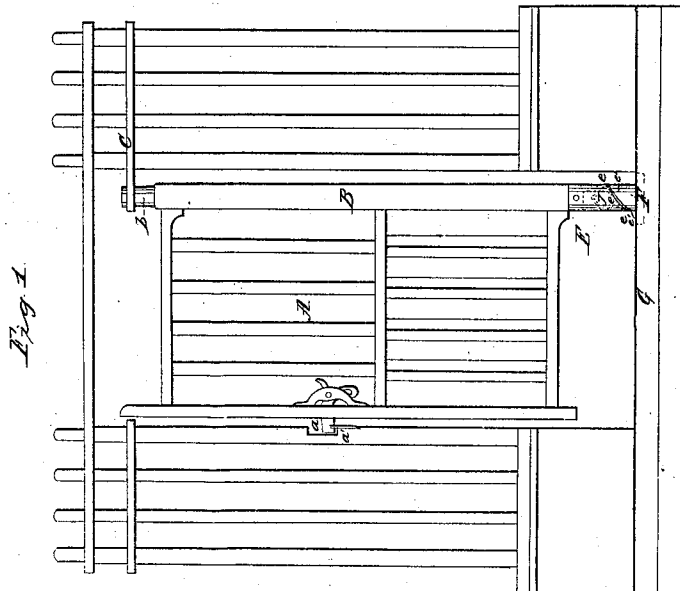
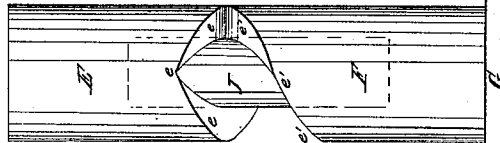
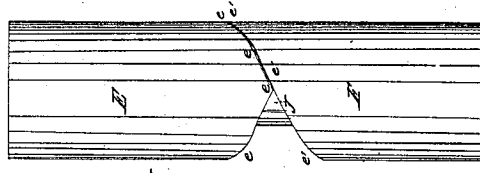
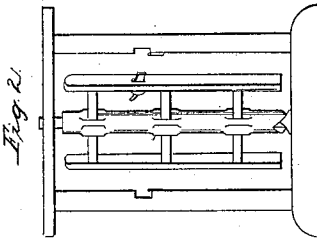
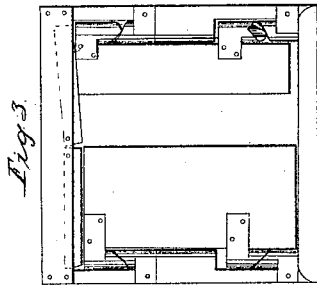


*J. W. Martin,*  
*Hinge.*

*N<sup>o</sup> 63,067.*

*Patented Mar. 19, 1867.*



*Witnesses:*  
*Wm. C. Phelps*  
*Edw. Schaffer*

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# United States Patent Office.

JOHN W. MARTIN, OF WASHINGTON, DISTRICT OF COLUMBIA.

*Letters Patent No. 63,067, dated March 19, 1867.*

## IMPROVEMENT IN GATES.

*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, JOHN W. MARTIN, of the city and county of Washington, District of Columbia, have invented an Improvement in Self-Closing Gates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of an iron park gate, having my invention applied to it.

Figure 2 shows the invention applied to a stile or revolving gate.

Figure 3 shows the invention applied to doors.

Figures 4 and 5 are side views of the circular inclined planes which are used to close a gate when opened.

Similar letters of reference indicate corresponding parts in the several figures.

This invention is designed to effect the closing of gates, doors, or stiles without the use of weights and pulleys or springs, but by means of a simple device, which will cause the weight of the gate, when open, to operate in closing it, and which constitutes a part of the turning post of the gate, and also the lower step or bearing for supporting the gate, whether it be opened or closed.

