

T. W. HILL.  
Door-Spring.

No. 213,199.

Patented Mar. 11, 1879

Fig. 1.

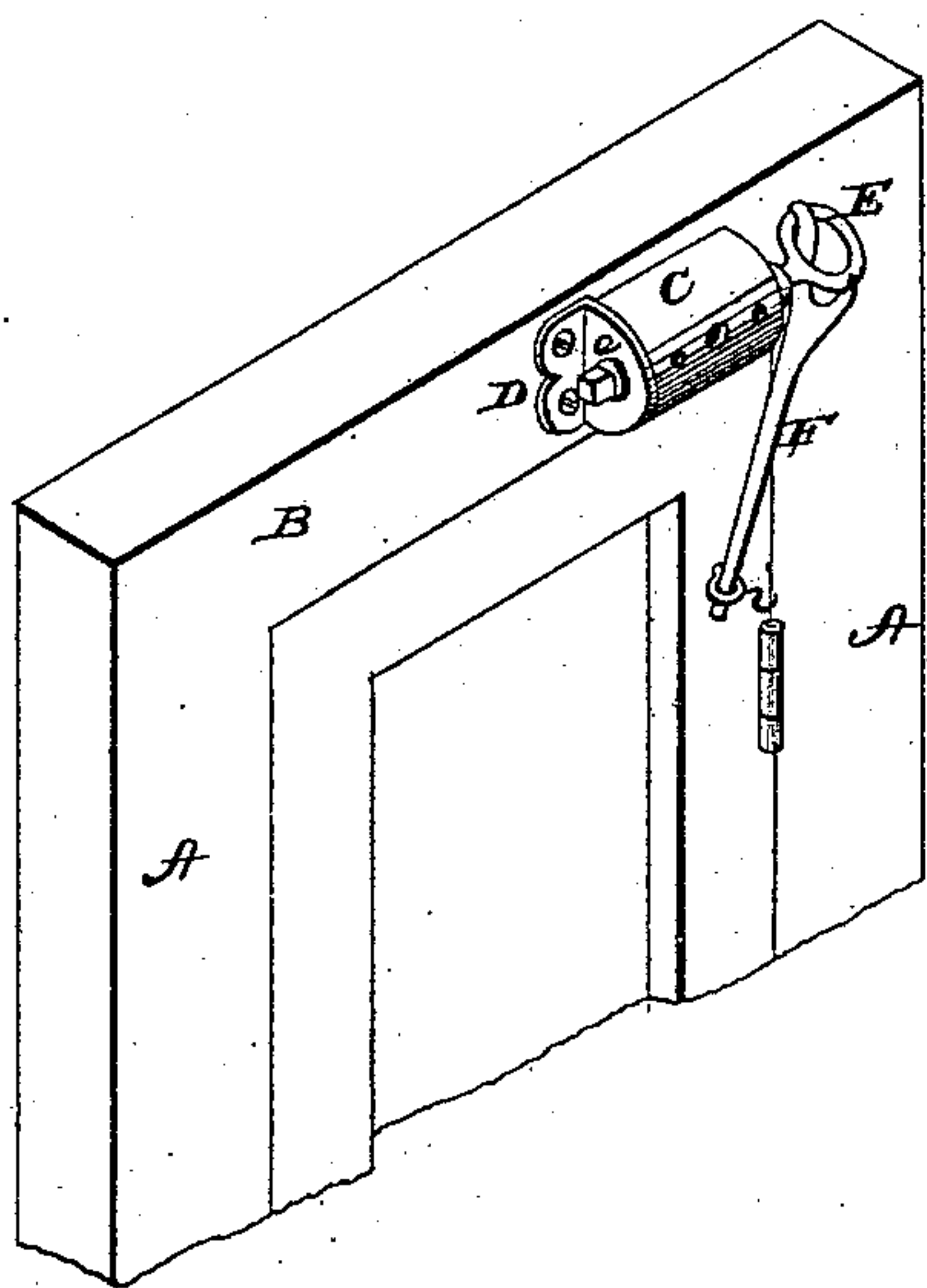


Fig. 2.

