No. 712,270. Patented Oct. 28, 1902.

A. DILTHEY & M. F. ROCK.

DOOR HOLDER.

(Application filed Mar. 8, 1902.)

(No Model.)

Fig. 1.

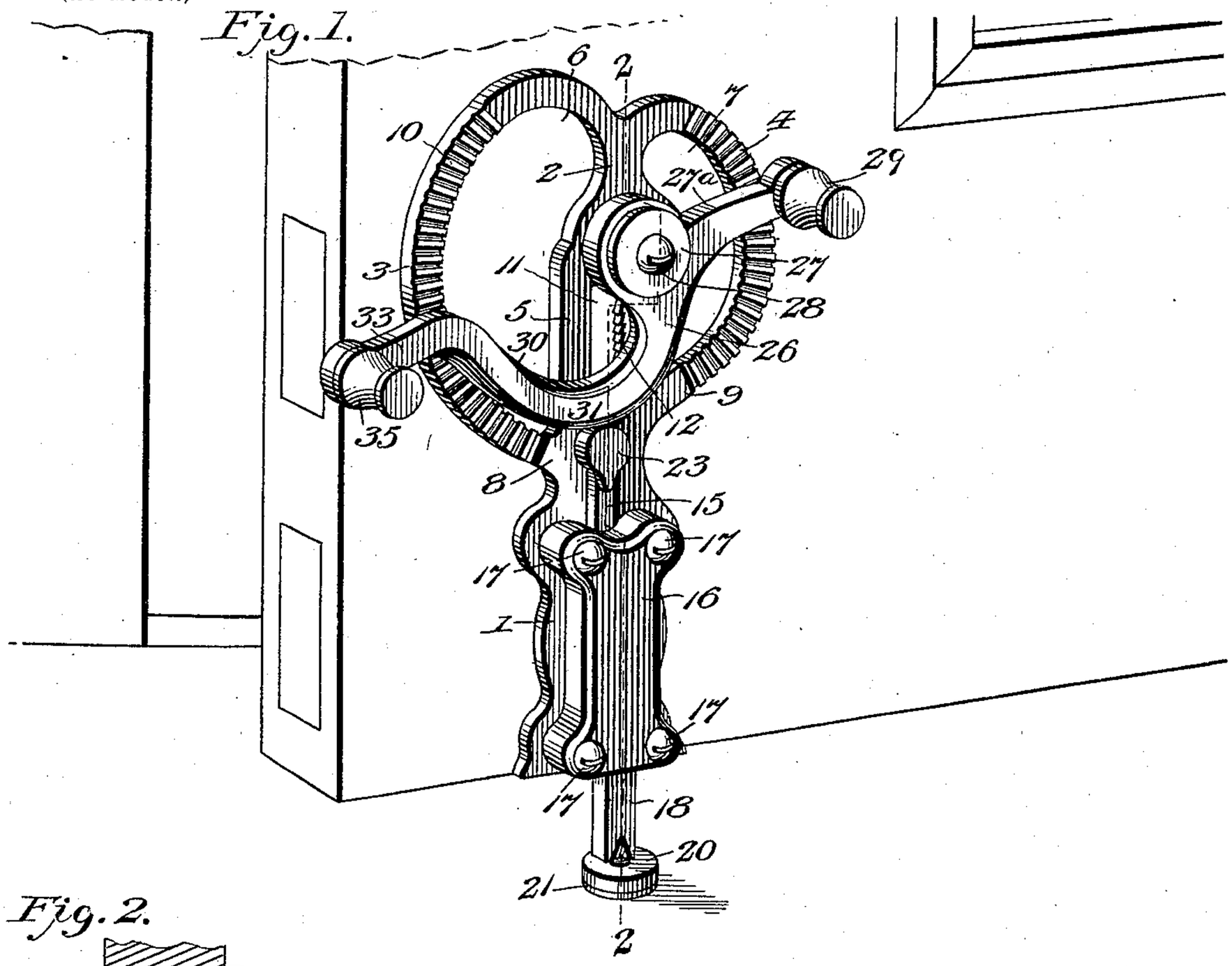


Fig. 2.

