

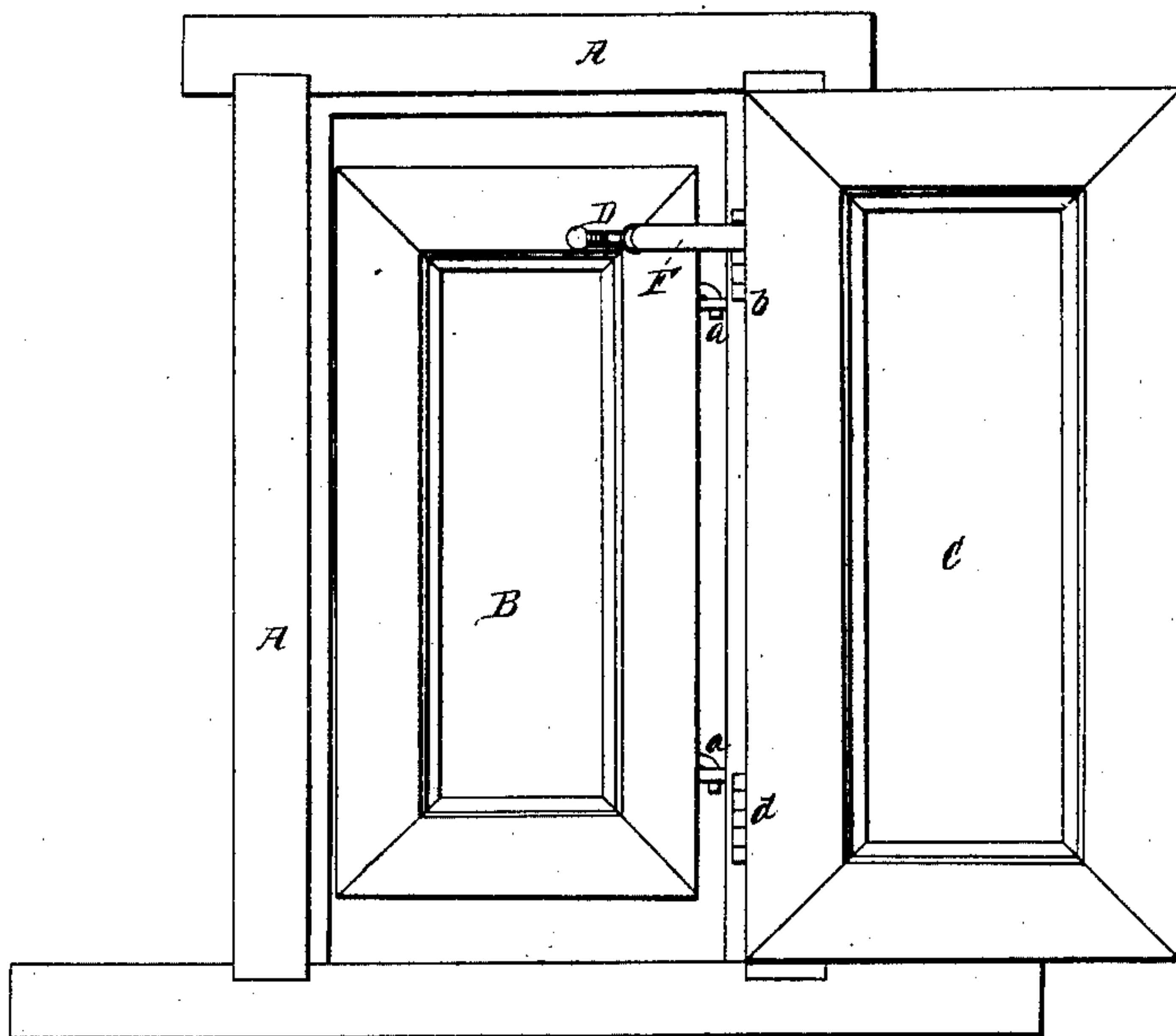
*Boyd & Belford,*

*Door Spring.*

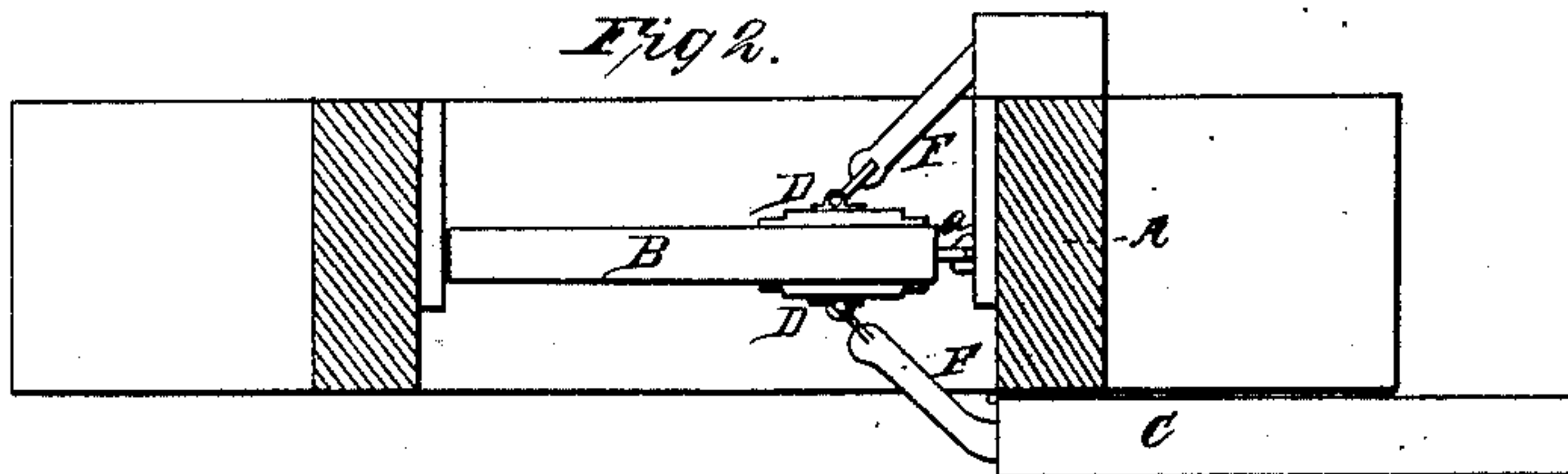
*N<sup>o</sup> 30,383.*

