
BETWEEN:

CLUETT, PEABODY & CO. INC. .....PLAINTIFF;

AND

DOMINION TEXTILE CO. LTD. .....DEFENDANT.

1936

May 11, 12 & 13

1937

Jan 11-15, 18-21

Dec. 27.

Patents—Infringement action—Invention—Anticipation—Prior publication —Prior user—Patent Act, 25-26 Geo. V, c 32, s 61 (1).

The action is one in which the plaintiff alleges infringement by defendant of three patents owned by plaintiff; the first patent claims an invention relating to "an art or method of shrinking textile fabrics", the second patent claims an invention relating to "the method of shrinking woven and like fabrics and yarns"; the third patent claims an invention relating to an "apparatus for treating woven and like fabrics and yarns."

Plaintiff alleged infringement by the use in factories of defendant of a process for treating textile fabrics, and by the sale in the usual course of business of the fabrics so treated.

The defendant pleaded prior publication and prior user. The Court found that there is invention in plaintiff's patents and that none of the published patents cited by defendant constitute anticipation.

Defendant contended that the patents in suit are void because there was prior user of plaintiff's patented art or process, and apparatus, by a machine known as "Palmer" and some separate users of Palmer, or a modified Palmer, are alleged in defendant's particulars The Court found that the defence of prior user had not been established, and that all three patents owned by plaintiff had been infringed by defendant.

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Held: That in order to set up anticipation by prior publication it is not sufficient that the patent relied on as an anticipation should suggest the idea to the inventor, or some line of inquiry which may lead him to his invention, or that the apparatus described in the earlier specification could be made to produce the same result; it is necessary that the specification relied on should contain a clear and unmistakeable direction so to use the apparatus as to produce the result; nor is it enough that the document relied on as an anticipation should, when read along with other documents, preshadow or indicate the invention. The patentee may select and collate from any sources that are accessible to him, and his invention is not invalid by anticipation by reason merely of the fact that some of, or even all, the elements in his device have been anticipated in prior publications.

2. That when a patented invention has proven a commercial success, evidence of anticipation by prior user must be examined with the greatest care and caution.

3. That a prior user in order to defeat a patent must have been a user as a manufacture and not a mere fortuitous user of the subsequent invention, in which the persons using it gained no knowledge of the advantages of the invention, and which would not have led to its further use.

4. That s. 61, ss. 1, of the Patent Act as enacted by 25-26 Geo. V, c. 32, contemplates the case where the one seeking to void a patent on the ground of prior invention, puts himself forward as the prior inventor, and who alleges he had so disclosed or used the invention that it had become available to the public, or, that he had, before the issue of the patent he seeks to void, applied for a patent in Canada, or in a Convention country.

5. That in cases where a new principle is involved, the question is not whether the substantial part of the process or combination said to be infringed has been taken from the patentee's specification, but is whether what has been done takes from the patentee the substance of his invention as claimed.

ACTION for the infringement of three patents assigned to the plaintiff.

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

O. M. Biggar, K.C., and *R. S. Smart, K.C.*, for plaintiff

A. R. Holden, K.C., and *G. Davidson* for defendant.

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

THE PRESIDENT, now (December 27, 1937) delivered the following judgment:

This is an action for the infringement of three patents owned by the plaintiff. The first, no. 319,479, was granted to the plaintiff as assignee of Sanford L. Cluett, in February, 1932, and the invention claimed relates to "an art or method of shrinking textile fabrics." The second patent,

no. 311,000, was granted in March, 1933, to Bradford Dyers Association Ld., assignee of John Herbert Wrigley and Alexander Melville, and the invention claimed relates to "the method of shrinking woven and like fabrics and yarns." The third patent, no. 331,002, was granted in March, 1933, to the said Wrigley and Melville, and Bradford Dyers Association Ld., and the invention claimed relates to an "apparatus for treating woven and like fabrics and yarns." It will be convenient to refer to the first patent as "Cluett," to the second patent as "Wrigley," and to the third patent as "Melville." The defendant pleads the defences usual in an action of this kind, and these will be referred to later. The precise charge of infringement is that the defendant infringed certain claims in each of the three patents in question, by the use in its factories at Magog and Valleyfield, in the Province of Quebec, of a process for treating textile fabrics certain of which fabrics were sold under the name of "Zero Shrunk," and by sale in the usual course of business of the fabrics so treated.

The old and universal problem of eliminating or minimizing the shrinking of finished fabrics, particularly cotton fabrics, before being manufactured into garments, how and when shrinkage occurred, and the methods adopted to avoid it, was variously described to me. In one of the exhibits put in evidence, descriptive really of Cluett, and there referred to as the "Sanforizing" process, I find what sufficiently and concisely describes the problem, the reason for its occurrence, and the methods adopted by the interested trades and industries to minimize the shrinking of finished fabrics, or the methods of pre-shrinking the same, in order to overcome shrinkage in garments made from such fabrics. If I use what there appears it will be more exact and intelligible than if I attempted to do so in my own language. In that exhibit, paper read by Sanford L. Cluett, before the American Society of Mechanical Engineers, in December, 1931, I find the following:—

> The Sanforizing process and the mechanism for it were designed primarily to treat a fabric so that its dimensions will remain substantially unchanged when the fabric is subjected to a laundry washing or other cleaning process It is common experience that finished textile fabrics change in length or width when laundered; this change is generally a shrinkage. The principal reasons that shrinkage occurs are as follows: (a) Practically all textiles are woven under tension, generally in both warp and filling For obvious reasons textile machinery is designed to operate

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this way. (*b*) In the bleaching and finishing of textiles, from the moment that the webs are sewed together for putting through the rope or open-bleach processes until they are finally bleached and finished, they are stretched every time they are transported from one station to another. This pulling tends to stretch and straighten out the warps and thus narrow the goods. Narrowness is counteracted at one or more stations during the finishing process by pulling the goods out in width through the use of expanders or tenters, or both. As a rule when the material is pulled out or held out in width the warps are still held under tension; thus the pulling out in width also puts tension on the warps as well as on the filling. The result is that most finished woven fabrics are elongated during the finishing process (*c*) When textiles are manufactured into garments, the material may be subjected to more or less stretching in length or in width. (*d*) As a result, such fabrics are only awaiting a favourable opportunity to change their dimensions This opportunity occurs if the finished fabrics are dampened with or immersed in water The water acts as a lubricant and allows the fibres to readjust themselves. The fibres also swell; and as the yarns are twisted this swelling causes a shortening of the yarns. The combination of swelling and shortening of the yarns, owing to the twist, further causes a shrinkage of the fabric because of a rearrangement of the position of the yarns. The most general cause of garment shrinkage is the laundry wash wheel or other mechanical manipulator of wet garments. During laundry washing a garment is tumbled about in hot soapy water, generally with a heavy charge of goods, and the yarns are not only further allowed to contract, but they are forced and pounded together by the action of the water and of the other garments in the wheel; there is a fulling effect somewhat similar to that which takes place when wool is washed Also caustic and bleaching solutions may be present in the wash wheel and have a further shrinkage effect on the material. It has been observed that woven fabrics shrunk by water alone will, when subsequently subjected to a full laundry wash, shrink an additional amount varying from one-half inch to the yard to as much as two inches to the yard In fabrics in which the yarns are only partially or altogether unbleached, the fibres are generally water repellent These fabrics as a rule not only have a high shrinkage factor on washing, but continue to shrink in subsequent laundry treatments until the waxes and gums are entirely eliminated

Methods of Preshrinking

In order to minimize the laundry shrinkage of fabrics as far as possible, several methods of preshrinking have been in use for many years. Among these may be enumerated: (*a*) Wetting or soaking the fabric and drying it with as little strain as possible on the warp and filling (*b*) Chemical shrinking (*c*) Washing the fabric. These three hold important places in the shrinking art. However, the process to be described has been built on the principle that inasmuch as the causes of the shrinking of fabrics when they are subjected to a full laundry treatment are mostly mechanical, the most effective treatment to prevent shrinking may be found in some process of mechanically rearranging the fibres of the fabric (including changing the count of the warp and filling) to the same extent that the fibres would arrange themselves if subjected to a full washing in a laundry

From this it will appear, and the evidence confirms and elaborates it, the substantial elimination of shrinkage in

finished fabrics, and therefore in finished garments, was a continuing problem in the textile and garment trades, and in the laundering trade. And, I think, it may be fairly said, particularly in so far as cotton fabrics or cotton garments are concerned, that no very reliable or satisfactory results were obtained by any method or process known prior to the advent of the methods disclosed by the plaintiff's patentees, or the offending method practised by the defendant. And they claim to have completely, or almost completely, solved the problem by mechanically preshrinking finished fabrics, before being put into finished garments.

