July 31, 1934. J. S. GULLBORG 1,968,388

TRANSOM AND WINDOW ADJUSTER AND LOCK

Filed July 10, 1933

FIG. 1.

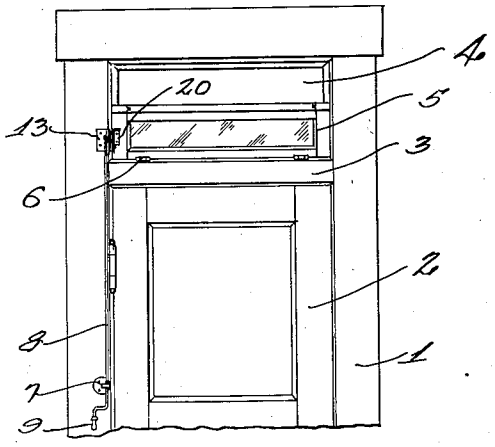


FIG. 2.

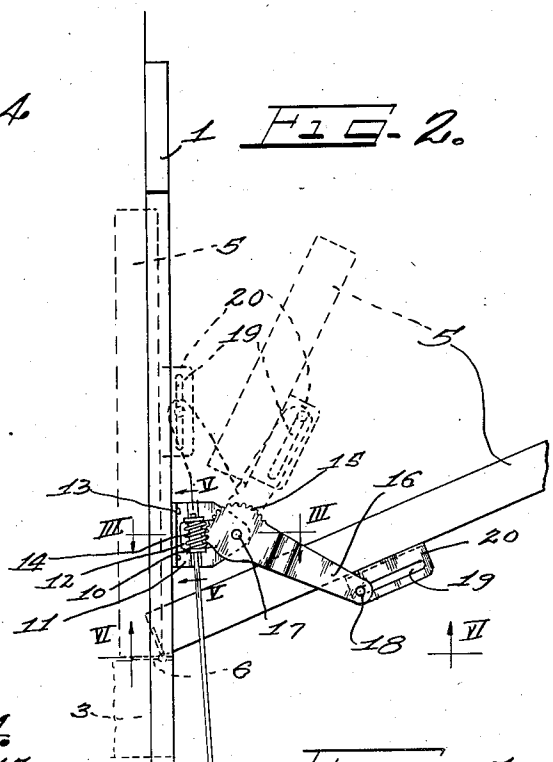


FIG. 3.

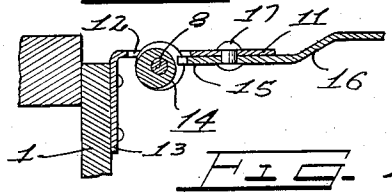


FIG. 4.

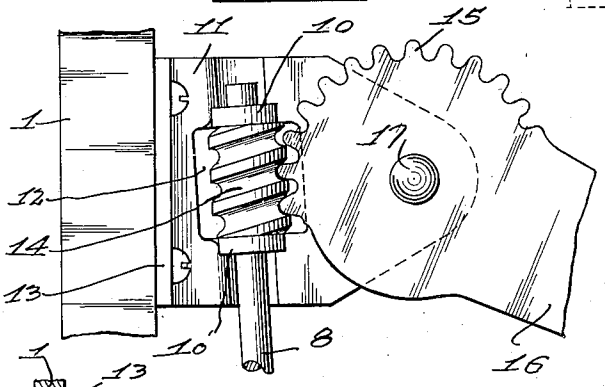


FIG. 5.

