

(Model.)

S. JARVIS.
Door Spring.

No. 240,828.

Patented May 3, 1881.

Fig. 1.

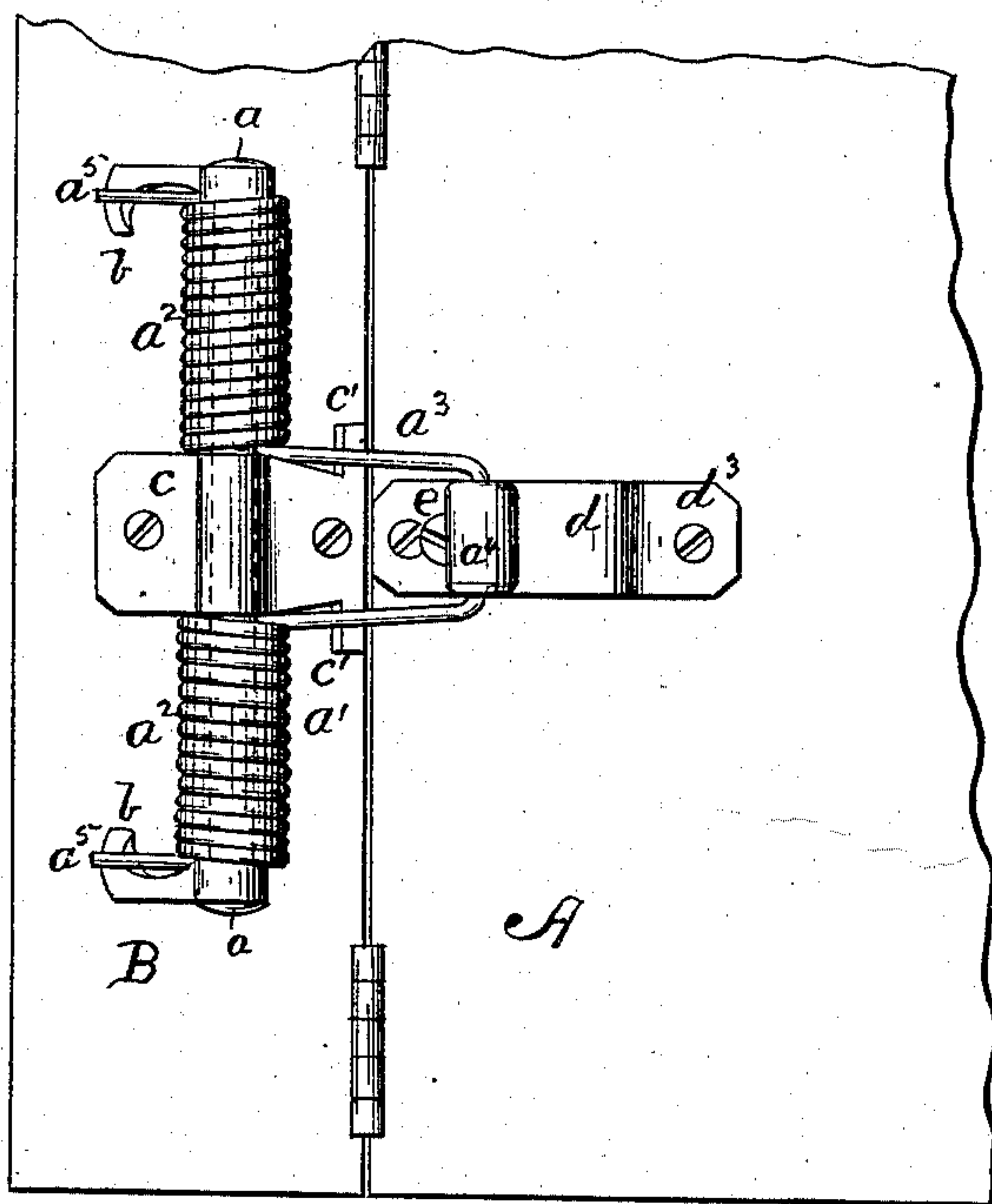


Fig. 2.

