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PATENTS ACT 1977

IN THE MATTER OF application
No 9209211.3 in the name of
Ray Basil Walter Lowndes

DECISION

The application relates to a device for stopping vehicles by means of spikes which are positioned across a road so as to puncture the tyres. Such devices comprise an elongated shaft carrying the spikes and which is rotatable to permit movement of the spikes between an inoperative position below the surface of a body of the device to an operative position projecting from that body.

The application was lodged on 29 April 1992 claiming divisional status by virtue of Section 15(4) from application 8910411.1 (the "parent" application) which was filed on 5 May 1989. Both applications claim priority from an earlier GB application 8810652 filed on 5 May 1988.

On substantive examination the examiner objected that the application should not be allowed to proceed because it contained subject matter not disclosed in the parent application, in contravention of Section 76(1).

To provide the required background it is necessary to go back to the parent application in the form at which it was first filed at the Patent Office. I shall hereinafter refer to this as the "original application" and number the quoted paragraphs, 01 etc for convenience of subsequent reference. The opening two paragraphs were as follows:

- 01 "This invention relates to a device for stopping vehicles and, in one of its aspects, is mainly concerned with modifications of the devices disclosed in my British Patent No 1480331. In my British Patent No 1480331, there are described a number of devices for stopping road vehicles which are capable

of being deployed quickly across a roadway or a part thereof for the purpose of stopping unauthorised vehicles."

- 02 "It is an object of one aspect of the present invention to provide a more permanent form of device for stopping vehicles".

The words "one aspect" are important as will become apparent. There followed a statement of invention which corresponded to claim 1 of the original application and which read:

- 03 "According to said one aspect of the present invention, there is provided a device for stopping vehicles comprising an elongate hollow body which is adapted to be mounted in the road so that an upper surface of the body lies substantially flush with the surface of the road; at least one shaft mounted in the body so as to extend longitudinally thereof, said shaft being rotatable and carrying a multiplicity of formations thereon; a multiplicity of spikes, each engaged with a respective one of the formations so as to be readily detachable therefrom without damage to the shaft, said hollow body having an opening in the upper surface thereof; and means for rotating the shaft between an inoperative position in which the spikes lie wholly within the body and an operative position in which the spikes project upwardly through the opening, the spikes being detachably engaged with said formations so that, when a vehicle runs over the device with the shaft in the operative position, at least one of the spikes becomes lodged in the tyre and is thereby detached from its respective formation on the shaft as the vehicle passes over the device".

I will subsequently refer to the above "aspect" as the "parent aspect". The specification continued with a series of paragraphs setting out preferred features of the device. The first, second and fourth of these paragraphs read as follows:

- 04 "Preferably, the shaft is provided with an abutment which engages with a corresponding abutment in the body so as to retain the shaft against rotary movement beyond its operative position. Most preferably, the abutments are

relatively adjustable to enable the desired inclination of the spikes in the operative position of the shaft to be set".

05 "Most advantageously, at least one end of the shaft projects from an end of the body and is adapted to be operatively connected with the end of the shaft of another such device. By this means, at least two devices can be mounted in end-to-end relationship across a roadway to be guarded".

06 "The device may be used in conjunction with a movable barrier arm so that, when the movable barrier arm is in a roadway obstructing position, the shaft is in its operative position with the spikes protruding from the body, whereas when the barrier arm is in a raised position, the shaft is in its inoperative position such as to allow the passage of traffic over the body, the shaft being mechanically, electrically, pneumatically or hydraulically linked with the barrier arm so that operation of the barrier arm automatically rotates the shaft, or vice versa. Alternatively, the device may be operated automatically when a vehicle passes a sensor located suitably in advance of the device".

The description continues as follows:

07 "It is an object of another aspect of the present invention to provide a spike construction for use in the permanent device of the present invention or the portable device of my British Patent No 1480331 which facilitates fast deflation of a tyre penetrated by the spike".

There followed a second statement of invention defining a special form of spike which was hollow so as to facilitate the escape of air from a tyre once punctured by the spike and then two paragraphs setting out preferred features of this spike. This second aspect was claimed in claim 8 in corresponding terms.

