[HIGH COURT OF AUSTRALIA.]

MAEDER . . . . . APPELLANT;
PLAINTIFF,

AND

BUSCH AND ANOTHER . . . . . RESPONDENTS.
DEFENDANTS,

ON APPEAL FROM THE SUPREME COURT OF SOUTH AUSTRALIA.

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ADELAIDE, 1937, *Oct.* 19-21.

SYDNEY, 1938, *Mar.* 1.

Latham C.J., Dixon, Evatt and McTiernan JJ.

Patent—Validity—Permanent waving of human hair still growing on the head—Process in relation thereto—Prior knowledge and user—New method of conducting operation on part of the human body, Whether patentable.

M. was granted letters patent in respect of an improved process of, and means for, producing permanent waves in human hair still growing on the head. It was common knowledge that the hair had to be moistened and warmed in order to produce the desired waves. M.'s claim was for the use in the waving process of (1) a sulphide solution, (2) more particularly, a hydrosulphide solution, (3) any such solution together with the warming of the hair to a temperature of approximately 100 degrees C. In an action by M. for infringement evidence was adduced which showed that before the grant of M.'s patent such solutions were known in the business or occupation of hairdressing as useful for this purpose, and that they were so used from time to time and on many occasions by hairdressers in their ordinary work. The degree of heat required was varied as appeared to be necessary, and the application of a temperature of 100 degrees C. was adopted in common practice. This evidence was accepted by the trial judge, who found that the grant of letters patent was invalid on the grounds of prior public commercial user and want of novelty.

Held that the claims upon which M. based his action were invalid by reason of prior common knowledge and prior public user.

Quære whether a claim for a new method of conducting an operation upon a part of the human body (as distinct from a claim relating to an appliance or a substance which may be used upon or in connection with the human body), and, in particular, a method of treating the hair, can be protected under the law relating to patents.

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Decision of the Supreme Court of South Australia (*Cleland* J.) affirmed.

APPEAL from the Supreme Court of South Australia.

Frederic Maeder instituted an action in the Supreme Court of South Australia against Walter Busch and Henry Anton for an infringement of his patent No. 17990, granted on 13th June 1933, for the term of sixteen years, for an invention entitled "Process of and means for producing permanent waves in hair," praying for an injunction, that an inquiry might be had as to the damages sustained by the plaintiff by reason of the infringement and an order for payment of such damages, or, alternatively, that an account might be taken of the profits made by reason of the infringement and an order for payment of such profits to the plaintiff, delivery up and destruction of the infringing articles, and an order that the defendants should pay the plaintiff's costs.

The plaintiff's complete specification was as follows:—

"This invention relates to a process for forming permanent waves in hair, and to means for producing such permanent waves.

"One of the advantages of this invention lies in that it is possible to effect such waving without the long heating which is at present necessary and without using electrical and highly heated apparatus in proximity to the scalp, also without damaging the hair. It is sufficient for instance to apply to the formed hair a slightly warmed packing (such as a clip) and to allow this to cool. The thereby applied heat is sufficient to permanently curl the hair.

"The basis of the invention consists in that the hair is treated with a solution of a sulphide, is then curled, and is finally warmed at least until it is dry. The use of sulphide for the removal of hair is known. It is therefore surprising that it is possible to use this without damaging the hair. According to this invention the hair is for a short time subjected to the sulphide. The time is not sufficiently long to destroy the substance of the hair, as after the damping of the hair the sulphide solution is soon evaporated and the sulphide decomposed

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or changed so that its activity is consequently lost in a relatively short time. The action is only sufficiently long to soften the hair.

"During the following drying action of the hair we probably have three parallel events. Firstly the softening of the hair under the influence of the sulphide and the warmth. Secondly, the taking shape of the hair on account of the warmth and pressure, and thirdly the removal of the sulphide during evaporation of the solution through the sulphide becoming decomposed or changed so that its activity is lost.

"As sulphides, we can in practice use sulphides of all materials.

"So that the sulphides can act on the hair they must be soluble, and we therefore, for this purpose use soluble sulphide or sulphide containing materials which through conversion form soluble sulphides. The most effective of the sulphides consists in the combination of SH-ions and OH-ions by hydrolysis. It is therefore necessary to see that chiefly equivalent parts of these ions are present. In some cases it is preferable to use surplus alkali for instance by an addition of ammonia. The sulphides which in particular came under our consideration are, the sulphides of the alkalies, alkaline earths, the heavier metals particularly such combinations of heavy metallic sulphides as orpiment with lime or other alkali materials which can be converted.

"A particularly useful group are the hydrosulphides as they conform to the above-named conditions. As examples are cited the calcium hydrosulphides. Under the hydrosulphides we find the particularly useful ammonium hydrosulphide as during the heating and drying process it completely evaporates and leaves no sediment in the hair which could change the character of the hair.

"As an example the invention can be carried out in the following manner :—

"The hair is damped, with the assistance of cotton wool, by a liquid consisting of 2.5 parts of ammonium hydrosulphide (NH4) HS in 97.5 parts of water. The hair is now wrapped on to a curler of known construction which can be warmed. Over the curled hair is placed a packing, for instance a clip, which has been previously heated to approximately 100 degrees C. The clip is preferably in the form of a split tube in the inside of which the curler, with the

hair upon it lies. The clip is now allowed to cool which takes 10 to 15 minutes, and thereupon removed. It is obvious after washing and placing in hot water that the hair through this has taken on the curl.