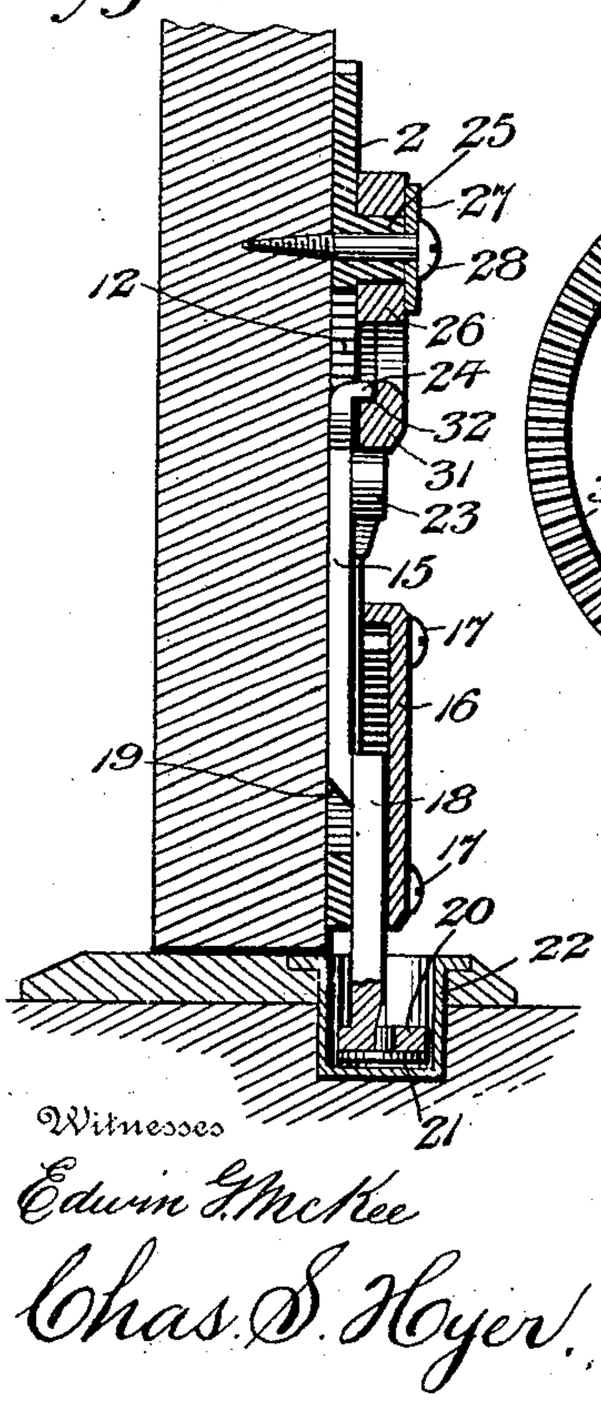


Fig. 3.

