(No Model.)

W. L. INGRAM.

SPRING HINGE.

No. 539,741. Patented May 21, 1895.

Fig. 1.

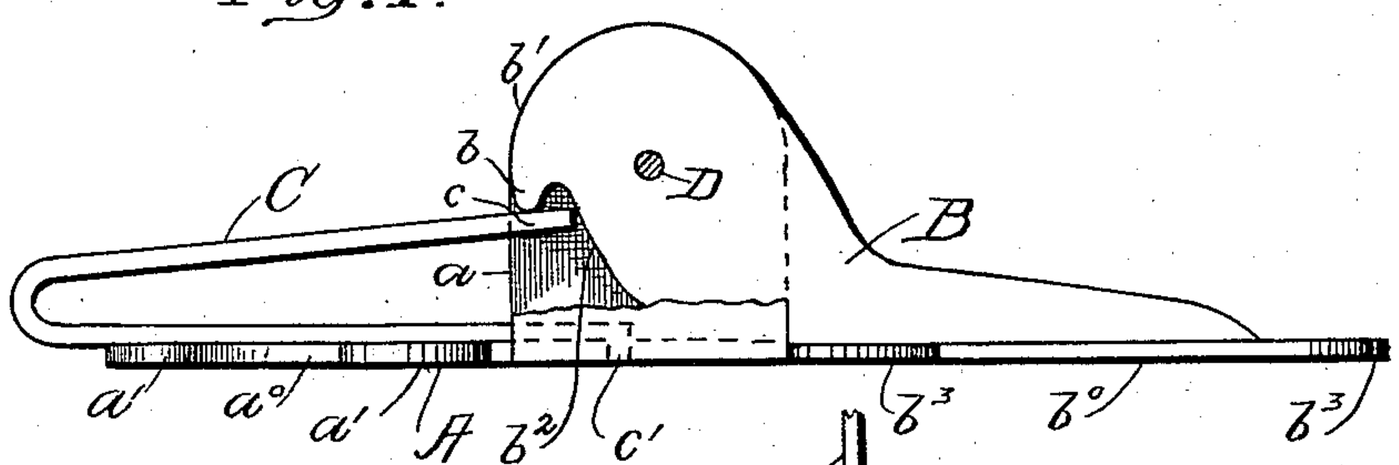


Fig. 2.

