April 26, 1927. E. J. SIBLEY 1,625,915

FRICTION CASEMENT WINDOW ADJUSTER

Filed Dec. 17, 1925 2 Sheets-Sheet 1

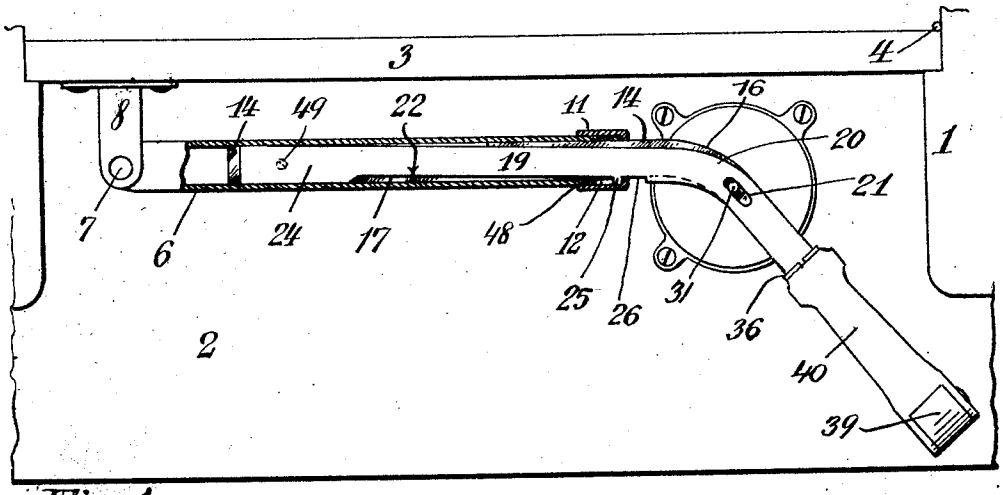


Fig. 1

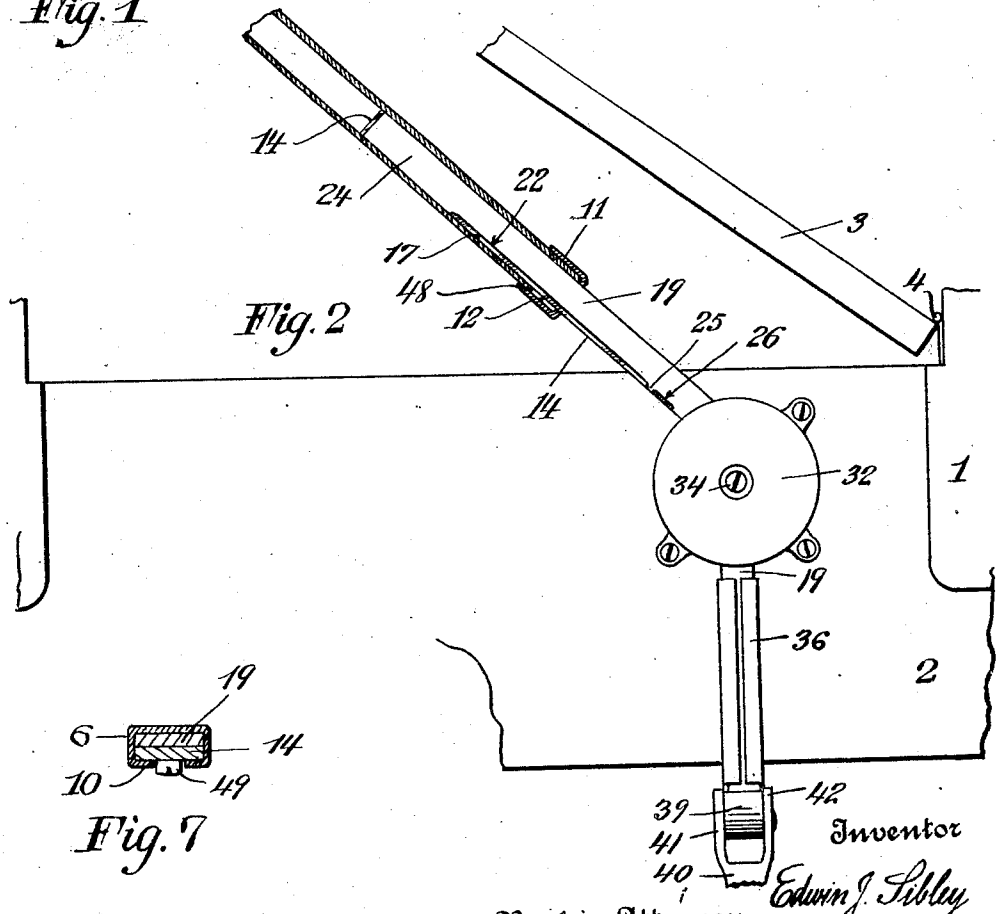


Fig. 2

Fig. 7

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Fig. 3

