

0172/91

PATENTS ACT 1977

IN THE MATTER OF an application under Section 71 by EJA Engineering Co Limited for a declaration of non-infringement of Patent No GB B 2149210 in the name of K A Schmersal GmbH

DECISION

The applicants, EJA Engineering Co Ltd, have applied to the Comptroller for a declaration that the manufacture, offer for sale, the sale or disposal in the UK of certain devices identified as Trojan 3 and Trojan 4 safety switches manufactured by the applicants under model nos. TYPE MSS3F, MSS3E, MSS4F and MSS4E in accordance with the technical specification and design features identified in the documents accompanying their statement do not infringe the patent. The proprietors of the Patent, K A Schmersal GmbH, oppose this application on the grounds that they were not given full particulars as required by Section 71(1)(a) and that as far as they can ascertain the Trojan switches infringe at least Claim 1 of the Patent.

At the hearing before me on 24 April 1991 Mr Andrew Waugh, instructed by Messrs Abel and Imray, appeared as Counsel for the proprietors of the Patent and Mr Roger Wyand, instructed by Messrs Marks and Clerk, appeared as Counsel for the applicants.

The devices under consideration are a specialised type of electrical switch intended for safety interlocks on machines. The switch contacts are arranged to be closed and opened by insertion and removal respectively of a special member, often referred to as a 'key', which is of a generally U-shaped configuration, the switch body and key being secured to relatively movable parts of an access door or guard. The operating mechanism of the switch is arranged

so that the contacts can only be closed by insertion of the appropriately shaped key and not by a simple device such as a screwdriver.

Reference has been made in these proceedings to various different switches of this type, all of which are of similar general design. They each have an upper section containing the fixed electrical contacts which are bridged by movable contacts actuated by a longitudinally movable push rod. The push rod extends into the lower section of the switch where it is coupled to a generally cylindrical member which rotates on an axis extending transversely to the length of the push rod. An appropriately shaped key inserted through a slot in the housing of the lower section of the switch engages the cylindrical member causing it to rotate, this motion being transformed into a longitudinal movement of the push rod so that the contacts are closed. Some of the switches include a form of locking arrangement which either directly or indirectly blocks the movement of the push rod unless a key of a particular shape is used. The significant difference between the various switches lies in the design of the actuating mechanism contained in the lower part of the switch.

A prior art switch which is described in the patent and is identified in the evidence as the 'Kronenberg' switch has a cylindrical member or control roller with a single longitudinal slot which the end of the key engages to cause the roller to rotate. The roller is linked to the push rod by a pair of toggle arms which pivot on pins located in the end surfaces of the roller and the lower end of the push rod. The roller is also flanked by a pair of locking plates having specially shaped apertures which cooperate with the pins on which the toggle arms pivot. The locking plates are spring biased to a position where rotation of the control roller is inhibited but the plates have projections disposed to be engaged by forward extensions at the outer edges of an appropriately shaped key to rotate the locking plates to a

position where the control roller is free to rotate. Because of the asymmetric design of the locking plates the key can only be inserted from one direction and the roller can only rotate in one direction.

As well as acknowledging the Kronenberg switch as prior art; the specification of the patent in suit also acknowledges that another type of switch is known in which the roller is coupled to the push rod by a mirror-symmetrical connecting link which allows the roller to rotate in either direction to actuate the push rod and the key to be inserted in any one of three directions. The stated object of the invention set out on page 2 of the patent specification is not very clearly phrased, but taken in context it seems to me to be to provide a switch in which the features of a plurality of possible key insertion directions and a safety interlock to prevent rotation of the roller by insertion of a simple device are combined and can be realised with a small number of components and a small space requirement.

The main claim of the patent reads as follows:

"1. A switch having a push rod that is guided in a straight line in a housing and can be driven by a roller that is rotatable about an axis and is arranged in operation to be rotated by an actuating member pushed into an opening in the housing, wherein the roller comprises at least one roller portion that can be displaced in the direction of the axis of rotation of the roller against a restoring force and that permits the movement of the push rod only when in a displaced position and that is arranged to be displaced only by means of an actuating member of a predetermined form."