"It will be understood that it is possible to treat such hair with a built-in heater, and by such use the before-described curl formation is shortened. On account of the altered temperature it is of course necessary to change the concentration of the moistening bath in accordance with the temperature. In normal cases this would be far too high so that the temperature must of necessity be lowered. By this invention the before-mentioned advantages are achieved which consist in the elimination of current carrying and heating apparatus in proximity to the sensitive scalp and also complicated and expensive heating apparatus is rendered unnecessary. For the heating of the clip it is sufficient to have a steam bath by means of which the clips are kept dry, or an electric heating rod upon which the clips are held. Naturally it is also possible to use other heating means such for instance as a spirit heater; but by means of the above-mentioned heating methods a constant initial temperature of the clip should be maintained. It is understood that I can take a perforated clip and effect the drying by means of hot air. In this case, however, the hot air can easily contact with the scalp and it would be found unpleasant. Under these circumstances the solution can also remain too long in contact with the hair.

"The necessary concentration of sulphides stand in inverse proportion to the applied heat, that is, if a weaker concentration is used so the heating temperature must be higher, for instance, 180 degrees C. When using a lower temperature it is necessary to strengthen the concentrate.

"With hair which shows more hardness it is necessary to use a stronger concentrate or a higher temperature than with thicker hair. The forming action is also directly proportional to the concentration, the temperature, the time of heating and the strength of the hair.

"The selection of the moistening bath can also be effected in such a manner that organic material can be added to the bath, in

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particular colloid materials. On account of the absorption of the ions or by reaction with the sulphides the action of the moistening baths is weakened.

"To an above chemical preparation can be added, for instance, a concentrated viscous gum-arabic preparation in the proportion of 50 ccm. to 10 ccm. gum arabic.

"It is also possible to so carry out the method that the moisture bath can have such materials added which would strengthen the hair and give it more body. Very suitable substances are the thermo-plastic substances which by evaporation remain behind in a permanent state, that is, they cannot be washed out. Such material are the white of an egg and its dissociation products, albumin (egg albumin, blood albumin) collagen (gelatine and the like), sericin, casein, keratin, and the like. If necessary these substances can through treatment with a coagulant or tanning substances be rendered a strengthening agent to the hair, in that they settle during the swelling.

"As sap and gum of plants we note: Agar agar, gum arabic and similar materials.

"Of the organic colloids we note: Cellulose, starch; also resins and synthetic resins. The cellulose can be in the form of its nitrate or acetate. Also viscose is suitable for introducing cellulose.

"The starch can also be introduced in the form of the s.g. soluble starch as also in the form of dextrine.

"As a substitute for resins and synthetic resins we have for instance shellac and their synthetic substitutes.

"For strengthening the hair, particularly its form, we have found the natural and synthetic horn materials of greatest use. Under synthetic horn are understood such materials which are substitutes for the natural form (keratin) and materials having similar physical properties without these materials being in close chemical relationship. All these materials have thermoplastic and elastic properties in that they may be given a form when warmed which they retain when cool and are not brittle, but elastic. As such, materials particularly useful are natural keratin also casein, particularly its reaction product with formaldehyde, which is known under the

commercial name of " Galalith " as well as its synthetic products. It will be known that galalith cannot be dissolved without it being first broken down. The therein-contained products can be used by proper suspension, for instance we can dissolve galalith in glacial acetic acid and the thereby-obtained products can after evaporation of the acetic acid be dispersed with ammonia. Finally, are also included in this way the synthetic resins, according to the desired configuration, for instance the phenolaldehyd resins, provided they are not brittle but sufficiently elastic.

" In the following I have set forth examples of such organic filler materials. In all cases the mentioned materials can be added in a concentration of about 3 per cent.

" For example with keratin :

" 100 gr. commercial keratin are suspended in 500 ccm. of 96 per cent alcohol and this liquid is slowly under continual stirring poured into 500 ccm concentrated aqua-ammonia (specific gravity 0.900). After solution has set in we mix 60 ccm. of this with 100 ccm. of a 10 per cent ammonium hydrosulphide solution. The resulting sediment is filtered and the solutions used as above described.

" For example with casein :

" The casein is dissolved in concentrated ammonia of about 25 per cent and so much of this added to the first-mentioned above solution that the finished mixture contains about 3 per cent casein.

" For example with synthetic resin :

" 30 ccm. nitrocellulose varnish as it is handled under the trade name Bakelite R is mixed with 20 ccm. of a 10 per cent ammonium hydrosulphide solution and so much 96 per cent alcohol added till the resulting sediment is again dissolved. The solution is used as above.

" For example with nitrocellulose :

" 30 ccm. nitrocellulose—varnish as it is handled under the trade mark " Cellon " is mixed with 20 ccm. 10 per cent ammonium hydrosulphide solution, thereupon acetone is added till the fluid is emulsified. The solution is used as above.

" In similar manner we can use acetylcellulose the concentration of which in the final product is about 3 per cent.

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"When using viscose it is best to use slightly ripened viscose and when thinning and mixing the viscose the known directions should be followed.

"For example with barium sulphide and keratin :

"10 gr. barium sulphide are mixed with 120 ccm. aqua ammonia (of a specific gravity 0.900). While the liquid is still milky and before the powder settles quickly add 60 ccm. of a 10 per cent aqueous alcohol keratin solution and the liquid from the resulting sediment is removed. It will be obvious that barium sulphide can also be used without keratin.

"In the case where upon removal of the clip the hair is still damp it is possible to add more alcohol to the solution whereupon a quicker evaporation is effected, also it is possible by a particularly good insulation of the clip for a longer heating to be taken care of and there through attaining complete drying.

"Having now fully described and ascertained my said invention and the manner in which it is to be performed, I declare that what I claim is :—

"1. Process for permanently waving hair characterized in that the hair is moistened with a sulphide solution, the hair being thereupon waved and warmed.

"2. Process for permanently waving hair characterized in that the hair is moistened with a solution of a hydrosulphide, in particular ammonium hydrosulphide, the hair being thereupon waved and warmed.

