2 Sheets—Sheet 1.

J. T. GUY.

GATE.

No. 191,671. Patented June 5, 1877.

Fig. 1.

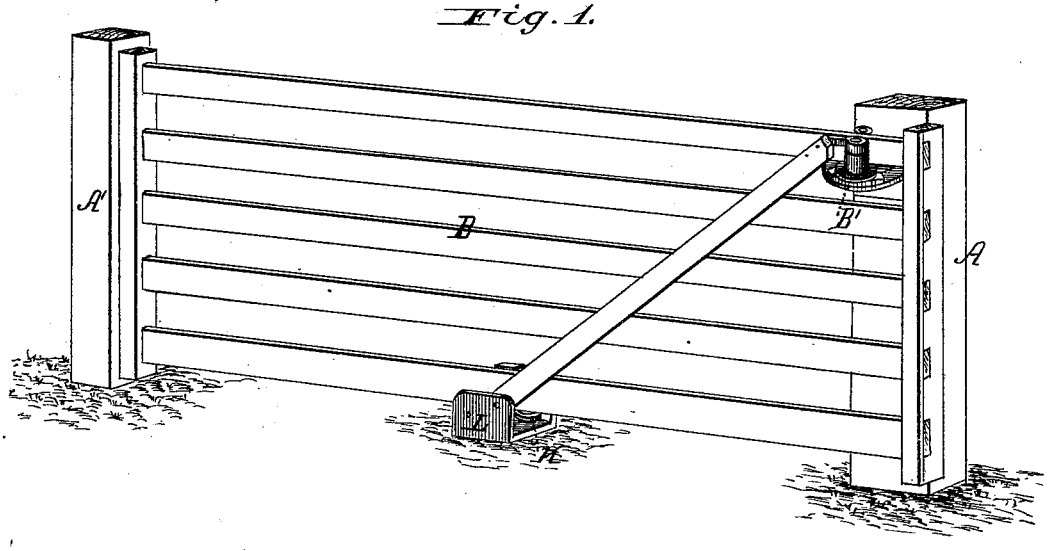
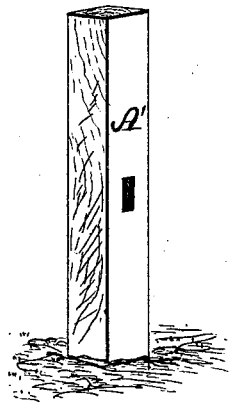
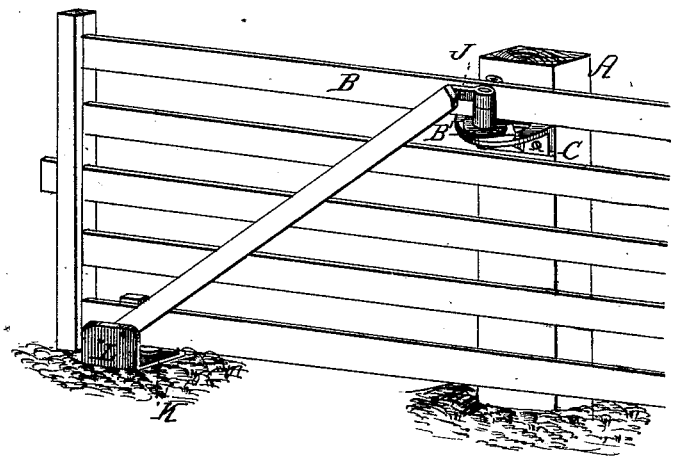


Fig. 2.





Attest:
H. L. Perrine.
J. A. Rutherford

John T. Guy.
Inventor.
By James L. Norris.
Attorney.

2 Sheets—Sheet 2.

J. T. GUY.

GATE.

No. 191,671. Patented June 5, 1877.

Fig. 6.

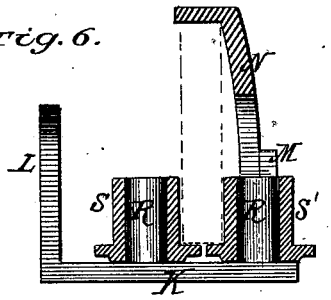


Fig. 7

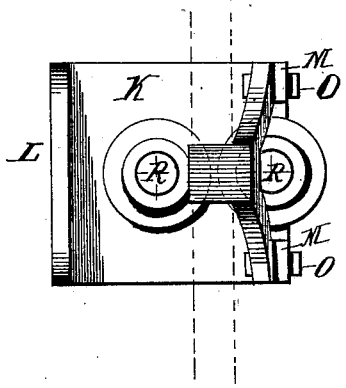
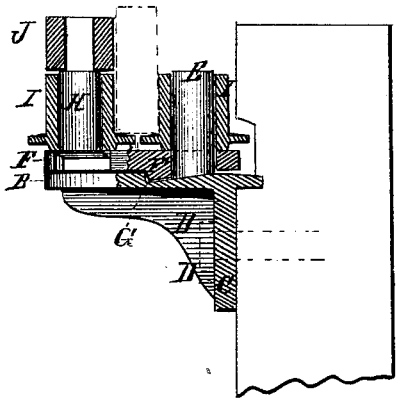


Fig. 4.