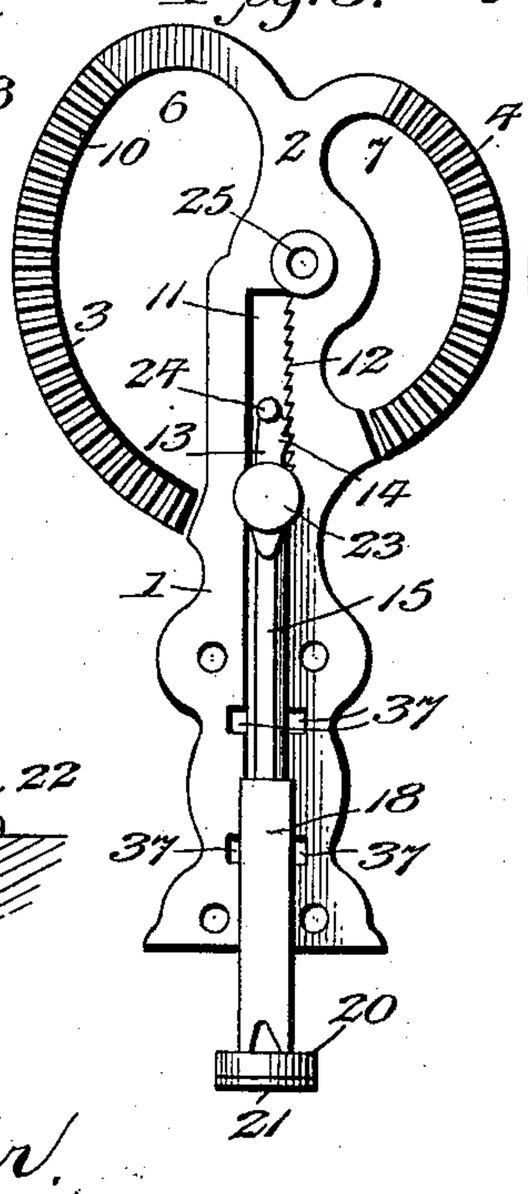


Fig. 3a.

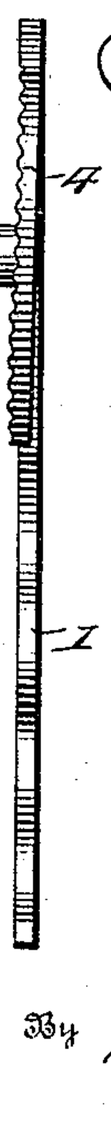


Fig. 4.

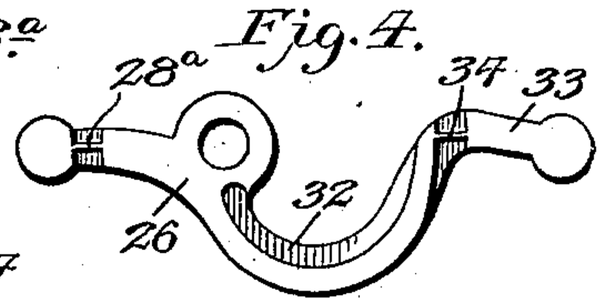
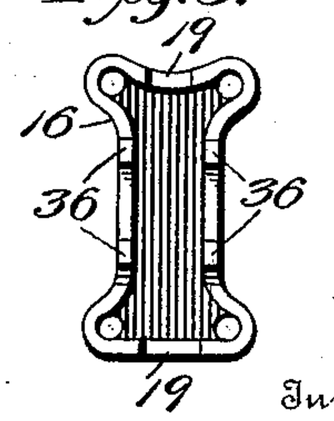


Fig. 5.



Witnesses

Edwin G. McKee

Chas. S. Hoyer.

Inventors

Albert Dilthey and

Melvin F. Rock.

By Victor J. Evans

Attorney

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALBERT DILTHEY, OF CORTLAND, AND MELVIN F. ROCK, OF HOMER, NEW YORK.

DOOR-HOLDER.

SPECIFICATION forming part of Letters Patent No. 712,270, dated October 28, 1902.

Application filed March 8, 1902. Serial No. 97,334. (No model.)

To all whom it may concern:

Be it known that we, ALBERT DILTHEY, residing at Cortland, and MELVIN F. ROCK, residing at Homer, in the county of Cortland and State of New York, citizens of the United States, have invented certain new and useful Improvements in Door-Holders; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a door holder or stop; and the primary object of the same is to produce a device of this class embodying a shank or slide-bolt with a lower holding-head having simple and effective means in connection therewith to draw it out of contact or engagement with a floor-surface or sill and sensitively-coacting locking elements whereby the said shank or bolt may be held either in a locking or stopping position with sufficient positiveness to resist accidental disengagement or be retracted and likewise held against loose movement when elevated.

