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Pat / Linda
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PATENTS ACT 1977

IN THE MATTER OF an application
by The Helping Hand Company
(Ledbury) Limited under Section 71
for a declaration of non-infringement
of Patent No 2140773 in the name of
Impro Limited

DECISION

This patent is concerned with hoists for lifting invalid patients from a sitting position into a standing one. The applicants, the Helping Hand Company (Ledbury) Limited ("HHC"), have designed their own hoist which I understand is called the "Physio Standing Aid". They asked the proprietors, Impro Limited, for an acknowledgement that their hoist did not infringe the patent, but Impro declined to give one. Accordingly, HHC have applied to the Comptroller under Section 71 of the Patents Act 1977 for a declaration of non-infringement. The parties have agreed to the matter being decided upon the papers without a hearing.

Section 71(1) says:

". . . a declaration or declarator that an act does not, or a proposed act would not, constitute an infringement of a patent may be made by the court or the comptroller in proceedings between the person doing or proposing to do the act and the proprietor of the patent, notwithstanding that no assertion to the contrary has been made by the proprietor, if it is shown-

- (a) that the person has applied in writing to the proprietor for a written acknowledgement to the effect of the declaration or declarator claimed, and has furnished him with full particulars in writing of the act in question; and

- (b) that the proprietor has refused or failed to give any such acknowledgement."

The proceedings were initiated in the prescribed manner by filing Form 37/77 accompanied by a statement on 14 July 1995. An amended statement was filed on 29 August 1995, in response to a letter from the Patent Office noting that the statement did not show that sub-paragraphs (a) and (b) of Section 71(1) had been complied with. A counter-statement was duly filed on 18 December 1995.

In their counter-statement, the proprietors denied that the applicants had applied for a written acknowledgement in accordance with Section 71, alleging that they had still not identified any act or proposed act in respect of which an acknowledgement was sought, and that they had not furnished the proprietors with full particulars in writing of their design. In response to these allegations, HHC provided a further amended statement identifying the act or proposed act as "making, keeping, disposing of, offering to dispose of, using or importing the Applicant's lifting hoist as described or supplying or offering to supply in the UK any person with any of the means of putting the Applicant's lifting hoist into effect". They also provided a detailed description of the Physio Standing Aid.

The fact that an applicant did not at the outset comply with the requirements of Section 71(1) in that they did not provide full particulars of the act or proposed act with respect to which an acknowledgement was sought is not necessarily fatal to the application. This matter was discussed by the Hearing Officer in MMD Design & Consultancy Ltd's Patent [1989] RPC 131 in the light of the statement by Scarman L J in Mallory Metallurgical Products Ltd v Black Sivalls & Bryson Inc [1977] RPC 321 that "The burden of proving the absence of infringement rests, in my judgement, upon the plaintiff. If there be a lack of clarity or precision, the court is not in a position to grant the declaration sought". The Hearing Officer in MMD concluded that if the application were refused because the applicant omitted to file all of the particulars of their machine, in this case drawings, until several months after submitting their statement, they would have the easy remedy of filing another application based upon the same documentation, simply causing delay and expense.

In the present instance, I agree that HHC omitted to specify adequately, both in their original written request for acknowledgement of non-infringement and in the first two versions of their statement, the act or proposed act. These omissions have now been rectified, and I am satisfied that this meets the requirements.

The patent has six independent claims. Three are of the "omnibus" type which the patentees have admitted in their counter-statement are not infringed by the Physio Standing Aid. The remaining claims 1, 6 and 11 read as follows:

1. A method of lifting a patient from a seated to a substantially standing position employing a hoist with a lifting arm arrangement presenting laterally spaced sling attachment points, comprising a procedure wherein the feet of the patient are positioned on a footplate or footrests with the legs below the knees substantially vertical, a sling is passed around the back of the patient underneath the arms thereof and, with said sling attached to said attachment points, said attachment points are moved upwardly along a generally arcuate path relative to the position of the feet which arc has an effective radius comparable to the length of the thigh bones of the patient whereby to raise the latter to a generally standing position on said footplate or footrests whilst otherwise supported and laterally located by the sling, and said arc is centred about a lateral horizontal axis parallel to a line joining said attachment points and to lines respectively joining the centres of pivotal movement of the knee and hip joints of the patient which axis remains fixed relative to said footplate or footrests and is disposed more or less directly above the heel position of the patient with the latter facing said axis.

