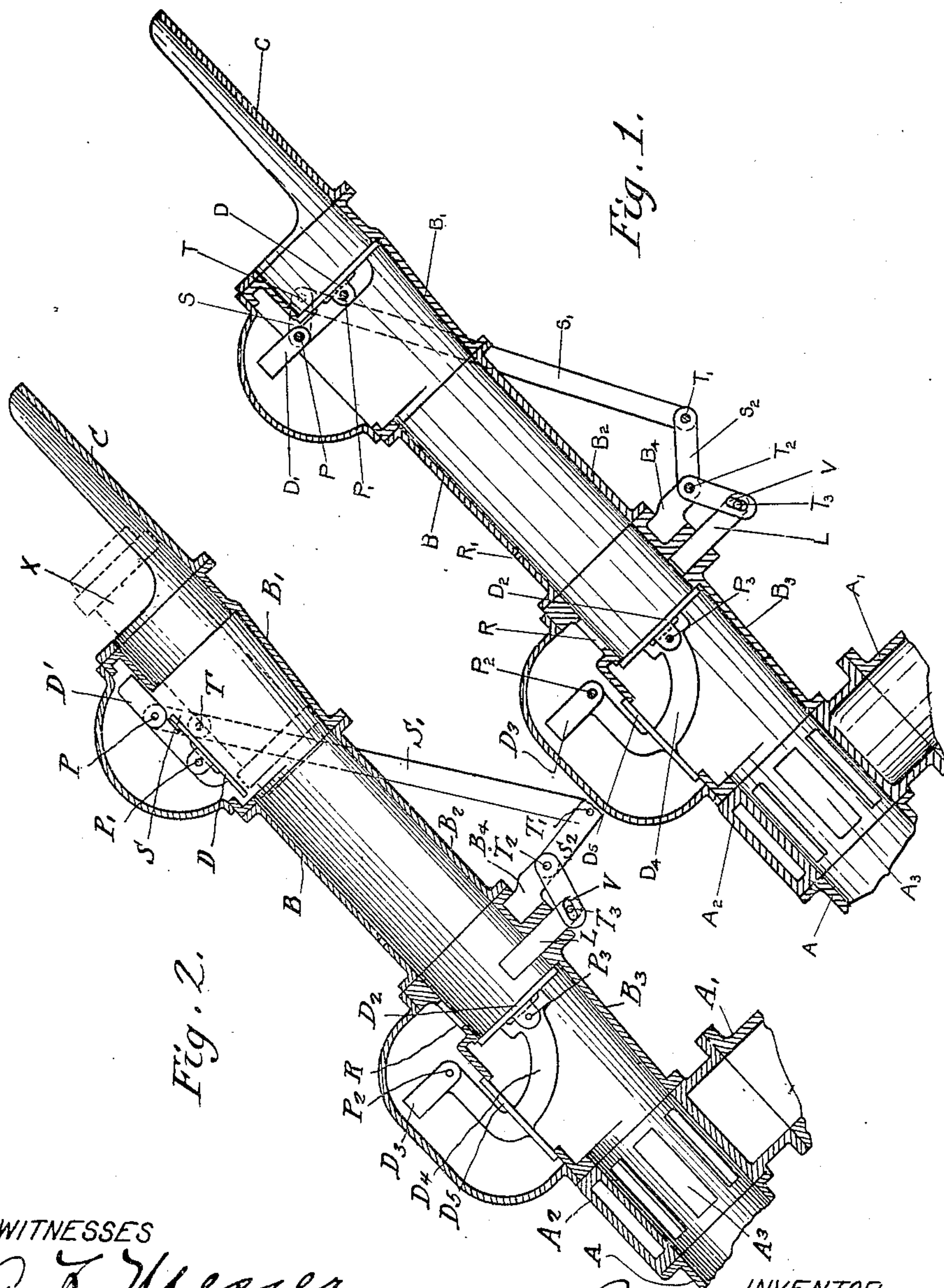


C. F. STODDARD.
PNEUMATIC DESPATCH TUBE APPARATUS.
APPLICATION FILED JUNE 20, 1908.

962,797.

Patented June 28, 1910.



WITNESSES
A. K. Messer
L. G. Bartlett

INVENTOR
Charles F. Stoddard
By J. A. Rush
ATTORNEY

UNITED STATES PATENT OFFICE.

CHARLES F. STODDARD, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO AMERICAN PNEUMATIC SERVICE COMPANY, OF DOVER, DELAWARE, A CORPORATION OF DELAWARE.

PNEUMATIC-DESPATCH-TUBE APPARATUS.

962,797.

Specification of Letters Patent. Patented June 28, 1910.

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To all whom it may concern:

Be it known that I, CHARLES F. STODDARD, of Dorchester, Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pneumatic-Despatch-Tube 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 of the parts.

