Sept. 15, 1925. 1,553,713

H. H. PAGE ET AL

DEVICE FOR BREAKING OPEN DOORS

Filed June 23, 1924

Fig. 2.

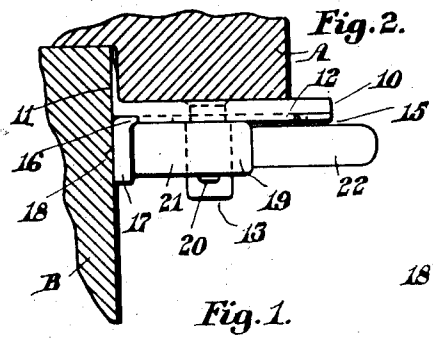


Fig. 3.

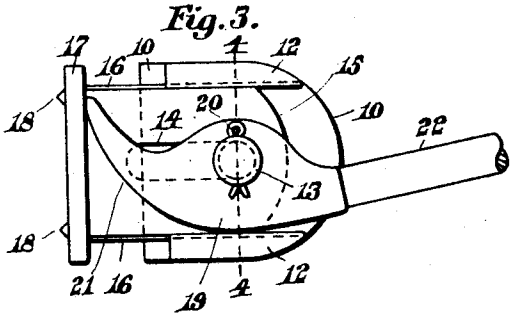


Fig. 1.

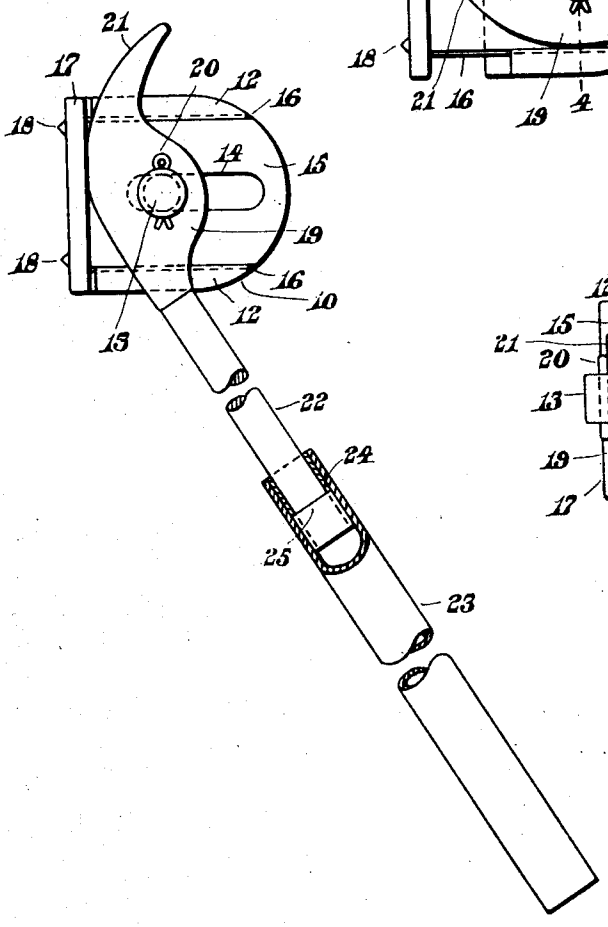
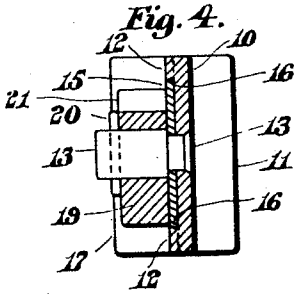


Fig. 4.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR BREAKING OPEN DOORS.

Application filed June 23, 1924. Serial No. 721,659.

To all whom it may concern:

Be it known that we, HENRY H. PAGE and MARTIN J. QUINLAN, citizens of the United States of America, and residents of Peabody, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Devices for Breaking Open Doors, of which the following is a specification.

This invention relates to door openers and particularly to devices for the use of patrolmen and the like to force open doors in case of fire or raids, and has for its object the production of a simple but effective device which is powerful enough to force the strongest locks and open the doors equipped therewith.

These objects are attained by the mechanism illustrated in the accompanying drawings.

For the purpose of illustrating the invention, one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described except as required by the scope of the appended claims.

Of the drawings—

Figure 1 represents an elevation of a device embodying the principles of the present invention, a portion of the telescopic handle being shown in section.

Figure 2 represents a plan of the same shown in connection with a door and the jamb of the door frame and in position to force open said door, the handle being broken off.

Figure 3 represents an elevation of the same with the parts in position assumed when the door has been forced open, and

Figure 4 represents a vertical section of same on line 4, 4 on Figure 3.

Similar characters indicate like parts throughout the several figures of the drawings.

In the drawings, 10 is a plate having extending laterally from the end of one face, a thin fin 11 which is tapered as indicated in Fig. 2 thereby providing ready means whereby it may be inserted between the jamb A of a door frame and the locked end of a door B.

The opposite face of the plate 10 has two parallel guide members 12, the ends of which are removed from the fin end of the plate 10 as shown in the drawings.

This opposite face of the plate 10 also has extending therefrom a pin 13, which pin is perpendicular to said face and extends through an elongated slot 14 in a slidable member 15, the upper and lower edges 16 of which are inclined to fit the dovetailed groove formed by the guides 12.

