Peter S. Crawford.

Improved Gate.

117263

PATENTED JUL 25 1871

Fig. 1.

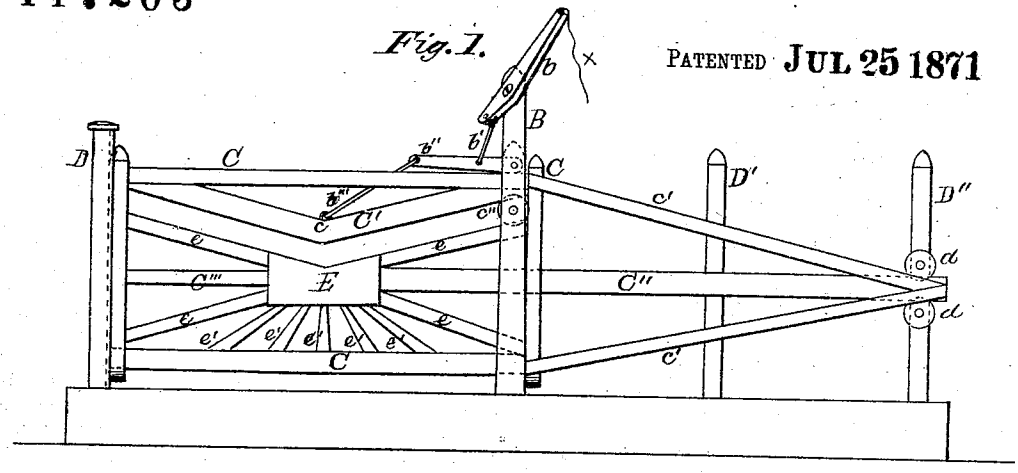


Fig. 2.

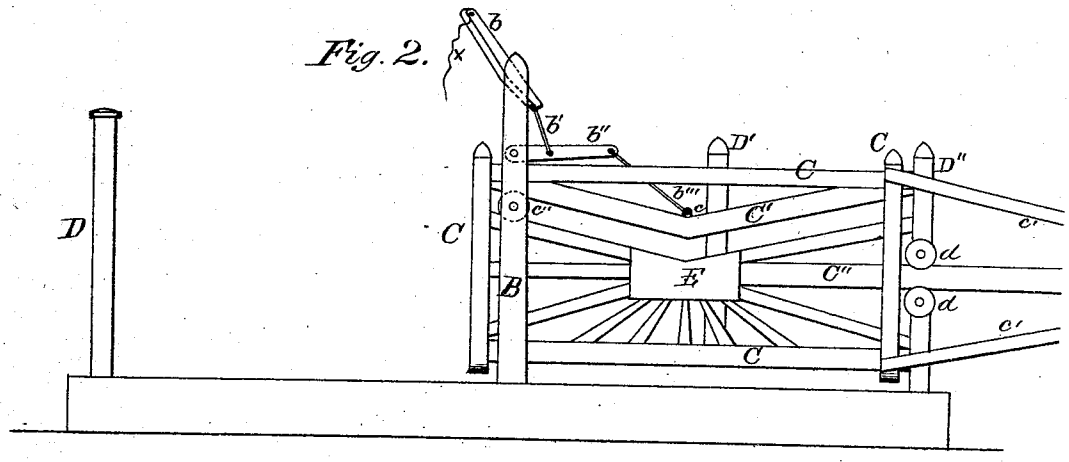
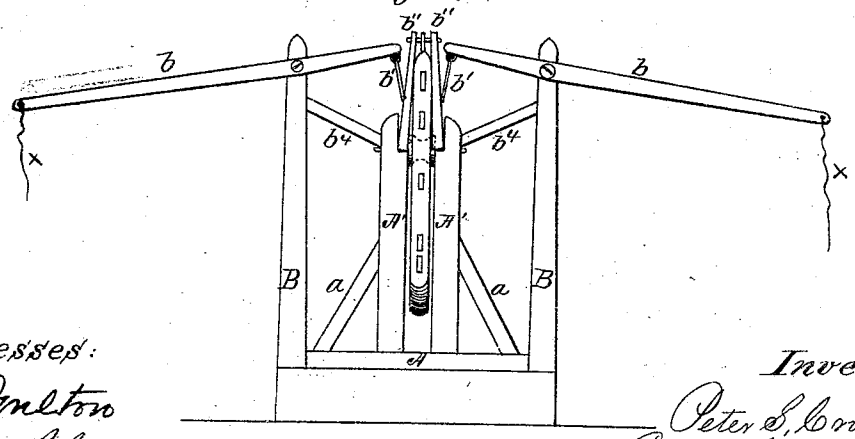


Fig. 3.



