C. E. LAMB.

DOOR STOP.

APPLICATION FILED OCT. 27, 1908.

916,457.

Patented Mar. 30, 1909.

2 SHEETS—SHEET 1.

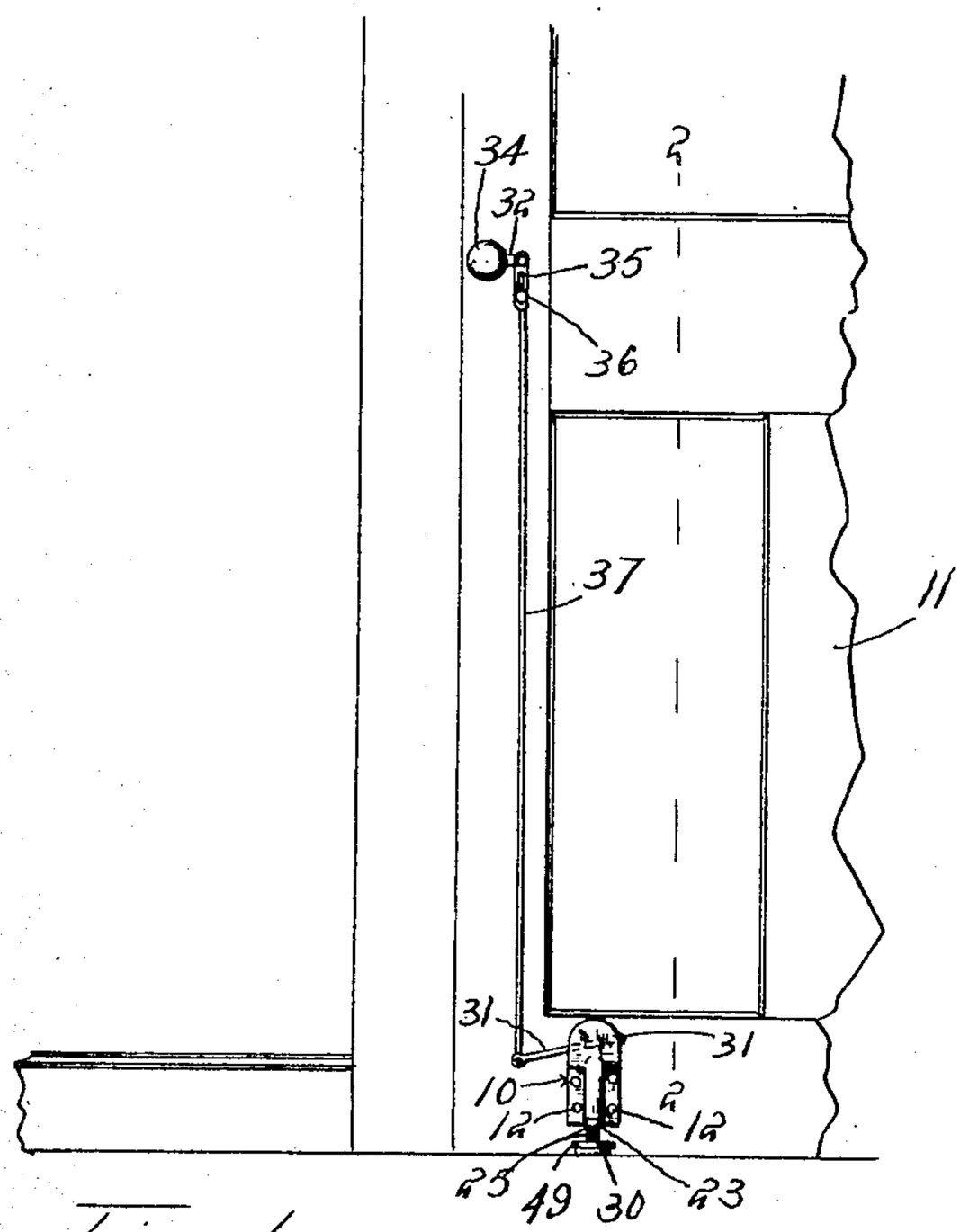

Fig. 1.