With these and other objects and advantages in view the invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the improved holder or stop shown applied and the parts arranged to hold a door in partially-open position. Fig. 2 is a transverse vertical section taken in the plane of the line 2 2, Fig. 1. Fig. 3 is a front elevation of a portion of the improved device. Fig. 3ª is an edge elevation of a part of the device. Figs. 4 and 5 are detail plan views of parts of the device.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

In applying the improved holder or stop it is secured to the lower portion of a door adjacent to the free edge thereof, and said device embodies a supporting-plate 1 of suitable ornamental contour and having an upper irregular heart-shaped member 2 integrally formed therewith. The support 1 is secured to the door by suitable fastenings, which will be hereinafter set forth, and it is preferred in the construction of the said support and member 2 that they be cast of suitable metal and afterward dressed as desired.

The member 2 comprises opposite segmental rims 3 and 4, the rim 3 being considerably longer than the rim 4, and between the rims and a central bar 5 the member 2 is formed with openings 6 and 7 to lighten the structure and clearly define the bar. From the upper end of the bar 5 the rims 3 and 4 emanate and extend downwardly adjacent to opposite lateral projections 8 and 9, respectively, the said projections being at different elevations or the projection 9 higher than the projection 8. The lower terminals of the rims 3 and 4 are not connected to the projections 8 and 9 and are free to move, both rims being gradually projected outwardly at an incline from their upper extremities toward their lower terminals, as clearly shown by Fig. 3ª, and have an inherent resiliency to cause them to always resume an outward normal position when free to do so. The outer faces of the rims 3 and 4 are formed with a series of transversely-extending teeth 10, which are in the nature of regularly-arranged corrugations. The bar 5 has a central vertically-disposed slot 11, and in one side wall of this slot ratchet-teeth 12 are cut or otherwise formed. These ratchet-teeth are of shallow depth, and coacting therewith is an upwardly-extending arm 13, having shallow teeth 14 and forming a part of a vertically-reciprocating shank or bolt 15, which moves through and is held in operative position by a box 16, applied over the lower portion of the support and held in connection with the latter by a plurality of screws or analogous devices 17 passed therethrough. When the arm 13 is pressed slightly laterally in one direction, the teeth therein are caused to engage the ratchet-teeth 12, and when the said arm is moved slightly in the opposite direction the teeth 14 are disengaged from the teeth 12. The screws 17 also extend through the support 1 and serve as a securing means for the latter, and to maintain the shank or bolt 15 in true operating position and prevent rotation thereof the lower extremity is formed angular in cross-section, as at 18, to engage and freely slide through correspondingly-shaped openings 19 in the opposite ends of

the box 16, as clearly shown by Fig. 5. The slot 11 in the bar 5 is continued downwardly through the support 1, and the part of the shank or bolt above the angular extremity 18, as well as the arm 13, is located and moves in the slot 11 and the continuation of the latter in the said support. As shown by Fig. 2, the lower angular extremity 18 is projected outwardly and the point of juncture of said extremity with the part of the shank or bolt above the same, in view of the outward projection of said extremity, is shouldered, as at 19, and downwardly inclined to contact with a correspondingly-inclined lower end wall of the slot in the support 1, forming a continuation of the slot 11, so as to limit the downward projection of the shank or bolt. On the lower end of the shank or bolt is a head 20, having a lower buffing or yielding covering 21, the said head being adapted to be moved downwardly into a socket 22, located at a suitable point in the sill, or to be brought in contact with the floor-surface, as shown by Fig. 1, and in the latter contact the buffing or yielding covering 21 will serve to establish a certain amount of adhesion or resist slipping action of the said head. The shank or bolt 15 at the upper extremity and adjacent to the arm 13 is also formed with an outwardly-extending curved projection 23, which is of approximately circular form, and with this projection the operating device is held in continual contact. The upper terminal of the arm 13 is also provided with a forwardly-projecting pin or stud 24, which continually engages the operating device, and by a certain movement of the latter the shank or bolt 15 is elevated.

