(No Model.) 2 Sheets—Sheet 1.

J. E. MELLOR.

DOOR CHECK AND CLOSER.

No. 446,548. Patented Feb. 17, 1891.

Fig. 1.

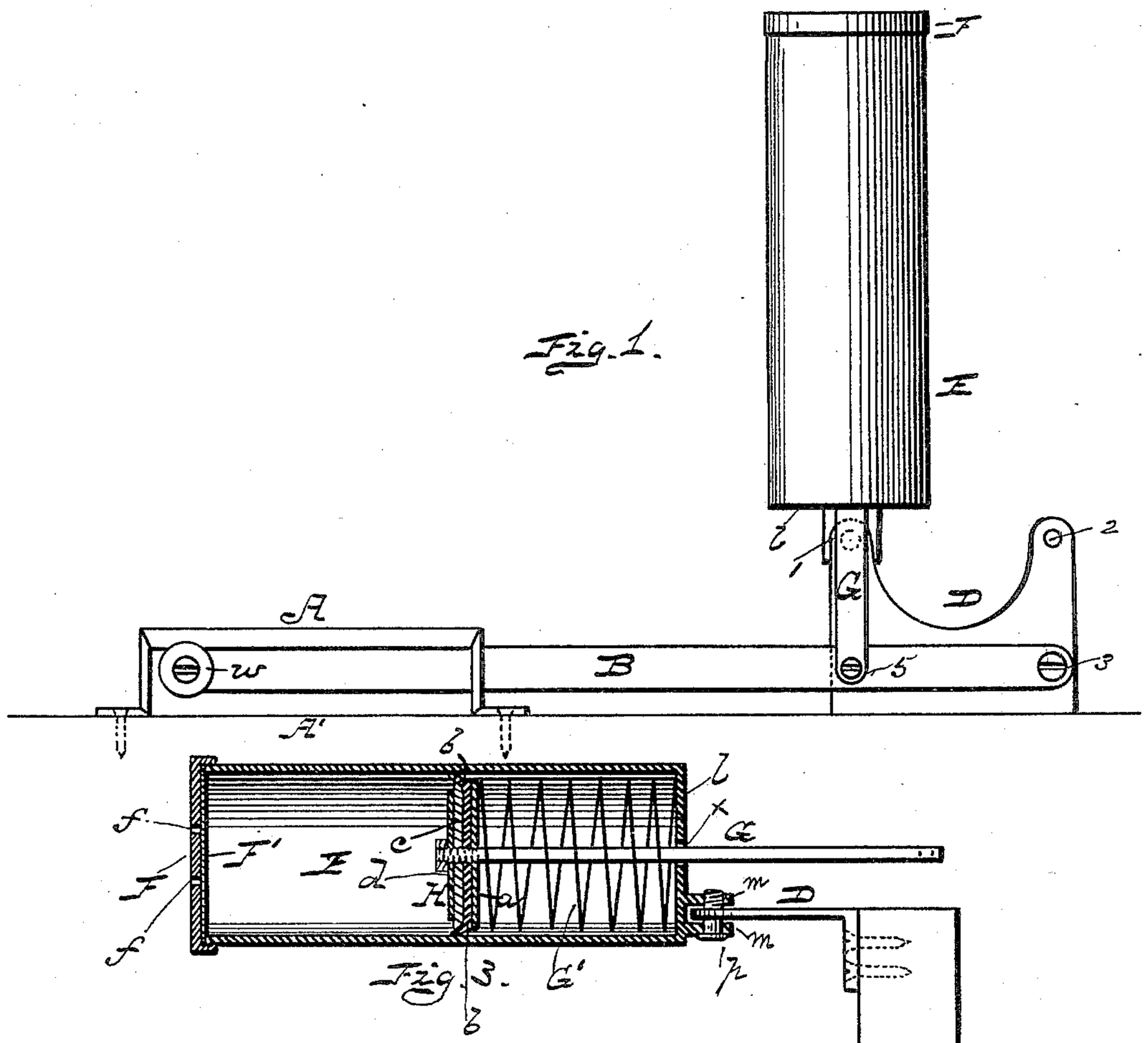

Fig. 3.

