

BETWEEN:

1947
Oct. 29-31
1948
Mar. 10-12
May 17-21
1950
Aug. 2

HIS MAJESTY THE KING, on the
the information of the Attorney-
General of Canada,

PLAINTIFF,

AND

AMERICAN OPTICAL COMPANY,
CECIL E. McLEOD, GEORGE B.
WELLS, IRA MOSHER,
CHARLES O. COZZENS, IRVING
W. WILSON, HARRY H. STYLL,
R. GILMAN WALLACE, HER-
BERT G. KIMBALL, E. E. WIL-
LIAMS, A. TURNER WELLS,
J. M. WELLS, G. McGREGORY
WELLS Jr., CHARLES N. SHEL-
DEN,

DEFENDANTS.

Patents—Action by Crown for declaration that patent invalid—The Patent Act, 1935, S. of C. 1935, c. 32, s. 60 (1)—Ophthalmic mountings—Ful-vue construction—Combination of temples connected above horizontal centre line of lenses and nose pads connected below it—Anticipation of invention by prior publication—Anticipation of invention by prior user—Essentials of combination invention—Advantages of invention need not be disclosed—Evidence of commercial success coupled with evidence of a problem and its solution strong evidence of invention.

The Crown brought action under section 60 (1) of The Patent Act, 1935, for a declaration that the defendants' patent covering improvements in ophthalmic mountings was invalid for lack of novelty and lack of subject matter.

Held: That there was no anticipation of the invention either by a prior publication or by prior user.

2. That it is not necessary to the validity of a combination invention that its elements should be new. If the combination is the invention, then it is immaterial that the elements are old.

3. That it is essential to the validity of a patent for a combination invention, apart from considerations of novelty and inventive ingenuity, that the combination should lead to a unitary result rather than a succession of results, that such result should be different from the sum of the results of the elements and that it should be simple and not complex. The elements may interact with one another provided they combine for a unitary and simple result that is not attributable to any of the elements but flows from the combination itself and would not be possible without it.
4. That an inventor need not state the effect or advantages of his invention if he describes his invention so as to produce it. If he has adequately defined his invention he is entitled to its benefit even if he does not fully appreciate or realize the advantages that flow from it or cannot give the specific reasons for them.
5. That the practical utility and commercial success of a new device may be material in determining whether the new result produced by it was an obvious workshop improvement or involved the exercise of inventive ingenuity. Commercial success by itself, without the solution of a difficulty, is not sufficient to establish subject matter. But when it is found that there has been a problem calling for solution and that the new device has solved it then its practical utility and commercial success in displacing alternative devices should be considered strong evidence that its production required the taking of an inventive step and that the applicant for the patent was the first to take it. *Samuel Parkes & Co. Ltd. v. Cocker Brothers Ltd.* (1929) 46 R.P.C. 241 at 248 and *Non-Drip Measure Coy., Ltd. v. Stranger's Ltd. et al.* (1943) 60 R.P.C. 135 at 142 followed.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

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

E. G. Gowling, K.C., and *G. F. Henderson* for plaintiff.

Christopher Robinson, K.C., for defendant.

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

THE PRESIDENT now (August 2, 1950) delivered the following judgment:

This action was taken on the information of the Attorney-General of Canada under section 60 (1) of *The Patent Act, 1935*, Statutes of Canada, 1935, chap. 32, for a declaration that Canadian letters patent 331,430 is invalid. It was alleged in the particulars of objection filed with the information that the defendant American Optical Company, being a voluntary association, was not competent to hold patent rights in Canada and that the defendant Cecil E.

1950
 {
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.

 THORSON P.

McLeod, being the inventor alleged in the patent, was the owner thereof but this contention was abandoned at the trial. It is established that the defendant American Optical Company is the owner of the patent by reason of its issue to it pursuant to an assignment by the defendant Cecil E. McLeod of his rights and that the individual defendants George B. Wells, Charles O. Cozzens, Edward E. Williams, C. Gregory Wells, Charles N. Sheldon and John M. Wells are, with others, members of the defendant American Optical Company. The other individual defendants, although duly served, did not file defences and were not represented at the trial.

The patent in suit relates to alleged new and useful improvements in ophthalmic mountings. It was issued on April 4, 1933, the application having been filed on February 13, 1931. The date relied upon as the date of the invention is October 22, 1928.

The specification states, *inter alia*:

This invention is for improvements in spectacles and the like, and has for one of its objects to improve their general appearance and given unobstructed side vision. Another object of the invention is to ensure that the spectacles shall be securely anchored in their proper setting on the wearer's face.

Hitherto, it has been the custom to attach the side-pieces to the other parts of the spectacles at point on the outside edges of the lenses about midway between the top and bottom vertical extremes of the lenses, so that when in use, the side-pieces are approximately on a level with the pupils of the eyes. According to the invention, the side-pieces are each attached to the associated lens or like holding rim, or directly to the associated lens or the like, at a position to bring the side-piece above the line of useful side view. It will usually be preferred to arrange that the side-piece is approximately at or above the level of the top of the iris, when the face and eye of the wearer are directed horizontally. In addition to the side-pieces not being immediately opposite to the pupils of the eyes, and not being constantly seen by them, the general appearance of the spectacles according to the present invention, when upon the wearer, will be found to be more elegant than that of spectacles of ordinary construction.

It is an important feature of the present invention to provide spectacles or the like in which the side-pieces are each attached to the associated lens or like holding rim, or directly to the associated lens or the like, at a position to bring the side-piece above the line of useful side view, and in which nose-rests are provided to bear one on each side of the nose. The presence of the nose-rests is advantageous because they will prevent such displacement of the spectacles as would otherwise be rather liable to occur, due to the location of the points of attachment of the side-pieces to the remainder of the spectacles.

It is another important feature of the invention to provide spectacles or the like in which the side-pieces are each attached to the associated

lens or like holding rim, or directly to the associated lens or the like, at a position to bring the side-piece above the line of useful side view, and in which rests are provided to bear against the face at positions separated from each other in the vertical direction (for example against the lower forehead and each side of the nose). This high setting of the front ends of the side-pieces co-operates with the vertically separated face-rests to anchor the lenses in their proper position before the eyes and to prevent the frame from sliding down the wearer's nose, thus ensuring comfortable and secure balancing of the spectacles in place on the wearer without obstructing the useful side view.

