

[HIGH COURT OF AUSTRALIA.]

BROADBENT AND ANOTHER APPELLANTS ;
APPLICANTS,

AND

DAVIES RESPONDENT.
OPPONENT,

*Patent—Application — Subject matter — Invention—Anticipation— Appeal from
Commissioner—Amendment of Specification—Condition of grant of patent—
Patents Act 1903-1909 (No. 21 of 1903—No. 17 of 1909), sec. 47.*

H. C. OF A.
1916.
SYDNEY,
April 4, 5.
Griffith C.J.,
Barton, Isaacs,
Gavan Duffy,
and Rich JJ.

Under sec. 47 of the *Patents Act* 1903-1909, which gives the High Court power on an appeal from the Commissioner of Patents to decide “whether and subject to what conditions, if any, the application and specification shall be accepted,” the Court may make a verbal alteration of the specification which is necessary to give effect to its real meaning a condition of the grant of a patent.

In a water meter whereby the quantity of water flowing through a pipe was measured by the number of revolutions of a turbine which revolved on a spindle and through which the water passed, the method of attaching the turbine, which was constructed of soft metal, to the spindle, which was constructed of hard metal, was by means of gripping a thin sheet of the soft metal in a groove running round the spindle which passed through it. By another form of water meter previously in use the turbine was attached to the spindle by pressing the soft metal turbine upon the end of the hard metal spindle and holding it fast by means of a corrugation formed by pressure upon the soft metal.

Held, that the first mentioned contrivance, for which a patent was sought, was not open to objection for want of subject matter or want of novelty.

APPEAL from the Commissioner of Patents.

An application was made by Ernest Edgar Broadbent and Henry Parks for a patent for “improvements in inferential water meters.”

The material part of the specification was as follows :—

“This invention relates to inferential water meters of the class wherein a box or casing has internally thereof a turbine wheel

H. C. OF A. 1916.
BROADBENT v. DAVIES.
—

or rotor constructed of conjoined discs or blades forming radial passages for the passing water. And these improvements have been specially devised in order to provide that the rotor or conjoined discs or blades of the rotor are more easily and cheaply and securely affixed to the carrier than heretofore, that a convenient and ample oil reservoir is provided for the lower bearing of said carrier and that an inserted tight bushing in said carrier for the footstep axis may be easily withdrawn when desired (without disturbing the correctness of the centring of the carrier and rotor).

“These improvements in inferential water meters consist firstly in the peculiar construction of the spindle or carrier of the rotor having a lower circumferential flange adapted to be turned over upon and to firmly hold the lower blade or disc of said rotor. Secondly the further peculiar construction of said rotor spindle carrier having an upwardly extending hollow from its lower end so as to form a cylindrical oil chamber, thirdly in the combination with said chambered rotor spindle of a long hard sleeve or bushing tightly fitting the end of the chamber and having a passage or duct leading from said chamber to the bearing centrally of said bushing and preferably having an externally screw threaded extension adapted to receive thereon a complementary thread on a pipe tool or extractor, and further in the subordinate integers or combinations hereinafter specifically claimed.

“But in order that a practical application of this invention may be readily carried into effect it will now be described with reference to the drawings accompanying and forming part of this complete specification, in which Fig. 1 is an elevation of an inferential water meter constructed according to those improvements and Fig. 2 is a vertical central section and Fig. 3 a plan of same and Fig. 4 is a sectional elevation showing the central spindle or carrier ready for the rotor blades and Figs. 5, 6 and 7 are respectively an elevation, a sectional plan and a sectional elevation of the bearing bushing.

