2 Sheets—Sheet 2.

H. A. STEARNS.

GATE FOR RAILROADS.

No. 192,882. Patented July 10, 1877.

Fig. 2.

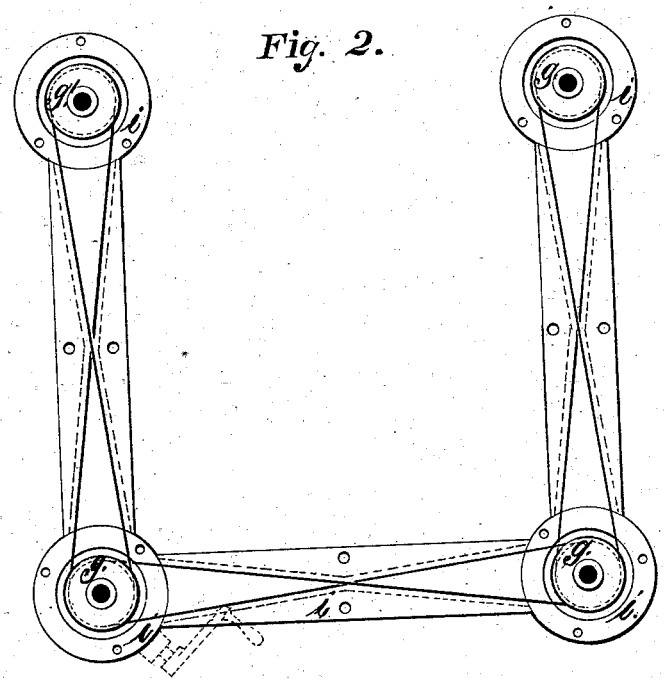
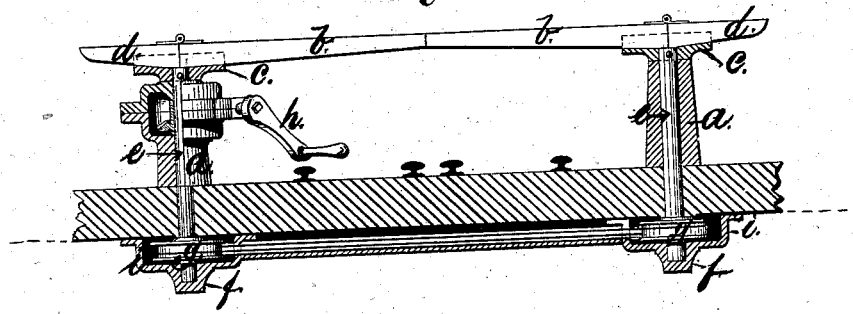


Fig. 3.



WITNESSES.

Russell N. Eaton

Jos. A. Miller Jr

INVENTOR.

Henry A Stearns

by Joseph A. Miller his Attorney

2 Sheets—Sheet 1.

H. A. STEARNS.

GATE FOR RAILROADS.

No. 192,882. Patented July 10, 1877.

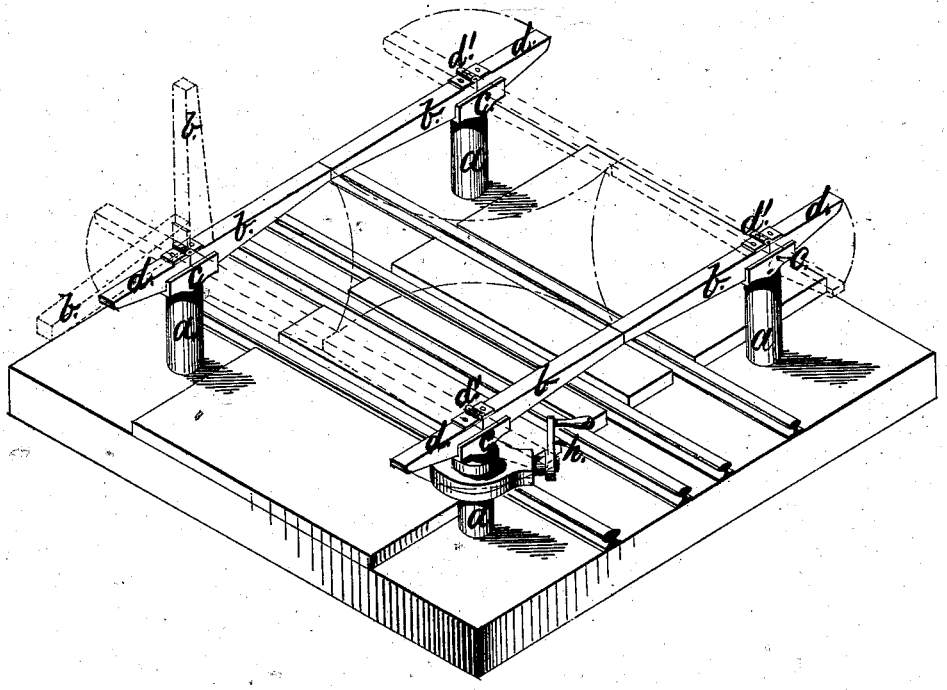


Fig. 1.

WITNESSES.

Russell W. Eaton.

Jos. A. Miller, Jr.

INVENTOR.

