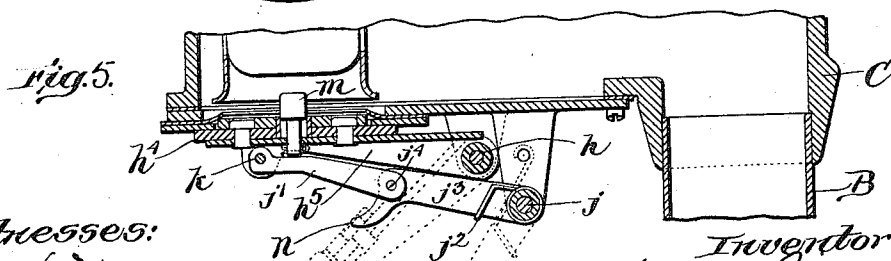
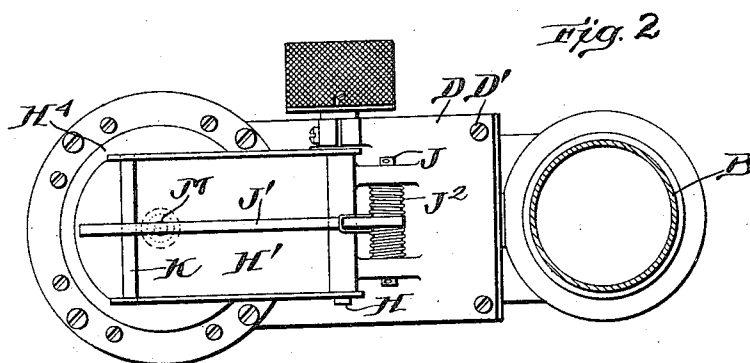
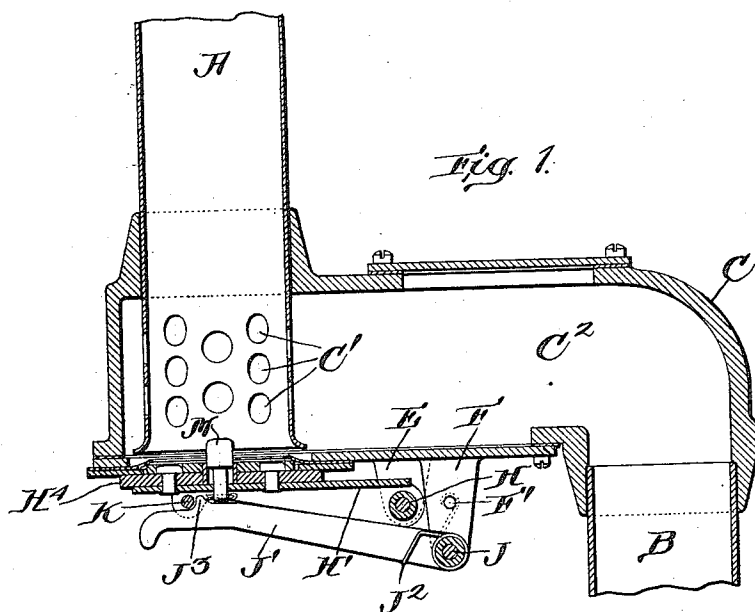


1,031,866.

2 SHEETS—SHEET 1.



Witnesses:
A. L. Messer
Louis G. Bartlett

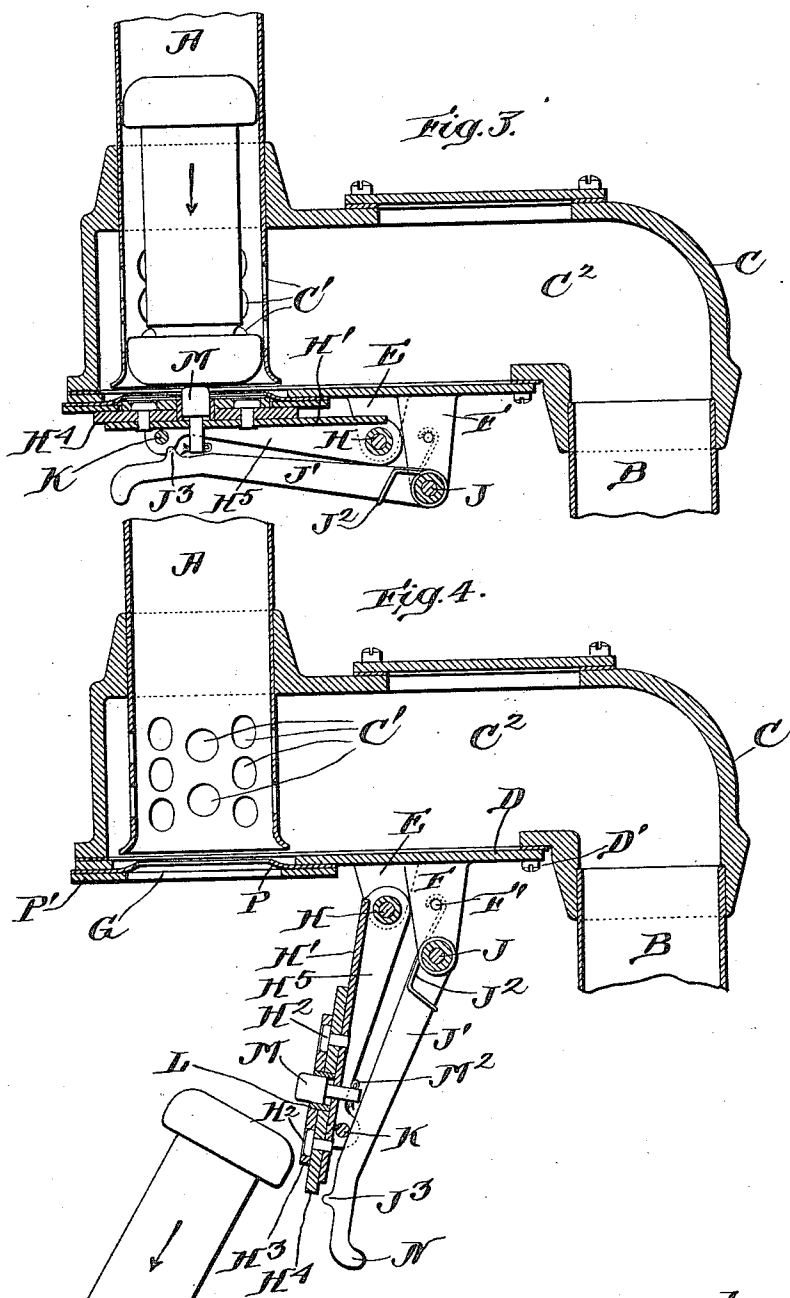
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Attorneys.

