D. S. ESTEN.

HINGE FOR GATES OR DOORS.

No. 76,727. Patented Apr. 14, 1868.

Fig: 1.

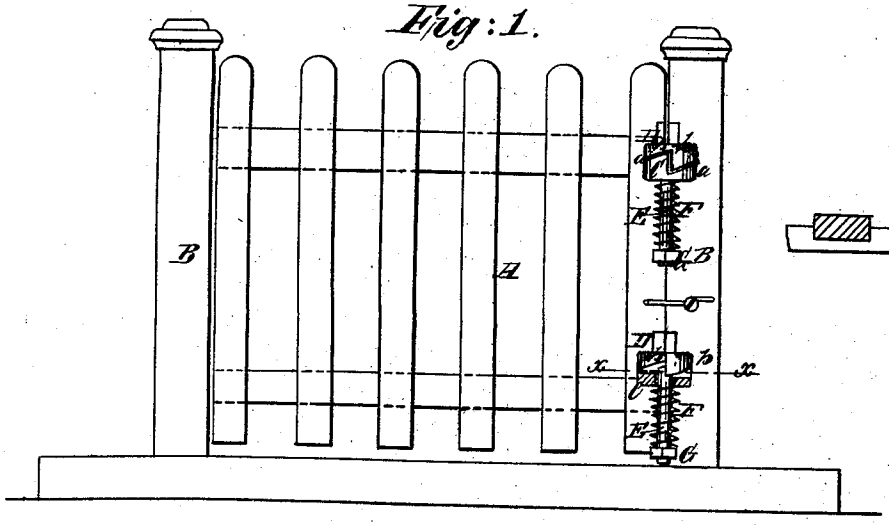


Fig: 2.

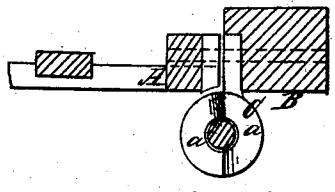
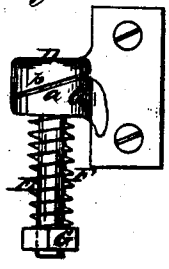


Fig: 3.



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Letters Patent No. 76,727, *dated April* 14, 1868; *antedated April* 9, 1868.

IMPROVED HINGE FOR GATES AND DOORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, D. S. ESTEN, of Monson, in the county of Hampden, and State of Massachusetts, have invented a new and improved Hinge for Gates, Doors, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to a new and useful improvement in that class of hinges for gates, doors, &c., which are constructed with inclined surfaces, so arranged as to raise the gate or door as it is opened, and cause the latter to close by virtue of its own gravity.

My invention consists in combining with a hinge of this class a spring, applied in such a manner as to aid the gravity of the gate in closing the same, whereby several advantages are obtained, which will be hereafter set forth. In the accompanying sheet of drawings—

Figure 1, is a side view of a gate having my improvement applied to it.

Figure 2, a horizontal section of the same, taken in the line *x x*, fig. 1.

Figure 3, a detached side view of one of the hinges.

Similar letters of reference indicate like parts.

A represents a gate, constructed in any of the known forms, and B B′ the gate-posts. C are the parts of the hinges which are attached to the post B, and may be described as circular plates, having a horizontal position, with their upper surfaces provided with two inclined surfaces, *a a*. The other parts, D, of the hinges, which are attached to the gate, are constructed similar to the parts C, with the exception that they have their inclined surfaces, *b b*, on their under sides, and are provided with central pendent rods or arbors, E, which extend down loosely through holes in the centre of the parts C. On these rods or arbors E there are placed springs, F, which may be of spiral form, and retained on the rods or arbors by means of nuts G. These springs F have a tendency to draw the upper parts D of the hinges down upon the lower parts C, and it will be seen that when the gate is opened, and consequently raised by the inclined surfaces *a a*, *b b*, of the parts C D being in contact, the springs F will be compressed, and will aid the gravity of the gate in closing the same.

Hinges for gates, doors, &c., have been previously constructed or provided with inclined surfaces, as herein shown and described, so that the gravity of the gate or door will have a tendency to close it. But, so far as I am aware, springs have not been combined with hinges of this class to aid the gravity of the gate or door in closing. Hence hinges of this kind have hitherto not been very reliable. They would frequently "stick," if not lubricated occasionally, and the inclined surfaces, *a a*, *b b*, required to be quite steep, or very much inclined, in order to render the gravity of the gate or door sufficient to close it. This, of course, would cause the gate or door to close rapidly, if it would close at all, and a person necessarily had to pass rapidly through, or hold the gate or door back, in order to prevent being struck by it.

My improvement obviates this difficulty, as the application of the springs admits of the surfaces, *a a*, *b b*, having a moderate degree of inclination, so that the gate or door will close with a moderate degree of speed, but at the same time close with certainty.

I would remark that I do not confine myself to any particular kind of springs, F, for India rubber or other suitable material may be used.

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

The upper part, D, provided with a pendent rod, E, passing loosely through the lower part, C, and surrounded by a spiral spring, F, fitting against the under side of the part C, and held upon the rod E by the nut G, said parts C D provided with inclined surfaces and shoulders *a b*, substantially as and for the purpose specified.

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Witnesses:

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