Subsequently the specification went on to define a third "aspect" of the invention in the following terms:

08 "In another aspect of the present invention, there is provided a device for stopping vehicles comprising an elongate hollow body which is adapted to be mounted in the road or to be deployed across the road, a multiplicity of tyre-shredding spikes, means pivotally mounting each of said spikes in the body so that each spike is movable between an operative position and an inoperative position, each spike in its operative position projecting upwardly from the body at an angle so as to be directed transversely of the body, each spike in its inoperative position being disposed within the body; and resilient means biasing each spike into its operative position, whereby passage of vehicular traffic across the body in one direction causes spikes to be moved into their inoperative position against the action of the resilient means, whereas passage of vehicular traffic in the other direction across the body causes spikes in their operative position to impinge and penetrate the vehicle tyres".

This third aspect was claimed in claim 10 in corresponding terms. I will subsequently refer to this aspect as the "divisional" aspect.

Adopting the same pattern as for the previous aspects, passage 08 was followed by a series of paragraphs defining preferred features, the relevant ones of which are as follows:

09 "It is within the scope of the present invention for some or all of the spikes to be mounted on a common shaft with the resilient means acting on the shaft. However, it is also within the scope of the present invention for each spike to be mounted on its own shaft and to be provided with its own resilient means such as a spring".

010 "It is preferred for the device to include means for moving all of the spikes against the action of the resilient means into their inoperative positions so as to enable movement of authorised vehicles over the device in said opposite direction".

011 "The resilient means is preferably arranged to move each spike into its operative position at which further movement of the spike by the resilient means is prevented by reason of abutment against a stop in the body".

The appendant claims of the original application followed a similar structure, thus claims appendant to claim 1 had their counterparts in the paragraphs following the definition of the "parent aspect" and the claims appendant to claim 10 had their counterparts in the paragraphs following the "divisional aspect". The only departure was claim 14 which specified, in relation to the divisional aspect, that the spikes were detachable from the body of the device when they penetrate a tyre.

Subsequently the original application described particular embodiments of each aspect in relation to the figures; figures 1-4 relating to the first or "parent aspect", figures 5 and 6 to the second aspect and figures 7 and 8 to the third or "divisional aspect".

In response to an objection by the substantive examiner that the original application did not relate to a single invention as required by Section 14(5)(d) of the Act, a divisional application was lodged claiming the "divisional aspect" (paragraph 08). This is the application in suit. During substantive examination the examiner objected that the divisional application contained certain passages and claims which constituted matter not in substance disclosed in the parent application and that in accordance with the provisions of Section 76(1) the divisional application should not be allowed to proceed until it was amended to remove this matter. It is sufficient for the purposes of this decision to summarise the matter concerned as follows (the page and claim references are to the location of this matter in the current form of the divisional application):

D1 That an abutment provided to prevent upward movement of the spikes (by the resilient means) beyond their operative position was "adjustable to enable the spikes to be set at a desired inclination when in the operative position" (claim 1 lines 14-16, page 1 lines 20-22 and page 7 lines 17-20).

- D2 That "each spike is associated with (or provided with) an abutment that engages with a corresponding abutment within the body (of the device) (claim 1 lines 12-13 and page 1 lines 18-20).
- D3 That a common shaft (carrying the spikes) "may project from an end of the body (of the device) and be adapted to be operatively connected with the end of the shaft of another such device" (page 2 lines 17-22 and claim 9).
- D4 That the shaft "may be connected with any desired mechanism for effecting rotation of the latter, eg a manually operable lever for direct or remote control an electric, pneumatic or hydraulic motor or the like" (page 2 lines 23-27).
- D5 That the device "may be used in conjunction with a moveable barrier arm....." or may be "operated automatically when a vehicle passes a sensor" (page 3 lines 1-15).
- D6 That "the upper surface of the body (of the device) preferably takes the form of a metal grid which is preferably removable....." (page 5 lines 5-8).
- D7 That the spikes may be pinch fitted into plastics inerts which themselves are push-fitted into drilled orifices in the shaft (page 10 lines 5-10).
- D8 That the abutment preventing movement of the spikes beyond their operative position is provided (or carried) on the shaft mounting the spikes (claim 2 and page 7 lines 20-23).
- D9 That the exposed tip of the spike is "detachably mounted on a root portion of the spike secured to the shaft" (claim 8).

