May 12, 1931. F. DAVIS 1,804,677

PROTECTIVE STRUCTURE FOR CASHIER AND TELLER WINDOWS

Filed Jan. 28, 1930 2 Sheets-Sheet 1

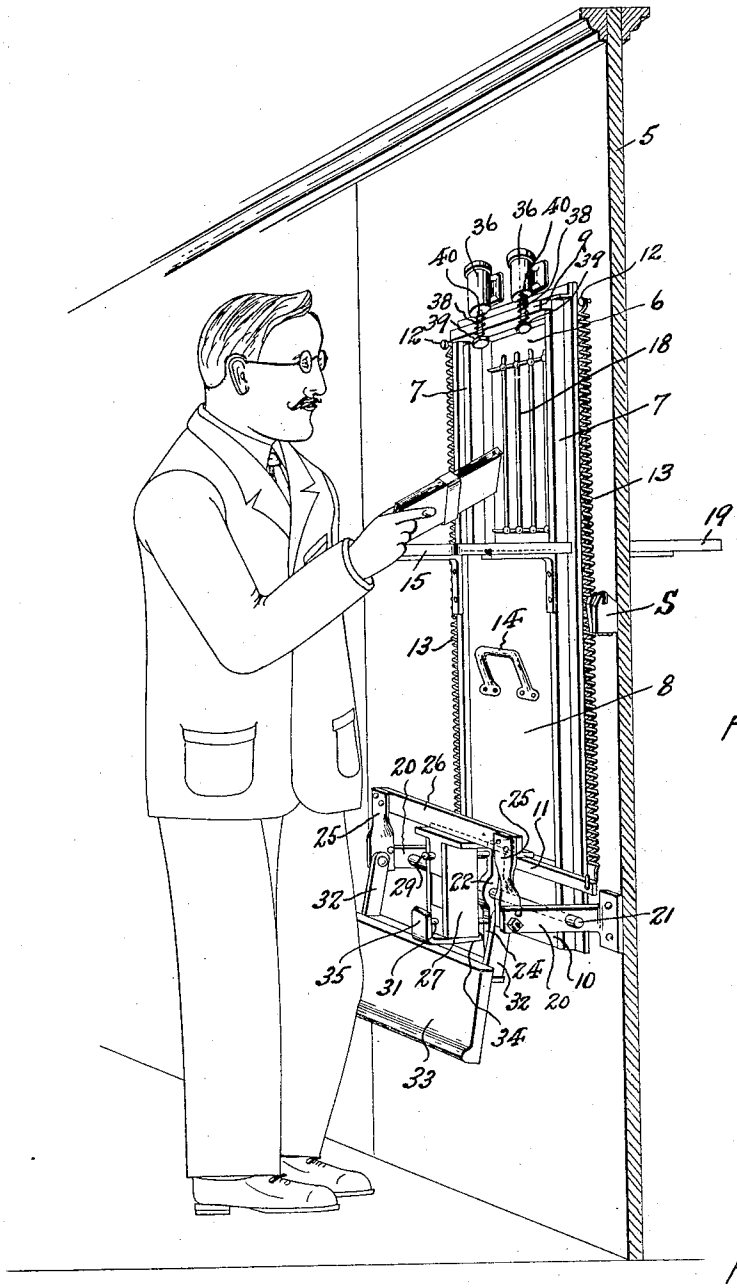


Fig. 1

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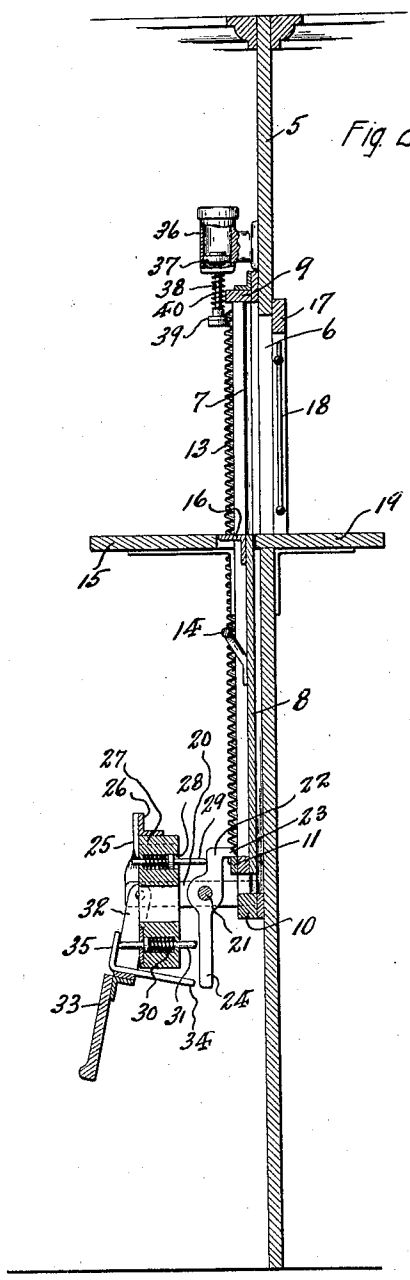


