(No Model.) 2 Sheets—Sheet 1.

G. L. CADY.

AUTOMECHANICAL RAILWAY SIGNAL.

No. 495,691. Patented Apr. 18, 1893.

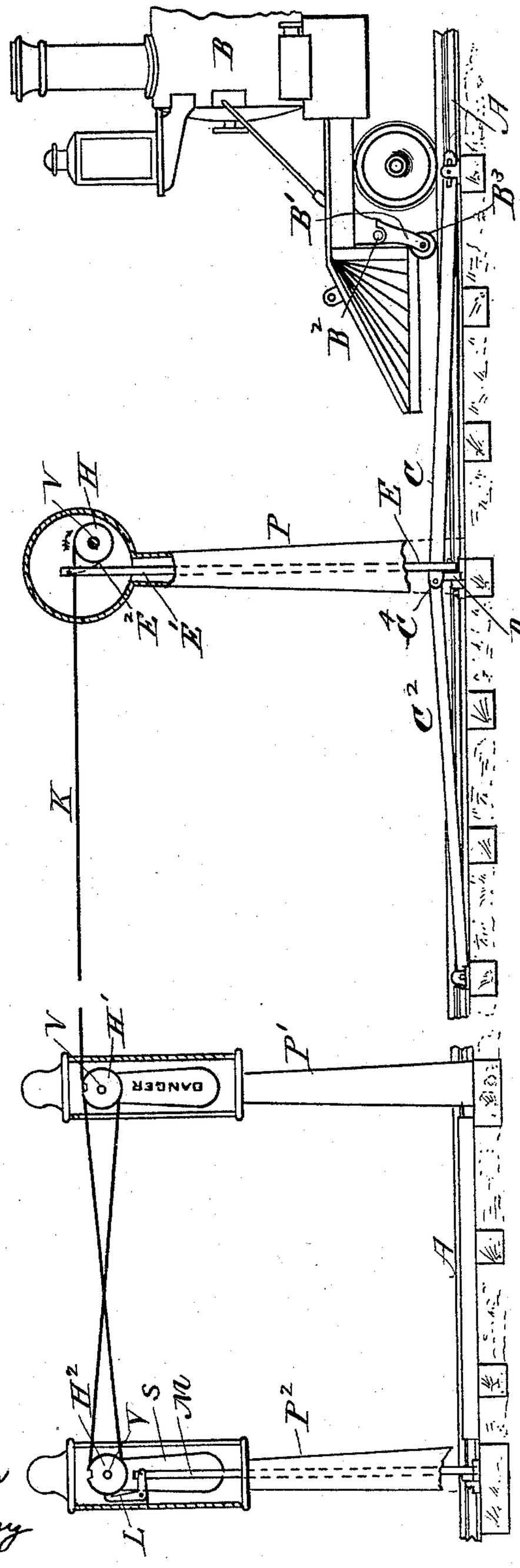

FIG. 1.

WITNESSES
Frank G. Parker
William H. Parry

INVENTOR
George L. Cady.

(No Model.) 2 Sheets—Sheet 2.

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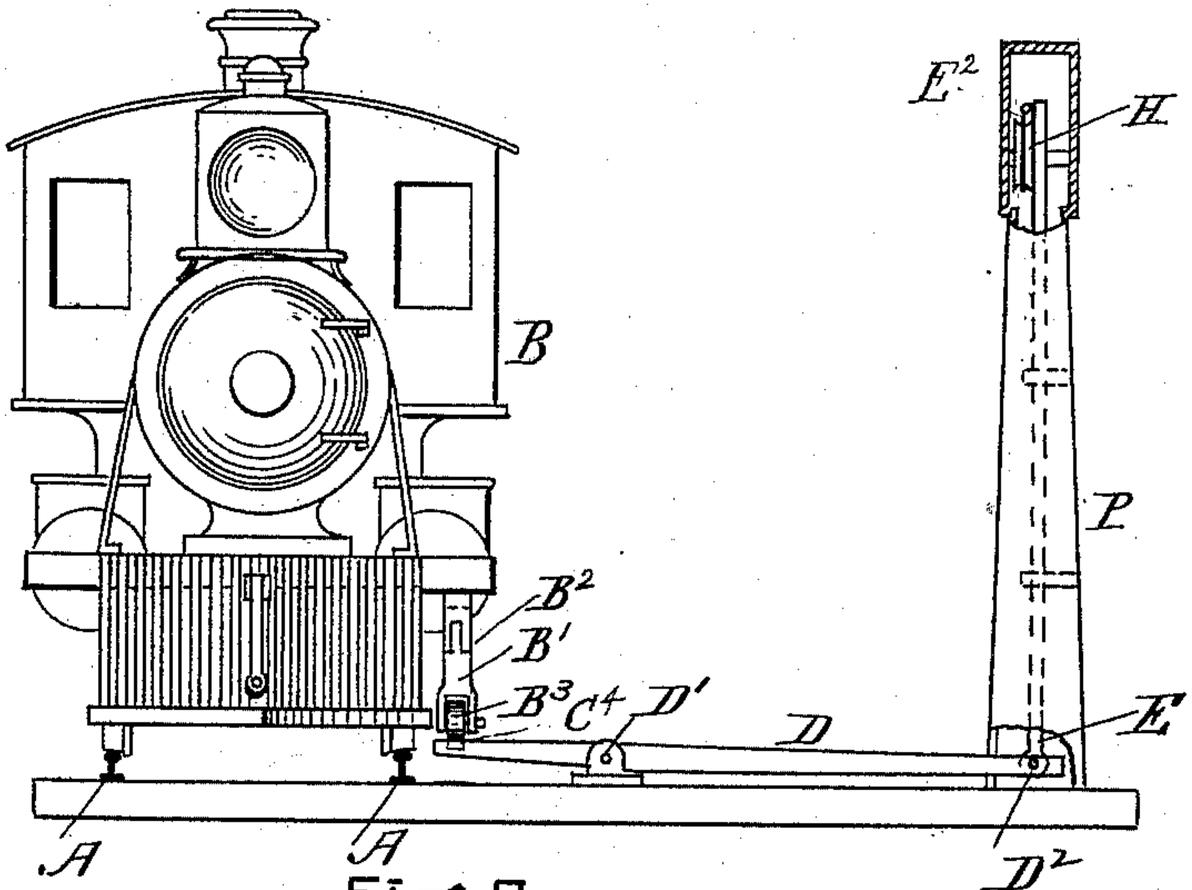

