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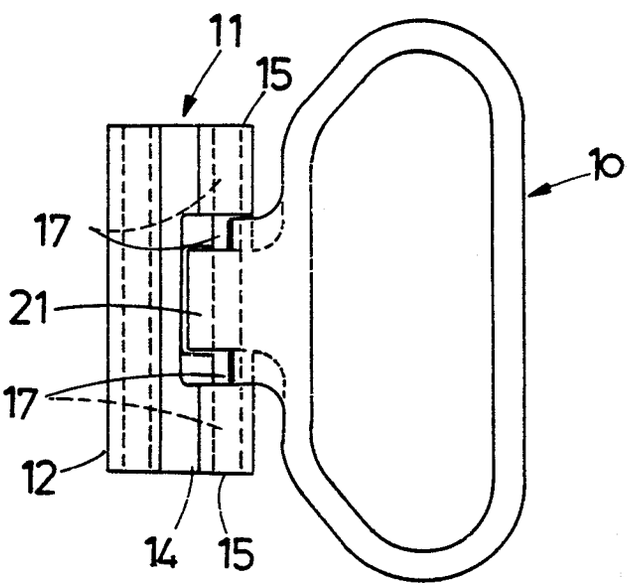
(54) A handle.

(57) An operating handle device for the operator of a remote control of a window. The device comprises a handle (10) and a slide (11). The slide (11) has an engagement portion (12) which is adapted for sliding engagement within a guide G. The handle (10) is pivotally retained with the slide (11) such that an engagement surface (22) can engage with a surface S fixed relative to the guide G to prevent movement of the slide (11) when the handle is in a first position. By movement of the handle to a second position the engagement surface (22) is released from the fixed surface S in order to permit free sliding movement of the slide (11) along the guide G.



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"A handle"

This invention relates to a handle and more particularly to a handle for use with the operator of a remote control of a window.

The remote operation of windows such as high level windows is well known. In one arrangement the remote control is achieved by a flexible shaft operator which is connected by one end to a window sash. The other end is connected through a guide to a control mechanism which can, for example, be a slide engaged for sliding movement within a portion of the length of the guide. The slide can, for example, be an elongate member of circular cross section which is located within a sleeve, said sleeve having a longitudinal slot in its wall through which a lever or arm attached to the slide is located. A knob attached to the free end of the lever or arm facilitates the user to impart a sliding movement to the slide to thereby effect opening and shutting of the window. Transverse slots in the wall of the sleeve which open into the longitudinal slot form keyways into selected ones of which the knobbed lever or arm can be located to lock the slide against

sliding movement. The window sash can thus be moved to and locked in a closed or one of a number of open positions depending on which keyway slot is selected.

This type of arrangement suffers from drawbacks. For example the knob can be difficult to grip in use due to its physical size and when in the locked position its closeness to the sleeve or fixed surface to which the sleeve is in use fastened. In addition the position of the keyway slots determine the extent of opening of the sash. Often a selection of slots is not sufficient to give the required opening of a sash especially when the sash is to be only opened a slight amount.

The object of the present invention is to provide a handle for use with the operator of a remote control of a window sash which can be readily gripped by a user and can lock the slide of the operator in a wide variety of positions over the extent of movement of the slide.

In its broadest form the invention provides an operating handle device for the operator of a remote control of a window comprising a handle and a slide, said slide having an engagement portion which is adapted for sliding engagement within a guide, said handle being pivotally retained with said slide such that the engagement surface in one position of the handle can engage with a surface fixed relative to said guide to prevent movement of the slide therein and by movement of said handle releases said engagement surface from said fixed surface in order to permit free sliding movement of the slide along said guide.

Preferably said slide has a bifurcated portion, said handle having a projecting portion which is pivotally retained within said bifurcated portion, the projecting portion including said engagement surface.

In the following more detailed description of the invention reference will be made to the accompanying drawings in which:-

Figure 1 is a plan view of the handle and slide combined,

Figure 2 is a perspective view of the handle,

Figure 3 is a perspective view of the slide,

Figure 4 is a cross section through the handle,

Figure 5 is a series of three partial views showing the engagement surface portion of the handle,

Figure 6 is a plan view of a preferred form of the guide, and

Figure 7 is a cross-sectional end view on line B-B, in enlarged scale, of the guide shown in Figure 6 but with the slide shown in position.

The handle 10 is preferably of a substantially D shape as can be seen in Figures 1 and 2. The handle, and the slide 11, can be manufactured from any suitable material and by any suitable manufacturing technique, however, it is proposed in a preferred form of the invention that these parts be manufactured from injection molded nylon or glass reinforced nylon as this provides a low cost construction yet provides a strong effective means of operating the operator of a remote control of a window.