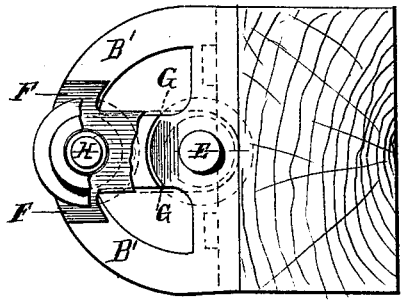


Fig. 8.

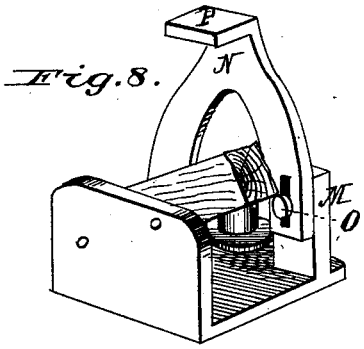
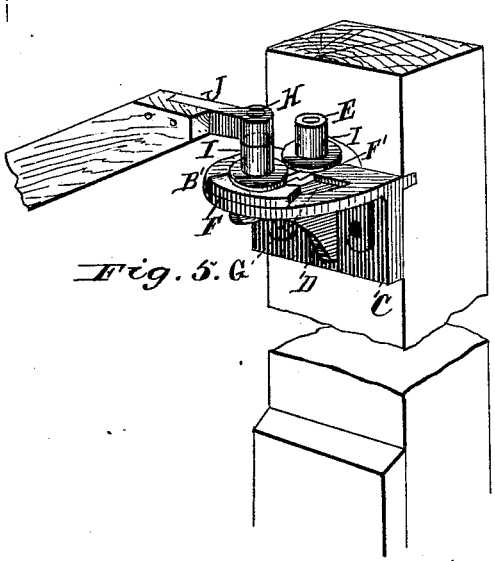


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN T. GUY, OF OTTAWA, OHIO.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **191,671**, dated June 5, 1877; application filed April 21, 1877.

To all whom it may concern:

Be it known that I, JOHN T. GUY, of Ottawa, in the county of Putnam and State of Ohio, have invented certain new and useful Improvements in Gate-Hinge, of which the following is a specification:

This invention relates to certain improvements in gates, and hinges therefor, its object being to provide a gate which can be shifted horizontally in a direct line to partly open the way for foot passengers, and, when a larger opening is required for the passage of teams, can be swung on its hinge in the ordinary manner.

My invention consists, first, in an improved gate, secured by one of its upper rails between two revolving rollers, one of which is secured to a gudgeon mounted upon an arm adapted to move in the arc of a circle upon a bracket attached to the gate-post, the lower rail of said gate being secured between two rollers mounted upon gudgeons secured to a movable attachment which rests upon the ground, and which is connected to the movable gudgeon above, the gate being capable of a primary movement in a straight line and a secondary movement in the arc of a circle, as more fully hereinafter set forth; second, in an improved gate-hinge, consisting of a horizontal semicircular bracket adapted to be attached to the gate-post, and provided with a stationary perpendicular gudgeon, to which is pivoted an arm provided with a similar perpendicular gudgeon, the two gudgeons being provided with friction-rollers between which the upper rail of the gate is secured, and adapted to travel, as more fully hereinafter set forth; third, in combination with the stationary gudgeon and the plate to which it is secured, a semicircular recess, inclining from each end to the center on the quadrant, and a semicircular cam adapted to work in said recess for the purpose of steadying the gate while it is being moved in a direct line, as more fully hereinafter set forth; fourth, in the combination, with the gudgeons of the plate and pivoted arm, of two peculiarly-constructed friction-rollers, between which the upper rail of the gate is secured and adapted to travel; fifth, in the combination, with the lower rail of a gate, of a movable attachment which rests upon the ground and is provided with friction-rollers, between which the lower rail of the gate is secured and adapted to travel; sixth, in the combination, with said attachment, of an adjustable standard for securing the same to the rail of the gate, in order to adapt the attachment to various-sized rails.

