W. H. WORST & E. E. KILMER.

WINDOW CONSTRUCTION.

APPLICATION FILED JUNE 6, 1910.

984,990.

Patented Feb. 21, 1911.

2 SHEETS—SHEET 1.

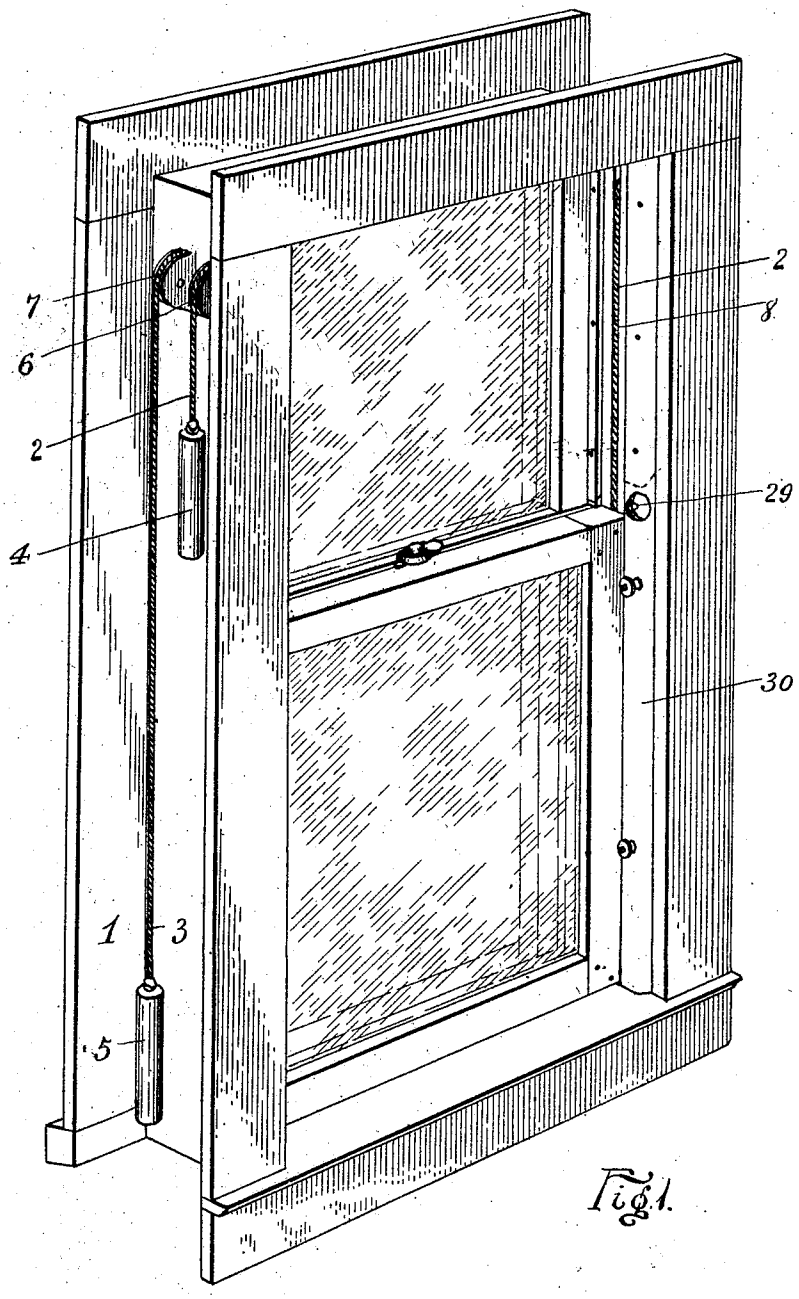

Fig. 1.