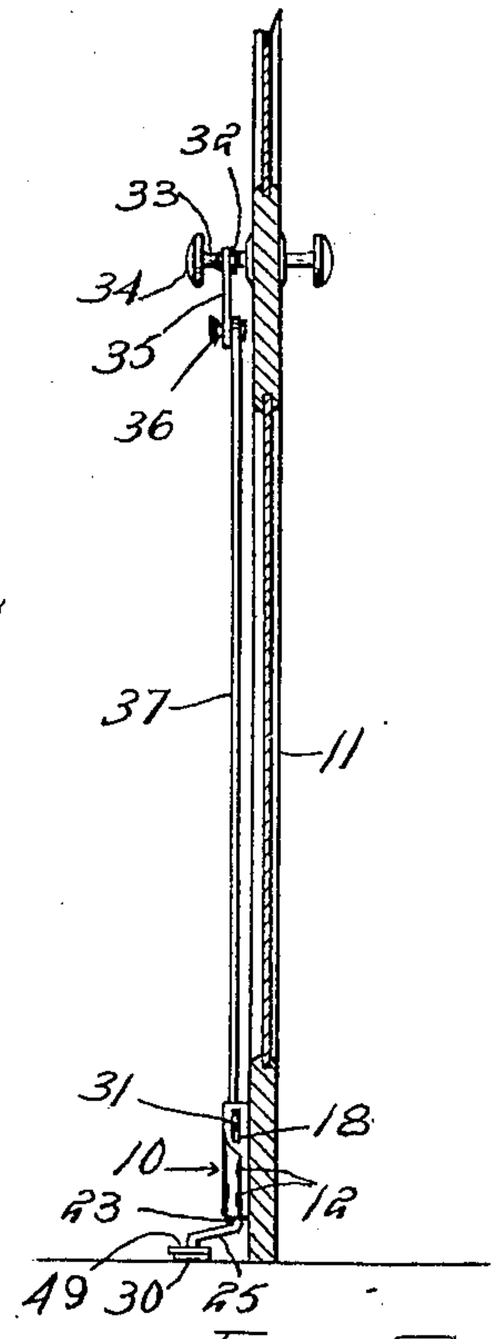

Fig. 2.

