IN THE HIGH COURT OF AUSTRALIA

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER
(Two appeals)

REASONS FOR JUDGMENT

18 D.

Judgment delivered at SYDNEY

on THURSDAY, 17th DECEMBER 1964

A. C. Brooks, Government Printer, Melbourne
C.7639/60

HILLS HOISTS (MANUFACTURING) PTY. LTD.

v.

DAVID AND ANOTHER

(2 Appeals)

ORDER

Appeal in each case dismissed with costs.

Cross appeal dismissed.

HILLS HOISTS (MANUFACTURING) PTY. LTD.

v.

DAVID AND ANOTHER

(2 APPEALS)

JUDGMENT

BARWICK C.J.

HILLS HOISTS (MANUFACTURING) PTY. LTD.

v.

DAVID AND ANOTHER

(2 appeals)

The plaintiff, the proprietor of two letters patent, one dated 25th July 1955, and numbered 213610, and the other dated 15th May 1957, and numbered 221120, sued the defendant in this Court for infringement of each of the letters patent. Both were for improvements in and relating to rotary clothes hoists. There is now no question as to the infringement by the defendants but the validity of the letters patent is challenged. The justice who heard the case found that in the case of each of the letters what was claimed as the inventive step was obvious and that for that reason each of the letters patent was invalid. The sole question in this appeal is whether or not the processes of manufacture claimed in the specifications of the letters patent lacked novelty or were obvious.

His Honour in his judgment fully and adequately described the nature of the rotary clothes hoists which the appellant had for some time been engaged in manufacturing prior to the grant of the first of these letters patent. His Honour fully described the experience which the appellant had had with its rotary clothes hoists, and the problems which their use had developed. He also fully described the invention claimed by the appellant in each of the letters patent. There is no need for me to repeat any of these descriptions which I adopt for the purposes of this judgment.

I turn first to the question of the validity of the letters patent No. 213610. The appellant, in common, no doubt, with other manufacturers of like rotary clothes hoists, had found that the absence of any positive mechanism for retracting the moving column of the hoist, or as I will hereafter

call it, the secondary member, which carried the radial arms with their connecting clothes lines, was not merely inconvenient but in the use of the clothes line led in some instances to injury and in many more to dissatisfaction. To rely merely on the force of gravity to return the secondary member when by the use of the handle the threaded member was wound down, had proved in any event inadequate and in many instances dangerous. The cure or remedy for this disadvantage was quite obvious. It was to provide some positive connection between the threaded member and the secondary member so that there would be a positive retraction of that member when the threaded member was wound down. McKirdy, another manufacturer of clothes hoists, had provided this physical connection by means of a bolt: he had covered this feature by letters patent prior to the appellant's grant No. 213610. The appellant made the connection by extending the threaded member in the form of a hook which, bearing on the lower end of the secondary member, drew it down with the threaded member. This was the subject of the letters patent with which I am presently dealing.

It was, of course, necessary for the secondary member to be free to rotate. McKirdy allowed this by so distancing the head of the bolt in the top of the threaded member that the bottom of the secondary member through which the bolt was passed was free to rotate in the gap left between it and the top of the threaded member. The plaintiff provided the freedom of movement of the secondary member by having the hooked end of the threaded member inserted into the conical bottom of the secondary member, the top of the threaded member also being conical, thus allowing the secondary member to rotate around the stem of the hook whilst providing the hook with a bearing surface when it was required to effect the retraction of the secondary member. The use of the interacting conical faces was a well-known method of ensuring a self-centring effect.

There is no question but that the appellant's method of making a physical connection between the threaded member and the secondary member has considerable advantages, both from the aspect of manufacture and from that of ease of assembly. It avoided the disadvantage of McKirdy's solution which could require maintenance involving the disassembly of the clothes hoist by reason of the loosening of the bolt inserted into the head of the threaded member caused by the rotation of the secondary member. But although useful and effective, and having the advantages of which I have spoken, the question remains as to whether or not the appellant's solution in providing the hook extending from the threaded member and intruding into the conical bottom of the secondary member as the means of effecting a physical connection between the two members, involved an inventive step. As I have said, the need for such a physical connection as a means of overcoming the known difficulty in effecting the retraction of the secondary member was obvious. Was the provision of the hook an obvious means of making the connection? To support the contention that there was an inventive step it is not enough that the appellant's solution may not leap immediately to mind but needs to be the result of thought and the application of some skill. Nor on the other hand is it enough to deny the existence of such a step that by the use of hindsight one can see how simple that solution was. One must be very careful that hindsight does not inject the demonstrated simplicity of the solution into the mind or knowledge of the person faced with the unresolved problem. That the solution of the appellant was superior to that of McKirdy is, I think, clear enough. But was it any more than the result of better design or a higher order of workshop work than the known methods of making a physical connection between the two members?

Can it be said that a person of reasonable competence and with knowledge of general engineering principles and skills

and of the structural and operating requirements of rotary clothes hoists faced with this problem would have found its solution obvious?

Having given the matter a great deal of consideration and although inevitably impressed by the advantages which the appellant's method of providing for the retraction of the secondary member undoubtedly has, I have come to the clear conclusion that the solution would be obvious and that there was no inventive step involved in the provision of the hook extension of the threaded member intruded through the conical bottom of the secondary column. To my mind, it was no more than a competent workshop improvement of a very useful kind. Consequently, in my opinion, His Honour was correct in finding that for want of an inventive step none of the claims made in the specification to letters patent numbered 213610 were valid.

It is therefore unnecessary for me to consider whether or not this invention of the appellant lacked novelty because of McKirdy's earlier specification to which I have referred.