The slide 11 has a sliding engagement portion 12 which is adapted for mounting within the guide of a remote window control operator. Such a guide is shown for example in Figures 6 and 7. To this end portion 12 is of circular cross section and has a longitudinal bore 13 which is adapted for engagement with an operator shaft (not shown). Extending laterally from portion 12 is a waisted portion 14 which in use extends through a longitudinal slot L in the wall W of the circular cross-section portion C of operator guide G. Waisted portion 14 is attached to a mounting portion 15 which is of generally the same configuration as the engagement portion 12 and extends parallel thereto.

Part of the mounting portion 15 and the waisted portion 14 are cut away so as to effectively form a bifurcated mount 16 for the handle 10.

Handle 10 is pivotally attached to the bifurcated portion 16 by a separate pivot pin 17 which extends through the bore 18 in mounting portions 15. The handle 10 can thus be pivoted from the position illustrated in Figure 1 to one where it is substantially vertically disposed to the slide 11. In an alternative arrangement pivot pin 17 can be formed by integral pins which project from the projecting portion 21 of handle 10 and which engage in the bores 18.

Handle 10 has an undercut portion 19 which when the handle is in the position shown in Figure 1 engages on the ledges 20 formed by cutaway portions of mounting portions 15. Handle 10 is also provided with stop surfaces 24 which engage with ledges 25 when the handle is disposed in an upright position relative to surface S as hereinafter described.

The projecting portion 21 of handle 10 is provided with an engagement surface 22. This engagement surface can be formed by the projecting portion 21 having a cam surface profile therein, however, in the illustrated form the engagement surface 21 is of circular cross section with the radial centre thereof being located forwardly and downwardly of the centre of bore 23. This means that as handle 10 is pivoted about the pivot axis of pivot pin 17 (refer to Figure 5) the engagement surface 22 moves from a position where it is in engagement with a surface S, such as the mounting portion M of the guide G shown in Figures 6 and 7 or a fixed surface to which the guide is attached to a position where it is clear of the surface S.

The handle thus provides a very effective means of moving and locking the slide of a remote control operator of a window. The user merely grips the handle 10 and by lifting the handle in the direction of arrow A moves it from a position, where in use it is lying flat relative to surface S (left hand side of Figure 5), to a position where it extends perpendicularly to surface S (right hand side of Figure 5). This action releases the engagement surface 22 from the fixed surface S and permits the slide to be moved longitudinally in guide G to the required position whereupon handle 10 is once more returned to the flat position and the slide thereby "locked" because of the re-engagement of engagement surface 22 with fixed surface S.

If required a more positive locked position can be obtained by providing a recess R (see Figures 6 and 7) in the

fixed surface S. For example such a recess can be provided in the position of the slide which represents the window sash being closed shut. When the handle is placed in the locked position the engagement surface 22 will be located in the recess R thereby it will be prevented from any tendency to longitudinal movement.

The handle according to the present invention overcomes the disadvantages known to exist with normal "knob and slide" arrangements. The D shaped handle is more comfortable and effective in operation than a simple knob and rather than needing to be folded flat within the specific and limited keyway slots the locking action of the handle according to the invention permits the handle to lock in any convenient position simply by folding it flat.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. An operating handle device for the operator of a remote control of a window comprising a handle and a slide, said slide having an engagement portion which is adapted for sliding engagement within a guide, said handle being pivotally retained with said slide such that the engagement surface in one position of the handle can engage with a surface fixed relative to said guide to prevent movement of the slide therein and by movement of said handle releases said engagement surface from said fixed surface in order to permit free sliding movement of the slide along said guide.

2. The device of claim 1 wherein said handle has a bifurcated portion, said handle having a projecting portion which is pivotally retained within said bifurcated portion, the projecting portion including said engagement surface.

3. The device of claim 1 or 2 wherein the engagement surface is a cam surface.

4. The device of claim 2 wherein the engagement surface is formed by the projecting portion having a surface which is of substantially circular cross-section off set relative to the axis of pivotal attachment of the handle to the slide.

5. The device of any one of claims 1 to 4 wherein there are provided stop means to limit pivotal movement of the handle when said one position and the released position are reached.

6. The device of any one of claims 1 to 5 in combination with an elongate guide member, said guide member having means to slidingly retain the engagement portion of said slide.