Henry A. Stearns

by Joseph A. Miller

his attorney

UNITED STATES PATENT OFFICE.

HENRY A. STEARNS, OF PAWTUCKET, RHODE ISLAND.

IMPROVEMENT IN GATES FOR RAILROADS.

Specification forming part of Letters Patent No. **192,882**, dated July 10, 1877; application filed February 17, 1876.

To all whom it may concern:

Be it known that I, HENRY A. STEARNS, of Pawtucket, in the county of Providence, State of Rhode Island, have invented certain new and useful Improvements in Railroad-Gates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a perspective view of my improved railroad-gate, showing its application to a road-crossing of a railroad. The gate is shown open for general traffic to cross the railroad, whereas the approach to the railroad-track is shown closed, all being indicated in solid lines. The position of the gate-bars, when the railroad is clear and the approach by the road-crossing the same is closed, is shown in broken lines. Fig. 2 is a ground or plan view, showing the manner in which the four gate-spindles are connected by chains, wire-ropes, or partially flexible rods, so as to turn simultaneously. Fig. 3 is a vertical section, showing the gate-spindles, the steps, the drums, and gearings for operating the gate.

Similar letters of reference indicate corresponding parts.

This invention has reference to that kind of gate in which two gates are placed, one on each side of the railroad-track, and operated so as to open and close both gates simultaneously, and consists in the peculiar and novel arrangement of horizontally-swinging gate-bars connected so as to swing together and open and close the gate on both sides of the railroad simultaneously; and further consists in the novel arrangement of so connecting the bars that the same may be turned over or raised, as will be more fully set forth hereinafter.

In the drawings, *a a a a* are the standards placed in the angles formed by the railroad, and a road or street crossing the same. *b b b b* are the gate-bars proper. *c c c c* are brackets screwed to the shafts turning in the standards, and to these brackets the gate-bars are secured. *d d d d* are gate-bars, by which, when the gate is closed, the sidewalk is protected. *d'* are strong hinges, by which the gate-bars *b* and *d* are connected.

The gate-bars *b b* may be made in one piece and the shorter end weighted, so as to balance the longer end, and thus insure a free turning of the gates on the spindles.

In most instances it becomes necessary to leave both the railroad and road open at night. To do this I arrange the gate-bars so that the same may either be doubled, as is shown in broken lines in Fig. 1, or raised perpendicularly, as is also shown in Fig. 1.

The bolsters or brackets *c c* are secured to vertical spindles *e e* resting in stops *f f*. To the lower part of said spindles the pulleys *g g* are secured, and these pulleys are connected by chains, wire-ropes, or rods, that portion which surrounds part of the pulley being flexible. The part below the ground and extending from standard to standard is made perfectly water-tight, so that no water can enter the same, and thus the whole spindles, pulleys, and connections are protected.

To insure free and easy working, the part inclosing the steps, pulleys, and connections may be filled with cheap lubricating-oils, and thus all parts be protected against rust and dampness, while all parts being thoroughly lubricated will thus move with little power.

The gate may be operated by any one of the gate-bars, or a bevel-gear may be secured to one of the spindles or to one spindle on each side of the railroad, and a beveled pinion worked by the crank *h*.

A locking device may also be arranged at any part of the gate, and thus all the gate-bars may be readily locked.

Instead of making the pulleys a complete circle they may be made so as to form only such a section of a circle as will be necessary to bring the gate through the portion of the circle required.

When gate-bars of one piece are used, and it is required to leave both road and railroad open at night or at any other time, the gate must be made to swing through half a circle, so that when both are open the gate-bars will extend along the road and away from the railroad.

This railroad-gate is very simple in construction. It can be opened and closed with little exertion, as the same, when balanced, rests only on the spindle-step.

Neither dirt, snow, nor ice can interfere with the free working of this gate, and there is no danger of the gate coming down on passing vehicles, as is the case with the vertically-swinging gate-bars. When the gate is being closed the motion of the bars, being from the railroad, will push back any team driving across in spite of the warning of the gate-keeper, and thus serious accidents are frequently prevented.

When the distance across the railroad is more or less than the distance across the other road the gate-bars may be arranged to pass one another, or one set of posts or standards may be lower than the other, and the gate-arms of one set pass under the arms of the other.

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

1. The combination, with the horizontally-swinging gate-bars, of the standards *a*, spindles *e*, the latter having bolsters secured to their upper ends to support the gate-bars and pulleys to their lower ends, which operate in connection with chains to impart simultaneous movement to the gate-bars, substantially as and for the purpose set forth.

2. The combination, with standards *a* and spindles *e*, of the bolsters *c* and hinged gate-bars secured to said bolsters, substantially as and for the purpose specified.

3. The combination, with the horizontally-swinging gate-bars, of the standards *a* and spindles *e*, the latter extending below the standard through the foundation of the crossing, and stepped in water-tight casings *i i*, substantially as and for the purpose set forth.

4. The combination, with the horizontally-swinging gate-bars, of the standard *a*, spindle *e*, the latter having bevel-gearing combined therewith, whereby the bars may be actuated by a crank, *h*, substantially as and for the purpose specified.

HENRY A. STEARNS.

Witnesses:

JOSEPH A. MILLER,

D. B. POTTER.