It is well known to have spectacle side-pieces inclined out of the rectangular setting with respect to the general plane of the lenses when open, and in carrying out the present invention it is preferred to have the side-pieces inclined relatively to the general plane of the lenses or the like when open in order to reach from the lenses or the like to positions adjacent to the wearer's ears.

The invention is also concerned with other features in connection with the face-rests, with the shape of the lenses or the like and of their rims and also with the locations and nature of attachment of the side-pieces to the other parts of the spectacles.

For a more complete understanding of the invention, there will now be described, by way of example only, and with reference to the accompanying drawings, various constructional forms of spectacles according to the invention. It is to be understood, however, that the invention is not restricted to the precise constructional details set forth.

The inventor then describes generally the drawings accompanying his specification and refers to the constructions of the various figures in them. It will, I think, be sufficient to set out only the following references:

Referring firstly to Figures 1 and 2, the eye-rims 10 shown therein are connected by a bridge 11 which is not intended to rest upon the nose of the wearer, but which may be constructed to rest against the lower part of the forehead if desired. The rims 10 are also provided with placquets 12 to bear one on each side of the wearer's nose. The joints 13 for the rims 10 are located above the line of useful side view, and these joints include hinges for the side-pieces 14. In order to enable the latter to fit comfortably around the wearer's ears, the hinges of the side-pieces are angularly set, as is apparent from Figure 2. That is to say, the side-pieces 14 do not extend, when open, at right angles to the general plane of the rims 10.

As is clearly shown in both Figures 2 and 4, the placquets or nose engaging members 12 are pivoted at 25 to the arm 16 at a point to the rear of the plane of the lenses and below the horizontal center line of the lenses. This allows the members 12 to adjust themselves to the wearer's nose, and to rest snugly and firmly on the lower or bony portion of the bridge of the nose so that they will more accurately and firmly support the lenses in their proper position before the eye. However, this leaves the lenses free to pivot or swing about the points where the members 12 are pivoted on the arms 16. In the present instance this pivotal or swinging movement is prevented by the side pieces 14 acting as struts. The high position of the points of attachment of the side-pieces with respect to the pivots enables them to very positively and easily perform this function.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

It is to be understood that the invention is not restricted to the precise constructional details set forth.

The specifications ends with seven claims but only one, namely, claim 5, need be considered. Counsel for the defendant stated that it was the basic claim in the patent, being directed to the combination that had gone into use. He relied upon it as covering everything that had gone into use and agreed that if it fell everything fell. The claim reads as follows:

5. In combination, in a device for holding a pair of lenses before the eyes, nose-rest means extending rearwardly of the plane of said lenses, a nose engaging portion on each of said nose-rest means rearwardly of the plane of said lenses and said connection being below the horizontal center line of the lenses, side-pieces, and means for mounting said side-pieces on said lenses at points spaced above the level of the points of connection of said nose engaging portions and above the field of useful side vision when the lenses are in place before the eyes, whereby said side-pieces will serve as struts and prevent the lens holding device from being tilted about the supports on the nose.

In the specification the inventor uses the term side-pieces to designate the members that are usually called temples. In these reasons for judgment I shall use the latter term. Similarly, I shall use the commoner term nose pad to designate what the inventor has called a placquet or nose engaging portion or member. And nose-rest means are usually called guard arms.

Ophthalmic mountings are mainly of two kinds, namely, eye glasses and spectacles. Eye glasses are rimless and held in position on the nose by a spring. Spectacles are rimless or framed, the frames being of metal or plastic. They usually ride or rest on the nose by a bridge and are held in position by temples extending over the ears. In addition to eye glasses and spectacles there are spectactettes, a combination of eye glasses and spectacles, being fastened on the nose by a spring and held in position by temples over the ears. In this case we are concerned only with spectacles.

The principal objects sought to be achieved by the use of mountings are to hold the lenses in the proper position before the eyes, enable as wide a range of vision as possible, and make them comfortable to wear and inconspicuous in appearance.

The specification of the patent in suit discloses that it was an important feature of the invention to provide spectacles in which the temples are each attached to the associ-

ated lens or like holding rim, or directly to the associated lens or the like, at a position to bring the temples above the line of useful side view. This was above the horizontal centre line of the lenses, frequently called the 180 line, on which the optical centre is usually located, that being immediately in front of the centre of the wearer's eye. The construction with the temple connection above the horizontal centre line of the lenses was known in the trade as Ful-vue, as contrasted with the former construction, which may be called the on-centre construction, where the temples were attached to the lenses or rims at the horizontal centre line of the lenses. It was also stated by the inventor that it would usually be preferred to arrange that the temples should be approximately at or above the level of the top of the iris. Another feature of the invention was the use of nose pads to bear on each side of the nose in order to anchor the spectacles in their proper setting. It was said that the presence of these was advantageous because they would prevent such displacement of the spectacles as would otherwise be liable to occur, due to the location of the points of attachment of the temples to the remainder of the spectacles. The nose pads were connected with the guard arms, which in turn were connected with the rims or lenses by studs. It was essential that the connection of the nose pads with the nose guards should be below the horizontal centre line of the lenses.

It should be noticed that there was some variation in the use of the term Ful-vue construction. To some of the witnesses it meant generally every construction where the temples were connected above the horizontal centre line of the lenses. To others, such as Mr. E. M. Splaine, it meant a construction according to claim 5 of the patent, with temples connected above the horizontal centre line of the lenses and nose pads connected below it.

It was contended for the plaintiff that the patent in suit is invalid for two reasons, namely, lack of novelty and lack of inventive ingenuity.

Counsel for the plaintiff filed a number of patents as part of the evidence of the prior art. I enumerate them as follows, giving in each case the name of the inventor and the number and date of the patent, namely, Exhibit 4, E. E. Emons, Canadian patent 274,841, dated October 25, 1927;

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 ———
 Thorson P.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 THORSON P.

Exhibit 5, C. H. L. Jachan, U.S. patent 1130, dated April 20, 1839; Exhibit 6, F. K. Roberts, U.S. patent 291,778, dated January 8, 1884; Exhibit 7, J. E. Briggs, U.S. patent 443,160, dated December 23, 1890; Exhibit 8, G. A. Squier, U.S. patent 631,533, dated August 22, 1899; Exhibit 9, L. F. Adt, U.S. patent 766,573, dated August 2, 1904; Exhibit 10, O. B. Carson, U.S. patent 1,113,194, dated October 13, 1914; Exhibit 11, F. W. Haviland, U.S. patent 1,380,957, dated June 7, 1921; Exhibit 12, J. Gaspari, U.S. patent 1,522,620, dated January 13, 1925; Exhibit 13, J. A. Smith, U.S. patent 1,739,049, dated December 10, 1929; Exhibit 14, J. Gaspari, U.S. patent Des. 63,363, dated November 27, 1923; Exhibit 15, E. E. Emons, U.S. patent Des. 73,074, dated July 19, 1927; Exhibit 16, Ed. Messter, German patent 2,888, dated March 16, 1878; Exhibit 17, G. Hoppe, German patent 112,128, dated August 8, 1899; Exhibit 18, R. Pestel, German patent 312,256 dated December 21, 1916.

