

(No Model.)

W. E. MITCHELL.  
DOOR CLOSER.

No. 506,925.

Patented Oct. 17, 1893.

Fig. 1.

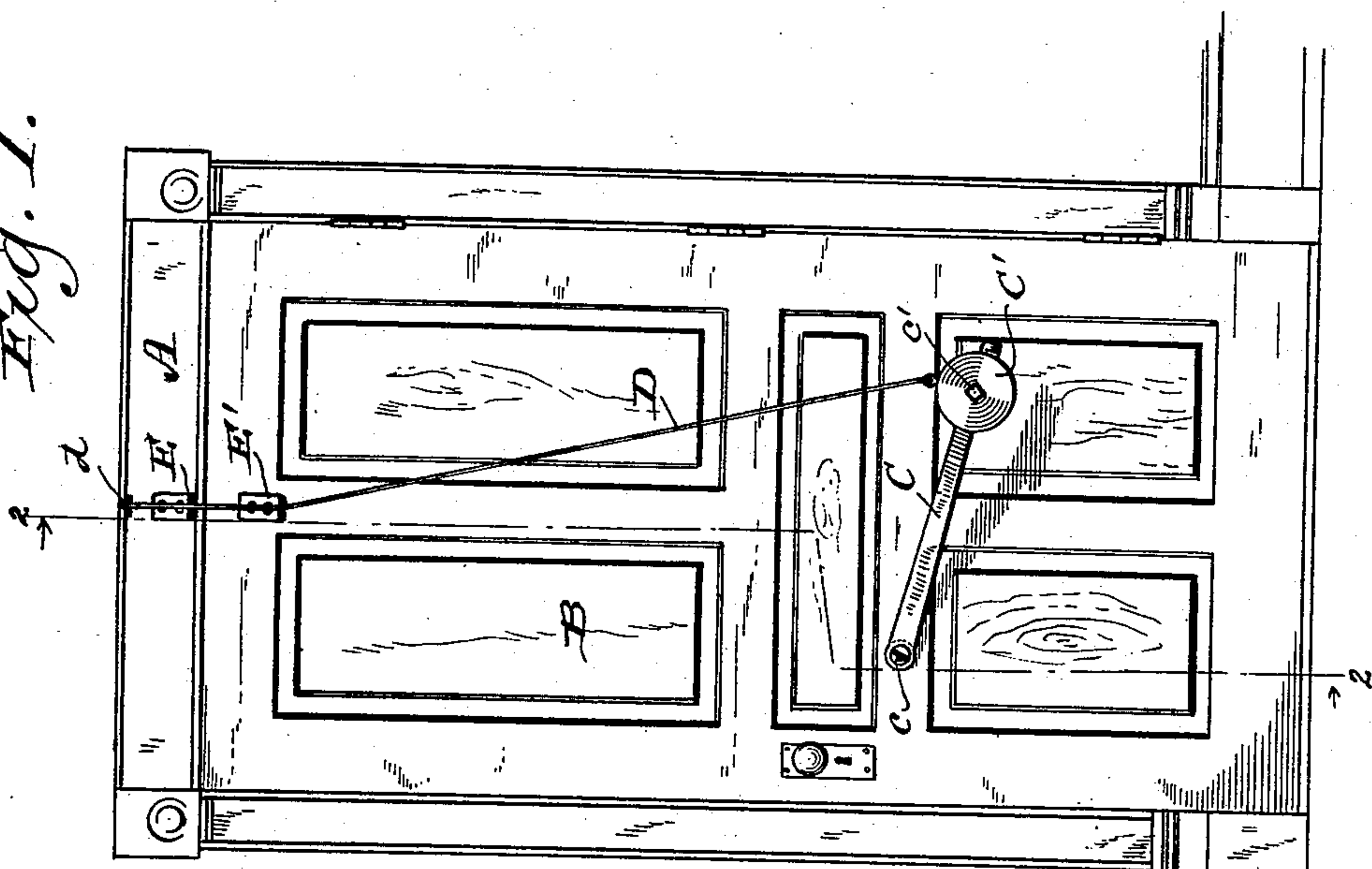


Fig. 2.

