E. W. CLARK.

DOOR CHECK.

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1,041,430.

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Fig. 1.

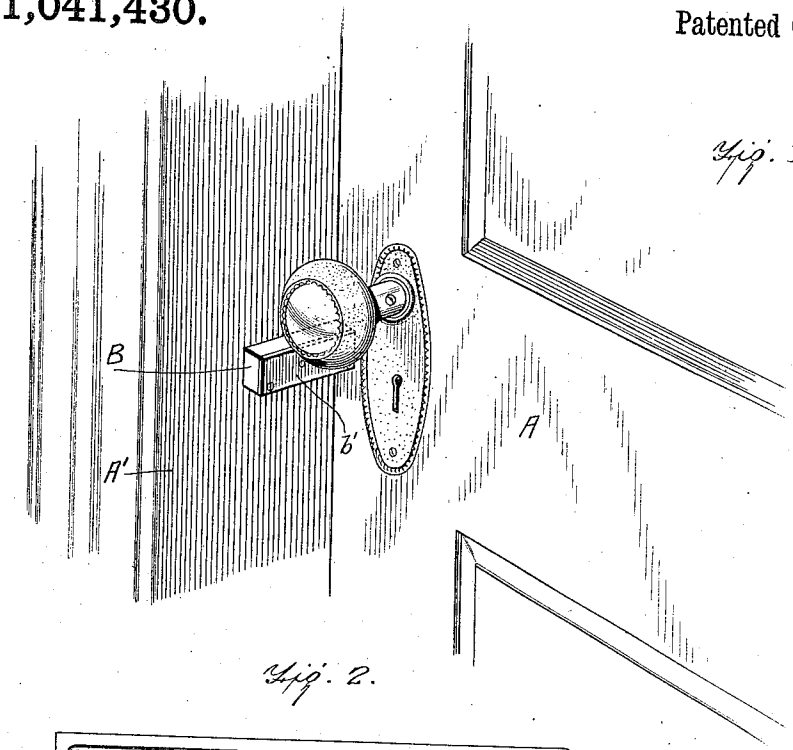


Fig. 2.

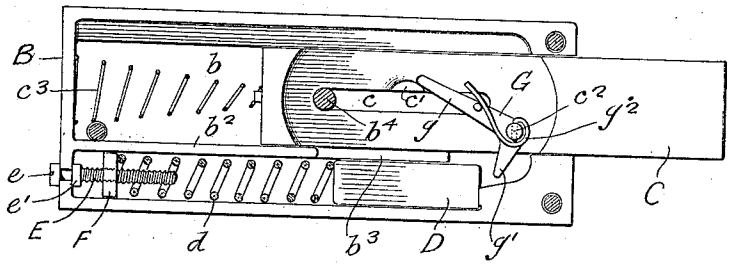


Fig. 3.

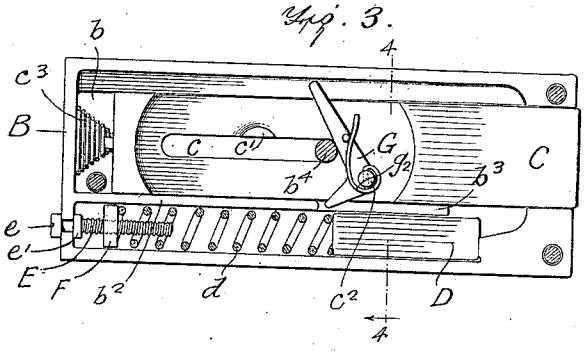
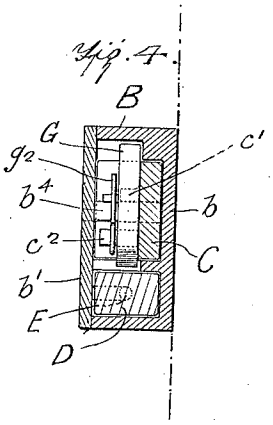


Fig. 4.



WITNESSES

L. H. Schmidt.

Myron G. Clear

INVENTOR

ELISHA W. CLARK,

BY Munn & Co.

ATTORNEYS

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ELISHA WM. CLARK, OF ST. PETERSBURG, FLORIDA.

DOOR-CHECK.

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To all whom it may concern:

Be it known that I, ELISHA W. CLARK, a citizen of the United States, and a resident of St. Petersburg, in the county of Hillsboro, State of Florida, have invented a new and useful Improvement in Door-Checks, of which the following is a specification.

My present invention relates to door checks, my object being to provide a simple and inexpensive construction and arrangement of parts whereby to provide a door check which will be efficient in use and possess strength and durability, and in which the tension may be readily regulated.

With these and other objects, which will be hereinafter made apparent, my invention resides in the features of construction, arrangement and operation to be now described with respect to the accompanying drawing, illustrating the preferred embodiment of my invention, and forming a part of this specification.

In this drawing, Figure 1 is a perspective view illustrating a portion of a door in closed position against a door-frame, and illustrating the latter provided with a door-check constructed in accordance with my invention; Fig. 2 is a sectional elevation with the side plate of the casing removed, looking into the operating parts, and illustrating the latter in their normal position when the door is open; Fig. 3 is a similar view illustrating the parts in their actuated position when the door is closed; and Fig. 4 is a detail cross section through the casing and operating parts, taken substantially on the line 4—4 of Fig. 3.

