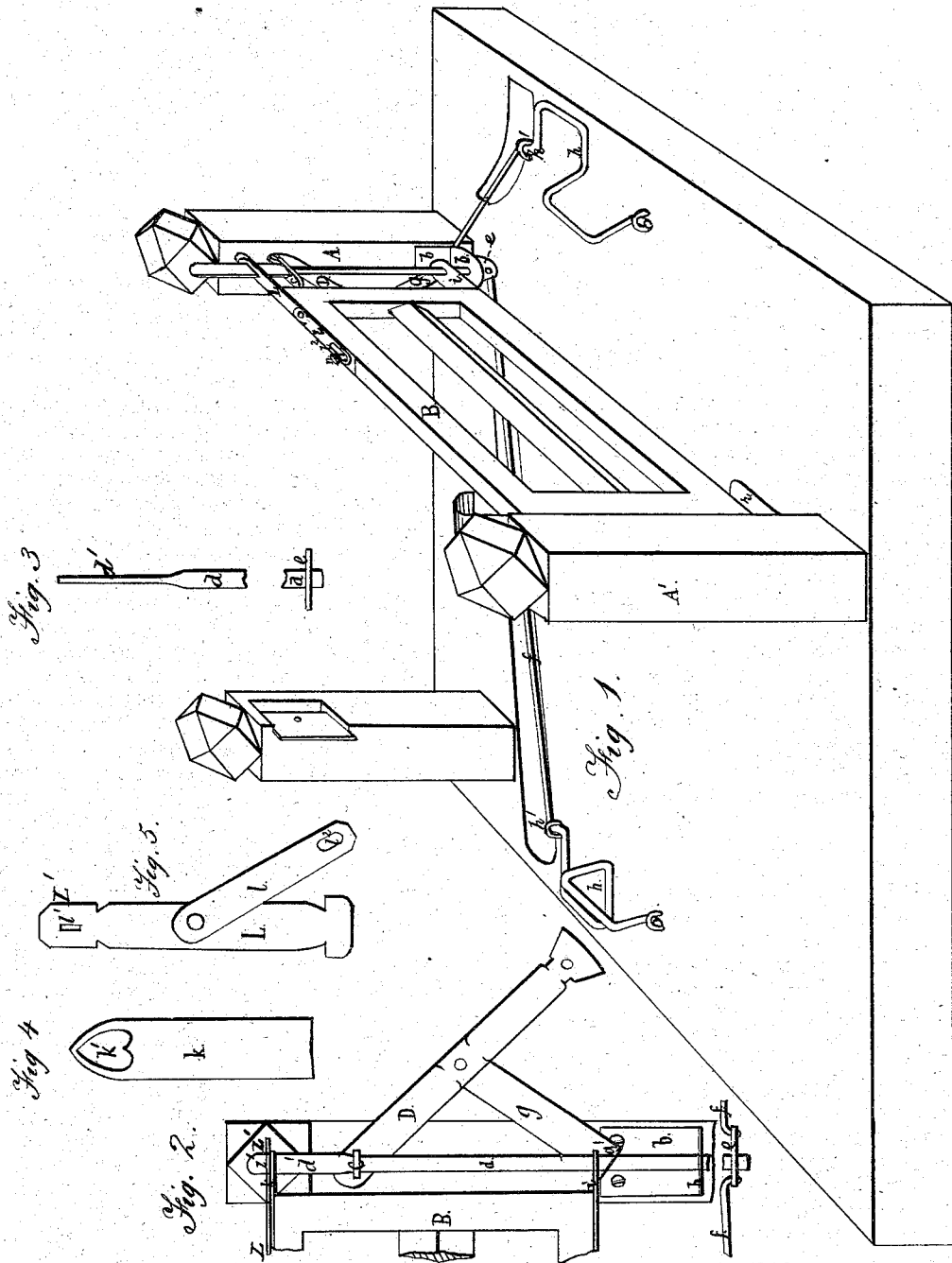


J. A. TREAT.
Automatic-Gates.

No. 154,968.

Patented Sept. 15, 1874.



WITNESSES:

Chas. J. Fouch
Thos. Houghton

INVENTOR:

Joseph A. Treat
by Colborne Brooks
his attorney

UNITED STATES PATENT OFFICE.

JOSEPH A. TREAT, OF TALLMADGE, OHIO.

IMPROVEMENT IN AUTOMATIC GATES.

Specification forming part of Letters Patent No. **154,968**, dated September 15, 1874; application filed September 13, 1871.

To all whom it may concern:

Be it known that I, JOSEPH A. TREAT, of Tallmadge, in the county of Summit and State of Ohio, have invented certain Improvements in Self-Operating Gates, of which the following is a specification:

My invention relates to improvements in that class of self-operating gates which are opened and closed, when required, by the pressure of the wheels of vehicles (requiring to pass or having passed such gates) upon wheel-irons or projections placed in proper position in the carriage-way leading to and from such gates.