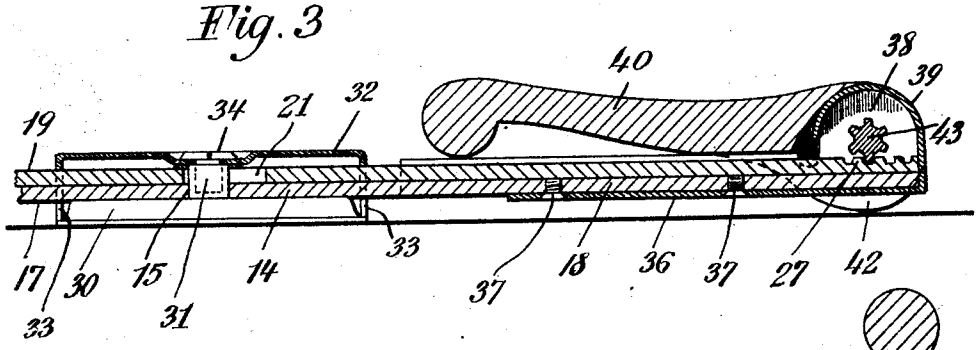


Fig. 4

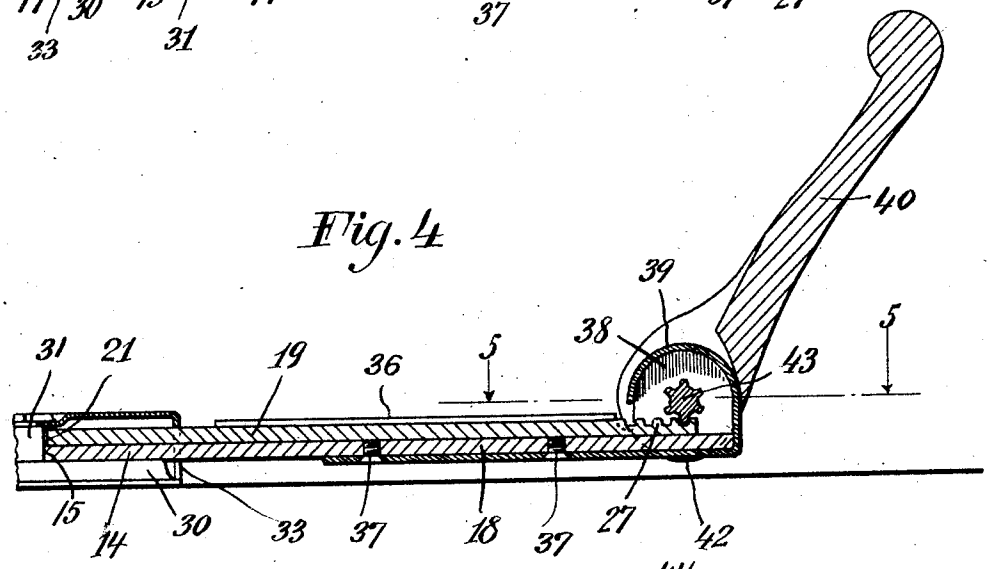
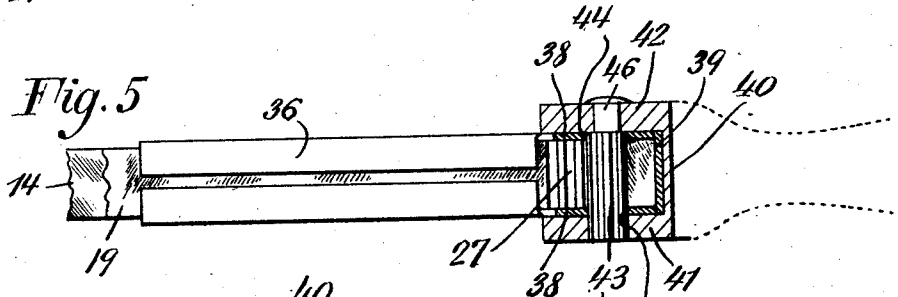


Fig. 5



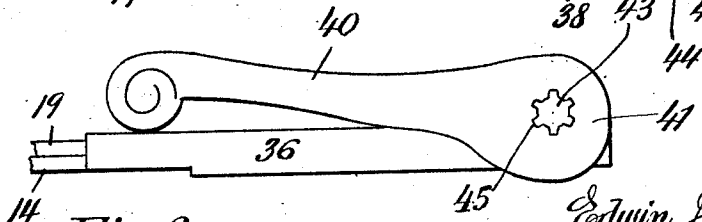


Fig. 6

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UNITED STATES PATENT OFFICE.

