

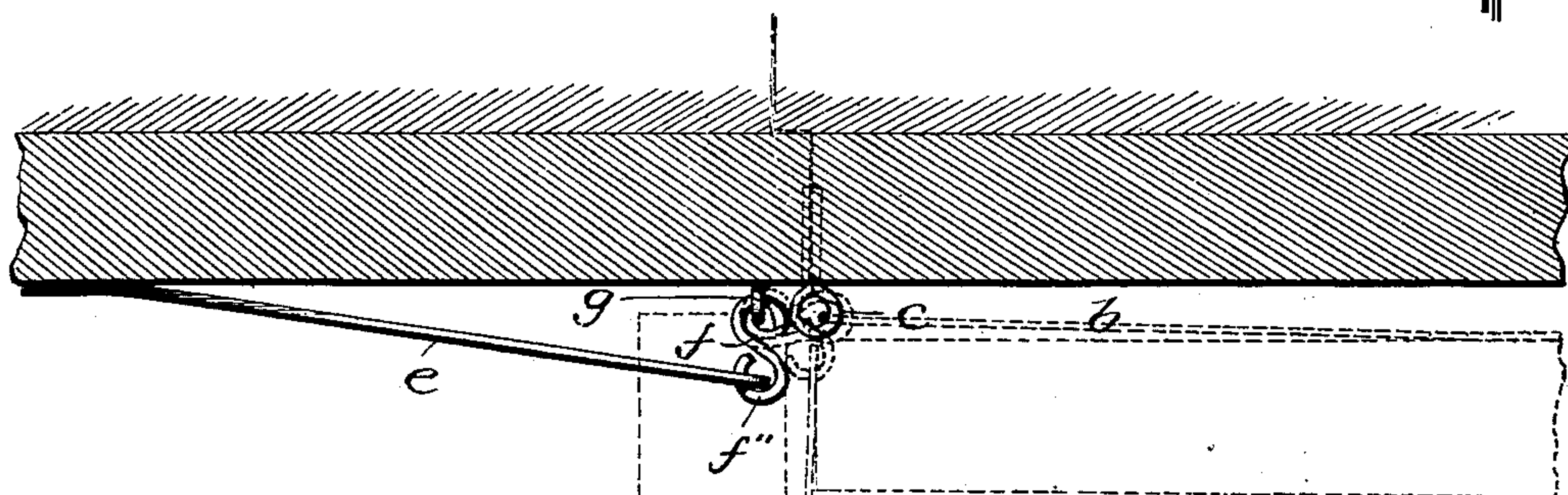
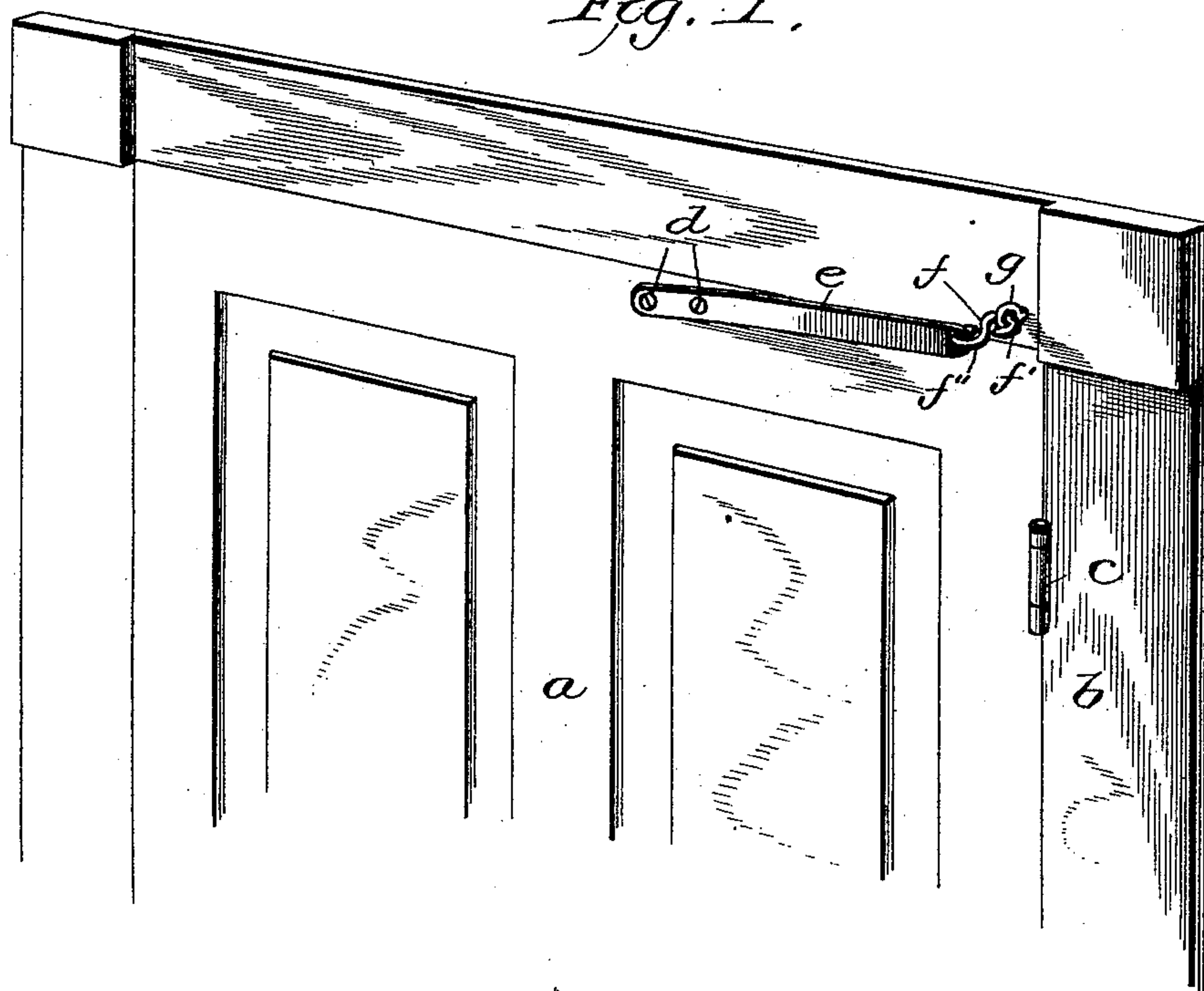
(No Model.)