The outer end of the slidable member 15 is provided with a lateral flange 17 parallel with the outer face of the fin 11 and extending in the opposite direction thereto.

The outer face of the flange 17 is provided with a plurality of pointed projections 18 which are adapted to be forced into the face of the door B and thereby prevent the displacement of the fin 11 from its position between the door B and the jamb A.

On the pin 13 is mounted a lever 19, freely movable thereon and retained in position by means of the cotter pin 20.

The lever 19 is provided with a cam portion 21 which is adapted to engage the inner face of the flange 17.

The handle portion 22 of the lever 19 is made preferably telescopic, a tubular member 23 being fitted over the portion 22 and having a shoulder 24 on its inner end adapted to engage the shoulder 25 on the outer end of the portion 22 to prevent the removal of said tubular member 23 when the handle is extended to obtain a greater leverage.

When the parts are in normal position the outer faces of the flange 17 and fin 11 are alined and the lever 19 is in the position shown in Fig. 1.

When in this position the fin 11 may be inserted between the jamb A and door B as indicated in Fig. 2.

If the handle 22 is then raised the cam 21 coacting with the flange 17 will force the pointed projection 18 into the face of the door and thus prevent any lateral movement of the device which would permit the displacement of the fin 11 from its position between jamb A and door B.

A continuation of the upward movement of the handle 22 would cause the lock of the door to be broken and the door B forced about its hinges away from the jamb A.

The device is shown as applied to a door having hinges at the left thereof but it is obvious that by inverting the device it could be used equally as well to a door with hinges at the right thereof.

The device is designed for use by patrolmen, fire men, and the like, as for instance in the case of a fire discovered in an unoccupied building by a patrolman, the device may be brought into use, breaking open the entrance door, giving access to the interior of the building and making it possible for the patrolman to extinguish an incipient fire.

When the building is occupied and the occupants thereof are asleep and therefore in ignorance of a fire in some part of the building, the ready use of the device by a person discovering the fire may make it possible to save the lives of the occupants.

In case of raids upon gambling dens and similar places the device is capable of breaking open the heaviest doors provided with strong locks.

It is believed that the operation and many advantages of the invention will be fully apparent without further description.

Having thus described our invention, we claim—

1. The combination of a long lever on one end of which is formed a flat sided cam portion; a plate having a lateral fin extending from one face thereof; and a pivot pin extending from the opposite face of said plate through said cam portion.

2. The combination of a long lever on one end of which is formed a flat sided portion having a cylindrical hole therethrough and a cam surface which gradually increases in distance from the axis of said hole; a plate having a lateral fin extending from one face thereof and a pivot pin extending from its opposite face disposed in said hole; and means preventing the separation of said plate and lever.

3. The combination of a long lever on one end of which is formed a flat sided cam portion; a plate having a lateral fin extending from one face thereof; a pivot pin extending from the opposite face of said plate through said cam portion; and a slidable member interposed between said plate and flat sided portion having a slot through which said pivot pin extends and provided with a lateral flange with which said cam portion coacts.

4. The combination of a long lever on one end of which is formed a flat sided cam portion; a plate having a lateral fin extending from one face thereof; a pivot pin extending from the opposite face of said plate through said cam portion; and a slidable member interposed between said plate and flat sided portion having a slot through which said pivot pin extends and provided with a lateral flange with which said cam portion coacts, said member being disposed between parallel guides formed upon said plate.

5. The combination of a long lever on one end of which is formed a flat sided cam portion; a plate having a lateral fin extending from one face thereof; a pivot pin extending from the opposite face of said plate through said cam portion; and a slidable member interposed between said plate and flat sided portion having a slot through which said pivot pin extends and provided with a lateral flange with which said cam portion coacts, said member being disposed between parallel dove-tailed guides formed upon said plate.

6. The combination of a long lever on one end of which is formed a flat sided cam portion; a plate having a lateral fin extending from one face thereof; a pivot pin extending from the opposite face of said plate through said cam portion; and a slidable member interposed between said plate and flat sided portion having a slot through which said pivot pin extends and provided with a lateral flange with which said cam portion coacts, the outer face of said flange being provided with pointed projections adapted to engage a door and prevent displacement of said device while in operation.

7. The combination of a long lever having a cam portion formed integral therewith at one end; and a plate pivoted to one side of said cam portion and provided with a short tapered fin extending laterally from one end thereof.

8. The combination of a long lever having a cam portion formed integral therewith at one end; and a plate pivoted to one side of said cam portion and provided with a short tapered fin extending laterally from one end thereof; and a slidable plate interposed between said plate and cam portion having a lateral flange with which the cam portion coacts.

9. The combination of a long lever having a cam portion formed integral therewith at one end; and means pivotally connected to said cam portion for positioning said cam portion opposite the face of a door to be opened.

10. The combination of a long lever having a cam portion formed integral therewith at one end; and means pivotally connected to said cam portion for positioning said cam portion opposite the face of a door to be opened, said means including a jamb-engaging member and a door-engaging member.

Signed by us at 746 Old South Bldg., Boston, Mass., this 21st day of June, 1924.

HENRY H. PAGE.
MARTIN J. QUINLAN.