EDWIN J. SIBLEY, OF WESTBURY, NEW YORK.

FRICTION CASEMENT-WINDOW ADJUSTER.

Application filed December 17, 1925. Serial No. 75,935.

This invention relates to improvements in casement window friction adjusters and has particular reference to an adjuster of the type shown in my pending application filed September 22, 1925, Serial Number 57,831.

The object of the invention is to provide novel means for operating the adjuster in cases where the window stool is of a width which makes it impossible to employ a drop handle. In such cases it is necessary to employ a different kind of handle. It is a further object of the invention to generally improve the mechanism for operating the friction elements of the adjuster.

The invention will be more fully understood from the following specification read in connection with the accompanying drawings in which—

Figure 1 is a plan view, partly in section, of a casement window adjuster embodying my invention and showing the adjuster in locked position.

Figure 2 is a similar view showing the adjuster in position with the window opened and the friction means unlocked.

Figure 3 is a longitudinal sectional view of the friction operating means illustrating the particular type of handle used for operating the adjuster, parts being removed and parts broken away.

Figure 4 is a view similar to Figure 3 but shows the handle thrown back and the friction members unlocked.

Figure 5 is a detail plan view in section showing the friction member operating mechanism.

Figure 6 is a detail side view of the handle.

Figure 7 is a sectional detail view of parts of the adjuster.

Referring to the drawings the reference numeral 1 denotes the window frame, 2 is the stool and 3 the window hinged at 4. These parts are shown conventionally.

The adjuster comprises a tube 6 preferably of rectangular cross section. It is pivoted at 7 to a bracket 8 suitably secured to the free end or side of the window. As seen in Figure 7 the tube 6 has an open bottom providing a slot 10. The inner end of the tube carries a collar 11 which encloses the tube and within the collar the tube is cut away at the one side to form a slot 12.

Within the tube are slidably supported two levers. The lower one 14 may conveniently be termed a base lever and is provided with a pivot hole 15 and is further bent as at 16 to form an adjuster operating portion 17 and a handle portion 18.

The upper level 19 may conveniently be termed the friction lever and is bent at 20 and is provided with a slot 21. The outer end of the friction lever is cut away at 22 to form a friction head 24 and a locking tooth 25 beyond which the cut away portion is continued to form a recess at 26. The inner end of the friction lever is provided with an integral rack 27.

The base lever 14 and the friction lever 19 are arranged to telescope within the tube 6 and to slide therein relative to one another. The base lever 14 occupies the full width of the tube throughout its length, while in the case of the friction lever 19 only the friction head 24 has its sides parallel and of practically the same width as the inside of the tube. Both levers have a sliding fit within the tube.

The numeral 30 denotes a suitable support or base which carries a fixed pivot 31. The base is secured to the window sill or stool 2. The levers 14 and 19 are mounted on the pivot 31 by means of the aforesaid pivot hole 15 and slot 27 in the two members respectively. A casing 32 fits over the base 30 to cover the parts therein and is cut out as at 33, 33 to permit the members 14 and 19 to pass therethrough. A screw 34 in the pivot 31 secures the levers 14 and 19 and the casing 32 in position without clamping said levers.

The inner end or handle portion of the base lever 14 carries a channel guide 36 secured by screws 37. The guide is wrapped around the two levers 14 and 19 and forms two upstanding bearing lugs 38, 38. A portion 39 of said channel guide is further bent upward and around the bearing lugs 38 to form a shield.

The numeral 40 denotes a handle which has two ears 41, 42. A pinion 43 passes through the handle ears and through cylindrical holes 44 provided in the said bearing lugs 38. As seen in Figure 6, the handle ear 41 is provided with an opening 45 in the form of the pinion 43, so that in assembling the parts, the pinion is pushed through the opening 45 then through the holes 44. The pinion has a reduced portion 46 which passes through a hole in the handle ear 42 and the end of the reduced portion is upset to secure the pinion in the handle.

The pinion meshes with the teeth in the

rack 27 and it will be seen that when the handle is operated the pinion turns therewith and operates the rack.

The normal position of the handle is shown in Figures 1, 3 and 6, in which position the friction of the adjuster is locked in that the friction lever 19 is drawn to the right in Figure 1, whereby the friction head 24 is jammed or clamped tightly against the sides of the tube 6, as will be understood.

When it is desired to open the window, the handle is raised as shown in Figure 4 and consequently the pinion 43 is rotated to operate the rack 27 to unlock the friction. This is shown in Figure 2 where it will be seen that the friction lever has been moved into a position parallel to the sides of the tube 6 and as the adjuster is rotated on the pinion 31 the tube 6 slides outwardly on the levers and the window may be opened to any desired extent. The friction is locked with the window in open position by dropping the handle down upon the adjuster as in Figure 3 which will again cause the friction head to be locked within the tube.

