

(No Model.)

A. BRYSON, Jr.

AUTOMATIC RECEIVER FOR PNEUMATIC OR OTHER DISPATCH SYSTEMS.

No. 480,805.

Patented Aug. 16, 1892.

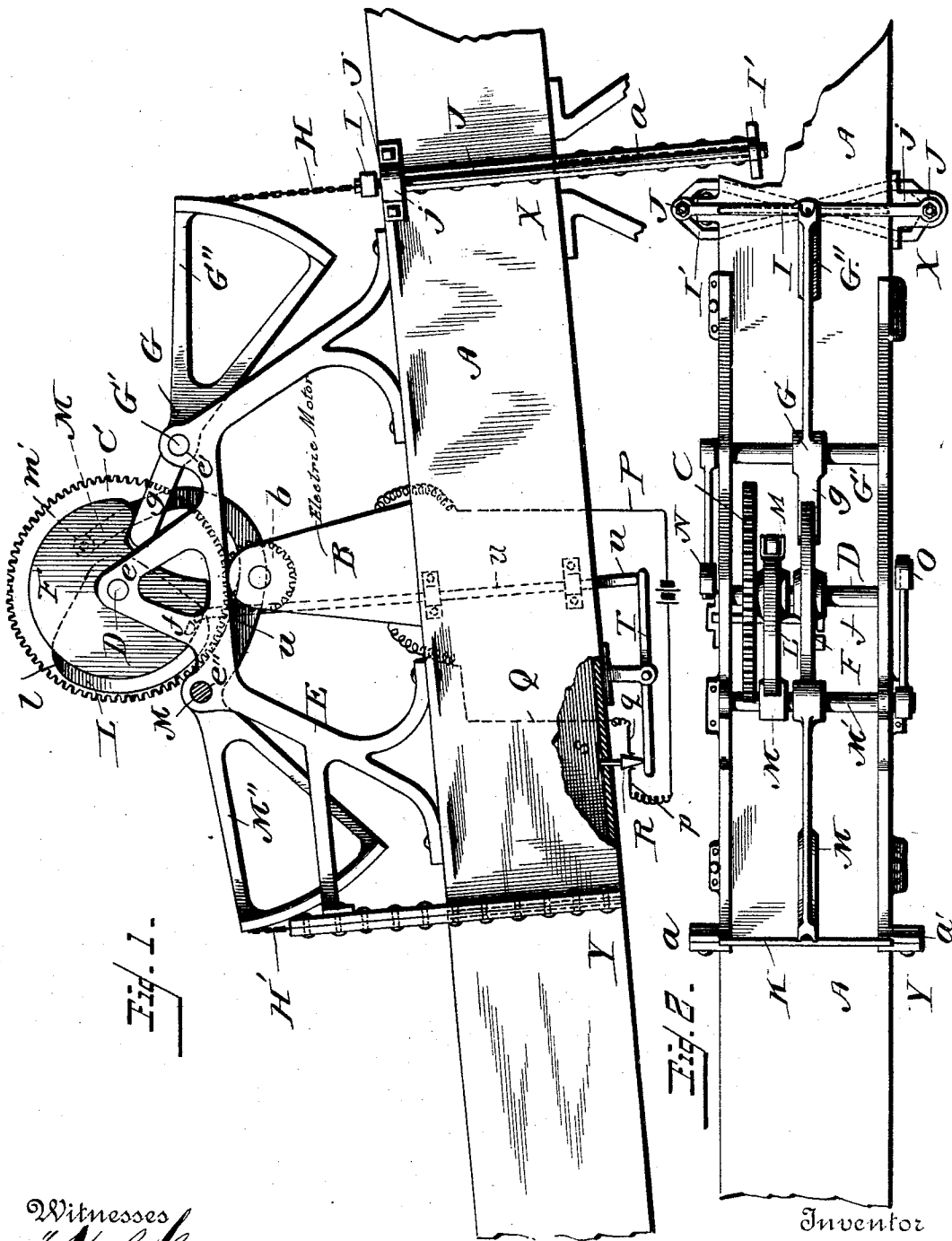


Fig. 1.

Fig. 2.

Witnesses
Albert J. Spuden.

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UNITED STATES PATENT OFFICE.