7. The combination of claim 6 wherein the retention means is an elongate housing having a bore therein which substantially conforms in cross-section to the cross-sectional shape of said engagement portion, the housing having a longitudinal slot in the wall thereof through which projects a mounting portion of the slide to which said handle is pivotally attached.

8. The combination of claim 6 or 7 wherein the elongate guide member includes a fixed surface with which said engagement surface of said handle can engage when said handle is in said one position.

9. The combination of claim 8 wherein the fixed surface includes at least one pair of stop surfaces between which the engagement surface can be located when said handle is in said one position.

10. The combination of claim 9 wherein the stop surfaces are formed by opposed walls in said fixed surface, said opposed walls being the ends of a recess or depression in the fixed surface and located in a transverse direction to that in which said slide is slidingly movable along the guide member.

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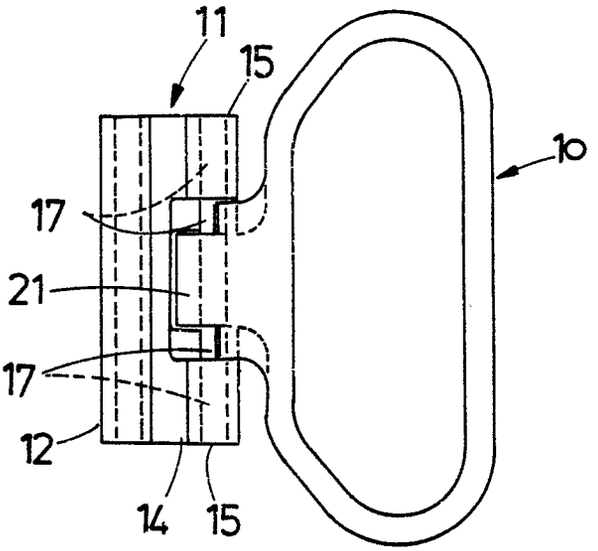

FIG. 1.

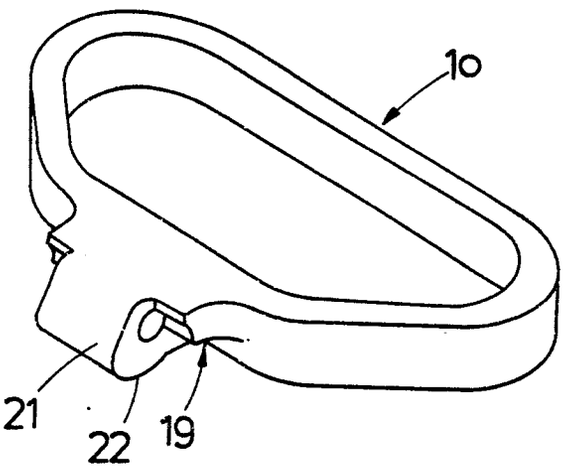

FIG. 2.

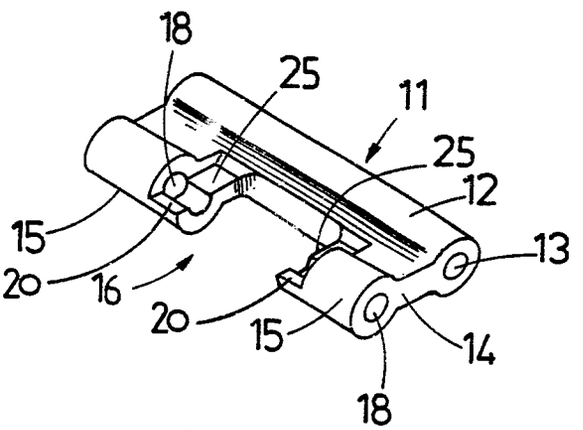

FIG. 3.

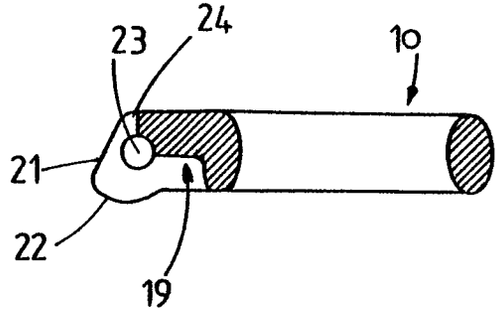

FIG. 4.