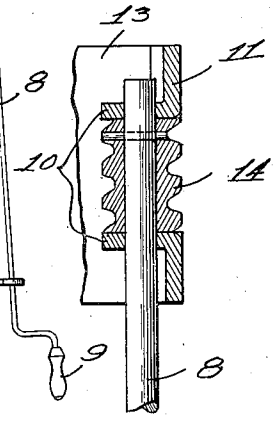
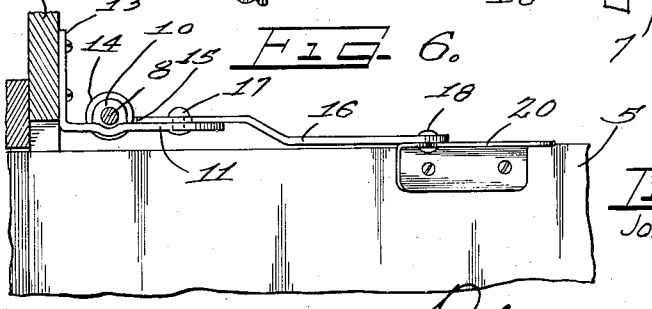


FIG. 6.



INVENTOR
JOHN S. GULLBORG.

BY: Charles O. Fields ATTYS.

Patented July 31, 1934 1,968,388

UNITED STATES PATENT OFFICE

1,968,388

TRANSOM AND WINDOW ADJUSTER AND LOCK

John S. Gullborg, Chicago, Ill.

Application July 10, 1933, Serial No. 679,639

1 Claim. (Cl. 268—105)

In the past, many cases of burglary have been traced to the fact that transoms or hinged windows have been equipped with opening mechanisms which, when a transom is slightly open, could be forced by a burglar until the transom is opened wide enough to permit entrance to be gained into the room. Former types of transom openers have usually been of the friction or slide type which are difficult to operate and do not insure the holding of a transom in a predetermined open position of adjustment.

The present invention relates to an improved type of transom and window adjuster of improved and simplified form adapted, when operated, to conveniently open a transom or window in a predetermined amount and hold the transom or window locked in an open, adjusted position against accidental opening or against further opening by unauthorized persons endeavoring to force the adjuster by applying force on the partly opened transom.

It is an object of this invention to provide a transom and window adjuster including an opening mechanism adapted to serve as a locking means for holding a transom or window in a closed or in an open set position of adjustment against the application of force from the exterior of the transom or window by unauthorized persons.

It is also an object of this invention to provide a transom and window adjuster including a worm and gear mechanism for conveniently opening a transom or window and for holding the same locked in an open position of adjustment.

It is an important object of this invention to provide an improved and simplified form of transom and window adjuster and lock including a crank shaft operated worm and gear mechanism for moving a transom or window into an open set position of adjustment and holding the same locked in such open position due to the fact that forcible operation of the transom or window in an endeavor to operate the gear unit of the adjuster will not produce operation of the worm member on the operating shaft of the adjuster.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawing.

The invention (in a preferred form) is illustrated in the drawing and hereinafter more fully described.

On the drawing:

Figure 1 is an interior elevational view of the upper portion of a room door frame equipped with a transom operable by means of an improved transom and window adjuster and lock embodying the principles of this invention.

Figure 2 is an enlarged side elevation of the adjuster and lock holding the transom in an open locked position of adjustment and illustrating the operation of the transom and the adjuster mechanism in dotted lines.

Figure 3 is an enlarged fragmentary detail section taken on line III—III of Figure 2.

Figure 4 is an enlarged fragmentary side elevation of the worm and gear operating mechanism forming part of the device.

Figure 5 is an enlarged fragmentary detail section taken on line V—V of Figure 2, with parts shown in elevation.

Figure 6 is an enlarged bottom plan view of the device taken on line VI—VI of Figure 2.

As shown on the drawing:

The reference numeral 1 indicates a door frame having a door 2 hingedly supported therein beneath a frame cross bar or transom sill 3 to provide a transom opening 4 in which a transom window 5 is pivotally supported by means of hinges 6 connected to the transom cross bar 3.

