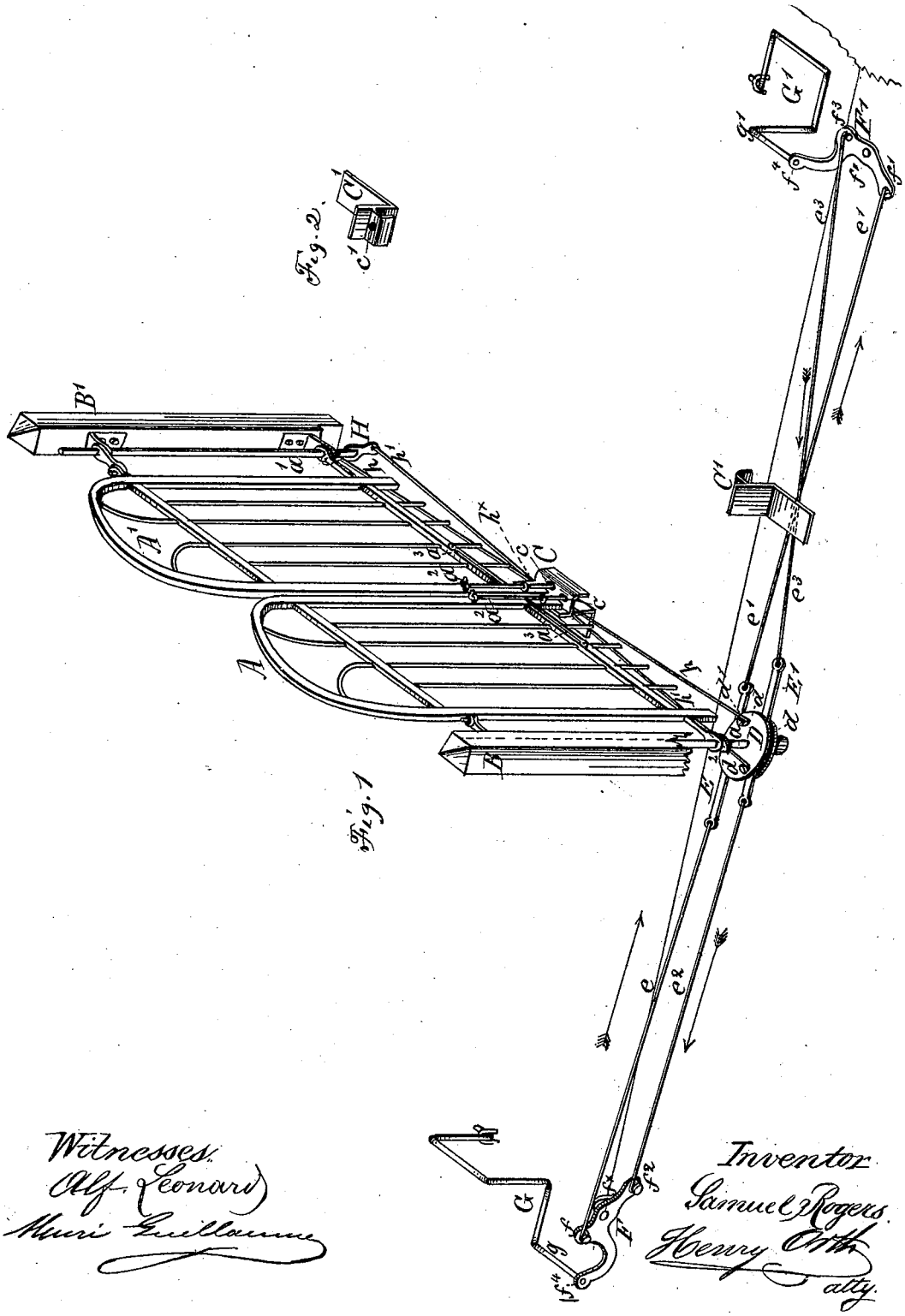
S. ROGERS.
Gate.

No. 199,227. Patented Jan. 15, 1878.



Witnesses.
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UNITED STATES PATENT OFFICE.

SAMUEL ROGERS, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **199,227**, dated January 15, 1878; application filed September 1, 1877.

To all whom it may concern:

Be it known that I, SAMUEL ROGERS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Gates, of which the following is a specification:

My invention relates to that class of automatic gates, which are opened and closed by one of the wheels of a passing vehicle.

The invention consists in the application to one of the gate-pintles of a double gate, or to the pintle of a single gate, of a grooved wheel or disk, between the flanges of which are pivoted eccentrically two operating-links, to which links the double connection with the wheel-irons are attached.

The invention further consists in the combination, with the grooved disk and links and the operating-wires and the wheel-irons, of a three-armed lever rigidly mounted upon a projection of said wheel-irons.

In the accompanying drawings, Figure 1 is a plan view, showing the general arrangement of mechanism for operating a double gate; and Fig. 2 is a perspective view of a double gate constructed and arranged according to my invention.