The friction lever 19 has a sliding movement obliquely to the base lever 14 so that when the window is closed the locking tooth 25 passes inside the collar 11. Thus in closed position not only is the adjuster locked because of the locking of the friction, but it is further locked against any attempt to open the window by pulling at its free edge because such an attempt would be resisted by the locking tooth striking the edge 48 of the slot 12 in the tube. The screw 49 shown in Figures 1 and 7 prevents removal of the tube from the levers without first removing said screw. Without the latter there would be nothing to stop the outward sliding movement of the tube on the lever.

The foregoing is thought to clearly disclose this invention and its advantages. As seen from the drawings the handle is conveniently moved down upon the adjuster whereby to lock the friction in either open or closed position of the window and irrespective of the width of the stool 2. The handle is also conveniently grasped and raised whereby to automatically unlock the friction and whereby to form a convenient means for swinging the adjuster on its pivot. The means for operating the friction is very simple and practical, easily assembled and not subject to wear or strains. The entire assembly is pleasing in appearance. It should be also noted that this construction embodies the correct principle in operating a window, namely, that of applying the pressure in the extreme free ends of the window in the bracket 8.

It has been found in practice that it is possible by properly designing the parts to clutch or jam the friction head 24 within the tube 6 to such an extent that it is practically impossible to telescope the adjuster when the friction is on, and that this construction, therefore, provides a very much stronger grip on the window than that which can be obtained when intervening friction elements are employed. It is also obvious that the manufacturing cost is greatly reduced and the assembling of the parts may be done more rapidly. In practice the parts are so designed that the friction will yield or rather that the tube 6 may slide on the friction head in the event that an abnormally strong pressure is exerted on the window, thereby avoiding breakage which otherwise would take place were it physically impossible to slide the tube on the friction head after the friction is on.

While my invention has been disclosed in its preferred form, nevertheless, I do not wish to be limited to the exact details shown as changes and modifications may readily be made without departing from the spirit of the invention or the scope of the appended claims.

I claim:—

1. A casement window adjuster comprising a support, a pair of levers mounted to swing thereon, a tube slidably mounted on said levers, a handle, a rack on one of the levers and a pinion secured to said handle in engagement with the said rack for operating the said one lever into frictional engagement with the said tube.

2. A casement window adjuster comprising a tube, a pair of relatively slidable levers mounted to slide within the tube, a rack integral with one of the levers, a pinion in engagement with the said rack and a handle for operating said pinion to move the one of the said levers into frictional engagement with the said tube and for operating said levers and tube together in one lateral plane.

3. A casement window adjuster, comprising a support, a friction lever mounted thereon, a tube slidably mounted on said lever, a friction head formed on said lever within said tube, a rack on said lever, a pinion in engagement with the said rack and a handle for operating said pinion to move the said friction head into frictional engagement with the said tube.

4. A casement window adjuster comprising a support, a base lever pivoted thereon, a friction lever slidably mounted on said support and on said base lever, a tube slidably mounted on said levers, a rack integral with said friction lever, a pinion supported by said base lever and a handle for operating the said friction lever on the said base lever and support into frictional engagement with the said tube.

5. A casement window adjuster comprising a tube, a friction lever supported to slide within the same, a rack on said lever, a

pinion and handle for operating a certain portion of said lever into frictional engagement with the tube and for releasing said lever from frictional engagement with the tube to permit relative sliding movement between the tube and the lever, a fixed support, said handle serving as a means for swinging said tube and lever on said fixed support.

6. A casement window adjuster comprising a plurality of levers mounted thereon, a tube mounted to slide on said levers and means for operating one of said levers into frictional engagement with the said tube, said means comprising a rack on one of said levers, a pinion in engagement with the said rack and a handle carried by the other of said levers for operating the said pinion.

7. A casement window adjuster comprising a fixed support, a plurality of levers mounted thereon, a tube adapted to slide on said levers, a handle, means interposed between said handle and one of the said levers for operating the latter into frictional engagement with the said tube, said handle being adapted to be moved into a normal position down upon and parallel with the said levers and to be moved into an upright angular position with respect to the said levers for operating the same on the said support.

8. A casement friction adjuster comprising a fixed support, a plurality of telescopically mounted elements pivoted on said support to swing in a lateral plane thereon, said elements being adapted to be frictionally locked and unlocked with respect to each other, a handle for operating said elements, said handle being adapted to assume a normal horizontal laid-down position parallel to and on top of the said elements when the latter are frictionally locked together.

EDWIN J. SIBLEY.