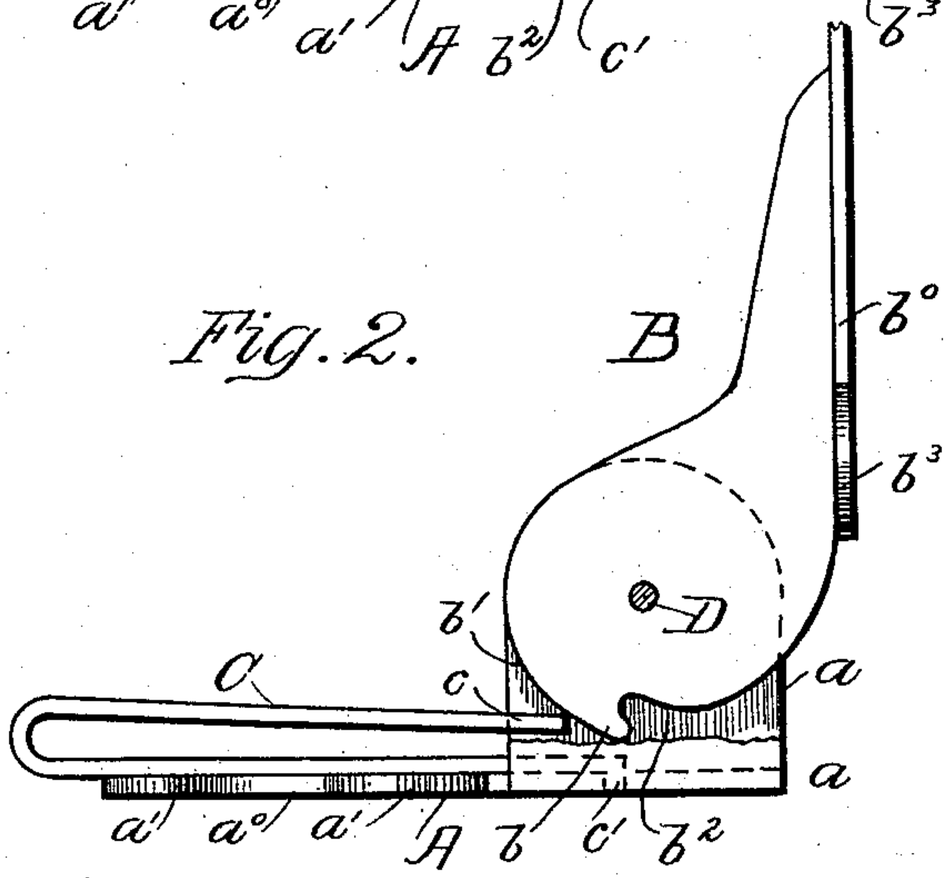
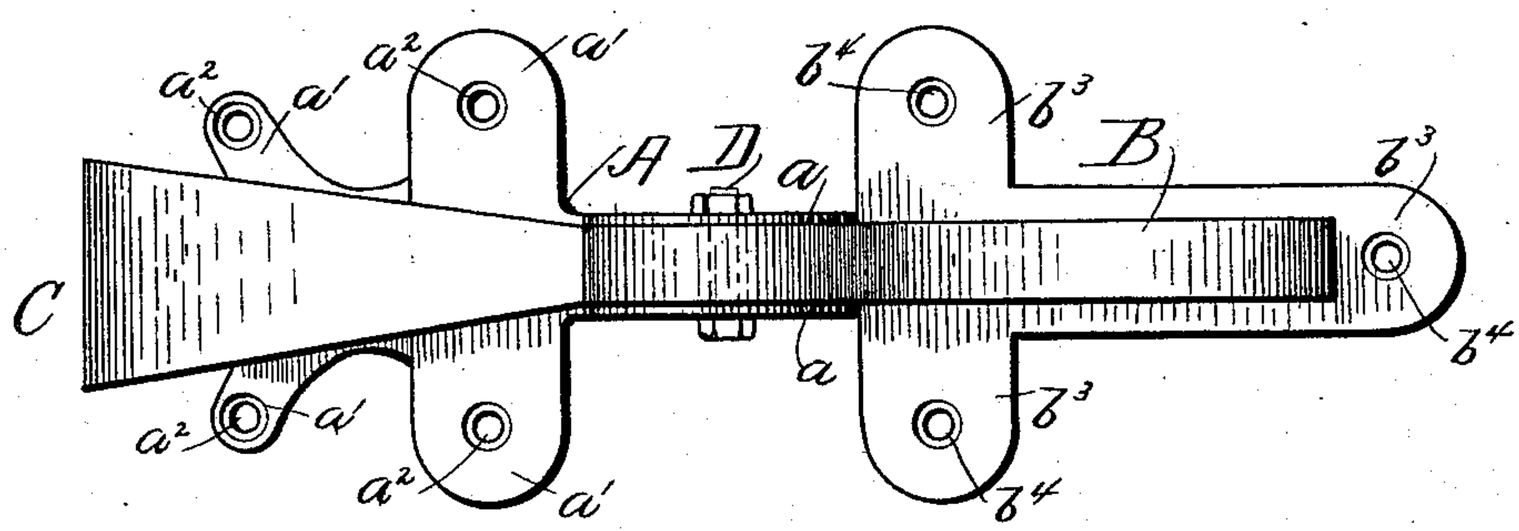


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM L. INGRAM, OF GRANT'S PASS, OREGON, ASSIGNOR OF ONE-HALF TO W. J. ROGERS, OF SAME PLACE.