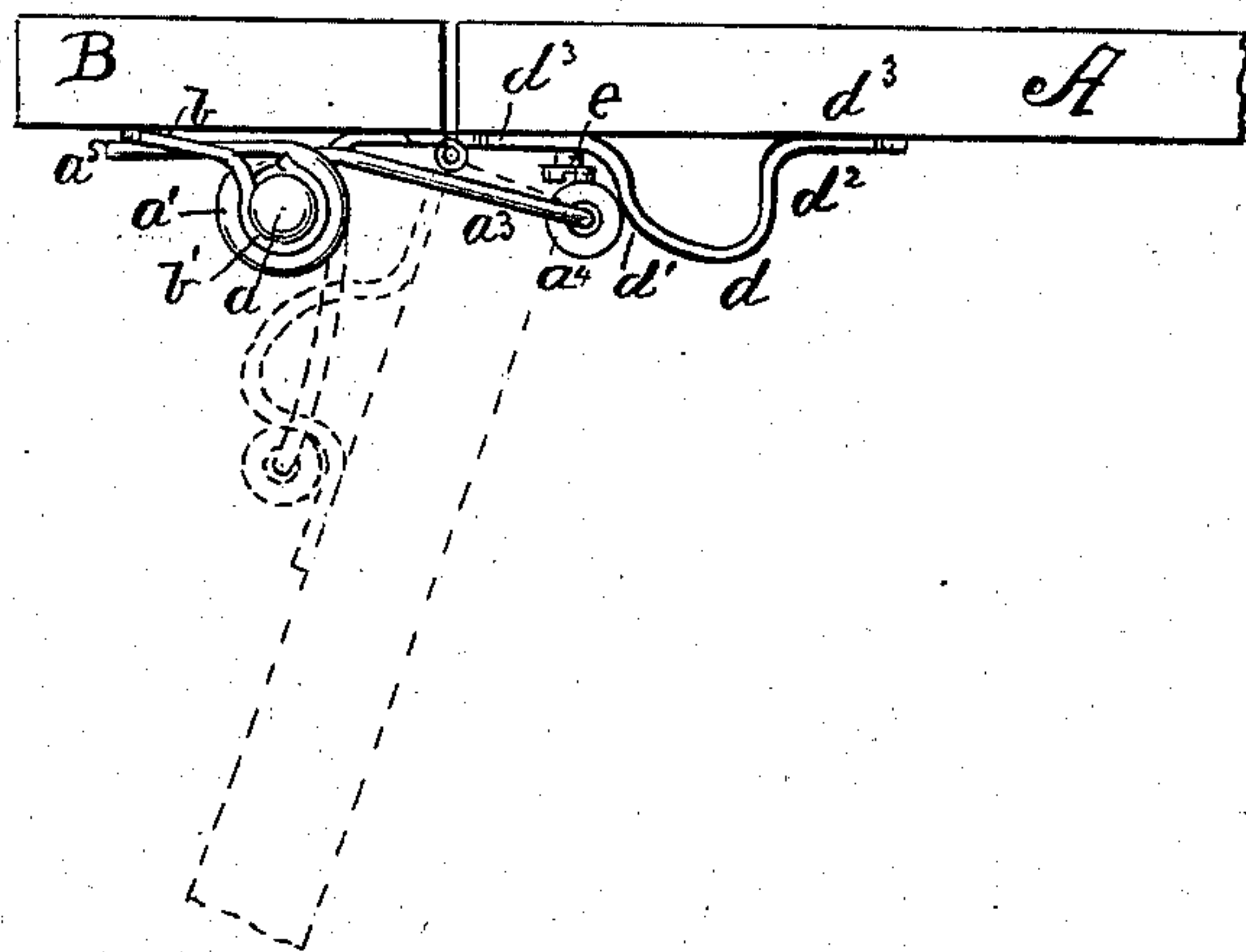


Fig. 3.