All this matter was clearly disclosed in connection with the parent aspect but, in the opinion of the examiner, not in connection with the divisional aspect. I must add here that substantive examination resulted in certain amendments to the divisional application. Since

none of the changes affect the substance of what is to be decided it is sufficient for the purpose of the present considerations to note that some of the features D1-D9 were originally described or defined in slightly different terms and that claim 1 was amended to incorporate the features D1 and D2 following an objection that the original claim lacked novelty.

The applicants contested the entirety of the objection under Section 76(1) and the matter came before me at a hearing on 19 November 1992 at which the applicants were represented by their agent Mr D J Attfield and Mr D Haworth attended as the examiner in the case.

At the hearing Mr Attfield divided the passages objected to into two categories; those he considered had been explicitly disclosed in the parent application as originally filed and those he considered had been implicitly disclosed therein.

I will deal with the first category first. The passages in question are those identified under features D4, D5, D6 and D7 above. I will deal with D5 separately later.

With regard to passages D4, D6 and D7 Mr Attfield drew my attention to the following passages in the original application and submitted that these provided explicit disclosure of the disputed matter.

D4 - explicit disclosure on page 12 lines 31-37 which relates to the divisional aspect and reads as follows:

012 "Any suitable means (not shown) such as the means described with relation to the previous embodiment may be employed for moving the spikes 102 into the body 100 when it is desired to permit authorised vehicles to pass over the device from right to left as viewed in Fig 7".

The moving means of the "previous" (parent) embodiment were set out in the original application in terms equivalent to those now used in relation to the divisional aspect (see passage 019 below).

D6 - explicit disclosure on page 11 lines 26-32, page 12 lines 7-11 and in Figure 7 (showing securement bolts). These passages all relate to the divisional aspect and are as follows:

013 "Referring now to Fig 7, the device illustrated therein is for mounting permanently in the surface of the road and includes a hollow body 100 formed by a pair of U-section girders which are embedded in the roadway and a steel grating which lies flush with the surface of the roadway and which is secured by bolts to the girders".

014 "In this operative position, each spike 102 projects through a respective slot in the grating generally upwardly. However, it will be seen that each spike 102 is inclined at an acute angle relative to the plane of the steel grating so as to point to one side of the body 100".

D7 - explicit disclosure on page 11 lines 19-25 and page 13 lines 25-32. These passages are as follows:

015 "In a further embodiment (not shown) instead of mounting the spikes 38 in sockets 36 mounted on each shaft 32, 34, the shafts 32 and 34 may be drilled to define an orifice at each spike location. A plastics insert is push-fitted into each orifice and the shanks of the spikes 38 are pinch fitted into the respective plastic inserts".

016 However, in a modification (not shown), the spikes 102 are mounted so as to be detachable from the body 100 as well as being mounted on shaft 101. Such detachable spikes may take the form of any of the spikes previously described eg with reference to figures 1 to 6. Such an arrangement has the advantage that the body 100 and shaft 101 need not be of such robust construction.

Passage 015 refers to the parent aspect and 016 to the divisional aspect.

I agree with Mr Attfield's submissions and accordingly I find that the above passages of the original specification provide explicit disclosure of features D4, D6 and D7 which are therefore allowable.

Following Mr Attfield's submissions I also find that the features below have been explicitly disclosed in the original specification by the passages referred to and are therefore allowable:

D2 - explicit disclosure on page 5 lines 17-23 (passage 09 above) and page 6 lines 4-7 (passage 011 above).

(Both passages relating to the divisional aspect)

D9 - explicit disclosure on page 13 lines 13-17 which is in relation to the divisional aspect and reads as follows:

017 "It is also possible for the exposed tip of the spike to be detachably mounted (eg in bayonet fashion) on a root portion of the spike which is actually secured to the shaft 101".

Turning to the remaining features that he considered had been implicitly disclosed in relation to the divisional aspect in the original application Mr Attfield firstly drew my attention to some reported decisions concerning the approach of the European Patent Office (EPO) in considering implicit disclosure.

The first of these was that of the Court of Appeal in *A C Edwards V Acme Signs and Displays Ltd* [1992] RPC at page 144 wherein the judge stated "The principle of (such) implicit disclosure is accepted in the decisions of the European Technical Boards of Appeal to which I have referred (and of what we have to take judicial notice - section 130(7) of the Patents Act 1977)".