H. PORTER.  
DOOR SPRING AND CHECK.

No. 602,645.

Patented Apr. 19, 1898.

*Fig. 1.*



*Fig. 2.*

Witnesses  
*Wm. J. Spidner.*  
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# UNITED STATES PATENT OFFICE.

HENRY PORTER, OF NEW YORK, N. Y.

## DOOR SPRING AND CHECK.

SPECIFICATION forming part of Letters Patent No. 602,645, dated April 19, 1898.

Application filed March 12, 1897. Serial No. 627,201. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY PORTER, a citizen of the United States, 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 I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide an exceedingly cheap, simple, easily-operated, and durable device for automatically cushioning, closing, or holding back swinging doors, windows, and similar structures.

To this end my invention consists in the peculiar features and combinations of parts more fully described hereinafter and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a top perspective view of my device, wherein the door to which it is attached is shown in closed position; and Fig. 2, a top view of my device with the door in closed position, dotted lines indicating the positions assumed by the parts when the door is thrown half and all the way back.

The reference-letter *a* indicates an ordinary house-door hung in a common rigid frame *b* upon hinges *c*. To the upper part of the door is attached by screws *d* a flat spring or elastic bar or arm *e*, which extends backward in the direction of the hinges, projecting outwardly and obliquely upward beyond the top of the door and terminating at a point on the frame portion lying inside the axis or hinges of the door, or, more explicitly, at a point over that portion of the frame lying between the axis of the door and its free end. The free end of the spring is connected with the frame by a hinge-like connection consisting of an S-shaped link *f*, the opposite ends of which pass through a screw-eye *g* on the frame at a point between the axis of the door and where the fixed end of the spring is attached. The screw-eye is placed on the frame so that the hook *f'* on the link will pass through it horizontally in order to allow the outer end of the link to swing in the arc of a

horizontal circle to the right or left over the axis of the door during the opening and closing movements of the latter. The free end of the spring should be so connected that the link will pull gently but constantly upon it in order to hold the door closed.

The preferred construction of my device having now been set forth, I will describe its operation.

If the door be closed, a slight pressure on it will be all that is necessary to start it open. A continuation of the pressure will cause the link to draw the end of the spring nearer to the door, at the same time carrying the end of the spring and outer end of the link horizontally from left to right around until they pass over the dead-center, or, in other words, over and behind the hinges or axis of the door, whereupon the direction of pull upon the spring will be reversed and transferred to the opposite side of the axis of the door to hold it open. During this movement the end of the spring-arm will turn as on a pivot in the outer hook *f''* of the link, and the inner hook *f'* will turn in the same way on the screw-eye *g*. Thus the free end of the spring-arm is connected to the frame portion of the door by a connection having two pivotal points.

While the preferred form of my device has been shown and described, yet it is evident that the structure could be infinitely varied in many slight ways that might suggest themselves to a skilled mechanic without departing from the scope and spirit of my invention.

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

1. The combination with a hinged door and its casing, of a plate-spring fixedly secured to and having its free end projecting away from the door, and a link secured to the free end of the spring and to a relatively-immovable object, such as the door-frame, the arrangement being such that the free end of the spring passes over and behind the axial line of the hinges of the door, whereby the door is closed and is held open, substantially as described.

2. The combination with a hinged door and its casing, of a plate-spring fixedly secured to and having its free end projecting away

from and above the top of the door, and a link secured to the free end of the spring and to a relatively-immovable object, as the door-frame, the arrangement being such that the  
5 free end of the spring passes over and behind the axial line of the hinges of the door, whereby the door is closed and is held open, substantially as described.

10 3. The combination with a hinged door and its frame, of a plate-spring having one end fixed on and movable with the door, and its free end projecting away from and beyond the edge of the door, a fastening device on

the door-frame, a link having hooked ends connecting the free end of the spring with a  
15 fastening device, the parts being so relatively located that the free end of the spring passes behind the axial line of the hinges of the door, substantially as described.

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

HENRY PORTER.

Witnesses:

R. S. WARFIELD,  
R. G. DU BOIS.