The object of my invention is, first, to facilitate the unlocking of the gate, the removal of the same from its anti-sagging rest by withdrawing the same laterally slightly out of a horizontal line, and afterward turning the same on its hinge-bearings, so as to open or close the same. The object of my invention is, further, to facilitate the raising and lowering of gates by means of lever arrangements, such as described in the specification of Letters Patent granted to Joseph A. Treat, bearing date on or about October 12, 1858, No. 21,785; and the combination of such raising and lowering arrangements of mechanism for automatically opening and closing gates, in connection with wheel-irons, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 represents a perspective view of a gate with my improvements applied thereto. Figs. 2, 3, 4, and 5 are detail views of parts separately.

In each of the views similar letters are employed to indicate corresponding parts.

A A' represent a pair of gate-posts firmly set in the ground, and B a gate closing a roadway. To the post A, at a short distance from the ground, a bracket, *b*, is affixed, and above, at a distance slightly less than the height of the gate B, it is provided with a staple, C, which is firmly screwed or otherwise affixed thereto. Through the bracket *b* and staple C a vertical rod, *d*, is passed, with capability of turning in bearings formed therein. To the lower end of this rod *d* a cross bar or arm, *e*, is affixed, to the outer ends of which one end of each of the rods *f f* is connected, the opposite ends of such rods being jointed to short lever-

arms formed or affixed on the axis *h'* of the wheel-irons *h*, whereby the motion of such wheel-irons *h* is communicated to the vertical rod *d*, and from thence to the gate B, as hereinafter described, for the purpose of unlatching and opening or closing the same. To the under edge of the gate B a bracket or loop, *i*, is attached, as shown in Figs. 1 and 2, which is formed with a bearing for the passage of the rod *d*, and at the upper edge the gate B is fitted with a plate, *k*, at the outer extremity of which is formed a heart-shaped opening, *k'*, in which the rod *d* works. The rod *d*, at its upper end, is provided with a flat extension, *d'*, (extending a considerable distance above the upper side of the staple C, as shown by Figs. 1, 2, and 3,) adapted to be received in a rectangular slot, *l'*, in the end L' of a lever, L, which is arranged immediately above the plate *k*, in such manner that the end L' of the lever L may slide freely up and down on the extension *d'*, but without capability of turning thereon. To the center of the lever L one end of a shorter lever, *l*, is connected, the opposite end of which is provided with a slot, *l'*, through which the shank of a connecting-pin, *l'*, works, which is firmly secured to the top rail of the gate B. D is a lever-arm, the upper end of which is pivoted on the staple C. To the center of this lever D the upper end of a shorter lever, *g*, is connected, the lower end of the same being provided with a forward extension, *g'*, through which the vertical rod *d* passes, and upon which the bracket or loop *i*, affixed to the under side of the gate, rests, thereby supporting the gate B.

The operation of the gate is as follows: When either of the wheel-irons is thrown down, the rod *f*, connected therewith, will draw or force the cross-bar *e* around, thereby turning the rod *d*, and, consequently, the lever L, which draws with it the short lever *l*, pivoted to it, and drawing upon, while at the same time it lifts the front end of the same up until it unlatches, when the lever L, by the continuous pull imparted to it by the wheel-irons through the rod *d*, bar *e*, and rods *f f*, will open or close the gate, as the case may be.

It will thus be seen that the gate is not simply unlatched by the operation of the wheel-irons, but is actually pulled around by them,

so that the gate is certain of operation, and will open whether the post is perpendicular or not. This gate may also be employed upon inclined roads, as it does not depend upon gravity for opening it.

Whenever the swinging of the gate is interfered with by reason of the roadway becoming obstructed by snow or otherwise, the gate may be elevated by pulling the levers *D g* into the position shown by Fig. 2, in which position they may be retained by a cord and stake, or other available means, until the obstruction is removed, thereby preventing any interference with the continued use of the gate in the meantime.

Having thus described my invention, I would have it understood that I lay no claim, separately, to the means for raising a gate over obstructions, nor, broadly, to a vertical rod or to a lever operated by means of a vertical rod for opening and closing, as the same

are shown and described in the specification of Letters Patent granted to me bearing date the 2d day of October, 1858; but

What I do claim, and desire to secure by Letters Patent, is—

1. The combination, with a gate, *B*, slotted lever *l*, and sliding lever *L*, of the vertical axis-rod *d*, provided with a cross bar or arm, *e*, and a rectangular extension, *d'*, all constructed and operating substantially as and for the purpose shown and described.

2. The combination, with a gate, *B*, plate *k*, having a heart-shaped opening, *k'*, sliding bracket *i*, levers *D g*, and extension *g'*, of the axis-rod *d*, extension *d'*, bar *e*, slotted lever *l*, and sliding lever *L*, all constructed and operating as shown and described.

J. A. TREAT.

Witnesses:

F. H. BIERMANN,
GEO. W. TIBBITTS.