Sanford L. Cluett, at the time of his alleged invention, was the directing head of the plaintiff company's research department, and there his work related chiefly to manufacturing problems arising in the operations of that company. The plaintiff company manufactured shirts and collars in a very large way, but they also bleached and finished fabrics, and at some of their plants operated laundries; the satisfactory shrinkage of soft shirts particularly, but not altogether, had been one of their constant problems. While thus concerned with problems of this character, Cluett's attention came, in 1928, to be directed particularly to that of means of avoiding the shrinkage of fabrics longitudinally, and one of the results of his research and experimental work was that described and claimed in the first-mentioned patent in suit. Prior to Cluett coming on the market, certain fabrics, cotton fabrics particularly, were usually submitted to water shrinking, and drying the same without tension being applied, but actual results depended on a variety of inconstant factors, and were not generally satisfactory. In practice, when garments were made from water-shrunk fabrics further shrinkage was regarded as something inevitable, and in many cases garments were cut and manufactured over-size, by some arbitrary rule, to provide for that shrinkage; but neither manufacturer nor customer could estimate accurately what, after washing or laundering, the further shrinkage would be. Many men will recall the shirt sleeve suspenders commonly in use because the sleeves were cut and made with a considerable allowance for shrinkage. Consequently such fabrics and garments were not dealt in on the basis of a specified potential shrinkage, but on the weave, appearance, or feel, of the particular goods.

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The plaintiff's process in question here, and that practised by the defendant, is directed to securing a shrinkage in the longitudinal dimension of fabrics, by mechanical means. In any woven fabric the longitudinal or lengthwise threads are known as the "warp" threads, while those crosswise are known as the "weft" or "filler" threads. What the rival methods here seek to accomplish is to bring more closely together, in a piece of fabric, the weft or filler threads, and if that is accomplished it means that the lengthwise or warp threads must pass under and over more filler threads in any given space, say a square inch, and consequently the length of the warp threads will be shortened, and thus the fabric itself will be shortened or shrunk. That is the principle of the art of shrinking fabrics and which is in question here; and it is accomplished mechanically by the method in use by the plaintiff, and by the defendant, and apparently that method of shrinking fabrics has had a favourable reception from those interested in such a result.

The principle underlying Cluett is that if a piece of fabric, after the application of moisture, is made to adhere to, or lie in frictional contact with a driven sheet or belt, and the surface of the belt is made to extend longitudinally, and is then allowed to contract in the same direction, the fabric will partake of the collapsing or contracting motion of the belt, and will effect a bringing closer together of the weft or filler threads, and this in turn will effect a longitudinal shrinkage of the fabric; the fabric is then acted upon to dry while it is in this contracted or condensed state to fix it in this condition. This perhaps might be made clearer by reference to the evidence of the patentee, Melville. He, referring to his very earliest experimental work, along with Wrigley, stated:—

> We . . obtained a strip of rubber about one inch thick and about half an inch wide and about eight inches long, and produced a small piece of cloth on the table, and with this rubber in a horse shoe shape, and with pressure on the cloth, straightened the rubber, and by the application of that a few times we obtained a little shortening of the fabric . . . We bent the rubber around in order to stretch the surface, and brought it into its original surface again; and in that way we obtained a shorter surface That is, the bending and pressure and straightening produced the shortening

The same thing was illustrated to me by Mr. Biggar with a straight piece of rubber, exhibit 49. In Cluett, as appears

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from his specification, we have the application of the principle that if an endless and flexible carrier belt is flexed and subjected to a compressive force, its surface will distend, and when released of this force, its surface will contract, and so will any fabric adhering to the belt.

In exemplification of his idea of shrinkage, Cluett gives several illustrations in his specification and drawings, how, by mechanical devices, shrinking of fabrics may be accomplished. There was introduced in evidence what was called Model 8, which, in physical form falls within the mechanisms described by Cluett for applying his principle of shrinkage. In this model there is first provided a roller driven endless felt belt, one portion of which, the specification states, is flexible and resistent to tensile stress, whereas the other portion is equally or more flexible, is not necessarily resistent to tensile stresses, and is capable of collapse upon itself to occupy shorter or longer length in accordance with a flexed state of the belt as a whole. The belt may be constructed of various materials and in various ways, and this is set forth in the specification. The fabric, under slight tension, is received or fed on the belt, at a predetermined rate, and the effect desired is to shrink the longitudinal threads by causing the contraction of the distance between the filler yarns to, or slightly beyond, the degree which would be attained by repeated laundry washings of the fabric, in order to shrink the fabric longitudinally. The belt and fabric at some stage passes a moistening device but this we need not pause to consider. The belt then passes over the upper peripheral surface of a small roll, called the feed roll, in concave form, and then downwards and between that roll and a larger roll which is heated; when the belt passes between the two rolls its thickness is reduced and lengthwise it is extended by the compressive force of the two rolls. As the belt passes the point where it is no longer in contact with both rolls, and begins to pass around the lower peripheral surface of the larger roll only, it begins to contract or resume its former or normal length; after this the belt and fabric separate from the heated roll and from each other, and we need no longer follow either. I should state that the feed roll is adjustable in its relation to the axis of the larger roll. It is by the contraction of the belt, as I understand it, that

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the filler threads are brought into closer contact with one another, thus shortening the warp threads. When the belt is extended in passing over the surface of the feed roll, and between the surfaces of the two rolls under compression, I understand its speed is somewhat accelerated, and correspondingly the fabric. It is to be mentioned also that when the belt is passing over the feed roll and downwards to the point where the belt enters the nip of the two rollers, the fabric is caused to adhere to the belt by the pressure of what is called a "shoe," to prevent the fabric from slipping or buckling, but such a device may take various forms. One of the purposes of having the larger roll heated, and having the belt and fabric follow around its lower peripheral surface, is to give a finish or set to the fabric in its contracted longitudinal dimension. This will serve to describe the principle of the method of shrinkage described by Wrigley, who came into the field a little later than Cluett, except that in his specification he suggests a rubber belt of the thickness and width desired, mounted upon a canvas supporting belt, approximately inextensible but flexible, and he suggests a mechanism that is somewhat different. The apparatus described and claimed by Melville, which will be referred to later, varies structurally from Cluett's Model 8, but it effects the same result, and, I think, by the same method. The apparatus or mechanism claimed by Melville is the same as that described by Wrigley.

In the infringing mechanism, hereafter to be referred to as "Lyth," a model of which is in evidence, an endless belt, wholly of rubber, is used, and there is what is called a compression roller, and a larger and heated roller which is free to rotate about its axis; these two rollers occupy the same relation to one another as do the feed roll and the large heated roll in the mechanism suggested by Cluett. The compression roller is free to rotate on its axis, which axis may be adjusted in relation to the axis of the large roller by an adjusting device. The fabric is fed upon the belt, or, upon the surface of the large roll as the defendant suggests, but, in any event, just where the belt is passing downwards through the nip between the two rollers, it then just having passed over and down the upper peripheral surface of the compression roller in concave form; the belt

and fabric then having proceeded through the two rollers, the whole being in contact with both rollers, it follows around the lower peripheral surface of the large roller on a different curvature, at the end of which path the fabric separates from the belt. The surface of each roller moves in opposite directions, but the large roller moves in the same direction as the belt, as in Cluett's Model 8. When the belt and fabric—the belt being of greater thickness than the space between the surfaces of the two rollers—are passing through between the opposing surfaces of the two rollers, and therefore lengthening, the velocity of the belt and fabric is increased, it is said. After passing through the nip between the two rollers, the belt, it is said, slows down and resumes its normal length, and the fabric contracts or shrinks correspondingly. As the rubber belt and the fabric slow down it has the effect, it is claimed, of compacting the weft or filler yarns into closer contact, as in Cluett, Wrigley and Melville, thus shortening the warp threads and effecting shrinkage of the fabric. It is, I think, contended that the passage of the belt over the lower half section of the heated large roller, in a reverse curve, plays no part in the contraction of the rubber belt, or in the compacting of the filler threads of the fabric, that operation being performed, it is claimed, for the purpose of drying the fabric. The velocity to be imparted to the rubber belt in its passage through the nip between the two rollers is regulated, it is claimed, by adjusting the width of the passage in relation to the thickness of the belt. The defendant has described, in writing, Lyth in operation, and I had better quote it lest I may have fallen into some serious error in my description of that operation. It is as follows:

> In its performance, the machine brings into practical use a well known physical law governing the flow of fluid substances, namely, that under certain conditions where the cross sectional area of flow is reduced, the velocity or rate of flow is increased. Thus, the rubber belt, which is made up of such a consistency as to act, for practical purposes, like a fluid, in passing through the passage, is reduced in cross sectional area, with the result that the rate of flow of rubber in the belt at that point is increased above the normal rate of movement of the belt as determined by the driving cylinder. The cloth, which has been carried forward on the surface of the large cylinder, encounters the face of the rubber belt at the point where the rubber is acquiring the additional rate of flow through the passage and the cloth itself tends to take on the speed of the rubber surface. Just beyond the passage, where the cross sectional

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area of the belt becomes normal again, the rate of flow of the rubber in the belt slows down so that the cloth, which has taken on additional velocity in going through the passage, is impacted against the cloth immediately beyond the passage, and a packing action occurs which shrinks the cloth. The additional velocity, to be imparted to the rubber at the passage, is regulated by adjusting the width of the passage in relation to the thickness of the rubber belt This finishes the description of the actual shrinking operation.

The cloth is held in contact with the surface of the large cylinder by the rubber belt over a certain distance for preliminary drying purposes, and then the rubber belt goes off to the driving cylinder and the cloth continues on the surface of the large cylinder until it passes off to compensator and guide rolls prior to entering a series of dryer cylinders

The claims of Cluett said to be infringed are 1 to 3 inclusive, 11 to 27 inclusive, 30, 32, 34 and 35. Claims 1, 3, 11, 24, 27, 30 and 35 may be mentioned.

1. Art of treating textile webs comprising causing the said web to adhere to a support while in a moist state, causing said support to decrease in length in one dimension, and fixing in the web the resulting rearrangement of its component strands by drying the web with the aid of heat.

3. Art of treating textile webs comprising causing the web to adhere to a support, moistening the web, collapsing the support, subjecting the web to pressure between the collapsed support and a hot surface to fix the collapsed rearrangement of the component yarns, and separating the web from the support.

11. Art of shrinking textile webs comprising as steps, moistening the web, applying the web to an extended surface of a carrier belt having a surface capable of extension and collapse, subjecting the web on the carrier belt to heat and pressure, and flexing the belt and web to cause collapse of said belt and web during maintenance of said heat and pressure.

24. Art of treating textile webs, characterized by affixing a web at all points to a contractible support, contracting the support and the web with it while maintaining transverse pressure on the web, and fixing the web in its contracted state.

27. Art of treating textile webs, characterized by diminishing the superficial extent of the web by compression exerted on its material in directions parallel with the surfaces of the web, exerting transverse pressure on the web, and setting the web in its diminished superficies.

30. Art of treating textile webs, comprising affixing the web to a contractible support by pressure, then causing the support to contract while the web remains affixed thereto, and setting the web in its altered state.

35 Art of treating textile webs, comprising affixing a moistened web to a contractible support by pressure, then causing the support to contract holding the web affixed to the contracting and contracted support by pressure, and setting the web in its altered state.

It is to be observed that it is an art that is claimed by Cluett, and not an apparatus or machine.

The claims of Wrigley said to be infringed are 9 to 13 inclusive. Those claims, to which claim 4 must be added,

because that claim is referred to in each of the claims said to be infringed, are as follows:—

4 A method of shrinking woven and the like fabric or yarn which consists in causing the same to assume and follow wholly or partially the superficial conformation or shape of one continuous or discontinuous surface of a band or strip or series of strips of india rubber or the like.

9. A method according to claim 4 wherein the woven and the like fabric or yarn is caused to assume and follow the shape or conformation of the surface of the india rubber or the like band or strip or series of strips by pressure applied to retain the said fabric or yarn in contact with the said surface.

10. The method according to claim 4 wherein the extent of shrinkage is varied by altering the thickness of the band or strip of india rubber or the like

11. A method according to claim 4 wherein the woven and the like fabric or yarn is caused to assume and follow the shape or conformation of the surface of the india rubber or the like band or strip or series of strips by pressure applied to retain the said fabric or yarn in contact with the said surface, the extent of shrinkage of the fabric being determined by variation of the pressure applied.

12. A method according to claim 4 wherein the woven and the like fabric or yarn to be treated is first moistened.

13. A method according to claim 4 wherein the woven and the like fabric or yarn is caused to assume and follow the shape or conformation of the surface of the india rubber or the like band or strip or series of strips by the application of hot pressing means to retain said fabric or yarn in contact with the said surface.

In the third patent in suit, Melville, what is claimed is an "apparatus for treating woven and like fabrics and yarns." The claims said to be infringed are the following:—

5 Apparatus for use in the treatment of woven and the like fabric or yarn, comprising a continuous or discontinuous surface consisting of one side of a band or strip or series of strips of india rubber or the like, said surface being adapted to extend and/or contract, and pressing means for causing the fabric or yarn to assume or follow the superficial conformation or shape of the said surface

8 Apparatus for shrinking yarns or fabric in accordance with claim 7 wherein the means for feeding in the fabric or yarn cause the same to pass firstly over a more curved path.

11. Apparatus in accordance with claim 5 in which the pressing means are hot.

12. Apparatus in accordance with claim 5 in which the fabric or yarn to be treated is moistened.

A great deal of evidence was taken on commission on behalf of the plaintiff, purporting to show the commercial success attending Cluett, the extent of the use into which it had gone since its disclosure, and some of the results flowing from its adoption by the interested industries. As this evidence, in my judgment, has value and weight

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in reference to several points which arise in the case, I propose to review it, even at some length.

Mr. Merriam, for many years chief engineer of the United States Finishing Company, of Providence, R.I., dyers and finishers, now practising as a consulting engineer in connection with textile machinery, described the methods of shrinking followed in the textile trade prior to Cluett. He stated that during his period of service with the United States Finishing Company that company had carried on experimental work with the object of improving such methods, but with unsatisfactory results. The United States Finishing Company was the second licensee of Cluett, and Merriam stated that after the adoption of Cluett they were able to obtain a controlled shrinkage of fabrics; that Cluett made it possible for mills to produce shrunk fabrics; that the demand for such goods from mills, converters and finishers, increased thereafter in a marked degree; and that the United States Finishing Company dealt in about twenty million yards of fabrics a month. Mr. Hess, a consulting technical expert and engineer in connection with textile treating and finishing, and with a very considerable experience, explained the earlier methods of shrinking with which he had experience, which, he said, were not uniform or complete. He stated that while he was in the employ of the United States Finishing Company, between 1923 and 1934, he worked with the "engineering and mechanical department for a period of over two years endeavouring to work out a method which would not be prohibitive as to expense, and which would give a positive shrinkage," but without success, but he realized that "if a shrunk fabric could be turned out by a finishing plant there would be a real place for it in the market." On learning, from inspection, that Cluett had accomplished a method of mechanically shrinking cloth, he discontinued further experimental work. He stated that on seeing Cluett's shrinking method practically applied he realized that Cluett "had gotten something that is absolutely correct, something that my engineering crew had not discovered"; that the Cluett mechanical process gave "a very nearly positive shrinking result," and made it "one of the biggest developments in the textile industry in the last fifty years." By that process, he said, a fabric might

be shrunk "so that after it is manufactured into a garment and laundered it will neither stretch nor shrink to any appreciable amount, not enough to make the garment not fit," and this result might be guaranteed. He also stated that since the introduction of the Cluett process the demand for shrunken fabrics had increased very greatly. Another witness was Mr. Borden, president of the Fall River Bleachery Company, of Fall River, Mass., a large business concern, established by his father in 1872, and in which the witness has been interested since 1894. He stated that "mercerizing" was one of the important early developments in the industry in his time, and, I understand him to have said in his evidence, that the mechanical shrinking process of Cluett was the next important in point of time. The introduction of Cluett, he stated, had increased tremendously the demand for shrunken fabrics, and that probably one-fifth of his company's output, chiefly cotton fabrics, was treated by that process, whereas prior to that time shrinking by any other process was infinitesimal. Mr. Arnzen, vice-president and manager of the Fall River Bleachery Company, with which he had been associated since 1910, stated that when he first went into the textile business, shrinking was little thought of, and there was very little call for shrunken fabrics. In purchasing cotton garments an allowance would, he said, be made for shrinkage, for example, a shirt would be purchased half a size or a size larger than was needed, realizing that after being washed once or twice it would probably fit. His concern was the first licensee of Cluett, in 1930, since which time the demand for mechanically shrunk goods has gone ahead by leaps and bounds. Prior to Cluett, he said, there would be only a partial shrinkage by any of the methods in vogue, but none of such methods were satisfactory.