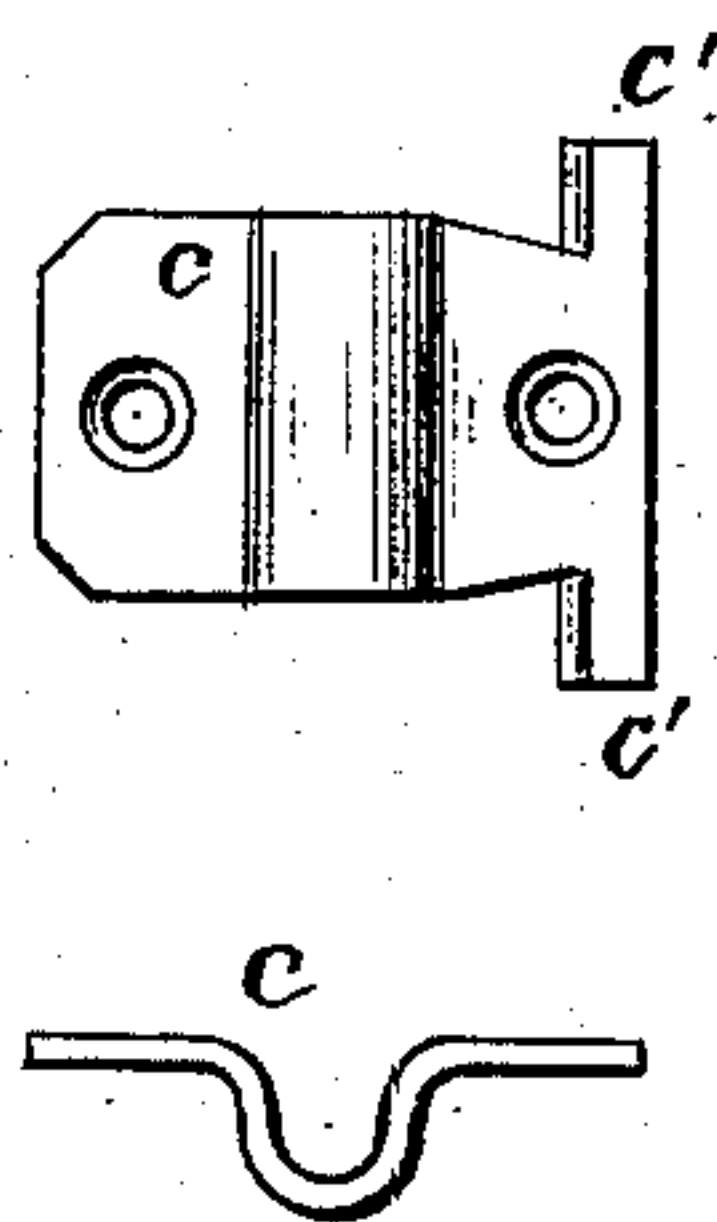
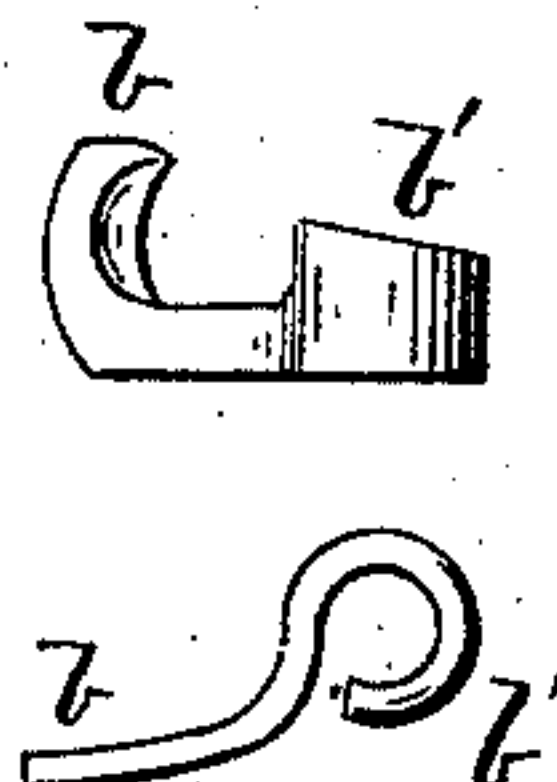


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

SAMUEL JARVIS, OF WESTERVILLE, OHIO.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 240,828, dated May 3, 1881.

Application filed January 20, 1881. (Model.)