6. A patient hoist comprising an upstanding support structure such as a column, a lifting arm arrangement projecting from the support structure and providing laterally spaced attachment points for the attachment of a body support sling positioned around the back of the seated patient below the arms thereof, said attachment points being rigidly located laterally of the arm arrangement which is pivoted about a horizontal axis with the attachment points disposed at a radius comparable to the average length of a human thigh bone, a footplate or footrests on

or fixed relatively to the support structure, and a lifting mechanism operative to raise the lifting arm arrangement in such manner that the attachment points thereof move along a generally arcuate path centred on a lateral axis parallel to a line joining said attachment points, such movement of the lifting arm arrangement being sufficient to raise the patient to a standing position with the feet of the latter supporting a substantial part of the total body weight of the patient while the latter is also supported and laterally located in the standing position by said sling.

11. A hoist comprising an upstanding support structure such as a column, a pivotal lifting arm arrangement projecting from one side of the column and providing laterally spaced attachment points for the attachment of a padded body support sling passed around the back of the invalid below the arms thereof with the attachment points rigidly located laterally of an arm arrangement which is pivotal about a fixed horizontal axis with the attachment points disposed at a radius comparable to the average length of a human thigh bone, knee location abutment means on the support structure, a foot plate or footrests on or attached to the support structure and a lifting mechanism operative to raise the lifting arm arrangement about said horizontal pivot axis through an angle sufficient to raise the patient, with the knees of the latter located against said abutment means, to the standing position on the footplate or footrests whilst supported from behind and laterally located by the sling.

The Physio Standing Aid has several features in common with the device described and claimed in the patent. I shall refer to the drawing and description provided by HHC with their letter dated 20 March 1996. It consists of a column 6 forming a support structure, a lifting arm arrangement 13 projecting from the support structure and providing laterally spaced attachment points for the attachment of a body support sling positioned around the back of a seated patient below the arms thereof, a footrest 5 fixed to the support structure, and a lifting mechanism 10 operative to raise the lifting arm arrangement about a horizontal axis 14 so that the attachment points move along an arcuate path, the movement of the lifting arm arrangement being sufficient to raise the patient to a standing position.

The applicants contend that the distinction between the Physio Standing Aid and the subject of the patent resides primarily in the the radius of the path of the attachment points. The independent claims effectively require this radius to be "comparable to the length of the thigh bones of the patient" (claim 1) or "comparable to the average length of a human thigh bone" (claims 6 and 11). The applicants contend that in the Physio Standing Aid the radius is substantially longer. They also contend that their hoist allows the patient to be raised to a fully standing position, whereas the patented hoist leaves the patient in a slightly reclining position.

I will consider the second contention first. Claims 6 and 11 require the patient to be brought to a standing position. Claim 1 requires the patient to be brought to a "substantially" or "generally" standing position. Now it is quite true that the design of the hoists actually illustrated in the patent specification is such that the patient cannot be brought to an absolutely vertical position. However, there is not the slightest doubt in my mind that the three claims all embrace hoists in which the patient is brought to a fully vertical position. Thus so far as determining whether the Physio Standing Aid infringes these claims, I must dismiss the second contention.