Mr. Starke, in charge of the converting branch of the business of Hesslein & Co., of New York, dealers in cotton fabrics for over seventy years in a large way, stated that prior to Cluett they would not guarantee to their customers any definite shrinkage in fabrics in which they dealt, because the producers of such fabrics would not give any guarantee, but since Cluett they are guaranteed by manufacturers a shrinkage of not more than three-quarters of

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one per cent of goods, and they in turn give that guarantee to their customers; since then, he said, there has been a greater interest in shrunken goods, and now thirty per cent of their sales of fabrics are preshrunk. He stated as his opinion that "the vast majority of all goods in the very near future would probably be Sanforized-shrunk," meaning shrunk according to the Cluett process, and that that process has extended the use of cotton goods in articles of apparel. Mr. Anderson, of the Martin Dyeing & Finishing Company, of New York, stated that his concern had made use of the Cluett process; that it was found that it had increased their business; that it had extended the range of use of cotton fabrics; and that the result of the process might be pre-determined, which could not be said of any other process known to him. As indicating the fact that Cluett had extended the range of use of cotton fabrics he stated that his company had Sanforized summer suitings, linen table cloths, drapery linens and chair covers, for certain named customers in New York. The United States Navy authorities, he said, now specified that any cloth purchased from them be preshrunk, and Anderson stated that he knew of no way of complying with the navy specifications except by treating the cloth according to the Cluett process. Mr. Bonsal, a partner in the firm of J. L. Baily & Co., of New York, which has carried on business for over one hundred years as selling agent for cotton mills, particularly in denims and fabrics for work clothes, and who handle over one hundred million yards annually, gave evidence. Prior to 1930, little regard, he said, was paid to shrinkage, and it was generally recognized that fabrics were not shrunk, and that garments had in consequence to be made full and large to allow for shrinkage; and as the representative of cotton mills they were not offering any goods as preshrunk. Since the introduction of the Cluett process they have been able to represent that the goods they sell are preshrunk to a limit of less than one per cent under severe laundry tests, and he stated that the demand upon them for materials so processed has shown a marked increase, and has enlarged the type of garments or finished products made from such goods. The Baily Company has installed eight machines in its plant for shrinking goods according to the Cluett method. Mr. Conover, president of the Pilgrim Laundry Company,

Philadelphia, stated that prior to 1930 their most serious problem was that of shrinkage in customers' articles, principally in sleeve lengths, and the collars and neckbands of shirts, for which often the laundry was not responsible. That difficulty, he said, has been almost completely overcome by the Cluett process of shrinking, and he knew of no other satisfactory process for preventing shrinkage.

Mr. Reilly, of the William L. Barrell Company, of New York, a commission house dealing largely in cotton materials for men's clothing, and converters, testified that their sales of material for the clothing trade alone was about forty million yards per year, and their total sales over one hundred millions yards per year. Prior to 1930, they had sought but had not found any satisfactory method of shrinking fabrics, and though a portion of their goods were sold as preshrunken goods they declined to give to their customers any guarantee as to shrinkage, because they were not thoroughly shrunk. He stated that since the Cluett process came into use eighty per cent of their production was so treated; they are now able to guarantee that their goods will not shrink beyond one per cent, either in the warp or filling; it has increased the sale of their cotton goods, and has widened the range of their uses; and that the specification for the requirements of the United States Army and Navy cannot be satisfied unless mechanically shrunk according to the Cluett process. Mr. Gallon, vice-president of J. P. Stevens & Company, of New York, converters and sales agents for cotton mills, stated that the Cluett process had revolutionized "the entire cotton field where cotton comes in as wearing apparel," it had "eliminated the shrinkage from cotton goods," and had created a demand for the use of cotton goods for wearing apparel, for both men and women, "in a way that was never permitted before." Prior to 1930, Gallon said, his company were doing practically no shrinking at all, while in 1935 they shrank about 25,000,000 yards according to the Cluett process, which he called "a controlled shrinkage," while other methods, he said are "a sort of hit-or-miss process, which a lot of people have resorted to in order to get by using the Sanforizing process." Dr. Ashbrook, a consulting technical expert, particularly in connection with textile fabric manufacture, stated that shrinkage by cold water, or hot water, or by

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hot water and soap, and subsequent treatment to give the least possible stretch to the cloth, were not satisfactory because the residual shrinkage left in the goods was too great, and there was no means of controlling the shrinkage. He used the Cluett and the Melville machines, in experimental tests I understand, and obtained a much higher degree of shrinkage therefrom than was obtainable from the old methods, and by the former he was able to control the shrinkage. The witness Fox, of New York City, a buyer of work clothing for some fifteen hundred retail stores, explained the difficulties he had encountered in his early experience on account of the shrinking of the materials from which garments were made, and what means were resorted to to counteract that state of affairs. He explained that in the manufacture of the garments which he purchases, he sets the specifications, and furnishes all patterns and materials. For the past three or four years he has been shrinking his materials by what he calls the Sanforizing process, with excellent results. Whether Fox does this himself, or has others do it for him, is not clear from the evidence. Mr. Dobbs, president of Monarch Laundries Inc. of New Haven, Conn., for over thirty-six years engaged in the laundry business, stated that since the advent of Cluett's mechanical shrinking, the troubles of laundries with their customers over shrinkage have almost vanished, and laundries now circularize customers to purchase Sanforized garments. Mr. Whitehead, of the Franklin Manufacturing Company, New York City, said that "Sanforizing has been the greatest invention, in my opinion, of any thing in the textile industry ever since I can remember—ever since I have been in it. There is nothing that has assisted and helped it, not only from our standpoint, but from the consumers' as well," and he gives reasons supporting that statement. Then there was evidence from Mr. Bruck, president of Bruck's Nurses Outfitting Company, of New York City, and from Mr. Elliott, superintendent of the plant of the Delta Finishing Company, of Philadelphia, which corroborates and amplifies the evidence already reviewed, and we may dispense with any extended reference to that evidence.

Mr. Ewing, with over forty years' experience in the textile industry, a director and member of the Bradford

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Dyers Association Ld. of Bradford, England, dyers and finishers of cotton, wool and raw silk goods, with twenty-nine plants in England and one in the United States, stated that in the past there had always been difficulty in dealing with the matter of the shrinkage of cotton goods, particularly when intended to be used for work clothing, nurses' uniforms, shirts, etc. In England, cotton goods were not offered on the market to customers as being shrunk, but water-shrinkage, called "London shrinking," was known, but more applied to woollens, it being too slow and expensive to apply to cottons. Prior to Cluett, he never knew of any method of mechanically shrinking cottons, and this method his concern have used, since July, 1931, extensively and with success. He stated also that specifications prepared by the plaintiff were printed and published in England by the Bradford Dyers Association Ld. under its own name, for shrinking cloth by the Cluett process, and such specifications have been adopted by the Army and Navy authorities in England, and also by the Laundry Board—whatever that means. Mr. Anderson, chief engineer of the Bradford Dyers Association, concurred in the evidence of Mr. Ewing.

Some fifty-nine textile concerns have been licensed in the United States by the plaintiff, to use the patents in question, and there are licensees in Canada, Great Britain, Germany, Holland, Sweden, and Switzerland. In 1932, in the United States, the first full year of the use of Cluett by licensees, 55 million yards of textile fabrics were treated by that process, and in 1936 the volume was 322 million yards; in other countries the yardage so treated, to the end of 1936, was about 43 million yards. The royalties paid in the United States, to the end of 1936, amounted to over two million dollars, and in foreign countries over one hundred thousand dollars.