“The spindle carrier 8 has a flared portion 9 having a lower circumferential flange 10 which is turned over upon and grips the internal edge of the lower blade 11 of the rotor, to which blade 11 the upper blade 12 of the rotor is water tightly secured by rivets

13 through their flat meeting parts and by the folding-over edge 14. Said blades 11 and 12 have therein usual water ways 15, and at diametrically opposed positions the regulating wings 16 are secured by said rivets 13. The spindle carrier 8 is preferably enlarged towards its lower end and is bored so as to form an oil chamber 17, and into the lower end of the bore is hand driven a sleeve or bushing 18. A cut away portion 19 of this sleeve or bushing 18 forms an oil passage or duct continued by hole 20 to the axis 22. In the upper end of this sleeve or bushing 18 is a hardened bearing point 21 for the axis 22, which has an extension 23 passing through the base 24 of the casing and adjustably secured outwardly thereof by nut 25 as ordinarily. Upon the lower end of bushing 18 is a screw thread 26.

“When constructing this turbine the central carrier 8 is formed as shown in Fig. 4, and after the completed rotor is placed in position and the flange 10 of the spindle carrier 8 is forced or spun the external edge of the lower blade 11 tightly and firmly grips it in position.

“The chamber 17 being filled with suitable oil and the bushing 18 being driven into position a truly reliable and permanently oiled footstep bearing is provided. If it is desired to remove the bushing 18 any suitable extractor or tool may be screwed on to the screw thread 26 and the bushing extracted.

In operation the water passes through the water ways 15 as well understood.”

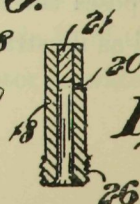
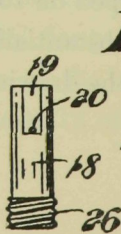
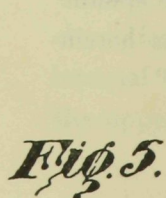
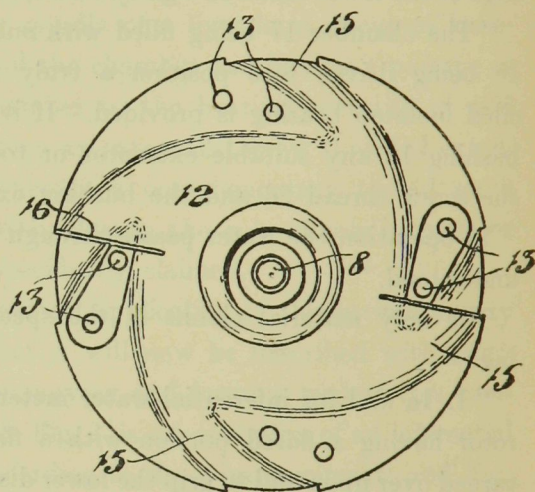
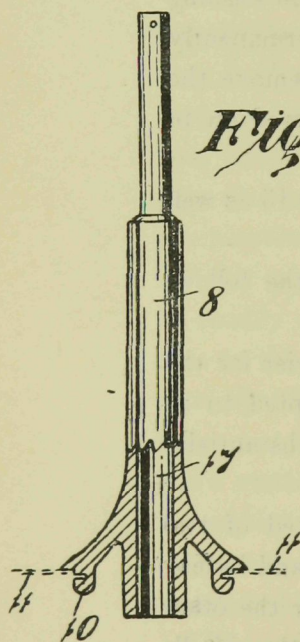
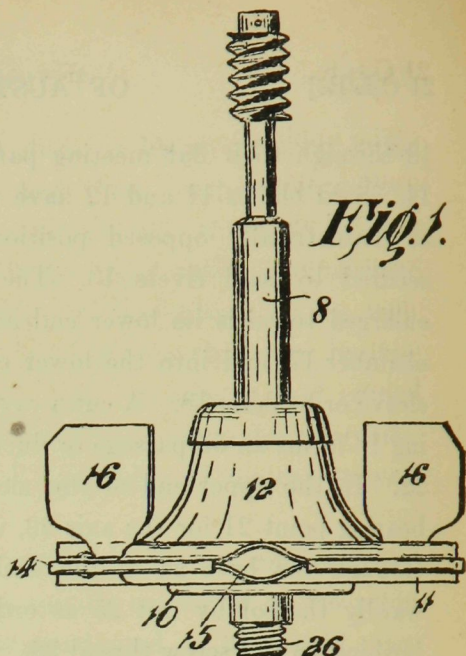
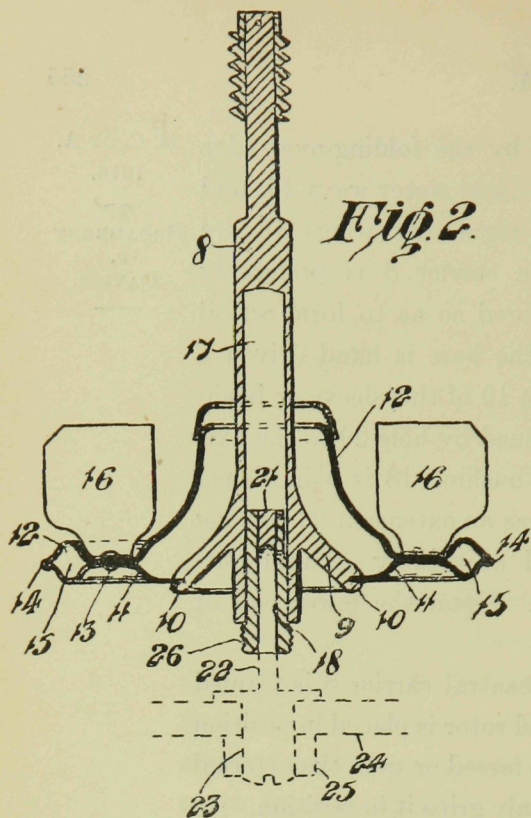
The only material claims in the specification were the following:—