Oral evidence of the prior art was also given by Mr. H. Barlow, an optician in Montreal, and Mr. W. Kemp, an employee of the R. N. Taylor Company, a large optical firm in Montreal.

The evidence establishes that there was no novelty in the high temple connection feature of the McLeod invention. Mr. Kemp made spectacles in 1919 for a professional golfer with the temples connected to end pieces attached to the lenses at their upper outer edges at the 135° angle, which is 45° above the 180 line, in order to give him unobstructed side vision while putting, and spectacles of a similar type were then made for the R. N. Taylor Company by Mr. George Du Paul. And Mr. Barlow made spectacles of a similar type as early as 1920. Then there were the inventions of E. E. Emons, covered by U.S. patent Des. 73,074, dated July 19, 1927, Exhibit 15, and Canadian patent 274,841, dated October 25, 1927, Exhibit 4, both of which involve the use of the high temple connection. Nor was there anything novel about the use of nose pads. That is clear from the evidence of Mr. Barlow and several exhibits in the American Optical Company's catalogue. And there was no novelty in having the nose pads below the horizontal centre line of the lenses.

Counsel for the defendant admitted that there was nothing new about any of the elements in the McLeod invention. All of them were old. He agreed that the two features to which reference has been made were known in the optical art. The high connection of the temples above the line of useful side view, even at or above the level of the top of the iris, had already been proposed and the use of low nose pads below the horizontal centre line of the lenses was fairly common. His contention was that the McLeod invention resided in bringing these two elements together. No claim is made in respect of any of the features of the invention separately. All claims in the specification to individual elements, such as forehead rests, shapes of lenses and the like, are abandoned. What is said to be the essence of the McLeod invention is the combination of the high connection of the temples above the horizontal centre line of the lenses with the low connection of the nose pads below it, these elements co-operating with one another to effect a vertical separation between the point of connection of the temples above the horizontal centre line and that of the nose pads below it so that the temples will serve as struts and prevent the lenses from tilting about the supports on the nose. That is the combination embodied in the spectacles put out by the defendants under their patent and referred to in claim 5. The validity of the patent depends on whether this combination was novel and, if so, whether it involved the exercise of inventive ingenuity over the prior art.

There was no serious attack on the patent on the ground that the invention covered by it had been anticipated by a prior publication. In the recent case of *The King v. Uhlemann Optical Company* (1) I had occasion to consider the requirements that must be met before it should be held that an invention has been anticipated by a prior publication and I need not repeat the summary I made there of the views expressed in the leading cases. There is no publication in the evidence of the prior art put in for the plaintiff that meets these requirements. Even the Emons patent, Exhibit 4, on which counsel for the plaintiff particularly relied, could not be regarded as an anticipatory prior publication. For while it did propose a construction

1949
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 THORSON P.

(1) (1950) Ex. C.R. 142.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

that had the temples so connected as to be "removed from the direct useful field of vision", there was no reference to the use of nose pads connected below the horizontal centre line of the lenses or to a combination of high connected temples and low connected nose pads. Indeed, there was no use of nose pads at all. There was nothing to suggest the desirability of a vertical separation between the two points of connection referred to or a construction that would create it. There was no anticipation of the McLeod invention in the Emons patent.

One attempt to prove anticipation of the McLeod invention by prior user failed completely. It had been agreed between the solicitors for the parties that if no further demand for particulars of alleged prior users was made the plaintiff's solicitors would, within a specified time, either allow the defendants' solicitors to inspect and make sketches or photographs of any sample which they had available or if no such sample was available furnish them with such sketches and descriptions as were necessary clearly to define the device of which they proposed to prove prior user, and that they would not be entitled to give evidence of any other device alleged to have been used by any prior user mentioned in the particulars except on such terms as would be imposed if an amendment to the particulars were allowed at the time when they were first given inspection or a sketch and description of such device. In the course of the trial, counsel for the plaintiff indicated to counsel for the defendant that he proposed to prove a particular prior user through Mr. H. Barlow, the plaintiff's first witness, and, in view of the agreement referred to, sought leave to adduce evidence of it. I gave the necessary leave deferring any decision on terms. Mr. Barlow then produced a plastic frame with one temple, the other being missing, which was marked as Exhibit 48. He said that he believed they got it from an old Englishman who came out from Australia in 1930. The mounting was then anywhere from 5 to 10 years old. He could tell this by the dryness of the plastic and the verdigris that had got into it. Exhibit 48 had been in his shop ever since it was obtained in 1930. It was thrown out in the old scrap. He believed it was a European mounting. After this evidence had been given counsel for the defendant informed the Court that he was

caught by surprise and that it was impossible to proceed with Mr. Barlow's cross-examination without further instructions, and applied for an adjournment. I granted his application, reserving the decision on costs.

On the resumption of the trial Mr. Barlow, on his cross-examination, said that in 1930 the frame could not have been less than 3 years old and finally put its age at 4 years. Exhibit 48 was a mounting similar in its essentials to mountings covered by the patent in suit, and if Mr. Barlow's statement had been accepted that would have been the end of the patent for there could be no doubt that the invention covered by it had been anticipated. But Mr. Barlow's evidence could not stand. His reasons for estimating the age of the mounting were unsatisfactory, and the supporting opinion of Mr. W. Kemp was valueless. Moreover, the evidence of Mr. A. W. Oliver and Mr. J. F. M. Douglas for the defendants was conclusive that Mr. Barlow's statement that he saw the mounting in 1930 could not be true. Mr. Oliver who was in general charge of the production of plastic frames for J. & R. Fleming Limited of London, England, and had been in charge since 1935, recognized the frame of Exhibit 48 as one of J. & R. Fleming's manufacture and the joint as manufactured at their plant in London. The temple was a moulded pinless side produced for Fleming's by the B.A.O. Company of Watford late in 1936 according to a sample which he made himself. Exhibit 48 was Fleming's model 607 P.R.O. which came on the market early in 1937. Mr. Douglas was the warehouse and export man for J. & R. Fleming Limited and was with the B.A.O. Company at Watford from 1935 to 1937. He also recognized Exhibit 48 as of Fleming's manufacture. The temple was of the type first made in 1936. He made the necessary drawing for the moulds in which temples of that model were pressed. The moulds were made in the summer of 1936. Mr. Douglas stated that Exhibit 48 could not have been in Canada in 1930 and that the very earliest date it could have been there was either late in 1936 or early in 1937. It having been suggested that the frame, apart from the temple, might have been in Canada earlier, Mr. Douglas stated that Fleming's started to use the particular kind of cellulose acetate of which it was made in 1933, and that

