C. A. WARREN.

Spring-Hinges for Gates, &c.

No. 155,129. Patented Sept. 15, 1874.

fig. 1

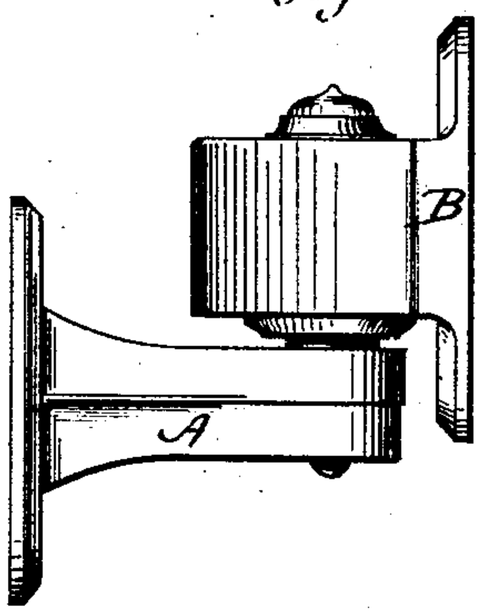


fig. 2

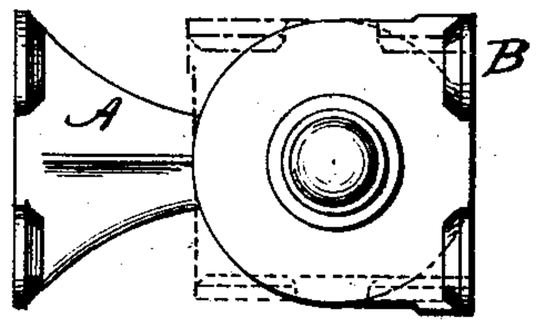


fig. 3.

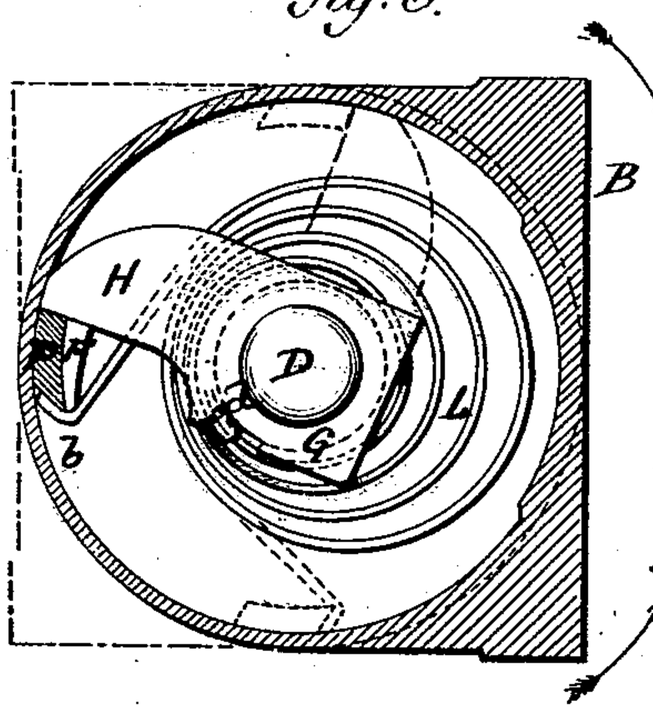
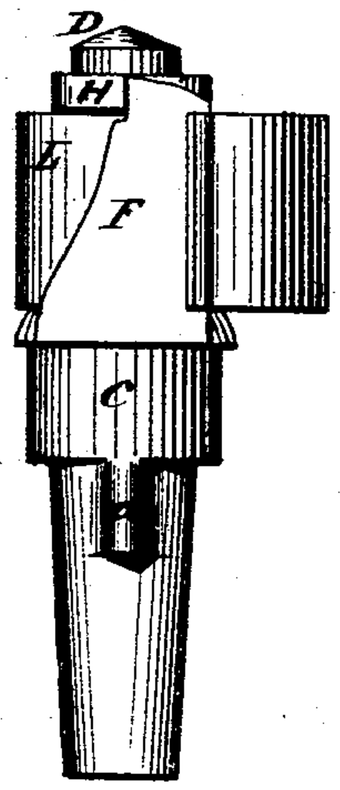
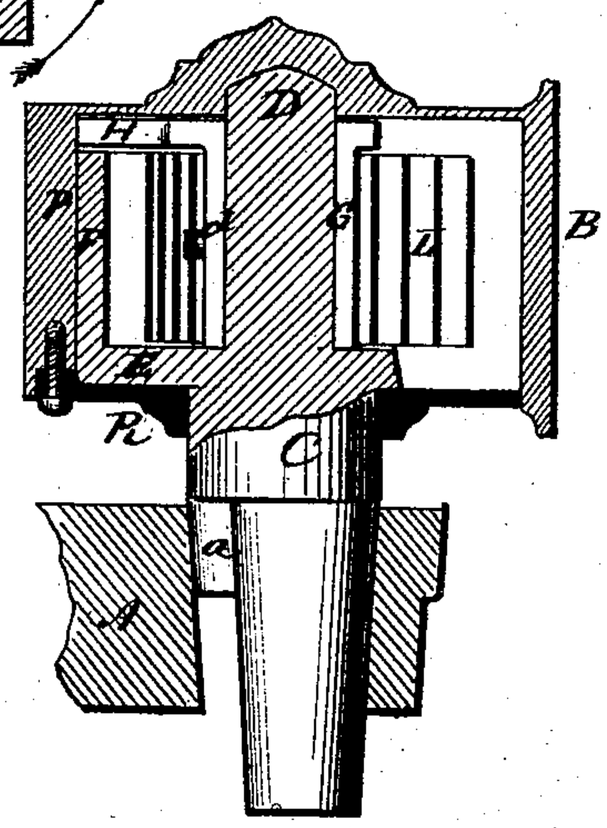