The single embodiment of switch described in the patent replaces the actuating mechanism of the Kronenberg switch with one in which the control roller is subdivided transversely to its length into two halves which are linked

by pins so that they rotate together but can be displaced axially relative to one another. The two parts of the roller are provided with cam slots which cooperate with a cam pin on the end of the push rod, the cam slots being so shaped that rotation of the roller in either direction lifts the push rod. The roller parts are provided with four longitudinally extending slots in their cylindrical surfaces so that both parts can be engaged and rotated by a key inserted through any one of four slots in the front, rear and end faces of the housing. The roller parts are spring urged towards one another so that cut outs in their facing ends engage projections on the push rod thereby blocking any significant rotation of the roller. However use of a key with a forward projection at the centre of a cross bar causes the roller parts to be displaced axially away from one another so that the cut outs are freed from the push rod projections. The cross bar of the key then engages one of the slots in the roller and causes both roller parts to rotate thus operating the push rod and closing the switch contacts.

The Trojan switches in respect of which the declaration is sought include a roller with a cam slot engaged by a cam pin on the push rod. The roller is also provided with four key engaging slots for operation from different directions in the same way as the switch of the Patent. However instead of using a divided roller to provide the locking function two latch plates are mounted on the same axle as the roller in such a way that they can slide along it but not rotate. The locking plates are spring biased inwardly and each has a hole which engages one end of the cam pin so that the push rod cannot move. The key used has curved outer corners which engage the locking plates and move them outwards thus releasing the push rod which is then movable by rotation of the roller upon further insertion of the key.

Having thus summarised the technical background as it were, the first issue I have to deal with is whether or not the

applicants complied with the requirements of section 71(1)(a) by furnishing the proprietors with full particulars in writing of the acts in question. It is not disputed that the documents accompanying the applicants' Statement of Case had been sent to the proprietors when the applicants applied to them for an acknowledgement as required by section 71(1)(a). The question is whether these documents are adequate to enable a conclusion to be reached on possible infringement.

The proprietors have made various complaints that the particulars given in the drawings contained in the documents lack fullness and clarity, but in my view the drawings would enable a competent technician to understand without difficulty the construction and operation of the switch mechanism depicted therein. In particular it would be readily understood that the axially displaceable locking plates are arranged so that they cannot rotate, firstly because of their shape and dimensions relative to those of the switch housing, and secondly because of the way in which they are intended to engage the ends of the cam pin. In any event, the proprietors' complaints ring hollow to my ears because at the relevant time the proprietors had already initiated infringement proceedings against the applicants in Germany, and Mr Waugh acknowledged that the proprietors were then in possession of actual samples of the Trojan switches. I am therefore satisfied that the requirements of section 71(1) were met prior to the making of the present application.

I now have to decide whether the Trojan switches are covered by the claims when properly construed, it being accepted by the parties that the consideration can be confined to claim 1.

The protection afforded by a patent is defined by section 125 which says that the invention shall be taken to be that specified in a claim, as interpreted by the description and

drawings. Section 130(7) declares section 125 to be so framed as to have as nearly as practicable the same effect as Article 69 EPC, and the Protocol on the Interpretation of Article 69 states:

"Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary it is to be interpreted as defining a position between these two extremes which combines a fair protection for the patentee with a reasonable degree of certainty for third parties."

As paraphrased by Hoffmann J in Improver Corporation and Others v Remington Consumer Products Ltd and Others [1990] FSR 181 at p. 190, this means that the scope of the invention must be found in the language of the claims. Extrinsic material such as the description can be used to interpret those claims but cannot provide independent support for a cause of action which the language of the claim, literally or figuratively construed, simply cannot bear. On the other hand, the claims should not be interpreted literally but in a way which "combines a fair protection for the patentee with a reasonable degree of certainty for third parties."

The proper approach to the interpretation of patents under the Patents Act 1949 was explained by Lord Diplock in Catnic Components Ltd v Hill and Smith Ltd [1982] RPC 183 at p. 243 and this approach has been held to be the same as that laid down by the Protocol. It follows therefore that,

whichever way one looks at it, the same result should be arrived at.

In the Improver case Hoffman J conveniently expressed Lord Diplock's approach in Catnic as follows:

"If the issue was whether a feature embodied in an alleged infringement which fell outside the primary, literal or acontextual meaning of a descriptive word or phrase in the claim ("a variant") was nevertheless within its language as properly interpreted, the court should ask itself the following three questions:

(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 has 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."