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AM. PHOTO-LITHOGRAPHIC CO. N. Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

PETER S. CRAWFORD, OF UNION, ILLINOIS.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. 117,263, dated July 25, 1871.

To all whom it may concern:

Be it known that I, PETER S. CRAWFORD, of Union, in the county of McHenry and State of Illinois, have invented certain Improvements in Gates, of which the following is a specification:

The object of this invention is to improve the gate patented to me March 21, 1871; and it consists in the construction of the gate and its relation to and arrangement with the actuating and operating devices.

In the drawing, Figure 1 is a side view of the gate and its accessions with the gate closed. Fig. 2 is a side view of the gate when the gate is open, and Fig. 3 is a transverse view of the gate when partially open.

H is a transverse sill, framed or fitting between upright posts B B. A′ A′ are intermediate posts, standing upon the transverse side A and supported by the braces *a a* and b^4 b^4. B B are two upright posts, into which the ends of transverse sill A are framed and are connected to intermediate posts A′ by the braces b^4. C C C C are the four pieces that form the frame of the gate. C′ is a longitudinal rail, formed with a central angle where two right lines meet, the inclination being upward from the center each way to the outer ends. C″ is the guide-rail of the gate, and goes from the center of the gate in a horizontal direction to a distance on the side at which the gate opens and is guided in its reciprocations by guide-rollers *d d* on post D″. *c′ c′* are two braces that support the guide-rail C″, and are attached to the upright piece of the gate and to the extreme outer end of the guide-rail. D is a stop-post, against which the end of the gate abuts when closed. D′ is an intermediate post, and D″ is the post on which the rollers *d d* are pivoted and between which the guide-rail C″ of the gate passes. E E are two iron plates or pieces of boards, one on either side of the gate, and between which the long inclined rails *e e* are locked together and receive the guide-rail C″ and its combination C‴ between them; while *e′ e′ e′ e′* are radial pickets or bars, with their approximate ends between the pieces E, and their outer ends are fast to the bottom rail of the gate or uprights. The plates or pieces E are firmly riveted or bolted together, and thus become the means of firmly holding the gate, through its several parts, firmly together, and will, by this construction, securely keep the gate from swagging. The gate freely slides between the intermediate posts A′ A′, and between which and at the proper height is a friction-roller, *c″*, on which the gate slides. Upon this friction-roller *c″* rests the longitudinal double-inclined rail C′ of the gate, and as the gate is reciprocated to open the inclined rail travels upon and is supported by the roller *c″*. Near the top ends of posts B are pivoted levers *b b*, with their inner ends extending to near the inner sides of the intermediate posts, and at their extreme inner ends are staples, to which are attached links *b′ b′*, and these to arms *b″ b″* that are pivoted to and turn freely on their pivots on the inner faces of posts A′ A′, while their extreme outer ends are connected to link or rod *b‴*, which is hooked into an eye, *c*, that is in the center of the longitudinal guide-rail C′ at a point vertically above the greatest depression in said guide-rail C′. The pivot-levers *b b* in position are parallel with the roadway, so that when a person approaches the closed gate the outer end of the lever will be within reach, and by taking hold of the cord or pull-rope *x* and pulling the outer end of lever *b* down it raises the end that is attached to arms *b″* and causes them to rise, and as they rise the rod *b‴* is made by its position to draw the gate open, and as it opens and is raised by reason of bringing the inclined lower edge of the guide-rail at its lowest depression upon the roller *c″*, when the action of applying force to raise the arms *b″* ceases, and the gate, by the momentum attained, will pass over the extreme point of depression on the under side of the said guide-rail, when its specific gravity, acting with the upwardly-inclined lower edge of the guide-rail, will cause the gate to open to its fullest extent, and the arms *b″* have made a half revolution.

To close the gate, the same operation is gone through with of pulling down on the cord *x*, reversing the rotation of the arms *b″*, and consequently closing the gate. In this construction and arrangement of part of the gate less movement of the lever *b* is required to force the gate open or to close it than in the patent cited, for the reason that the arm *b″* is connected to the guide-rail in a direction different from what is shown in the patent, and thereby making the operation not only more certain, but with less movement of the hand of the operator and with more despatch, as the point of connection between the lever *b* and the guide-rail is lower, and

hence the gate is forced in a horizontal direction more positively and to a greater distance by the same movement or rise of the arm b'' than if connected as is shown in the patent.

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

1. The pivoted lever b, connecting-link b', rotating arm b'', link b''', and eye c, when arranged with relation to the inclined guide-rail C′ of gate C, as herein described.

2. The plates E E, inclined or angular rails e, radial pickets e' e', guide-rail C″, rail C‴, braces c' c', and frame C, when constructed and arranged together as described, to form the gate, as shown.

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