To illustrate the EPO approach Mr Attfield referred me to two decisions of the Technical Board of appeal mentioned in the *A C Edwards* case and in particular *Thompson - CSF*

(Decision T151/84 [1988] EPO R29 wherein it is stated:

"In order to determine whether or not the modification made to a claim extends the subject-matter of the patent application beyond the contents of the application as filed, it is necessary to find out whether the resulting overall modification to the contents of the application (whether by addition, modification or withdrawal) is such that the information presented to the skilled man is not derived directly and unambiguously from that which the application contained previously, even taking account of the elements which are implicit to the skilled man (Guidelines for Examination at the EPO, C-VI, 5.4). In other words, it is necessary to find out whether the new claim presented is supported by the original description.

In the case in point, the important thing is therefore not that a logical analysis of the text be carried out in order to determine whether or not the initial intention of the applicants was to limit the protection claimed to the particular combination of characteristics described and represented, but rather that it be discovered whether the skilled man reading the patent application as filed would consider that the characteristic under discussion, namely the presence of permanent magnets, is or is not a characteristic which is *indispensable* to the operation of the device described in the application".

The second decision was that of the Court of Appeal in *Southco Inc V DZUS Fastner Europe Ltd* [1992] RPC at page 318 where, in the context of implicit disclosure, the attention of the Court was drawn to the European Patent Office Guidelines for Examination in the EPO (Part C-VI), wherein it is stated:

"An amendment should be regarded as introducing subject matter which extends beyond the content of the application as filed, and therefore unallowable, if the overall change in the content of the application (whether by way of addition, alteration or excision) results in the skilled person being presented with information which is not directly and unambiguously derivable from that previously presented by the application, even when account is taken of matter which is implicit to a person

skilled in the art in what had been expressly mentioned. The test for additional subject matter therefore corresponds to the test for novelty given in IV, 7.2 (see Decision T201/83)".

The third decision was that of the Patents Court in *Bonzel (T) and anr V Intervention Ltd* (No 3) [1991] RPC at page 574 wherein the judge stated:

"The decision as to whether there was extension of disclosure must be made on a comparison of the two documents read through the eyes of a skilled addressee. The task of the court is threefold:

(1) To ascertain through the eyes of the skilled addressee what is disclosed, both explicitly and implicitly in the application.

(2) To do the same in respect of the patent as granted.

(3) To compare the two disclosures and decide whether any subject matter relevant to the invention has been added whether by deletion or addition. The comparison is strict in the sense that subject matter will be added unless such matter is clearly and unambiguously disclosed in the application either explicitly or implicitly".

I note here that in the above decided cases the matter in dispute fell to be dealt with under Section 72(1)(d) which, by virtue of Section 130(7) is intended to have the same effect as Article 138(1)(c) of the European Patent Convention (EPC). The consequence of this is that decisions under the European Patent Convention and the EPO Guidelines are directly relevant. Section 76(1) is not one of those sections listed in Section 130(7). However, whilst the provisions of Section 76 and the corresponding Article of the EPC (Article 123) are not directly linked, they are indirectly, since Section 72 and Article 138 are linked and it would seem that the amendment provisions should be interpreted in the same way.

Thus I believe that I am correct in accepting Mr Attfield's view that a test for implicit disclosure should be applied in the present case. I believe also that it is important in the context of this test to distinguish between what a document is implicitly instructing a skilled reader to do and what that skilled reader might himself or herself independently conceive of doing having read that document. The former would appear to be allowable under the test but the latter would not since it would constitute a further development of the disclosure of the document.

Turning to the nature of the devices in question Mr Attfield submitted that the skilled reader would appreciate on reading the original application that the parent and divisional "aspects" of the invention were devices which operated in exactly the same manner and were intended to be embodiments of the same inventive idea and on that basis alone the disclosures of one aspect would be understood as being applicable to the other aspect. In support of this he drew my attention particularly to the passages of the original application at page 6 lines 17-19 "Embodiments of both aspects of the present invention will now be described, by way of example, with reference to the accompanying drawings in which....." at page 12 lines 31-37 (passage 012 above) and at page 13 lines 25-32 (passage 016 above).