That leaves me with just the first contention to consider. I do not consider that the slight difference in wording between claim 1 and the other two claims is material, and so for convenience I will simply quote the wording of the latter claims in the rest of this decision. The basis of this contention is that the arm in the Physio Standing Aid is 735mm long. I have been presented with evidence by one Jane Robertson, a specialist in ergonomics and anthropometry, that the average thigh bone length is 390mm for women and 425mm for men, and that the thigh bones of 98% of the adult population are between 339mm and 479mm long, only 1% being longer than this. She also says that in her experience it is usual design practice to take account of 90% of the population. Thus the arm on the Physio Standing Aid is more than 50% longer than the thigh bones of 99% of the adult population - a higher figure than one would normally design for - and probably about 80% longer than the average thigh bone. The proprietors have not seriously challenged these figures. They did provide evidence from one Steven Kyffin, an industrial designer, who pointed out that alternative data provided by Jane Robertson (but dismissed

by her as out of date) implies that a man 1.88m tall could have a thigh length of 533mm. Steven Kyffin fails to say what proportion of the adult population is even taller than 1.88m, though I am sure it cannot be more than 5%, and possibly no more than 1%. However, the arm (or more strictly, the radius of the path of the attachment points) in the Physio Standing Aid is still nearly 40% longer than 533mm.

What I have to decide, therefore, is whether a radius of 735mm, which arguably falls outside the literal or acontextual meaning of "comparable to" in claims 1, 6 and 11, nevertheless falls within the language of the claims as properly interpreted. As Lord Diplock made clear in Catnic Components and anr v Hill & Smith Limited, [1982] RPC 183, to decide a question of this type the claims have to be construed purposively. The questions which Lord Diplock suggested should be asked were set out in the following form by Hoffman, J in Improver Corp v Remington Consumer Products, [1990] FSR 181, the "variant" in the present case being the longer radius:

- (1) Does the variant have a material effect upon the way the invention works? If yes, the variant is outside the claim. If no,

- (2) Would this (ie that the variant had no material effect) have been obvious at the date of publication of the patent to a reader skilled in the art? If no, the variant is outside the claim. If yes,

- (3) Would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention? If yes, the variant is outside the claim.

Both sides have, very helpfully, taken me through each of these questions in their arguments, though not surprisingly, they are encouraging me to come to opposite conclusions.

The first "Diplock" question

From evidence supplied by the proprietors, it would appear that prior art hoists generally lifted the whole patient bodily. The way the invention works is rather different and is set out quite clearly in the patent specification. Essentially, the hoist simulates the way a pair of nurses would help a patient out of a chair and on to their feet. The patient's feet stay on the ground (or rather, footrest) with the lower legs vertical whilst the sling around their back is pulled upwards and outwards in an arcuate path to bring the rest of the patient's body upright or nearly so. By lifting the patient in this way, a substantial proportion of the patient's weight is taken by their feet rather than by the sling, and this is said to be an important feature contributing to patient comfort as it minimises the pressure on the body of the sling. The arrangement also leaves the lower part of the patient's trunk unobstructed for clothing removal.

The way the Physio Standing Aid works is exactly the same save that the arc of movement of the sling attachment points between the start and finish points is necessarily different because of the larger radius. However, in some evidence which I find very persuasive, Steven Kyffin points out that the exact path taken by the sling attachment points is not critical. For example, he points out that two nurses would not lift a patient in a precisely-defined arc. Further, he demonstrates that at no point does the path in the Physio Standing Aid deviate from the "ideal" path prescribed by the claims by more than 55mm. I am therefore satisfied that the variant has no material effect upon the way the invention works.

The second "Diplock" question

Hoffmann J made clear that the second question is not about whether the variant involves an inventive step in accordance with section 3 of the Act. Rather, the question supposes that the skilled man is told of both the invention and the variant and asked whether the variant would obviously work in the same way. I consider there can be little doubt that the skilled man at the relevant time would have recognised that it was not essential for the sling attachment points to follow the "ideal" path exactly. Indeed, it is clear that even in

the hoists described in the patent specification, the attachment points will not follow the ideal path unless the length of the arms carrying them is adjusted to match the actual thigh length of the patient, and adjustment of the arm length is described as just an optional feature. I am also satisfied that the skilled man would realise, as Steven Kyffin has done, that the deviation from the "ideal" path in the Physio Standing Aid was small enough to be immaterial. Thus the answer to the second question is yes.

