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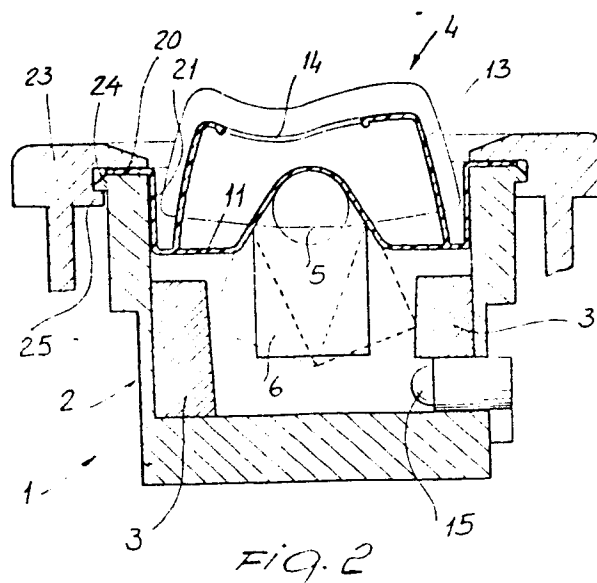
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54 **An electrical switch having a sealing element, particularly designed for window winders.**

57 The invention relates to an electrical switch for window winders, provided with a sealing element, which comprises a box-like body to which is connected a pivoted key for the actuation of the electrical contacts. There is further provided a seal having a central body which defines a saddle for housing the pivot pin of this key, and a peripheral projection which surrounds the said saddle. The central body is surrounded by a flanged edge which can be clamped between the said box-like body and an outer frame.



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"An electrical switch having a sealing element, particularly designed for window winders"

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5 The present invention relates to an electrical switch with a sealing element, particularly designed for motor vehicle window winders.

10 As is known, a problem currently very much felt in the production of switches for motor vehicles in general, and in particular in the production of electrical switches for window winders, is that inherent in the infiltration of dust or extraneous bodies which can take  
15 place in the switch, with the possibility of endangering the correct operation of the switch itself.

Another disadvantage of switches of conventional type is constituted by the fact that the infiltration of dust,  
20 becoming deposited on the contacts within the switch itself, can create problems for correctly making electrical contact, with the possibility of failure of operation. Another disadvantage of conventional switches lies in the fact that in the case of the use of  
25 the so-called sealed switches, there are significant expenses both as far as their production is concerned and as far as the connection of the electrical

conductors is concerned.

The object of the present invention is that of eliminating the above-mentioned disadvantages of providing an electrical switch suitable for window  
5 winders, with a sealed element which enables the infiltration of dust and the like to be prevented whilst having a considerably simplified structure.

10 Within the scope of the above explained object, a particular object of the invention is that of providing an electrical switch, particularly for motor vehicle window winders, which enables the electrical contacts to be adequately protected from the outside by preventing  
15 their oxidation, as well as preventing the deposit thereon of layers of extraneous material which would alter the electrical contact characteristics.

The present electrical switch, whilst having considerably improved characteristics, is simple and rapid  
20 to assemble and connect.

Not the least object of the present invention is that of providing an electrical switch which can be obtained  
25 starting from commonly available materials and which is competitive from an economic point of view.

The above explained objects, as well as the objects listed and others which will become more clearly  
30 apparent hereinbelow, are achieved according to the invention by an electrical switch particularly for window winders, with a sealed element, characterised by the fact that it comprises a box-like body to which is

connected a pivotal key for the actuation of the electrical contacts, there further being provided a seal having a central body capable of constituting a saddle for housing the pivot pin of the said key and a  
5 peripheral projection surrounding the said saddle, whilst the said central body is surrounded by a flanged rim which can be clamped between the said box-like body and an outer frame.

10 Further characteristics and advantages of the subject of the present utility model will be more clearly apparent from a study of the detailed description of an electrical switch with a sealed element, particularly designed for window winders, illustrated by way of  
15 indicative, non-limitative example, with the aid of the attached drawings, in which:

Figure 1 shows the seal in section;

Figure 2 shows the electrical switch seen  
sectioned;

20 Figure 3 shows the seal in perspective view;

Figure 4 illustrates the seal seen from above in plan.

