janssen, Meinig, Gas-trich, Krenkel, Kaufman, Voehringer and Grosse, and besides the applicants others had by assignment or otherwise become interested in one or other of these applications. Before the preliminary statements of the applicants—that is, a sealed statement of the date of the invention claimed by each applicant—had been opened in the Patent Office, and before interferences were declared, an agreement was entered into, on December 11, 1933, between the applicants, and all others interested, wherein it was agreed that the applicant, eventually decided by the Patent Office to be entitled to a patent, should receive fifty per cent of any revenue resulting therefrom in the way of royalties, and the unsuccessful applicants were each to receive six and two-thirds per cent thereof. When the contents of the preliminary statements were disclosed it would appear that



1938  
BELDING-  
CORTICELLI  
ET AL.  
v.  
CHAS. A.  
KAUFMAN.  
Maclean J.

the applicants other than Kaufman and Krenkel, were of the opinion that their dates of invention were subsequent to those two applicants, and they ceased for the time at least to press their applications for letters patent; the precise facts I find difficult to state with confidence. Then, in January, 1934, an agreement was entered into between Kaufman and Julius Kayser & Company—the latter having become interested in Kaufman's application—and Krenkel, together with Waechtler, Suess and Eberly, all of whom had become interested in Krenkel's application for letters patent. It was then evidently thought that either Kaufman or Krenkel was the first inventor of the three-carrier method of knitting silk stockings. Those two applicants, by the terms of this agreement, agreed that the question of priority as between them, should be determined unofficially and they agreed that this determination should be left to an attorney, learned in the patent law; and it was agreed that a certain percentage of any revenue or profits accruing from any patent issuing to either applicant should go to the successful party, and a certain percentage to the unsuccessful party. In the end the arbitrator, or whatever he may be called, in a few words decided in favour of Kaufman. He said: "I deem Kaufman to be entitled to an award of priority, believing that in his name letters patent will most likely be sustained." I should state that concurrently with the execution of the agreement Kaufman and Krenkel each signed a concession of priority to the other, and which were deposited in escrow pending the decision of the arbitrator. Later, as I understand it, concessions of priority to Kaufman were filed in the Patent Office by all the applicants, and in due course a patent issued to Kaufman. At this stage Krenkel was an applicant in Canada for a patent of his invention, and it was a term of the agreement that upon the definite allotment to Krenkel and his associates of the agreed percentage of any royalties distributable under the agreement of December, 1933, Krenkel would on request of Kaufman, withdraw from his Canadian application any and all claims to subject-matter conflicting with any claims in the Canadian patent which had issued to Kaufman. And Krenkel later filed a disclaimer of certain claims in his Canadian application in pursuance of this agreement, and a patent

ultimately issued to him for the balance of his claims. That briefly is the substance of the two agreements, and they are of importance here chiefly in connection with the second point in Mr. Biggar's contention, namely, that if there were invention Kaufman was not the first inventor, and this I shall refer to later.

I do not think there is invention in Kaufman. It is true that the method of knitting he described and claimed had not been applied before in the manufacture of full-fashioned silk stockings, and particularly of the weight in which the so-called horizontal bands, or light and heavy shade characteristics, might ordinarily be observed. But, for an analogous purpose, in the knitting of outerwear, neckties, woollen hosiery, and other articles, multiple yarn carriers were employed for diffusing yarn variations, so that bands, or light and heavy shade characteristics, might be substantially eliminated. In weaving, this was done, but it is not necessary to look to the weaving art, because more apposite illustrations are to be found in the knitting art. I cannot agree that the knitting of full-fashioned silk stockings by multiple yarn feeding, for the purpose of avoiding bands, is an art apart from the knitting of stockings, or other knitted articles of wear, of whatever yarn made, or on whatever machine made, for the analogous purpose. Nor can I think that there can be an inventive step in going from the practice of diffusing yarns of a solid colour, say for neckties, or woollen golf hose, or other garments, for the purpose of avoiding the known effect of yarn variations, to the same practice in the making of full-fashioned silk stockings, for the same purpose. Friedlander found no difficulty in suggesting the transfer of his experience and knowledge of yarn diffusion for an analogous purpose, to full-fashioned and light weight silk stockings. Had persons concerned with the problem of bands in full-fashioned silk stockings, described it to the heads of many knitting concerns who had employed the multiple carrier method in the manufacture of articles other than full-fashioned silk stockings, to meet the analogous problem, it seems to me that they would have got the necessary advice very promptly. They would hardly have failed to suggest the diffusion of yarns by some multiple yarn feeding system. There does not seem to have been any difficulty in adapting what had been

1938

BELDING-  
CORTICELLI  
ET AL.v.  
CHAS. A.  
KAUFMAN

Maclean J.