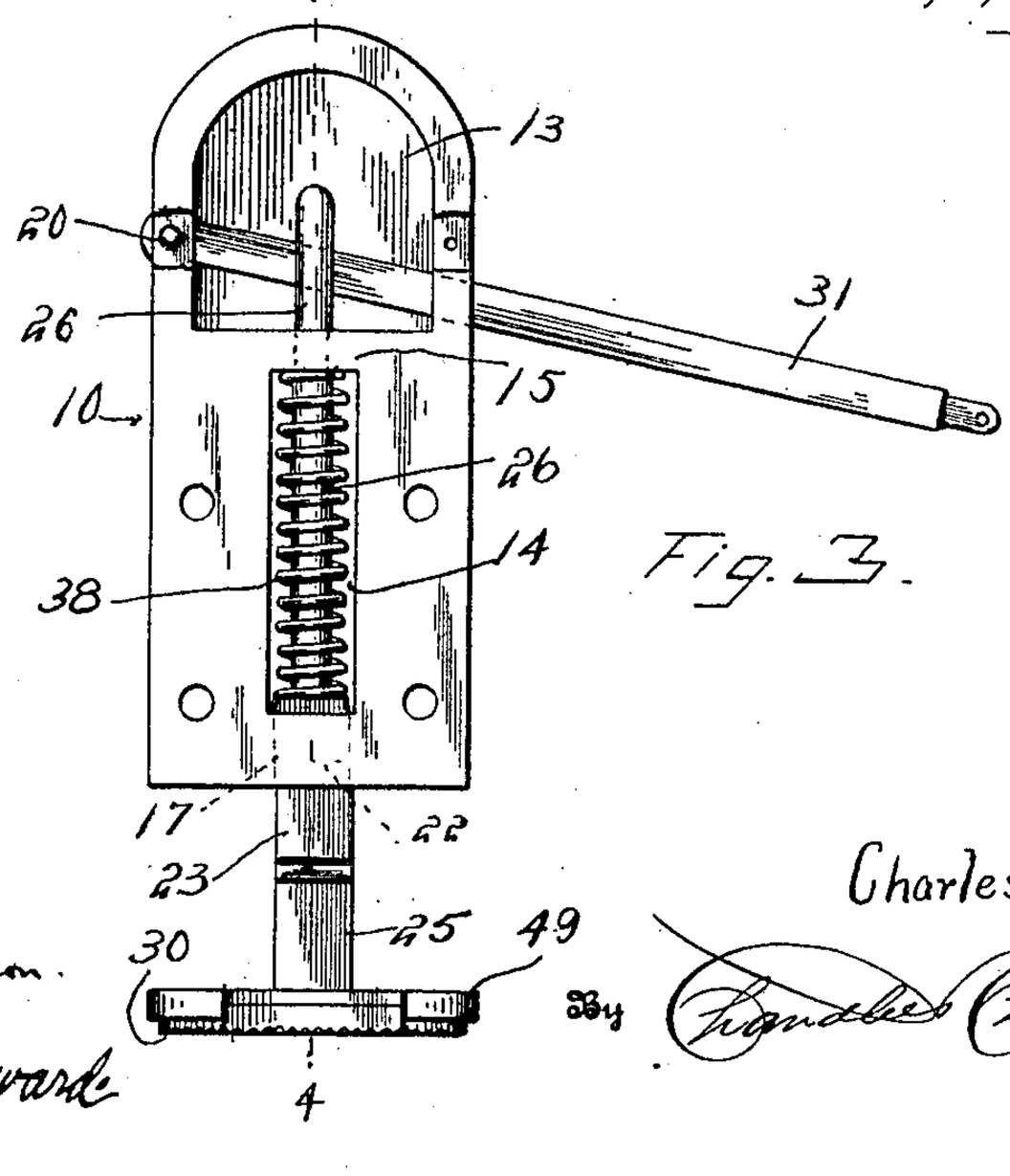

Fig. 3.

Witnesses

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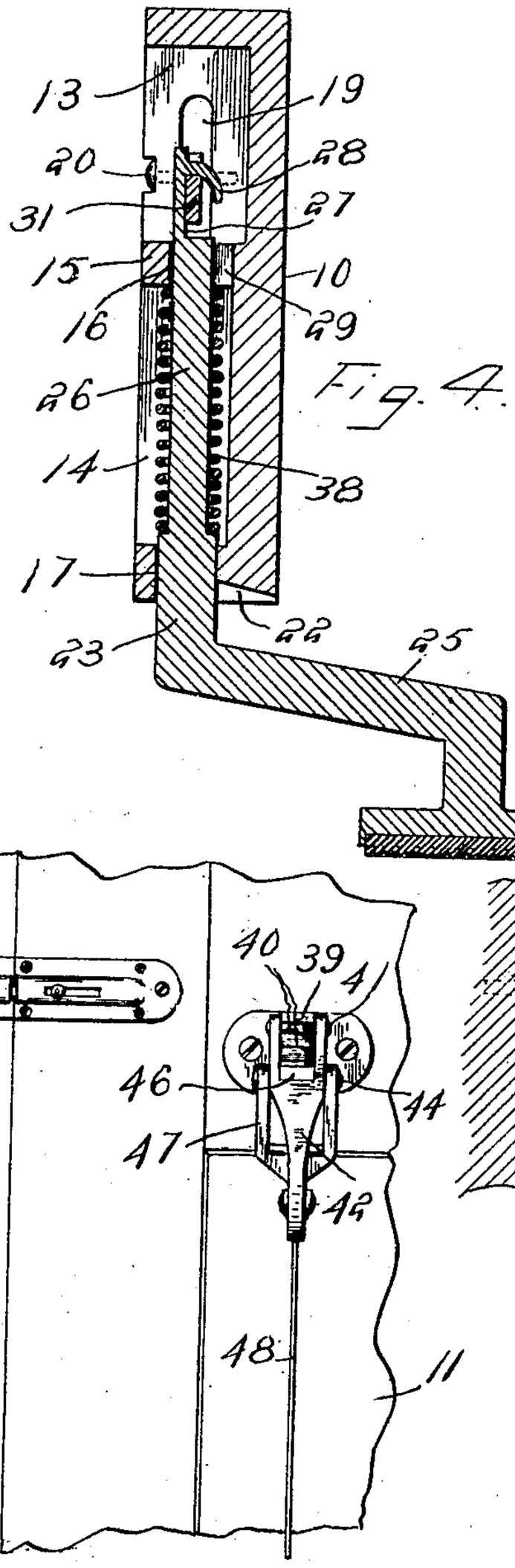

Fig. 4.