1949
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 ———
 Thorson P.
 ———

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

its production had not started before he left Fleming's to go to Watford in 1935 but that it was being made when he came back in 1937. This fixes the date of manufacture of the frame very near that of the manufacture of the temple. When Mr. Barlow was recalled he declined to change his estimate of the date when he saw Exhibit 48 but admitted that he might be wrong. The evidence of Mr. Oliver and Mr. Douglas is conclusive that he was wrong. He could not have seen Exhibit 48 before 1936 and counsel for the plaintiff was right in not relying upon his evidence. It was without foundation and the defendants should have the costs of meeting it including all their expenses in connection with the evidence of Mr. Oliver and Mr. Douglas.

The evidence of Mr. Kemp and Mr. Barlow that they had made spectacles with the Ful-vue feature of high temple connection prior to the date of the McLeod invention was not submitted as evidence of anticipation of it by prior user. It was admitted by counsel for the plaintiff that there is a difference between what Mr. Kemp and Mr. Barlow used and the invention. The evidence was given merely to show that the high temple connection feature of the invention was part of the prior art. This is not in dispute. It was freely conceded by counsel for the defendant that the connection of the temples above the line of useful side vision was not new.

In my view, no question of anticipation seriously arises in this case. The real issue is whether the combination in claim 5 was a patentable advance over the prior art, particularly as embodied in the Emons patent, Exhibit 4. Counsel for the plaintiff contended that there was nothing in the patent in suit that amounted to a patentable advance over the Emons invention. It is, therefore, desirable to set out sufficient of the specification in the Emons patent to disclose its objects. The first two paragraphs read as follows:

This invention relates to spectacles, and has for its object the placement of the temple bars of a spectacle frame out of the useful field of vision of the wearer also to prevent the nose bridge from riding downwards, thereby maintaining the lenses in the position to which they have been initially set.

In spectacles now in general use, the temple bar is connected 180° meridian of the lenses with these latter at right angles with respect to the attachment. Such position of the bars and lenses relative to each other

not only have been an obstruction to lateral vision, but further cause the nose bridge to ride downwardly to change the positions of the lenses after initially set. To overcome such defects is the primary object of the invention, and to this end the invention consists in the elevating of the point of connection of the member for attaching the temple bars to the lens frame or lenses, so that the temple bars are removed from the direct useful field of vision. The invention further consists in positioning the lens frame or lenses at an acute angle with respect to the forward ends of the temple bars, whereby the said bars will exert a rearward pull thus preventing the nose bridge from riding downwardly on the nose.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 ———
 Thorson P.
 ———

Emons thus had two objects, namely, the placement of the temples out of the useful vision of the wearer, and the prevention of the nose bridge from riding downwardly. He achieved the first object by raising the temples above the horizontal centre line of the lenses so that they were removed from the direct useful field of vision and sought to accomplish the second by positioning the lenses at an acute angle with the temples.

The first question is whether the combination in claim 5 can be an invention. It is not necessary to the validity of a combination invention that its elements should be new. Indeed, all of them may be old. If the combination is the *vide British United Shoe Machinery Company Ltd. v. A. Fussell & Sons Ltd.* (1); *Baldwin International Radio Co. of Canada Ltd. v. Western Electric Co. Inc. et al.* (2); invention, then it is immaterial that the elements are old: Terrell on Patents, 8th Edition, pp. 78-81. It is essential to the validity of a patent for a combination invention, apart from considerations of novelty and inventive ingenuity that the combination should lead to a unitary result rather than a succession of results, that such result should be different from the sum of the results of the elements and that it should be simple and not complex. The elements may interact with one another provided they combine for a unitary and simple result that is not attributable to any of the elements but flows from the combination itself and would not be possible without it.

Counsel for the plaintiff argued that the combination claimed as the invention did not answer this test. His submission was that each of the elements continued to perform the function that it had done before they were brought together, that the temples continued to be so connected as to give full side vision and the nose pads to

(1) (1908) 25 R.P.C. 631 at 656, 657. (2) (1934) S.C.R. 94 at 104.

1949
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

hold the spectacles in place on the nose, that there was no co-operation between them towards any new unitary result, that all the advantages and benefits of the combination flowed from the use of the high connected temples, that the benefit from the nose pads was merely the usual one that followed from their use, that high connected temples and nose pads were both well known, that all that McLeod had done was to give to an already well known article, namely, spectacles with high connected temples, the additional benefit of another well known article, namely, nose pads, and that there was thus merely the sum of the several results of the elements and no new unitary result from the combination different from that attributable to the several elements.

I have come to the conclusion that this submission should not be accepted. I am satisfied, mainly from the evidence of Professor Price, that the construction embodying the combination in claim 5, which is the one that has gone into use by the defendants and which I shall refer to as the Ful-vue construction, did, because of the vertical separation that followed from the combination of having the temples connected above the horizontal centre line of the lenses and the nose pads connected below it, produce a new unitary result that was not attributable to either the high connected temples or the low connected nose pads and was not the sum or succession of the several results of these two elements. That being so, there was novelty in the combination and the only question is whether it involved the exercise of inventive ingenuity.