“1. In and for inferential water meters a spindle carrier for the rotor having a flared portion with a flange on it adapted to be turned over upon and to grip the lower disc of the rotor substantially as herein described and explained.”

“5. In inferential water meters a turbine constructed of two plates or discs riveted together with deflecting tongues and having the external edge of one plate folded and cramped over the other and the internal edge of the lower plate cramped on to the spindle carrier as and for the purposes set forth substantially as herein described and explained and as illustrated in the drawings.”

H. C. OF A.
1916.

BROADBENT
v.
DAVIES.



The application was opposed by Edgar Naunton Davies on the ground, among others, that the invention so far as claims Nos. 1 and 5 were concerned had been patented by him in the Commonwealth on an application of prior date. The specification of the opponent's invention, which was called "an improvement in the internal construction of inferential turbine water meters," was as follows so far as it is material :—

H. C. OF A.
1916.

BROADBENT
v.
DAVIES.

"In inferential turbine water meters as usually constructed the spindle is connected or attached to the lower part of the drum or runner by soldering or sweating. When a meter so constructed is used in localities where the water is acidulated it is found that the jointing material is likely to be destroyed by chemical or galvanic action, and, the spindle becoming loose, the meter is rendered useless.

"The object of this invention is to provide a method of attaching the spindle to the drum which will obviate the use of solder, spelter or other jointing material, the contact being entirely metallic throughout.

"With this object in view I form on the inner face of the lower portion of the drum an upwardly projecting annular bead, within the inner circle of which the flared end or flange of the spindle is deposited. The bead is then closed on the edge of the flange by means of suitable dies and the joint is made.

"The drum portion is stamped or pressed out in the usual way by dies and the latter are cut to form the bead at the one operation. The edge of the flange of the spindle may be made of chisel form, have a recess on the upper side, or have any suitable configuration, so that the bead when closed on it will have a secure grip.

"But in order that my invention may be clearly understood I shall now refer to the accompanying drawings in which Fig. 1 is a view of the lower portion of a drum and the spindle attached thereto in the manner described herein, Fig. 2 is a sectional view of the lower portion of a drum with the spindle having a chisel edged flange in position, but the bead not closed down, Fig. 3 is a similar view of the same parts with the joint completed, Fig. 4 is a similar view to Fig. 2 showing the flange recessed on its upper edge, Fig. 5 is a view of the same parts with the joint completed.