A. W. PEARSALL.
 TERMINAL FOR PNEUMATIC DESPATCH TUBE APPARATUS.
 APPLICATION FILED NOV. 30, 1906.

1,031,866.

Patented July 9, 1912.

2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

ALBERT W. PEARSALL, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO LAMSON CONSOLIDATED STORE SERVICE COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

TERMINAL FOR PNEUMATIC-DESPATCH-TUBE APPARATUS.

1,031,866.

Specification of Letters Patent.

Patented July 9, 1912.

Application filed November 30, 1906. Serial No. 345,656.

To all whom it may concern:

Be it known that I, ALBERT W. PEARSALL, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Terminals for Pneumatic-Despatch-Tube Apparatus, of which the following is a specification.

My invention relates to improvements in terminals for pneumatic despatch tube apparatus and is especially adapted for use on single tube systems wherein the terminal is required to be used as a pressure despatching and a vacuum receiving terminal.

The object of the invention is to simplify the construction and increase the efficiency and ease of operation of the terminal.

In the accompanying drawings which illustrate a construction embodying my invention, Figure 1 is a vertical section of the device showing normal or closed position of valve and locking mechanism. Fig. 2 is a bottom plan view. Fig. 3 is a vertical section showing a carrier operating and releasing the locking mechanism preparatory to opening the valve. Fig. 4 shows the valve mechanism in open position and the carrier discharging. Fig. 5 is a vertical sectional view showing a modification of the device.

Like letters of reference refer to like parts throughout the several views.

A represents a transmission tube connected with the terminal C, and B is an air tube connected with a pump or blower and adapted to supply a vacuum or pressure within the transmission tube A through ports C' and chambers C² for the transmission of carriers. In the lower part of the terminal or casing C is a plate D secured to the casing by screws D'. Located in said plate and directly opposite the mouth of the transmission tube A is an opening G for the passage of carriers. On the lower side of the plate D are brackets E and F. Pivoted to the bracket E by a pin H is a valve plate H' carrying fastened thereto by rivets H² the leather strips H³ and H⁴ comprising the valve. Pivoted at one end on the pin J between brackets F is a lock lever J' adapted

to normally hold the valve H⁴ seated over the opening G by means of a helical spring J² secured at one end to a pin F' on the bracket F, and at the other end to the lock lever J'. On the opposite end of the lever J' is a lip J³ adapted to engage, when the valve H⁴ is closed, with a pin K mounted on the lower side of the valve plate H' thereby locking the valve H⁴ in closed position (see Fig. 1). Mounted in a bushing L is a shoulder pin M, the lower end of said pin adapted to engage with the upper side of the lock lever J'. The upward movement of this shoulder pin M is limited by a cotter pin M² which permits the upper part of the pin M to project slightly above the valve when the lock lever J' is in the locked or closed position as shown in Fig. 1.

