C. B. Clark,

Gate Hinge.

No. 111,515. Patented Feb. 7. 1871.

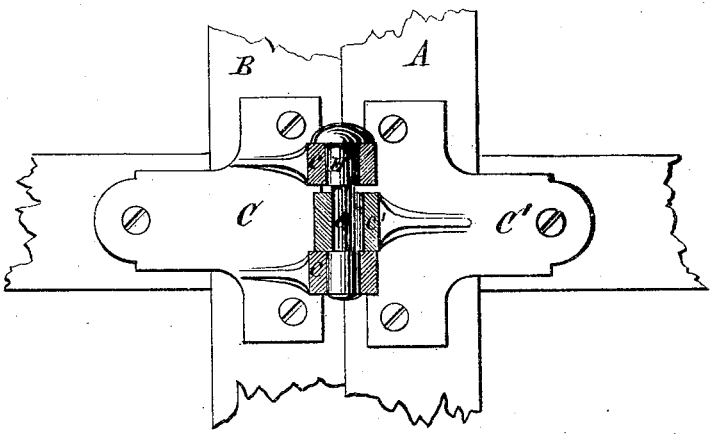


Fig. II.

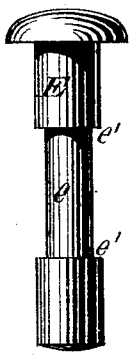


Fig. I.

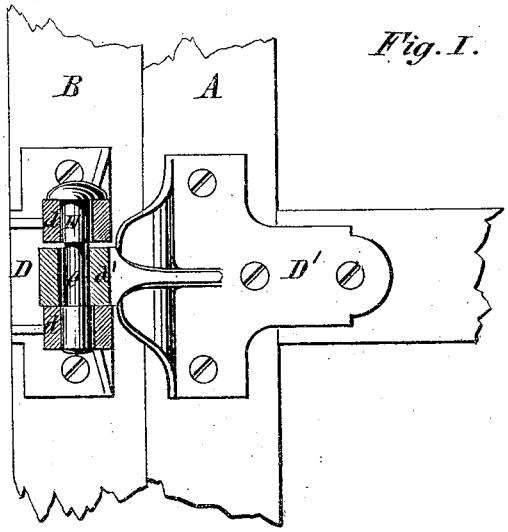
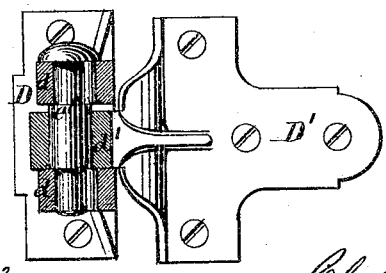


Fig. III.



Witnesses

Edward Wheelwright

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UNITED STATES PATENT OFFICE.

CHARLES B. CLARK, OF BUFFALO, NEW YORK.

IMPROVEMENT IN HINGES FOR GATES.

Specification forming part of Letters Patent No. **111,515**, dated February 7, 1871.

I, CHARLES B. CLARK, of the city of Buffalo, in the county of Erie and State of New York, have invented an Improvement in Gate-Hinges, of which the following is a specification:

My improvement relates more particularly to the method of constructing the pintle or coupling-bolt of gate-hinges; and the invention consists of a coupling-bolt a portion of which is made of less diameter than the rest, so as to form a shoulder which will engage with one of the knuckles of the hinge when the parts are in the position in which they are pressed when supporting the weight of the gate, and thus prevent the withdrawal of the bolt.

In the accompanying drawing, Figure I represents a side elevation of a portion of a gate, with the knuckles of the hinges in section. Fig. II is a detached view of my improved coupling-bolt. Fig. III is a sectional view of a hinge, showing a modified form of the coupling-bolt.

Like letters of reference designate like parts in each of the figures.

A represents the vertical end piece of a gate, which is hinged to the stationary post B.

C and D are the respective portions of the upper and lower hinges, which are attached to the stationary post B, and C′ D′ the corresponding portions attached to the gate. *c d* are the knuckles of the parts C D, and *c′ d′* the knuckles of the parts C′ D′, all of which parts may be constructed in the ordinary manner. E is my improved bolt, by which the knuckles of the two hinges are coupled together.

The body of this bolt, instead of being made of uniform size, is reduced in diameter at the center, or that portion reduced which passes through the knuckles *c′* and *d′*, as shown at *e*, Figs. I and II, so as to form a shoulder, *e′*. The ends of the bolt are of equal size, and are made to fit the holes in the knuckles, which are also of uniform size, as represented.

The hinges being attached to the gate and post in the usual manner, the weight of the gate acting on the hinges will press the lower knuckle, *d′*, attached to the gate, inward or toward the post B and against the side of the reduced portion *e* of the coupling-bolt, while the upper and corresponding knuckle, *c′*, will be drawn outward or from the post, so as to cause the knuckle to press against the opposite side of the central portion of the bolt, as clearly represented in Fig. I.

While in this position it is evident that, in attempting to withdraw the coupling-bolt of either hinge, the shoulder *e′* below the reduced portion will strike against the lower edge of either knuckle *c′* and *d′*, and thus prevent the withdrawal of the bolt, which can only be effected by raising and supporting the gate at its outer or free end, so as to leave the knuckles *c′ d′* free, so that the holes therein can be brought to coincide with the holes in the knuckles *c d*.

Instead of reducing the size of the coupling-bolt at the center, the ends of the bolt, or the portions which pass through the eyes of the knuckles *c d*, may be reduced in size, as shown in Fig. III, when the same or a similar effect will be produced by the engagement of the shoulder *e′* with the edge of the upper half of the knuckle *d*, as represented in said figure. I prefer, however, the construction shown in Figs. I and II.

A plain cylindrical pin for uniting the parts of gate-hinges is the kind most generally used; but, owing to the ease with which this coupling-bolt can be withdrawn, considerable inconvenience has been experienced from mischievous boys uncoupling the hinges and carrying off the bolts.

It is evident that my improvement will render the withdrawal of the bolt so difficult as to prevent in a great measure, if not entirely, this mischievous disconnection of the parts.

What I claim is—

The coupling-bolt E of a gate-hinge, having the portion which passes through one of the knuckles reduced in diameter the length of the knuckle, so as to form a shoulder, *e′*, arranged and operating with the knuckles of said hinge, to prevent the uncoupling thereof, as hereinbefore set forth.

CHARLES B. CLARK.

Witnesses:
JAY HYATT,
JNO. J. BONNER.