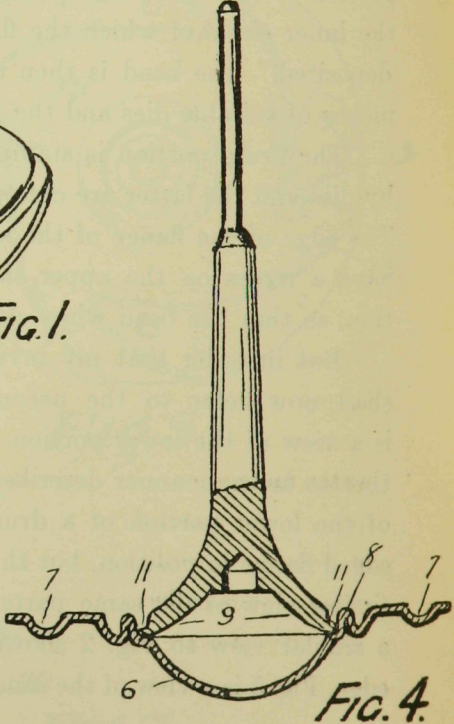
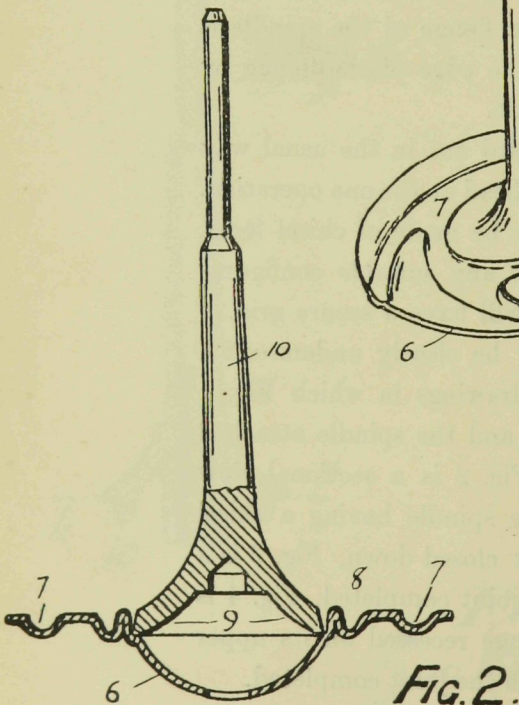
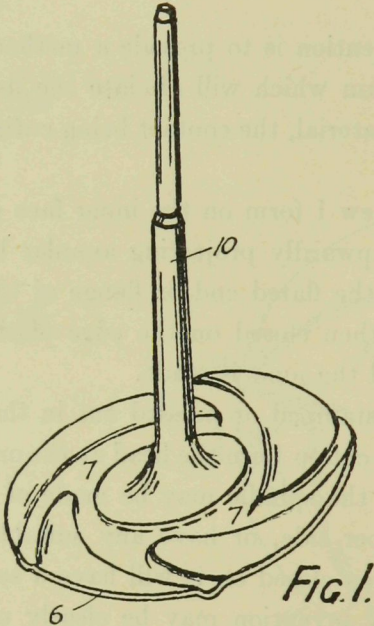
H. C. OF A.
1916.
BROADBENT
v.
DAVIES.