"3. Process for permanently waving hair characterized in that the hair is moistened with a sulphide solution ; such as hydrosulphide, in particular ammonium hydrosulphide ; the hair being thereupon waved and subjected to a temperature of approximately 100 degrees C. in a warmed packing, for instance in a tubular clip.

"4. Process according to claims 1, 2, or 3 characterized by the addition to the solution of organic colloids.

"5. Process according to claims 1, 2, or 3 characterized by the addition to the solution of an irreversible, in particular thermoplastic, colloid.

"6. Process according to claims 1, 2, or 3 characterized by the addition to the solution of natural or synthetic horn substances.

"7. Process according to claims 1, 2, or 3 characterized by the addition to the solution of an organic colloid and a natural or synthetic horn substance.

"8. A preparation for waving hair characterized by the presence of a dissolved sulphide.

"9. A preparation for waving hair characterized by the presence of a hydrosulphide, in particular ammonium hydrosulphide.

"10. A preparation for waving hair according to claims 8 or 9 characterized by the presence of an organic colloid.

"11. A preparation for waving hair according to claims 8 or 9 characterized by the presence of an irreversible, in particular thermoplastic, colloid.

"12. A preparation for waving hair according to claims 8 or 9 characterized by the presence of natural or synthetic horn substance.

"13. A preparation for waving hair according to claims 8 or 9 characterized by the presence of an organic colloid and natural or synthetic horn substance."

The claims set out in clauses numbered 1, 2, 3, 8 and 9 were those alleged to have been infringed.

The defendants, by their statement of defence, denied that they had infringed the plaintiff's letters patent and alleged that the patent was and always had been invalid for the reasons appearing in the particulars of objection. These were (1) want of subject matter, in that it was not a manner of new manufacture, but consisted only of the employment of a well-known process of permanent waving or, alternatively, of the application of a fundamental principle of chemistry; (2) want of novelty by reason of (*a*) prior user, (*b*) prior publication, and (*c*) prior common general knowledge; (3) want of utility; (4) that the specification did not particularly describe the nature of the invention and was insufficient to enable the alleged invention to be carried into effect; (5) that the specification did not sufficiently define the scope of the monopoly sought to be protected; (6) that the specification did not sufficiently distinguish which of the things therein described were claimed to have been invented; (7) that the specification did not disclose the best method of performance then known to the plaintiff; (8) that the letters patent were obtained on a false representation, in that the process was

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stated to be an improved method of obtaining permanent waves in hair without the use of highly heated apparatus in proximity to the scalp and without damaging the hair, which was not the case ; (9) that the alleged invention was secretly worked by the plaintiff within the Commonwealth on a commercial scale prior to the date of the letters patent ; and (10) that the plaintiff had contravened the condition in the letters patent that the grant should not be prejudicial or inconvenient to the public in general.

Cleland J., on a review of the evidence, came to the following conclusions of fact :—

1. A sulphide solution (hydro-sulphide of ammonia) was and is employed in the process of wig-making—that is, the curling and waving of human hair which has been separated from the head—and this process was in common public use for that purpose since about forty years ago, and probably for a much longer period.

2. The process of producing and forming " permanent waves " in human hair still growing on the head was and is almost identical with the process of curling and waving hair for wig-making.

3. In the case of hair still growing on the head, the desired heat was applied to the hair (after being moistened with the solution) by means of electrically or chemically heated contrivances in which each strand of hair (having been wound round a curling pin) was placed.

4. The amount of heat required varied in each case according to the texture of the hair, the strength and quantity of the solution and the length of time during which the strand of hair was subjected to the solution and the heat.

5. The " permanent " curl resulting was subjected to a physical manipulation by comb and fingers, and this manipulation transformed the curl into a wave.

6. It was known long before the grant to the plaintiff of the letters patent that a sulphide solution was particularly effective in producing permanent curls, although probably the chemical reason for this effectiveness was not fully appreciated.

7. The moistening of the physically curled hair on the head with a sulphide solution, and the subsequent application of heat, and physical manipulation into waves was in common public commercial

use by, and was known to, hairdressers and to their employees for many years prior to the grant of the plaintiff's letters patent.

8. The use of the particular sulphide known as hydro-sulphide of ammonia was only used when required by customers themselves or owing to circumstances of supply, owing to its offensive smell.

On these facts the trial judge held that the plaintiff's grant of letters patent was invalid on the ground of prior public commercial user and want of novelty.

From that decision the plaintiff appealed to the High Court.

Ligertwood K.C. (with him *Ross*), for the appellant. The appellant made a discovery of a scientific fact, viz., that sulphide would produce a permanent wave in hair, and that it would do so without bringing the hair to boiling point. This is patentable (*Lightning Fastener Co. Ltd.* v. *Colonial Fastener Co. Ltd.* (1); *Frost* on *Law and Practice relating to Letters Patent for Inventions*, 4th ed. (1912), vol. I., p. 55). Permanent waving has become a commercial matter; the process produces something vendible.

[DIXON J. referred to *Hargans* v. *Commissioner of Patents* (2); *Reynolds* v. *Herbert Smith & Co. Ltd.* (3); *Case* v. *Cressy* (4).]

The patent is a new process for bringing about an old result, and is matter of new manufacture (*Lane Fox* v. *Kensington and Knightsbridge Electric Lighting Co.* (5)). A process is patentable if it can be defined, the apparatus is described and there is an improvement on previous methods. If the patent were for producing switches of hair which could be sold, there would be no answer to it. In the court below the patent was attacked on the ground that its claim was too wide; the question whether the process was patentable was not raised. The trial judge's findings should be corrected. The use of sulphide had previously been only incidental; operators had been concentrating on the use of ammonia (*Boyce* v. *Morris Motors Ltd.* (6)). Further, all prior processes had required that the solution be boiled on the hair. [Counsel also referred to *Otto* v. *Linford* (7);

(1) (1934) 51 R.P.C. 349.
(2) (1932) 48 C.L.R. 609, at p. 614.
(3) (1902) 20 R.P.C. 123.
(4) (1900) 17 R.P.C. 255.
(5) (1892) 3 Ch. 424.
(6) (1927) 44 R.P.C. 105.
(7) (1882) 46 L.T. (N.S.) 35.