The improved transom and window adjuster and lock comprises a bearing bracket or standard 7 which is secured in place on the inner face of one of the door frame uprights by means of screws or other suitable retaining members. Rotatably engaged through the apertured bearing bracket 7 is the lower portion of a crank rod or operating shaft 8, the lower end of which is bent to provide a handle or crank arm 9. The upper end of the operating shaft 8 projects through a pair of apertured bearing lugs 10 which are struck from a bracket plate 11 provided with an opening 12. One end of the bracket plate 11 is bent over at right angles to provide a mounting plate 13 which is apertured to receive mounting screws for holding the bracket plate against the inner face of one of the door frame uprights, as clearly illustrated in Figure 4. Rigidly secured by means of a pin or other suitable retaining member on the upper portion of the operating shaft 8 between the lugs 10, is an operating spiral or worm 14.

Meshing with the driving worm 14 is a gear segment 15. The gear segment 15 is formed on one end of a lever or arm 16 which is pivotally mounted on the bracket 11 by means of a pivot pin 17. Projecting through the outer end of the lever or arm 16 is a headed guide pin 18. The guide pin 18 projects through a guide slot 19 pro-

vided in an angle bracket 20 secured on one of the side members of the transom window 5.

The operation is as follows:—

The improved transom and window adjuster and lock is adapted to be conveniently secured in position by merely mounting the bracket plates 7 and 13 on the inner side of one of the door frame uprights and securing the angle bracket 20 to one of the side members of the transom window 5. The guide pin 18 carried by the toothed or geared lever or arm 16 is slidably engaged in the bracket slot 19 so that, by merely rotating the handle or crank 9, the worm 14 on the shaft 8 is rotated to operate the gear segment 15 to pivotally swing the transom from a closed position, illustrated in dotted lines in Figure 2, toward the dotted-line partially open position of Figure 2, and then toward the completely open position of the transom window illustrated in full lines in Figure 2. It will be noted, from an examination of Figure 2, that in the closed position of the transom window, the guide pin is substantially midway in the guide slot 19, while in the half-way open position, the guide pin 18 is at the upper end of the slot 19 from which position it travels downwardly with the continued opening of the transom window until the pin reaches the lower end of the guide slot 19 when the transom window is completely opened.

Attention is called to the fact that, due to the worm and gear arrangement for opening the transom window, operation of the transom window can be accomplished only through rotation of the shaft 8 and the driving worm 14 and since it is impossible to drive a worm by means of a gear a reverse operation of the opening mechanism through a pivotal forced operation or swinging of the open transom is impossible. It will thus be noted that the worm and gear mechanism serve a double purpose, namely—the purpose of permitting the transom window to be moved into different open positions of adjustment by rotation of the handle or crank 9, while, after the transom is opened, the worm and gear members serve as a locking means for holding the transom window locked in a set position of adjustment. It will thus be noted that the worm and gear serve both as an operating mechanism and as a locking device for a transom window, so that the window, when closed or partially open, cannot be forced from the outside into a wider open position by an unauthorized person endeavoring to gain access into a room through the transom.

It will of course be understood that various details of construction may be varied through a wide range without departing from the principles of this invention, and it is, therefore, not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claim.

I claim as my invention:

A transom adjuster, comprising in combination, two bearing brackets adapted to be attached to a door or window or like casing in vertically spaced relation, the upper of said brackets being secured to the casing adjacent the hinged margin of the transom, said upper bracket having a base part for attachment to the casing and an outstanding part, said outstanding part having an opening in it with apertured lugs adjacent the upper and lower margins of said opening, a substantially vertically disposed operating rod carried by said brackets with its upper end supported in the lugs of said upper bracket, a worm secured to said rod between said lugs and lying in the opening in said upper bracket, a lever pivoted to swing on a horizontal axis in the outstanding part of said upper bracket outwardly of said rod, said lever having a gear segment on its inner end in mesh with said worm and having its outer end adapted for cooperative engagement with the transom, a plate secured to said transom, the outer ends of said lever and said plate having pin and slot connections for raising and lowering the transom when said lever is swung about its pivot, and said rod having a handle below the lower bracket for rotating it to actuate said transom.

JOHN S. GULLBORG.