

No. 807,921

A. GANZENMÜLLER.
SCUTTLE HOLE PROTECTOR.
APPLICATION FILED MAR. 31, 1905.

PATENTED DEC. 19, 1905.

2 SHEETS—SHEET 1.

Fig 1

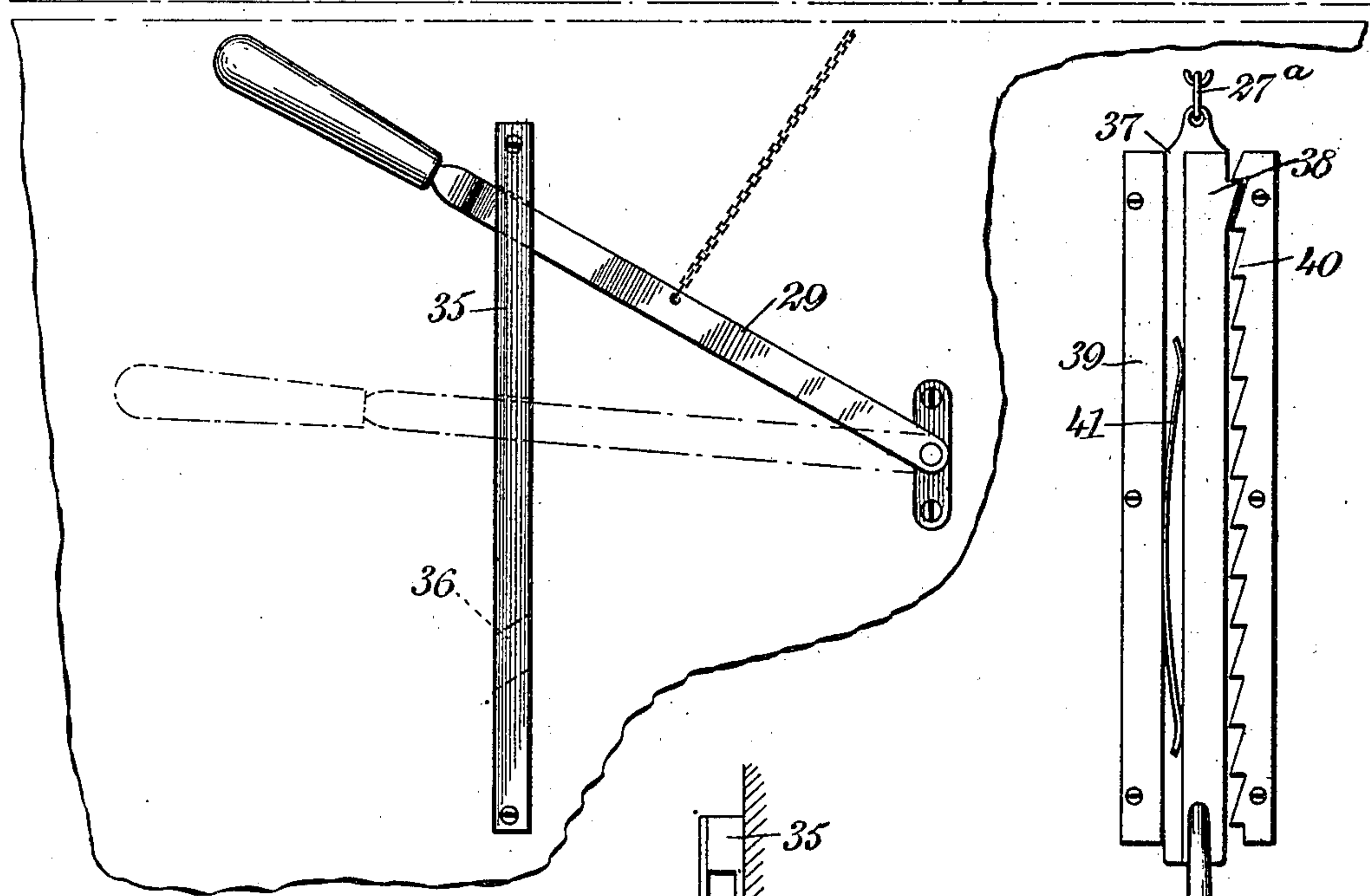
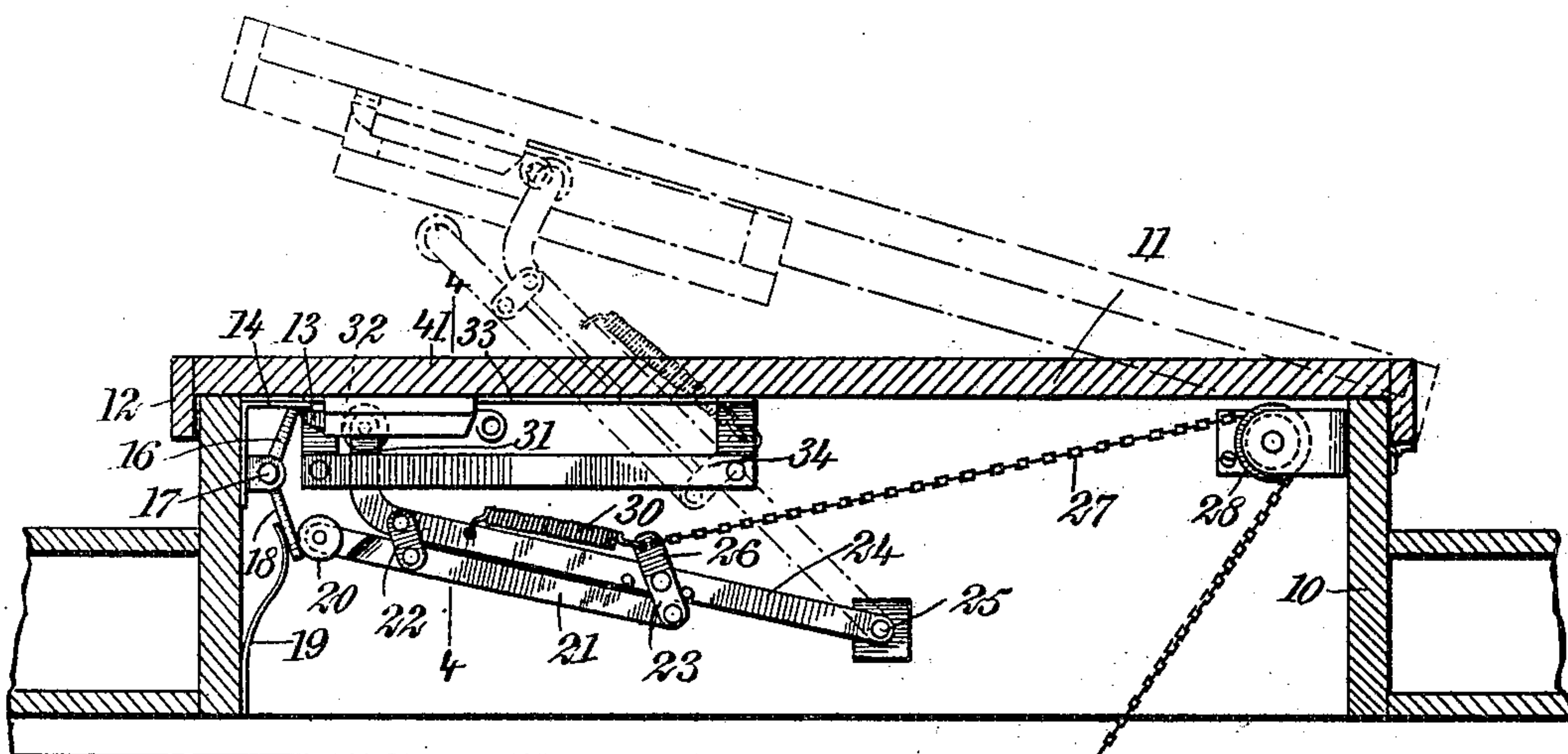
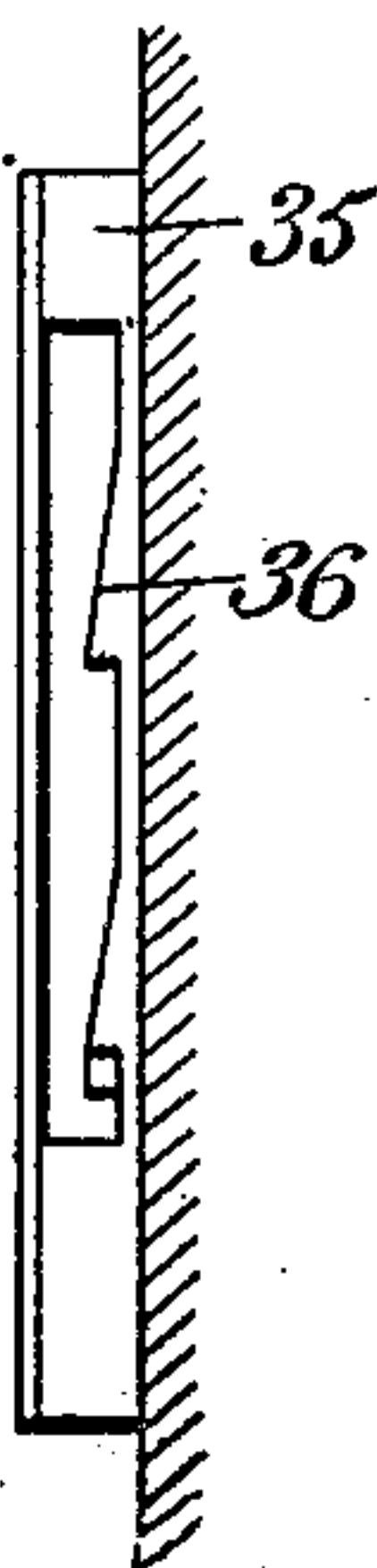


