

No. 611,997.

Patented Oct. 4, 1898.

J. M. GILLIHAN.

DOOR SPRING.

(Application filed Feb. 18, 1897.)

(No Model.)

Fig. 1.

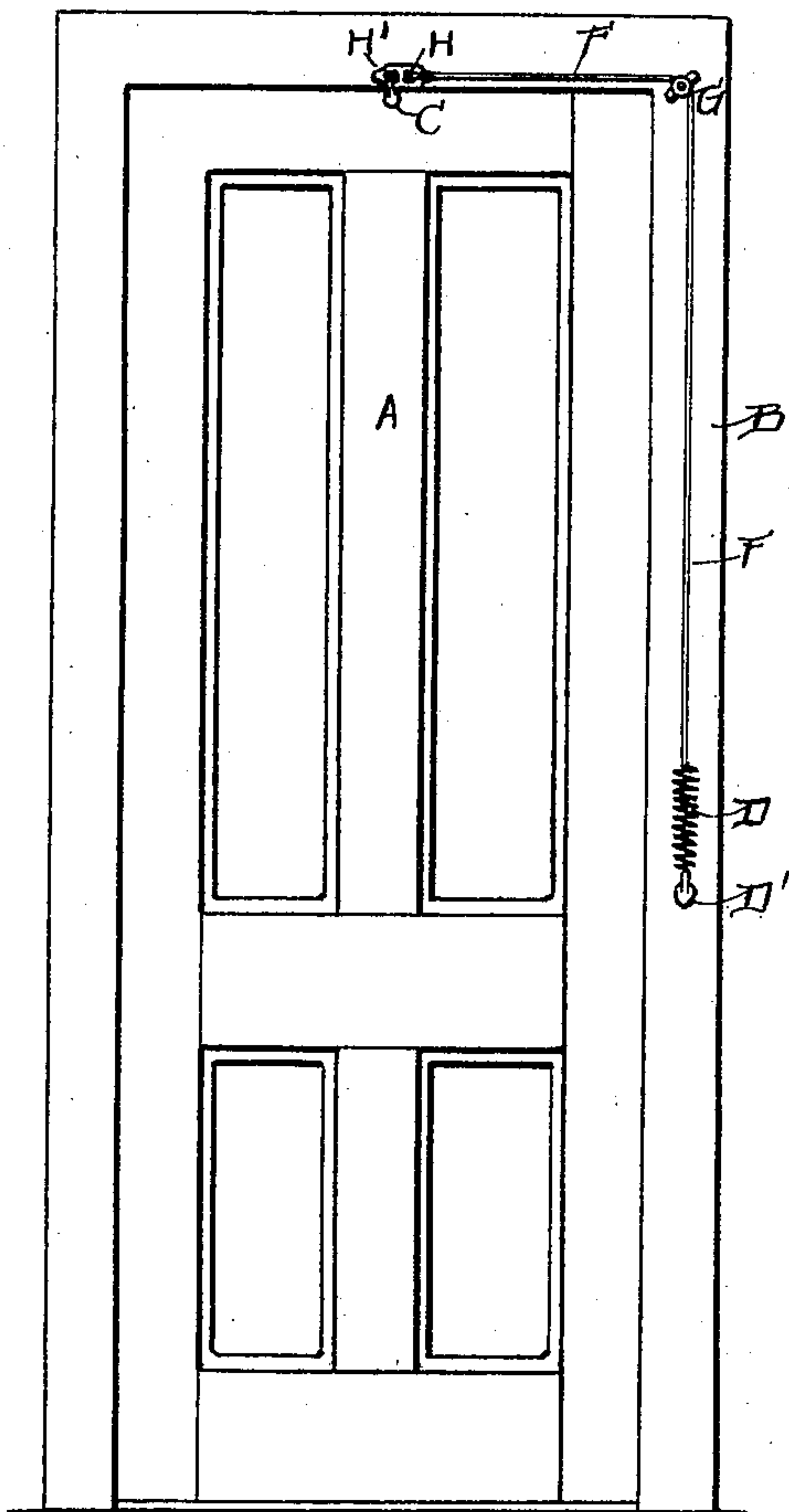


Fig. 2.