Referring now to these figures, and particularly to Fig. 1, a door indicated at A is shown in closed position in connection with its jamb or casing A′, the latter being provided with a door-check constructed in accordance with my invention and consisting of a rectangular casing B secured to extend horizontally upon the inner face of the door-casing A′, with one end flush with the edge of the casing against which the door A engages in closed position.

As shown particularly in Figs. 1 and 4, the casing B consists of a body b and a removable side plate b', the latter of which is detached in Figs. 2 and 3. Within the body b of the casing is arranged a horizontal partition plate b^2, dividing the same into upper and lower guideways for the door engaging bolt or member C and the check D respectively, said upper guideway, in which the door-engaging bolt C is slidable, being extended through one end of the casing B whereby the respective end of said door-engaging member may extend some distance beyond the end of the casing C, as shown particularly in Fig. 2, whereby it may project within the path of movement of the door A, and receive the door thereagainst when the latter is closed. The door-check D which is movable parallelly with the bolt C and in the same direction therewith, is tensioned in such movement by means of a relatively strong spring d arranged in the lower guideway and between the said check and the closed end of the casing body b. Journaled through the said closed end of the casing-body b in line with its lower guideway is a threaded adjusting screw E, which is prevented from longitudinal movement by means of its head e and collar e', disposed on opposite sides of the casing end, and the shank of which is threaded through an adjusting nut F, the latter receiving the end of the tension-spring d and being prevented from rotation within the guideway. In this manner, upon the rotation of the adjusting screw E, the nut F is forced to move longitudinally within the said lower casing guideway, whereby to either increase or decrease the tension of the spring d dependent upon the direction of such rotation. The casing partition b^2 is broken away at its forward end, as indicated at b^3, so that communication is established between the upper and lower guideways for a portion at least of the length of the casing. The door-engaging bolt C is provided within the casing, with a longitudinal slot c and with a projection c' at a point substantially midway of, and slightly above, the said slot. Through the slot c extends a transverse pin b^4, the ends of which are secured in the casing-body b and said plate b', this pin constituting a stop and being arranged in the path of movement of the upwardly and rearwardly inclined arm g of a lever G having an angular depending arm g'. The lever G is pivoted at the juncture of its arms g and g' upon a stud c^2 projecting laterally from one side of the bolt C, and the said lever is normally maintained in the position shown in Fig. 2 with its upper angular arm g in engagement with the bolt-projection c' by a controlling spring g^2.

It will be noted from the position of the

parts in Fig. 2, that when the door strikes the outer end of the bolt C, the latter will be forced inwardly, during which movement the downwardly projecting angular arm of the lever G will engage the forward end of the check D and force the latter rearwardly against the tension of its spring *d*. In this manner, banging of the door is prevented, and its closing movement reduced to comparatively slow and steady travel, at the end of which, and about the same time the door A engages its jamb or casing A′, the stop pin b^4 will engage the upper angular arm *g* of the lever G and cause the said lever to be rocked on its pivot c^2 with the result that its lower angular arm *g′* will be disengaged from the check D, and the latter will be permitted to spring forwardly to its normal position, as indicated in Fig. 3. It will be further noted that when the door is subsequently opened, the bolt C will be again projected to the position shown in Fig. 2 by means of the spring c^3 coiled between the rear inner end thereof and the adjacent end of the casing-body *b*, thus moving the lever G away from the stop-pin b^4 and permitting its spring g^2 to return it to the normal position. It should be further noted that the construction of my invention is such that each and every one of the parts are readily accessible, and that it requires only the removal of the casing side plate *b′* for any of the said parts to be detached for the purpose of substitution or repair.

I claim:—

1. A door-check, comprising a door-engaging member, a spring-controlled check, a movable element carried by said door-engaging member and adapted to engage the said check when the said member is moved by a door, and a stop arranged in the path of movement of the said element whereby to move the same out of engagement with said check.

2. A door-check, comprising a door-engaging member, a movable check, a movable element carried by said door-engaging member and adapted to engage the said check when the said member is moved by a door, a spring for resisting movement of said check, means whereby to adjust the tension of said spring, and a stop arranged in the path of movement of said movable element whereby to move the same out of engagement with said check.

3. A door-check, comprising a slidable door-engaging member, a spring-controlled check slidable in parallelism with said member, a connecting lever pivoted on the door-engaging member and adapted to engage the said check when the said member is moved by a door, and a stop arranged in the path of movement of said lever whereby to engage and move the same free of said check.

4. A door-check, comprising a slidable door-engaging member, a spring-controlled sliding check adjacent said member, a lever pivoted on the said member and having angular arms, one of which is adapted for engagement with the said check when the said member is moved by the door, a spring in connection with said lever whereby to hold the same in position for engagement with the check, and a stop arranged in the path of movement of the other angular arm and adapted to engage the same in order to swing the first-mentioned arm out of engagement with the said check.

5. A door-check, comprising a casing having communicating guideways, a door-engaging bolt movable within one of said guideways and partially out of the casing, a check movable in the other guideway, a spring for controlling movement of the said check, a connecting element carried by the said bolt and adapted to engage the said check when the bolt is moved by a door, a stop arranged in the path of movement of the said connecting member and adapted to engage and move the same away from the said check, and a spring engaging the said bolt for maintaining the same partially out of the casing.

ELISHA WM. CLARK.

Witnesses:
B. J. FARMER,
J. K. SPADER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."