Fig. 2

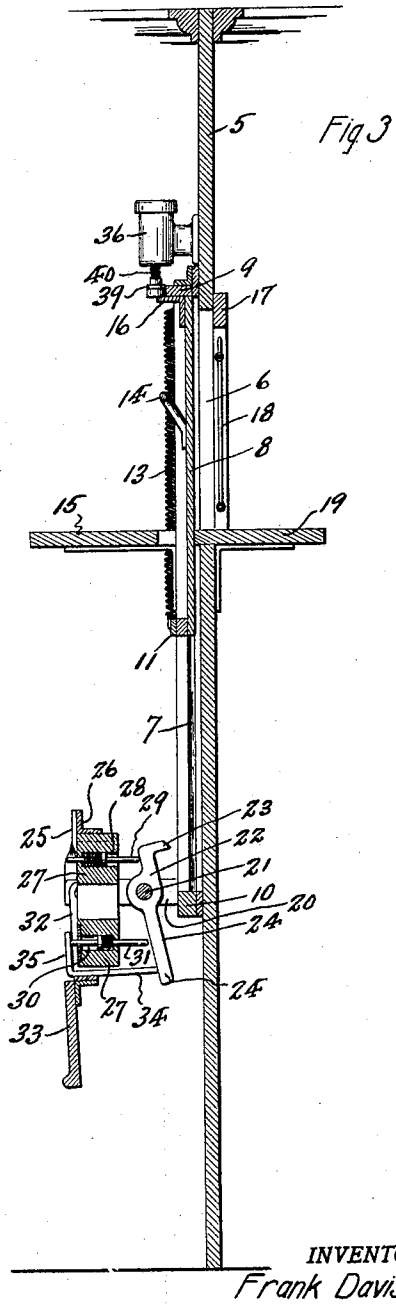


Fig. 3

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UNITED STATES PATENT OFFICE

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PROTECTIVE STRUCTURE FOR CASHIER AND TELLER WINDOWS

Application filed January 28, 1930. Serial No. 424,093.

This invention relates, generally, to means for protecting the desk or counter windows of cashier and paying teller stations, ticket vendor booths, and all similar places where the attendant is required to handle or distribute cash and other valuables; and, this invention has reference, more particularly, to an armored partition with movable bullet-proof window closure therefor, and means to control the closing of the latter according to need.

This invention therefor has for its principal object to provide a novel means to guard and protect cashiers, tellers and other attendants against hold-up or other forms of banditry; and, to this end, the invention comprises, in combination with a partition impervious to bullets and having a window opening, a movable bullet-proof window closure slidably related to the window opening, and means for moving the window to closed position, together with a detent means for releasing the window for closing movement, said latter means being operable by body pressure, as, for example, pressure exerted by the knee of the operator.

Other objects of this invention, not at this time more particularly enumerated, will be understood from the following detailed description of the same.

An illustrative embodiment of this invention is shown in the accompanying drawings, in which:—

Fig. 1 is a perspective view showing the protective structure made according to the principles of this invention; Fig. 2 is a vertical longitudinal section through the same, with the window closure in detained open position; and Fig. 3 is also a vertical longitudinal section showing the detent released and the window closure moved to closed position.

Similar characters of reference are employed in the above described views, to indicate corresponding parts.

Referring to the drawings, the reference character 5 indicates a partition or protective panel, having therein a suitably disposed window opening 6. Said partition or protective panel 5 may consist in an armor plate made entirely of steel, or the same may be of any other suitable construction suitably reenforced with metal or other material calculated to render the same impervious to bullets.

Secured upon the inside face of the partition or protective panel 5 are grooved jamb members 7, one adjacent to each side of the window opening 6, the same being adapted to provide a slideway for a vertically movable window closure plate 8. Said window closure plate preferably comprises a steel plate or other similar body impervious to bullets. Extending between the upper ends of said jamb members 7 is a lintel bar 9, and in like manner extending between the lower ends of said jamb members 7 is a sill bar 10.