*Patented Oct. 16, 1860.*

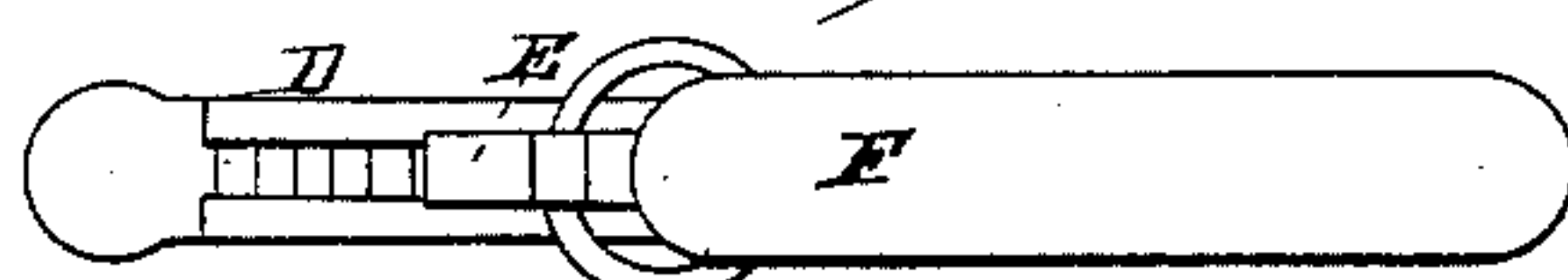
*Fig 1.*



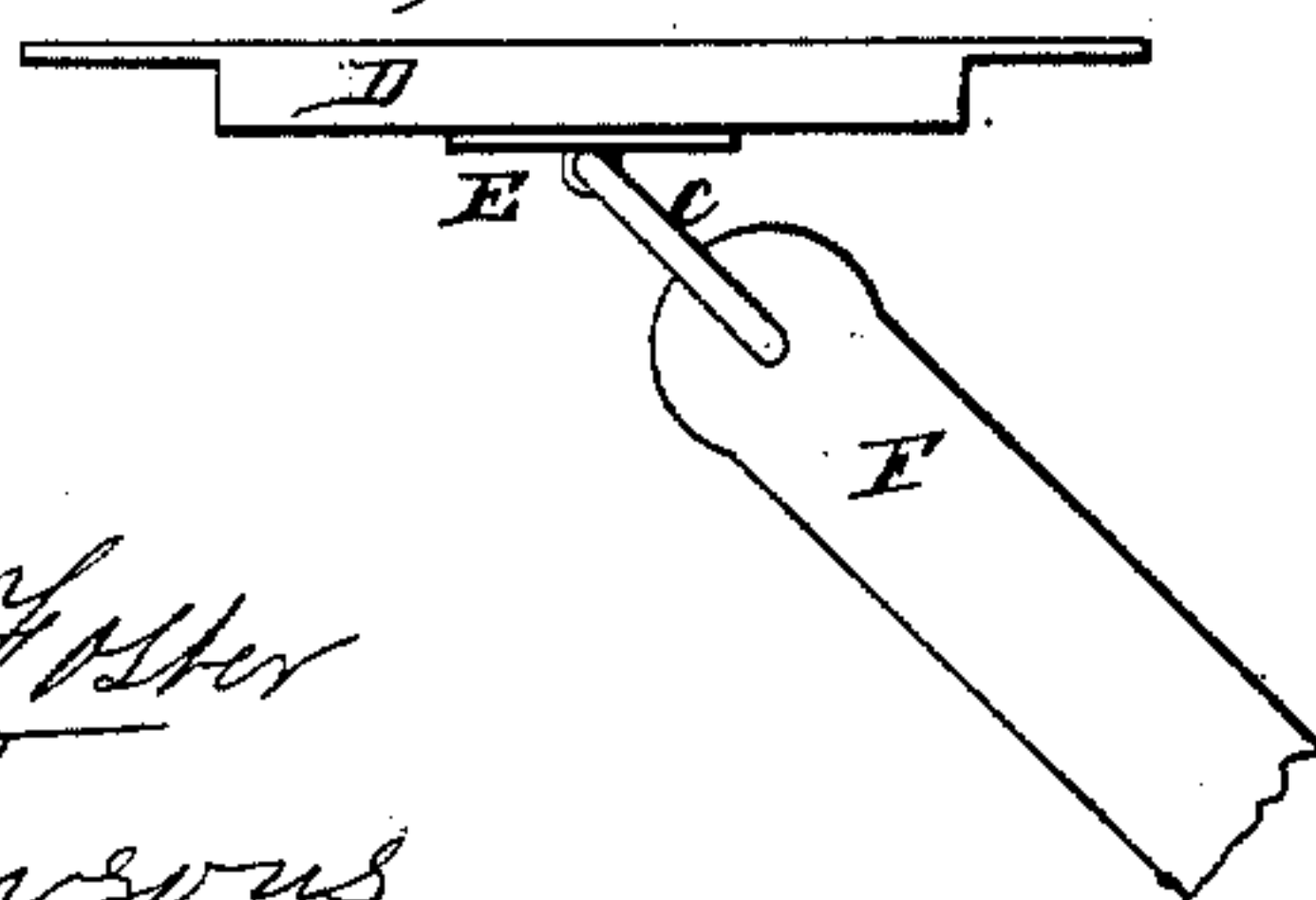
*Fig 2.*