This evidence would indicate that the old methods of shrinking fabrics, cotton fabrics particularly, were time-consuming, expensive, unsatisfactory, and uncertain in results; that producers of cotton goods, and the manufacturers of cotton garments, refrained from making any representations or giving any guarantee to customers as to the potential shrinkage of their products; that fabrics and garments would shrink was regarded as something inevit-

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able and uncontrollable, and this in practice had to be met by resort to expedients of one kind or another. More definite and effective methods of shrinking fabrics had been sought by persons competent in the art, but without success. Cluett seems to have met with signal success as soon as it was made available to the public, and it seems to have satisfied a long standing need, with satisfaction to producers and to consumers. That art or process has been adopted by an experienced and discriminating class of people, in business in a large way, in many countries, who were prepared to make the capital expenditure necessary and incident to its adoption, and to pay royalties for its use; and they were a class of people who would likely have in their employ technical assistants, or who could and would secure technical advice, and they would not likely be easily induced into experimenting with industrial processes or mechanisms that were not needed, or that were likely soon to be discarded, or that were liable to prove valueless and unsuccessful. The kind of commercial success we find here is always of weight, and is easily distinguishable from that kind of success of which we frequently hear much in patent cases, where mere novelty, low cost price, or some other attractive quality, of patented articles by intensive salesmanship or other causes meets with a favourable though transient reception from the buying public.

In the face of the very formidable evidence to which I have just referred, there must be very substantial grounds for refusing to sustain Cluett, or Wrigley and Melville. Before proceeding to examine the defendant's attacks of prior publication, and prior user, it might be well to observe that upon the evidence so far, there is cast upon the defendant the duty or burden of making out these defences in the clearest way possible. I might observe also that when relying on the defence of prior publication, it is not open to a defendant to take a number of prior publications, and, as if it were like the putting of a puzzle together, produce a disclosure assembled from the various elements contained in the prior documents, and which when so put together appear to resemble the patent attacked. And it is a waste of effort, in the defence of prior user, merely to show that this or that element in

a combination patent which is under attack, has been in use before, or was well known. A new combination of well-known devices, and the application thereof to a new and useful purpose, may require invention to produce it, and may be a good subject-matter for a patent. But those grounds of defence, as contended here, will be more carefully examined shortly.

The defendant, in its particulars, cited some thirteen prior patents, but it will be sufficient to refer to two of them. Neither of them in my judgment, is relevant. The first publication to be mentioned is Vincent, a United States patent, granted in 1886. Vincent, a citizen of France, was also earlier granted a patent for the same invention in France, England, Belgium, Germany, Italy and Austria-Hungary. So, if Vincent anticipated Cluett, and the plaintiff's other patentees, that was over forty-five years ago, and it would appear strange if that could be so, having in mind the evidence in this case, and which I have just reviewed. It would be strange that if Vincent disclosed Cluett, that in all these years, it did not become known for shrinking purposes in all those industrial countries in which it was patented, when and where the problem of shrinkage of fabrics must have been an active one, as it was before and after. If one considers the evidence concerning the adoption and reception of Cluett, that alone, it seems to me, would be an answer to Vincent. Vincent states that the object of his invention is to provide an improved machine "for dressing and finishing woven fabrics." He states that the fabric after being moistened is carried around a heated cylinder, being held against the same by an endless apron of absorbent material on rollers, and that the fabric "is in this way dried and smoothed, and the desired finish is imparted to it." The effect of the operation of his mechanism is to squeeze together the hot, dry apron and the moist fabric, "which not only accelerates the drying of the latter, but compacts and smooths it." Whatever be the mechanism described by Vincent, for well settled principles of patent law, and to which I shall soon refer, it cannot be treated as an anticipation of Cluett, or the other patentees of the plaintiff. There is no mention of effecting practical shrinkage in the specification, and one is not directed so to use Vincent.

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I shall have occasion to make reference to the word "compact" elsewhere. The next publication is the British patent to Ratignier, granted in 1911. The object of this invention "is to give the right side or face of plain or figured fabric an undulated or loosened surface so as to procure a fluffy appearance." This effect, "is produced by slightly loosening or distending the loops constituted by the warp threads of the fabric, without apparent deformation of the back of the fabric." This result, the patent states, "is obtained by causing the fabric to adhere to the surface of a sheet of rubber or other elastic material in a stretched condition; by the return of this sheet to its normal state it draws the fabric in its contraction and produces the effect sought for." Everything I have said regarding Vincent is applicable to this patent. Ratignier evidently had in mind the production of something in the nature of an artificial crêpe, a wrinkled kind of fabric, and, I think, something not intended to be washed, because an adhesive substance has been spread upon and applied to the back of the fabric, and it does not appear that it was intended that this adhesive should in any way be removed. There is no direction to use Ratignier for the purpose of accomplishing what Cluett describes may be obtained by his art. I do not think that Ratignier can be seriously considered as an anticipation of Cluett.

The law as to prior publication has been frequently stated. That law was very concisely stated in the Scotch case of *The Rheostatic Company Ltd.* v. *Robert McLaren and Company Ltd.* (1), and I cannot do better than quote the words of the Lord Justice Clerk in that case. He said:

> The first ground of challenge by the defenders is that *Satchwell's* patent was anticipated by the publication of prior patents and in particular by *Baker* No. 173,905 of 1920 and by *Whitney and Wedmore* No 242,318 of 1924 These were the only two ultimately relied on. The law as to anticipation is now quite clearly settled by the House of Lords in the two cases of *The British Thomson-Houston Co. Ld.* v. *Metropolitan Vickers Electric Co* (1928, 45 R.P.C 1) and *Pope Appliance Corporation* v. *Spanish River Pulp and Paper Mills* (L.R. (1929) A.C. 269). It is not enough to set up anticipation by prior publication that the patent relied on as an anticipation should suggest the idea to the inventor, or some line of inquiry which may lead him to his invention or that the apparatus described in the earlier specification could be made to produce the same result; it is necessary that the specification relied on should contain a clear and unmistakeable direction so to use the apparatus as to

(1) (1936) 53 R.P.C. 109 at 115.

produce the result. The test was put by Lord Dunedin in *Pope's* case thus at p. 276: "Would a man who was grappling with the problem solved by the patent attacked, and having no knowledge of that patent, if he had had the alleged anticipation in his hand, have said, this gives me what I wish." Again it is not enough that the document founded on as an anticipation should, when read along with other documents, foreshadow or indicate the invention. A mosaic of extracts culled from prior documents is not an anticipation, as was pointed out by James L J. in *Von Heyden* v. *Neustadt,* (50 L J Ch. 126). The patentee may select and collate from any sources that are accessible to him, and his invention is not invalid by anticipation by reason merely of the fact that some of, or even all, the elements in his device have been anticipated in prior publications.

The test of anticipation by publication there set forth appears very reasonable and sensible, and applying it in this case, as I do, I must hold that none of the published patents cited by the defendant constitute anticipation.

Another defence advanced is that the patents in suit are void because there was prior user of the plaintiff's patented art or process, and apparatus, by a machine known as "Palmer," and some six or seven separate users of Palmer, or a modified Palmer, are alleged in the defendant's particulars. It is claimed that Palmer performs the same process, by substantially the same means, as that described by the plaintiff's patentees. The evidence shows that Palmer was known and was in use, as far back at least as 1886, in France; and for many years it was known and in use in Great Britain, in the United States and Germany, and I have no doubt in many other countries. Cluett was acquainted with it, and in his first experimental machine he utilized the important elements, if not all, of a discarded Palmer, and he referred to Palmer in his paper read before the American Society of Mechanical Engineers, in November, 1931. Cluett stated that in Europe the Palmer machine was called a "felt calender," which would not at all surprise me. Palmer is well known as a machine in which a fabric is carried on a belt around a smooth hot cylinder, and associated therewith as an intake roll, and by this means the fabric is dried, and a finish or polish given to it. Cluett never knew of a Palmer being used for any other purpose. "Finishing," as I understand it, may, in the textile trade, include bleaching, mercerizing, printing, dyeing, calendering, starching, ironing or polishing, or any of these. Melville, one of the plaintiff's patentees, came to know Palmer while with the Bradford Dyers Association, in England, and he knew it to be used only for the

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purpose of giving a finish to fabrics; Melville, after first learning of Cluett, endeavoured to effect shrinkage of fabrics on a Palmer, by moving the intake roll tight against the cylinder, but he could only obtain a one per cent shrinkage, which, he states, was not equivalent to the shrinkage derived from ordinary washing, and such a result he said would not be commercially useful. I think there is no doubt but that some slight shrinkage is obtained in the use of Palmer; the drying alone would account for some shrinkage. From the evidence, it appears Palmer was used usually in finishing silk fabrics, or a mixed cotton and silk fabric. In silk fabrics, the maximum shrinkage is obtained from the dyeing and "boiling-off" operation, amounting to anywhere from eight to fifteen or twenty per cent, and a further shrinkage occurs in drying, but that of itself, it would appear would not be of commercial importance, and particularly in connection with cotton fabrics. There is practically no evidence of cotton fabrics being shrunk, in the commercial sense, with a Palmer, and there is a great deal of evidence that, in the United States and England at least, and I have no doubt elsewhere, Palmer was used, and is being used, by textile concerns only for drying and finishing, and then generally for silk fabrics. I would readily dismiss from consideration the defence of prior user, by Palmer, were it not for the fact that a great deal of evidence was tendered on this point, and with such care, that I feel in fairness to counsel I must review it, though briefly as possible.