To all whom it may concern:

Be it known that I, SAMUEL JARVIS, a citizen of the United States, residing at Westerville, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Door and Gate Springs; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish a door-spring which will also serve as a fastening to hold the door open; and it consists in the peculiar construction and arrangement of the several parts, hereinafter explained, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation, and Fig. 2 a plan, of a door having my improvements applied thereto; and Figs. 3 and 4 are detail views.

a is a bar, on which is placed the spring a' . The spring a' is, by preference, made of a single piece of wire having coils $a^2 a^2$ formed on its ends, and so as to provide the intermediate arm, a^3 , which extends outward along the side of the door A, and on the outer end of the arm a^3 , I place a friction-roller, a^4 . The ends $a^5 a^5$ of the coiled wire are held by lugs b , which rest against the door-post B, and are provided with eyes b' , which fit over the ends of the bar a . The bar a is held to the door-post B by a strap, c , placed over it and between the inner ends of the coils $a^2 a^2$, and fastened by screws or other suitable means, as shown. The end of the strap c next the door A has formed on it side lugs, $c' c'$, which prevent the arm a^3 from striking the door-post.

d is a bearing-plate and catch of peculiar shape, which is fixed on the side of the door, and so arranged that the roller passes over it in opening or closing the door. This plate has its side d' next the door-post made with a gradually inclined or curved surface, so that the roller a^4 readily moves over it up or down, as the case may be. This inclined plane raises the arm a^3 , and thereby increases the tension

of the spring as the door is opened, and when the door is being closed the tension of the spring will diminish gradually. The object in this is to give a stronger pressure to the open door, which will move it rapidly, and it will be given a momentum which alone would shut it. The tension of the spring is gradually released, so that the door will close without so much jar, as though the full pressure of the spring were preserved throughout the movement. The side d^2 of the plate toward the swinging edge of the door is made nearly vertical to the door, and is slightly rounded off at its outer end, so that the roller will pass easily onto or off it. The plate is also provided with lugs $d^3 d^3$, or other suitable means, by which it is secured to the door. The roller a^4 carries the arm a^3 over the top of the plate, and drops down against the side d^2 , as shown in dotted lines, Fig. 2, and will hold the door open, as shown. By pushing the door slightly the roller will lift the arm a^3 from the side d^2 , and the door will be then thrown shut, as hereinafter explained.

Instead of a plate of metal to form the elevation d' and catch d^2 , a block of wood may be easily cut to proper form and secured to the door. I prefer to employ the metal plate, as described. If it were preferred, an incline, d' , could be made and used without having the catch d^2 connected thereto; but I prefer to have both, as shown and described.

e is a set-screw placed at the inner and lower end of the inclined surface d' , so that the roller a^4 will rest on it when the door is closed. By turning the screw outward it will hold the roller and its supporting-arm a^3 away from the door, so that a stronger pressure will be exerted on the door when nearly closed than would be if the roller were permitted to drop onto the lug d^3 .

It will be seen that the pressure of the spring on the door may be increased or diminished, as may be desired.

By letting the roller drop onto the lug d^3 , and having the inner lower end of the surface d' made in a greater incline, the door will be held shut by the spring with sufficient force to prevent its being opened by small children, or by light pressure exerted by other means.

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

1. The combination, with the arm or loop
5 a^3 on the spring a' , of the friction-roller a^4 ,
 journaled on the end of arm a^3 , and the lifting-
 block d , having a gradually upwardly-inclined
 lifting-surface, d' , and a nearly-vertical side,
 d^2 , the side d' being adapted to engage the
10 friction-roller on the end of and lift the arm,
 and increase the tension of the spring, and the
 side d^2 being to permit the loop and roller to
 drop behind the block and hold the door open,
 and so that the loop can be easily detached

by pressure on the door, substantially as set 15
 forth.

2. In a door-spring, the combination, with
 block or plate d , having the upwardly-inclined
 bearing-surface d' and the arm a^3 of the spring
 a' , of the set-screw e , arranged to catch and re- 20
 ceive the pressure of arm a^3 , substantially as
 herein set forth.

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

SAMUEL JARVIS.

Witnesses:

EDWIN WEIBLING,
 RANDALL R. ARNOLD.