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Leonhardt & Co. v. *Kallé & Co.* (1); *British Dynamite Co.* v. *Krebs* (2); *Watson, Laidlaw & Co.* v. *Pott, Cassels & Williamson* (3); *In the matter of Lowndes' Patent* (4); *No-Fume Ltd.* v. *Frank Pitchford & Co.* (5); *Canadian General Electric Co. Ltd.* v. *Fada Radio Ltd.* (6); *Mercedes Daimler Motor Co. Ltd.* v. *F.I.A.T. Motor Cab Co. Ltd.* (7); *International Harvester Co. of America* v. *Peacock* (8); *Vickers, Sons & Co. Ltd.* v. *Siddell* (9); *Pneumatic Tyre Co.* v. *Casswell* (10); *British United Shoe Machinery Co. Ltd.* v. *Lambert Howarth & Sons Ltd.* (11).]

Nelligan (with him *Roma Mitchell*), for the respondent. What is claimed here is outside sec. 4 of the *Patents Act* in that there is no invention, even assuming there has been something new and something useful. There is no "manufacture," which should be taken in its literal meaning.

[DIXON J. referred to *Terrell* on *Letters Patent for Inventions*, 8th ed. (1934), p. 55.]

No reported case can be found in point, because all these deal with the case of something made or produced (See *Rogers* v. *Commissioner of Patents* (12); *Ralston* v. *Smith* (13); *R.* v. *Wheeler* (14); *Adhesives Pty. Ltd.* v. *Aktieselskabet Dansk Gaerings-Industri* (15)). The application of a substance to the human body to produce a change of some kind therein is never patentable. The only new discovery here is that when sulphide is placed in a solution in the process of a permanent waving it is not necessary to maintain the heat for so long as under the old process, but this is not an invention. Having regard to pre-existing knowledge, the patent has no subject matter.

Ligertwood K.C., in reply. The principles governing the appellant's claim to a patent are set out by Lord *Haldane* in *British Thomson-Houston Co. Ltd.* v. *Corona Lamp Works Ltd.* (16). As to whether the

(1) (1895) 12 R.P.C. 103.
(2) (1879) 13 R.P.C. 190.
(3) (1911) 28 R.P.C. 565.
(4) (1927) 45 R.P.C. 48.
(5) (1935) 52 R.P.C. 231.
(6) (1930) 47 R.P.C. 69, at p. 89.
(7) (1913) 31 R.P.C. 8.
(8) (1908) 25 R.P.C. 765.
(9) (1890) 7 R.P.C. 292.
(10) (1896) 13 R.P.C. 375.
(11) (1927) 44 R.P.C. 511.
(12) (1910) 10 C.L.R. 701.
(13) (1865) 11 H.L.C. 223; 11 E.R. 1318.
(14) (1819) 2 B. & Ald. 345; 106 E.R. 392.
(15) (1936) 55 C.L.R. 523.
(16) (1921) 39 R.P.C. 49, at pp. 64, 67.

process must produce a vendible article, see *Re Alsop's Patent* (1) and *Boulton* v. *Bull* (2). The test is whether the process is a commercial process (See *Halsbury's Laws of England*, 2nd ed., vol. 24, p. 553). *Re C. & W.'s Application* (3) is distinguishable because the process there was not a matter of trade and commerce. " Manufacture " means, not a product or article, but a process (See *Roberts* on *The Grant and Validity of British Patents for Inventions* (1903)). *Re Application for a Patent by B. R.* (4), *Re Application for a Patent by A. R.* (5) and *Re Hamilton-Adam's Application for a Patent* (6) turn on the lack of subject matter and lack of novelty. *Re Applications for a Patent by Rau G.m.b.H.* (7) deals with a mere discovery. *C. Nestle & Co. Ltd.* v. *Eugene Ltd.* (8) referred to the act of permanent waving, but there the invention was the curler, the implement.

[Counsel also submitted to the court argument in writing of which the following is a summary :—

Ligertwood K.C. It is not necessary that in order to be patentable a process must result in a vendible article. The common-law monopoly was one which was given for the encouragement of the manual arts and crafts. The limitation that monopolies should not be mischievous to the State did not limit their subject matter, but merely indicated the considerations to be taken into account in deciding whether a particular monopoly should be declared invalid. The *Statute of Monopolies* (21 Jac. I. c. 3) did not alter the common law except by limiting the time for which a monopoly might be granted. The cases since that statute have emphasized that the process must be manual (including, of course, chemical processes), that it must be applied to corporeal substances, and that it must produce predicable results (*Forsyth* v. *Riviere* (9) ; *Re Hartley's Patent* (10) ; *Electric Telegraph Co.* v. *Brett* (11) ; *Loth's Patent* (12)). The result arrived at must be useful, but it need not be an article

(1) (1907) 24 R.P.C. 733, at p. 752.
(2) (1795) 2 Bl. H. 463, at pp. 492, 494 ; 126 E.R. 651, at pp. 666, 667.
(3) (1914) 31 R.P.C. 235.
(4) (1923) 40 R.P.C. 469.
(5) (1923) 40 R.P.C. 467.
(6) (1918) 35 R.P.C. 90.
(7) (1935) 52 R.P.C. 362.
(8) (1922) 39 R.P.C. 38.
(9) (1819) 1 Carp. Pat. Cas. 401.
(10) (1777) 1 Web. Pat. Cas. 54.
(11) (1851) 10 C.B. 838 ; 138 E.R. 331.
(12) (1925) 41 R.P.C. 273.