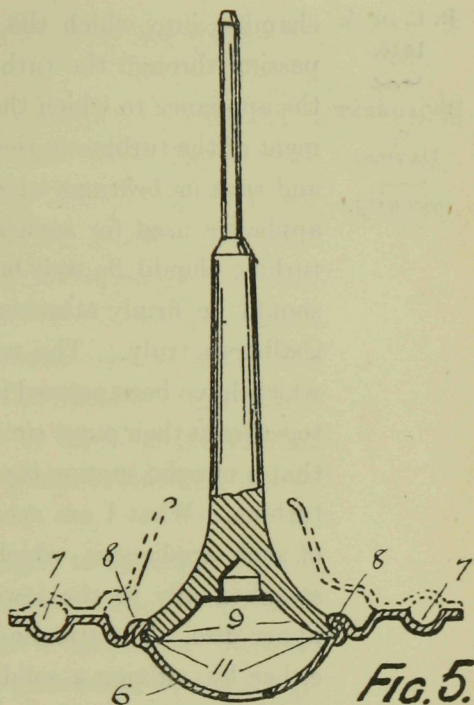
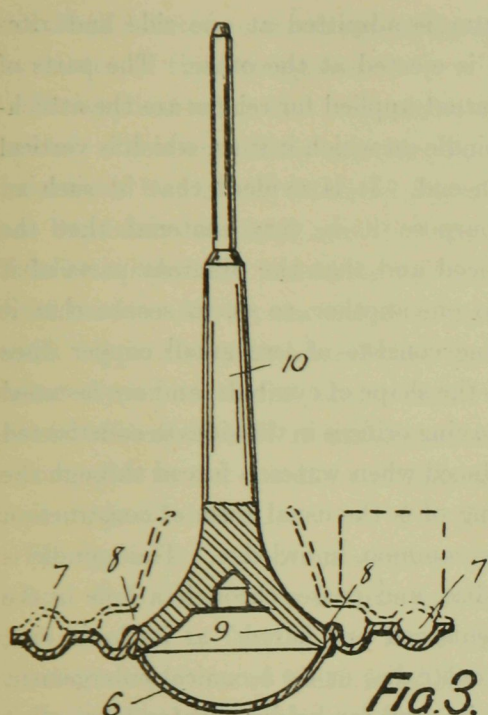
“The lower portion 6 of the drum has the usual grooves 7 7 (forming part of the egress channels) and is provided with the upwardly projecting annular bead 8, designed to encircle the flange 9 of the spindle 10. The edge of the flange may be of any suitable form such as that shown in Figs. 2 and 3 or provided with a recess 11 as shown in Figs. 4 and 5.

“Any convenient means may be adopted for closing the bead on to the edge of the flange but it has been found that a ring die of suitable form is very effective, though spinning in a lathe will answer the purpose.

“The upper part of the drum is constructed as usual and is shown in dotted lines in Figs. 3 and 5.”

Then followed the claims, which are not material.





The Commissioner of Patents held that the applicants' first claim was anticipated by the opponent's invention and that his fifth claim was wanting in subject matter, and he refused to grant a patent unless the specification were amended by the deletion of claims Nos. 1 and 5.

From that decision the applicants now appealed to the High Court.

Leverrier K.C. (with him *Jordan*), for the appellants.

J. A. Browne, for the respondent.

GRIFFITH C.J. This is an appeal from the refusal of the Commissioner of Patents to grant a patent to the appellants. The subject matter of the patent is described as "improvements in inferential water meters." These meters are an ingenious device by which the quantity of water flowing through a pipe is measured by the number of revolutions of a turbine through which the water passes. I suppose it is called "inferential" because the determination of the quantity of water in such a way is to a certain extent a matter of inference and not of exactitude. The turbine revolves in a closed

H. C. OF A.
1916.

BROADBENT

v.
DAVIES.

Griffith C.J.