I turn now to the second of the letters patent No. 221120. However, in this instance, unlike that of the first letters patent, the problem which the appellant faced was not exactly common to all who made rotary clothes hoists or if the problem existed at all in the case of hoists made by some others it was not so acute as to have called, in a commercial sense, for any solution.

The plaintiff was faced with the difficulty that where the arms attached to the secondary member rotated, or perhaps merely vibrated, under the influence of the wind when in use and elevated, rotation was communicated to the threaded member, with the result that that member began to retire through the thread in the crown wheel, thus causing the clothes line to be lowered.

That there were only two ways of preventing this result was obvious and what those ways were was obvious. I leave on one side the third possibility which some manufacturers had adopted of providing for some locking device which prevented the rotation of the secondary member. This was in a mechanical sense a solution: but in fact it denied to the user of the hoist one of the principal advantages of this type of clothes line because the rotation of the line is related to the speed of the drying of the clothes.

The two possible courses were, firstly, to reduce the pitch of the thread on the threaded member, that is to say, to flatten it, thereby increasing the frictional element in the passage of that member through the thread in the crown wheel. This, of course, would reduce the speed with which the secondary member could be elevated by any given number of turns of the crown wheel by means of the handle. Secondly, to introduce frictional resistance to the rotation of the crown wheel at some other point than the point where the threaded member passed through it. The point at which to introduce this friction was quite obvious. It was an indispensable element in the apparatus that there should be a bearing surface against which the crown wheel could thrust when rotated so that the threaded member would be elevated by passing through the threaded centre of the crown wheel. It was also necessary to have a surface to carry the vertical load of the secondary member which would include the load imposed by the clothes on the lines and would be communicated through the threaded member. This thrust bearing surface as a point for the introduction of friction was obvious.

The appellant was unwilling to accept the first of the two possible alternative methods though it would seem some other manufacturers of rotary clothes hoists may have done so. He was unwilling to reduce the pitch of the thread on the threaded member and thus forfeit the advantage of a high rate

of elevation of the secondary member. He wanted to minimise the number of turns of the handle which would be necessary to raise the secondary member to its full height. For the appellant, therefore, only one of the solutions was acceptable. To my mind, it was thus obvious that to secure the desired result he must introduce friction at the bearing surface of the thrust bearing supporting the crown wheel. It is quite true, as the appellant's counsel insisted, that those most familiar with rotary clothes hoists would have been unwilling to have introduced or to have friction at that point. They would have been unwilling to do so because they would have regarded the minimising of friction at that point as the desideratum. But I do not think that in this case that is a very relevant circumstance. Those who would have refused to introduce friction at the point of the thrust bearing surface, unlike the appellant, may well have been prepared to accept the reduction in the pitch of the threaded member as their solution.

The appellant's precise solution was to make the surface of the thrust bearing conical rather than the flat surface which was in general use. By adopting a conical face for the thrust bearing the appellant enabled himself to adjust the slope or angle of that surface so as to satisfy his two requirements: on the one hand, the need to resist rotation of the threaded member when it was desired to maintain the height of the secondary member, and on the other hand, the need to have relative ease of rotation when it was sought to elevate that member. This, of course, was a matter of compromise and balance. The appellant found, by simple trial and error, that by a combination of the slope or angle of the conical surface of the thrust bearing, the nature of the material, and the fineness of the casting, used for the thrust bearing, he could obtain the desired result: enough friction to arrest the tendency of the threaded member to come down under the influence of the rotating or vibrating secondary member, and a sufficient absence of friction

to enable the user of the apparatus to elevate the secondary member without undue effort.

Here again the appellant has achieved a singularly useful alteration to the apparatus of a rotary clothes hoist. He has solved a problem which, although in the present circumstances peculiar to clothes hoists of his manufacture in that these retain the relative high pitch of the threaded member, could emerge in wider circumstances.

These advantages of the appellant's solution were obtained without any significant complication in manufacturing procedures. But in my opinion there was no inventive step involved in the introduction of the thrust bearing with a conical surface. Counsel for the appellant pointed out that hitherto the use of a conical face as a frictional surface had not proved successful when used in other forms of apparatus, as for example, in a motor car clutch, or as a braking surface, because it proved unduly severe or not sufficiently manageable. But the need for introducing friction to solve the instant problem was obvious. That a conical face would provide greater frictional resistance was obvious. That the variation of the slope or angle of the cone would produce varying degrees of resistance was also obvious.

In my opinion, His Honour was correct in his conclusion that the claims of the specification No. 221120 were all invalid.

In my opinion, the appeal should be dismissed.

The cross appeal of the respondent was not proceeded with and should therefore be dismissed.

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER

JUDGMENT McTIERNAN J.

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER

I agree that the appeal be dismissed. I am not satisfied that the learned trial Judge erred in his conclusions on any issue of fact raised at the trial and that his application of the law was entirely right.

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER

(2 Appeals)

JUDGMENT KITTO J.

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER

(2 Appeals)

I agree in the judgment of the Chief Justice and I have nothing to add.

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER

JUDGMENT — TAYLOR J.

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER

I am of the opinion that these appeals and cross-appeals should be dismissed and I have nothing to add to the reasons of the Chief Justice.

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER

JUDGMENT

MENZIES J.

HILLS HOISTS (MANUFACTURING) PROPRIETARY LIMITED

v.

DAVID AND ANOTHER

I have had the advantage of reading the judgment of the Chief Justice and, for the reasons which he gives, I think both appeals should be dismissed.