The essence of Professor Price's evidence, as I understand it, was that the vertical separation between the point of connection of the temples to the end pieces of the lenses and the point of attachment of the nose pads to the nose of the wearer that followed from having the temples connected above the horizontal centre line of the lenses and the nose pads below it enabled the temples to act as struts in such a way as to give benefits and advantages that were not possible where there was no such vertical separation. The over-all purpose of the Ful-vue construction was to keep the lenses in their proper position relative to the eyes. Two parts essential to this purpose were the temples and the nose pads. The nose pads provided a point of support

or means for holding the lenses in their proper elevation and preventing their vertical displacement by a downward movement. The temples held them in against the face and prevented their outward or forward movement or tilting or rotation about the support afforded by the nose pads. The temples acted as struts and were enabled to perform this function by reason of the vertical separation resulting from the high position of the connection of the temples relatively to that of the pivots formed by the nose pads, the point of pivot being the bearing point of the nose pad on the nose. Professor Price explained that in engineering a strut might carry either a compressing force to keep two things apart or a tensile one to hold them together and that frequently it served both purposes. He defined it as a spacing member or a member that keeps two points at the proper distance apart. In the Ful-vue construction the straight portions of the temples acted as struts between the ear loop portions and the lenses and kept them at the proper position apart, preventing any tilting of the lenses either forward or downward, by exerting a tensile force.

Professor Price illustrated how the temples performed this tension function with the aid of Exhibit Z1 showing drawings of two constructions of spectacles, Figure 1 exemplifying the Ful-vue construction with the vertical separation between the point of high connection of the temples to the lenses, C, and the point of attachment of the nose pads to the nose of the wearer, X, and Figure 2 showing the on-centre construction with the temples connected at the 180 line, which was in ordinary commercial use prior to the date of the Emons patent or the patent in suit, without the vertical separation of the Ful-vue construction. Figure 1 of Exhibit Z1 indicates how the strut portion of the temple prevents the forward tilting of the lens by tension and in so doing induces a bending action in it. In the on-centre construction of Figure 2 there is no way of introducing any tensile force into the straight portion of the temple and the only way in which tilting can be prevented is by pulling the temple down at the ear loop behind the ear by a downward force. As a result there is greater resistance to rotation or forward tilting of the lenses in the case of the Ful-vue construction than in

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

1949
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 THORSON P.

that of the on-centre one. In the latter the restraint against the forward tilting is, apart from frictional resistance, dependent on the pressure of the ear loop portion of the temple behind and under the ear, whereas in the former it flows from the tensile pull of the strut portion of the temple.

To overcome the forward tilting of the lenses or their downward tilting sliding on the nose it is necessary to have a force to pull them back against the face and against the nose. There must be pressure not only against the forward tilting but also on the nose pads to take care of gravitational pull or tendency of the lenses to slide down the nose. The temples must, therefore, always be under tension. To keep the lenses in their proper position the resisting force must be sufficient to overcome the displacing force that would otherwise cause them to tilt forward or slide down the nose. Professor Price illustrated by Exhibit Z3 how this resisting force is brought into play in the case of the two constructions. In the on-centre one shown by Figure 3 of Exhibit Z3 the resisting force is set up by bending the ear loops of the temples and slipping them over the ears whereby there is essentially a straight tensile force or pull in the straight portions of the temples with some bending in them back near the ear loops. The line of action of the force coincides with and passes through the temples at the point of their on-centre connection with the lenses. In the Ful-vue construction shown in Figure 4, while the ear loops are bent and slipped over the ears in the same way as in Figure 3, there is not a straight pull in the straight portions of the temples but a bending action throughout their length because the line of action of the force is below and parallel to them and the space between the ear loops and the pivot of the nose pads is too short. This greater bending in the straight portions of the temples in the Ful-vue construction is due to the fact that over their whole length they are at a greater distance from the line of action of the resisting force. This greater distance is due to the vertical separation of the point of connection of the temples from the point of attachment of the nose pads. The bending of the straight portions of the temples makes them act like springs over their whole length instead of only in the part near the ear loops, as in the case of the on-centre construc-

tion temples. The result of the longer springs thus created is that the straight portions of the temples in the Ful-vue construction have greater resilience or stored up energy than the on-centre construction ones. This fact has important consequences. For while the amount of resisting force required to overcome displacing forces must be the same in the case of both constructions it can be maintained with a lighter pressure behind the ears in the Ful-vue construction than in the on-centre one, because of the greater resilience. It follows as a practical result from this greater resilience that the adjustment of Ful-vue construction mountings is less critical. It is not as necessary to be exact in getting the right amount of bending of the ear loops to produce the required amount of resisting force. It is consequently easier to adjust Ful-vue construction spectacles in such a way as to give them the necessary resisting force against displacement and at the same time prevent uncomfortable pressure behind the ears.

Professor Price also explained that because of the low connected nose pads and the high connected temples it is easier for the Ful-vue construction to meet and overcome the displacing force of a sudden jar. As explained by Mr. Splaine, the nose pads have less tendency to slide down on the nose than saddle bridges. Consequently, less force is required to keep them in position. In the Ful-vue construction, because of the bending in the straight portions of the temples, there is a resilient active force capable of meeting a displacing force, which gives them a resilient restoring condition, so that if there were a tendency of the lenses to move slightly away from the face in the case of a jar the stored up resilient energy in the temples would pull them back into position. But in the on-centre construction there is no such restoring force, so that when a jar moves the lenses away from the face there is nothing to pull them back and they take the alternative of dropping down slightly on the nose. If the same action occurs again, followed by a slight outward displacement, there is an additional downward one which finally results in the bridge having moved down the nose. This action means that there is a pull forward and up around the back of the ear, and the situation can be corrected only by pushing the bridge back in position. Moreover, the fact that less pres-

1949
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

1949
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

sure is needed to hold nose pads in position than saddle bridges makes it easier, because of the springing action of the Ful-vue temples, to arrive at a soft resilient pressure that is both comfortable and adequate.

There is thus no doubt that the Ful-vue construction claimed by the defendants gave important advantages that were not possible with the former on-centre construction. It is also clear that these all came from the bending action of the straight, or strut, portions of the temples, that made them act like springs, as Professor Price said struts could act, with their resultant resilience, and that the temples could perform this tension function of a strut because of their distance from the line of action of the resisting force that followed from the vertical separation referred to. The combination thus clearly met the test required for a combination invention as compared with the former on-centre construction, namely, that it led to a simple unitary result different from the succession or sum of the results of the elements and not attributable to any of them.

