

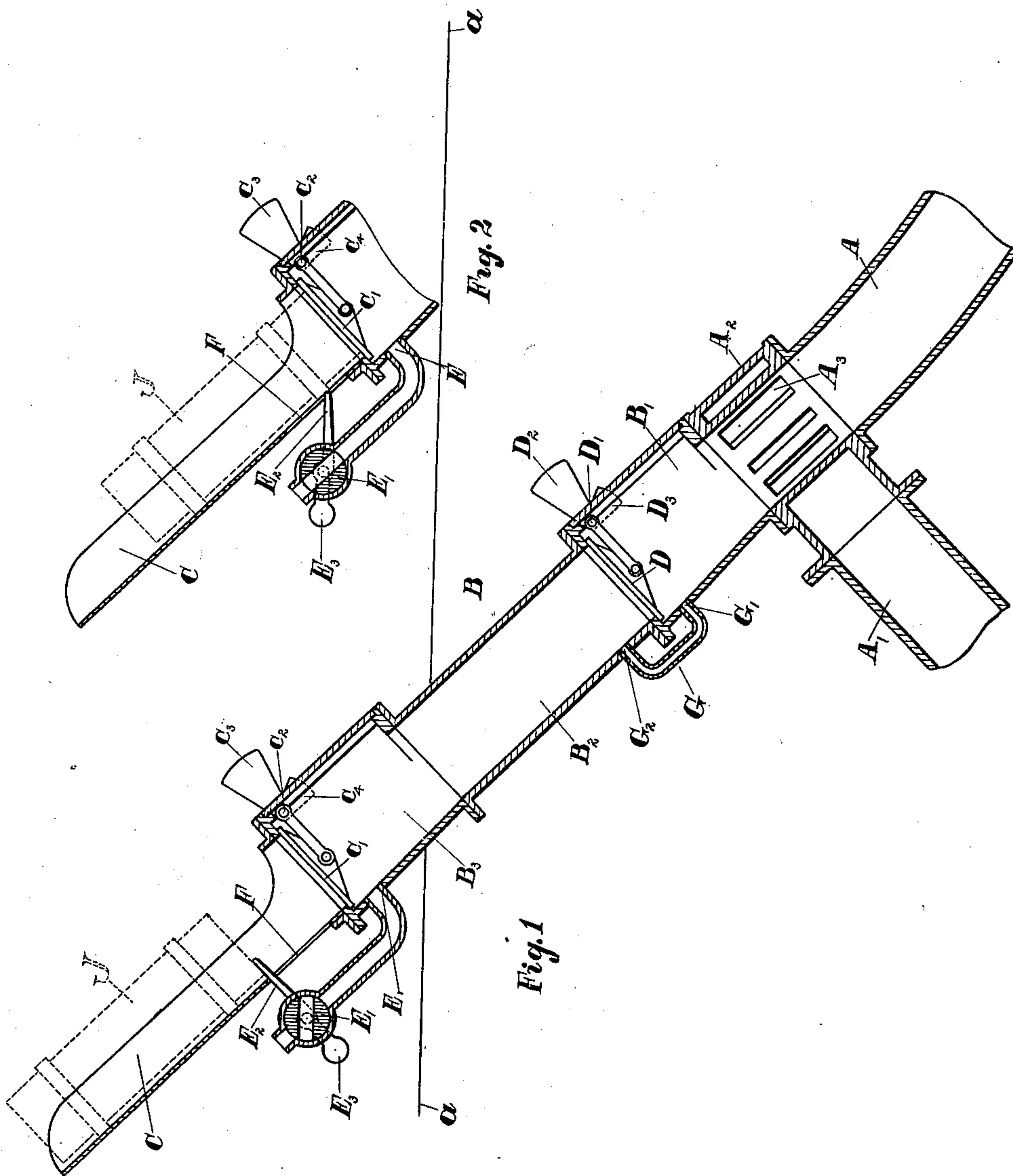
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PATENTED OCT. 27, 1903.

C. F. STODDARD.
PNEUMATIC DESPATCH APPARATUS.

APPLICATION FILED MAR. 6, 1903.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES F. STODDARD, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO
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PNEUMATIC-DESPATCH APPARATUS.

SPECIFICATION forming part of Letters Patent No. 742,513, dated October 27, 1903.

Application filed March 6, 1903. Serial No. 146,555. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. STODDARD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pneumatic-Despatch Apparatus, of which the following is a specification.

My invention relates to improvements in pneumatic-despatch apparatus, and especially to a sending-terminal through which carriers are inserted into the transmission-tube. The object of my invention is to simplify the operation and parts.

My invention consists of a transmission-tube in connection with a sender having two swinging gates which are balanced in such a way as to be normally closed and provided with a by-pass between the transmission-tube and the space between the two gates and the port connecting the space between the two gates with the atmosphere, controlled by a valve which is operated by the carrier, the area of this port being of such a size as to spill the pressure between the two gates when it is open, so that the first gate may open to allow a carrier to pass into the chamber between the two gates.