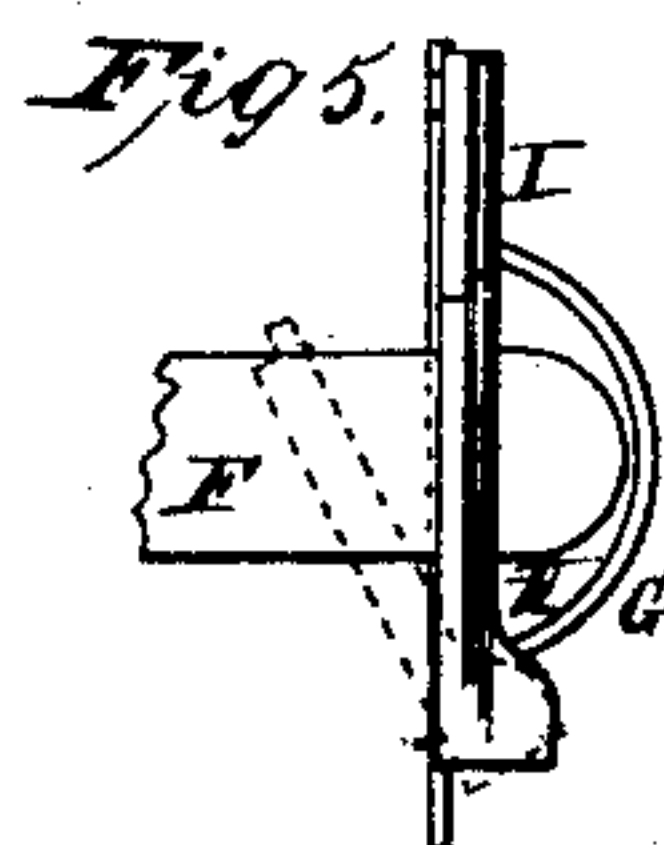
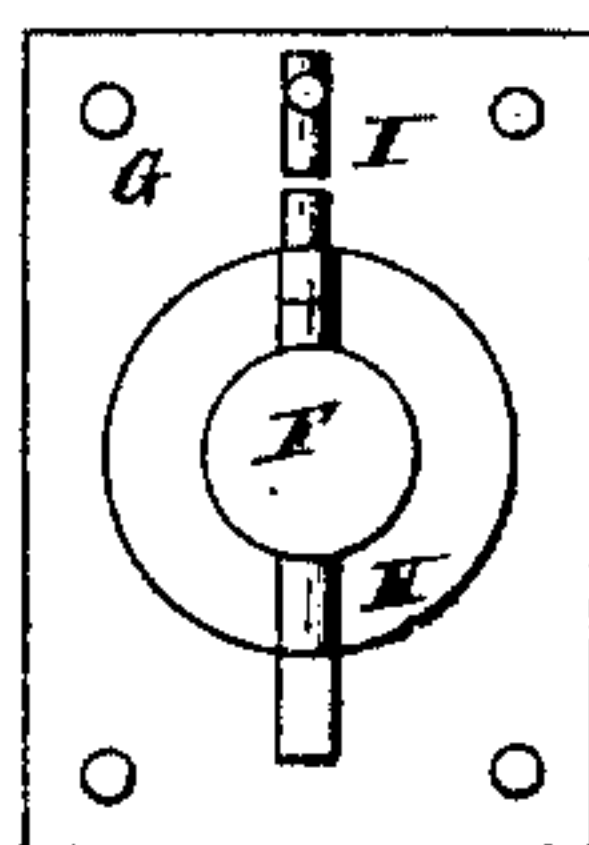
*Fig 3.*



*Fig 4.*



*Fig 6.*



*Witnesses.*

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Atty Henry Howson*

# UNITED STATES PATENT OFFICE.

JAMES BOYD AND JAMES BELFORD, OF PHILADELPHIA, PENNSYLVANIA.