Crucial to the question of the proper interpretation of the language of claim 1 of the patent in suit is the meaning to be accorded to the descriptive phrases "a roller that is rotatable about an axis" (to drive a push rod) and "a roller portion that can be displaced in the direction of the axis of rotation of the roller" (to permit movement of the push rod only when in a displaced position).

For the proprietors Dr Rapp says that claim 1 of the patent requires there to be a displaceable member which effects the

locking and releasing of the roller and that that member is referred to by the expression "roller portion". He understands that to mean that the member must in some sense be a part of what can properly be regarded as the roller assembly. The "portion" itself is not expressly required to be rotatable. He then says that the word "roller" expresses the functional relationship between this portion and the rest of the roller assembly as might be the case with, say a roller bearing, a roller shell, a roller housing, a roller axle etc, each of which is in functional connection with the roller whether or not it is itself rotatable.

For the applicants Mr Hier says that by definition a "roller" is that which rolls, and in the claims the displaceable "roller portion" forms part of the roller. He also states that, in engineering terms, such items as roller bearings, a roller axle or a roller housing could loosely be regarded as a portion of a roller in as much as the roller would cease to be a roller without them, however an additional mechanism, such as a brake, built in close proximity to the roller even when sharing the same axle and housing would not normally be regarded as the roller.

Of the two rather different views I prefer that of the applicants' witness Mr Hier because to my mind Dr Rapp places an emphasis on the term "roller" as meaning a "roller assembly" for which I can find no support in the context of the patent specification. In my opinion the phrase "a roller that is rotatable" can only refer to a roller body per se that is rotatable on its axle or in its bearings or its housing or support, and cannot in any literal sense mean "a roller assembly" as Dr Rapp suggests.

The natural meaning of the word "portion" is a designation of a part or section of the whole and not an attachment or auxiliary member. Consequently it is my view that the "roller portion" in the literal meaning of the wording used in claim 1 must mean that the roller portion is both

rotatable and axially displaceable. The Trojan switches do not include an axially displaceable roller portion in that sense and I conclude that they do not fall within the literal meaning of claim 1.

Having reached that conclusion, I must turn to consideration of the three questions as posed by Hoffman J in the Improver case, but before doing so I should say a word or two on the question of onus since the matter was raised before me. I understood Mr Wyand to argue that once an applicant for a declaration of non-infringement had shown that there was no infringement of the literal meaning of a claim then the onus should shift to the patentee if the latter wishes to argue for some "unnatural" meaning. Mr Waugh, not surprisingly, disagreed. Whilst I can appreciate the difficulties which parties might sometimes find themselves in on a matter of patent claim interpretation, the proper interpretation of a claim is a matter for the court or the comptroller to decide in the light of such expert evidence as is provided by the parties; as is also the final question of whether certain acts in question fall within or outside the scope of the claims when properly construed. The latter question can only begin to be decided in the applicants' favour if they have discharged the onus which undoubtedly falls upon them of defining the acts in question precisely.

In the present case I consider the applicants have discharged the onus just referred to, but I do not believe either side has provided evidence which really assists me in determining the first two questions - does the variant have a material effect upon the way the invention works and if so would it have been obvious at the time the patent was published. On the one hand the applicants seem to me to have concentrated on the fact that their switches do not fall within the literal meaning of claim 1. On the other hand the patentees seek to establish that the mechanism of the Trojan switches performs functions which are equivalent to those performed by the invention, which is not the same

issue at all.

In the absence of any evidence bearing on these two questions of fact I prefer to leave them unanswered. The answers, even if assumed to be in favour of infringement, would not be conclusive if there was some reason for the proprietors confining their claim to the primary meaning of "an axially displaceable portion of a rotatable roller that can drive the push rod".

I have read the patent specification with care but I have found nothing which points positively to any intention by the proprietors to include variants of the sort found in the Trojan switches. There is no "equivalents" clause of the type which was present in the Improver patent, and no suggestion that any modifications may be made and which would indicate that the displaceable roller portion need not be part of the roller per se. The particular embodiment described is "one form of switch" in accordance with the invention, and in that embodiment the roller is in two parts each of which is axially displaceable to unlock the push rod and is rotatable to actuate the push rod. Clearly certain variants in form eg a roller of non-circular cross-section could be used which would not affect the way the invention works, and I can find no reason why such variants should be excluded from the language of the claims. However, I also can find no reason to suspect that the proprietors had contemplated any mechanism in which the axially displaceable locking member did not form part of the push rod actuating rotatable roller. If anything, the unusual choice of wording in claim 1 and the stated object of combining multiple key entry possibilities with the safety interlock and realisation of this with a small number of components and a small space requirement points towards a deliberate restriction to combining the push rod actuation and locking functions in a single component ie the displaceable roller portion.