Fig 2

Fig 3



WITNESSES:

J. A. Brophy
A. T. Fay.

INVENTOR

Adolf Ganzenmüller

BY *M. M. M.*
ATTORNEYS

No. 807,921.

PATENTED DEC. 19, 1905.

A. GANZENMÜLLER.
SCUTTLE HOLE PROTECTOR.
APPLICATION FILED MAR. 31, 1906.

2 SHEETS—SHEET 2.

Fig. 2

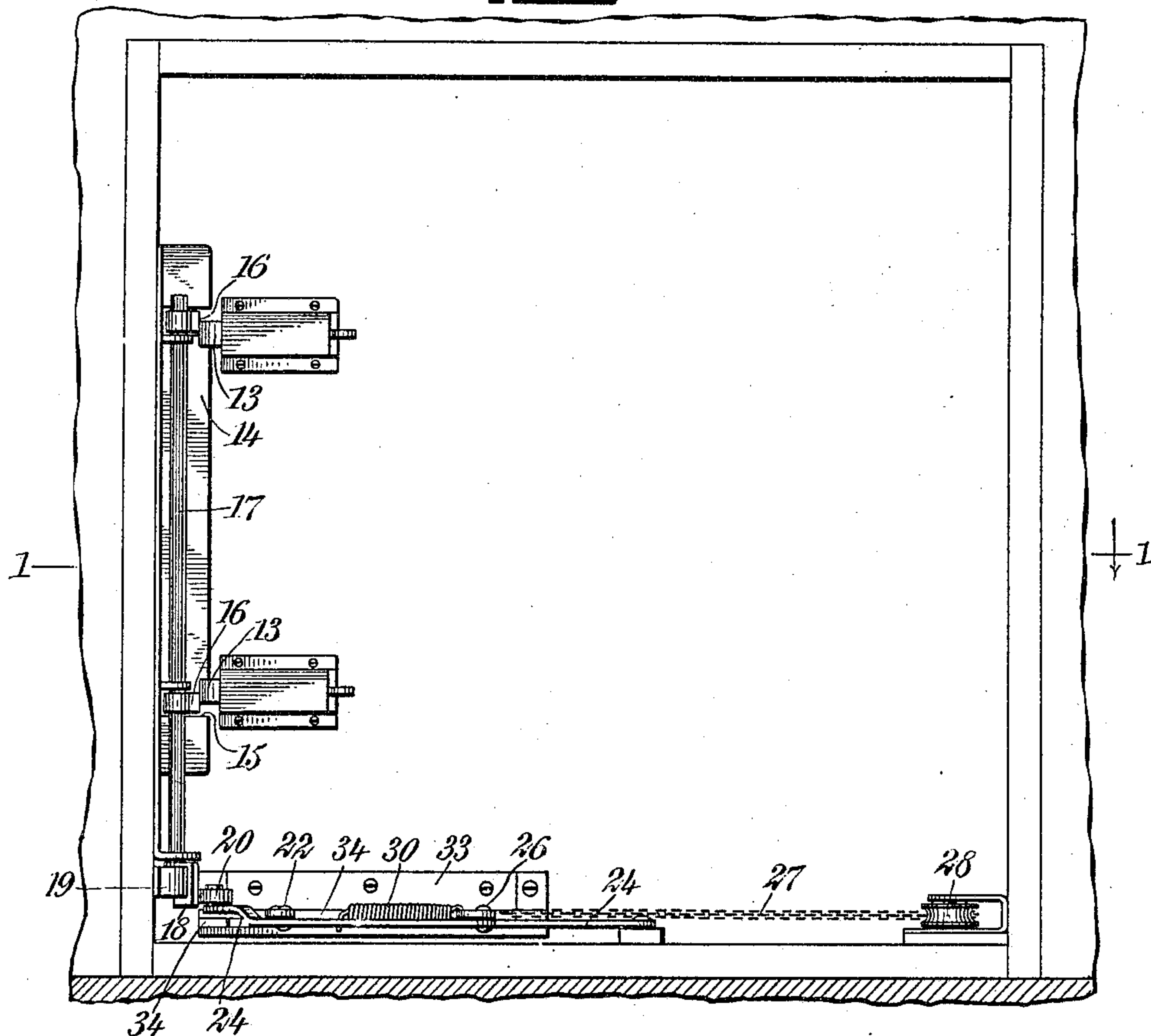


Fig. 3

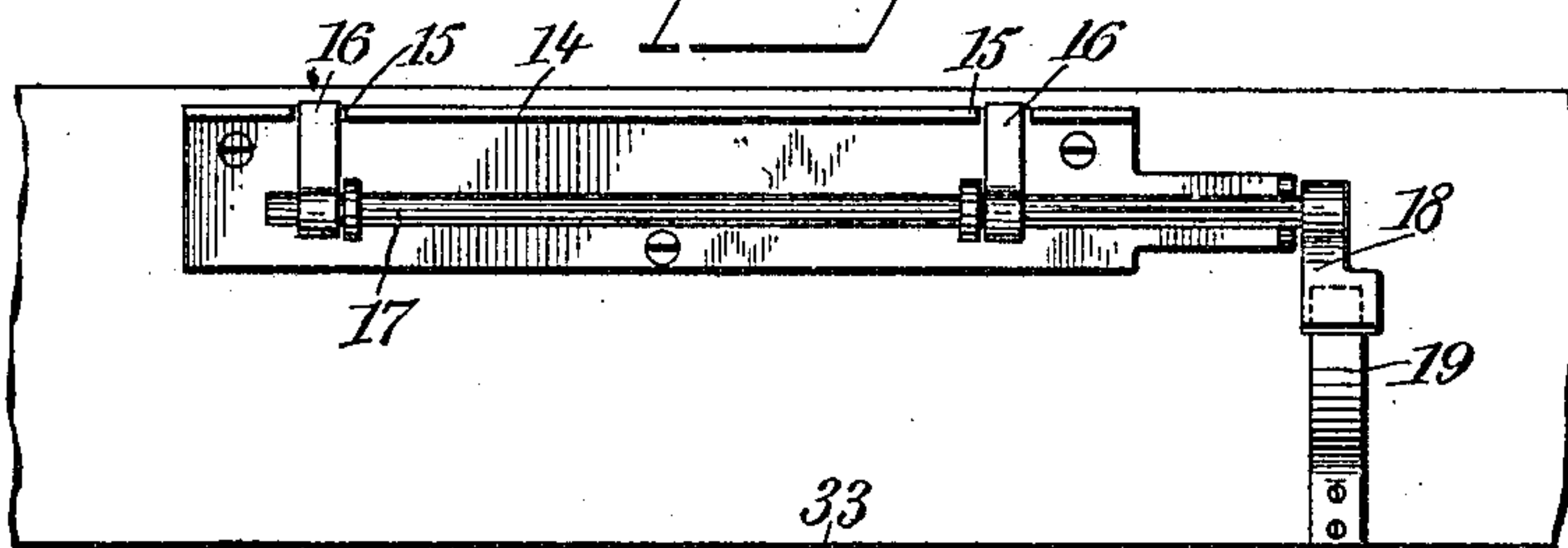