My invention consists of certain novel features, hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate a construction embodying my invention, Figure 1 is a sectional view through the sending-terminal, transmission-tube, and air-supply tube, with the exhaust-port valve in its normal position. Fig. 2 is a sectional view through the upper part of the sending-terminal, showing the exhaust-port valve open.

Like letters of reference refer to like parts throughout both views.

The transmission-tube A is in communication with the supply-pipe A' through the casing A², provided with slots A³. Secured to this slotted casing is a cylinder B, composed of three chambers B' B² B³, connected together. Secured to the upper chamber B³ is a chute C, and below said tube in the upper part of the chamber B³ is located a valve C', pivoted at C² in the chamber B³ and provided

with a counterweight C³, which balances the valve C'.

C⁴ is a weight which holds the valve C' normally closed. In the top of the chamber B' is the valve B, pivoted at D' in the chamber B' and provided with a counterweight D² and the weight D³, which holds the valve D normally closed. These two valves C' and D act as an air-lock for the cylinder, and in the operation only one is open at a time and normally both are closed. The by-pass G communicates with the sender at G² and with the line-pressure in the chamber B' of the sender at G' for the purpose of giving the same pressure in the chamber between the two gates as in the line in order to normally keep the valve C' closed tightly. The port E is provided with a valve E', to which is rigidly attached the arm E² and the counterweight E³. The arm E² when in its normal position extends through slot F of the chute C. The purpose of this port is to spill the pressure in the chamber between the two gates, thereby allowing the carrier to open the gate C' by its own weight and enter the chamber B².

J represents the carrier, and *a a* is the floor-line.

The operation is as follows: A carrier is placed upon the chute C and slides down to the gate C'. In sliding down the carrier engages the arm E² and moves it into the position shown in Fig. 2, thereby opening the valve E', which opens the port E and allows the pressure in the chamber B² to spill into the atmosphere, thereby taking the pressure off of the under side of the gate C' and allowing the carrier J to open the gate C' by its own weight and pass into the chamber B², sliding down to the gate D. After the carrier J has passed over the arm E² the counterweight E³ brings the valve E' back into the position shown in Fig. 1, thereby shutting off the port E. When the gate C' closes after the carrier passes under it, the pressure in the chamber B² is equalized through the by-pass G, thereby removing the pressure from the under side of the gate D and allowing the carrier to open it by its own weight and pass

through the slotted casing A² into the line A, after which the gate D is closed by the weight D³, and the machine is ready to send another carrier.

5 Having thus described the nature of my invention and set forth a construction embodying the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

- 10 1. In a pneumatic-despatch-tube apparatus, a transmission-tube, a sender connected to said transmission-tube, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in
15 the transmission-tube and the sender, an exhaust-port from said sender to the atmosphere normally closed, an exhaust-valve controlling said port and operated by the carrier to allow the pressure to exhaust from the
20 sender for releasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sender, and means for closing said exhaust-valve after the entrance of the carrier to permit the pressure
25 in the sender and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube.
- 30 2. In a pneumatic-despatch apparatus, a transmission-tube, a sender connected to said transmission-tube, inner and outer gates normally closing said sender, means for normally producing equalization of pressure in the
35 transmission-tube and the sender, an exhaust-port from said sender to the atmosphere normally closed, an exhaust-valve controlling said port operated by the carrier to allow the pressure to exhaust from the sender for re-
40 leasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sender, and means for closing said exhaust-valve after the entrance of the carrier to permit the pressure in the sender and
45 the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube and to hold said outer gate closed so that the pressure in the
50 transmission-tube will not escape into the atmosphere while the inner gate is open.

3. In a pneumatic-despatch apparatus, a transmission-tube, a sender connected to said

transmission-tube, inner and outer gates normally closing said sender, means for normally 55 producing equalization of pressure in the transmission-tube and the sender, an exhaust-port from said sender to the atmosphere normally closed, an exhaust-valve controlling said port operated by the carrier to allow the 60 pressure to exhaust from the sender after releasing the transmission-tube pressure in the outer gate to permit the entrance of a carrier into the sender, and a counterweight on said exhaust-valve for closing the same after the 65 entrance of the carrier to permit the pressure in the sender and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube 70 and to hold the said outer gate closed so that the pressure in the transmission-tube will not escape into the atmosphere while the inner gate is open.

4. In a pneumatic-despatch apparatus, a 75 transmission-tube, a sender connected to said transmission-tube, inner and outer gates normally closing said sender, a by-pass for normally producing equalization of pressure in the transmission-tube and the sender, an ex- 80 haust-port from said sender to the atmosphere normally closed, an exhaust-valve controlling said port operated by the carrier to allow the pressure to exhaust from the sender for releasing the transmission-tube pressure 85 on the outer gate to permit the entrance of a carrier into the sender, and a counterweight on said exhaust-valve for closing the same after the entrance of the carrier to permit the pressure in the sender and the transmis- 90 sion-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube and to hold the said outer gate closed so that the pressure in the transmis- 95 sion-tube will not escape while the inner gate is open.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 27th day of 100 February, A. D. 1903.

CHARLES F. STODDARD.

Witnesses:

E. L. HARLOW,
A. L. MESSER.