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1,548,436

A. BOUCHER

SWINGING DOOR

Filed Jan. 19, 1925.

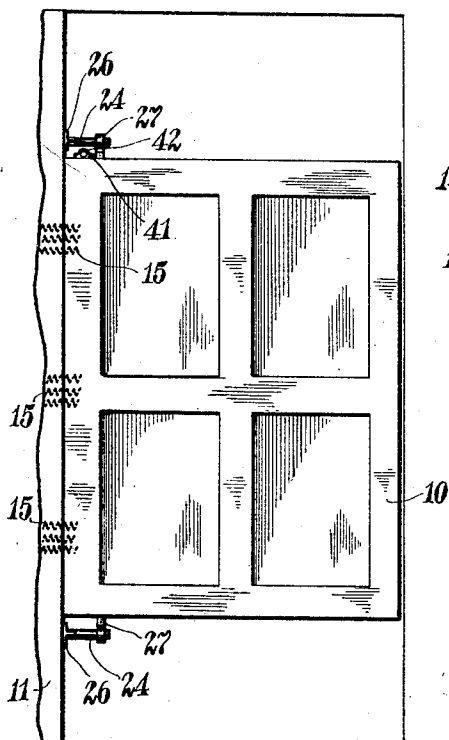


FIG. 1

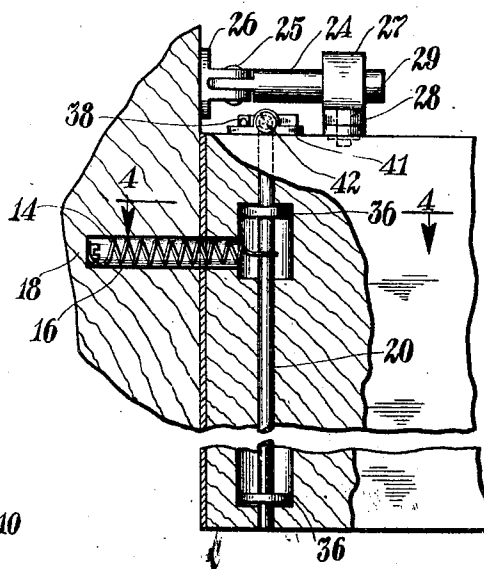


FIG. 2

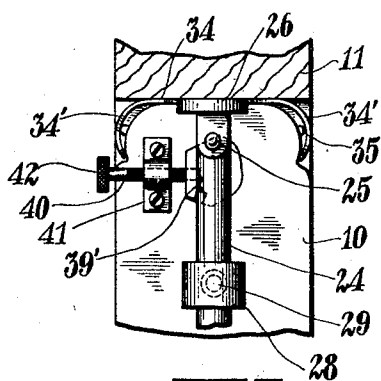


FIG. 3

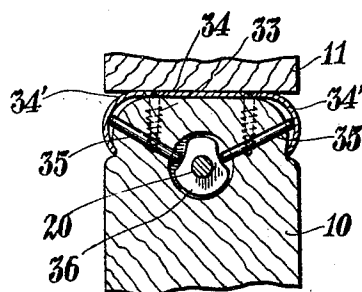


FIG. 4

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UNITED STATES PATENT OFFICE.

ADELARD BOUCHER, OF WINCHENDON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO
ALFRED G. PELLETIER, OF WINCHENDON, MASSACHUSETTS.

SWINGING DOOR.

Application filed January 19, 1925. Serial No. 3,244.

To all whom it may concern:

Be it known that I, ADELARD BOUCHER, a citizen of Canada, residing at Winchendon, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Swinging Doors, of which the following is a specification.

This invention relates generally to doors, having more particular reference to swinging doors arranged to open in both directions, the invention having for an object the provision of a novel supporting means for the door, including spring elements that retain the door in closed position and act to return it to this position after being opened.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawing is a face view showing my improved door.

Fig. 2 is a fragmentary front face elevational view, partly in longitudinal section thereof.

Fig. 3 is a fragmentary plan view of the door, the door frame being shown in horizontal section.

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 2.