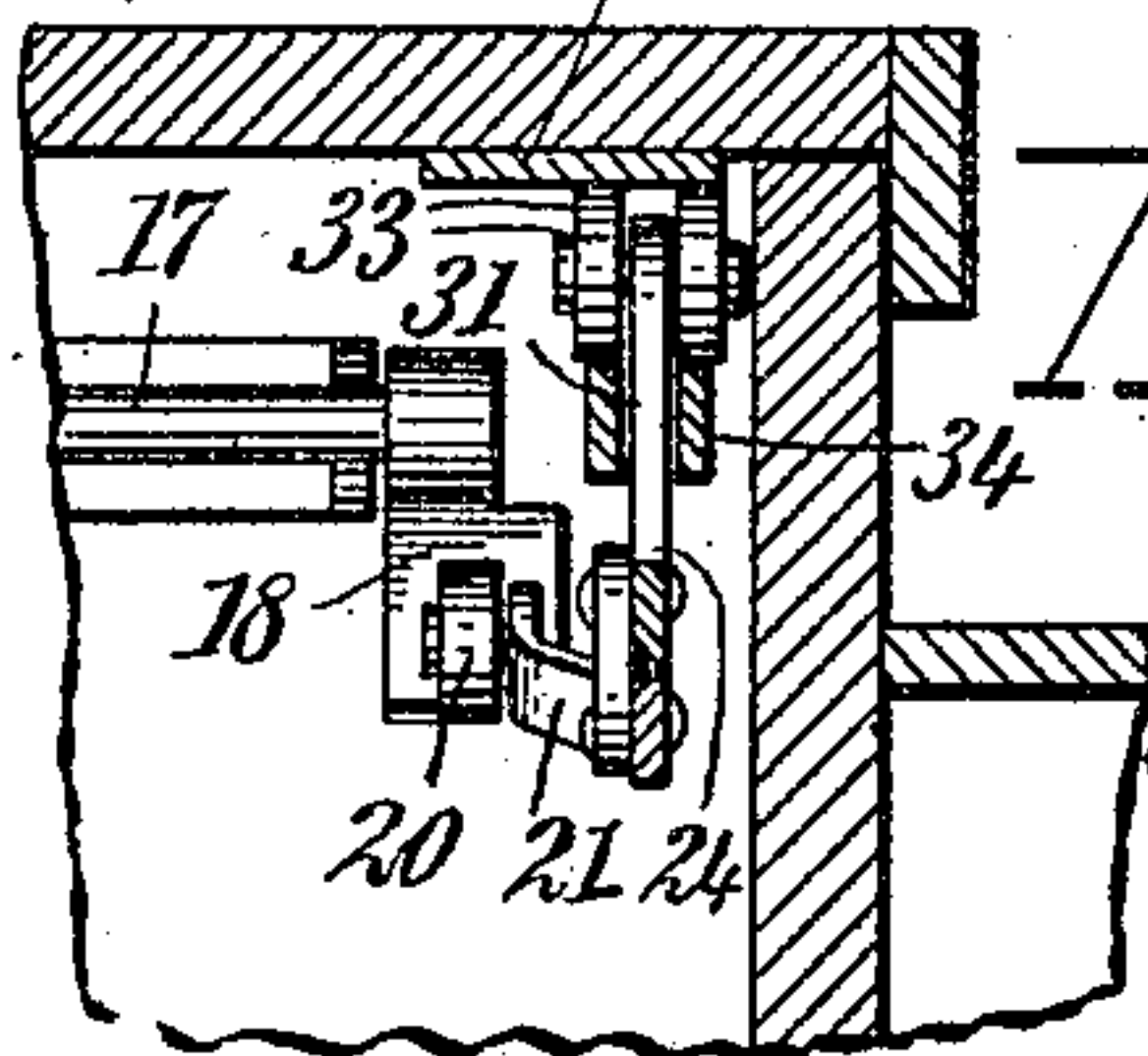


Fig. 4



WITNESSES:

J. A. Brophy
A. E. Fay

INVENTOR

Adolf Ganzenmüller

BY

W. W. M. Q.
ATTORNEYS

UNITED STATES PATENT OFFICE.

ADOLF GANZENMÜLLER, OF NEW YORK, N. Y.

SCUTTLE-HOLE PROTECTOR.

No. 807,921.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed March 31, 1905. Serial No. 253,177.

To all whom it may concern:

Be it known that I, ADOLF GANZENMÜLLER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Scuttle-Hole Protector, of which the following is a full, clear, and exact description.

My invention relates to a locking and operating device for attachment to an outwardly-opening scuttle-hole protector, door, or other similar structure.