Connected with the lower end of the window closure plate 8 is a cross-bar 11, the extremities of which overlap and extend beyond the jamb members 7. Secured by their upper ends to anchor studs 12, which are fixed to the partition or protective panel 5, respectively on opposite sides of the jamb members 7, are window closure plate actuating springs 13. The lower extremities of said springs 13 are respectively attached to the laterally projecting ends of said cross-bar 11. Said springs 13 bias the window closure plate to closed position.

Said window closure plate is also provided with a hand grip loop 14 by means of which the same may be slid downward to normally lowered position so as to leave the window opening 6 normally unobstructed.

Suitably secured for disposition at the inner side of the partition or protective panel 5, and in alignment with the lower end of the window opening 6 is counter or shelf 15. Secured to the upper end of the window closure plate 8 is a transverse ledge member 16, arranged, when the closure plate is lowered, to be aligned in the plane of the counter or shelf 15, so as to provide an uninterrupted surface extending to and through the window opening 6.

Secured upon the exterior face of the partition or protective panel 5, so as to

bound the window opening 6, is a frame 17 to carry any desired form of grille 18 for disposition across the window opening 6. Also secured to the exterior side of the partition or protective panel 5 is a counter or shelf 19 to project outwardly from the window opening in the plane of the counter or shelf 15.

A manipulatable detent means is provided for normally holding the window closure plate in lowered position against the tension of the closing springs 13, whereby the window opening 6 is normally unobstructed. This detent means comprises a pair of bearing bracket members 20 fixed to the inner side of the partition or protective panel 5 adjacent to the lower end of the window closure plate slideway. Journaled in and extending transversely between said bearing bracket members 20 is a rock-shaft 21 on which is fixed a detent lever 22. Said detent lever 22 is provided, at its upper end, with a chamfered nosing 23, which normally engages over the cross-bar 11 so as to hold the window closure plate against upward sliding movement. Said detent lever 22 is also provided with a depending arm 24. Connected with the free end portions of said bearing bracket members 20 are upwardly projecting extensions 25. Secured to and extending between said extensions 25 is an angle bar 26. Secured to and supported by said angle bar 26, and aligned opposite said detent lever 22, is a fixed housing means 27. Formed in the upper end of said housing means 27 is a bore 28 in which is mounted a spring actuated inwardly projected plunger rod 29 adapted to yieldingly bear against the upper end of the detent lever 22 to normally turn the same into window closure plate engaging position. Formed in the lower end of said housing means 27 is a bore 30 in which is mounted a spring actuated outwardly projected plunger rod 31, for the purposes to be subsequently set forth.

Pivotally connected with the bearing bracket members 20 is depending yoke member 32 to which is secured a presser board 33, also depending therefrom. Carried on said yoke is a push-piece 34 which extends inwardly beneath the housing means 27 toward the depending arm 24 of said detent lever. Said push-piece is provided with an upwardly projecting lug 35 which receives the thrust of said spring actuated plunger rod 31, whereby the yoke member and connected presser board 33 is normally swung outward to hold the push-piece 34 in normal initial inactive position.

Mounted above the lintel bar 9 of the window closure plate slideway are one or more check or shock absorber devices. These devices may be of any suitable form operative to check the closing movement of the window closure plate so as to prevent undue noise and shock. Illustrative of one form of check or shock absorber adapted to serve the purposes mentioned, I have shown the same to comprise a cylinder 36, having at its upper end an air escape opening (not shown), and reciprocable in said cylinder 36 is a piston 37, the stem 38 of which slidingly projects through the lower end of the cylinder. The stem 38 extends downwardly past the lintel bar 9 and terminates in a foot-piece 39, which may, if desired, have a facing of rubber, leather, felt or other similar material calculated to deaden sound. A compression spring 40 engaged around said stem 38 between the foot-piece 39 and cylinder 36 normally holds said piston, stem and foot-piece in initial downwardly moved position.