A A′ are the two sections of a double gate, hung upon their respective posts B B′ in such manner as to impart to said sections a slight lifting movement, either when opened or closed.

This manner of hanging the gates is well known, and need therefore not be particularly described here. I employ these means for the purpose of locking the gates automatically, either in a closed or open position, by the following means:

C C′ are stops having a slightly-inclined face, and provided with slots or perforations *c c′*. The stop C serves to hold the gates in a closed position, and the stops C′ hold the sections A A′ in an open position by means of the bolts a^2 a^2, with which each section is provided. These bolts project sufficiently below the sections A A′ to permit them to enter the slots or holes *c c′* in the stops, and be lifted out of the said holes or slots when the gate is opened or closed. These bolts slide freely in their bearings, and are pushed up by the momentum of the gate-sections as soon as they (the bolts) strike the inclined face of the stops to fall back into the slots or holes, as will be readily understood; or this may be effected by springs a^3, as shown.

a a^1 are the gate-pintles, the former of which carries a grooved wheel or disk, D, between the flanges *d d* of which are pivoted eccentrically, and on opposite sides of the pintle *a*, two links, E E′, the grooved wheel or disk D serving to hold the links in proper position, while said links not only guide the connecting rods or wires properly, but prevent their becoming entangled, as is so frequently the case in gates of this character in which flexible connections are employed to actuate the gates by a pulling motion, instead of rigid rods to actuate said gate-sections by either a pulling or a pushing motion.

e e^1 e^2 e^3 are the connections between the links E E′ and the three-armed levers F F′, rigidly mounted on the treadles or wheel-irons G G′. I prefer to employ wire-connections, though any other suitable material may be used, such as ropes or rods; but owing to the greater durability of wire as to that of ropes, and said wire being equally as durable as rigid connecting-rods, and much less expensive, I prefer to employ the wire-connections *e* e^1 e^2 e^3, which are arranged as follows:

One end of the wire *e* is connected to one end of the guide-link E, while the other end of said wire is connected to the short central arm *f* of the three-armed lever F, the outer end of wire e^1 being connected to the lower long arm f^1 of the three-armed lever F′, the inner end of said wire e^1 being connected to the other end of link E. The wire e^2 is connected at one end to the lower long arm f^2 of the lever F, and at the other end to the link e^1, and the wire e^3 is connected at one end to said link E^1, and at the other to the short central arm f^3 of the lever F′. The upper long arms f^4 of the levers F F′ are rigidly connected to one arm, *g g′*, of the wheel-irons G G′, which latter are constructed and arranged as usual in all other respects. The levers F F′ are pivoted centrally upon short studs affixed to the inclosing-casing, as shown at $f^\times$.

The pintle a^1 of the gate-section A′ carries a lever, H, to one arm of which is connected one end of a wire, *h*, the other end being con-

nected with the grooved disk D on one side of the pintle a, as shown at d^1, a second wire, h', being connected at one end with the opposite arm of the lever H, and at the other end said wire h' is connected to the disk D at the opposite side of the pintle a, as shown at d^2, the wires h h' crossing each other, as shown at $h^\times$.

It is evident from the arrangement of disk D, levers H F F′, their respective connections, and the wheel-irons G G′ that when either of the latter is caused to actuate the mechanism for opening or closing the gate-sections the power applied is exerted upon the whole series of the connecting-wires in both directions throughout their length. For instance, supposing the gates to be closed, as shown in Fig. 2: When power is applied to wheel-iron G to open the gate, the lower arm f^2 of the lever F will pull in the direction of the arrow upon the wire e^2, link E′, wire e^3, and the short arm f^3 of lever F′, as well as upon the wire h' and one arm of lever H, while the lower arm f^1 of lever F′ will pull upon wire e^1, link E, wire e, short arm f of lever F, wire h, and the other arm of lever H in an opposite direction to that of the arrow, to impart to the disk D and lever H, and with them to the gate-sections A A′, one-half of a revolution upon their axes or pintles.

By these means no power will be lost, as it is evident from what has been said above, and from the peculiar construction of levers F F′ H, that the moment power is applied in one direction to the wheel-irons to actuate one set of connecting-wires said power is at the same time applied to the other set of connecting-wires in a reverse direction to rotate the disk D and lever H, and with them the gate-sections.

I am aware that disks have been used upon gate-pintles in combination with one or more operating-wires connected directly with said disks; and I do not wish to claim such an arrangement.

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

The combination of the gate-pintle a, flanged or grooved disk or wheel D, the rigid links E E′, pivoted between the flanges of said disk on opposite sides thereof, and eccentric to the pintle, the operating-wires e e^1 e^2 e^3, the three-armed levers F F′, and the wheel-irons, all constructed and operating substantially as set forth.

In witness that I claim the foregoing I have hereunto set my hand this 29th day of August, 1877.

SAMUEL ROGERS.

Witnesses:
FRANK P. DEVOE,
WM. H. STERRITT.