Payet, the chief witness for the defendant on this point, from 1886 to 1895, as a young man, worked in a textile plant at Lyon, France, in one capacity or another. There a Palmer was in use, and sometime during this period he operated a Palmer, which, he states, was used for finishing, but, he states that he was once instructed how to use Palmer in order to make fabrics more "compact." This evidence is neither clear nor satisfactory, and in any event it adds nothing to what he later stated, and so I pass it over without comment. I might however mention that Melville stated that the word "compact" is used in the textile trade in England to describe the effect produced by "calendering," and that there the word "compact" is never associated with "shrinking." Melville stated that

if a fabric is passed through a calender, or some such device, for finishing purposes, and if held up to the light, the weave would appear to be closed more than it was before the calendering. I have no doubt that the application of a certain amount of pressure and heat would produce that effect, as would any calender, and that would be well known. In one sense a "compacting," or drawing together, of the filler threads is effected by Cluett *et al.*, but that is not, I think, the kind of "compacting" which Payet observed in the textile plant at Lyon, France. In 1911. Payet, then resident in the United States, found himself for a few months in the employ of the Peerless Finishing Company, at Nyack, in the State of New York. On one occasion, having some silk fabric to finish he thought it best to do so with a Palmer which was in the plant, and having made it ready he thought he discovered what he called a "defect" in Palmer, and so he had one, Lane, reduce the size of the intake roller from four to about two inches in diameter, and to draw back the roller against the cylinder; Lane, on behalf of the Van Vlanderin Machine Company, happened then to be in the plant, installing some machinery. As a result of this change Payet states that he got "good finishing," "compacting" and "a little shrinking," one per cent, I understand. It would seem that this Palmer was continued in use, for finishing only, after Payet left this concern. Payet never informed the manager or any officer of this company of any change in the intake roll, or that any unusual shrinkage had in any way been obtained from Palmer. The manager of this company stated that he never heard of this Palmer effecting any unusual shrinkage, and that it was used as a finishing machine for silks. Payet, in 1927. as a finisher, was in the employ of the Lackawanna Silk Dyeing Company, at Scranton, Pennsylvania, which company was engaged only in the dyeing of flat silks. On one occasion, a customer required a longitudinal shrinkage of eight per cent in a quantity of this kind of fabric, and Payet states he got a shrinkage of from four to six per cent in the "boiling-off," and with a Palmer he got an additional one or two per cent, apparently, without any departure from the usual mode of operating the Palmer. The plaintiff's witness Hill, who was in charge of this com-

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pany's mill, stated that the company was not at that time interested in the development of any new methods of shrinking, because any requirements of that nature were obtained by the boiling-off, dyeing, and subsequent treatments of the fabrics; that he never had any conversation with Payet concerning any special method of shrinking fabrics; and that Palmer was used for developing a certain finish and lustre on certain types of silk. Hill's evidence was confirmed by Spalding, also in the service of the same company. In 1921 and 1922 Payet was in the employ of the Glen Lyon Print Works, at Phillipsdale, R.I., as superintendent of dyeing and finishing silk, rayon, and cotton and silk mixtures. This company, at the instance of Payet, purchased a second-hand Palmer from the Mt. Hope Finishing Company, of North Dighton, Mass. In the finishing of some cotton warp and silk weft shirting, Payet states that he obtained on this Palmer "compactness, fullness and softness." The witness Pregent was in the employ of the Glen Lyon Print Works during the period Payet was there employed, and it was a part of his duty to keep a record of every machine that had become obsolete, or any material that was used. There was, he stated, a Palmer in this plant in 1921 and 1922, but most of the time it was on the obsolete list, and his records contained no reference to the use of a Palmer by Payet.

In 1914 and 1915, Lane, master mechanic at the plant of the Royal Piece Dye Works Company, located at Paterson, New Jersey, stated that he altered a Palmer machine by replacing a four-inch intake roll for one two and a half inches in diameter, and which was adjustable against the large cylinder, and this, he said, gave greater flexing of the belt or blanket and more compacting of the fabric, which was silk shirting. Wirbelauer, the president of this company, stated that he knew of no such alteration being made on the Palmer, and that such an occurrence could not take place without his knowledge and instruction; that most of the material finished at this mill was made of waste silk material, which had no tendency to shrink, and that there was no demand at that time for any shrinkage of this sort of fabric, or any other, and there would therefore be no occasion for any alteration or adjustment in the feed roll of the Palmer; and that in any event the feed roll was

about two inches in diameter, and was non-adjustable. Vanderheld, in charge of moire silk finishing and dyeing, at the Royal Piece Dye Works Company, during the employment of Lane, stated that Palmer was used to give finish and lustre to the fabrics, and that no change such as alleged by Lane was made; and that he never saw a Palmer feed roll of greater diameter than two and a half inches. The plaintiff's witness Antignat, with an experience of twenty-five years in the finishing of fabrics, testified that he had worked with Payet at the National Silk Dyeing Company, at Dundee Lake, N.J., and also with the Peerless Finishing Company to which reference has already been made, and he could not recall that Payet ever mentioned to him the matter of securing shrinkage on a Palmer machine. His first experience with a Palmer was in 1910, and down to the present time he never knew of a Palmer machine to be used for anything else than to produce a "certain finish or effect which is a smooth hand, what you call sleekness of hand and density of merchandise." The United Piece Dye Works, with which he has been employed during the past fifteen years, have in use seven Palmers. I should point out Antignat's experience has been mostly with whole silk fabrics, a few mixtures of silk and cotton, and silk and rayon. Antignat stated that he never observed any shrinkage on any Palmer, but he has seen a gain in length. This witness described shrinkage tests made on Palmers at the plant of the United Piece Dye Works in 1933, in company with Cluett, with the result that no shrinkage was obtained, but, I think, the fabrics tested were silk, or partly silk. The plaintiff's witness Schriener visited the Braendley Dye Works, at Beacon, in the State of New York, where he found a Palmer and through it he ran a certain number of yards of cotton fabric, the machine being set up in the usual way. On the first fifty yards he obtained a shrinkage of three-tenths of an inch, or slightly over. He then readjusted the machine so as "to make the feed roll nip against the cylinder," and on running through the machine some more cotton fabrics he found that it began to show "pleats on the selvedges, and some in the middle"; then by placing more tension on the fabric, in order to eliminate the pleats, he obtained a very slight shrinkage. The witness Doyle,

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a mechanical draftsman, gave evidence respecting three Palmer machines which he examined at three different textile plants, and this is contradictory of certain evidence given by Payet and Lane, but I do not think I need delay to state in detail the effect of this evidence.

Before proceeding to express any opinion regarding this evidence it may be desirable first to turn to some of the principles that have been laid down from time to time relative to the defence of prior user in infringement actions, and the character of the evidence necessary to sustain such a defence. Evidence of prior user, as is obvious, must receive careful scrutiny, and this I had occasion to discuss in the case of *W. H. Cords et al.* v. *Steelcraft Co.* (1). In *Robertson* v. *Purdey* (2) it was said by Parker J. that "When a patented invention such as the plaintiff's has immediately proved a commercial success, evidence of anticipation by prior user must be examined with the greatest care and caution." I might refer to the remarks of Lord Moulton in *British Westinghouse Electric and Manufacturing Co. Ld.* v. *Braulik* (3), which is so often cited in patent cases. He said:—

> I confess that I view with suspicion arguments to the effect that a new combination bringing with it new and important consequences in the shape of practical machines, is not an invention, because, when it has once been established, it is easy to show how it might be arrived at by starting from something known, and taking a series of apparently easy steps. This *ex post facto* analysis of invention is unfair to the inventors, and in my opinion it is not countenanced by English Patent Law.

In Fletcher Moulton on Patents at page 68 occurs this passage:—

> It has been suggested and would seem to be good law that a prior user in order to defeat a patent must have been a user as a manufacture and not a mere fortuitous user of the subsequent invention, in which the persons using it gained no knowledge of the advantages of the invention, and which would not have led to its further use.