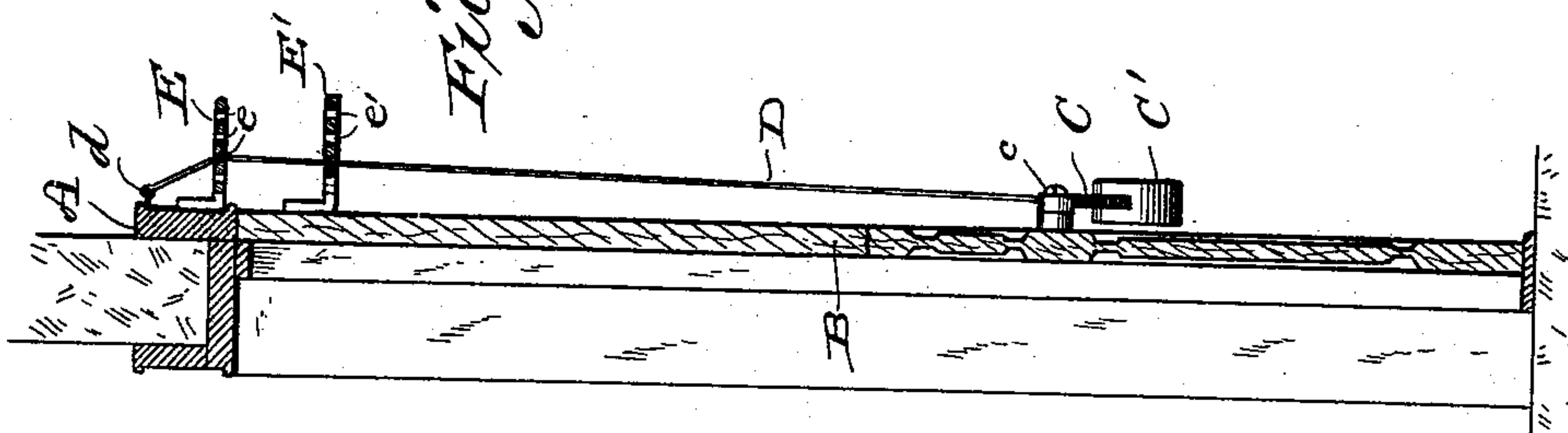
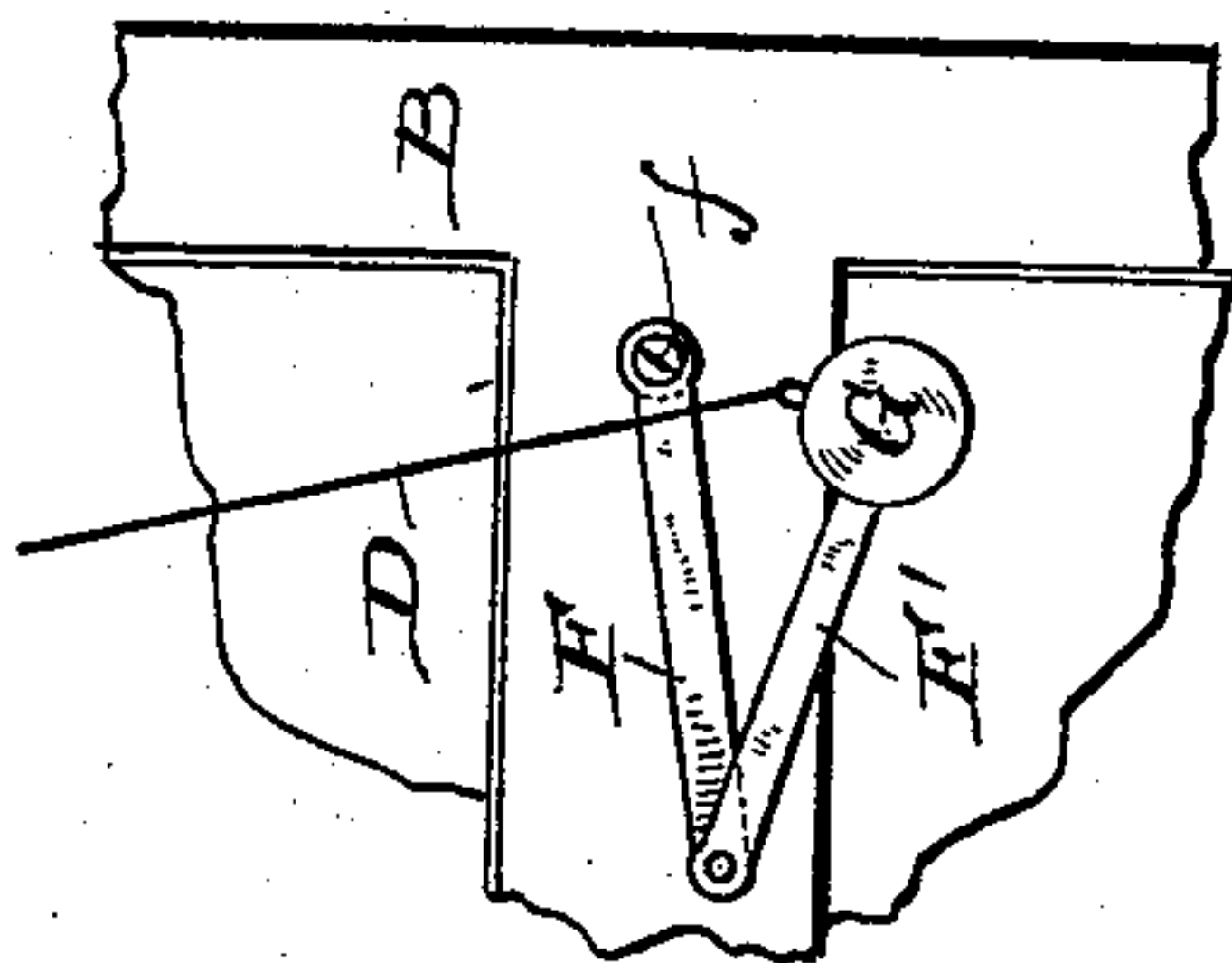


