

No. 646,223.

Patented Mar. 27, 1900.

F. & H. F. KEIL.
DOOR SPRING.

(Application filed Aug. 31, 1899.)

(No Model.)

Fig. 1.

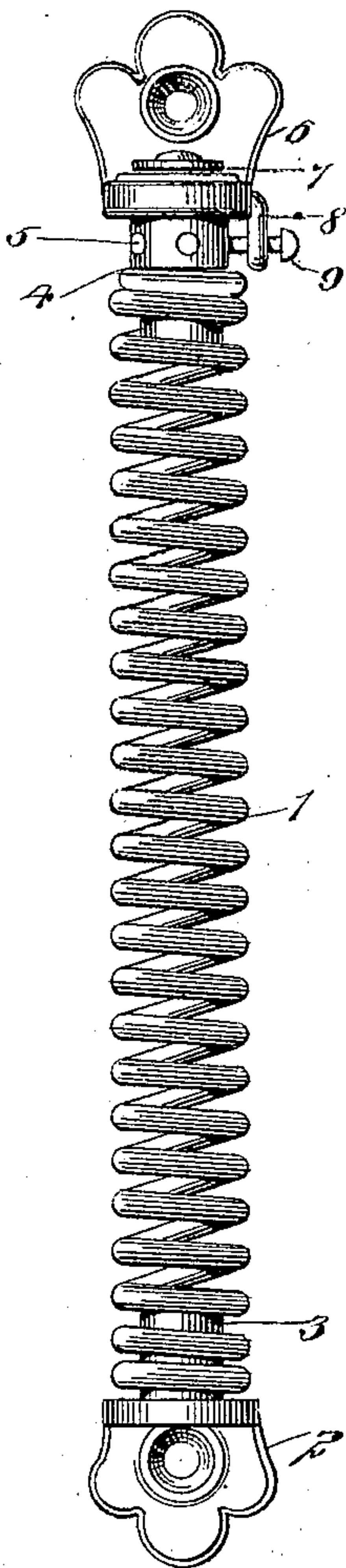


Fig. 3.