The passage just quoted rests substantially upon the judgment of Blackburn J. in *Harwood* v. *The Great Northern*

(1) (1935) Ex. C R 38 at 49 (2) (1906) 24 R.P.C. 273 at 299.
(3) (1910) 27 R P C. 209 at 230.

Railway Co. (1). This judgment was set aside in the Exchequer Chamber (2), and in the House of Lords (3), but upon other grounds, and the finding on this point was not disturbed. It may be useful to refer to the judgment of Astbury J. in the case of *Boyce* v. *Morris Motors Ld.* (4). He said:—

It is a question of fact in each case whether a prior user alleged has been proved to have been complete. An incomplete experimental user which led only to partial success, even in the subsequent patentee's field, would not amount to a disclosure of the subsequent perfected invention; but the alleged prior users in this case were not even in the patentee's field at all; they were not concerned with this problem; they effected nothing in the way of its solution, and the use made of the lag between the air space and the water to mark the passing from safety to danger was not remotely thought of or considered or known. In fact, neither of these two experimental sets of tests made use of or published the plaintiff's combination and were not concerned at all with apparatus for use in the normal running of the motor-car. It seems to me to be difficult to establish a prior user unless the subsequent invention idea is made use of, at all events to some extent, for which purpose the cases of *Moser* v. *Marsden* (1896) 13 R.P.C. 24, and *Lyon* v. *Goddard* (1894) 11 R.P.C 354, may be usefully referred to. It is true that *Moser* v. *Marsden* dealt with a prior publication, but the effect of it equally applies to the case of a prior user. When a patent, especially one of a simple character, has proved a commercial success, evidence of alleged prior user requires and ought to receive very careful scrutiny, and evidence of something that was nearly, but not quite, a prior user is not relevant as such to an allegation of want of subject-matter in a subsequent patent. A plea of prior user must either succeed or fail altogether. In my opinion, no prior user of the plaintiff's invention has been proved in this case.

It was contended that Palmer would effect shrinkage in a useful and commercial way. Palmer being such an old machine, and used in so many of the principal industrial countries of the world, this contention virtually amounts to saying that fabric shrinking by Palmer was part of public or common knowledge. As prior user is another medium of publication, the following remarks by Luxmore J. in *British Acoustic Films Ld. et al.* v. *Nettlefold Productions* (5) might be referred to. He said:—

In my judgment it is not sufficient to prove common general knowledge that a particular disclosure is made in an article, or series of articles, in a scientific journal, no matter how wide the circulation of that journal may be, in the absence of any evidence that the disclosure is accepted generally by those who are engaged in the art to which the disclosure relates. A piece of particular knowledge as disclosed in a scientific paper does not become common general knowledge merely because it is widely

(1) (1860) 29 L.J.Q.B. 193, at 202
(2) (1862) 31 L.J.Q.B. 198.
(3) (1864) 11 H.L.C. 654
(4) (1927) 44 R.P.C. 105 at 135
(5) (1936) 53 R.P.C. 221, at 250.

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read, and still less because it is widely circulated. Such a piece of knowledge only becomes general knowledge when it is generally known and accepted without question by the bulk of those who are engaged in the particular art, in other words, when it becomes part of their common stock of knowledge relating to the art. Whatever else common general knowledge may be, it has never in my judgment included public knowledge of particular documents, reports or scientific papers and the like. The knowledge of a number of individuals that a particular suggestion or particular suggestions has or have been made for the use of biasing in a particular apparatus, or a number of particular apparatus, cannot be held to be common general knowledge. It is certainly difficult to appreciate how the use of something which has in fact never been used in a particular art can ever be held to be common general knowledge in the art.

Now that leaves me to deal with the evidence respecting the alleged prior user. The evidence shows that the use to which Palmer was put was not that which the patentees here had in mind, and users of Palmer were not concerned with the problem such patentees were attempting to solve. It is not enough to look at Palmer, and then to look at Cluett *et al.*, and say they look very much alike, or that the former might have been used for the same purpose as the latter, or that if a description of each was put in writing they would perforce show a similarity of language, and that therefore there must be anticipation. Taking the evidence of Payet and Lane at its face value there is nothing to show that Palmer, in a real and practical sense, was ever used to effect a definite and controlled shrinkage of fabrics. At most, the shrinkage which they say was obtained by Palmer would seem of no special consequence here, and the use which they say they made of Palmer was, I think, more in the nature of inconclusive or incomplete experiments, the results of which were never communicated to the owners and operators of Palmer, or to any others who might be interested in an improved method of shrinkage; or, it may be looked upon as merely an accidental user, to which no particular importance was then attached, and the accident of this litigation alone recalled it; in any event it did not lead to the disclosure of the process or principle which the plaintiff's patentees claim to have invented, to the interested section of the public, even if the user and results alleged by Payet and Lane ever actually occurred or were obtained. That is not sufficient to void the plaintiff's patents.

If Palmer, so long known and in use in the textile trade in so many important countries, were capable of shrinking

fabrics in the sense of Cluett *et al.*, it is more than strange that this did not become generally known to and adopted by fabric manufacturers and finishers, and garment makers, in such countries. It would be equally strange if Payet and Lane, by modifying Palmer, had accidentally or otherwise succeeded in putting into use the method of Cluett *et al.*, that nothing was heard of it. If Palmer, in its ordinary or alleged improved mode of operation, were capable of shrinking fabrics in the degree commercially required, it is hardly possible to believe that Payet and Lane would not have widely proclaimed the fact, revealed it to their employers, and recommended its adoption by the textile trade. Payet was not entirely an unsophisticated person as to the value of any important improvement in methods of shrinking fabrics; he had in fact patented at least one invention of his own, closely related to the art in question here. In this respect I would not suspect Lane to be less alert than Payet. And it is to be added that Payet came to know of Cluett's invention shortly after its complete development; in fact it was disclosed and explained to him by Cluett, in 1933, and there is considerable evidence concerning conversations between Payet and Cluett and some of his associates, touching the invention of Cluett, and correspondence passed between Payet and Cluett concerning it. I do not intend reviewing that evidence and will only observe that the conduct of Payet there disclosed seems entirely inconsistent with the idea that he had earlier known and practised the process of shrinkage, which Cluett was then engaged in bringing to the attention of potential users.

On the other hand, the accuracy of the evidence of Payet and Lane has been seriously attacked, and, in many important aspects denied; and this has been done with such force that, in my opinion, no weight can be attached to that evidence. Whether the evidence of Payet and Lane be regarded as a frank recollection of past events or impressions, or the consequence of an *ex post facto* analysis of Cluett *et al.*, or the invention of exuberant imaginations, or whether it had its origin in the fact that they were only too willing to be convinced that they saw years ago in Palmer, or in a modified Palmer, all the values which were desirable to be seen for the purpose of this case, all

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matters little. In any event, the evidence is of such a character that, in my opinion, it is not entitled to weight, or acceptance, and I propose disregarding it altogether. I therefore hold that the defence of prior user has not been established.

Counsel for the plaintiff have advanced another important and interesting point, in answer to the alleged prior user pleaded by the defendant, and that involves s. 61 (1) of the Patent Act, enacted in 1935. The contention of Mr. Biggar was that if the alleged prior user were in fact established, then Payet and Lane should each be treated as an "inventor," within the meaning of that section, which would have the effect of eliminating the defence of prior user. The section is 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.

While it is not necessary to a decision in this case that I should pronounce any opinion upon the point, yet, it was seriously advanced by Mr. Biggar, and as the case is likely to go further I feel that I should not refrain from expressing my view concerning it. The section of the Patent Act mentioned is an important one, and, I believe, a very wise and just one, whatever be the true limits of the enactment.

I think it is at least clear that the section was intended to protect a patent against one who comes in and claims to have made the same invention earlier, but who has not made it available to the public, and has not applied within the time mentioned for a patent in Canada, or in a Convention country. The object of the enactment is, I think, obvious. A patent represents a *quid pro quo,* as Lord Dunedin said in a patent case. The *quid* to the patentee is the monopoly; the *quo* is that the patentee gives the

public the knowledge which it did not have before. So far the section seems clear, but the question is whether it applies in the case where prior user only is alleged, and where the prior user was by one who does not in terms claim prior invention, and who is not a party to the action.

