D. H. BUCHER.

RAILWAY GATE.

No. 180,540. Patented Aug. 1, 1876.

Fig. 1

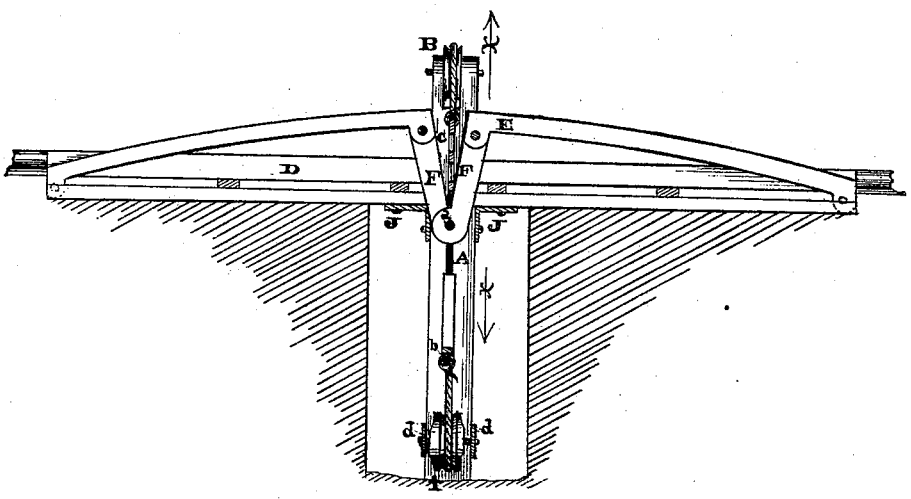
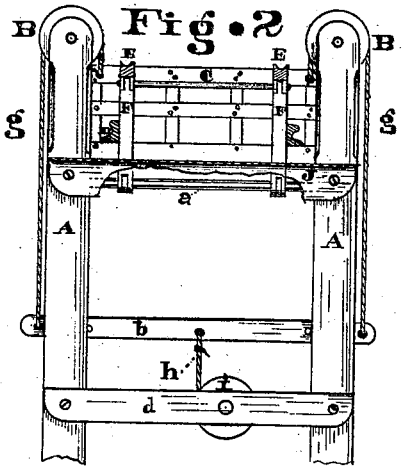


Fig. 2



Attest

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DAVID H. BUCHER, OF WOOSTER, OHIO.

IMPROVEMENT IN RAILWAY-GATES.

Specification forming part of Letters Patent No. **180,540**, dated August 1, 1876; application filed February 29, 1876.

To all whom it may concern:

Be it known that I, DAVID H. BUCHER, of Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Improvement in Railway-Gates, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is an automatic railway-gate that will be depressed below the level of the track by the wheels of the approaching train pressing upon pivoted bars arranged parallel with, and when depressed forming part of, the rails, and that will be returned to its elevated position by a spring after the pressure of the wheels has been removed from the levers, the gate being adapted to slide vertically between grooved posts set upon opposite sides of the track, and held in its elevated position by cords passing over grooved pulleys journaled in the tops of these posts. These cords are stretched from the gate to a spring-bar which extends through vertical slots in the lower parts of the posts, the bar being held down by spring-tension.

In the drawing, Figure 1 is a central longitudinal vertical section of a portion of a railway-track, showing the gate in its elevated position. Fig. 2 is a transverse section through the line *x*.

A are the grooved and slotted posts. B are grooved pulleys; C, the gate; *b*, the spring-bar, and *g* twisted-wire cords. I is a hollow pulley, turning upon a stationary journal between the cross-braces *d*. It contains a torsion-spring, one end of which is secured to the stationary journal, and the other to the rim of the wheel. *h* is a rope secured to the pulley I, wound around it, and stretched to the bar *b*, so that when the bar *b* is raised by depressing the gate this spring will be wound around the shaft, and, by uncoiling, will return the gate to its elevated position. D are the rails, the inner sides of which are cut away to leave a straight face, against which the levers E rest when depressed, thus supplying the portion of the rail so cut away. These levers are grooved upon the upper side to receive the flanges of the car-wheels, and are preferably made with a slight curve, to insure the depression of the gate below the level of the track; but the rail may be divided longitudinally, so that a portion of it may form these levers. F are hinged arms, one end of each being hinged to the levers E. The other ends are knuckle-jointed together in pairs.

The rod *a*, to which the gate is secured, is the pin for both pairs of hinges. This rod is long enough to pass into the grooves in both posts, so as to assist in steadying the movements of the gate. J are angle-iron cross-braces, bolted to the upright posts for the purpose of securing them firmly together, and also to support the stringers upon which the cross-sleepers rest.

The operation is as follows: As the train approaches, the flanges of the car-wheels, pressing upon the levers E, depress them below the level of the rails, and thus carry the gate, which is secured to the rod *a*, below the level of the track, a pit being dug across the track to receive it and the devices that return it to its elevated position. After the train has passed, and the pressure of the wheels is removed from the bars E the gate is returned to its elevated position by the spring contained in the wheel I uncoiling, and drawing the bar *b* down.

I have described what I believe to be the best form of embodying my invention; but this form may be modified without departing from its principle. Its main features are a gate adapted to slide vertically in grooved posts, to be depressed by the wheels of the train operating upon levers connected by links with the gates, and arranged parallel with the rails, and to be returned by a spring to its elevated position after the train has passed.

In place of the wheel I and its coiled spring any of the well-known springs may be used; or the bar *b* may be weighted to accomplish the same result; or the bar *b* and all the pulleys and cords may be dispensed with, and the gate returned by a spring acting directly upon it.

I claim—

1. In combination with the gate, held in its

elevated position and adapted to slide vertically, as described, the hinged levers parallel with the rails, the hinged arms, one end hinged to said levers, the opposite ends hinged to the cross rod of the gate, the parts being constructed to operate as specified.

2. The combination of the spring-pulley I, bar *b*, pulley B, and cords *g* and *h*, for returning the gate to its elevated position, as specified.

DAVID H. BUCHER.

Witnesses:
JOHN H. SILVER,
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