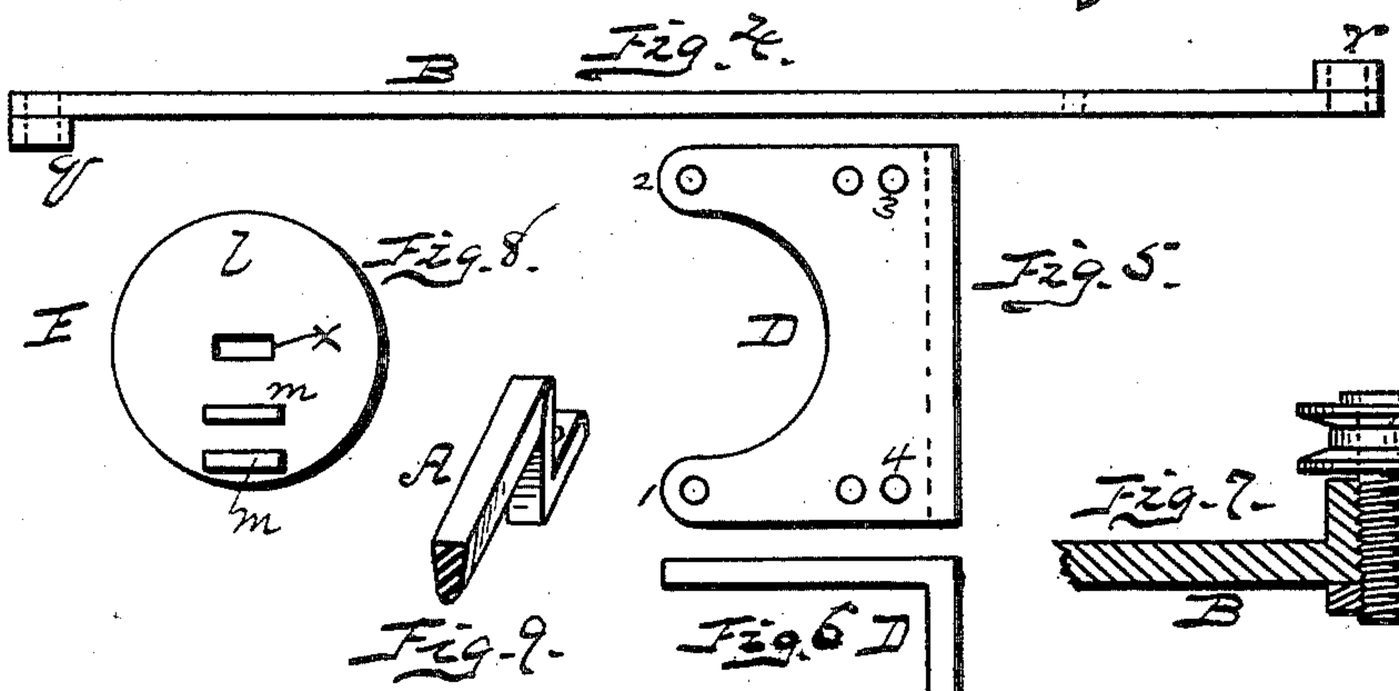

Fig. 2.

Fig. 8.

Fig. 9.

Fig. 5.

Fig. 6 D

Fig. 7.

WITNESSES

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his Attorney.