ANDREW BRYSON, JR., OF NEW YORK, N. Y.

AUTOMATIC RECEIVER FOR PNEUMATIC OR OTHER DISPATCH SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 480,805, dated August 16, 1892.

Application filed October 15, 1891. Serial No. 408,814. (No model.)

To all whom it may concern:

Be it known that I, ANDREW BRYSON, JR., a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Automatic Receivers for Pneumatic and other Dispatch Systems, of which the following is a specification.

The object of my invention is to provide an automatic device whereby a carrier on its passage into and out of the receiving-station may alternately open and close a series of gates in its path, and my device is more particularly applicable to a pneumatic receiving-station, such as I have described in Letters Patent No. 422,498, granted me March 4, 1890, in which a carrier propelled by pneumatic or other means is brought up against an air-cushion, wherein an abutment is automatically and continuously presented in the tube for the compression of the air at all times when the carrier is passing in or out of the receiver; but I do not limit myself to its use in such combination, as it is applicable to all uses wherein it is desired that on the passage of a carrier over a way one or more gates should be automatically opened and closed; and my invention consists of gates suspended from the arms of pivoted levers, the other arms of which engage with lifting-cams mounted on a shaft which is rotated by a gear-wheel mounted thereon or other suitable device actuated by any suitable motor, the motor being set in motion and stopped by the passage of the carrier.

In the accompanying drawings and description I have shown an electric motor started and stopped by the automatic making and breaking of its circuit on the passage of a carrier; but I do not limit myself to its use with such a motor, as any driving mechanism will suffice, provided that it be set in operation and again stopped by the passage of a carrier.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side elevation of my automatic electric receiver, and Fig. 2 a plan of the same.

A is the receiving end of a pneumatic tube having a downward incline in order to facilitate by gravity the descent of the carrier after leaving the main line.

B is an electric motor.

b is a toothed wheel actuated by the motor, which gears with the pinion C, keyed to the shaft D, rotating in bearings *e e* on the frame E.

F is a lifting-cam keyed to the shaft D.

G is a lever fixed to the shaft G', which rocks in bearings *e' e'* on the frame E. One arm *g* of the lever G bears against the periphery of the cam F. The other sector-shaped arm G'' is connected by a chain H, steel straps, or other suitable means to the yoke I. From the yoke I is suspended by the rods J J, which pass through the guides *j j* on each side of the tube A, the lower yoke I', to which is fastened the gate X. Gate X rises and falls through a slot in the bottom of the tube A and between the guides *a a*, formed in the tube.

L is a heart-shaped cam, also keyed to the shaft D.

M is a lever-arm fixed to the shaft M', which rocks in bearings *e'' e''* on the frame E. It carries a friction-roller *m'*, which bears against the periphery of the cam L. Another sector-shaped arm M'', also keyed to the shaft M', is connected directly by a chain H' or in any suitable way to the gate Y, which rises and falls through the slot K between guides *a' a'* in the tube A.

N and O are counter-weights keyed, respectively, to the sector-shafts G' and M' to balance the gates X and Y.

In place of the two separate arms M M'', keyed to the shaft M', I may form the lever in a single piece, as in the case of the lever G, or I may attach all of the arms M M'' G'' separately to their respective shafts without departing from the spirit of my invention. Neither do I limit myself to the sector-shaped ends of the levers.

P and Q are wires forming the circuit of the electric motor. This circuit is made and broken by the rise and fall of the contact-piece R between the terminals *p q*. Contact-piece R is depressed and the circuit made by the downward movement of the hinged plate S, to which it is attached.

T is a pivoted lever, on one arm of which rests contact-piece R, while the other arm bears against a rod U, the other end *u* of which when raised by the lever T engages the lug *f* on the cam F.

The operation of my device is as follows: When the receiver is in its normal position, as shown in Fig. 1, the gate X is open and the gate Y closed, and one arm of the lever T having been pushed down by the passage of the lug *f* over the end *u* of the rod U the contact R is raised and the motor-circuit broken. On the passage of a carrier into the receiver the plate S is depressed and the circuit made through the motor by the contact R. The motor causes shaft D to revolve and with it cams F and C. Cam F at once depresses the arm *g* of the lever G, which lifts the gate X, closing the tube A. When this point is reached, the arm M has also reached the point *l* on the cam L, whereupon the arm is in turn depressed and the tube A opened by the lifting of the gate Y, allowing the carrier to pass out of the receiver.

