

[HIGH COURT OF AUSTRALIA.]

GARDINER APPELLANT;
PLAINTIFF,

AND

HODKINSON & CO. RESPONDENTS.
DEFENDANTS,

ON APPEAL FROM THE SUPREME COURT OF
NEW SOUTH WALES.

H. C. OF A. *Patent—Validity—Novelty—Utility—Specification—Mechanical equivalents.*
1915.

SYDNEY,
Dec. 2, 3.

In an action for infringement of a patent for a combination the validity of the patent was challenged on the grounds that the alleged invention did not involve inventive skill, and that it was neither novel nor useful.

Griffith C.J.,
Gavan Duffy
and Rich JJ.

Held, on the evidence, that the invention did involve inventive skill and was not merely a substitution of mechanical equivalents; that it was both novel and useful; and that the specification clearly specified the matters which rendered the invention useful.

Decision of the Supreme Court of New South Wales (*Harvey J.*) reversed.

APPEAL from the Supreme Court of New South Wales.

A suit was brought in the Supreme Court by David Gardiner against Hodkinson & Co., a firm of engineers, for infringement of a patent for “an improved two-brick dry-pressed brick machine.” The specification was as follows:—

This invention is adapted to simplify and increase the capacity of two-brick dry-pressed brick machines. In this machine the standards are lengthened so as to form guides for a reciprocating cross head. The top head that presses the brick in the mould is carried by the cross head above the top shaft in the following manner:—To the cross head are secured two bow pieces and to the bottom ends of the bow pieces is secured the top head. The top shaft is provided with three cams, two of which are adapted to press down the top head, while the third cam is adapted to raise the top head clear of the mould box, in order to allow the charger to refill the moulds. But in order that the invention may be clearly understood reference will be made to the accompanying sheet of drawings.

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Fig. 1 is a side elevation of the machine with one standard removed.

Fig. 2 is a front elevation of the same with one of the bows removed.

Fig. 3 is a plan of the cross head above the top shaft.

A, A1, are the standards made to the required length, so as to carry two main driving shafts, the driving shaft B, above the top head, and the driving shaft bearings B1, at the bottom of the standards. The driving shaft adapted to rotate in the bearings B1, and the bottom head are not shown in the drawing. The two driving shafts are geared together by spur gearing (not shown in the drawing), so that they may operate synchronously. Above the driving shaft B is a cross head C adapted to slide in guides D fixed to the standards A, A1. The cross head C carries an anti-friction roller c, the function of which will be hereinafter explained. Below the driving shaft B is the top head E, which is provided with two anti-friction rollers e, e1, the functions of which will be hereinafter explained. The driving shaft B carries three cams, the central one F being adapted to engage with the anti-friction roller c, on the cross head C, and lift the cross head as the cam F rotates. The cams F1, F2, will, as the shaft B revolves, press down upon the anti-friction rollers e, e1, and will thus force down the top head E. The cross head C and the top head E are connected together by bows H, H, so that the two

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heads shall rise and fall together, when either of them is actuated as described. Projecting downwards from the top head E are two plungers G, G1, adapted to compress the brick material within the mould boxes g, g1, when pressure is applied by the revolution of the cams F1, F2. When the cams F1, F2 have finished their work of pressing down the top head E and compressing the contents of the mould boxes g, g1, the cam F will begin to operate upon the anti-friction roller c, and will force the cross head C upwards, taking with it the bows H, H, and the top head E, thus clearing the mould boxes g, g1, of the plungers G, G1. The pressed bricks within the mould boxes g, g1, will then be removed automatically or otherwise, when the mould boxes will be refilled, automatically or otherwise, with fresh brick material, and the pressing operation will be repeated as described.