Fig. 2.

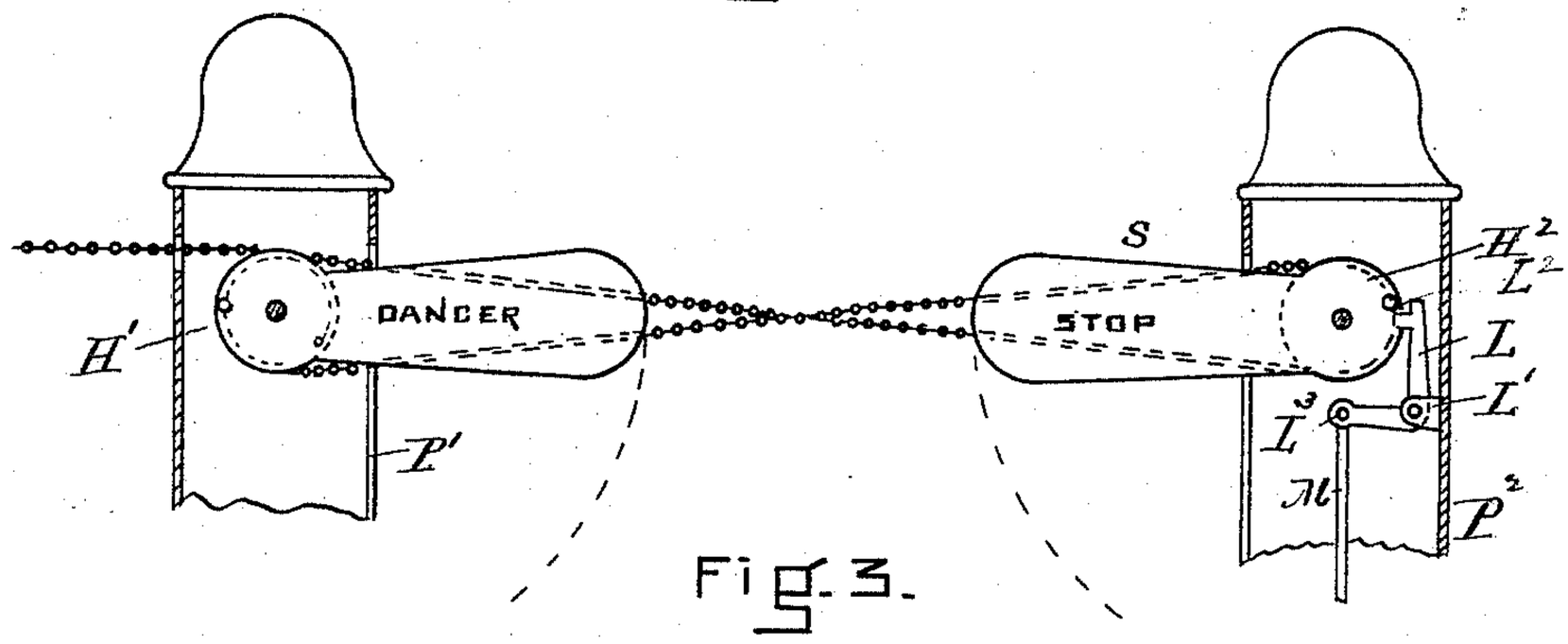

Fig. 3.