The cams now continue to revolve together until the arm M reaches that point on the cam L where it is allowed to rise, clearing the gate Y. When the gate Y has closed, the cam F has been revolved sufficiently to allow the arm *g* to rise and the gate X to be opened, at which point the lug *f* on the cam, passing over the extremity *u* of the rod U, depresses the lever T, breaks the circuit, stops the motor, and the receiver is again in its normal position, prepared for the arrival of the next carrier. It is thus seen that the receiver is maintained continually closed by either the gate X or Y, that the operation of the motor is continuous and the gates actuated by a positive motion, and that there is no reversing of the motor or cam action.

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

1. The combination, with a way and carrier, of a pivoted lever, a gate suspended from one arm of the lever, a lifting-cam mounted on a shaft and engaging with the other arm of the lever, and mechanism automatically actuated by the passage of the carrier to rotate the cam, substantially as described.
2. The combination, with a way and a carrier, of two independently-pivoted levers, each having a gate suspended from one arm thereof, lifting-cams mounted on a shaft engaging with the other arms of the levers in such relation as to alternately raise and depress said arms, and mechanism automatically actuated by the passage of the carrier to rotate the cams, substantially as described.
3. The combination, with a way and a carrier, of a pivoted lever, a gate suspended from one arm of the lever, a lifting-cam mounted on a shaft and engaging with the other arm of the lever, an electric motor, a circuit to operate the motor, suitable gearing between the motor and cam for revolving the cam, and a circuit-breaker automatically operated to make and break the circuit of the motor by the passage of the carrier, substantially as described.

4. The combination, with a way and a car-

rier, of two independently-pivoted levers, each having a gate suspended from one arm thereof, lifting-cams mounted on a shaft and engaging with the other arms of the levers, an electric motor, a circuit to operate the motor, suitable gearing between the motor and cams for revolving the latter, and a circuit-breaker automatically actuated to make and break the circuit of the motor by the passage of the carrier, substantially as described.

5. The combination, with a way and a carrier, of the lever-arms M' and M, having the friction-roller *m*, both keyed to the shaft M', rocking in bearings *e'*, the gate Y, suspended from the arm M', the lever G, keyed to the shaft G', rocking in bearings *e*, the gate X, suspended from the lever G, the lifting-cams L F, mounted on the shaft D, turning in bearings *e*, the gear-wheel C, the electric motor B, having the gear-wheel *b*, its circuit P Q, and a contact-breaker automatically actuated by the passage of the carrier to make and break the circuit, substantially as described.

6. The combination, with a way and a carrier, of the lever-arm G, mounted on the shaft G', the gate X, suspended from one arm of the lever G, the lifting-cam F, engaging with the other arm of the lever G and mounted on the shaft D, turning in bearings *e*, the gear-wheel C, mounted on the shaft D, the electric motor having the gear-wheel *b*, its circuit P Q, and a contact-breaker automatically actuated by the passage of the carrier to make and break the circuit, substantially as described.

7. The combination, with a way and a carrier, of the lever-arm G, mounted on the shaft G', the gate X, suspended from one arm of the lever G, the lifting-cam F, having the lug *f* engaging with the other arm of the lever G and mounted on the shaft D, turning in the bearings *e*, the gear-wheel C, mounted on the shaft D, the electric motor having the gear-wheel *b*, its circuit P Q, the plate S in the path of the carrier, the lever T, the contact R, located in the circuit between the plate and one arm of the lever T, and the rod U, actuated by the other arm of the lever T to engage the lug *f* on cam F, substantially as described.

8. The combination, with a way and a carrier, of an electric motor, a cam rotated by said motor, a circuit to operate the motor, a lug on said cam, the plate S in the path of the carrier, the lever T, the contact R, located in the circuit between the plate and one arm of the lever, and the rod U, actuated by the other arm of the lever to engage the lug on the cam, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ANDREW BRYSON, JR.

Witnesses:

WOODBURY LOWERY,
SHIPLEY BRASHEARS.