Counsel for the plaintiff called Professor Price's attention, on his cross-examination, to Figure 4 of the Emons patent and Professor Price agreed that the same principles would apply to a spectacle construction according to it as are applicable to the Ful-vue construction according to claim 5 of the patent in suit, as shown by Figure 1 of Exhibit Z1 and Figure 4 of Exhibit Z3; the conditions were the same in the two constructions, from which it would follow that the advantages flowing from the use of the Ful-vue construction as compared with the on-centre one would also flow from a construction according to Figure 4 of the Emons patent. While this was an important statement its effect must not be exaggerated or its scope unduly enlarged. On the contrary, it should be considered as subject to the qualifications inherent in the conditions to which it was applied. But counsel for the plaintiff admitted no such qualifications. He assumed that all the advantages of the Ful-vue construction flowed from the high connected temples, even with saddle bridges, as described in the Emons patent and that Professor Price had so admitted, and based his whole attack on the patent on the ground of lack of inventive advance over the Emons patent on this assumption. In my opinion, there is nothing in Professor

Price's statement to justify such an assumption. A review of his evidence shows that he could not have intended to admit that the advantages resulting from the use of the Ful-vue construction flowed from the high connection of the temples. Indeed, they could not come from that alone. The fact that a construction according to Figure 4 of the Emons patent would give the same advantages as those that flowed from the use of the Ful-vue construction was not because of the high connection of the temples at all, but because in the construction referred to there happened to be an adequate vertical separation between the point of connection of the temples and the point where the saddle bridge found support on the nose of the wearer. The reason for this is easily explained. Emons put his temples above the 180 line and out of the useful field of vision. McLeod suggested that in order to get out of the useful field of side vision the temples should clear the top of the iris. This would put them at 9 millimetres above the horizontal centre line of the lenses. In the Ful-vue construction that has gone into use the temples are connected at $10\frac{1}{4}$ millimetres above the horizontal centre line. Emons used saddle bridges which varied greatly in height and to a lesser extent in width to suit various types of noses. This variation ran from a low of zero to a high of $12\frac{1}{2}$ millimetres above the horizontal centre line of the lenses which made the point of support on the nose of the wearer approximately 1 millimetre higher. The bridge shown in Figure 4 of the Emons patent, according to Mr. Splaine's evidence, as to which there is no dispute, was "about the zero height . . . or very close to it, to the centre line". This would make the point of support on the nose approximately 1 millimetre above the horizontal centre line of the lenses so that if the temples were put high enough to clear the top of the iris there would be a vertical separation of approximately 8 millimetres. This would be adequate to separate the straight portions of the temples from the line of force referred to by Professor Price and enable them to act as struts with their resulting bending action and resiliency and the advantages flowing therefrom. But the bridge shown in Figure 4 of the Emons patent, being of about zero height, could be used only by a person with a broad flat nose such as is usual in the case of a Chinaman. It could

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 THORSON P.

not be used by any one else. In the case of persons with higher noses higher bridges would be required and the higher the bridge the less the vertical separation between the point of connection of the temples and the point of support of the bridge on the nose until it disappeared altogether. For example, if a bridge of the normal height of 5 millimetres was used the point of support on the nose would be approximately 6 millimetres above the horizontal centre line of the lenses and there would be only a small vertical separation of 3 millimetres which would not be adequate. If the bridge was 3 millimetres higher there would be no vertical separation. And if it was higher than that there would not only be no vertical separation of the kind mentioned but the very opposite would result. There would thus be an adequate vertical separation in the Emons construction only in a very limited number of cases. In the Ful-vue construction, on the other hand, there would always be an adequate vertical separation for the nose pads were always connected below the horizontal centre line of the lenses. This would give a vertical separation of at least 9 millimetres even if the temples only cleared the top of the iris. And in the Ful-vue construction that has gone into use the vertical separation is even greater for the temples are connected at 10¼ millimetres above the horizontal centre. It is, I think, impossible to read Professor Price's evidence without coming to the conclusion that it was the vertical separation between the points referred to that was the source of the advantages flowing from the use of the Ful-vue construction for it was this separation that removed the straight portions of the temples from the line of force Professor Price described and enabled them to act as struts with their bending action and resiliency. Where there was no vertical separation there would be no advantages of the kind mentioned. And it should be remembered that Professor Price did not make a general statement that the advantages flowing from the use of the Ful-vue construction would flow from the use of any construction according to the Emons patent. His statement was in reply to a question specifically relating to Figure 4 of the Emons Patent, in which a zero height bridge was used, and should be confined accordingly. Its scope must not be extended to conditions different from those to which it was

applied. Consequently, it is fair to say that the statement could be applicable only in cases where the saddle bridge was of the zero height used in Figure 4 of the Emons patent or low enough to create a sufficient vertical separation such as that resulting from the Ful-vue construction, for it would be only in such limited cases that the advantages could come from a construction according to the Emons patent. The statement could have no application in cases where the conditions were different, as, for example, where the bridge required by the wearer would be too high to create the necessary vertical separation for in such cases the advantages of the Ful-vue construction could not follow from the use of the Emons construction.

The difference between the patent in suit and the Emons patent may, therefore, be stated briefly. In a construction according to the latter the advantages of which Professor Price spoke would follow only in cases where there happened to be an adequate vertical separation by reason of the fact that the nose of the wearer was flat enough to permit the use of a bridge low enough to create such a separation, whereas in the Full-vue construction the advantages would follow in all cases. Under the Emons patent the advantages might or might not happen depending on whether the nose of the wearer was sufficiently flat or not, whereas under the patent in suit they would always happen regardless of the height of the nose of the wearer. The reason for the difference is a simple one. In the Emons patent there was nothing to ensure the existence of the vertical separation that was the essential cause of the advantages and they occurred only in the exceptional cases where there happened to be a sufficient vertical separation because of the flatness of the nose of the wearer. But in the Ful-vue construction the presence of the necessary vertical separation was ensured in all cases with the result that the advantages followed in all cases whether the nose of the wearer was flat or high. This difference made the patent in suit an important advance over the Emons patent. In my judgment, there was both novelty and inventive ingenuity in this advance.

It was suggested that a vertical separation was not claimed in the patent. While it is true that there is no specific claim to the kind of vertical separation of which

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 THORSON P.