The principal objects of my invention are to provide means for simultaneously unlocking and opening such protector or door without necessitating manipulation for the operation of more than one handle, lever, or other operating device.

Further objects of the invention are to provide for efficient locking of the structure, to provide for securing it in any desired number of open or partly-open positions, and to afford simplicity and cheapness of construction, as well as to do away with delicate parts likely to get out of order in operation.

Further objects of the invention will appear in the course of the subjoined description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional view of the scuttle-hole protector on the line 1 1 of Fig. 2. Fig. 2 is a bottom plan view of the same. Fig. 3 is a side elevation of the inside of the frame, showing a portion of an unlocking device which constitutes a part of the invention. Fig. 4 is a sectional view on the line 4 4 of Fig. 1. Fig. 5 is a fragmentary sectional view showing means for retaining the protector in different positions, and Fig. 6 is a side elevation of a modification which comes within the scope of my invention.

Upon the outside of the frame 10, which surrounds the opening to be protected, is hinged or movably connected in any desired manner a protector 11. In the form shown this protector is provided with flanges 12, inclosing the top of the frame 10. It is to be understood, however, that the protector 11 represents any kind of a door or other closure for an opening and that the invention is therefore not limited to scuttle-hole protectors alone.

The protector, which is preferably a swinging element, is provided with one or more latches 13, adapted to be engaged by the edge of a stationary plate 14 upon the frame or casing 10. When the swinging element is closed, the latches and plate lock it in closed position. The plate is provided with a slot 15 adjacent to each latch, and in this slot operates an unlocking device 16, preferably in the form of an arm mounted upon an oscillatable rod 17. This rod is provided with a projection 18, which is normally held in inoperative position by means of a spring 19. It will be clear that pressure upon the projection 18 toward the spring will cause the arm 16 to move toward the latches and force them back away from the edge of the plate 14, so as to unlock the device. For accomplishing this result I employ a roller 20, which when the protector is in closed position comes into contact with the projection 18, but does not normally force it into such position as to unlock the latches. This roller is mounted upon a bar 21, which is connected, by means of a link 22 and a lever 23, in parallelism with a swinging arm 24, the latter arm being pivoted at 25 to a stationary part of the frame 10. The lever 23 extends beyond the point at which it is pivoted to the arm 24, and I have designated this extension by the numeral 26. This extension is connected by means of a flexible connection 27, passing over an idler-pulley 28 and engaging with an operating-lever 29. A spring 30 is also mounted between the extension 26 and the arm 24 to normally keep the roller in the position shown in Fig. 1. When the operating-lever 29 is in the position shown in full lines in Fig. 1, no force is applied to the spring 30; but when this lever is moved to any lower position—as, for example, that indicated in dotted lines—the lever 23 is moved and the roller forced toward the spring 19, which causes the latches to unlock. The result of moving the lever from the full-line position to the dotted-line position is more than this, however, for the parts are so arranged that this motion will cause the protector to swing about its pivot to such a position as that shown in dotted lines. This is accomplished in the following manner: The arm 24 is provided with an upwardly-extending portion 31, having a roller 32 thereon. This roller rides upon a track 33, mounted upon the protector, and the arm is guided with respect to the track by a pair of bars 34, lo-

cated in parallelism with the track. These bars also guide the roller and keep it on the track.

From the description above given the operation of the device will be obvious, and it will be clearly seen that the swinging of the operating-lever 29 provides for unlocking the protector and immediately lifting it. Furthermore, upon the raising of the lever the protector is free to fall and automatically locks when the latches 13 encounter the lower surface of the plate 14. This also automatically puts the parts in position ready to unlock and lift the protector. The operating-lever is preferably provided with a rack 35, having any desired number of teeth 36 for holding the lever and protector in any desired position.

In Fig. 6 I have illustrated another form of operating device comprising a bar 37, connected with a flexible connection or chain 27^a and having a tooth 38. This bar is mounted to slide in a guideway 39, which has a ratchet-face 40 upon one side thereof adapted to engage with the tooth 38 at any desired point. A spring 41 is provided for normally forcing the bar into such position that the tooth 38 will engage a tooth of the rack 40, and so hold the bar in any position in which it may be placed.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of a swinging closure for an opening, a latch therefor, means for swinging the closure comprising an arm, means for rendering the latch inoperative comprising a bar mounted on the arm, and a pair of links mounted in parallel position with respect to each other and pivoted to the arm and the bar, one of said links extending beyond the arm and constituting a lever for moving the bar.