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at all (*Re Alsop's Patent* (1)). The process of the permanent waving of hair differs from methods of medical treatment in general because of the nature of human hair. Hair is hardly a living structure at all ; for all of its length above the surface of the skin, and for seven-eighths of it in the follicle, the hair is without life. Medical treatment, on the other hand, is not patentable, because it deals with the living tissues of the body, and no particular method will, in all circumstances and conditions, produce upon all persons the same results (*Rossman* on *The Law of Patents for Chemists*, 2nd ed. (1934), p. 184). In the present case there is an industrial art or craft which engages by way of trade in the manual occupation of producing permanent waves in hair (a dead corporeal substance) on the human head. The process is one which is capable of producing known results in all cases. It has been the practice of the patent offices in Australia and in England to grant patents for processes for permanent waving. Such patents have also been granted in several foreign countries. *Hindmarch* on *Patent Privileges* (1846), at pp. 79-83, 101, 102, took the view that the production of a vendible article was necessary, but that view is not supported by the authorities on which he relied. The only reference to a vendible article in *Boulton* v. *Bull* (2) is by *Heath* J. (3), who dissented from *Eyre* C.J. and propounded the theory that a patent for a process is not valid ; in the judgment of *Eyre* C.J., who maintained that a patent for a process was good, there is no reference to the requirement of a vendible article. *R.* v. *Wheeler* (4) does not make it necessary that the process should result in a vendible article: It is sufficient that the process contains some new mode of employing practically the art and skill of the workman in a manual art. *Cornish* v. *Keene* (5) merely makes the fact that a vendible article is produced a sufficient test of patentability ; it does not say it is the only test. *Hindmarch's* proposition appears in *Frost* on *Letters Patent for Inventions*, 1st ed. (1891), at p. 25, but in the 3rd ed. (1906), vol. I., at p. 25, it is qualified in a significant manner. In the case cited by *Frost*, *Re Cooper's Application* (6),

(1) (1907) 24 R.P.C., at p. 752.
(2) (1795) 2 Bl. H. 463 ; 126 E.R. 651.
(3) (1795) 2 Bl. H., at p. 483 ; 126 E.R., at p. 661.
(4) (1819) 2 B. & Ald., at pp. 349, 350 ; 106 E.R., at pp. 394, 395.
(5) (1837) 3 Bing. N.C. 570, at p. 586 ; 132 E.R. 530, at p. 536.
(6) (1901) 19 R.P.C. 53.

the only requirement is that there must be a material product of some substantial character. *Johnson's Patent* (1) merely decided that a system of business correspondence could not be patented. Apart from *Frost*, *Hindmarch's* proposition is not supported by text-book writers (See *Webster*, *Letters Patent for Inventions* (1841), at p. 8; *Edmunds* on *Patents*, 1st ed. (1890), and cf. 2nd ed. (1897), at pp. 19, 20; *Terrell* on *Patents*, 8th ed. (1934); *Halsbury's Laws of England*, 2nd ed., vol. 24, p. 553; *Cunninghame's English Patent Practice* (1894), at p. 42; *Johnson's Patent Manual*, 5th ed. (1884); *Wallace and Williamson* on *Letters Patent* (1900); *Roberts* on *The Grant and Validity of British Patents for Inventions* (1903); *American and English Encyclopædia of Law*, 2nd ed., vol. 22, p. 273).

Nelligan. The foundation of present day patent law is contained in the sixth clause of the *Statute of Monopolies*. In the main the statute was declaratory only of the law which had been pronounced by the courts, and it stated, *inter alia*, that the manufacture should not be "generally inconvenient." The rights of the subject at common law, although affected by the law relating to grants of monopoly patents, were still paramount. The grantee of the privilege was the possessor of rights which were directed, if in any direction, against possible competitors, or rivals, in his trade. The patentee was obliged to bring into Britain something which could be sold, or the means for producing something of a saleable nature. *Webster*, *Letters Patent for Inventions* (1841), at p. 45, collates the cases decided between 1630 and 1830. It is significant that in all of them the patent was for the production of something of a vendible character or for an improvement in an already existing vendible article. In no case was a patent granted for the production of anything on the human body or naturally connected with it. If there is involved, even indirectly, a conflict between the rights of the subject in matters peculiarly his own and the rights of trade and commerce, the rights of the subject prevail. The *Statute of Monopolies* is the foundation of our existing patent law. This requires that the alleged invention shall be a "manner of new manufacture." The natural meaning of

(1) (1909) 26 R.P.C. 52, at p. 56.

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the term " monopoly " is exclusive sale. In discussing a monopoly, therefore, emphasis may be laid on the vendible character of the subject under consideration. What is sold may involve the exercise of a highly skilled art, and in that sense " art " may be synonymous with " manufacture." It may involve the use of what in modern times is designated a " process," and in that sense the word " process " may be employed as a synonym with " manufacture " (*Crossley* v. *Potter* (1); *Goodeve's Patent Cases*, vol. I., at pp. 138, 139). But, whatever the nature of the art, there must be a vendible product (*Frost, Letters Patent for Inventions*, 4th ed. (1912), vol. I., p. 31; *Halsbury's Laws of England*, 1st ed., vol. 22, p. 134; *Boulton* v. *Bull* (2); *R.* v. *Wheeler* (3); *Cornish* v. *Keene* (4); *Morgan* v. *Seaward* (5); *Rogers* v. *Commissioner of Patents* (6)). If the production involves art in contradistinction to the construction of any piece of workmanship, the thing that the art produces must be vendible, or an addition to, or improvement on, some already existing vendible article.]

Cur. adv. vult.