chamber into which the water is admitted at one side and after passing through the turbine is ejected at the other. The parts of the appliance to which the patent applied for relates are the attachment of the turbine to the spindle on which it runs, which is vertical and runs in bearings at each end. It is evident that in such an appliance used for such a purpose it is very material that the turbine should be well balanced and that the different parts of it should be firmly attached to one another, so as to secure that it shall run truly. The turbine consists of two small copper discs which have been pressed into the shape of cymbals, and are fastened together at their outer rims, having orifices in the sides so constructed that a circular motion is produced when water is forced through the turbine. What I am speaking of is the usual form of construction of such appliances, which is common knowledge. The spindle is attached only to the lower disc, and passes through a hole in the upper disc. The spindle is enlarged or "flared" at its lower end, either by affixing a solid circular disc or by a conical enlargement which forms a cup that may be used for holding oil for lubricating purposes. Various means have been adopted for attaching the lower disc to the spindle. The disc is made of soft malleable metal, such as copper, the spindle being made of a harder metal, such as gun-metal or brass. The opponent some time ago obtained a patent for a method of attaching the spindle to the disc which may best be described in the words of his specification as follows:—"I form on the inner face of the lower portion of the drum,"—that is, the lower disc, as I have called it—"an upwardly"—that is outwardly—"projecting annular bead, within the inner circle of which the flared end or flange of the spindle is deposited. The bead is then closed on the edge of the flange by means of suitable dies and the joint is made." What he describes as an "annular bead" would be more correctly described as an annular corrugation which is to be fitted upon the flared edge of the spindle. That is to say, the two pieces of metal, the gun-metal or brass of the spindle and the copper of the disc, are so closely pressed together that the copper forms a closely fitting cap upon the spindle. It is to be observed that there is no break in the continuity of the surface of the disc. The

disc itself is fitted to the flange of the spindle and is kept in position by means of the corrugation.

The applicants say that in practice that method of construction is open to objection. They say that, since it is necessary that the turbine should be perfectly balanced, the metal of which it is made should not be unduly strained, and they say that the pressure to which the disc is subjected in making the joint by the opponent's method must tend to distort the shape of the disc that is being operated upon. It is also pointed out that the pressure used in fitting the softer copper on to the harder metal of the spindle is exerted in several directions. It is mainly exerted in lines of pressure at right angles to the spindle, and only to a small extent in a line of pressure parallel to it.

The applicants' invention seems at first sight to be rather a small thing. It is objected to it that it is not novel. The invention is this:—Instead of leaving the lower disc as a continuous piece of metal a corrugation of which is folded and pressed on to the flange of the spindle, they make a small round hole in the centre of the disc itself and the spindle is constructed with a flat flange upon which is fitted a ring of the same metal of such a size that it will just go through the hole in the disc. The ring is then passed through the hole and expanded by pressure which causes it to spread over the edges of the hole in the disc and firmly grip them. It is pointed out that in this case the line of pressure is wholly parallel to and not to right angles to the spindle so that there is no danger of distorting the metal in the operation. That is the applicants' invention.

The objection made to it is that everybody knew how to press two pieces of metal with grooves or angles in them together so as to form a practically water-tight joint. The question is whether the opponent's invention and that of the applicants are substantially the same thing. I have pointed out the difference. One is fitting a cap of soft metal on to a hard metal, the other is gripping a piece of soft metal between two pieces of hard metal. The appliances are different in form. The applicants' method, though not new, has never been used for the purpose to which they seek to apply it. Unless, therefore, it can be shown that the applicants' invention is

H. C. OF A.
916.

BROADBENT

v.
DAVIES.

Griffith C.J.

H. C. OF A.
1916.
BROADBENT
v.
DAVIES.
Griffith C.J.

an obvious futility or that the two appliances are substantially the same the objections fail. There seem to me to be both novelty and invention. I come to the conclusion on looking at the models that the fitting of a soft metal cap on to a hard metal spindle by means of a corrugation in the soft metal cap is not the same thing as gripping a thin sheet of soft metal in a groove round a hard metal spindle passing through it. The application of the proposed method is also an application to a new purpose.

I think therefore that the Commissioner was wrong in refusing the applicants' invention.