When there is a vacuum in the tube and a carrier (see Fig. 3) is traveling in the direction indicated by the arrow, the valve is held closed by the atmospheric pressure on the outer side thereof. In order to release and open the valve, the carrier strikes and depresses the pin M pushing the lock lever J' and lip J³ out of engagement with the pin K thereby permitting the valve H⁴ to be swung open by the impact of the carrier thereon, allowing the carrier to discharge through the opening G as shown in Fig. 4. The valve H⁴ is then closed by means of the spring J² acting upon the lever J'. If it is desired to despatch a carrier through the tube A in the opposite direction, the operator grasps the curved projecting end N of the lever J', and pulling it downward, throws the lip J³ out of engagement with the pin K releasing the valve H⁴ and permitting it to open. The carrier is now inserted into the tube, the lever J' released, and the valve H⁴ permitted to close by the action of the spring J². The valve is now locked in closed position by the lever J' as heretofore described. An air pressure greater than the atmosphere is now admitted through the tube B, chamber C² and ports C' into the transmission tube A causing the carrier to be driven therethrough to the opposite terminal. In the meantime, the valve

H⁴ has been prevented from being opened by the high pressure within the tube by means of the lock lever J' and any leakage which might be caused by any play in the locking mechanism is prevented by the flexible valve seat P which is mounted between the plate D and the plate P' secured to the plate D by screws P² and which flexible seat is held tightly against the leather strip H³ by the pressure within.

In the modification, Fig. 5, a toggle joint comprised of levers j' and j³ is utilized instead of the lever J', the lever j³ being pivoted to the pin j at one end and at the opposite end by a pin j⁴ to the lever j'. The helical spring j² is adapted to act upon the lever j' and lever j³ to hold the valve h⁴ normally locked in closed position as shown in full lines. The pin j⁴ in this position is slightly below a plane through pins k and j preventing any but an outward movement of the toggle joint. A carrier in delivering, strikes the pin m throwing the levers j³ and j' outward at j⁴ and permitting the valve h⁴ to be opened by impact of the carrier thereon to the position shown in dotted lines, allowing the carrier to discharge through the valve opening. The valve h⁴ is now returned to normal or locked position. If it is desired to despatch a carrier, the handle n is pulled outward opening the valve h⁴, the carrier is inserted into the tube A, the handle is released, permitting the valve h⁴ to lock in closed position and the carrier is despatched through the tube A as heretofore described.

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 pneumatic despatch tube apparatus, a tube for the transmission of carriers in either direction provided with an opening for the insertion and discharge of carriers, an air-pipe communicating with said tube to supply air thereto or to exhaust air therefrom, a valve to control said opening, a locking lever to engage the valve to lock the same closed, mechanism actuated by an approaching carrier to disengage said lever from said valve to release the latter to permit the discharge of the carrier through the opening, and a spring bearing against the lever to force the latter into locking engagement with the valve, and said spring and said lever automatically operating to close and lock the valve against the opening after the discharge or insertion of a carrier through the opening.

2. In pneumatic despatch tube apparatus, a tube for the transmission of carriers in either direction provided with an opening for the insertion and discharge of carriers, an air-pipe communicating with said tube to

supply air-pressure therein in either direction, a hinged valve to control said opening, a pivoted locking lever operating to engage said valve to lock the latter closed, a spring pressing said lever into locking engagement with said valve, a pin movably mounted in said valve to be struck by an approaching carrier to disengage the locking lever from the valve to free the latter to permit the discharge of the carrier, and said lever and said spring automatically operating to close and lock the valve after the discharge or insertion of a carrier through said opening.

3. In pneumatic despatch tube apparatus, a chambered terminal casing, a tube for the transmission of carriers in either direction communicating with the chamber of the terminal casing and provided with a carrier inlet and outlet through said casing, a pipe communicating with the terminal chamber to supply air-pressure in either direction in the transmission tube, a valve hinged to the terminal casing to control the carrier inlet and outlet of the transmission tube, a locking lever pivoted to the terminal casing outside of the hinged valve operating to lock the valve closed, mechanism carried by the valve to be actuated by an approaching carrier in the transmission tube to disengage the locking lever from the valve to release the latter to permit the discharge of the carrier from the transmission tube through the carrier outlet, and a spring bearing against the locking lever to force the latter into locking engagement with the valve, and said spring and said lever automatically operating to close and lock the valve over the carrier inlet and outlet of the transmission tube after the discharge or insertion of a carrier.

4. In pneumatic despatch tube apparatus, a chambered terminal casing, a tube for the transmission of carriers in either direction communicating with the chamber of the terminal casing and provided with a carrier inlet and outlet through said casing, a pipe communicating with the terminal chamber to supply air-pressure in either direction in the transmission tube, a valve hinged to the terminal casing to control the carrier inlet and outlet of the transmission tube, a projection on the outer side of said valve, a locking lever pivoted to the terminal casing outside of the hinged valve provided with a lip to engage said projection to lock the valve closed, a pin movably mounted in said valve to be struck by an approaching carrier in the transmission tube to move the locking lever to disengage its lip from the projection on the valve to release the latter to permit the discharge of the carrier from the transmission tube through the carrier outlet, and a spring bearing against the locking lever to force the lip of the lever into locking engagement with the projection on

the valve, said spring and said lever automatically operating to close and lock the valve over the carrier inlet and outlet of the transmission tube after the discharge or insertion of a carrier.

5 In testimony whereof, I have signed my name to this specification in the presence of

two subscribing witnesses, this 23d day of November A. D. 1906.

ALBERT W. PEARSALL.

Witnesses:

A. L. MESSER,
A. R. LARRABEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."