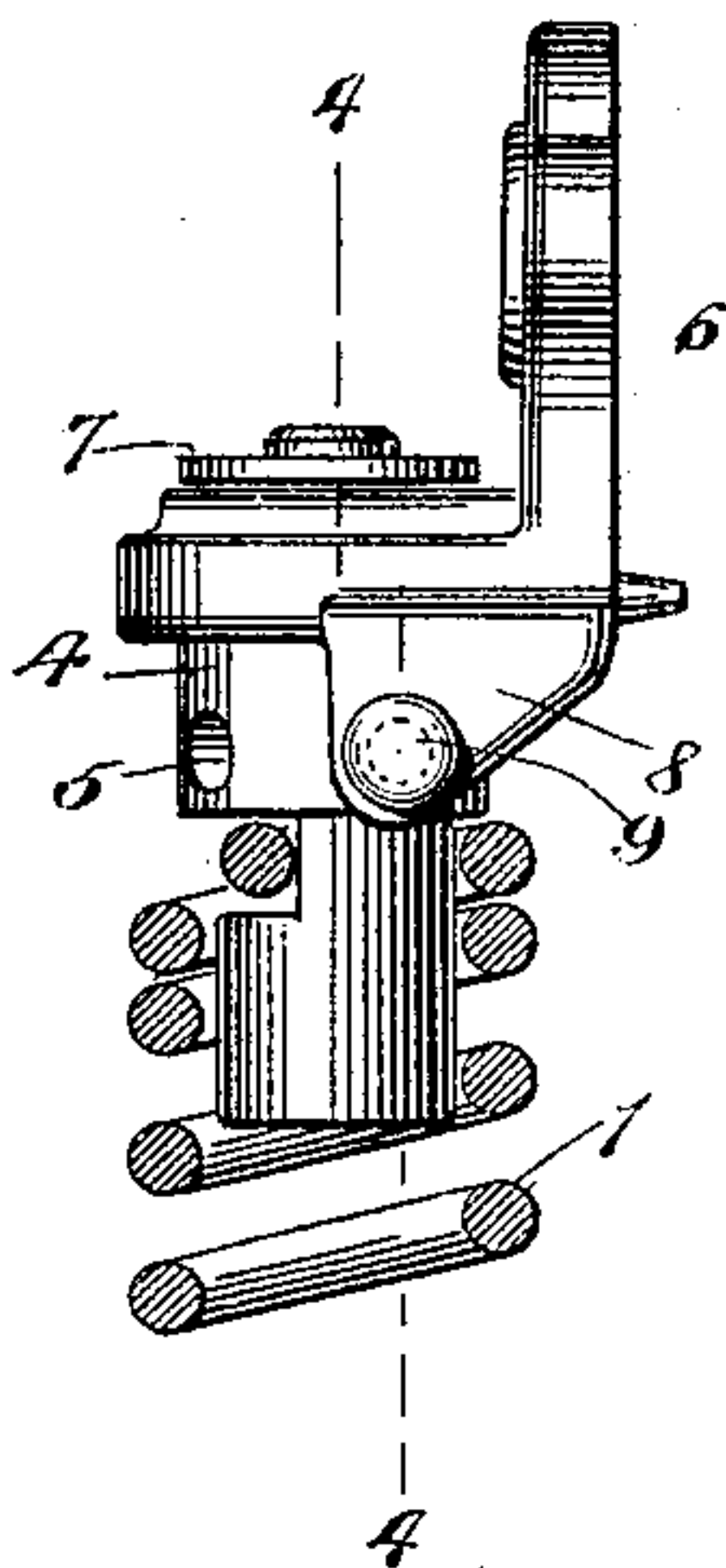


Fig. 4.