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. In two-brick dry-pressed brick machines, long standards adapted to carry two driving shafts in the same vertical plane, a cross head sliding in guides above the upper driving shaft, a top head sliding in guides below the upper driving shaft, such top head being provided with plungers for compression purposes, and bows such as H, H, for connecting together the cross head above and the top head below the upper driving shaft, in combination with three cams carried by the upper driving shaft, the outside cams being adapted to press down upon the anti-friction rollers carried by the top head, so that the plungers carried by the top head shall be forced down upon the brick material in the mould boxes to compress the material, while the central cam will be adapted to engage with an anti-friction roller carried by the cross head above the driving shaft, thus lifting it and the top head, so that the plungers carried by the top head shall be raised clear of the mould boxes, so that the boxes can be re-charged with brick material, as and for the several purposes specified.

2. The general arrangement, construction and combination of parts in the improved two-brick dry-pressed brick machine, as herein set forth for the several purposes specified.

FIG. 1

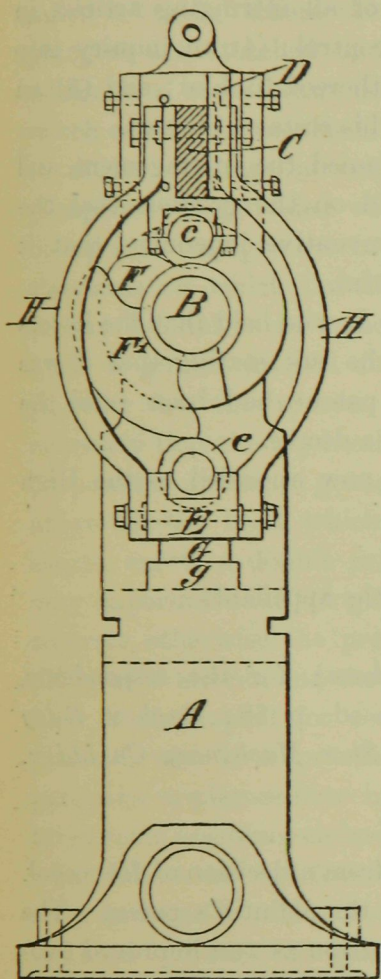


FIG. 2

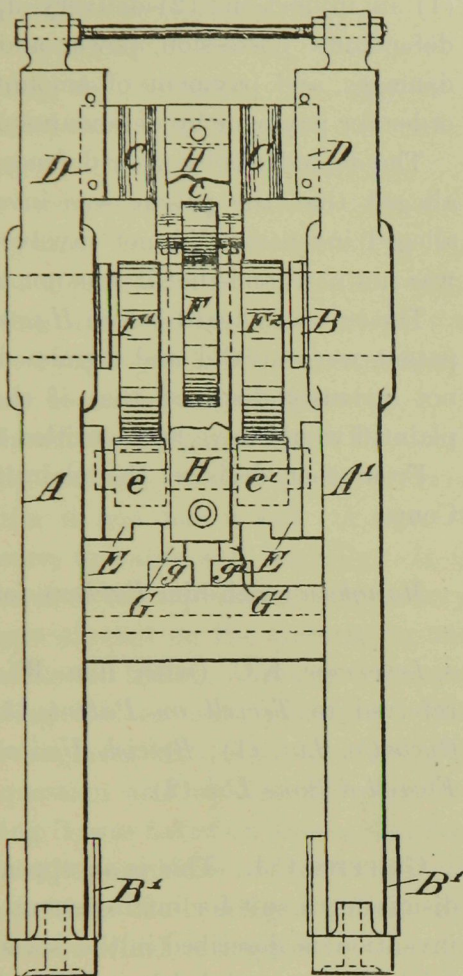
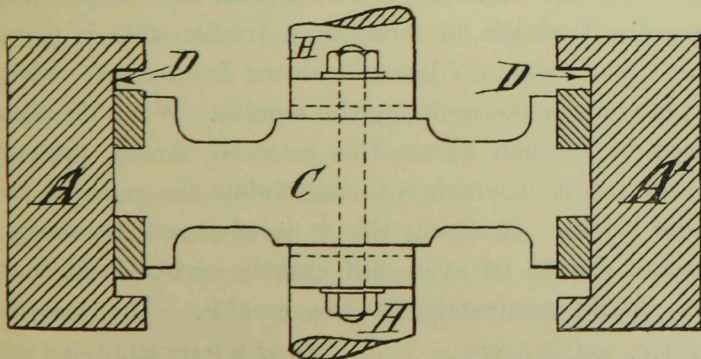


FIG. 3

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In his statement of claim the plaintiff claimed (*inter alia*) (1) an injunction; (2) delivery up of all infringing articles in defendants' possession, power and control; (4) an inquiry into damages, and payment of amount thereof to him; and (5) an order for payment by defendants of his costs of the suit.