With particular reference to the numerical symbols of  
25 the said figures, the present electrical switch, particularly for motor vehicle window winders, which is indicated generally with the reference numeral 1, comprises a box-like body generally indicated 2, in the interior of which there are provided various electrical  
30 contacts generally indicated 3.

To the box-like body 2 there is connected, with the possibility of pivoting, a key 4 which is provided with

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a pivot pin 5 connected to the box-like body 2 and having an internal prominence 6 for the actuation of the contacts.

5 The peculiarity of the invention is constituted by the fact that a seal, generally indicated with the reference numeral 10, is present, which defines a flat central body 11 in the median portion of which there is provided a saddle 12 where the pivot pin 5 is housed.

10

From the central body extends a peripheral projection 13 which surrounds and overlies the saddle 12 and which is provided at the top with a through hole 14.

15 The said peripheral projection 13 can be housed within the key 4 which, advantageously, is made of optically transparent material in such a way as to transmit light which is produced by a service lamp 15 provided in the box-like body, thus making the switch easily visible  
20 even at night.

Periphally the central body 11 is provided with a flanged rim 20 connected to the central body 11 by means of a side face 21.

25

The flanged rim 20 can be clamped between the upper end of the box-like body 2 and an outer peripheral frame 23 which can be snap-engaged to the box-like body 2 by the effect of the presence of a tooth 24 defined by the  
30 box-like body 2 and a catch projection 25 defined by the frame 23.

In this way, the region containing the contacts 3 of the

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electrical switch is sealed separately from the exterior and therefore there is no possibility of the infiltration of dust or other extraneous elements, thus guaranteeing the precise operation of the switch.

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In practice, the switch can be used in a conventional manner and the seal 10 behaves as a resilient element which allows the key 4 to assume all the desired positions.

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From what has been described hereinabove it will be seen how the invention achieves the proposed objects.

In particular, it is emphasised that the particular  
15 shape assumed by the seal 13 allows adequate sealed isolation of the body of the switch to be obtained with extremely simple means which are assembled easily, thus contributing to a better preservation of the electrical contacts with consequent improved operation.

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In practice, any materials can be used as well as any dimensions and contingent forms according to requirements as long as they are compatible with the specific use.

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## Claims:

1. An electrical switch particularly designed for window winders, provided with a seal element, characterised by the fact that it comprises a box-like body to which is connected a pivoted key for actuation of the electrical contacts, there being further provided a seal having a central body defining a saddle for housing the pivot pin of this key and a peripheral projection which surrounds the said saddle, the said central body being surrounded by a flanged rim which can be clamped between the said box-like body and an outer frame.
2. An electrical switch particularly designed for window winders, provided with a seal element, according to the preceding Claim, characterised by the fact that the said pivoted key is made of optically transparent material.
3. An electrical switch with a seal element, particularly designed for window winders, according to one or more of the preceding Claims, characterised by the fact that it includes a service lamp housed within the interior of the box-like body for illuminating this key at night.
4. An electrical switch with a seal element, particularly for window winders, according to one or more of the preceding Claims, characterised by the fact that the said peripheral projection surrounds and overlies the said saddle and is provided at the top with a through hole.

5        5.    An electrical switch with a seal element,  
         particularly designed for window winders, according to  
         one or more of the preceding Claims, characterised by  
         the fact that the said peripheral projection is housed  
         within the key.

10       6.    An electrical switch with a seal element,  
         particularly designed for window winders, according to  
         one or more of the preceding Claims, characterised by  
         the fact that the said flanged rim is connected to the  
         central body by means of a side face.

15       7.    An electrical switch with a seal element,  
         particularly designed for window winders, according to  
         one or more of the preceding Claims, characterised by  
         the fact that the outer frame is snap-engaged to the  
         box-like body.

20       8.    An electrical switch with a seal element,  
         particularly designed for window winders, according to  
         one or more of the preceding Claims, characterised by  
         the fact that the said box-like body defines a  
         peripheral tooth which can be snap-engaged with a catch  
         projection defined by the frame.