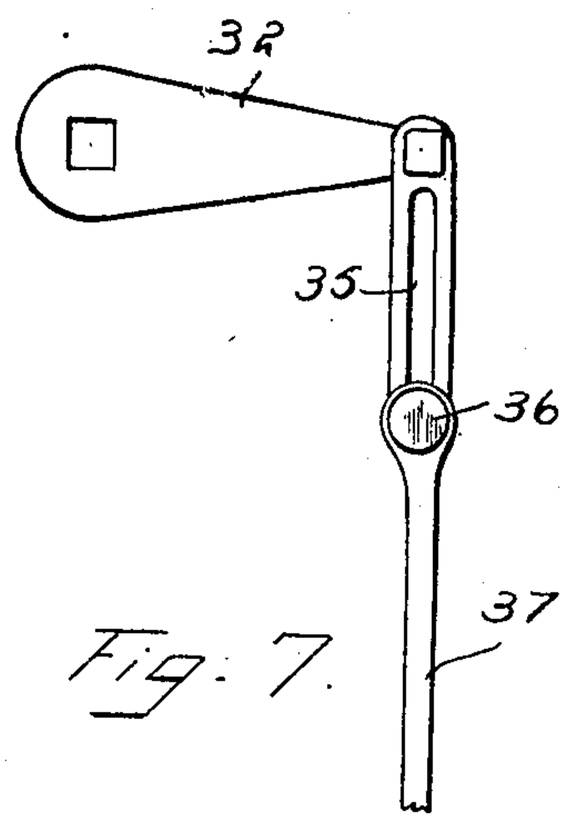

Fig. 7.