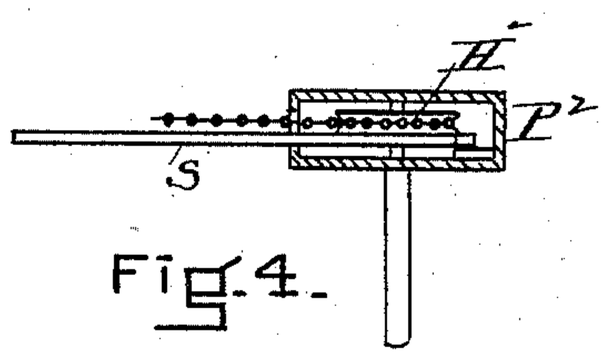

Fig. 4.

WITNESSES

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George L. Cady.

UNITED STATES PATENT OFFICE.

GEORGE L. CADY, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO THE JACKSON-CADY ELECTRIC-RAILWAY SIGNAL COMPANY, OF PORTLAND, MAINE.

AUTO-MECHANICAL RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 495,691, dated April 18, 1893.

Application filed May 18, 1892. Serial No. 433,464. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. CADY, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Auto-Mechanical Railway-Signals, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to an improved construction and arrangement of mechanical devices to operate railway signals without the aid of electricity, the object being to secure certainty of action and non-liability to get out of order. This object I attain by the mechanism shown in the accompanying drawings, in which—

Figure 1, is a sketch in side elevation intended to show the general working of my signal. Fig. 2, shows about the same in end elevation. Figs. 3 and 4, illustrate details.

In my system I do not confine myself to any particular arrangement of signs or signals, as these particular parts may be varied, my invention relating to the method of operating them. The use, general relation and method of giving notice of danger or safety may be left to the care of the officers in charge.

In the drawings, let A, A, represent the rails of an ordinary track, and B a locomotive. This locomotive B is made in any desirable manner, and is only different from others in the fact that near the front end I attach to a bracket by a joint B^2 a down-hanging arm B′, said down-hanging arm having at its lower extremity a frictional roller B^3. The arm B′ is so arranged that if the engine is backing, and the arm comes to an obstruction of any kind, it will swing up and go over it, without effect; but when the engine is moving forward, then the arm hangs in its normal position, as shown (see Figs. 1 and 2).

The signal posts are indicated by letters P P′ P^2, the posts P′ P^2, being for the crossing signals, and the post P having apparatus for operating the signals proper; each of these posts contains at its head a wheel as shown at H, H′, H^2; these wheels are mounted upon shafts V, and upon the shafts in the posts P′ and P^2, a signal board or sign is attached so that as the wheel and shaft rotate the board must take a similar movement. These boards may be colored as may be desired, or be lettered, or if night signals are to be used, lanterns may take their place, or moving transparent colored screens.

In the drawings, Fig. 1, I have shown three signal posts, but I do not limit myself to any particular number.

I will now describe my device for operating signals. C, C^2, Fig. 1, are long levers placed longitudinally near the rails, their ends being connected together at C^4, and resting upon the inner end of a lateral lever D (see Fig. 2), this lateral lever D is pivoted to a fixed fulcrum D′, and has at its outer end a vertical rod E, pivoted at D^2; this vertical rod E has at its upper end E′ a chain or wire E^2, which is adapted to pass round the wheel H, (see Fig. 1) so that when the rod E E′ is moved upward it will cause the wheel H to rotate in the direction of the arrow, and as this wheel H is connected by a chain or wire K with the wheel H′ and the wheel H^2 in the other signal posts, it will be seen that they will all operate together, that is, when one signal is operated they will all operate. If desirable, the chain or wire E^2 may be the same, that is, a simple continuation of the wire or chain K.

The operation of my device is as follows: As the engine advances (see Fig. 1), the friction wheel B^3 will come in contact with the lever C, and gradually depress it; this depression of the lever C will depress the inner end of the lateral lever D, (see Fig. 2,) which will cause the outer end of the lever D to ascend and force the rod E E′ upward, which acting through the chain E^2 will operate the signals as has been set forth. Now when the signals are thrown up into the position shown in Fig. 3, a bent lever L will engage at L^2 with a notch in the end of one of the signals (the signal in post P^2, for instance) and hold it in position. This bent lever L is pivoted at L′, and has pivoted at the extremity of the lower arm L^3 a rod M, this rod M connects at its lower end with a lateral lever in all respects like the lever D, in Fig. 2, so that when the engine arrives at post P^2, the lever, like lever D, will be operated upon, and the rod M will be thrown up, thus releasing the signal S, Fig. 3, allowing it to drop, and as all the signals are connected together, they will all drop, giving

notice that the track is clear, and also (if it is for crossing signals) that the street is safe.

I claim—

In a railway signal system, the combination of a down-hanging arm (B′) attached to the engine and adapted to operate the setting and releasing signal levers as described; with the setting and releasing levers, the post P having the signal setting apparatus, the mechanisms for connecting the signal setting apparatus with the signal-boards of the signal posts, the signal-boards, the locking bent lever L in the signal post (P^2) and the releasing mechanism, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of May, A. D. 1892.

GEORGE L. CADY.

Witnesses:
FRANK G. PARKER,
WILLIAM H. PARRY.