In the drawing, Figure 1 represents a perspective view of the gate in a closed position; Fig. 2, a similar view of the gate partly open; Fig. 3, a detached sectional view of the gate-post and its hinge; Fig. 4, a top view of the gate-post and the hinge; Fig. 5, a detached perspective view of the gate-post and its hinge; Fig. 6, a vertical sectional view of the lower attachment; Fig. 7, a top view thereof, and Fig. 8 a perspective view of the same.

The letters A A′ represent the gate-posts, and B the gate, constructed of the ordinary horizontal bars, secured to the upright end pieces, as usual. B′ represents a semicircular plate or quadrant, provided with a downwardly-extending plate, C, and brace D. Said plate is adapted to set and be secured in a suitable recess formed in the upper part of the fence-post, and serves to firmly support the quadrant in position. To the upper side of the quadrant, at the center of the circle of which the quadrant is a part, is located an upright gudgeon, E, to which is pivoted an arm, F, which is adapted to move in the arc of a circle upon the upper face of the quadrant B′. Directly at the base of said gudgeon is formed a semicircular recess, G, which gradually deepens from each side to the center, and on the lower corresponding portion of the arm F is formed a semicircular cam, F′, which rests in said recess when the gate is fully opened, and serves to hold the same in position. The arm F at its free end is provided with an upright gudgeon, H, and both gudgeons E and H are surmounted with friction-rollers I I, having a broad flange at the base. One of the upper rails of the gate is secured and adapted to travel between these rollers, as more fully hereinafter explained.

The gudgeon H extends above the top of its friction-roller, and to such projecting portion is pivoted a horizontal plate, J, which is secured to the upper end of an inclined bar,

the lower end of which is secured to the movable attachment secured to the lower rail of the gate, which moves with said gate when it is swung on its hinge, and which rests on the ground when the gate is closed. Said attachment consists of a horizontal plate, K, having a perpendicular standard, L, in front, and two perpendicular standards, M, at the rear, to which is adjustably secured a perpendicular standard, N, by means of screw-bolts O, said standard being provided with a horizontal extension, P, which embraces the upper edge of the lower rail and secures the attachment thereon. To the plate K are secured two upright gudgeons, R, upon which are mounted friction-rollers S S′, similar in construction to the rollers I I of the gate-hinge above described. The lower rail of the gate is held and adapted to travel between these rollers, as more fully hereinafter set forth.

The operation of my improved gate is as follows: The gate being closed, as shown in Fig. 1, in order to open it slightly for foot-passengers it is forced back from the gate-post A′, traveling between the friction-rollers I I of the hinge and the similar rollers S S′ of the attachment.

When required to be further opened to admit of the passage of teams, it is forced farther back in the same direction until the rear end counterbalances the front, when it can be swung in the arc of a circle upon its hinge, the arm F swinging upon the gudgeon E until the gate is fully opened, in which position the cam F′ will enter and rest in the recess G, steadying and holding the gate in position. To close the gate this operation is repeated—that is to say, the gate is first swung back into position shown in Fig. 2, and then pushed forward to position shown in Fig. 1.

It will be perceived that, as the gate only makes a revolution on the gudgeon E of a quarter of a circle, the hinge is adapted to be used either for right or left gates without alteration, which is a matter of great convenience.

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

1. A gate secured by one of its upper rails between two friction-rollers, one of which is secured to a gudgeon mounted upon an arm adapted to move in the arc of a circle around the other roller, the gudgeon of which is fixed to a bracket attached to the fence-post, the lower rail of said gate being secured and adapted to travel between friction-rollers mounted upon a movable attachment embracing the lower rail, the whole being constructed and arranged to operate substantially as set forth.

2. A gate-hinge consisting of a bracket provided with a horizontal semicircular plate, having a perpendicular stationary gudgeon, to which is pivoted an arm capable of a movement in the arc of a circle, which is provided with a similar perpendicular gudgeon, both gudgeons being provided with friction-rollers, between which the upper rail of the gate is secured, the whole adapted to operate substantially as set forth.

3. In combination with the stationary gudgeon and the plate to which it is attached, provided with a semicircular recess inclining from each end to the center, an arm having a semicircular cam pivoted to said gudgeon, adapted to work in said recess, substantially as and for the purposes described.

4. In combination with the gudgeons of the semicircular plate and pivoted arm swinging thereon, the friction-rollers, provided with flanges at their bases, substantially as herein set forth.

5. In combination with the lower rail of the gate, the movable attachment provided with friction-rollers, between which the lower rail of the gate is retained and adapted to travel, substantially as set forth.

6. The combination, with the movable attachment, of an adjustable bracket hooking over the lower rail, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

JOHN T. GUY.

Witnesses:
PARVIS WING,
C. J. SWAN.