In the drawing the reference numeral 10 indicates the swinging door, which may be in the main of ordinary construction, and 11 indicates the door frame to which the door is attached at one edge. To hold the door in closed position, and to return the door to this position after being opened in either direction, I provide a series of coiled tension springs 14 that are sunk at one end in sockets such as 15 in the door frame 11 and extend at their other end into borings such as 16 in the hinge edge of the door 10, these springs being secured in the sockets 15 by means of screws such as 18, or other suitable means, while their other ends may be attached to a vertical rod 20 in the door to which further reference will be made.

The door is supported by means of a pair of horizontal arms 24 extending respectively above and below the door, and pivotally connected at one end as at 25 to brackets 26,

fixed to the door frame 11, to swing horizontally. These arms extend freely through eyes 27 mounted on top and bottom of the door, the eyes being attached to brackets 28 on the door to have rotary movement, each eye having projecting therefrom an integral spindle 29 that extends freely through an aperture in the bracket.

In order to permit of variation of the swinging action of the door to suit individual tastes I preferably provide the following means: Extending along, and fixed to the hinge edge of the door as by screws 33, is a metal strip 34 having its sides curved around the rounded corners of the door edge as shown at 34' in Fig. 4 of the drawing. Located in suitable borings in the door 10 are the sets of pins 35 that bear at their outer ends on the curved side portions of the strip, while their inner ends are engaged by cams 36 fixed on the rod 20 before mentioned. This rod 20 extends vertically through the door, in a suitable boring in the latter near the hinge edge thereof, and projects at its upper end from the door. Upon this upper end is fixed a head 38 having a pair of sockets 39' therein which are angularly disposed with respect to one another, and which selectively receive the end of a screw 40 threaded through a lug 41 on the top of the door, this screw having a knurled head 42 thereon for turning purposes, while the head 38 is flattened on opposite sides to receive a wrench or spanner. By rotating the rod 20 the cams 36 may be adjusted to project the pins 35 outward, and thereby impart a straightening action to the curved side portions 34' of the strip 34 with a consequent widening of the flat door edge in contact with the door frame, the door then swinging less freely.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent of the United States is as follows:—

1. In combination with a door frame, a swinging door arranged to open in both directions, means supporting said door, tension springs connected at one end to the door and at their other ends to the door frame, said supporting means for the door comprising arms attached to the door frame and extending freely through eyes on the door.

2. In combination with a door frame, a swinging door arranged to open in both di-

reactions, means supporting said door, tension springs connected at one end to the door and at their other ends to the door frame, said supporting means for the door comprising arms attached to the door frame and extending freely through eyes on the door, said arms being pivotally connected to the door frame and said eyes being rotatably mounted on the door.

3. In combination with a door frame, a swinging door arranged to open in both directions, means supporting said door, tension springs connected at opposite ends to the door and frame to resist swinging movement of the door, a metal strip having curved sides attached to the hinge edge of the door, and means for adjusting the said curved sides toward and away from the door frame.

4. In combination with a door frame, a swinging door arranged to open in both directions, means supporting said door, tension springs connected at opposite ends to the door and frame to resist swinging movement of the door, a metal strip having curved sides attached to the hinge edge of the door, and means for adjusting the said curved sides toward and away from the door frame, comprising pins slidable in said door and engaged at one end with said curved sides, and cams rotatable in said door adapted to adjust the said pins outwardly.

5. In combination with a door frame, a swinging door arranged to open in both directions, means supporting said door, tension springs connected at opposite ends to

the door and frame to resist swinging movement of the door, a metal strip having curved sides attached to the hinge edge of the door, and means for adjusting the said curved sides toward and away from the door frame, comprising pins slidable in said door and engaged at one end with said curved sides, and cams rotatable in said door adapted to adjust the said pins outwardly, a rod rotatable in the said door on which said cams are fixed, and means for locking the said rod in angularly adjusted positions.

6. In combination with a door frame, a swinging door arranged to open in both directions, means supporting said door, tension springs connected at opposite ends to the door and frame to resist swinging movement of the door, a metal strip having curved sides attached to the hinge edge of the door, and means for adjusting the said curved sides toward and away from the door frame, comprising pins slidable in said door and engaged at one end with said curved sides, and cams rotatable in said door adapted to adjust the said pins outwardly, a rod rotatable in the said door on which said cams are fixed, and means for locking the said rod in angularly adjusted positions, said means comprising a screw mounted on the door adapted to be selectively engaged in one of a number of sockets formed in the said rod.

In testimony whereof I have affixed my signature.

ADELARD BOUCHER.