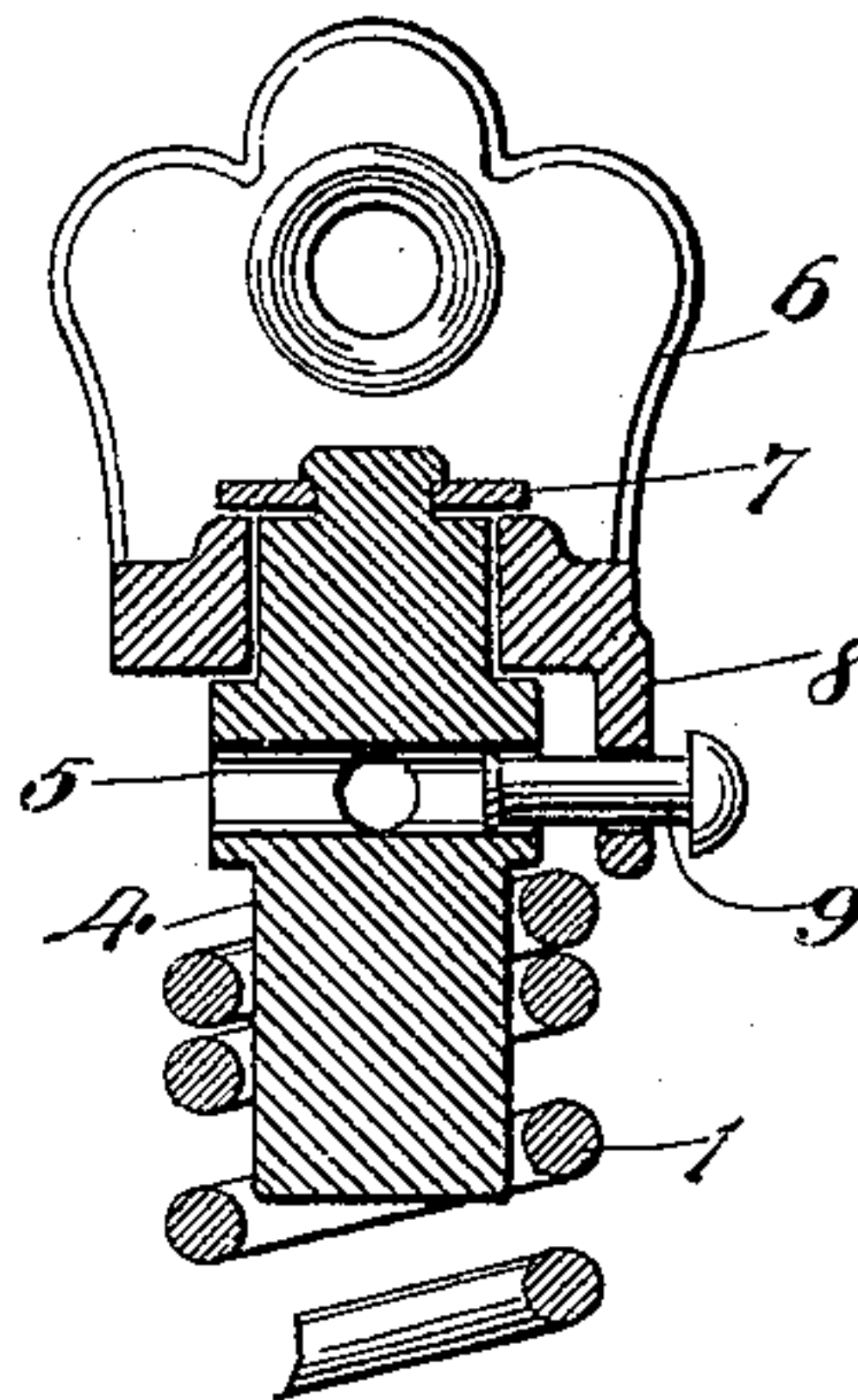
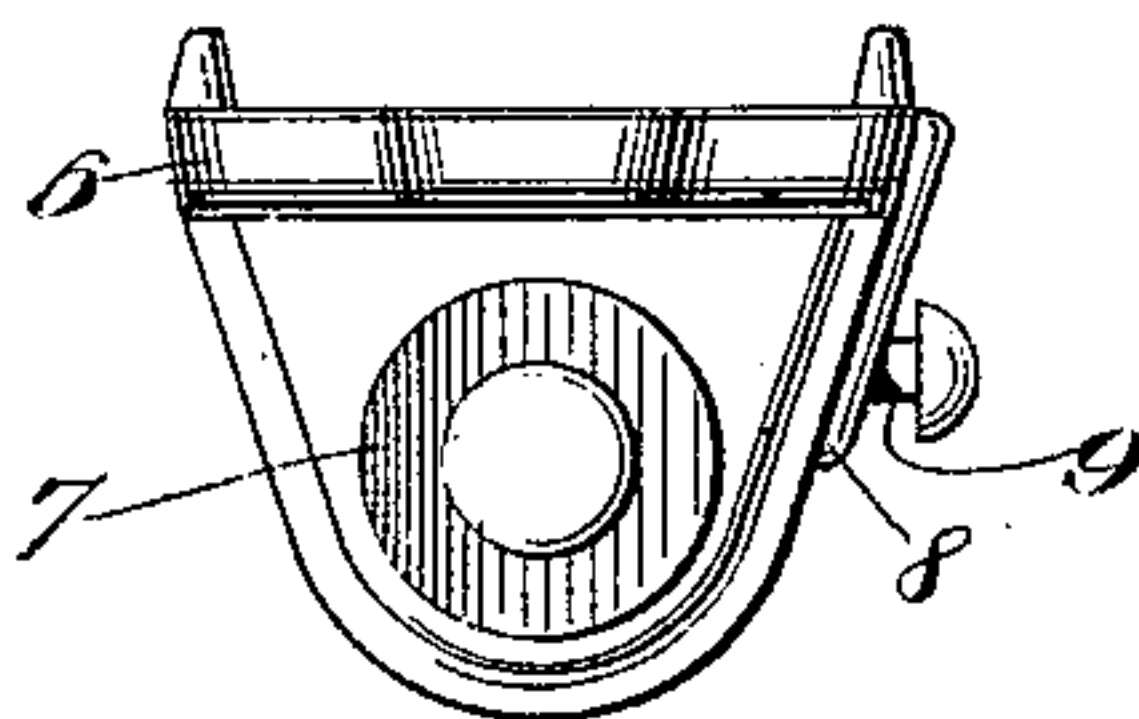


Fig. 2.