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## DOOR-CLOSER.

SPECIFICATION forming part of Letters Patent No. 506,925, dated October 17, 1893.

Application filed February 7, 1893. Serial No. 461,301. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. MITCHELL, a citizen of the United States, and a resident of Merton, in the county of Waukesha, and in the State of Wisconsin, have invented certain new and useful Improvements in Door-Closers; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to new and useful improvements in door closing devices and consists in the matters hereinafter described and pointed out in the appended claim.

In the accompanying drawings illustrating my invention: Figure 1 is a front elevation of door equipped with my improved closing device. Fig. 2 is a vertical cross sectional view of the same taken on line 2—2 of Fig. 1. Fig. 3 is a fragmentary view illustrating a somewhat different form of construction.

In said drawings:—A represents the door casing, and B the door. C is a lever or arm pivotally engaged as at *c* either to the face of the door, or the door-casing, the particular form of lever shown in the drawings being secured, to the face of the door, and provided at its free end with a weight *C'* which is preferably adjustably engaged with said arm by means of a set screw *c'* as shown.

A cord D is secured at one end as at *d*, to the door casing above the door, and at its lower end is engaged either with the lever C or the weight *C'*. Suitable brackets E and E' are provided, respectively upon the door casing and the upper edge of the door, and these brackets are preferably provided with suitable apertures *e e* and *e' e'* respectively through which the cord D may be passed.

In the particular form of construction shown in Fig. 3 of the drawings, the lever or arm C is dispensed with, and a jointed arm is substituted therefor, said arm comprising two sections F and F', the former of which is pivoted to the door at *f* and the latter section F' is pivoted to the free end of the section F as shown, and to the free end of the section F', a suitable weight G is secured and the cord D is operatively engaged with the weight G or the section F' of this jointed arm.

The operation of my improved device is as follows:—The cord is passed through one of

the apertures *e* in the bracket arm E, and one of the apertures *e'* in the lower bracket arm E' and thence downward to the weighted arm, to which it is secured. If now, the door be opened, the cord will be drawn up through the aperture *e'* and will lift the weighted arm C, in an obvious manner. When the door is released, the weight will cause the arm C to descend and thus pull downward upon the cord, and will thus tend to close the door inasmuch as when the door is open, the cord will be drawn outward obliquely from the aperture in the upper bracket arm E, so that the strain upon the cord, exerted by the weight, will tend to return the arm E' through which the cord is passed, to its normal position, in which the cord passes in a substantially vertical direction through the two arms E and E', as shown in Fig. 2.

If desired, the cord may be passed through one of the apertures *e'* in the bracket arm E' farther from the face of the door than the aperture in the upper arm, so that the weight will cause the cord to pull obliquely upon the bracket E' at all times, thus serving to hold the door in its closed position, and to more forcibly return the door to its closed position after it has been opened.

In case the weighted lever is secured to the door casing or to the face of the wall adjacent thereto, the cord instead of being secured to the staple or eye will be passed through said staple or eye, and one of the apertures in the arm E and the end of said cord secured to the lower bracket arm E' in an obvious manner. In either case, however, the operation of the device to close the door will be precisely the same.

My device is exceedingly simple and cheap of construction and effective in its operation.

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

The combination with a door and its casing, and a pair of brackets, one secured to the door and one to the casing, in vertical line with each other, and each provided with a horizontal projecting arm having a series of perforations therethrough, of a lever pivoted below the plane of said brackets and



having a weight adjustably secured to its  
free end, and a cord connected at its lower  
end to said weighted lever, and passing up  
through one of the perforations in each of  
5 the bracket arms and secured above this  
point, substantially as set forth.

In testimony that I claim the foregoing I

have hereunto set my hand at Milwaukee, in  
the county of Milwaukee and State of Wis-  
consin, in the presence of two witnesses.

WILLIAM E. MITCHELL.

Witnesses:

JOHN E. WILES,

C. W. SCOTT.