I find Mr Attfield's proposition difficult to accept. I do accept that the devices described all belong to a particular known class but I share the view put by Mr Haworth at the hearing that the devices of the first and third aspects do not work in essentially the same manner. Whereas in the parent aspect spikes must be rotated to an operative position through a drive shaft, in the divisional aspect they are normally biased into the operative position and must be retracted if it is desired to let vehicles pass in the normally prohibited direction. In addition, the device of the divisional aspect allows free passage of vehicles in the reverse direction by a "camming" action of the vehicle tyres against the resiliently mounted spikes. The parent aspect holds the spikes rigidly in the operative position. Moreover I do not accept that the particular passages on pages 12 and 13 to which Mr Attfield has referred assist his case in this respect. The fact that certain features are specified as transferable from the parent to the divisional aspect could in my view be interpreted as implying that other features are not so transferable.

Looking at the relevant general passages corresponding to features D1, D3 and D5 (ie 04, 05 and 06 above) it is to be noted that each is in terms referring to the parent aspect (passage 03). There is in my view, no implication that these passages are also to be read later in conjunction with the divisional aspect.

To test Mr Attfield's proposition in more detail I will look at the differences in operation of the devices in the context of each of the disputed features.

The adjustable stop (feature D1)

Mr Attfield submitted that the skilled reader would appreciate that the stop of the divisional aspect (stop 105 in Figures 7 and 8 of the original application) must operate in exactly the same way (including adjustability) as the stop shown in the parent aspect (figures 1-4 of the original application) and that there is nothing in the original description to challenge that view. I am unable to accept this argument. I have already outlined the basic differences in the devices of the parent and divisional aspects. Because of the resilient bias of the spikes to their operative position in the divisional aspect, some form of stop is to be expected, but that does not necessarily mean that it may be adjustable. Indeed with the form of stop shown in figure 2 of the divisional application (where the horizontal lower end of a spike engages a flat block on the base) there would seem to be no possibility of adjustment unless the stop takes a wedge shaped form as proposed by Mr Attfield at the hearing. This is a form nowhere shown or suggested in connection with either the parent or divisional aspect.

Moreover, it is clear in the parent aspect as described in the original application at page 8 line 30 - page 9 line 20 and figure 3 that in the operative position the spikes may project directly upwardly from the body rather than at an angle as is essential in the divisional aspect. This passage is as follows:

018 Each rotary shaft 32, 34 is movable between an inoperative position in which the spikes 38 carried thereby lie within the body 10 and an operative position in which the spikes 38 project upwardly from the body 10 through the respective apertures 24 in the grid 22. In figures 1 to 4, the shaft 32 is shown

in its rotationally operative position with the spikes thereon extending through the grid 22, whilst the shaft 34 is shown in its inoperative position with the spikes 38 disposed wholly within the body 10. Each shaft 32, 34 is provided with a member 40 defining an abutment surface 42. In the drawings, only the member 40 associated with the shaft 34 can be seen. The abutment surface 42 is engaged against a corresponding abutment surface provided on a member 44 secured to the base plate 12 within the body 10. The arrangement is such that the abutment surface 32 on the member 40 engages with the abutment surface on the member 44 when the associated shaft is in its operative position, mutual abutment of these parts preventing movement of the shaft beyond its operative position. If desired, the member 44 may be adjustably mounted on the base plate 12 to enable its position relative to the member 40 to be adjusted, thereby enabling the angle of the spikes 38 in the operative position of the shaft 34 to be adjusted to suit the particular requirements of use.

This difference is to be expected because in the divisional aspect the spikes must be capable of being depressed by vehicle tyres in the permitted reverse direction. Thus the range of movement of the spikes in the parent aspect is greater. It is to be noted that the above passage refers to adjustment "to suit particular requirements of use". These "requirements" are not particularised as such but earlier in the description of the parent aspect at page 3 lines 1-9 it states that the body of the devices may carry a further shaft with spikes and in this arrangement "it is preferred for the shafts when in their respective operative positions to carry the spikes so that each set of spikes projects from the body at opposite inclinations so that effective stopping of vehicles is possible in either direction". Figures 2 and 3 show such a two shaft device but with one of the shafts in the operative position with the spikes directed straight upwards. Thus this form of device clearly has alternative configurations and the need for an adjustable stop is apparent. In contrast in the device of the divisional aspect the spikes are essentially set at an angle to stop vehicles in one direction and allow passage in the other direction.

