

No. 777,899.

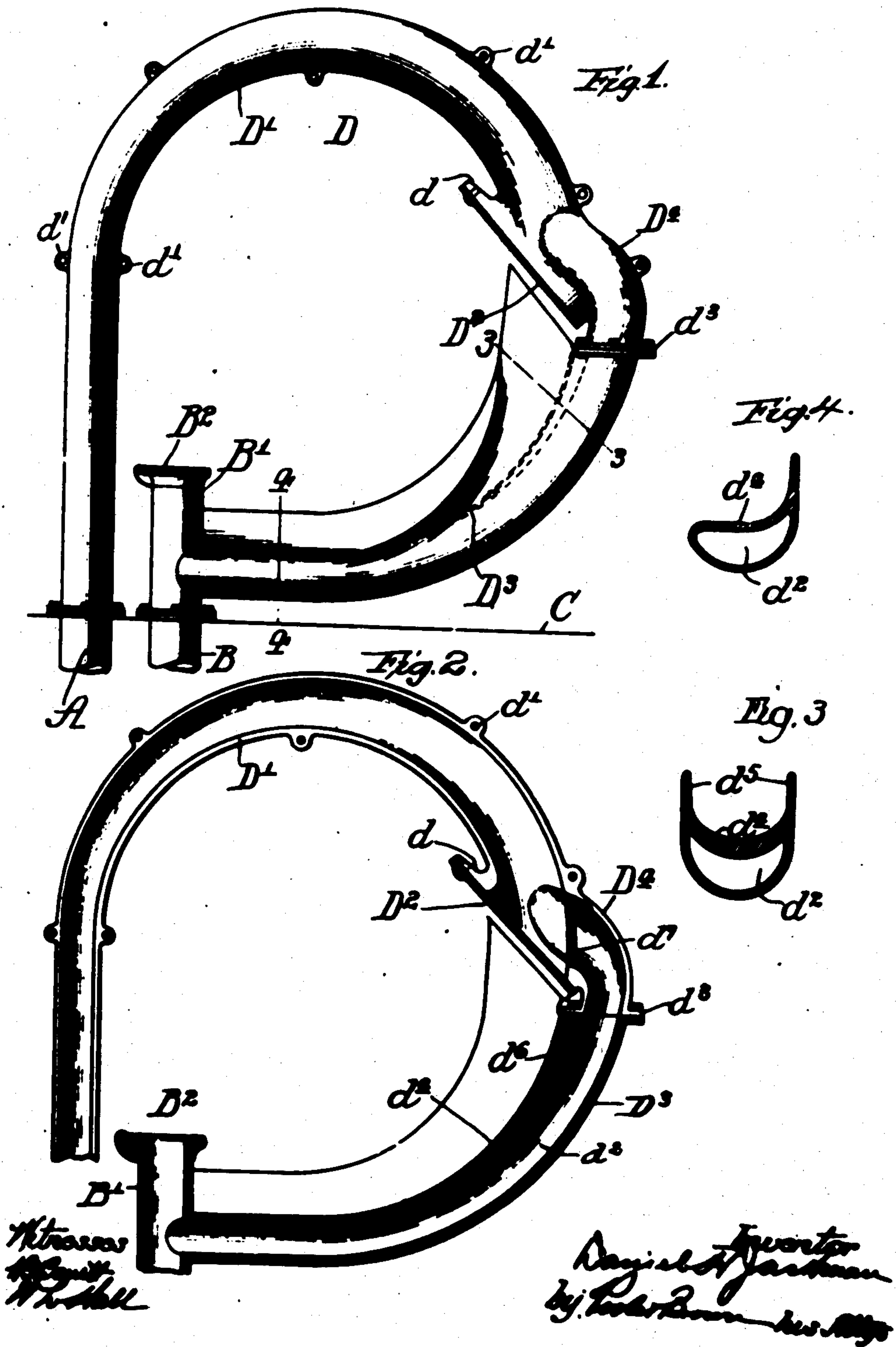
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D. H. JACKMAN.

UPWARD DISCHARGE TERMINAL FOR PNEUMATIC TUBES.

APPLICATION FILED APR. 21, 1904.