The third "Diplock" question

To answer this question I have to construe the claim, interpreting them in the light of the description and drawings as required by section 125. I think it is helpful first to look at the description. On page 4 it says:

"As the radius of said arc is of comparable length to the thigh bones the lifting arm arrangement corresponds to the upper limb of a parallelogram the lower limb of which is provided by the thigh bone itself. The result is that the lifting is performed with no horizontal force tending to displace the knees. . . . [As a result] the lower legs remain vertical thus ensuring that their own weight and half the thigh weight is supported by the feet . . ."

Then on page 10 we have:

". . . the lifting arm arrangement 11 extends from the column 1 for a somewhat shorter distance than is the case with conventional invalid hoists, approximating in length to the thigh length of the typical patient. Thus the main raising movement approximates to a more-or-less parallelogram movement . . ."

There is a further passage on page 16 reinforcing the importance of the "parallelogram movement" and continuing:

"To achieve such an approximately parallelogram movement the length of the lifting arm LA when not adjustable is made approximately equal to the thigh length of an average person."

In the light of these passages the reader of the description is left in no doubt about the perceived importance of the parallelogram movement, which can only be achieved if the radius of arc of the attachment points approximates to the thigh length. The very fact that in one embodiment the radius is made adjustable so that it can match the patient's actual thigh length more accurately is confirmation of this. Equally, the reader is left in no doubt by the use of words such as "approximately" and "comparable", and by the facility for adjusting the initial angle of the arms 12 in the first embodiment, that precision is not necessary. Indeed, precision manifestly cannot be achieved for anything other than a strictly "average" patient if the radius is fixed.

Against this background, in my judgement the reader of claim 1, 6 or 11 can be in no doubt that the requirement for the radius to be comparable to the average length of a human thigh bone imparts an intentional and meaningful limitation to the scope of the claim. The term "comparable to" may not have precisely-defined boundaries, but it is a clear requirement that the radius be fairly close to the average thigh length so that something approximating reasonably well to the parallelogram movement is achieved for most patients. Thus I do not believe that the notional reader skilled in the art would have come to the same conclusion as Steven Kyffin when he says that "I do not think that the length of the arm itself has anything to do with the method of claim 1". Further, I do not believe such a reader could possibly consider that a radius nearly 40% above the thigh bone length of a tall man and thus well above the average adult thigh bone length was intended to fall within the scope of these claims. Thus the answer to the third question is yes, and because of this I conclude that the Physio Standing Aid does not infringe claims 1, 6 and 11.

Claim 1 has a further requirement - that the centre of the arcuate path followed by the sling attachment points be on an axis which is disposed more or less directly above the heel position of the patient. Again, this may not be a precisely-defined requirement, and it

is clear from the embodiments illustrated that some tolerance is permissible. Indeed, I accept the evidence from Mr Kyffin that the words "more or less" reflect the practical realities of the situation. Nevertheless, the requirement clearly imposes limitations on the axis position, particularly since it refers specifically to "heel position" rather than more loosely to "foot position". In the Physio Standing Aid, the supporting column 6 is distinctly angled to the vertical so that the axis 14 is displaced from a position above the heel position of the patient to such an extent that I do not consider it "more or less above". Thus on this ground too the Physio Standing Aid does not infringe claim 1.

Having found that the independent claims are not infringed, I do not need to consider the other claims.

Accordingly, I declare that the making, keeping, disposing of, offering to dispose of, using or importing the lifting hoist as described in the pages A to C accompanying the letter dated 20 March 1996 from Osborne Clarke to Needham & Grant, or supplying or offering to supply in the UK any person with any of the means for putting that hoist into effect, does not infringe GB patent 2140773.

As neither side has asked for one, I make no order as to costs.

Under the Rules of the Supreme Court, any appeal from this decision must be lodged within six weeks.

Dated this 7 day of November 1996.

P HAYWARD

Superintending Examiner, acting for the Comptroller

THE PATENT OFFICE