The fifth claim is somewhat ambiguous in its phraseology, but there is no doubt as to what the applicants intended. The claim is as follows:—"In inferential water meters a turbine constructed of two plates or discs riveted together with deflecting tongues and having the external edge of one plate folded and cramped over the other and the internal edge of the lower plate cramped on to the spindle carrier as and for the purposes set forth substantially as herein described and explained and as illustrated in the drawings." That is capable, possibly, of being construed as a claim for all turbines constructed of two plates riveted together and having the external edge of one plate folded and cramped over the other. But all turbines used for such meters are constructed in that way. The real meaning is to claim the combination of the new method of fixing the disc to the spindle with the old and well known method of constructing the turbine. All ambiguity will be removed by inserting the word "having" before the words "the internal edge."

Under sec. 47 of the *Patents Act* this Court on an appeal from the Commissioner has power to decide "whether and subject to what conditions, if any, the application and specification shall be accepted." I think that under that section this Court can make a verbal alteration of the specification which is necessary to give effect to its real meaning a condition of the grant of a patent, and that in this case a patent should be granted conditionally upon the verbal alteration I have mentioned being made.

BARTON J. I am of the same opinion.

ISAACS J. read the following judgment:—I agree. The objections made resolve themselves really into one, namely, that the applicants' invention is wanting in novelty because it is anticipated by the machine used by the objector, and published by him both by his own specification of 1910 and by his numerous instances of manufacture. The contest comes to be this: The opponent says the invention is a mere mechanical equivalent, a method which an ordinary skilled workman would adopt to avoid the suggested imperfections of the precise method hitherto followed by the opponent. The applicants, on the other hand, say it is the outcome of the creative effort of an inventive mind. The case is one which does not rest upon mere common knowledge. It depends greatly upon special trade experience and scientific knowledge.

H. C. OF A.
1916.
BROADBENT
v.
DAVIES.
Isaacs J.

The burden rests upon the opponent, and in my opinion he has failed to sustain it. He holds a patent dated 1910, which he says really embodies the applicants' invention when the knowledge of the workshop is applied to it. He has made 15,000 machines under that patent, and has never in a single instance resorted to the applicants' method. It is said that was because no imperfections such as have been suggested have been observed. But there is uncontradicted evidence of skilled men who say that distortions would naturally in the course of things appear, and would need correction. This is in addition to the denial of substantial identity by the applicants themselves. Therefore we have two methods, not identical, not manifestly the same in substance, so as to make the one a mere obvious working equivalent of the other, and the evidence, which is documentary, is such that the opponent fails to clearly establish the objection he raises. The case of *McGlashan v. Rabett* (1) therefore applies, and the appeal should be allowed.

GAVAN DUFFY J. I agree that the appeal should be allowed.

RICH J. I agree.

Appeal allowed. Patent to be granted conditionally upon the amendment of claim 5

H. C. OF A.
1916.

BROADBENT
v.
DAVIES.

by inserting the word "having" before the words "the internal edge." Respondent to pay costs of appeal and £10 10s. for costs before Commissioner.

Solicitor for the appellants, *Arthur Muddle*.

Solicitor for the respondent, *Henry Davis*.

B. L.

[HIGH COURT OF AUSTRALIA.]

MELBOURNE NATHAN DEARMAN . . . APPELLANT ;

AND

DAISY GERTRUDE DEARMAN . . . RESPONDENT.

DAISY GERTRUDE DEARMAN . . . APPELLANT ;

AND

MELBOURNE NATHAN DEARMAN . . . RESPONDENT.

ON APPEAL FROM THE SUPREME COURT OF
NEW SOUTH WALES.

H. C. OF A.
1915-1916.

SYDNEY,
Nov. 24, 25,
1915;
April 10,
1916.

Isaacs,
Gavan Duffy
and Rich JJ.

Husband and Wife—Divorce—Desertion—Constructive desertion—Evidence.

Where a husband leaves his wife in consequence of conduct on her part which justifies him in believing that she has committed adultery, her conduct does not amount to constructive desertion by her unless it is marked by persistence regardless of consequences or is accompanied by refusal to discontinue that conduct, so as to show an intention on her part to break off matrimonial relations or an intention to persevere in intolerable conduct.

Decision of the Supreme Court of New South Wales (*Gordon J.*) affirmed.