NO MODEL.



UNITED STATES PATENT OFFICE.

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UPWARD-DISCHARGE TERMINAL FOR PNEUMATIC TUBES.

SPECIFICATION forming part of Letters Patent No. 777,000, dated December 20, 1904.

Application filed April 21, 1904. Serial No. 204,204.

To all whom it may concern:

Be it known that I, DANIEL H. JACKMAN, a citizen of the United States, and a resident of Maywood, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Upward-Discharge Terminals for Pneumatic Tubes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in pneumatic transmission-tubes for store and other service, and refers more specifically to a terminal for such systems commonly known as an "upward-discharge" terminal, and is associated with a curved conduit which affords a continuous connection between the high and low pressure sides of the system.

The object of the invention is to provide a terminal of this character which is constructed to provide between the high and low pressure sides of the system a continuous conduit for the air and provided in an intermediate part of the terminal with a normally closed discharge-opening for the cartridge and with a suitable receiving-trough arranged to receive the cartridge as it is discharged through said opening.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of an upward-discharge terminal made in accordance with my invention. Fig. 2 is a sectional view thereof. Fig. 3 is a transverse section taken on line 3 3 of Fig. 1. Fig. 4 is a transverse section taken on line 4 4 of Fig. 1.

As shown in the drawings, A B designate the sending and return tubes, respectively, of the system, which are adapted to extend upwardly through a support, as a desk C. Said tube A is connected above said desk with a curved terminal, (designated as a whole by D.)

The terminal is composed of two principal parts—a curved tubular part D', extending upwardly and laterally from the high-pressure

tube A and provided at its end with a delivery-opening closed by a flap-door D'', and a combined conduit and receiving-trough D'', connecting said part D' with the low-pressure tube B, thereby affording a continuous unbroken conduit for the air-current from the high to the low pressure sides of the system. The curved tubular part D' of the terminal increases in diameter toward its discharge end and is provided at its discharge end with an inclined seat against which fits the flap-door D'', which normally closes said discharge end of the terminal. Said flap-door is generally made of leather or like flexible material and is attached at one end to a lug d', extending inwardly from the discharge end of said terminal. Said lug d' preferably extends some distance from the wall of the tube, whereby the line of flexure of the flap-door D'' is located sufficiently far from the center of the delivery end of the terminal as to permit the said door to readily flex when opened outwardly by the ejection of a cartridge therefrom. The said part D' of the terminal is made of two cast-metal parts divided axially thereof and connected together by means of bolts extending through lugs d' on the margins of said parts.

The combined conduit and receiving-trough D'' is preferably made of a single cast-metal part and the conduit portion d'' thereof has the general form of a crescent, as shown in Fig. 2. Said conduit portion proper is connected with the discharge end of the terminal just above the valve D'' thereof (and as near the valve as practical) by means of an enlarged or swelled offset portion D'', which, as herein shown, is made integral with the part D'. Said offset connecting part D'' swells outwardly from both sides of the part D', so as to preserve the effective area of the conduit, and it is joined to the combined receiving-trough and conduit by a flanged connection d''. One or more bars d'' is placed across the opening through which the conduit of the part D' communicates with the offset conduit D'', so as to insure the direction of the cartridge to the valve. The receiving-trough is

formed by the concave top d' of said conduit d' and side flanges d'' d''' , rising upwardly therefrom, as shown in Fig. 3. In order to preserve the curvature of the discharge end of the part D' of the terminal, the upper wall of the tube is thickened at d'' . This insures a smooth delivery of the cartridge from the terminal to the trough. As herein shown, one of the side flanges d'' gradually decreases in depth and disappears as it approaches the low-pressure tube B, and the upper side of the trough-shaped wall of the conduit is so fashioned as to give a cartridge a tendency to roll out of the trough when it reaches the lower end thereof or the part in which one of the flanges is omitted. When so made, a receptacle is placed beneath the lower end of the trough to receive a cartridge as it rolls therefrom.

As herein shown, the lower end of the connecting conduit d' communicates directly with a sending-box B' at the upper end of the low-pressure tube B, whereby the fitting as a whole constitutes a receiving and sending terminal. Preferably said sending-box is made an integral part of the combined conduit and trough D' . The upper end of the receiving-box is provided with the usual door B'' , the normal position of which closes the box and the low-pressure tube and is adapted to be lifted to insert a cartridge therein.

