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**DE ES FR GB IT**(71) Applicant: **ROLTRA MORSE S.p.A.**  
**Via Albenga, 9**  
**I-10090 Cascine Vica - Rivoli (IT)**(72) Inventor: **Bergesio, Giuseppe**  
**Strada Bria, 10-E/3**  
**I-12042 Bra (IT)**(74) Representative: **Prato, Roberto et al**  
**Studio Torta,**  
**Via Viotti 9**  
**I-10121 Torino (IT)**(54) **Window regulator channel.**

(57) A channel (3) for a window regulator (1) including a main guide body (12) for supporting a slide (4) running along the guide body (12) and connected to and moving with a sliding window (2) along the channel (3); and a cable device for operating the slide (4); the main guide body (12) being fittable to a frame (23) by means of a pair of portions (24) integral with the body (12) itself.

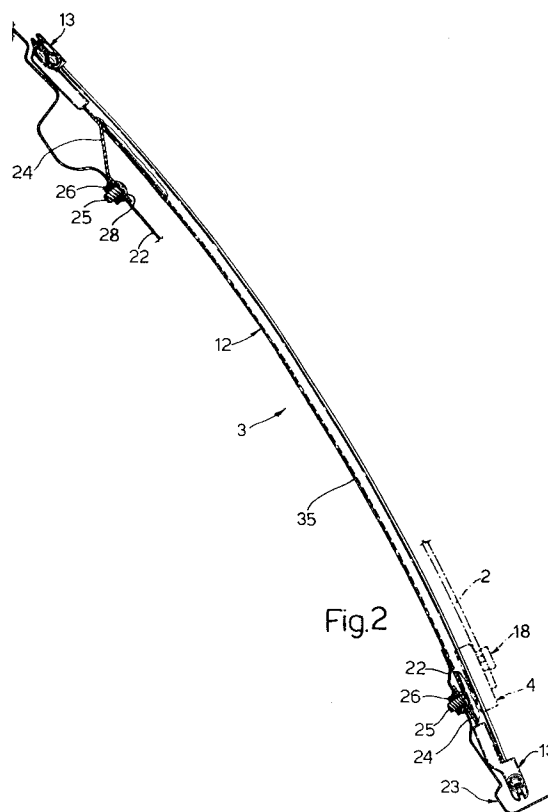


Fig.2

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The present invention relates to a window regulator channel, preferably for vehicles.

More specifically, the present invention relates to a window regulator of the type comprising a channel, a slide connected to a sliding window with which it runs along the channel, and a slide activating device; the activating device comprising a cable connected to the slide and extending along at least part of a loop path; and provision being made for an actuator assembly connected to the cable for moving it axially along said path, and at least one sheath portion for a corresponding portion of the cable and extending between fixed points of said path.

The channel normally comprises a main body made of sheet metal and bracketed to a frame normally consisting of a portion of the vehicle door. Assembly of such channels is therefore relatively time-consuming, due to the additional assembly components involved.

It is an object of the present invention to provide a perfected window regulator channel which is relatively straightforward and hence cheap to produce and assemble.

According to the present invention, there is provided a window regulator channel comprising a main body for supporting a slide presenting window connecting means; said main body being fittable to a frame; characterized in that said main body presents at least one integral portion fittable to said frame.

A non-limiting embodiment of the present invention will be described by way of example with reference to the accompanying drawings, in which:

Figure 1 shows a schematic side view of a window regulator featuring a channel in accordance with the present invention;

Figure 2 shows a side view of the Figure 1 channel;

Figure 3 shows a larger-scale, partially sectioned view of part of the Figure 2 channel;

Figure 4 shows the same view as in Figure 3 of a variation of the Figure 3 channel.

Number 1 in Figure 1 indicates a window regulator for two-way regulation of a window 2 (shown partly by the dotted line) of a vehicle (not shown).

Device 1 comprises a vertical channel 3; and a slide 4 connected in known and sliding manner to the curved-section main body 12 of channel 3, and in turn fitted with and supporting window 2 in known manner by means of an element 18. Slide 4 is moved both ways along channel 3 by a known cable activating device 5 comprising a cable 6 connected to and extending through slide 4 along a closed loop path; and an actuator assembly 8 in turn comprising a reversible electric motor 11 and connected to cable 6 so as to move it along said path. Cable 6 thus runs along body 12, and comes

out at both ends through respective end bodies 13 for guiding cable 6 and which act as stops for respective ends of two sheaths 19 in which cable 6 is housed and guided along the loop path. The other ends of sheaths 19 are housed inside respective end portions 21 of a fixed body 20 of actuator assembly 8.

Main body 12 is fitted directly to portions 22 (Figures 2 and 3) of a frame 23 conveniently consisting of the vehicle door frame. More specifically, body 12, which is conveniently made of sheet metal with a U section, presents, close to the ends of bottom wall 35, two integral portions 24 which are cut along three sides and bent towards portions 22 of frame 23. Portions 24 present assembly holes 28 fitted with respective screws 25 in turn fitted with bolts 26 beneath portions 22 of frame 23. Screws 25 are conveniently welded to portions 24 to reduce the number of loose parts and simplify assembly.

As shown in Figure 4, body 12 is alternatively fitted to portions 22 of frame 23 using a screw 27 secured using the same bolt 26, and presenting a truncated-cone-shaped head housed and conveniently welded inside a complementary truncated-cone-shaped seat 28' conveniently drawn in an end portion 24' of bottom wall 35 of body 12.

The advantages of the channel according to the present invention will be clear from the foregoing description. Fitting main body 12 directly to frame 23, with no need for inserting intermediate brackets, provides for reducing cost by eliminating additional assembly parts, as well as for simplifying and speeding up assembly.

Clearly, changes may be made to the embodiments described and illustrated herein without, however, departing from the scope of the present invention. For example, screws 25, 27 need not necessarily be welded to respective end portions 24, 24' of body 12; bolts 26 may be welded to portions 22 of frame 23; and actuator assembly 8 may comprise, in known manner, a handle as opposed to electric motor 11.

## Claims

1. A window regulator channel (3) comprising a main body (12) for supporting a slide (4) presenting window connecting means (18); said main body (12) being fittable to a frame (23); characterized in that said main body (12) presents at least one integral portion (24; 24') fittable to said frame (23).
2. A channel as claimed in Claim 1, characterized in that said integral portion (24) consists of a deformed portion of said body (12).

3. A channel as claimed in Claim 2, characterized in that said integral portion (24) consists of a partially cut, bent portion of said body (12).
4. A channel as claimed in one of the foregoing Claims, characterized in that said integral portion (24; 24') is supported and fitted directly on to said frame (23). 5
5. A channel as claimed in one of the foregoing Claims, characterized in that said integral portion (24; 24') presents at least one seat (28; 28') for the passage of at least one element (25; 27) for connecting it to said frame (23). 10
6. A channel as claimed in Claim 5, characterized in that said seat (28') consists of a drawn portion of said integral portion (24'), for housing the head of said connecting element (27). 15
7. A channel as claimed in Claim 5 or 6, characterized in that said connecting element (25; 27) is fixed to said integral portion (24; 24') of said main body (12). 20
8. A channel as claimed in one of the foregoing Claims, characterized in that said main body (12) is made of sheet metal. 25
9. A channel as claimed in one of the foregoing Claims, characterized in that it comprises a pair of said integral portions (24) for fitment to said frame (23), located close to the ends of said body (12). 30
10. A vehicle window regulator (1), characterized in that it comprises a channel (3) as claimed in one of the foregoing Claims. 35

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