1950
THE KING
v.
AMERICAN
OPTICAL
Co.
Thorson P.

Professor Price spoke, there is a claim to a construction that must of necessity create it with its resulting advantages. An analysis of claim 5 shows this. The combination there claimed is "in a device for holding a pair of lenses before the eyes", namely, a spectacle mounting. The first element mentioned is "nose-rest means extending rearwardly of the plane of the said lenses". These are the guard arms which are connected to the lenses or rims and to which the nose pads are connected. The next element is described as "a nose-engaging portion on each of the said nose-rest means rearwardly of the plane of said lenses and said connection being below the horizontal centre line of the lenses". This has reference to the nose pad. The words "said connection being below the horizontal centre line of the lenses" are not as precise as they might be for no "connection" has previously been mentioned but I see no ambiguity in them. Counsel for the plaintiff suggested that the "connection" referred to was that of the guard arms to the lenses or rims. I do not think that this interpretation is tenable. The connection is said to be below the horizontal centre line of the lenses. That being so, the reference cannot be to the connection of the guard arms to the rims or lenses for the figures show this connection to be at the horizontal centre line of the lenses, not below it. I agree with the submission of counsel for the defendants that the "connection" referred to must mean the connection of the "nose-engaging portion", meaning the nose pad, with "the nose-rest means", meaning the guard arms, and that the words should read "and the connection of the nose-engaging portion with the nose rest means being below the horizontal centre line of the lenses". This is so because the nose pads are connected only to the guard arms and nowhere else and this connection is the only one that is below the horizontal centre line. The guard arm connects with the rim or lens at the horizontal centre line and the point of connection of the nose pad to the arm is below it. There is no difficulty with the remaining part of the claim relating to the temples and their connection "above the field of useful side vision when the lenses are in place before the eyes, whereby the said side pieces will serve as struts and prevent the lens holding device from being tilted about the supports on the nose". Claim 5 is

thus directed to a combination in which there are off-set nose pads connected below the horizontal centre line of the lenses and temples connected above it at a height above the field of useful side vision. This combination will in all cases give the vertical separation of which Professor Price spoke. All the Ful-vue construction used by the defendant American Optical Company since the issue of the patent has been according to claim 5. Without saying so in specific terms the claim is for a construction that must create the vertical separation which Professor Price considered the source of the advantages flowing from the use of the Ful-vue construction.

There is certainly nothing in the Emons patent or in the prior art to indicate or suggest the desirability of the vertical separation we have been discussing or a construction that would create it, and we have seen that where the advantages flowing from its use have also followed from the use of the Emons construction in certain cases such results have been accomplished only accidentally because in such cases there happened to be an adequate vertical separation. But counsel for the plaintiff raised the objection that neither was there any disclosure in the patent in suit of the desirability of having the nose pads connected below the horizontal centre line of the lenses or of the vertical separation referred to. There are, I think, two answers to this objection, namely, that the inventor did disclose the desirability of the vertical separation and that the construction which he described was one that necessarily creates it. It is clearly disclosed that the temples are connected to the lenses or rims high enough to bring them "above the line of useful side view" and it is also stated: "It will usually be preferred to arrange that the side-piece is approximately at or above the level of the top of the iris, when the face and eye of the wearer are directed horizontally." This high connection of the temples is also shown in Figures 1 and 2 and their description. The low position of the off-set nose pads is also disclosed. It appears from Figures 2 and 4 and their description. There it is stated that "the placquets or nose engaging members", meaning the nose pads, are pivoted to the guard arm "at a point to the rear of the plane of the lenses and below the horizontal centre line of the lenses". Incidentally, this

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 THORSON P.

gives further support to the interpretation of the word "connection" in claim 5 that counsel for the defendants submitted. Figures 2 and 4 show the vertical separation between the two points of connection just as clearly as it appears in Figure 1 of Exhibit Z1 and Figure 4 of Exhibit Z3. Then the inventor states that this leaves the lenses free to pivot or swing about the points where the nose pads are pivoted on the arms but that this pivotal or swinging action is prevented by the side-pieces acting as struts. And then there is this important statement in the specifications describing Figures 2 and 4, namely, "the high position of the points of attachment of the side pieces *with respect to the pivots* enables them to very positively and easily perform this function". That means, of course, the function of acting as struts. The words in the italics, which are mine, emphasize the relativity in height between the point of connection of the temples and that of the nose pads and is indicative of the desirability of an adequate vertical separation between them. But even if that were not so, this would not defeat the patent for the specification did disclose and describe a construction of high connected temples and low connected nose pads that necessarily created an adequate vertical separation with its resulting advantages.

Nor is it any objection to the sufficiency of the disclosures that the advantages of the invention as enumerated by Professor Price were not set out in the specification. As Fletcher Moulton L.J. said in *Clay v. Alcock & Co. Ltd.* (1) it is a "well-known principle in Patent law that a man need not state the effect or the advantage of his invention, if he describes his invention so as to produce it". That is not so where the inventor has to rely on the presence or absence of such effect or advantage as a part of the necessary delimitation, but we are not concerned with that here. If an inventor has adequately defined his invention he is entitled to its benefit even if he does not fully appreciate or realize the advantages that flow from it or cannot give the scientific reasons for them. It is sufficient if the specification correctly and fully describes the invention and its operation or use as contemplated by the inventor, so that

(1) (1906) 23 R.P.C. 745 at 750.

the public, meaning thereby persons skilled in the art, may be able, with only the specification, to use the invention as successfully as the inventor could himself.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 ———
 Thorson P.
 ———

There was some discussion as to the meaning of the word "struts". It is not a term in the optical art and has not, therefore, any special or particular meaning in it. Nor has the inventor used it with any meaning that he has defined. It is a word commonly used in connection with structures of various kinds and ought, in my view, to be considered in its ordinary meaning as a construction term. That was the sense in which Professor Price used it and I adopt his definition of it as a spacing member or a member that keeps two points at the proper distance apart, and his view that it might carry either a compressing force to keep two things apart or a tensile one to hold them together and might do both. I also accept his statement that struts can, and frequently do, act like springs.

Under the circumstances, I am of the view that the disclosures in the specification are sufficient and that the inventor has adequately described his invention. I am satisfied that any person skilled in the art could, with only the specification, put the invention to as successful a use as the inventor could himself. If he constructed a spectacle mounting according to the directions in the specification and claim 5 there would in all cases be an adequate vertical separation between the point of connection of the temples and that of the nose pads with the advantages therefrom that Professor Price described. In my opinion, the Ful-vue spectacle construction according to claim 5 of the patent in suit was an inventive advance over the prior art and I hold claim 5 valid.

I am strengthened in my opinion that the Ful-vue construction was an inventive advance over the prior art by the evidence of its commercial success. In *The King v. Uhlemann Optical Company (Supra)* the circumstances under which the commercial success of a new device may be regarded as evidence of subject matter were discussed at some length. There I applied the principles laid down by Tomlin J. in *Samuel Parkes & Co. Ltd. v. Cocker Brothers Ltd.* (1) and approved in the House of Lords by Lord

(1) (1929) 46 R.P.C. 241 at 248.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 Thorson P.