1938, Mar. 1. The following written judgments were delivered :—

LATHAM C.J. *Cleland* J., from whose judgment this appeal is brought, held that the plaintiff's patent was invalid by reason of prior common knowledge and prior public user of the inventions claimed. The inventions related to the permanent waving of human hair. It was admittedly common knowledge that the hair had to be moistened and warmed in order to produce the desired waves. The claims of the plaintiff were for the use in the waving process of (1) a sulphide solution, (2) more particularly, a hydrosulphide solution, (3) the use of any such solution together with the warming of the hair to a temperature of approximately 100 degrees C. Evidence was called which, if believed, showed that such solutions were known in the business or occupation of hairdressing as being

(1) (1853) Mac. Pat. Cas. 240.
(2) (1795) 2 Bl. H. 463; 126 E.R. 651.
(3) (1819) 2 B. & Ald. 345, at p. 349; 106 E.R. 392, at p. 394.
(4) (1837) 3 Bing. N.C. 570; 132 E.R. 530.
(5) (1837) 2 M. & W. 544; 150 E.R. 874.
(6) (1910) 10 C.L.R. 701.

useful for this purpose and that they were so used from time to time and on many occasions by hairdressers in their ordinary work. The degree of heat required was varied as appeared to be necessary, and the application of a temperature of 100 degrees C. (boiling point) was included in common practice. This evidence was believed by the learned trial judge.

There were also claims for preparations for waving hair characterized by the presence of (1) a dissolved sulphide, and (2) a hydrosulphide. Evidence accepted by the learned judge showed that sulphide solutions and, in particular, hydrosulphide solutions had been made and used for the purpose of waving hair, both cut hair and growing hair, before the grant of the plaintiff's patent.

I agree that the claims upon which the plaintiff based his action, namely, claims 1, 2, 3, 8 and 9, are invalid for the reasons stated by the learned trial judge, and I am therefore of opinion that the judgment of the Supreme Court should be affirmed.

It is accordingly unnecessary for me to deal with the interesting and important question whether a claim for a new method of conducting an operation upon a part of the human body can be protected under the law relating to patents. Such a claim is, of course, quite different from a claim relating to an appliance or a substance which may be used upon or in connection with the human body. I am very doubtful whether such a method or process can itself be regarded as a " manner of manufacture " within the meaning of sec. 4 of the *Patents Act* 1903-1935 (See *Re C. & W.'s Application* (1); *R.* v. *Wheeler* (2); and compare *Rogers* v. *Commissioner of Patents* (3)). The question raised is, however, so important and possibly so far-reaching, that it is wise to abstain from deciding it until the necessity for doing so arises.

In my opinion the appeal should be dismissed.

Dixon J. In my opinion the material claims of the plaintiff's specification are invalid because they cover a use of sulphide solutions and of hydrosulphide solutions together with heat for waving hair,

(1) (1914) 31 R.P.C. 235.
(2) (1819) 2 B. & Ald. 345; 106 E.R. 392.
(3) (1910) 10 C.L.R. 701.

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which was the subject of prior public user, and his appeal ought to be dismissed on this ground.

The alleged invention is for a process for forming permanent waves in hair and for a means of producing permanent waves. Presumably, the means resides in the preparations described in claims which are appended to the specifications. Of the claims for preparations, two only are alleged to be infringed. They claim respectively " a preparation for waving hair characterized by the presence of a dissolved sulphide " and " a preparation for waving hair characterized by the presence of a hydrosulphide, in particular ammonium sulphide." As a claim to a thing or substance, neither could possibly stand, and as claims for using the chemicals mentioned for the purpose of waving hair, even if they could bear that interpretation, they cannot have any greater, or, indeed, as much, validity as the claims for the process. The claims for a preparation may, therefore, be put aside. The three claims for a process upon which the plaintiff relies merit closer attention. His alleged invention, which is the subject of a convention patent dating as from 13th June 1933, professes to give at least two advantages in the practice of the art of permanent waving. It makes it possible to wave the hair without a prolonged application of heat. The second advantage flows from the first. It consists in allowing the use of less elaborate implements for heating. It does not require an apparatus containing elements at a high temperature which must be brought in hazardous proximity to the scalp. The principle upon which it was said the methods so far in use depended was that of subjecting hair wound on a curler to an alkaline solution which was heated to boiling point. The curler with the hair so wound upon it was enclosed in some form of cylinder or small chamber heated, usually electrically, for the purpose. Machines were in use furnished with numerous cylinders or similar attachments into each of which the operator would introduce a curler with an appropriate quantity of the customer's hair wound upon it, while the customer sat beneath until the required heat had been long enough applied.

Some time before making the alleged discovery upon which he now rests, the plaintiff, a German hairdresser practising his art in

South Australia, had abandoned the overhead apparatus as a means of applying heat in favour of a form of metal clip. The clip was heated and then placed round the wound hair; which, of course, was first moistened with whatever solution might find favour. The temperature to which the clip was raised before it was placed round the curler appears to have been quite high. The plaintiff says that he then made some experiments with solutions containing a sulphide. He visited Germany, where he consulted chemists, and finally he obtained protection in Germany for the invention for which, when he returned, he obtained here the convention patent now in question.