SPRING-HINGE.

SPECIFICATION forming part of Letters Patent No. 539,741, dated May 21, 1895.

Application filed February 16, 1895. Serial No. 538,682. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. INGRAM, a citizen of the United States, residing at Grant's Pass, in the county of Josephine and State of Oregon, have invented certain new and useful Improvements in Spring-Hinges; 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 improvements in spring hinges, and it consists in certain novel features hereinafter described and claimed.

Reference is had to the accompanying drawings in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a side elevation of the improved hinge in the position in which it would be with the door or window closed and parts being broken away. Fig. 2 represents a similar view to that shown in Fig. 1, except that the hinge is in the position that it would be with the door or window open at right angles; and Fig. 3 represents a plan view of the hinge when in the position shown in Fig. 1.

The hinge consists of the two parts A and B pivoted together at D, and operated by the spring C, as will be hereinafter described. The part A is provided with projecting lugs a, forming a bearing for the pivot pin D. The base of the part A is flat as at a^0 and is provided with any desired number of screw holes a^2 by means of which the said part A may be secured in position to the door frame. These screw holes a^2 are preferably placed in laterally projecting lugs a', but the configuration of these lugs, or of the part A next to the door frame is immaterial. The part B is pivoted on the pin D, and is provided with a hook b adjacent to the cam surface b', and projecting beyond the curved surface b^2. The outer end of the part B is provided with a flat plate b^0 having screw holes b^4, which are preferably provided in the lugs b^3. This plate b^0 is secured fast to the door or window as the case may be.

C represents a bent spring, having a bent over end c' engaging in a slot in the portion A, and having a free end c adapted to catch under the hook b, or to bear against the cam surface b', as shown in Figs. 1 and 2.

When the door or window is closed, the hinge will be in the position shown in Fig. 1, and the free end c of the spring C will bear against the hook b, and tend to keep the door or window closed. Now if the hinge be sprung open, the hook b will gradually press down the end c of the spring C increasing the tension on the same, and causing the spring to exert a greater force toward closing the door. This effect will continue until the hook b passes beyond the free end of the spring C, when the said end of the spring will bear against the cam surface b' as shown in Fig. 2. There will then be two forces at work, the upward pressure of the spring tending to close the door or window, and the friction of the cam surface b' on the end of the spring which will tend to hold the door in the open position. The parts should be so arranged that these two forces will very nearly balance each other, and the door may be opened or closed with little effort. Whenever the door is closed far enough to allow the hook b to pass over the free end of the spring, there being no longer any friction tending to lock the hinge in position, the whole effect of the spring will be to turn the part B about its pivot, and hence the spring will readily and rapidly return the hinge to the position shown in Fig. 1.

By varying the position of the hook b, and of the cam surface b' with relation to the spring C, the hinge may be so adjusted as to stay open whenever it is opened beyond a predetermined angle, as say ninety degrees, and to close whenever opened through a less angle. It will thus be seen that I provide a hinge that may be made to hold the door or window open, when turned beyond a certain angle, and to close it without fail when the angle of the opening becomes less than the said locking angle.

It will be obvious that it is immaterial whether the part A, or the part B, be attached to the frame of the door or window, as it is simply necessary that the two parts be mov-

able relative the one to the other; but for convenience sake, it would ordinarily be preferable to attach the part A carrying the spring C to the door frame, and the part B to the door or the shutter.

It will thus be seen that I provide a cheap, efficient, and extremely simple spring-hinge, which may be readily attached to any door, or to any window shutter of ordinary construction.

The advantages of the herein-described construction would readily suggest themselves to any practical mind.

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

A spring hinge consisting of a fixed part, a bent spring mounted in said fixed part; and a movable part pivoted to said fixed part and provided with a hook normally engaged by said spring, and a cam surface in rear of said hook, substantially as described.

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

WILLIAM L. INGRAM.

Witnesses:

JOSEPH G. HIATT,

C. E. HARMON.