The bar 5 above the upper terminal of the slot 11 has a tubular hub or sleeve 25 outstanding therefrom a suitable distance, and thereover is rotatably fitted the operating member 26, which is held in place in relation to the hub or sleeve by a washer or disk 27 and a screw 28. The operating member 26 comprises a laterally-extending arm 27^a, having a longitudinally-disposed rib 28^a near its outer end to engage the teeth or corrugations of the rim 4, the said arm terminating beyond the rim 4 into an outstanding grip or knob 29. The operating device 26 also comprises a cam-arm 30 with a depending curved cam member 31, having its lower edge in continual engagement with the upper portion of the projection 23 on the upper terminal of the shank or bolt 15. The inner or rear face of the cam member 31 is formed with a correspondingly-shaped groove 32, as clearly shown by Fig. 4, and into said groove the stud or projection 24 extends, and by this means the shank or bolt 15 may be positively raised and lowered when the operating device 26 is oscillated or moved on its fulcrum in reverse directions. The cam-arm 30 also includes an outwardly-projecting extremity 33, having a substantial longitudinally-extending rib 34, which is held in continual engagement with the teeth of the rim 3, and said extremity 33 terminates in an outstanding grip or knob 35. Owing to the eccentric mounting of the operating member 26, as heretofore set forth, a downward depression of the extremity 33 thereof will cause the arm 13 to move toward the ratchet-teeth 12 sufficiently to cause both sets of ratchet-teeth 12 and 14 to become engaged, and an opposite or upward movement of the said extremity will press the arm 13 in an opposite direction and disengage the ratchet-teeth 12 and 14.

It will be seen that the operating device 26 is eccentrically mounted in the member 2 to make the cam-arm 30 effective in elevating and depressing the shank or bolt 15. By having the lower terminals of the rims 3 and 4 free and said rims gradually inclined outwardly from their upper extremities the rims are held in continual operative engagement with the ribs 28^a and 34, carried by the opposite portions of the operating device 26, and a binding action will ensue sufficient to maintain the adjustment desired and a retention of the opposite portions of the operating device in relation to the teeth of the rims to preserve the desired position of the shank or bolt 15 in either its elevated or depressed arrangement or disposition. As an auxiliary in effectively holding the box 16 against movement the opposite sides thereof are provided with spaced pairs of lugs 36 to fit in corresponding slots 37 in the support 1, these lugs relieving the screws 17 of a large portion of the strain brought to bear on the said box.

From the foregoing description the operation of the improved device will be readily understood, and it will be seen that it can be used either as a lock for holding the door closed or as a means for stopping or checking a door it may be desired to hold open a certain distance. It is also proposed to suitably ornament or plate the several parts and, furthermore, to vary the proportions, dimensions, and minor details within the scope of the invention.

Having thus fully described the invention, what is claimed as new is—

1. In a device of the class set forth, the combination of a support having an upper member with opposite toothed rims, the said rims being inclined outwardly from their upper extremities and having their lower terminals free, an operating device mounted to oscillate in relation to said rims and having catch devices to engage the teeth of the latter, and a bolt connected to the said operating device.

2. In a device of the class set forth, the combination of a support having an upper member with opposite segmental rims free to move at their lower terminals and having transversely-extending teeth, the said rims being inclined outwardly from their upper extremities toward their lower ends, an operating device pivotally mounted in eccentric relation to the said upper member and comprising a depending curved member and devices

to engage the said teeth, and a vertically-movable bolt loosely connected to and engaged by the cam member of the operating device.

3. In a device of the class set forth, the combination of a support having an upper member with a slot therein continued downwardly through said support, one wall of the slot having teeth, an operating device movable over the upper member and comprising a depending curved cam member having a slot in the rear side thereof, and a vertically-movable bolt provided with a curved projection and an arm provided with a stud held in continual loose engagement with the said cam member, the arm having teeth to engage those in the wall of the slot.

In testimony whereof we affix our signatures in presence of two witnesses.

ALBERT DILTHEY.
MELVIN F. ROCK.

Witnesses:
M. R. DILTHEY,
A. L. CHURCHILL.