

(No Model.)

R. HICKS.  
DOOR SPRING.

No. 350,535.

Patented Oct. 12, 1886.

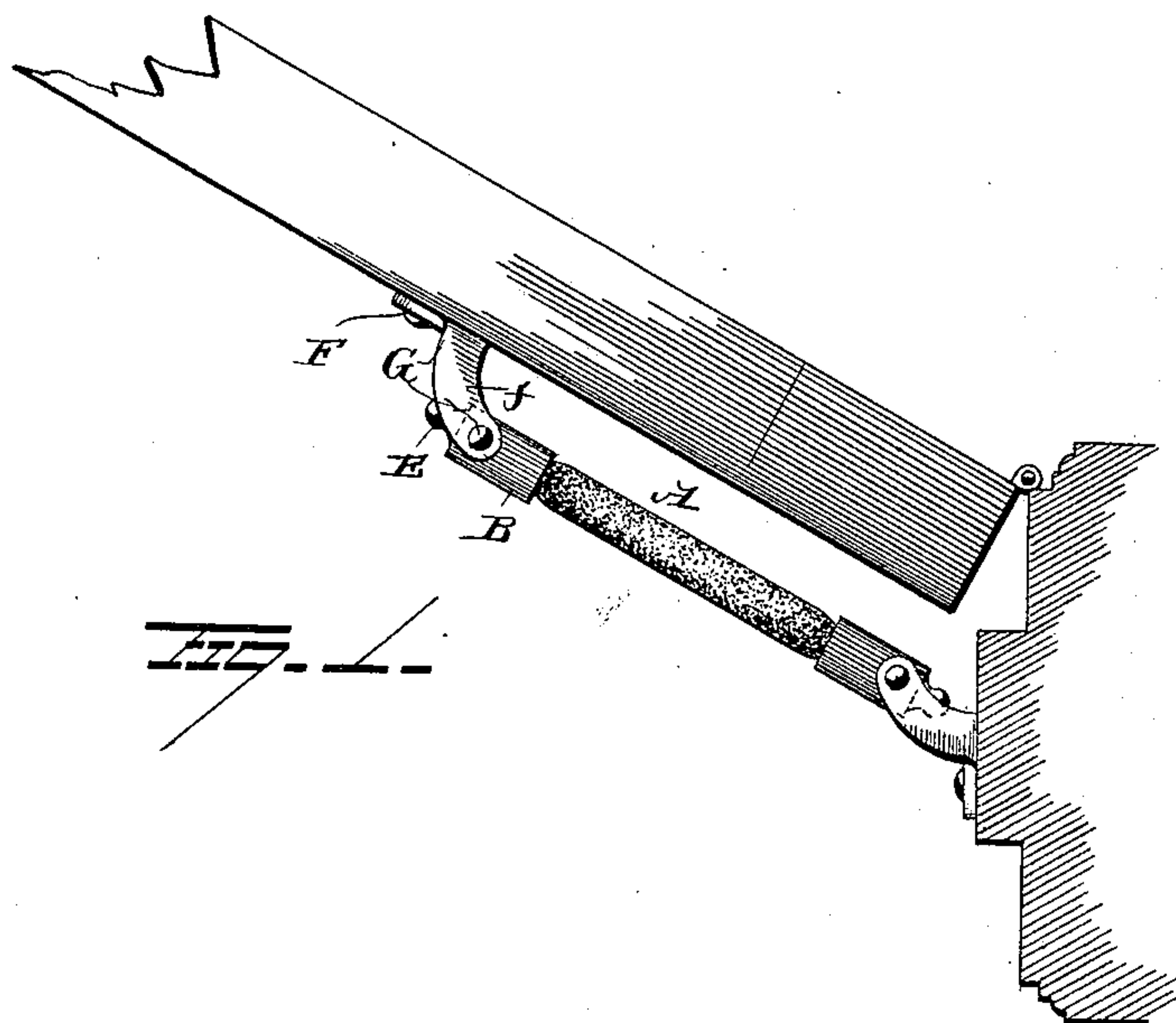


FIG. 1

FIG. 2

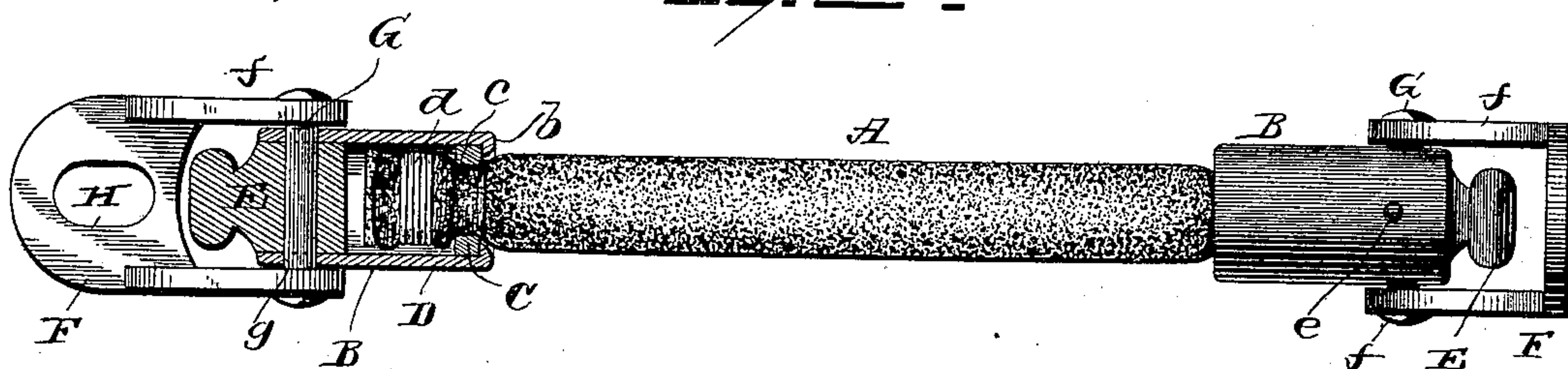
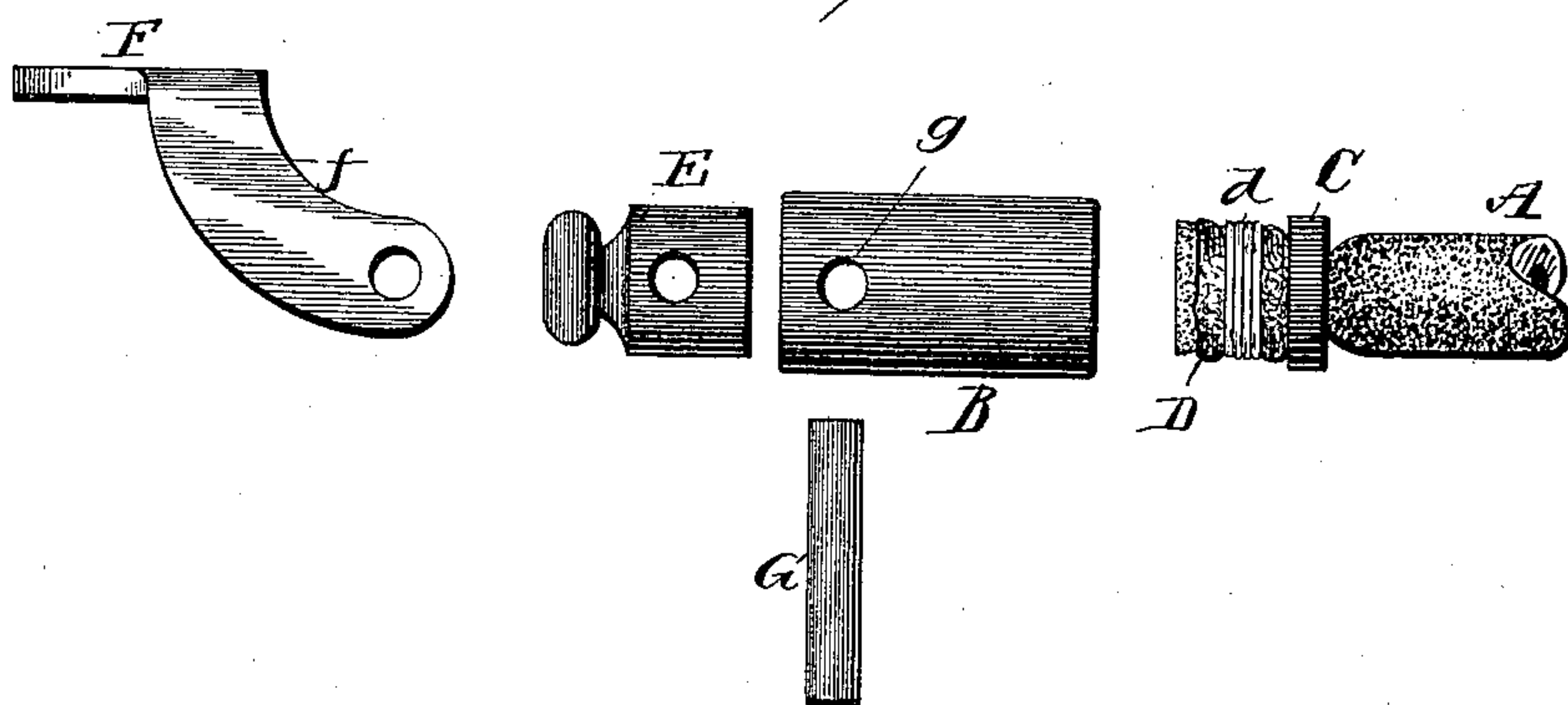


FIG. 3



WITNESSES  
*W. Nottingham*  
*H. E. Jones*

INVENTOR  
*R. Hicks*  
By *W. A. Symmons*  
Attorney



# UNITED STATES PATENT OFFICE.

RATCLIFFE HICKS, OF NEW YORK, N. Y., ASSIGNOR TO THE CANFIELD RUBBER COMPANY, OF BRIDGEPORT, CONNECTICUT.

## DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 350,535, dated October 12, 1886.

Application filed August 17, 1886. Serial No. 211,135. (No model.)

*To all whom it may concern:*

Be it known that I, RATCLIFFE HICKS, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Door-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 an improvement in door-closers.

The object is to provide a neat, effective, and durable device for closing all sizes and weights of doors, and which may be manufactured at a low initial cost.

With these ends in view my invention consists in an elastic rod or band pivotally secured at each end to a securing-bracket.

My invention further consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of the door-closer attached to the door and door-jamb in position for use. Fig. 2 is a partial longitudinal section showing the construction of the closer at one of its ends; and Fig. 3 represents these several parts detached and as they appear before they are connected.

A represents an elastic rod or band. It is preferably constructed of rubber and of circular form in cross-section. A piece of heavy rubber tubing answers the purpose well, and is the form represented in the drawings. It might, however, be successfully made of a solid piece of rubber, and might be of other forms than circular in cross-section. The length of the elastic rod or band A would naturally depend upon the distance at which it is found expedient to secure it from the hinge edge of the door, and the distance which it would be obliged to stretch to afford the door the ordinary or necessary opening; but in general it should be about six inches long.

The ends of the band or rod A are each secured within a ferrule, B, as follows: The end of the elastic band or rod is compressed and forced through a contracted opening, *c*, in a washer or securing-head, C, and the end which projects through the said washer or securing-head is then snugly bound by a band, D, of

some soft material which will not tend to cut the rubber or other elastic material. In the present instance the end has a piece of plush cloth wrapped around it and held in position by one or more strands of wire, *d*, which snugly embrace it. The end is thus prevented from being withdrawn from the washer or securing-head, be the strain as great as it may. The washer or securing-head C and projecting end of the band or rod A are then inserted in the end of the ferrule B, and the end of the ferrule upset, as shown at *b*, thereby preventing the washer or securing-head from drawing out; or the ferrules B, with their adjacent ends previously upset, may be slipped over the ends of the elastic band or rod A before the washers or securing-heads are attached, and the washers or securing-heads may then be attached, as above explained, and the ferrules be then drawn outwardly into positions over the ends with the edges of the washers in contact with the upset ends of the ferrules.

To form a neat finish and prevent the rattling of the washer within the ferrule, and also to prevent the accumulation of dust and dirt, the outer ends of the ferrules are provided with plugs or stoppers E, having knobs on their outer ends, or their outer ends might be rounded or pointed. A small pin, *e*, inserted through the side of the ferrule into the plug, serves to hold it firmly in position. The ferruled ends of the elastic band or rod are then pivotally secured between the arms *f* of the securing-bracket F by means of a bolt or rivet, G, which extends loosely through a perforation, *g*, in the ferrule and plug, and has its ends secured in the arms *f*. The bases of the brackets are provided with perforations H, preferably elongated, as shown, for the reception of the securing screw or nail.

The device as thus constructed has a neat and rather ornamental than otherwise appearance, and is free from the squeaking sounds which are liable to attend the use of metallic springs.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention; hence I do not wish to limit myself strictly to the construction herein set forth; but,



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

1. In a door-closer, the combination, with  
5 washers or securing-heads, an elastic rod or band having its ends passed through contracted openings formed in said washers or securing-heads, and means for locking the washers on the rod or band, of ferrules adapted  
10 to surround the ends of the elastic rod or band and lock the washers or securing-heads to the securing-brackets, substantially as set forth.

2. In a door-closer, the combination, with a securing-washer, an elastic rod or band having  
15 its end drawn through an opening in said securing-washer, and provided with a band on the end drawn through the washer, of a ferrule adapted to conceal the bound end of the elastic rod or band and secure the washer to a

pivotal bolt on the bracket, substantially as set forth. 20

3. The door-closer consisting, essentially, of the elastic rod or band having its ends secured in washers, substantially as described, the ferrules having their adjacent ends upset and  
25 their opposite ends plugged, and the securing-brackets with their pivotal bolts or rivets adapted to secure the ferruled ends of the elastic rod or band to the brackets, the whole constructed and arranged substantially as set forth. 30

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

RATCLIFFE HICKS.

Witnesses:

BERNARD P. KERNAN,  
OTTO LADDEY.