## DOOR-SPRING.

Specification of Letters Patent No. 30,383, dated October 16, 1860.

*To all whom it may concern:*

Be it known that we, JAMES BOYD and JAMES BELFORD, both of the city and county of Philadelphia and State of Pennsylvania, have invented a new and Improved Spring Attachment for Doors; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

Our invention consists in the combination of two springs with a door so hung as to be opened in either direction, the said springs being rendered adjustable on the door, connected to the door frame, and otherwise arranged in the manner described hereafter, so as to restore the door to its closed position after it has been opened, and so that either of the springs may be readily tightened.

Our invention further consists of a device for retaining the said springs and setting them at liberty at pleasure.

In order to enable others to make and use our invention we will now proceed to describe its construction and operation.

On reference to the accompanying drawing which forms a part of this specification Figure 1 is a front view of a door frame and door with our improved spring attachment. Fig. 2 a plan view with the upper part of the door frame removed, Figs. 3 and 4 enlarged views illustrating the mode of connecting the springs to the door. Figs. 5 and 6 enlarged views showing the method of connecting the springs to the door frame or door.

Similar letters refer to similar parts throughout the several views.

A represents the door frame, B a door hinged to the frame at *a a* and C a door hinged to the frame at *b b*. This door C is that which is used for locking or otherwise fastening to the door frame when the entrance has to be secured against intruders, the door B (sometimes termed a summer door) being used when the other door is thrown back and when, as in public buildings, hotels, &c., a constant entrance and exit through the doorway demands an arrangement whereby the door can be readily opened in either direction.

On each side of the door B and near the upper end of the same is secured a plate D in which slides a block E having a spring

arranged to catch into notches on the plate, after the manner of the device usually employed for adjusting the cords of window blinds. A spring F of gum elastic is secured by means of a ring *c* to the block E, the opposite end of the spring being secured to the door frame in the following manner: A plate G having a concavity best observed on reference to Fig. 5 is secured, on one side to the frame and on the opposite side to the edge of the door C, at the point where it is desirable to attach the spring. A bar H is so hinged to this plate that it can be turned down to the position shown in red lines Fig. 5 when not retained by a bolt I which is arranged to slide vertically in the plate G so that when depressed it overlaps and retains the bar H, but when elevated releases the bar and allows it to assume the position shown in red lines, when the pierced end of the gum elastic spring is slipped over the bar after which it is raised and held by depressing the bolt I, the projecting end of the spring taking its place in the concavity the opening of the door. Should it be desirable to retain the latter partially open of the plate G.

When the springs are properly tightened on both sides by adjusting their blocks E in the plates D the door will occupy the position shown in Fig. 2 and in whatever direction this door may be opened, it will, when released be pulled back by the contractile force of one or other of the springs which had been previously stretched during the block E may be so adjusted that one spring shall be stretched more than the other when the door will occupy an inclined position which it will resume after the door has been opened and released.

When the door C has to be closed the spring which would otherwise interfere with it is disconnected by simply raising the latch I, depressing the bar H and withdrawing the end of the spring from the said bar.

Without claiming broadly a spring fastened at one end to the door frame and at the other end to the door for the purpose of closing the latter after it has been opened, we claim as our invention and desire to secure by Letters Patent—

1. The combination of the two springs F with the door B, when the said springs are arranged as set forth, and when they are rendered adjustable on the door by the de-



vices herein described or their equivalents  
for the purpose specified.

2. The plate G with its hinged bar H and  
bolt I when constructed and applied for the  
5 retention and release of the spring as set  
forth.

In testimony whereof, we have signed our

names to this specification, in the presence  
of two subscribing witnesses.

JAMES BOYD.  
JAS. BELFORD.

Witnesses:

HENRY HOWSON,  
CHAS. HOWSON.