G. E. Boisselier,

Lock Hinge.

No. 107,437. Patented Sept. 20. 1870.

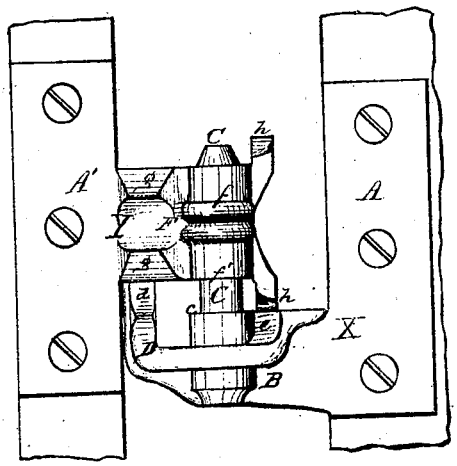

Figure 1.

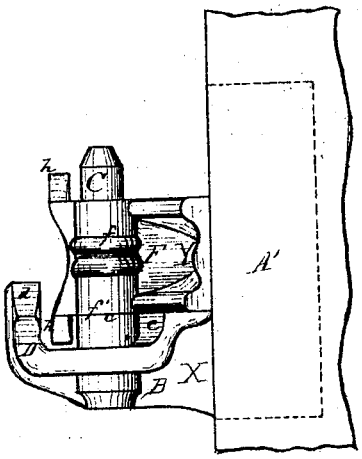

Figure 2.

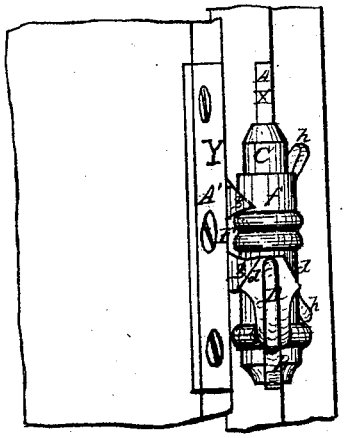

Figure 3.

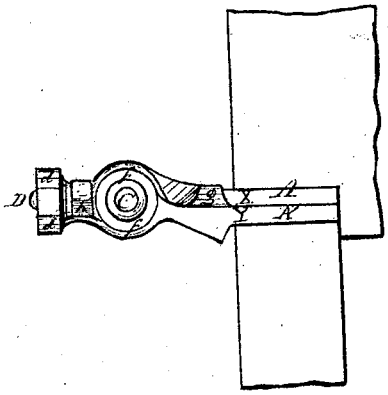

Figure 4.

Witnesses:

J. M. Cathel.

Robert Burns.

Inventor:

Gustavus E. Boisselier

by his Attys

Cathel & Co

UNITED STATES PATENT OFFICE.

GUSTAVUS EMIL BOISSELIER, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN SELF-LOCKING HINGES.

Specification forming part of Letters Patent No. **107,437**, dated September 20, 1870.

To all whom it may concern:

Be it known that I, GUSTAVUS EMIL BOISSELIER, of St. Louis, in the county of St. Louis and State of Missouri, have made certain new and useful Improvements in Self-Locking Hinges; and I do hereby declare that the following is a full and true description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

The nature of this improvement is in so constructing a self-locking hinge that the blind or door suspended thereby is permitted to swing on a horizontal plane until it reaches the lifting-cams, when it rises and drops to a locking-point. In either case, in its swinging action, said shutter or door occupies the same level open as when closed, and rests upon a continuous bearing around the spindle.

The locking-power being exercised by the lift-cams, and the shutter or door resting upon a continuous bearing, all weight is necessarily taken from the spindle, thus permitting the same to be cast of the same material as the hinge.

To enable those herein skilled in the art to make and use my said invention, I will now more fully describe the same, referring herein to the accompanying—

Figure 1 as a side elevation, showing hinge and blind open, preparatory to dropping in a lock; Fig. 2 as a side elevation, showing hinge closed; Fig. 3 as a front elevation when hinge and blind are entirely open, and Fig. 4 as a top plan when closed.

The hinge has the usual side plates, A A′. The lower or supporting part, X, has, at the lower edge of the plate A, the arm B, carrying the spindle C, and ending in the cam-arm D, having the cams *d*. About the base of the spindle C is the shoulder, which is a complete annulus, *c*, while contiguous to these parts, on the side nearest the plate A, are the inner cam-surfaces, *e*. The supporter part thus described carries the moving part Y, which is usually attached to the blind or shutter. Of said moving part, the arm F connects about centrally with the plate A′. Said arm has the sleeve *f*, which passes about the spindle C; the lower surface, *f′*, of said sleeve rests on the shoulder *c*, and thus the weight of the blind or door is taken. Between the sleeve *f* and the plate A′ the cam-surfaces *g* are arranged, which, after the moving part Y has performed at least a ninety-degree movement, engage upon the cams *d* of the part X. On the opposite side of the sleeve *f* are the cams *a*. These, when the hinge or shutter is closed, stand between the cams *d* and the base of the spindle C, but as the hinge opens said cams engage the cam-surfaces *e* of X simultaneously with the engagement of *d* on *g*. By the combined action of said cams and surfaces, the part Y and the blind, door, or shutter is raised, and immediately thereupon, the rear cam part being reached by surface *g*, and the front cam-surfaces by cam *h*, the part Y then drops, and with it the blind, until the weight again rests on the shoulder *c*, while the cams and their locking-surfaces prevent a return movement, as required.

It is plainly evident that by such a construction of the detail parts of X and Y as described, my hinge can be used either right or left, thus giving it all the advantages of a reversible hinge.

Having thus fully described my said invention, what I claim is—

The arm D, when the inclines *d* are higher, relatively, than the inclines *e*, and the blind occupies the same level when open as when shut, and its weight supported, in both positions, upon the continuous bearing *c*, substantially as and for the purpose set forth.

In testimony of said invention I have hereunto set my hand in presence of witnesses.

GUSTAVUS E. BOISSELIER.

Witnesses:

WILLIAM H. HERTHEL,

ROBERT BURNS.