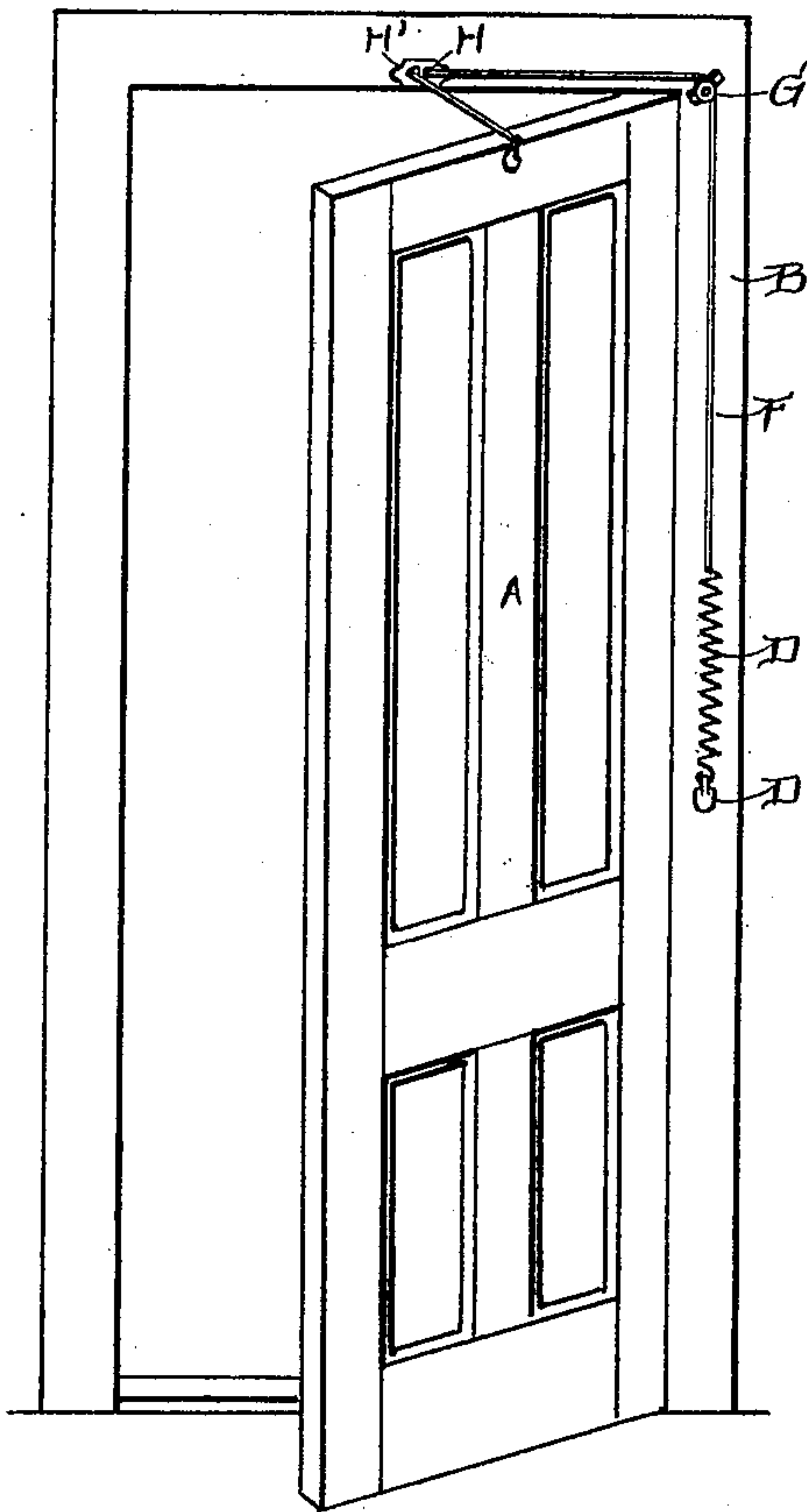


Fig. 3.