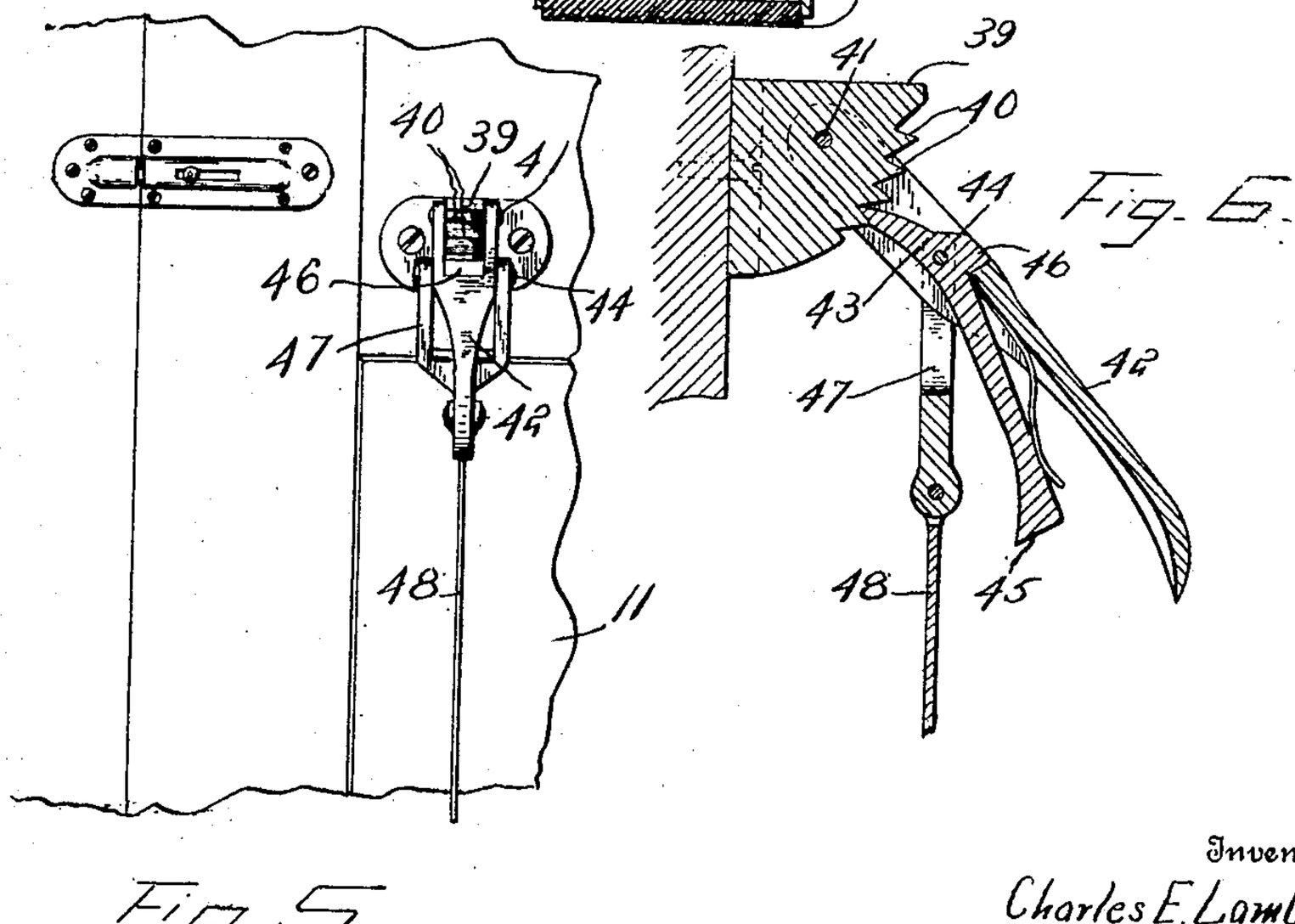

Fig. 6.

Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

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DOOR-STOP.

No. 916,457. Specification of Letters Patent. Patented March 30, 1909.

Application filed October 27, 1908. Serial No. 459,748.

To all whom it may concern:

Be it known that I, CHARLES E. LAMB, a citizen of the United States, residing at Liberal, in the county of Seward, State of Kansas, have invented certain new and useful Improvements in Door-Stops; and I 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 attachments for doors whereby they are held from movement when partly opened, and has for one of its objects to simplify and improve the construction and increase the efficiency of devices of this character.

Another object of the invention is to provide a simply constructed device adapted to be operated by the rotation of the knob of the door, or to be actuated by a small lever located near the door locking mechanism or the latch thereof.

With these and other objects in view, the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a view of a portion of a door and its casing together with a portion of the sill, with the improved device attached to the door. Fig. 2 is a section on the line 2—2 of Fig. 1, showing the improved device attached to the door. Fig. 3 is a rear elevation, enlarged, of the improved device detached. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is a side view of a portion of a door with the improved device applied illustrating a modification of the construction of the operating mechanism, more particularly adapted to doors having latches instead of knobs. Fig. 6 is a sectional detail enlarged, of the modified structure shown in Fig. 5. Fig. 7 is a detail view of the operating mechanism adapted to be attached to the knob-spindle.

The improved device comprises a casing 10 adapted to be attached to a door 11 near its lower end by screws or other fastening devices indicated at 12, the casing having a relatively large integral chamber 13 within its upper portion and a relatively small integral chamber 14 in its lower portion, the two chambers separated by a web 15 having a vertical aperture 16, preferably circular, providing communication between the two chambers, while another aperture 17, preferably square, is formed in the bottom of the casing and leading from the smaller chamber 14 and in vertical alinement with the aperture 16. Formed through the opposite walls of the casing and communicating with the larger chamber 13 are vertical slots 18—19, the slots provided with transverse apertures to receive a pin 20 extending transversely of either of the slots.

At its lower end the casing 10 is provided with a transverse recess 22 communicating with the square aperture 17, and slidably disposed through the aperture 17 is a square bolt 23 having an inclined lateral offset 25, the offset engaging in the recess 22 when the bolt is in its elevated position. Extending from the upper end of the bolt 23 is a rod 26, the rod projecting through the circular aperture 16 and into the chamber 13, the upper end of the rod formed with a recess 27 and with a lateral stud 28 at the upper end of the recess, the stud projecting beyond the rod portion 26 of the bolt and the aperture 16 provided with the small recess 29 through which the stud 28 passes when the bolt is inserted. By this means the bolt together with its rod 26 and stud 28 are movable vertically in the casing but cannot be rotated therein owing to the square portion 23 of the bolt fitting into the square aperture 17.

Attached to the lower terminal of the offset 25 of the bolt 23 is a foot member 49, preferably provided with a rubber or other flexible guard element 30, to increase the grip of the rod and likewise to prevent the marring of floors or carpets, as hereafter explained.

Extending through one of the slots 18—19 and pivoted upon the pin 20 in the other slot is a lever 31, the lever passing beneath the stud 28 of the bolt 26. Fitting around the rod portion 26 of the bolt 23 is a spring 38, the spring bearing by its lower end upon the square portion 23 of the bolt and by its upper end beneath the web 15 of the casing, the spring thus exerting its force to maintain the bolt yieldable in its lower position, and adapted to be elevated by pressure applied to the outer end of the lever 31, which thus acts beneath the stud 28 of the rod 26.