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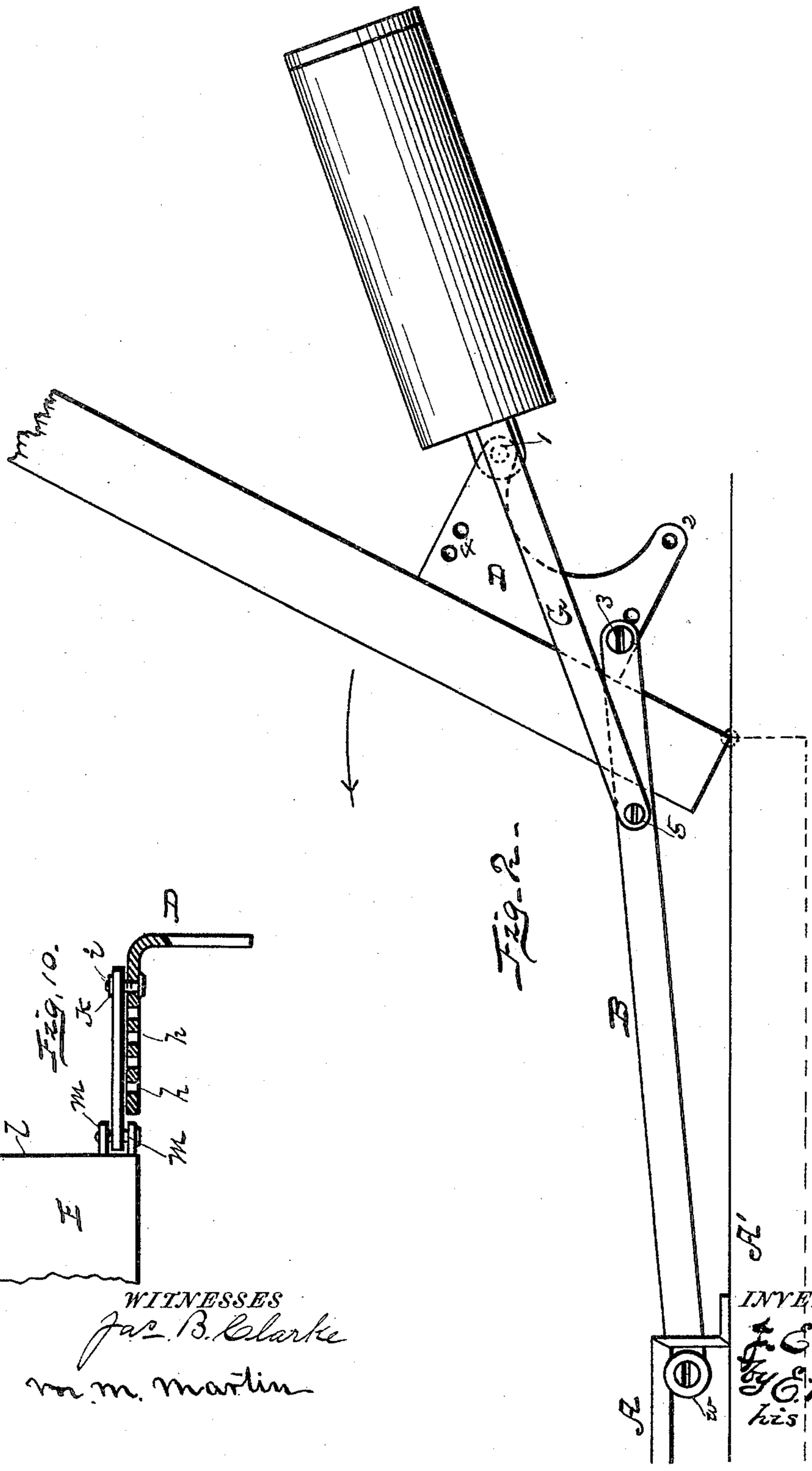

WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN EDWARD MELLOR, OF NEW YORK, N. Y.

DOOR CHECK AND CLOSER.

SPECIFICATION forming part of Letters Patent No. 446,548, dated February 17, 1891.

Application filed May 20, 1890. Serial No. 352,461. (No model.)

To all whom it may concern:

Be it known that I, JOHN EDWARD MELLOR, a citizen of Great Britain, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Door Checks and Closers; 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.

My invention relates to door-checks and door-closers; and it consists in the construction and novel combination of parts, as will be hereinafter described, and pointed out in the appended claim.

The annexed drawings, to which reference is made, fully illustrate my invention, in which—

Figure 1 represents a plan or top view of my improved door-check and door-closer, showing the device in its normal position, the door being closed. Fig. 2 is also a plan or top view of the same, showing the door open. Fig. 3 is a horizontal sectional view of the cylinder and its connecting parts. Fig. 4 is an edge view of the bar B. Fig. 5 is a plan view of the casting or standard. Fig. 6 is an edge view of the same. Fig. 7 is a detail sectional view of one end of the bar B. Fig. 8 represents a front view of the cylinder, showing the central slot and lugs *m m*. Fig. 9 is a perspective sectional view of the bracket A, and Fig. 10 represents a side elevation of a portion of the cylinder having the standard attached.