fig. 4



M fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES A. WARREN, OF WATERTOWN, CONNECTICUT.

IMPROVEMENT IN SPRING-HINGES FOR GATES, &c.

Specification forming part of Letters Patent No. **155,129**, dated September 15, 1874; application filed August 13, 1874.

To all whom it may concern:

Be it known that I, CHARLES A. WARREN, of Watertown, in the county of Litchfield and State of Connecticut, have invented a new Improvement in Gate-Hinges; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, side view; Fig. 2, top view; Fig. 3, transverse section; Fig. 4, side view of spindle, removed; and in Fig. 5, vertical section.

This invention relates to an improvement in self-closing hinges for hanging gates, the object being to apply a single spring which will operate to close the gate when opened in either direction; and it consists in a central spindle made fast in one part, with a sleeve on said spindle, and a spring coiled around said sleeve, the inner end made fast to said sleeve, and the outer end of the spring resting against an arm or spindle, combined with the second part of the hinge, which, in turning in one direction, will engage the sleeve to wind the spring from the inside, and in the other direction will engage the outer end of the spring, and wind the spring from the outside, as more fully hereinafter described.

A is the one part, and B the other part, of the hinge. Preferably the part A is made the stationary part, and secured to the post, and the part B to the gate; but this order may be reversed. C is the central vertical spindle, and practically the pintle of the hinge. It is set into the part A, and prevented from turning by a lug, *a*, setting into a corresponding notch in the part C, or otherwise; but for convenience it should be so as to be easily removed, and the set position that which will cause the gate to stand in the position of rest. The part B rests upon the tip D of the spindle C as a bearing, upon which the part B swings. From the spindle C an arm, E, extends out radially, and is turned up vertically, as at F. Over the upper end of the spindle the sleeve G is set, fitting the spindle, so as to turn freely thereon. From this sleeve an arm, H, extends radially a little beyond, and so as to rest upon, one side of the arm F. The spring L, of any suitable material, is coiled around the sleeve, the inner end secured to the sleeve, as at *d*, the outer end of the spring resting upon the side of the arm F opposite the arm H, as seen in Figs. 3 and 4. The part B is made to inclose the spring and its connection, as seen in Figs. 3 and 5, and on this part B is a lug, P, which sets between the end of the arm H and the end *b* of the spring, as seen in Fig. 3. As the arm F is stationary with the part A, and cannot turn, the turning of the part B, as denoted by the arrow N, and as swinging the gate in that direction will carry with it the arm H, as denoted in broken lines, Fig. 3, the end *b* of the spring held fast by the arm F, this movement winds the spring from the inside. The reaction of the spring, when free, will return the part B and the gate until the arm H again rests against the arm F. Turning in the opposite direction, as denoted by the arrow M, the lug P on the part B will carry the end *b* of the spring around, as denoted by broken lines, Fig. 3, winding the spring from the outside, the arm H in its turn being held fast by the arm F. The reaction of the spring will return the part B until the end *b* of the spring again rests against the arm F. The case is closed by a cover, R, as seen in Fig. 5, to protect the spring and its connections. Thus the gate may be opened in either direction, but upon being left free will be returned to and held in its place of rest by the spring. As before stated, the parts may be reversed by attaching the part B to the post, and the part A to the gate. In that case A becomes the movable part, and B the stationary part.

I claim—

The spindle C, provided with the arm E F on one part of the hinge, the sleeve G, with its arm H on said spindle, the spring L, one end attached to said sleeve, the other bearing upon the arm F, combined with the lug P on the other part of the hinge, and between the end *b* of the spring and the arm H, substantially as described.

CHARLES A. WARREN.

Witnesses:

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