It does not seem to me from this that the stops of the parent and divisional aspects are clearly equivalent in their function as Mr Attfield suggests.

The barrier/sensor (Feature D5)

Mr Attfield dealt with this by pointing out the passage at page 12 lines 31-37 (012 above). However, this passage is directed to means for "moving the spikes". It seems to me that this passage is ambiguous and could merely be an instruction to the skilled reader to apply the moving means of the parent aspect as specified at page 2 lines 14-17 as follows:

019 "The shaft may be connected with any desired mechanism for effecting rotation of the latter, for example a manually operable lever for direct or remote control, an electric, pneumatic or hydraulic motor or the like".

I do not think that the paragraph 012 can be taken as an explicit instruction to use the barrier or sensor.

Whilst it is clear from paragraph 012 that the spikes of the divisional aspect may be driven to their inoperative position it does not appear to me that such a drive is by implication associated with a barrier or sensor. The drive could equally be initiated by manual means. Moreover, since the divisional device is essentially designed to prevent unhindered passage of vehicles in the opposite direction the mode of operation with a barrier would not be equivalent to that of the parent device since there would be no need to lower the spikes for passage of vehicles in the "opposite" direction. It is noted that paragraph 012 states that drive means may be provided for retracting the spikes of the divisional device "when it is desired to permit authorised vehicles to pass over the device from right to left". However the precise meaning of this is not clear, it could be said to imply that even authorised vehicles are not routinely to pass in the reverse direction.

Arrangement of devices in series (feature D3)

At the hearing Mr Attfield submitted that this was implicitly disclosed insofar as one of the

devices of the divisional aspect (Figure 8) is intended to be portable and connection of a number of such devices across a road would therefore be necessary. Whilst I accept that the devices must be deployed across a complete carriageway to be effective I do not see that this, together with the need for portability necessarily indicates that separate linked devices must be used. I note here that the linked devices of the parent aspect are of the type permanently sited in a road rather than portable devices on which Mr Attfield bases his submission (see paragraph 03 above). Moreover, the requirements of the parent and divisional aspects in this context are not equivalent since there is a need in the parent aspect for a permanent drive connection whereas in the divisional aspect the shaft carrying the spikes must be freely rotatable in response to depression of the spikes by vehicles travelling in the permitted direction.

Mounting of the abutment on the shaft (feature D8)

In the particular embodiments of the divisional aspect the original application discloses an abutment surface provided on the spikes themselves (page 12 line 6, "an abutment surface 104 on the spike 102 engages against a stop 105 in the body 100"). To permit this the spikes are of a special form wherein an extension thereof projects inwardly of the body of the device in the operative position of the spikes to engage a stop on the base portion of the body. There is to my mind no implication in this arrangement that the stop would be other than on the spike itself. However, it is stated at lines 28-30 on page 13 that the spikes may take the form of those of the first two aspects (see paragraph 016 above). This involves the provision of detachable spikes in sockets or recesses in the shafts. In this construction as with the others some form of abutment must be provided to prevent over-rotation of the shaft. However, this does not seem to me to imply that the abutment requirements of the parent aspect and the divisional aspect are then equivalent, as Mr Attfield suggested, particularly in view of the differences in means for moving the spikes to their operative position.

Taking the differences in operation of the devices of the parent and divisional aspects into consideration it is not apparent to me that there is any implication to the skilled reader

that the remaining features in dispute are to be understood as applicable to both parent and divisional aspects.

I therefore find that the passages of the application in suit identified above under features D2, D4, D6, D7 and D9 are allowable and that the passages identified under features D1, D3, D5, and D8 constitute matter extending beyond that disclosed in the parent application as filed. Accordingly, I direct that the application in suit will not be allowed to proceed unless it is suitably amended to remove this matter within the period prescribed by Section 20(2) for appeal; which, being a substantive issue is 6 weeks from the date of this decision unless an extension is granted.

At the hearing Mr Attfield indicated that should I find against him on the question of the adjustability of the stop, he would propose amending claim 1 to include instead the feature of claim 7 as currently on file. I find that this proposal has a basis on page 13 lines 25-30 of the original application but make no other finding in respect of its allowability.

Signed this 4 day of December 1992.

I R BLOOMFIELD

Principal Examiner, acting for the Comptroller