My invention relates to a transmission tube in connection with a sender having two swinging gates which are counterbalanced in such a way as to be normally closed and provided with a vent between the two gates to normally keep the pressure between said two gates at atmospheric. Mechanism is also provided which is controlled by the swinging of the upper gate to prevent the carrier from opening the lower gate while the upper one is open.

In the accompanying drawings which illustrate a construction embodying my invention, Figure 1 is a longitudinal section showing the parts in their normal positions. Fig. 2 is a similar view showing the position of the parts as a carrier is being inserted into the device.

Like letters of reference refer to like parts throughout the 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 connected together. Secured to the upper chamber B' is a chute C. Swinging on the shaft P in the chamber B' is a valve D which is fastened to the counterweight D' by pin P'. Swinging on shaft P² in the chamber B³ is the valve D² which is fastened to the counterweight D³ by the arm D⁴ and the pin P³; also fastened to the arm D⁴ is the balancing valve D⁵, the seating area of which is slightly less than the seating area of the valve D² so that the pressure back of the valve D² tends to hold it closed to a slightly greater extent than the pressure on the lower side of the valve D⁵ tends to keep it open. The space above the valve D⁵ is connected with the chamber B² above the valve D² by the port R. The port

R' connecting the chamber B² with the atmosphere keeps the pressure in the chamber B² normally at atmospheric. Secured to the shaft P outside of the chamber B' is the arm S to which is fastened, by means of the pin T, the connecting rod S'. The bell crank S² is fastened to the extension B⁴ of the chamber B³ by the pin T² and to the bell crank S² is fastened the connecting rod S' by the pin T'. At the opposite end of the bell crank S² is the slot V in which slides the pin T³ which is fastened to the plunger L. A carrier X is shown in Fig. 2.

The operation is as follows: The carrier X is placed upon the chute C and by the force of gravity slides down against the valve D opening same and passing down into chambers B' B². As the gate D opens the plunger L is thrown into the position shown in Fig. 2 by the chain of links S, S', S² and the carrier drops against the plunger L. The carrier has now passed from under the valve D and the gate or valve D is closed by the counterweight D' which is constructed to be slightly overbalanced so as to close the valve; as this valve D closes the plunger is withdrawn from the position shown in Fig. 2 and assumes the position shown in Fig. 1; the carrier now slides down against the valve D² opening same by its weight and passing on through the slotted casing A² into the transmission tube A and the valve D² swings back to its normal closed position and the port R' vents the chamber B² completing the cycle of operation and placing the machine ready to despatch another carrier.

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—

1. In an apparatus of the character described, a transmission tube, a sender connected to said transmission tube, inner and outer gates adapted to open under the pressure of an inserted carrier, means for closing each of said gates, means for preventing the carrier from contacting with the inner gate until the outer gate is closed, and means to equalize the pressure on the inner gate to allow the same to open for the passage of the carrier.

2. In an apparatus of the character described, a transmission tube, a sender connected to said transmission tube, inner and

outer gates adapted to open under the pressure of an inserted carrier, means for closing each of said gates, means connected to said outer gate and operated thereby for preventing the carrier from contacting with the inner gate until the outer gate is closed, and means to equalize the pressure on the inner gate to allow the same to open for the passage of the carrier.

3. In an apparatus of the character described, a transmission tube, a sender connected to said transmission tube and normally under atmospheric pressure, inner and outer gates adapted to open under the pressure of an inserted carrier, means for closing each of said gates, means connected to said outer gate and operated thereby for preventing the carrier from contacting with the inner gate until the outer gate is closed, and means to equalize the pressure on the inner gate to allow the same to open for the passage of the carrier.

4. In an apparatus of the character described, a transmission tube, a sender connected to said transmission tube and normally under atmospheric pressure, inner and outer gates adapted to open under the pressure of an inserted carrier, means for closing each of said gates, means connected to

and operated by said outer gate for preventing the opening of the inner gate until the outer gate is closed, and a valve normally preventing communication between the transmission tube and the sender and adapted to be opened by the movement of the inner gate to connect said transmission tube and said sender to equalize the pressure on the inner gate to allow the same to open for the passage of the carrier.

5. In an apparatus of the character described, a transmission tube, a sender connected to said transmission tube and normally under atmospheric pressure, inner and outer gates normally closed and adapted to open under the pressure of an inserted carrier, means for preventing the carrier from contacting with the inner gate until the outer gate is closed, and means to equalize the pressure on the inner gate to allow the same to open for the passage of the carrier.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses, this 15th day of June A. D. 1908.

CHARLES F. STODDARD.

Witnesses:

N. E. REMICK,
GEO. A. LLOYD.