It will be observed that the part D' of the terminal increases in diameter toward its valved discharge end, it beginning to increase in diameter just before the crest of the curve is reached. With this construction, if the impelling force behind the cartridge should momentarily cease after the cartridge passes the crest of the terminal, the gravity of the cartridge is sufficient to carry the cartridge downwardly through the larger discharge end of the terminal and discharge it past the flap-valve into the receiving-trough.

It is to be understood that the structural details of the terminal described may be varied to some extent without departure from the spirit of my invention, and I do not wish to be limited to the precise details shown, except as hereinafter made the subject of specific claims.

I claim as my invention—

1. An upward-discharge terminal for a pneumatic-despatch-tube system comprising a return curved tube extending between and connecting the high and low pressure tubes of the system and provided intermediate its ends with a delivery-door and formed to provide between the door and the low-pressure tube a trough to receive a cartridge ejected through said door.

2. An upward-discharge terminal for a pneumatic-despatch-tube system comprising a return curved tube extending between and connecting the high and low pressure tubes of the system, and provided intermediate its

ends with a delivery-door, the part of the terminal between the delivery-door and low-pressure tube comprising a combined conduit and trough, the bottom of which trough extends in substantially curved continuation of the tube above the delivery-door.

3. An upward-discharge terminal for a pneumatic-despatch-tube system comprising a return curved tube or conduit extending between and connecting the high and low pressure tubes of the system, said terminal comprising the part D' having the delivery-door D'' and the combined trough and conduit D' , the conduit being connected by an offset with the part D' above the delivery-door thereof and the upper wall of said conduit constituting said trough.

4. A combined upward-discharge and receiving terminal for pneumatic-despatch-tube systems comprising a return curved tube extending between and connecting the high and low pressure tubes of the system, and provided intermediate its ends with a delivery-door and formed to provide between the door and low-pressure tube a trough to receive a cartridge ejected through said door, and a sending-box at said low-pressure tube above the connector of said terminal therewith.

5. An upward-discharge terminal for pneumatic-despatch-tube systems comprising an upwardly and laterally curved part D' provided at its end with a delivery-door and an oppositely-curved part D'' constituting a combined conduit and cartridge-receiving trough, the conduit of which is connected at one end with the part D' above the delivery-door and is adapted for connection at its other end with the low-pressure tube of the system.

6. An upward-discharge terminal for pneumatic-despatch-tube systems comprising an upwardly and laterally curved tube designed for connection with a high-pressure tube and provided at its end with a delivery-door and a reversely-curved conduit connected at one end with the tube above said door by a hollow offset part and adapted for connection at its other end with a low-pressure tube, the top wall of said conduit constituting a trough to receive a cartridge ejected through said door.

7. An upward-discharge terminal for pneumatic-despatch-tube systems comprising an upwardly and laterally curved tube designed for connection with a high-pressure tube and provided at its end with a delivery-door, and a reversely-curved conduit connected at one end with the tube above said door by a hollow offset part and adapted for connection at its other end with a low-pressure tube, the top wall of said conduit constituting a trough to receive a cartridge ejected through said door, said tube being provided at its sides with flanges to give depth to the trough.

8. An upward-discharge terminal for pneumatic-despatch-tube systems comprising an

upwardly and laterally curved tube designed
for connection with a high-pressure tube and
provided at its end with a delivery-door, and
a reversely-curved conduit connected at one
5 end with the tube above said door by a hol-
low offset part and adapted for connection at
its other end with a low-pressure tube, the
top wall of said conduit constituting a trough
to receive a cartridge ejected through said
10 door, said tube being provided at its sides
with flanges to give depth to the trough and

one of said side flanges being omitted at the
lower end of the trough.

In testimony that I claim the foregoing as
my invention I affix my signature, in presence 15
of two witnesses, this 7th day of April, A. D.
1904.

DANIEL H. JACKMAN.

Witnesses:

WILLIAM L. HALL,
GERTRUDE BRYON.