Russell of Killowen in *Non-Drip Measure Coy., Ltd. v. Stranger's Ltd. et al.* (1). The cases indicated that the practical utility and commercial success of a new device may be material in determining whether the new result produced by it was an obvious workshop improvement or involved the exercise of inventive ingenuity. Commercial success by itself, without the solution of a difficulty, is not sufficient to establish subject matter: *Longbottom v. Shaw* (2) and *Heginbotham Brothers, Ltd., et al. v. Burne* (3). But when it is found that there has been a problem calling for solution and that the new device has solved it then its practical utility and commercial success in displacing alternative devices should be considered strong evidence that its production required the taking of an inventive step and that the applicant for the patent was the first to take it.

All the necessary elements are present in this case. That there was a problem to be solved and a long felt want cannot be disputed. The evidence of Mr. E. M. Splaine, the development engineer of the defendant American Optical Company, who worked on the development of the Ful-vue construction makes that plain. His evidence regarding the problem may be summarized. Saddle bridges were unsatisfactory. They had too small a bearing area to carry the weight of the spectacles and tended to slide down the nose and irritate the skin. From the Manufacturers' point of view their use was uneconomic for too many types had to be kept to fit the various shapes and sizes of noses. And fitters found them difficult to adjust without loss of pupillary value. Nose pads came into use after 1920 and up to 1929 were in most cases connected on the horizontal centre line of the lenses. They had an increased bearing area that enabled them to carry the weight of the mounting with less discomfort to the wearer and prevented some of the sliding down. Until about 1929 the temples were connected at the horizontal centre line of the lenses and although the use of the nose pads was a big step in advance over that of the saddle bridges in holding the spectacles on the nose there was still quite a pull on the ears. The fitting of the spectacles was difficult for it was not possible to maintain the right amount of pressure to keep them in place without discomfort to the wearer. If there was

(1) (1943) 60 R.P.C. 135 at 142.

(3) (1939) 56 R.P.C. 399 at 413.

(2) (1891) 8 R.P.C. 333 at 336.

enough tension to hold them in a tight fit there was uncomfortable pressure on the nose or ears causing soreness. This pressure could be relieved by bending the temples at the ear loops so that they did not press behind the ears, but if this was done the wearer lost the good fit he might have had and the spectacles tended to tilt forward or downward. Mr. Splaine said that when he wore spectacles of the kind described he had "the usual experience that most people had, with a sore nose and sore ears." Professor Price had the same personal experience as Mr. Splaine. When he wore spectacles with on-centre connected temples and saddle bridges he suffered discomfort and abrasion of the skin through excessive pressure on the nose or in back of the ears which could be relieved only by deforming the earloops.

The problem of not being able to maintain the fit of spectacles without discomfort to the wearer was an old one and many efforts were made to solve it, including such constructions as the compensating temples or butts or spiral butts, but none succeeded prior to the Ful-vue construction coming on the market. Spectacles according to the Emons patent were first put on the market about 1929 but did not continue to be sold and went off the market after a very short time. Only a few of them were ever made.

The Ful-vue construction first went on the market in the fall of 1930. It made a substantial solution of the problem. It gave the wearer all the advantages that Professor Price described. For the manufacturer it meant a reduction in the amount of stock to be carried and the fitter's task of adjustment was made easier. The advantages outlined by Professor Price were, of course, most apparent in the metal frame spectacles but they were also found in the plastic frame ones. Mr. Splaine said that when he changed to spectacles of the Ful-vue construction about 1931 or 1932 he found a change in comfort. The pad support was better and there was a flexibility between the bearing point on the nose and the bearing point at the back of the ear. The spectacles had a cushioned feel. He had very little sore ear trouble and no sore nose. Moreover, the spectacles did not slip down but stayed in place better. The evidence of Professor Price as to his personal experience was similar.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 THORSON P.

1950
THE KING
v.
AMERICAN
OPTICAL
Co.
Thorson P.

When he changed to spectacles of the Ful-vue construction he found no difficulty in keeping them in their correct position on the nose and had no sense of discomfort from them and felt no undue pressure on the nose or in back of the ear. I am satisfied that the McLeod invention succeeded substantially in solving the problem which had baffled the efforts of others in the art for many years.

The commercial success of the Ful-vue construction has been tremendous. Exhibit Z5 shows the number of Ful-vue ophthalmic frames and mountings sold by the American Optical Company and all its licensed manufacturers. They grew from 488,971 units in 1931 to a maximum of 14,984,215 in 1945 and by the end of 1946 the total volume of sales had mounted to 107,173,898 units. Exhibit Z6 is also an illuminating document. It shows the sales of Ful-vue ophthalmic frames and mountings by the American Optical Company, which is the largest manufacturer of optical products in the world, as a percentage of all its sales of ophthalmic frames and mountings. The percentage increased from an estimated 16 per cent in 1931 to 94 per cent in 1944. Spectacles of the Ful-vue construction have thus greatly displaced other spectacles. Counsel for the plaintiff submitted that Exhibits Z5 and Z6 cannot be related solely to the patent in suit. There was, for example, the Emons patent. And the figures in the two exhibits included the Nu-Mont construction. And counsel also sought to minimize the effect of the evidence as to commercial success by pointing to the large amount of advertising and the control exercised by the patentee in the licensing agreement. But even after due allowance is made for these matters the fact remains that the commercial success of the invention was tremendous. Admittedly, the amount of advertising is large but it is interesting to note that a substantial portion of the advertising expense was incurred during the earlier years. It could not, in my judgment, fairly be said that the success of the Ful-vue construction was due to the volume of advertising. I agree rather with the submission of counsel for the defendants that the main reason for its success was that it was superior to the older constructions, that it solved the problem that they had given rise to and that it supplanted them in the market because of its superiority.

Under all the circumstances, I am of the view that the commercial success of the Ful-vue construction is strong evidence that its production was the result of an inventive step and that McLeod was the first to take it.

1950
 THE KING
 v.
 AMERICAN
 OPTICAL
 Co.
 THORSON P

I also repeat the observations I made in the *Uhlemann* case (*supra*) as to the applicability of the principle laid down by the Supreme Court of the United States in *Smith v. Goodyear Dental Vulcanite Company et al.* (1).

For the reasons given I hold that claim 5 in the patent is valid. The plaintiff's action for a declaration of invalidity of the patent must, therefore, be dismissed with costs.

Judgment accordingly.