The nature of my invention consists in the application to a gate of a device which will cause the gate to rise and descend bodily upon an inclined plane when opened and closed, so that the weight of the gate, when open, will cause it to descend, and, at the same time, to swing back to a closed position, said device consisting of tubular-socket portions, which are adapted to form the step for, and the lower end of, the swinging-gate post, and which have spiral inclined planes formed on their abutting faces, and also a central pin, for keeping them in place when they are separated by the opening of the gate, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In fig. 1 of the accompanying drawings, A represents a metal gate, which is hung so as to open in two directions, the latch *a* and latch-plate *a'* being adapted for fastening the gate when closed. The upper end of the post B of this gate has a cylindrical tenon or pin formed on it, of such length as to allow the gate the required vertical motion. This pin *b* passes freely through an eye which is made through the end of a horizontal rod, C, of the fence, and forms the upper pivot attachment of the gate. A round or square tenon is formed upon the lower end of the gate-post B, which tenon enters a socket which is formed in the upper end of a tubular portion, E, of an equal diameter to the gate-post. By means of a transverse pin or key the portion E is secured permanently on its post. The lower end of the portion E has right and left spiral inclined planes *e e* formed upon its lower end, as shown in figs. 4 and 5. Each inclined surface extends half way around the portion E, and both planes or surfaces terminate at their highest and lowest points in acute angles. The gate-post thus constructed is stepped upon a cylindrical portion, F, which is secured rigidly, by "leading," or in any suitable manner, to the foundation G in an upright position, so that its axis will exactly coincide with the axis of motion of the gate-post. The upper end of this step F has formed upon it right and left spiral inclined surfaces *e' e'*, which are exact counterparts of the surfaces *e e*, so that, when the gate is closed and fastened, said surfaces *e e* and *e' e'* will be brought snugly together, as shown in fig. 1. The pin J, which projects up centrally from the step F, and enters a socket in the terminal portion E of the gate-post, forms the lower pivot connection of the gate. The portion E is made of cast metal, with its spirally-inclined surfaces *e e* chilled or case-hardened, and with a hole through it for receiving the lower end of the gate-post, and also the pintle or pivot J, as above described. The step portion F is also cast with its spirally-inclined surfaces chilled or case-hardened, and also with a wrought-iron pin or pintle, J, above described. The hardening of the impinging surfaces *e e' e' e'* not only prevents their rapid wear, but it also diminishes the friction which would otherwise be produced, and renders the frequent application of oil unnecessary. The use of a wrought-iron pin, J, permanently secured to the step F, greatly strengthens the joint against shocks and concussions, which might break off a cast-iron pin. The two cylindrical portions E F, which constitute the lower bearing and hinged connection of the gate, are of an equal diameter, so that, when the gate is closed, they have the appearance of being a part of the gate-post, and present no lodgement for ice, snow, or anything else. The joints fit snugly together, and anything getting between the surfaces *e e'*, when the gate is opened or partially open, will be forced out when the gate is closed.

When the gate is swung open in one direction the spirally-inclined surface *e* will slide upon the corresponding surface *e'* on one side of the portions E F; and when the gate is opened in an opposite direction the inclined surface *e* will slide upon the surface *e'* on the opposite side of the portions E F; and in the act of opening the gate in either direction it will rise bodily, so that its weight will operate to close it again. In fig. 2 the invention is shown applied to the central post of a turning stile. In this case the post is allowed to rotate in either direction, and the double-inclined surfaces at the lower end of said post keep the stile closed. In fig. 3 the invention is represented as applied to hinges for hanging doors or shutters, in which case the spiral surfaces of the upper hinge are represented as inclining in an opposite direction to the spiral surfaces of the lower hinge.

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

1. The combination of the tubular portion E with a step F and pintle J, said parts E and F being constructed with spirally-inclined abutting surfaces, and applied to a gate-post, substantially in the manner and for the purposes described.

2. In combination with the spirally-inclined tubular portion E, and the step F, formed of cast or hardened metal, I claim the wrought-metal pin J, substantially as and for the purposes described.

J. W. MARTIN.

Witnesses:

EDW. SCHAFER,  
R. T. CAMPBELL.