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DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 646,223, dated March 27, 1900.

Application filed August 31, 1899. Serial No. 729,038. (No model.)

To all whom it may concern:

Be it known that we, FRANCIS KEIL and HENRY FRANCIS KEIL, of the city of New York, borough of Bronx, in the county of New York and State of New York, have invented a new and Improved Door-Spring, of which the following is a full, clear, and exact description.

This invention relates to improvements in spring closing devices for doors or gates of the class in which a spiral spring is rigidly attached at one end to a bracket and at the other end has rotative connection with a bracket, so that the tension of the spring may be adjusted. In these springs as ordinarily constructed the block secured to one end of the spring is extended through a bracket in which it may rotate, and the portion extended above the bracket is made angular or is provided with a channel to receive the head of a pin inserted in a hole in the bracket in order to hold the spring under its adjusted tension. These pins are wholly detachable from the bracket and sometimes work out and are lost, and sometimes such pins are dropped and lost by a person while placing a spring on a door, thus resulting in inconvenience and loss of time in applying the spring to the door.

The object of our present invention is to avoid the above difficulties by so constructing the device that the holding-pin cannot be wholly detached by accident.

We will describe a door-spring embodying our invention, and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a door-closing spring embodying our invention. Fig. 2 is a top view. Fig. 3 is a partial section and partial side elevation, and Fig. 4 is a section on the line 4 4 of Fig. 3.

Referring to the drawings, 1 designates the spring, connected at one end to a bracket 2 by means of a block 3, extended through said bracket into the end of the spring. Attached to the opposite end of the spring is a block 4, having perforations 5 in which a tool may be inserted to turn the spring for adjusting its tension. This block 4 has its portion above the perforations 5 extended through the horizontal portion of a bracket 6, so as to turn therein. Above the horizontal portion of the bracket a washer 7 is placed on the block,

and the upper end of said block is riveted or upset over the washer, so that the bracket and the block are permanently connected together.

A lug 8 extends downward from one side of the horizontal portion of the bracket 6 and through a perforation, and in this lug a holding-pin 9 is movable. This pin has its inner end upset or provided with a flange to prevent its removal through the opening in the lug 8, but permitting it, however, to be passed into either one of the perforations 5 in the block.

In operation, after securing the device to a door or gate in the usual manner, the tension of the spring is to be adjusted by means of a suitable tool passed into one of the perforations 5, so that the spring may be rotated. When a sufficient tension is secured, the pin 9 is to be moved into one of the perforations 5, thus holding the spring as adjusted.

It will be noted that there is no extension of the block 4 above the horizontal portion of the bracket 6, that might serve as an obstruction or to catch on clothing or other articles, as is liable to happen with door-springs of the usual construction.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A door-spring, a block secured to one end thereof, a bracket in which the block is mounted to rotate, and a fastening-pin mounted to slide horizontally in a depending portion of the bracket, the said block having a series of perforations below the bracket adapted to receive a tool for adjusting the spring tension and also adapted to receive the fastening-pin.

2. A door-spring, a block secured to one end thereof, a bracket in which said block is mounted to rotate, the said block having perforations below the bracket, a lug extended downward from one side of the bracket and having a perforation, and a pin movable in said perforation and having an enlarged inner end to prevent its removal through said opening, the said pin being adapted to engage in either one of the perforations in the block, substantially as specified.

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Witnesses:

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