Referring by letter to the accompanying drawings, A designates a bracket, which is secured to the lintel A′ above the door, the shape of the longitudinal portion of the bracket in cross-section approximating the shape of a triangle the base of which is uppermost. The bracket A has angular ends which are provided with eyes, through which screws pass, after which they are passed into the lintel.

E is a cylinder, which is pivoted to a standard D, and is provided with an air-valve F, which is screwed onto the end of said cylinder.

F′ is an india-rubber disk, which is held against the edge of the cylinder by the air-valve or cap F, which is provided with an annular row of nearly centrally-disposed air-inlets or small holes *f*.

H is a piston-head, which is secured to the end of the piston-rod G, lying within the cylinder E, and is constructed in the following manner: A metal disk *a* is first fitted on the inner end of the piston-rod G, said disk *a* fitting snugly the inner diameter of the cylinder. Then a leather washer *b* of slightly greater diameter is next fitted upon the piston-rod and is forced against the metal disk *a*. A rubber washer *c* is next fitted up against the leather washer *b*, said rubber washer being of slightly less diameter than the leather washer *b*, so that the latter will be held directly in contact with the inner peripheral surface of said cylinder. Lastly, a metal disk *d* is placed against the rubber washer *c* on the piston-rod and is secured in place by a nut or the like, so that the parts may be removed when it becomes necessary to remove either or any of them for repairs or for other cause. The standard D is in the shape of a flat angle-iron, which is provided in its vertical portion with screw-holes, through which the securing-screws are passed into the door to fasten the standard thereto. The horizontal portion of the standard is provided with a number of vertically-disposed bolt-holes *h*, through either of which the securing and adjusting bolts *i* may be passed to adapt the check and closer to lintels of different thicknesses, nuts *k* being employed to hold the bolts *i* in place. The cylinder E is provided on the outer face of its inner head *l* with two parallel outwardly-projecting lugs *m n*, arranged one over the other, with a space between them for the reception of the end of the horizontal portion of the standard D, a bolt *p* being employed to secure said parts together.

B is a metal bar, which is provided at its ends with bosses *q* and *r*, which project at right angles from said bar B in opposite directions. One end—that is, the outer end—of the bar B is provided on its boss *q* with a grooved friction-wheel *w*, which is secured to the boss *q* by a bolt or screw and revolves or works against the horizontal or longitudinal portion of the bracket A when the door is being opened and also while it is automatically

closing. The outer end of the piston-rod projects through a centrally-disposed hole *x* in the inner head of the cylinder E and is pivoted through its outer end to the metal bar B intermediate of its ends at 5. The inner end of the bar B is pivoted to the standard at 3. In this position the parts are as applied to a right-hand door. To apply them to a left-hand door the outer end of the bar B must be disconnected from the standard D at the point 3 and connected thereto at the point 4. The cylinder must be disconnected at the point 1 and connected at the point 2 of the standard, and the piston-rod must be again connected to the bar B, it having been previously disconnected therefrom.

The air valve or cap F is fitted to the end of the cylinder in the ordinary way, and the india-rubber disk F′, which is so constructed as not to be impervious to air, but is of such quality of texture as to retard the ready passage of air, offers sufficient resistance to prevent the door from slamming to or violently shutting while in the act of closing, and thus insures a steady easy automatic closing action. The piston-rod G is encircled by a coiled spring G′, which preferably fits snugly within the cylinder E and normally acts to force the piston outwardly, and thereby operate the piston rod, and consequently the metal bar to which it is connected.

Some doors are flush with the lintel, while others are considerably recessed. In the latter class of cases the cylinder is attached to a plate, as shown in Fig. 10, where the adjusting-bolts are employed to permit the standard to be elongated, which obviates the necessity of using a block, as is commonly practiced in such cases.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the cylinder having the attaching-lugs and the projecting piston-rod, spring, and piston-head, of the standard having interchangeable attaching-lugs, the reversible metal bar provided with a friction-wheel and detachably pivoted to the standard and to the projecting piston-rod, and the angular guide-bracket for engaging the friction-wheel on said metal bar, substantially as specified.

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

JOHN EDWARD MELLOR.

Witnesses:

JOHN P WITTMANN,

T. A. COX.