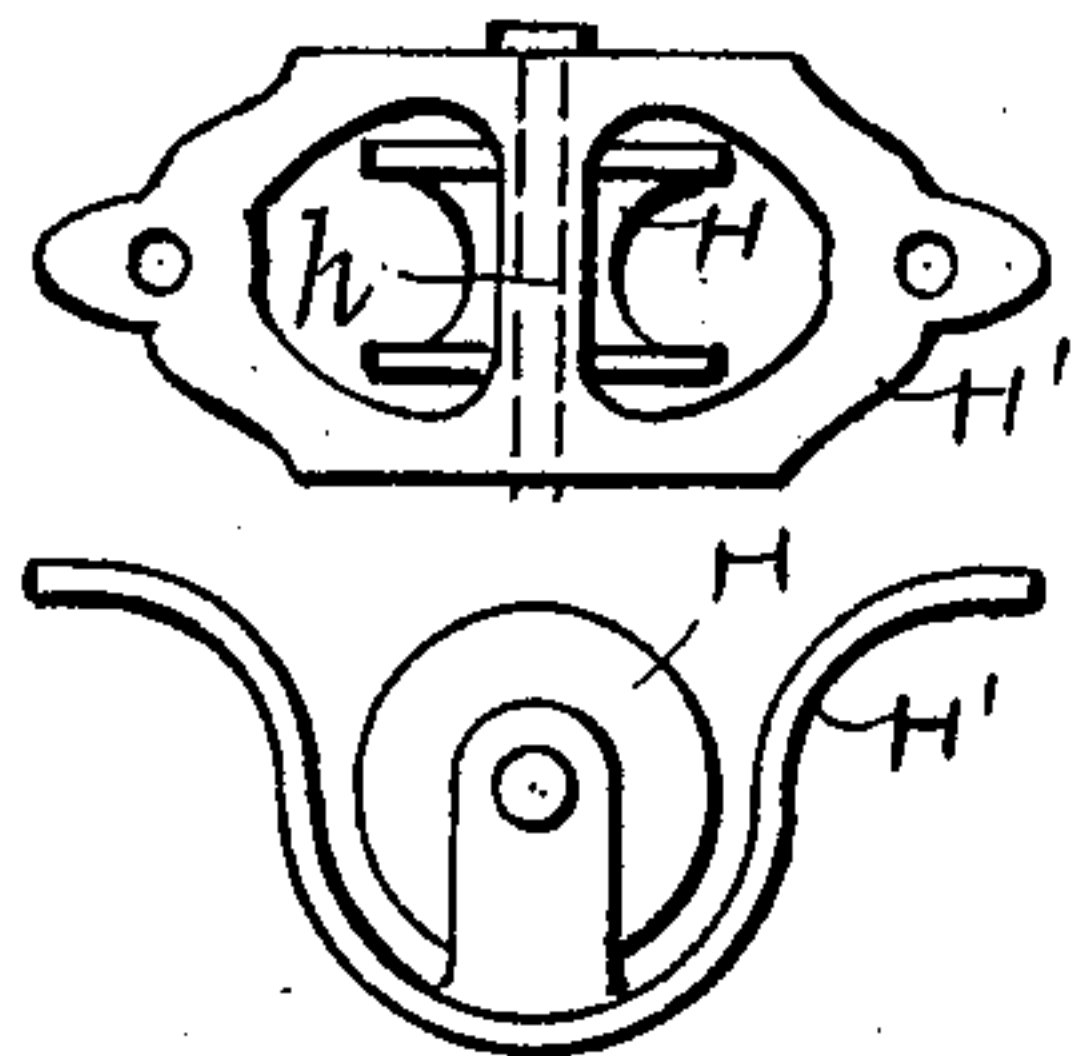
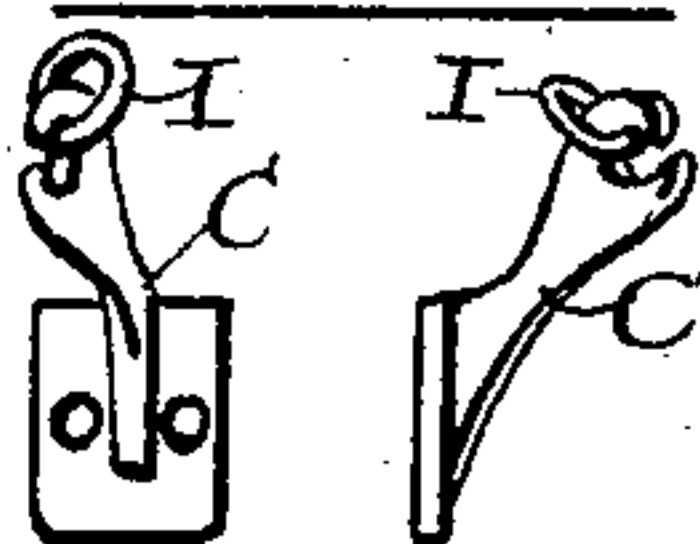