The whole foundation of the invention claimed is the use of a sulphide solution to moisten hair. The specification states it in a sentence: "The basis of the invention consists in that the hair is treated with a solution of a sulphide, is then curled and is finally warmed at least until it is dry." It appears elsewhere in the specification that the sulphides intended are "soluble sulphides or sulphides containing materials which through conversion form soluble sulphides." A question has been raised whether this means soluble in water, but I should have thought that it was clearly the meaning of the expression. Ammonium hydrosulphide is such a soluble sulphide, and it has long been in use in the hairdressing trade. One purpose for which it has been used can be put on one side. It is the purpose of a depilatory. Another purpose is in wig-making. Hair which is to be given a lasting curl or wave for a false wig is treated with a solution of ammonium hydrosulphide in a manner not unlike that which the plaintiff applies to growing hair. It is wound on a stick or curler, immersed in the solution and then dried in an oven. *A priori* it would appear most probable that hairdressers familiar with this use of the sulphide would employ it for the purpose of permanent waving when that vogue began. Witnesses were in fact called to prove that before 13th June 1933 ammonium hydrosulphide and also sodium sulphide and barium sulphide had been used in Melbourne and in Adelaide in the course of permanent waving. They were used in solution for the purpose of wetting hair which, when wound upon curlers, was heated in one or other of the appliances or machines in use. The evidence of these witnesses

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was accepted by the learned judge who heard the action. A complaint is made on behalf of the appellant to the effect that his counsel lost an opportunity of discussing before his Honour the significance and credibility of this evidence in consequence of the course which was taken at the trial in deference to a conclusion against the plaintiff, which the learned judge announced, based upon the meaning ascribed to the specification. On the other hand, we had the advantage of hearing an argument in which the evidence as it is recorded was examined and criticised; and I think it would be difficult for any tribunal of fact to adopt any view of the evidence more favourable than that which for the purpose of my decision I am prepared to assume. Stated briefly and in general terms that view is as follows:—In at least two establishments in Melbourne a weak solution of ammonium hydrosulphide was regularly employed for long periods at a stretch. It was used in the main because supplies of tablets for a solution prepared by the makers of one kind of overhead apparatus were difficult to obtain. It was also sometimes used because a particular customer's hair was of a type difficult to treat and the sulphide was known to give a better result. It would have been used more but for the fact that it gave off an unpleasant smell. In one or two other establishments a more haphazard or occasional use was made of the same sulphide. In Adelaide an experimental use was made of solutions of barium sulphide and of sodium sulphide. None of those who used any of the three sulphides had any knowledge of chemistry. The solution used was weaker than that employed by the plaintiff. To a large extent in turning to it they were guided by the general use in the trade of ammonium hydrosulphide. They knew what results it produced, but had no knowledge of why it did so. In fact the alkalinity of the weak solution may have been the cause of its efficacy, and not other properties peculiar to soluble sulphides. The degree of heat applied was in all these cases high or prolonged. In some instances the heat was produced chemically and not electrically. Little importance can attach to the question whether the hair was moistened before or after winding, but the fact appears to be that sometimes it was done before and sometimes after. In contrast to this use of sulphides, the plaintiff sought to

show that, in the first place, moderate temperatures sufficed for his process, in the second place, it employed a greater concentration in the solution, and, in the third place, it depended, not on alkalinity, but on the properties peculiar to sulphides. For the last he relied upon recent scientific explanations or hypotheses as to the operation of sulphides upon the keratin molecular structure. He did not pretend that, in making his alleged invention, he was indebted to these theories, but he relied upon them as suggesting that his process differed in its scientific basis from that followed in the instances of prior user set up. On behalf of the plaintiff it is contended that what took place was at most but a fortuitous and accidental user which did not really disclose the invention. In this view I cannot agree. It is, in my opinion, answered by the plaintiff's own specification and by the breadth of his claims. In the authority chiefly relied upon, namely, the decision of *Astbury* J. in *Boyce* v. *Morris Motors Ltd.* (1), the alleged prior user was a casual and temporary application of the idea embodied in the subsequent invention in order to fulfil a quite different purpose. In the present case the prior user was an adaptation to precisely the same purpose of the same ordinary trade knowledge or practice as the plaintiff made the source of his invention; applied, moreover, in a way which would now amount to an infringement of the plaintiff's claims. In the course of the specification the following passages occur:—" It will be understood that it is possible to treat such hair with a built-in heater, and by such use the before-described curl formation is shortened. On account of the altered temperature it is of course necessary to change the concentration of the moistening bath in accordance with the temperature. In normal cases this would be far too high so that the temperature must of necessity be lowered." " The necessary concentration of sulphides stand in inverse proportion to the applied heat, that is, if a weaker concentration is used so the heating temperature must be higher, for instance 180 degrees C. When using a lower temperature it is necessary to strengthen the concentrate. With hair which shows more hardness it is necessary to use a stronger concentrate or a higher temperature than with thicker hair.

(1) (1926) 44 R.P.C., at p. 134.

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The forming action is also directly proportional to the concentration, the temperature, the time of heating and the strength of the hair." It is thus quite clear that the body of the specification includes the use of heat by any means and intends to cover wide variations of temperature and wide inverse variations of concentration in the sulphide solution.

The first claim is for a process for permanently waving hair, characterized in that the hair is moistened with a sulphide solution, the hair being thereupon waved and warmed. The words " moistened " and " warmed " are indefinite. The latter is open to an interpretation which confines it to very low temperatures. But it is also capable of a meaning that includes a wide range of temperature ; and the body of the specification shows that just as the strength of the sulphide solution is variable so is the temperature. The claiming clause may be perhaps open to objection on the ground that in these respects it leaves the ambit of the monopoly uncertain. But, if on the subject of the strength of the solution and the amount of heat it is to receive a definite construction, then it must, in my opinion, be construed as covering a low concentration and a commensurate increase of temperature.

The second claim does not differ from the first, except in restricting the sulphide to a hydrosulphide. These two claims are, in my opinion, bad because they embrace a process that was within prior common knowledge and the subject of public user.

The third claim differs in fixing upon a temperature of approximately 100° C. It speaks of the hair being waved and subjected to that temperature in a warmed packing, for instance, a tubular clip. It is said that this means that the temperature of the clip shall be 100° C., so that the hair would receive a much lower heat. I do not think that this is the natural meaning of the words, which point rather to the idea that the solution shall be raised to the temperature at which water boils. However this may be, I think that the selection of the particular temperature cannot be an inventive step, nor can the choice of " a warmed packing," whatever may be the precise area covered by that expression. In view of prior knowledge and user, no subject matter can be found in the arbitrary

choice of this precise combination within the variations which are practically open.

