To all whom it may concern:

Be it known that I, GEORGE E. TYSON, a citizen of the United States of America, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Door Holders and Stops, of which the following is a specification.

My invention relates to an improved holder and stop mechanism for doors; and my main objects are to provide in a simple manner for either automatically catching and holding the door in opened position or for merely stopping the same when desired.

The invention is fully described in connection with the accompanying drawings, and the novel features are particularly pointed out in the claims.

Figure 1 is a side elevation, partly in section on the line x x of Fig. 3, showing the holder-arm of the lever in engagement with the keeper. Fig. 2 is a similar view to Fig. 1, showing the holder-arm of the lever thrown into inoperative position and the stop-arm in contact with the keeper-strike. Fig. 3 is a rear view of the lever-case, with a portion of the backing-plate broken away. Fig. 4 is a full side view of the case.

A represents the lever-case frame, which is preferably secured to the face of the door B, near the lower edge of the latter, and C is the keeper-strike, which is ordinarily fixed to the floor, though it may be readily applied to the base-board of an adjacent wall, as indicated in dotted lines, Fig. 1, if desired. The case A is formed with forwardly-projecting ears A', between which the lever D is pivotally mounted, as shown, by means of trunnions d d thereon, arranged in engagement with bearings formed on the inner opposing faces of the ears A' by grooves a, adapted to permit the introduction of the lever D from the rear of the case to its normal position between the ears and with its trunnions pivotally mounted in the latter at the forward ends of the grooves, the front plate of the case being cut away between said ears to permit the passage of the lever.

The lever D is formed, as shown, with three arms d', d", and d', arranged about the trunnion-pivots d. The holder-arm D' is arranged to engage the head c of the keeper C, being provided with an inclined outer end d', adapted to contact with and ride over said keeper-head c, and with a recess d" to engage the latter for the purpose of holding the door. The rearwardly-extending arm d' is arranged to form a stop against the easing to normally retain the holder-arm d' in approximately horizontal or operative position and is pressed against said stop by a spring E, adapted to permit the forcible movement of the lever D, so as to swing the arm d' into inoperative position, as indicated in Fig. 2. The third arm d" is arranged at approximately right angles to the arm d' and when the latter is in operative horizontal position it is self in about a vertical pendent position to the rear of the holder-recess d'. When the lever is turned, however, so as to throw the holder-arm out of service, which may be readily effected by the foot of the operator, the stop-arm assumes the substantially-horizontal position which the holder-arm occupies when set to operate, and its padded end d" is thus adapted to come into contact with the keeper C, now serving as a strike, thereby stopping without holding the door.

The spring E, as shown, consists of a flat strip of metal having its end e bent to engage a groove f in a pin F, around which it is bent, so as to permit of securing a proper tension on the spring by turning the pin, while the free portion of the spring is in contact with the inner arm d' of the lever. To provide this tension and secure the spring, I make the projecting end f' of the pin of angular wedge-shaped section, as shown, and provide correspondingly-shaped pockets a' a' in the case, in which said ends of the pin are adapted to fit. In forcing them into these pockets, however, the pin is slightly turned upon its own axis, giving a tension to the attached spring sufficient to insure quick and positive action of the holder-arm as the latter is raised by its contact with the keeper C and then pressed into engagement with the latter by the spring. To hold the seated tension-pin in its pockets, I preferably provide clips g, which, as shown, are formed in the case A and adapted to be bent over the seated ends of the pin and prevent escape of the latter from the pockets.

The separately-formed plate H, which is
shown secured to the rear of the case A, is formed with forwardly-extending fingers or projections h h, which reach into the grooves a a of the pivot-ears A of the case, so as to form rear stops or walls of the trunnion-bearings, thus preventing possible rearward movement of the lever after it has been mounted therein.

When the lever D is in the position indicated in Fig. 1, the holder-arm d' is slightly raised to ride over the keeper-head c and is then pressed into engagement with the latter by the spring, as already described. When this arm d' is raised into inoperative position, as indicated in Fig. 2, the spring E first yields to permit the swing of the rear arm d' and later assists the movement and retains the lever in adjusted position until the operator presses the stop-arm c downward to return the holder-arm into action. Thus either one arm or the other is always in service and the door is either automatically held or merely stopped, as desired.

I do not wish to limit myself to the exact construction shown and described; but

What I claim is—

1. A combined door-holder and stop mechanism comprising a lever case or frame, a lever formed with a holder-arm and a stop-arm pivoted in said case or frame so as to swing one or other of said arms into operative position, a spring arranged to normally hold said lever in either operative position, and a keeper-strike adapted to be engaged by said holder-arm or to be struck by said stop-arm substantially as set forth.

2. The combination with the case having forwardly-projecting ears grooved on their opposing inner faces to form trunnion-bearings, of the trunnioned lever adapted to be mounted in said bearings and having a rear arm within the case, and a spring suitably mounted in said case and bearing against said arm, substantially as set forth.

3. The combination with the case having forwardly-projecting ears grooved on their opposing inner faces to form trunnion-bearings, of the trunnioned lever adapted to be mounted in said bearings, and having a rear arm within the case, a spring suitably mounted in said case and bearing against said arm, and a backing-plate removably secured to said case and having forwardly-extending fingers projecting into said grooves to retain said lever-trunnions in their bearings, substantially as set forth.

4. The combination with the case and the lever pivoted thereto and having a rear arm within said case, of a spring within said case arranged to bear against said arm, said spring being attached to a rotatable tension-pin having projecting angular ends adapted to engage pockets formed in said case, and means to secure said pin therein, substantially as set forth.

Signed by me at Reading, Pennsylvania, this 18th day of April, 1900.

GEO. E. TYSON.

Witnesses:

WILLIAM T. ADAMS,
WALTER B. CRAIG.