The defendants by their defence denied the infringement, and alleged that the patent was invalid on the grounds that the alleged invention did not involve inventive ingenuity, that it was not new, and that it was not useful.

The suit was heard before *Harvey J.*, who held that the letters patent were invalid and dismissed the suit, stating that it was not seriously disputed that if the patent had been valid the plaintiff would have been entitled to a decree.

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

Maughan (with him *Parker*), for the appellant.

Leverrier K.C. (with him *Wickham*), for the respondents, referred to *Terrell on Patents*, 5th ed., p. 58; *Pugh v. Riley Cycle Co. Ltd.* (1); *British United Shoe Machinery Co. Ltd. v. Fussell & Sons Ltd.* (2).

Griffith C.J. This is an appeal from a decision of *Harvey J.* dismissing a suit for infringement of the plaintiff's patent. The invention is described in the specification as "an improved two-brick dry-pressed brick machine," that is, a machine by which bricks are made from dry material. The general principle on which machines of that sort, of which there are many forms, are constructed is that the material in a friable state is placed in moulds. Upon them are brought down from above what are called "plungers," exactly fitting the moulds. When the plungers are placed in position above the material, strong pressure is exerted, the result of which is to consolidate the material and to make solid bricks. In doing this it is, of course, necessary that the pressure should be even and exactly vertical, and that the plungers should accurately fit the moulds. The material is

(1) 31 R.P.C., 266, at p. 272.

(2) 25 R.P.C., 631.

supplied by hoppers to the moulds, which are set in what is called a "table," where the plungers come down upon it. The plungers are attached to an appliance called the "top head," which is a cross beam working up and down. The appliance which carries the moulds is called the "bottom head." In order to secure accurate movement of the top head carrying the plungers, it is provided with two projections, one at each end, fitting into two grooves or "guides," as they are called, in the standards on which the whole apparatus is carried. Generally, it may be said to be something like a guillotine, in which the knife is guided up and down by grooves in the two standards. In order that this process may be carried on continuously, it is necessary that the top head should move up and down, for which purpose the appliance generally used is a revolving cam, working above the top head, which lifts it and lets it fall. A cam, of course, exerts a double pressure, upwards and laterally. It is very important that the guidance of the top head should be very accurate, otherwise the pressure exerted on the material by the plungers is uneven and the bricks are faulty. Various processes have been adopted for securing this accurate guidance. The plaintiff, who is a practical engineer, and who invented the particular appliance now in question and has himself manufactured some machines embodying it, was asked on his examination what defects he had found in other machines in respect of guidance, and said:—"In other machines the bearing surface of the top head" (that is, the space within which it is guided) "is very short" (it is in fact only the length from top to bottom of the top head) "and the cams coming round on the roller had always a tendency to tip that head over, and the wear was very severe both on the dies and the guides." It was proved in evidence that the result of the leverage exerted by the lateral pressure of the cam was, as might have been expected, that the upper part of the guides became worn more than the lower part, so as to produce a tapering, which affected the true vertical working of the plungers which is essential to the production of good bricks.

In order to obviate this difficulty the plaintiff proposed to lengthen the guides, so that the guidance should not be confined to the height of the top head itself, but should extend above it.