The lever 31 is adapted to be actuated either from the knob of the door 11 when

the device is applied to a door having a knob latch, or a specially constructed mechanism may be employed when the improved device is applied to doors provided with latches or other securing means, and for the purpose of illustration both forms of the operating mechanism are shown.

In Figs. 1 and 2 and 7, an arm 32 is shown attached to the shank 33 of the knob 34, and provided at its free end with a slotted rod 35 swinging therefrom, the rod provided with a slidable pin 36 connected by a rod 37 to the outer end of the lever 31. By this arrangement when the knob is oscillated, the small arm 32 will be elevated carrying the members 35—36—37 with it and thus elevating the lever 31 and causing the corresponding elevation of the bolt 23 and its attachments and releasing the bearing foot 29—30 from the floor, so that the door can be swung open or closed as the case may be. When the knob is released the spring 38 automatically depresses the bolt 23 and engages the foot member 29—30 with the floor, and thus firmly holds the door from movement in either direction until the knob is again turned and the bolt 23 elevated. The door can thus be moved to any required extent or entirely opened or closed by merely turning the knob and holding it in turned position until the door arrives at the required location, and then when the knob is released the holding device will be operated automatically by the action of the spring, as described.

In Figs. 5 and 6 is shown a slight modification of the construction which will be employed when the device is applied to doors having securing means other than knobs, for instance doors having latches and like securing devices, this operating mechanism comprising a segmental bracket 39 adapted to be secured to the door and provided with segmentally arranged ratchet teeth 40. Swinging at 41 from the segmental bracket 39 is a small hand lever 42 having a pawl 43 swinging from a pin 44, the pawl having a finger lever 45 by which it may be actuated and with a small stop arm 46 to limit the movement of the pawl. Swinging from the lever 42, and preferably from the pin 44, is a yoke 47 to which a rod 48 leads to the lever 31. By this arrangement it will be obvious that the lever 31 may be elevated to correspondingly elevate the bolt 23 and remove the foot member 29—30 from contact with the floor, and hold the foot member free from the floor by the action of the pawl 43 and the segmental bracket 39—40. By this arrangement the holding device may be maintained in its operative position when required. The improved device is simple in construction, can be inexpensively manufactured and can be applied to doors of various sizes and employed upon either outside or inside doors as required.

By employing the two slots 18—19 and apertures through each slot for the pin 20, the lever 31 may be reversed in position to adapt the device for right or left hand doors.

What is claimed, is:—

1. In a device of the class described, a casing adapted to be attached to a door and formed with a closed chamber in the upper part and vertical guideways in the lower part and communicating with the chamber, said upper chamber having transverse slots through the side walls thereof, a bolt slidable through the guideways and extending into the chamber, a bearing element at the lower end of the bolt, a lever pivoted at one end in one of said slots and extending through the other slot, said lever adapted to be reversed in position and likewise adapted to be actuated by the action of a door securing means.

2. The combination with a door of a casing having means for attachment to the door and formed with a closed chamber in the upper part and vertical guideways in the lower part and communicating with the chamber, said upper chamber having transverse slots through the side walls thereof, a bolt slidable through the guideways and extending into the chamber, a bearing element at the lower end of the bolt, a lever pivoted at one end in one of said slots and extending through the other slot, a bracket having means for attachment to the door and provided with a ratchet segment, a hand lever swinging upon said segment, a pawl carried by said hand lever and engaging the ratchet, and coupling means between said hand lever and the lever of the casing.

3. In a device of the class described, a casing adapted to be attached to a door and formed with a relatively large closed upper chamber and a relatively small closed lower chamber, said casing having transverse slots through the side walls thereof, a guideway providing communication between the chambers, a guideway leading from the lower chamber, a bolt slidable through said guideways and projecting into the upper chamber and provided with a lateral stud within the upper chamber, a lever pivoted at one end in one of said slots and extending through the other slot and engaging beneath said lateral stud, and a spring operating to maintain said bolt yieldably in its lower position, and means for actuating said lever.

In testimony whereof, I affix my signature, in presence of two witnesses.

CHARLES E. LAMB.

Witnesses:

H. W. LANE,

ALEX TEMPLETON.