These are my reasons for saying that the material claims are bad. But, apart from any such ground of invalidity, the claims for a mere process consisting in the application of well-known chemical compounds and heat to the hair, a part of the human creature, raise a serious question in relation to subject matter. Can the discovery or improvisation of a mere process or method of treating any corporeal part of the human being afford subject matter for a patent? To be patentable an invention must relate to an art. Perhaps the widest statement is one of the earliest. In *Boulton* v. *Bull* (1) *Eyre* L.C.J. said :—" It was admitted in the argument at the Bar, that the word ' manufacture ' in the statute was of extensive signification, that it applied not only to things made, but to the practice of making, to principles carried into practice in a new manner, to new results of principles carried into practice. Let us pursue this admission. Under things made, we may class, in the first place, new compositions of things, such as manufactures in the most ordinary sense of the word ; secondly, all mechanical inventions, whether made to produce old or new effects, for a new piece of mechanism is certainly a thing made. Under the practice of making we may class all new artificial manners of operating with the hand, or with instruments in common use, new processes in any art producing effects useful to the public." But the ultimate end in view is the production or treatment of, or effect upon, some entity. " Applications of old things to a new use, accompanied by the exercise of inventive power, are often patentable though there be no production of a new thing. But in every case the invention must refer to and be applicable to a tangible thing. A disembodied idea is not patentable " (*Edmunds and Bentwich, Copyright in Designs*, 2nd ed. (1908), pp. 20, 21.)

In the present case there is nothing to be affected but the hair. The chemical compounds already exist. The use of them, the application of heat and the method of treatment constitute nothing but method, procedure, treatment or process. Can the hair growing

(1) (1795) 2 Bl. H., at p. 492 ; 126 E.R., at p 666.

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upon the human head be regarded as satisfying the condition that the process shall in some way relate to the productive arts? It is part of the human body, and hitherto none of the prosthetic processes by which any of its parts have been treated has been considered subject matter for a patent. Indeed, in *Re C. & W.'s Application* (1) Lord *Buckmaster,* as a law officer, held that no patent could be obtained for extracting lead from the human body. In surgery it would not be easy to distinguish as a patentable invention an abdominal operation from face lifting. The application of a process or method of treatment to part of the human body for the purpose of improving its appearance or ameliorating its condition is distinguished from processes which may form the subject of patentable invention in aim and result. The aim is the alteration of some state or condition, feature or attribute belonging temporarily or permanently to a person. The result may be an improvement in his or her physical welfare or an increase in his or her pride of appearance. It is difficult to base any legal distinction on the motive or purpose of the operator or manipulator or on the vocation he pursues. It can hardly matter whether he acts in the exercise of a profession or art or trade or business. The purpose of the patentee and those intended to employ the process may be entirely commercial. The process may be intended for use in ordinary trade or business such as that of hairdressing, manicure, pedicure. The purpose, on the other hand, may be the relief of suffering by surgical or manipulative means. But the object is not to produce or aid the production of any article of commerce. No substance or thing forming a possible subject of commerce or a contribution to the productive arts is to be brought into existence by means of or with the aid of the process.

On the other hand, a widening conception of a manner of new manufacture has been a characteristic of the growth of patent law. In an interesting memorandum with which we were furnished by the plaintiff's counsel it is submitted that a process is patentable as an invention if it is embodied in a manual art or craft. In the application of this test to the present case a distinction is taken

(1) (1914) 31 R.P.C. 235.

between the hair and the general human frame. The hair is a lifeless and insensitive growth fulfilling only a mechanical function. It is an adjunct which plays no part in the vitality of the body. This view of the matter confesses and avoids the general proposition that a mere process or method for the treatment or manipulation of the human body cannot afford patentable subject matter. For myself, as the ground I have given is enough to dispose of the case, I prefer to leave undecided the question whether a process for treating the hair may be patentable.

In my opinion the appeal should be dismissed with costs.

EVATT J. In this appeal it is clear that, if the findings of fact made by *Cleland* J. are affirmed, they establish prior public and common user which will invalidate the process claims in the specification. The trial took a course which reacted somewhat against the plaintiff. But a new hearing is not required, for, in my opinion, even if he had the benefit of the very complete arguments which have been submitted to this court the learned judge's relevant findings would have been the same. In my opinion the evidence supports and confirms *Cleland* J.'s findings, and he was right in his decision against the validity of the process claims. The separate claims for a preparation must encounter the same fate.

On the appeal it was suggested that, under the *Patents Act*, assuming that every other element necessary to establish a valid patent is present, the mere fact that the curls are to be produced on the head of a living person precludes a valid grant. The question whether this one fact—that curls are to be made on the head of a living person—prevents the issue of a grant need not here be decided ; but I am inclined to the opinion that providing all the other elements of patentability are present, it cannot be laid down as an absolute rule that although the making of artificial curls for subsequent use on the human head can be protected by a patentable process, doing very much the same thing with the hair that is already on the head cannot be protected.

The appeal should be dismissed.

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McTIERNAN J. In this appeal the important question is raised whether a process for treating or dressing the hair of a human being is a manner of manufacture and as such patentable subject matter. This process could be held to be good subject matter of a patent only upon a wide, and perhaps novel, interpretation of the words "a manner of new manufacture." In this case it is unnecessary to resolve the doubt whether the process specified falls within this conception. I agree that the evidence amply supports the finding of *Cleland* J. that the essential elements of the alleged invention were the subject of prior public commercial user.

In my opinion the appeal should be dismissed on this ground.

Appeal dismissed with costs.

Solicitors for the appellant, *Thomson, Buttrose, Ross & Lewis.*

Solicitors for the respondents, *Nelligan, Angas Parsons & Mitchell.*

C. C. B.