1938  
BELDING-  
CORTICELLI  
ET AL.  
v.  
CHAS. A  
KAUFMAN  
Maclean J

known and used before to the new but analogous purpose, when once the idea was suggested. When, in the evolution of the silk stocking industry, there came a pressing demand for the elimination of bands, owing to the introduction of the lighter silk yarns in stockings, it has been seen that many came forward with the remedy, some of whom had connection with the knitting industry, and some of whom, notably Luhn, never had, so far as I know, any technical training or experience in the knitting industry. One cannot but feel that had the problem of bands been acute in 1927 Meinig would have pursued his idea of multiple yarn feeding more actively and persistently, and it was when it came to be rumoured that others were suggesting the adoption of the same idea, that Meinig pressed Hamel to greater activity in devising the necessary knitting machine carrier attachments, and apparently he then had no difficulty in doing so. The idea came to Krenkel and Kaufman apparently without any serious research or experimental work. Within a comparatively short space of time we find many persons suggesting the same thing, and one wonders if they were not all aware, or had become aware, of the prior use of methods or devices for the analogous purpose. The idea seems to have come quickly when once those concerned or interested became impressed with the fact that bands were becoming objectionable to the trade and to consumers. Monopoly cannot be granted for every slight improvement, or for the adaptation of well known practices to the same or a slightly different purpose, where no difficulty arises in applying the new use. For the reasons just stated my conclusion is that there is no invention in Kaufman.

But, assuming that there is subject-matter for letters patent in the method described by Kaufman, then the question would arise as to whether he was the first to make the invention. I entertain no doubt myself that Meinig, Luhn and Krenkel had all conceived the idea of multiple yarn feeding before Kaufman, and as I think I have already stated, that is really the invention, if invention there be. Once the idea of yarn diffusion is suggested there could be no invention in practically applying the idea, as it has since been done, though conceivably some means might be so much better than others as to involve

invention. Sec. 61 of the Patent Act places difficulties in the way of voiding Kaufman by reason of anything disclosed by Luhn and Meinig; Luhn never applied for a patent in Canada, though, I think, he did in the United States, and it might be argued that both had abandoned their inventions; and the question as to whether either of them made their inventions "available to the public" is a difficult one upon the facts disclosed, and I do not propose to express any opinion upon the point, because in my view of the case it is not necessary to do so. The case of Krenkel is in a different position. He was an inventor, and it cannot be said he ever abandoned his invention, and, in my opinion, he made and disclosed it earlier than Kaufman. And he made an application in Canada, on November 6, 1933, but his Convention date of application in Canada would be December 5, 1932, the date on which he applied for letters patent in the United States.

It seems to me that s. 61 (c) contemplates precisely a case of this kind, and it puts Kaufman in constructive conflict with Krenkel, so that the question of priority of invention as between Kaufman and Krenkel clearly arises for decision, as a question of fact. Sec. 61, ss. 1 (a), (b), (c), reads as follows:

61 (1) No patent or claim in a patent shall be declared invalid or void on the ground that, before the invention therein defined was made by the inventor by whom the patent was applied for it had already been known or used by some other inventor, unless it is established either that,

(a) before the date of the application for the patent such other inventor had disclosed or used the invention in such manner that it had become available to the public; or that

(b) such other inventor had, before the issue of the patent, made an application for patent in Canada upon which conflict proceedings should have been directed; or that

(c) such other inventor had at any time made an application in Canada which by virtue of section twenty-seven of this Act had the same force and effect as if it had been filed in Canada before the issue of the patent and upon which conflict proceedings should properly have been directed had it been so filed.

Krenkel is therefore before us as an "other inventor," as mentioned in s. 61, and we must view the situation just as if Krenkel had made an application in Canada before the issue of the patent to Kaufman on October 10, 1933, and we must assume conflict proceedings would have been directed had Krenkel filed his application before the issue of the patent to Kaufman. Therefore, the issue of priority of invention as between Kaufman and Krenkel is to be

1938  
 BELDING-  
 CORTICELLI  
 ET AL.  
 v.  
 CHAS. A.  
 KAUFMAN  
 Maclean J.

1938  
BELDING-  
CORTICELLI  
ET AL.  
v.  
CHAS A.  
KAUFMAN.  
Maclean J.  
—

determined upon the facts, and upon the facts I am of the opinion that Krenkel was the first inventor. The fact that Kaufman and Krenkel made concessions of priority to each other in the United States, for the purposes I have mentioned, is of no moment here. Nor is the fact that Krenkel deleted the method and products claims contained in his Canadian application, in pursuance of the agreement referred to, of any consequence on the point I am now discussing. The effect and purposes of sec. 61, ss. 1 (c) of the Patent Act, which may be invoked in impeachment proceedings by any person other than a patentee, or an applicant for a patent, cannot in my opinion be modified or nullified in that way. There are interests other than that of the patentee, or the applicant for a patent, to be considered. I should also point out that Krenkel reserved the right in his disclaimer "to file this deleted subject-matter in divisional applications."

I am therefore of the opinion that the plaintiffs must succeed and they are entitled to the declarations claimed. The counterclaim is dismissed. Costs will follow the event.

*Judgment accordingly.*