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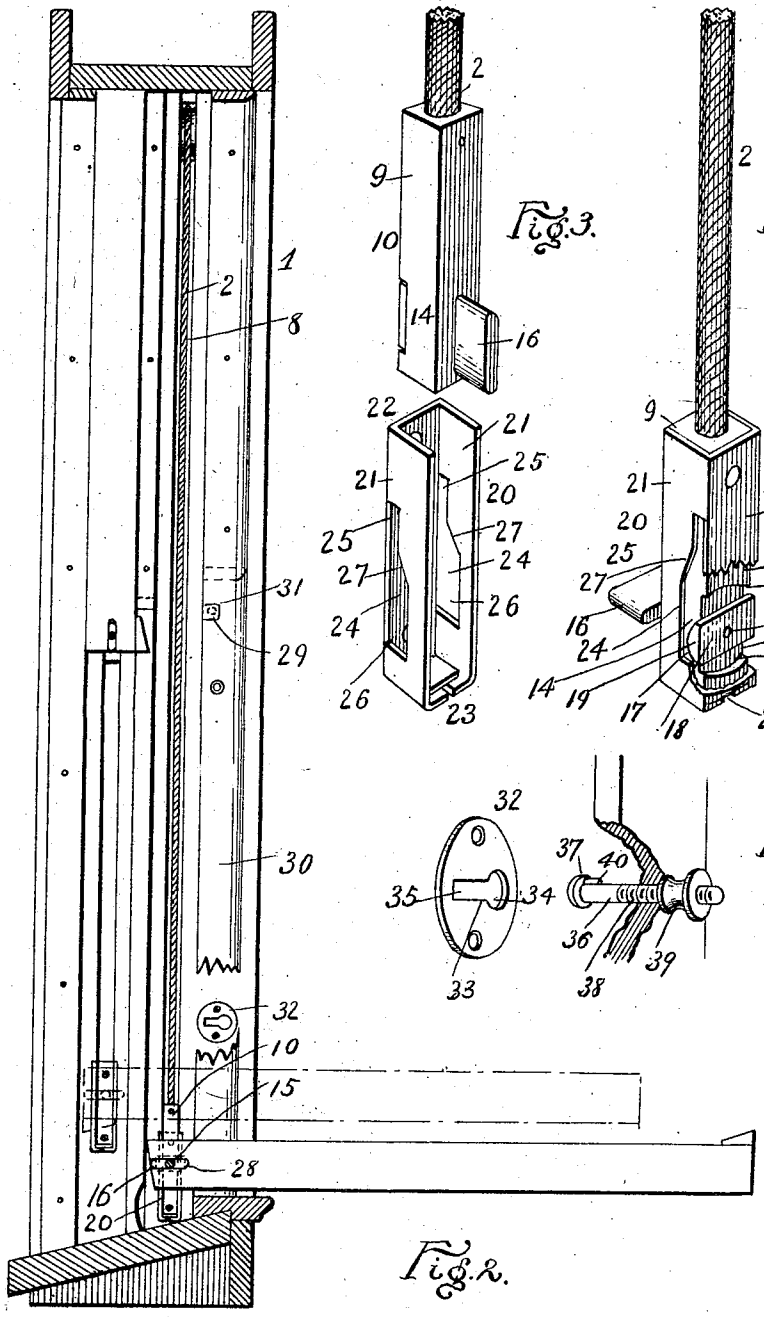

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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UNITED STATES PATENT OFFICE.

WARREN H. WORST AND ELMER E. KILMER, OF NEW LONDON, OHIO.

WINDOW CONSTRUCTION.

984,990. Specification of Letters Patent. Patented Feb. 21, 1911.

Application filed June 6, 1910. Serial No. 565,398.

To all whom it may concern:

Be it known that we, WARREN H. WORST and ELMER E. KILMER, citizens of the United States, residing at New London, in the county of Huron and State of Ohio, have invented certain new and useful Improvements in Window Construction, of which the following is a specification.

This invention relates to a new and useful improvement in window construction, more especially to that class in which the sash frames are pivotally held in place so that they may be swung down for cleaning or repair and may be taken from the window frame without the necessity of using tools or taking anything apart.

It is especially the object of the present invention to produce a construction which is so efficient in use that any one, even an inexperienced person, can use it without any danger of the operative parts interfering or catching in action, and a construction which is so simple and the operation of which is so manifest that any one may use it.

The invention consists in the construction hereinafter pointed out.

In the annexed drawings: Figure 1 is a perspective view of a window frame provided with the invention. Fig. 2, a vertical section through the window frame showing details of the invention in side view. Fig. 3, a perspective view of the improved detent and socket block, separated. Fig. 4, a perspective view of the detent, part being broken away. Fig. 5, a perspective view, part broken away, of a detail of construction.

In these drawings: The numeral 1 designates a window frame of any usual construction, save as modified to receive the present invention. The usual sash cords 2 and 3 with the usual weights 4 and 5 are put in place over the pulleys 6 and 7. In the inner faces of the window jambs, there are preferably made grooves 8 for the sash cords 2 and 3, so that these cords will not be in the way in swinging the sashes down and up.

As the detents and socket blocks are all of the same construction, a description of one will suffice. The sash cord 2 is secured at its lower end to the top 9 of the detent 10. This detent 10 is made angular in cross-section and has near its bottom on one side a recess having at the top and bottom curves 12 and 13. Through the reduced portion 14 of the detent 10 there is passed the stem 15 of a plate 16 and on the end of the stem 15 which is within the recess 11 there is secured a button 17 having the flat face 18 and back 19 rounded transversely. In or near the bottom of each sash cord groove there is placed a socket block 20. This socket block 20 has the sides 21, 21, back 22, and bottom 23. It is open at the top and front, and is made so as to have a vertical channel adapted in shape and size to the detent 10. In each side 21 of this socket block 20 there is made a slot 24. This slot 24 has a narrow top portion 25, and a lower wide portion 26, there being between the two an inclined edge 27, this edge being in the side of the slot 24 toward the open front of the socket block 20. Each sash is provided at each lower corner with a vertically narrow groove 28, adapted to fit snugly over the plate 16 of the detent 10.