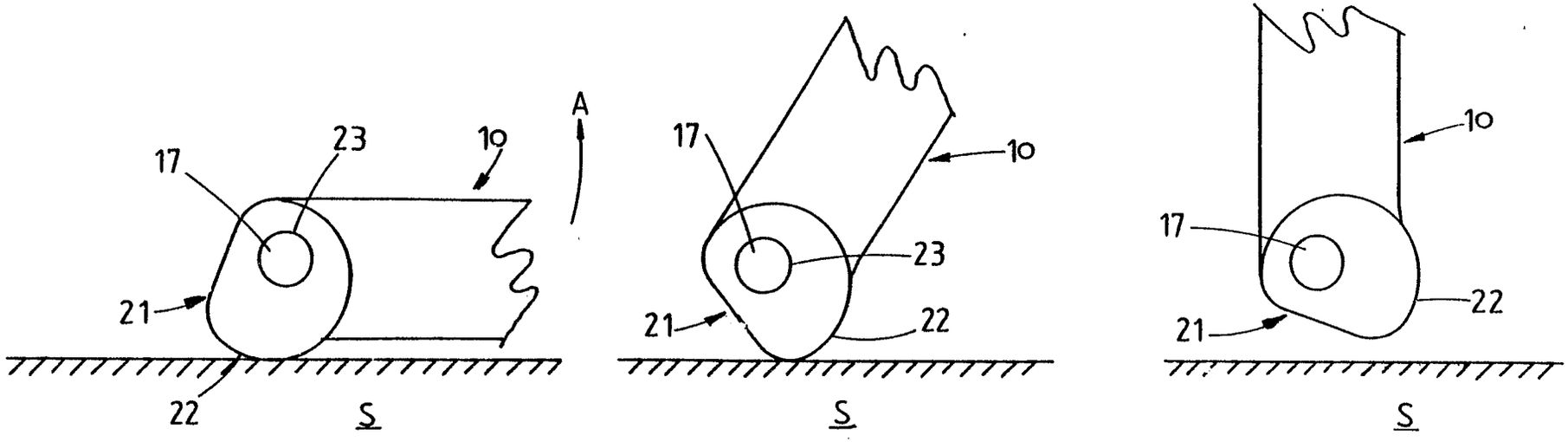

FIG. 5.

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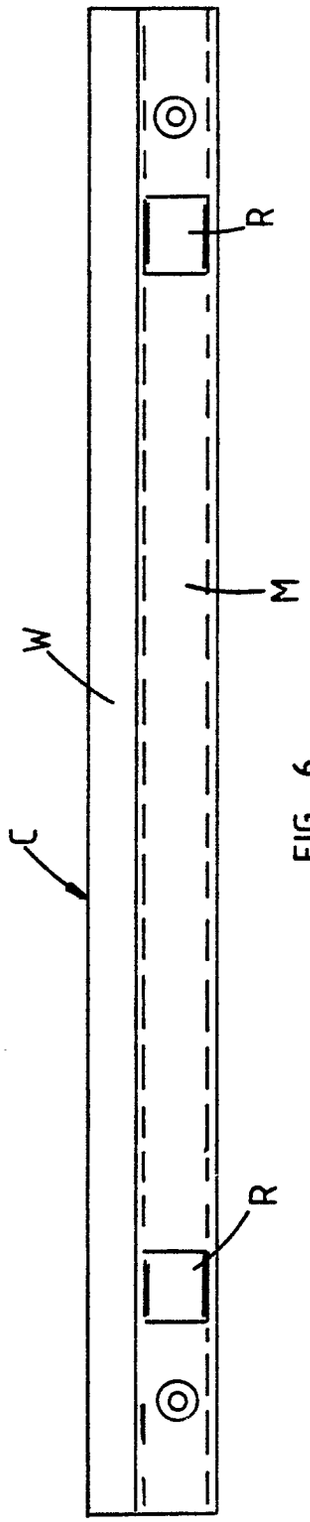

FIG. 6.

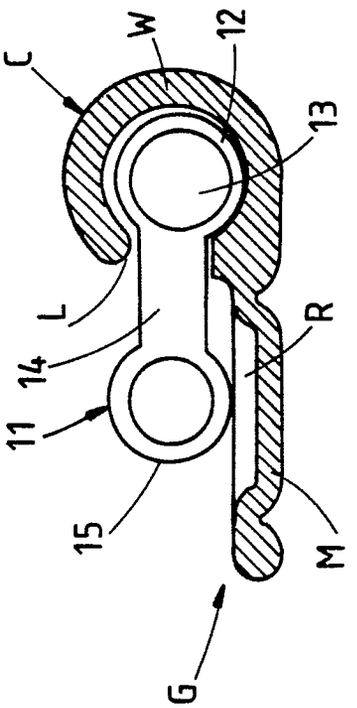

FIG. 7.