I should also mention that the applicants' evidence refers in some detail to a prior Japanese patent which discloses a very different type of switch which they allege would fall within the terms of claim 1 if interpreted widely. The purpose of this allegation was not to put the validity of claim 1 in issue, for that is not a part of the case pleaded, but to suggest that the proprietors could not have intended their claim to be interpreted widely enough to embrace the Trojan switches. I do not accept that proposition because there is no indication whatsoever that the proprietors had the Japanese patent in mind when the claim was drafted.

I have mentioned earlier that there has been an infringement action in Germany - this was in relation to a corresponding patent in that country. The proceedings were before the Dusseldorf Regional Court and a copy of the judgment of the court, together with a translation into English of parts of it, was handed to me by Mr Waugh.

There is no difference between the Dusseldorf Court and myself on the literal meaning of the corresponding claims. However the Court divided Claim 1 into its constituent features, of which features numbered 5 and 6 are the arrangement of the roller portion so that it can be axially displaced and unblocks movement of the push rod only when in its displaced position, and held that the German Patent was

'not concerned with providing an additional safeguard while reducing the cost in terms of components and the amount of space required with respect to the Kronenberg switch and generally with avoiding locking plates or the like by the division of the rotatable roller into (only) two roller portions which at the same time act as control and locking member. Rather, it is essential to the invention that there is a locking member which blocks the rotation of the roller and, as a result of the arrangement given in features 5 and 6, unblocks the

movement of the push rod when an appropriate actuator is used.

The person skilled in the art will accordingly understand the term "roller portion" functionally in the sense of features 5 and 6. He will recognize that it is primarily a matter of providing at least one locking member which is mounted on the rotational axis of the roller, and when it is displaced in the direction of the rotational axis of the roller, the actuator can move the push rod.

The defendants' Trojan 3 switch utilises the described disclosure of the patent in suit using means having the same effect. Since it will be clear to the person skilled in the art that the fact that the locking member can turn together with the roller when the unlocking has come into effect is not the important factor, he can infer from the information in the patent in suit, without further consideration, that in a specific case he can make use of that information in accordance with the technical meaning of features 5 and 6 by transferring the blocking function of the displaceable roller portion to two displaceable, non-rotatable locking plates.

The protection of the patent in suit therefore extends to such an embodiment, as embodied in the Trojan 3 switch in question.'

With respect, I am unable to agree with that construction of the claim. It is one thing to say that a "vertical" member should be construed as covering a near vertical member provided it is capable for practical purposes of performing the same function, as was done in Catnic, but it is quite another to construe a claim specifying that a locking member is constituted by an axially displaceable portion of a rotatable roller which can drive the push rod as covering an

arrangement where the locking member is not rotatable and does not perform the function of driving the push rod. Had the proprietors been concerned with providing any sort of locking member displaceable along the axis of the roller there is no earthly reason that I can see why they should not have said so and drafted their claims accordingly. Moreover if the patent extends to arrangements in which the "roller portion" is not a section of the roller and is not even rotatable where is the reasonable degree of certainty for third parties which the Protocol on Interpretation is intended to ensure?

My conclusion is that to interpret claim 1 so as to embrace the Trojan switches would place upon the claim a meaning which the language of the claim, literally or figuratively construed, simply cannot bear.

Consequently I find that on a proper construction of the claims a safety switch incorporating an operating mechanism as described and illustrated in the documents accompanying the statement of case, in which an unlocking action is provided by the axial displacement of a pair of non-rotatable plates, does not infringe the Patent, and that the applicants are entitled to the declaration sought in these proceedings.

Since the applicants did not ask for costs in their statement of case and Mr Wyand did not address me on this matter I have decided to make no award of costs.

Dated this 25 day of June 1991



K E PANCHEN
Superintending Examiner, acting for the Comptroller

THE PATENT OFFICE