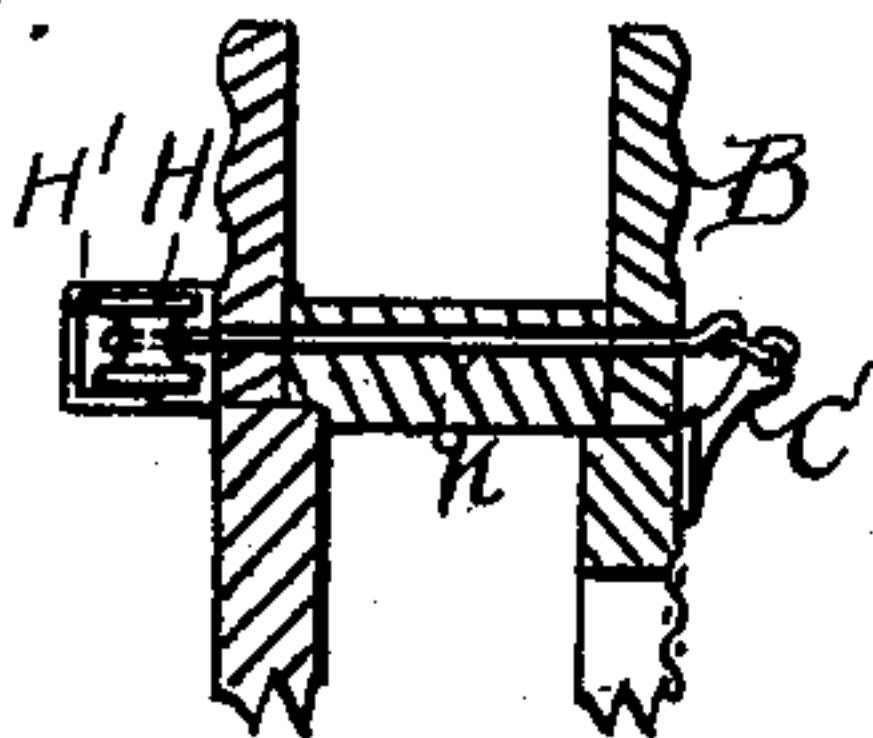
Fig. 4.



Witnesses.

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Fig. 5.



Inventor.

J. M. Gillihan  
by E. W. Anderson  
his Attorney.

# UNITED STATES PATENT OFFICE.

JAMES M. GILLIHAN, OF OLATHE, KANSAS, ASSIGNOR OF ONE-HALF TO  
A. SMITH DEVENNEY, OF SAME PLACE.

## DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 611,997, dated October 4, 1898.

Application filed February 18, 1897. Serial No. 624,042. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. GILLIHAN, a citizen of the United States, and a resident of Olathe, in the county of Johnson and State of Kansas, have invented certain new and useful Improvements in Door-Closing Devices; 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.

Figure 1 of the drawings is a representation of a front view of the invention as applied with door closed. Fig. 2 is a perspective view of same with door partly open. Fig. 3 shows detail views of pulley H and bracket. Fig. 4 illustrates the hook C in detail. Fig. 5 is a sectional view showing modification of invention.

This invention is designed to provide a spring-actuated door-closing device of improved character; and it consists in the novel construction and combination of the parts thereof, all as hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, the letter A designates a door to which I have shown my invention applied, and B is the casing thereof.

C designates a hook which is secured to the door at a point near its upper edge and about midway between its vertical edges. Said hook extends obliquely upward and forward toward the front edge of the door and is of open form.

D designates a helical spring, which is connected at its lower end to a plate D', secured to the rear jamb of the casing.

F is a cord or its equivalent which is connected at its lower end to the said spring and which extends up along the jamb to the upper rear corner of the casing, where it passes over a small pulley or roller G, thence forward above the upper edge of the door to a point above the hook C, where it passes behind and

partially around a second pulley or roller H. Said pulley or roller is journaled in a plate or bracket H', which is secured to the casing. This bracket has an arched central portion, perforated end portions, and lugs h, which extend inwardly from the lateral edges of the arched portion and provide bearings for the pulley or roller H. From this roller or pulley the cord passes to the hook C, to which it is connected by means of a ring or loop I.

When the door is opened, the pull on the cord F causes a distension of the spring D, the recoil of which acts to close the door as soon as the latter is released. The action of the spring, it will be seen, is a direct action as distinguished from a torsional action.

As above described the device is arranged for use in connection with inside doors or doors which open to the inside. For outside doors, such as screen-doors which open outward, the parts are arranged in a similar manner, except that the cord F is passed around the opposite side of the pulley or roller H, and thence out through an aperture K in the casing to the hook C. This arrangement is illustrated in Fig. 5. In order to properly guide and hold the cord when so arranged, the plate or bracket H' has a cross-bar h.

When it is not desired to use the device, the ring or loop I may be slipped from engagement with the hook C.

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

1. The combination with a door and its frame, of a cord or the like attached at one end to the upper central portion of the door, a bearing-pulley secured to the top of the frame in vertical and horizontal alinement with the point of connection of the cord with the door, a second bearing-pulley at the corner of the frame adjacent to the upper hinged corner of the door, and a spring connected to the frame at one end adjacent to the rear edge of the door, said cord passing from the door over the said pulleys and thence down to said spring to the free end of which it is connected, substantially as specified.

2. In a door-closing device, a cord-bearing  
device, comprising a bracket having an arched  
central portion, perforated end portions and  
lugs extending inwardly from the lateral  
5 edges of its arched portion, and a flanged pul-  
ley journaled in said lugs within said arched  
portion, substantially as specified.

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

JAMES M. GILLIHAN.

Witnesses:

HENRY A. TAYLOR,  
MARTIN V. B. PARKER.