On turning to the defendant's particulars we find it pleaded that there was "previous user thereof in and by Palmer," and the places and times of user are specified. Then Payet testified that he obtained shrinkage by the use of a Palmer, and by a Palmer modified by Lane; and Lane stated that he observed shrinkage effected by a Palmer machine, modified by himself, in a textile mill at Paterson, N.J.; and there is other evidence much to the same effect. The particulars do not assert prior invention by anybody, excepting of course the cited published patents, and I can hardly say that Payet and Lane in giving their testimony put themselves forward as inventors; they certainly did not claim of the Palmer machine. I am not accepting the evidence of either Payet or Lane and that alone would preclude me from treating them as inventors. I am discussing the point on the assumption that Payet and Lane so used Palmer, or so modified Palmer, that they obtained shrinkage in the sense claimed by the plaintiff's patentees. I understood Mr. Biggar to argue that if the alleged prior user were in fact established, it had the effect of voiding the plaintiff's inventions, and that because the plaintiff's patentees were "inventors," and because Payet and Lane had earlier known or used the same invention, the latter were therefore "inventors." If that process of reasoning is correct then the implications are serious, and there would seem to be some practical difficulties in the way of applying the section, and in determining when a prior user is also an "inventor."

The words "other inventor," in s. 61 (1) (*a*) indicate the same person referred to in s. 61 (1) as having "known or used" the invention defined in the issued patent, and he is there also referred to as an "other inventor." Is the Court to say that Payet and Lane are "inventors" when they do not put themselves forward as such, when they never applied for a patent, when they are not parties to the action seeking to void the plaintiff's patents, and when they are called merely as witnesses to establish prior user

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by themselves, of a Palmer machine. No one is put forward here, except Payet or Lane, as having earlier used Cluett *et al.*, and, it may with some force be argued that if Cluett *et al.* are inventors, and if Payet and Lane discovered in Palmer, or in a modified Palmer, the capacity to shrink fabrics, and that they successfully used Palmer for that purpose, they are therefore to be regarded as prior "inventors," under s. 61 (1) of the Patent Act. In that state of facts does s. 61 empower one to say that they are inventors?

I cannot think that sec. 61 was intended to apply to the state of facts here. I think it contemplates the case where the one seeking to void a patent on the ground of prior invention, puts himself forward as the prior inventor, and who alleges he had so disclosed or used the invention that it had become available to the public, or, that he had, before the issue of the patent he seeks to void, applied for a patent in Canada, or in a Convention country. Generally speaking, who else would be likely to bring an action to expunge a patent, or to defend an action for infringement, on such a ground? I rather fear that if Mr. Biggar's contention be correct, the tendency in cases of this kind would be to put forward the contention that any prior user pleaded was invention, which would imply some "other inventor," so that if the prior user were established, it would be rendered nugatory by the application of s. 61. Upon the facts before me, in this case at least, I do not think the point raised by Mr. Biggar can prevail. It is conceivable that in a certain state of facts Mr. Biggar's construction of s. 61 (1) should be supposed. Even if I am correct in my view of the point under discussion, still, I think the section should in some way be clarified, in order to avoid confusion among practitioners and litigants.

I have no difficulty in coming to the conclusion that there is invention in Cluett and Wrigley. They seem to meet all the tests usually applied in determining affirmatively the question of invention. It is clear, I think, they disclose an altogether new principle in the art of shrinking fabrics, which had not been known or used before, and which in the opinion of those most competent to judge met an unsatisfied demand, and provided one solution of a problem of long standing. Briefly, in each case, shrink-

age is obtained by causing the fabric to assume and follow the conformation of a belt which is adapted to extend or contract, and it is when the belt contracts that shrinkage is effected. That is the underlying principle in the art described and claimed by Cluett and Wrigley. That being so, and if we read and examine the claims of those two patents which are in suit, it is impossible to reach any other conclusion than that they are infringed by Lyth; and it is to be emphasized that it is the art or method that is claimed in those patents, not a machine or mechanism. The claims are broadly stated, and the patentees were entitled to do so, after describing some means of applying what was a new principle. It was not contended that the inventions were too broadly claimed.

It has been well and concisely stated in the text book, Terrell on Patents, that inventions may be divided roughly into two classes in respect to subject-matter. First, there is that kind of invention which consists in the discovery of a method of application of a new principle—here what has been invented is in effect the new principle, and, generally speaking, the Court will regard jealously any other method embodying that principle, for the patentee was not bound to describe every method by which his invention could be carried into effect. Second, there is that kind of invention which consists in some particular new method of applying a well known principle, and in this case the use of other methods is not contemplated by the patentee, and should not be included within the ambit of his claim. That describes an accepted doctrine in patent law. It is to the first class that Cluett and Wrigley belong; it is a new principle which those two patentees claim to have invented; they each have shown means for carrying the same into effect, and they were not bound to describe every method by which this could be carried out. In cases of this kind, where a new principle is involved, the question always is not whether the substantial part of the process or combination said to be infringed has been taken from the patentees' specification, but the very different one, whether what has been done takes from the patentee the substance of his invention as claimed. A patent for carrying a principle which is new into effect, protects the grantee against all other modes of carrying that principle into

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effect. Little reflection is required to recognize the soundness and justice of that principle.

If the principle of Cluett and Wrigley, and Lyth, are the same, and the methods of application alone differ that will not relieve the defendant of infringement. The principle disclosed in Lyth is, in my opinion, the same as that disclosed in the plaintiff's patents. The defendant's means of application would not be expected to be precisely that described in the plaintiff's patents. That would not be expected. The defendant had an opportunity of examining the plaintiff's patents before developing Lyth, and must, I think, have had a very accurate idea of how the principle disclosed in one or the other was in practice applied. The case is a good illustration of how readily the competent mechanical engineer, once understanding the principle of an invention, may produce other means of carrying the same idea or principle into effect. The defendant pleaded, in its particulars, that "the methods used by the defendant in its 'Zero Shrunk' machine are different from the methods indicated in the claims invoked by the plaintiff," because, "the shrinking in the defendant's machine depends upon restricting at one point the aperture through which the belt has to pass, so that the aperture is narrower than the normal thickness of the belt, which accelerates the speed of the belt at that point, then the belt, after passing that point, resumes its normal thickness and its slower speed." That statement, even if strictly accurate, so far as I can see and gather from the evidence, shows no distinction in principle, and what really happens in one case occurs in the other, and that, by operation of the same principle. The differences in the means of applying the principle are not substantial, or, in this case of consequence, and it is in the means only that any distinction is to be found. In respect of those two patents the plaintiff must therefore succeed.

I have yet to say a word in connection with the third patent in suit, which I have referred to as "Melville," even though what I have already said would sufficiently dispose of this patent. In the second and third patents sued upon, Wrigley and Melville are joint inventors, and it was only for the sake of convenience that I referred to the second patent as "Wrigley," and to the third patent as "Melville."

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The third patent, Melville, is the result of a divided application, and Melville refers to the fact that his method or process is described in the second patent, which I have throughout referred to as "Wrigley." The necessity or desirability of dividing the application, in a case of precisely this kind, I have never been able to appreciate. However, Melville is one of the patents in suit, and what is there claimed is different from that claimed in either Cluett or Wrigley. Here it is only an apparatus that is claimed. Though the apparatus described by Melville is different from that described and shown by the defendant, yet in principle they are the same, and there is little to add to what I have already stated. In both cases the same effect would seem to result from precisely the same cause. As I have already said it is not necessary that the means as well as the principle should be new in order that a patent may secure the principle to the patentee; it is only necessary that the principle itself be new, and the patentee describe a means of applying it. If, however, not only the principle but the means is new, then the means may form the subject of a distinct claim, or a separate patent, and it was open to Wrigley and Melville to claim invention in the apparatus described; and this was not contested by the defendant except upon the ground of prior user, and anticipation by the cited published patents, both of which points I have already disposed of. In principle, I see no distinction between the means of Melville and that of Lyth. The distinction seems to me but evidence of a purpose and intention of making them appear different, so as to avoid infringement. The belt is practically the same, they travel almost identically the same path as is shown by Model 9 and exhibit B, pressure—which is adjustable—and heat is applied by different means but for the same purpose and to obtain the same effect, a shoe in one case and a roller in the other. The fact that the fabric is fed upon the belt at different points would not distinguish the two machines. Melville is not claimed as a particular or specific method of applying an old principle, and cannot, I think, be so construed. Reading the claims in suit in this patent, together with the descriptive portion of the specification, it follows I think that Melville has

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been infringed by the defendant. The plaintiff therefore succeeds and costs will follow the event.

Judgment accordingly.