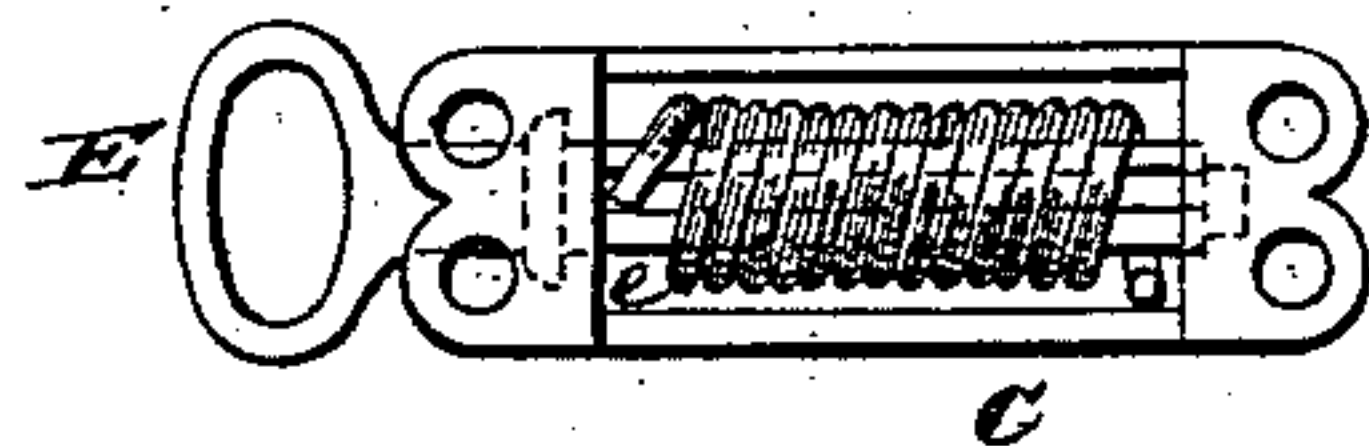
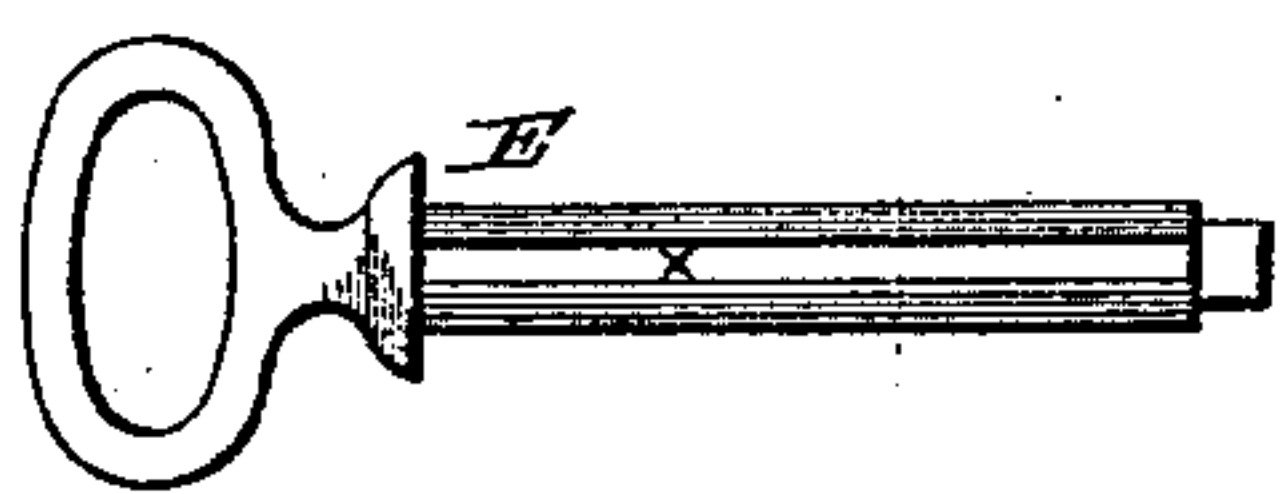


Fig. 3.



WITNESSES

Frank L. Conrad  
[Signature]

INVENTOR

Thomas W. Hill  
[Signature]  
ATTORNEYS

# UNITED STATES PATENT OFFICE.

THOMAS W. HILL, OF ST. CHARLES, MINNESOTA, ASSIGNOR OF ONE-HALF  
HIS RIGHT TO GEORGE P. MILLIS, OF OSCEOLA, IOWA.

## IMPROVEMENT IN DOOR-SPRINGS.

Specification forming part of Letters Patent No. **213,199**, dated March 11, 1879; application filed  
February 1, 1879.

*To all whom it may concern:*

Be it known that I, THOMAS W. HILL, of St. Charles, in the county of Winona, and in the State of Minnesota, have invented certain new and useful Improvements in Door-Springs; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the peculiar construction and arrangement of a device to be attached to doors for closing the same, as will be hereinafter more particularly described.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, making part of this specification, Figure 1 represents a perspective view of a portion of a door-frame with device attached. Figs. 2, 3, and 4 are views of detached portions.

In the figures, A represents the frame of a door. To the upper cross-piece, B, of the frame is secured a metallic box, C. Through this box is passed a shaft, E, and around this shaft is placed a coiled spring, *e*.

The shaft E is square at one end, and provided with a loop at the other. It is also grooved its entire length on two sides. It is made square at the end, so that a wrench may take hold of it to regulate the tension of the spring; and it is provided with a loop, so that a lever may catch into it for connecting it to the door.

One end of the coiled spring is bent so that

it will enter one of the grooves in the shaft, while the other end of said spring catches against the side of the case or box.

It will readily be seen that the shaft can be reversed without removing the spring when it is desirable to change the box from a right to a left hand door.

F represents a lever, one end of which catches in a loop or eye which is secured to the door. The other end of the lever is provided with two prongs, *d* and *a*. The prong *d* forms a hook, while a socket is formed in the end of the prong *a*. The prong *d* catches into the loop upon shaft E on one side, while the other side of said loop rests in the socket of prong *a*.

When the door is being opened these two prongs, acting upon shaft E, cause torsion of the spring *e*, and the tendency is to force it closed, as is usual in this class of springs.

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

In combination with the box C and pronged lever F, the shaft E, with loop at one end, square at the other, and provided with two or more grooves, and surrounded with the coiled spring *e*, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of January, 1878.

THOS. W. HILL.

Witnesses:

H. W. GAGE,  
THOMAS MICHELL.