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For that purpose he proposed to lengthen the standards to a considerable height above the top head—about three feet nine inches. Then, near the top of the standards, he constructed other guides in the walls of the standards, in the same vertical planes as the guides of the top head, but separated from them by the shaft carrying the cam. In order to obtain the advantage of these guides at that greater height he put in a cross head with projections fitting into the guides, exactly in the same way as the projections on the top head fitted into the lower guides. That, of course, would of itself be of no advantage. But he also conceived the idea of connecting the cross head with the top head so as to make them substantially a single rigid structure. If he could succeed in doing this, he would secure guidance for a much longer distance than before. For this purpose he connected the cross head with the top head by bands of solid metal which he calls “bow pieces.” In his specification he says:—“To the cross head are secured two bow pieces and to the bottom ends of the bow pieces is secured the top head.” The drawings show that the bow pieces, which are on each side of the cross head and top head, are necessarily solid, for if they were flexible they would hang against the machinery which lifts the structure, and are necessarily bow-shaped to keep them away from that machinery. The function of the bow pieces is to keep the top head and the cross head at the same distance from one another and to make them a single unit. The cam operates upon the upper cross head, and lifts the top head with it.

Another object which the plaintiff had in view was to avoid the direct action of the cam upon the object to be lifted, and so to diminish the lateral thrust. For that purpose he interposed an anti-friction roller between the cam and the cross head. Further, he desired to provide that that lateral thrust should work directly against some rigidly fixed bearing, so as to obviate the leverage already mentioned, which injuriously affected the guides of the top head.

It is apparent that by such a structure the plaintiff was *prima facie* likely to secure in some degree what he desired. He secured, by means of the two sets of guides, guidance over a length of more than three feet instead of a few inches, and the lateral

pressure exerted by the cam did not in any way bear directly upon the guides of the top head, since it was directly exerted upon the guides of the cross head. The standards are solid structures, with a base of some width, so that the resistance they offer to the lateral pressure upon the guides is very great. It was probable, therefore, that the wearing of the guides of the top head would be reduced.

Objection was taken by the defendants that there was nothing new in the invention. A machine called a "Platt's machine" had been in use for many years. In that machine the very same objects were desired to be obtained, but in a different way. The guides on the top head were the same, but for the purpose of lengthening the guidance and overcoming the lateral thrust of the cam a piston working in a cylinder fixed above the top head was used. No doubt, if the cylinder were absolutely rigidly fixed and the piston were absolutely rigid so as absolutely to overcome the lateral thrust of the cam, the wearing of the upper part of the guides would be impossible. But as a matter of fact that wearing did occur, and that was the reason why the Platt machine was not altogether satisfactory, and it was that defect which the plaintiff tried to overcome.

Primâ facie a piston working in a cylinder is not the same thing as a cross head working in guides on standards, which cannot bend at all, but it is said that the one is a mere mechanical equivalent for the other. The latter is not at all the same thing, to look at, as the former. It is, no doubt, used to obtain the same result. Both are well known appliances used to procure rigidity. It had not occurred to anyone before to use such a cross head described for that purpose in a brick-making machine. In my opinion the substitution of the one for the other is not the substitution of a mere mechanical equivalent, any more than the substitution of a cap for a cork in the case of soda water bottles.

It is, of course, necessary to show that there is some novelty in alleged invention. There is no doubt that there is novelty in the construction, and it appears to me, applying such knowledge of the laws of dynamics as I think may be imputed to a Judge, that the lengthened guidance afforded by the new means is

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probably more effective than the guidance given by the piston and cylinder. Of course, we all know that it is impossible altogether to prevent oscillation in machinery.

A further alteration, which I have already indicated, was placing an anti-friction roller between the cam and the cross head in such a position that the lateral pressure exerted by the cam would be exerted directly against the fixed guides of the cross head in the same or nearly the same horizontal plane.

Those, then, are two substantial differences between the plaintiff's machine and Platt's. In my opinion they are sufficient to establish novelty.