To the inside or face of the frame there is secured, one on each side, a pin 29, the location of this pin being just above the top of the lower sash when the latter is down as indicated in Fig. 1. The stop 30 has a notch 31, shown in dotted lines in Fig. 2, on its inner edge near the top so as to fit around the pin 29. Secured to the window jamb below this pin 29 and in front of the place for the lower sash when down are two plates or escutcheons 32, 32, having an opening 33 similar to a key hole, with a round part 34, and a narrow part 35, the latter toward the inner part of the window frame. Back of the escutcheons the jambs are to be recessed sufficiently to receive the head of a small screw or bolt. Adapted to these escutcheons are screws or bolts 36, 36, having heads 37 smaller than the part 34 and larger than the width of the part 35 of the opening 33 in the escutcheons. The stem 38 of the bolts 36 are threaded and thereon are nuts 39. Just within the head 37, the screws or bolts 36, 36 may have fins 40 to prevent rotations in the escutcheons as the nuts 39 are tightened.

Operation: The detents 10 carrying the sash cords are put down into the socket blocks 20, and the plates 16 are turned transversely, the buttons 17 turning and their ends entering into the slots 24, while the detents are held in the socket blocks, the ends of the buttons 17 being drawn up into the narrow top portions 25 of the slots 24. The sash is then put into place, the corner grooves 28 fitting snugly over the plates 16.

The sash is then turned up into a vertical position, the stems 15 of the plates 16 turning in the detent 10. As soon as the plates assume the position shown in Fig. 3, the sash is vertical and may be raised and lowered in the usual way. After the lower sash is placed on the plates of its detents, but before being swung up, the upper sash is placed upon the plates of its detents. The upper sash is swung up and then the lower sash is swung up. After both sashes are in place the stop is placed against the jamb with the head 37 of the screw or bolt 36 passing through the openings 33 and back of the escutcheons 32, 32. The stop 30 is then placed in its proper position and the nuts 39 are drawn down on the stems 38 binding the stop in place.

If the stop 30 be made in two pieces, an upper and a lower meeting as at 30ª, then the pin need not be used, as the lower sash must come down below the bottom end of the upper part of the stop before it can be swung down into the room.

In turning the lower sash down into the room the bottom edge of the sash must either swing outwardly or the sash rise so as to be turned down over the bottom of the window frame inside. To have the edge swing outwardly, the parting strip between the sashes must be removed, as it is in the way. To avoid this removal of the parting strip the invention is designed to permit the lower sash to rise as the upper sash is swung down into the room. As the lower sash is turned down into the room, its bottom being fulcrumed upon the bottom of the window frame, the plates 16 are raised up in the socket blocks 20, the ends of the buttons 17 being removed from the bottoms to the tops of the slots 24. By making the slots 24 of different widths there is allowance for sashes of different widths, especially for sashes which may have shrunk in use. When the buttons are at the tops of the narrow top portions 25 of the slots 24, the inner edges of detents 10 are flush with inner edges of the sides 21, of the socket block, and the sash may be slipped on or off, as only the plates 16 project from the socket block. If the sash fits the frame snugly, the detents 10 slide up and down in the socket blocks 20 without any side movement. But if the sash be loose in the frame, the difference in width of the slots 24 permits side movement of the detents and the loose sash adjusts itself sidewise in the frame. As the sash is swung inwardly the detents rise in the socket blocks and the inclined edges 27 cause the detents to move so that the buttons pass up into the narrow top portions 25 of the slots 24, thus bringing the inner edges of the detents flush with the inner edges of the sides of the socket block, so that when the sash is returned to place upon the plates it would not strike against the detent projecting beyond the faces of the sides of the socket block. The button 17 has its back 19 rounded so that it will be turned easily against the face of the detent 10.

What we claim is,

1. The combination of a detent having a plate provided with a stem passing through the detent and having a button thereon with a socket block having a passage adapted to receive the detent, and in which the detent fits, and provided with two slots to which the button is adapted and in which the ends of the button are received.

2. The combination of a detent having a plate provided with a stem passing through the detent and having a button thereon with a socket block having a passage adapted to receive the detent and in which the detent fits and provided with two slots consisting of a narrow and a wide portion to which slots the button is adapted and in which the ends of the button are received.

3. The combination of a detent having a plate provided with a stem passing through the detent and having a button thereon with a socket block having a passage adapted to receive the detent and in which the detent fits and provided with two slots consisting of a narrow and a wide portion, and provided with an inclined edge between the two portions, to which slots the button is adapted and in which the ends of the button are received.

In testimony whereof we affix our signatures in presence of two witnesses.

WARREN H. WORST.
ELMER E. KILMER.

Witnesses:
R. J. SMITH,
JAMES TURNER.