In the use and operation of the mechanism, the window closure plate 8 occupies lowered position, being normally held therein, against the tension of the closing springs 13, by the detent mechanism, all as shown in Figs. 1 and 2 of the drawings. In the event that an attendent at the window opening is threatened by force of arms in criminal attack by a person or persons outside of the window opening, and at the point of a pistol or gun it is demanded that cash or other valuables be handed out, the attendant, with hands free to go through the motions of gathering up the cash or other valuables in apparent compliance with the criminal demand, may by a slight and unnoticeable movement of a leg, bring a knee to bear with inwardly swinging pressure on the presser board 33, to thereby release the detent and with resultant suddeness freeing the window closure plate 8, whereby the latter will in an instant move to closed position, thereby interposing, at the winding opening, a secure bullet proof protection between himself and the criminal, so that the latter's criminal attempt is at once foiled. Under such circumstances the detent mechanism functions as follows:—

Inward swinging movement of the yoke member and presser board carries the push-piece 34 into inwardly swinging engagement with the arm 24 of the detent lever 22, thus swinging the latter outwardly against the tension of the spring actuated plunger rod 29, whereby the nosing 23 is removed from restraining engagement with the cross bar 11 of the window closure plate 8. The window closure plate 8 now being unrestrained, the springs 13 quickly slides the same upward across the window opening 6. As the window closure plate approaches the upper end of the slideway, the ledge member 16 contacts with the foot-pieces of the described checks or shock-absorbers, whereby the complete closing of said closure plate is retarded so as to avoid undue noise and shock.

It is desirable to sound an alarm on the occasion of criminal attack such as men-

tioned above. This may be automatically accomplished, as incidental to the closing of the window opening, by providing a switch S to control an electric alarm circuit (not shown), said switch being normally open but so disposed in the path of movement of an end of the closure plate cross-bar 11, as to be engaged and moved thereby to circuit closing position, as the cross bar 11 is carried past the switch. A switch such as shown in my U. S. Letters Patent No. 1,657,459, dated Jan. 31, 1928 may be employed, since this type of switch is yieldably held in normal open position in such manner as to obviate likelihood of accidental or untimely closure, with resultant untimely sounding of an alarm.

To reset the window closure plate to normal open position, the same is manually lowered by means of the handle grip, until the cross-bar 11 snaps past the chamfered nosing of the detent lever 22.

The spring actuated plunger rod 31 returns the yoke member and presser board to normal outwardly swung position, when inward pressure upon the latter is released. Another function of said spring actuated plunger rod 31 is to hold the presser board outwardly swung under tension sufficient to guard against accidental release of the detent. To this end it will be noted that the push-piece 34 is normally spaced from the arm 24 of the detent lever 22, and consequently pressure must be exerted upon the presser board 33 sufficient to overcome the tension of spring actuated plunger rod 31 before the push-piece 34 engages and exerts tripping or releasing pressure on the detent lever.

It will be obvious from the above description that the mechanism of this invention provides a very efficient and easily controlled device for interposing bullet proof protection between a cashier, teller or other attendant, handling and distributing money or other valuables, and threatening criminals. The mechanism is especially adapted for use in connection with bank teller's cages, cashier's and ticket-vendor's booths, and for similar uses.

As many changes could be made in the above described structure and mechanism, and many widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:—

1. In means to control a self-closing protective closure for pay windows, a releasable detent mechanism for retaining said closure in normal open position, comprising a pivoted detent lever, means on said closure engageable by said detent lever, a fixed housing adjacent to said detent lever, a spring-pressed plunger mounted in said housing to yieldably thrust said detent lever in closure engaging position, a swingable means having a laterally extending presser board engageable by the leg of a person positioned behind the window, and means carried by said swingable means to engage and turn said detent lever to closure releasing position.

2. In means to control a self-closing protective closure for pay windows, a releasable detent mechanism for retaining said closure in normal open position, comprising a pivoted detent lever, means on said closure engageable by said detent lever, a fixed housing adjacent to said detent lever, a spring-pressed plunger mounted in said housing to yieldably thrust said detent lever in closure engaging position, a swingable means having a laterally extending presser board engageable by the leg of a person positioned behind the window, and means carried by said swingable means to engage and turn said detent lever to closure releasing position, and a second spring-pressed plunger mounted in said housing to tensionally hold said swingable means in normal initial position.

3. In means to control a self-closing protective closure for pay windows, a pivoted detent means to retain said closure in normal open position, a swingable means having a laterally extending presser board engageable by the leg of a person positioned behind the window, means carried by said swingable means to engage and turn said detent means to closure releasing position, a fixed housing, and a spring-pressed plunger mounted in said housing to tensionally thrust said swingable means to normal outswung position.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 24 day of January, 1930.

FRANK DAVIS.