A further objection was want of utility. On this point the learned Judge, after stating that "the great object in a brick-making machine is to secure that the dies on the top head enter the mould boxes plumb and squarely," goes on to say:—"The evidence of the plaintiff's witnesses is to the effect that this is secured most effectively in the plaintiff's machine for several reasons: first, that the slipper form of guide is easily adjusted and provides for taking up wear which the sleeve or piston form of guidance does not permit of without dismantling the machine; the bearing surfaces in contact are also much greater and therefore more efficient;"—all that was deposed to by several of the witnesses and common sense shows that it is extremely probable;—"further, that the disturbance caused by the forward thrust of the lifting cam on the friction roller in the plaintiff's machine is close to the horizontal plane of the bearing surfaces of the cross head and at a constant distance from it, whereas in the sleeve form of guide the distance of this point of disturbance from the bearing surfaces of the cross head varies continuously as the cross head rises"—there may be some doubt about that as a matter of fact. "The result of this is that the wear on the lower guides in the plaintiff's machine is regular and parallel, whereas the wear on the lower guides of the Platt machine is irregular and tapering and more likely to produce bad bricks"—as a matter of fact it did so in the Platt machine. I understand that the learned Judge accepted that evidence, and I accept it. He then proceeded to consider whether that claim to utility which was so far demonstrated was well founded. He said:—"Now, it

seems to me that these claims to utility proceed on two assumptions: first, that the plaintiff's specification indicates a rigid attachment between cross head and top head, and, secondly, that the friction roller on the cross head should be close to the horizontal plane of the bearing surfaces of the cross head. His machine is in fact so constructed, and it is of his machine so constructed that the plaintiff's witnesses speak. But, as I am of opinion that neither this rigidity of connection nor this position of the upper friction roller is indicated in the specification, it appears to me that I cannot say that the machine as patented has this claim of utility." I understand the learned Judge to refer to the claim made by the plaintiff's specification. As to the rigidity of connection between the cross head and top head, that is the whole point of that part of the invention, and the mode of securing it is clearly described in the specification and the accompanying drawings. As to the position of the friction roller, I take it that the term friction roller itself indicates that it is interposed between two surfaces which would otherwise be in contact. If a friction roller is interposed between two surfaces, it *primâ facie* is intended to touch them both. If the thing to be lifted is circular in form, the roller may surround it. Otherwise it will naturally be brought as close to the surface of the thing to be lifted as possible, which I should think would, if practicable, be done by partially embedding it in the thing itself. That is what the drawings in the plaintiff's specification show. It appears to me, therefore, that the specification does clearly specify the two things which the learned Judge thought it did not specify. The learned Judge thought that the patent was not invalid on the ground of want of novelty.

Then comes the question whether there was any invention. The patent is a patent for a combination. All the devices used are well known, but so far as we know they have never been combined together before. So that the only point left is whether the cross head working in the guides on the standards is a mere mechanical equivalent for the piston working in the cylinder. For the reasons I have given I am unable to say that in any relevant sense it is a mechanical equivalent, although it is a thing

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fore fails, and there being no other valid objection the plaintiff is
entitled to succeed.
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HODKINSON & Co. GAVAN DUFFY J. I concur.
RICH J. I concur.

Appeal allowed. Decree appealed from set aside. Decree in terms of claims 1, 2, 4 and 5. Defendants to pay costs of suit up to the hearing. Liberty to apply. Respondents to pay costs of appeal.

Solicitors, for the appellant, *J. Stuart Thom & Co.*
Solicitors, for the respondents, *Frank A. Davenport & Son.*

B. L.

Refd to
Prime Wheat
Assoc Ltd v
Chief C'ner of
Stamp Duties
(1997) 42
NSWLR 505
Appl
Case [2000]
ATA 781
(2000) 45
ATR 1071

HIGH COURT OF AUSTRALIA.]

RABONE APPELLANT;
DEFENDANT,

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DEANE AND ANOTHER RESPONDENTS.
PLAINTIFFS,

ON APPEAL FROM THE SUPREME COURT OF
NEW SOUTH WALES.

H. C. OF A. 1915. *Money-lender—Transaction in course of business of a money-lender—Sale of shares
in a company—Postponement of payment—Mortgage to secure purchase money—
Money-lenders and Infants Loans Act 1905 (N.S. W.) (No. 24 of 1905), secs.
2, 8.*
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Dec. 3, 6.

Griffith C.J.,
Gavan Duffy
and Rich JJ. Sec. 2 of the *Money-lenders and Infants Loans Act 1905* (N.S.W.) provides,
by sub-sec. 1, that a money-lender, as defined by the Act, “(c) shall not