2. The combination with a swinging closure for an opening, of a latch thereon, a stationary plate adapted to engage the latch, a swinging arm adapted to force the latch into inoperative position, a rod upon which said arm is mounted, said rod having a projection, means for moving said projection, comprising a movable bar, a swinging arm upon which the bar is mounted, and means for moving the bar with respect to the arm and forcing the bar into engagement with said projection.

3. The combination with a scuttle-hole protector having a track thereon and a latch, of a plate adapted to engage said latch and provided with a slot adjacent to the latch, an oscillatable rod having an arm entering said slot and adapted to engage the latch, said rod also having a projection, a spring for normally forcing said arm away from the latch, a bar having a roller adapted to engage the

projection to force the arm toward the latch, a swinging arm upon which said bar is mounted in parallelism, said arm having a roller engaging said track, a lever pivoted on the last-mentioned arm for operating the bar thereon, a spring on the last-mentioned arm for normally keeping the bar in inoperative position, a flexible connection having one end fixed in such position as to counteract the action of said spring, and means for operating said flexible connection.

4. The combination of an upwardly-opening closure, a latch, a plate adapted to engage the latch and provided with a slot adjacent to the latch, an arm entering said slot and adapted to engage the latch, a projection connected with said arm, means for normally forcing the arm away from the latch, a bar adapted to engage the projection to force the arm toward the latch, an arm upon which the bar is mounted, a lever pivoted on the last-mentioned arm for operating the bar thereon, and a spring on the last-mentioned arm for normally keeping the bar in inoperative position.

5. The combination of an upwardly-opening closure, a latch, a plate adapted to engage the latch and provided with a slot adjacent to the latch, an arm entering said slot and adapted to engage the latch, a projection connected with said arm, means for normally forcing the arm away from the latch, a bar adapted to engage the projection to force the arm toward the latch, an arm upon which the bar is mounted, a lever pivoted on the last-mentioned arm for operating the bar thereon, a spring on the last-mentioned arm for normally keeping the bar in inoperative position, a flexible connection having one end fixed in such position as to counteract the action of said means for forcing the arm away from the latch, and means for operating said flexible connection.

6. The combination of an upwardly-opening closure, a spring-latch, a plate adapted to engage the spring-latch, an arm adapted to engage the latch, said plate and arm being mounted on a fixed frame surrounding the opening to be protected, a projection connected with said arm, a spring located outside the latch for normally forcing the arm away from the latch, a bar adapted to engage the projection, an arm upon which the bar is mounted, a lever pivoted on the last-mentioned arm for operating the bar thereon, a spring connected with the last-mentioned arm for normally keeping the bar in inoperative position, a flexible member connected with the bar, and means for moving the flexible member to counteract the action of said means for forcing the arm away from the latch.

7. The combination of an upwardly-opening closure, a spring-latch, a plate adapted to engage the spring-latch, an arm also adapted

to engage the latch, the said plate and arm being mounted on a fixed frame surrounding the opening to be protected, a spring located outside the latch for normally forcing the arm away from the latch, a bar adapted to force the arm toward the latch, an arm upon which the bar is mounted, a lever pivoted to the last-mentioned arm for operating the bar thereon, resilient means on the last-mentioned arm for normally keeping the bar in inoperative position, and means for counteracting the action of said means for forcing the arm away from the latch.

8. The combination of an upwardly-opening closure, a spring-latch, a plate adapted to engage the spring-latch, an arm adjacent to said plate also adapted to engage the latch, the said plate and arm being mounted on a fixed frame surrounding the opening to be protected, a bar for forcing the arm toward the latch, an arm upon which the bar is mount-

ed, and a lever pivoted to the last-mentioned arm for operating the bar thereon.

9. The combination of an upwardly-opening closure, a latch, a plate for engaging the latch and provided with a slot adjacent to the latch, an arm entering said slot and adapted to engage the latch, the said plate and arm being mounted on a fixed frame surrounding the opening to be protected, a projection connected with the arm, a bar adapted to engage the projection to force the arm toward the latch, an arm upon which the bar is mounted, and a lever mounted on the last-mentioned arm for operating the bar thereon.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ADOLF GANZENMÜLLER.

Witnesses:

JACOB LAHRHEIM,
JOHN UHLIGHT.