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Patented June 26, 1900.

H. W. FORSLUND.

TERMINAL FOR PNEUMATIC STORE SERVICE SYSTEMS.

(Application filed Feb. 6, 1900.)

(No Model.)

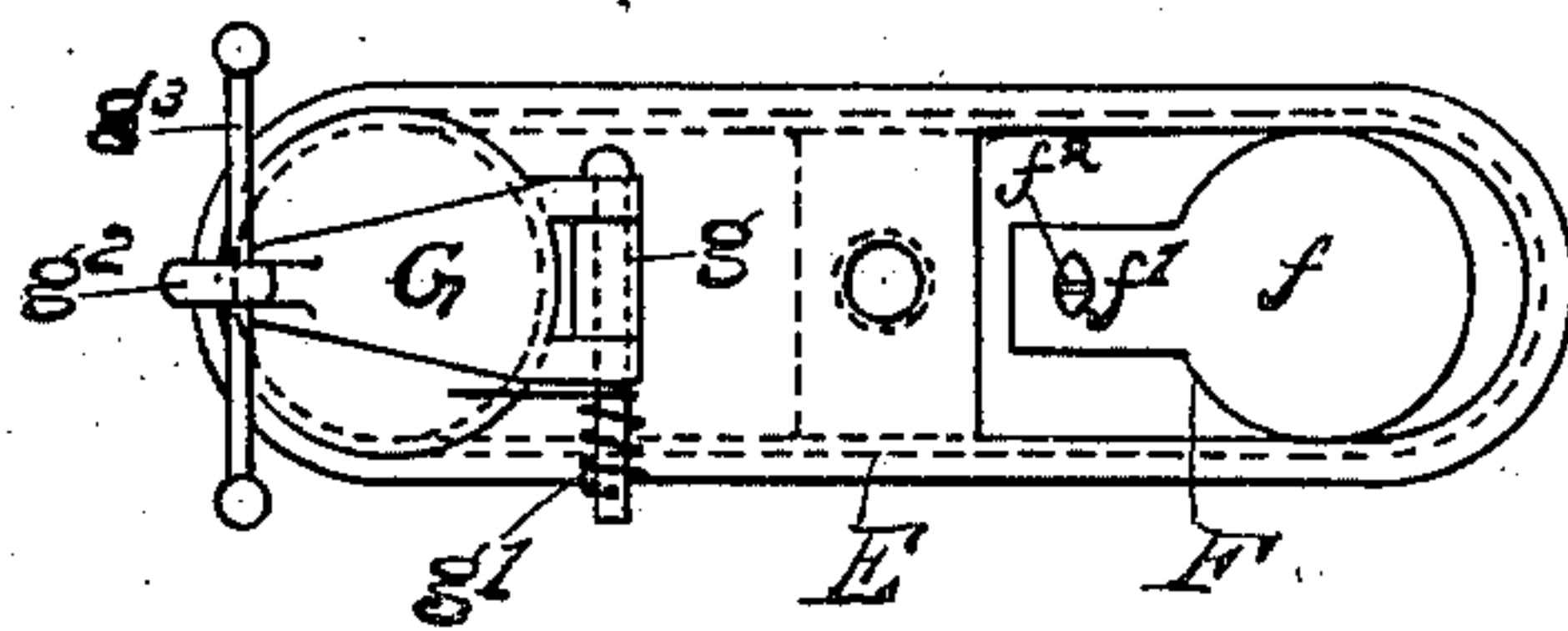
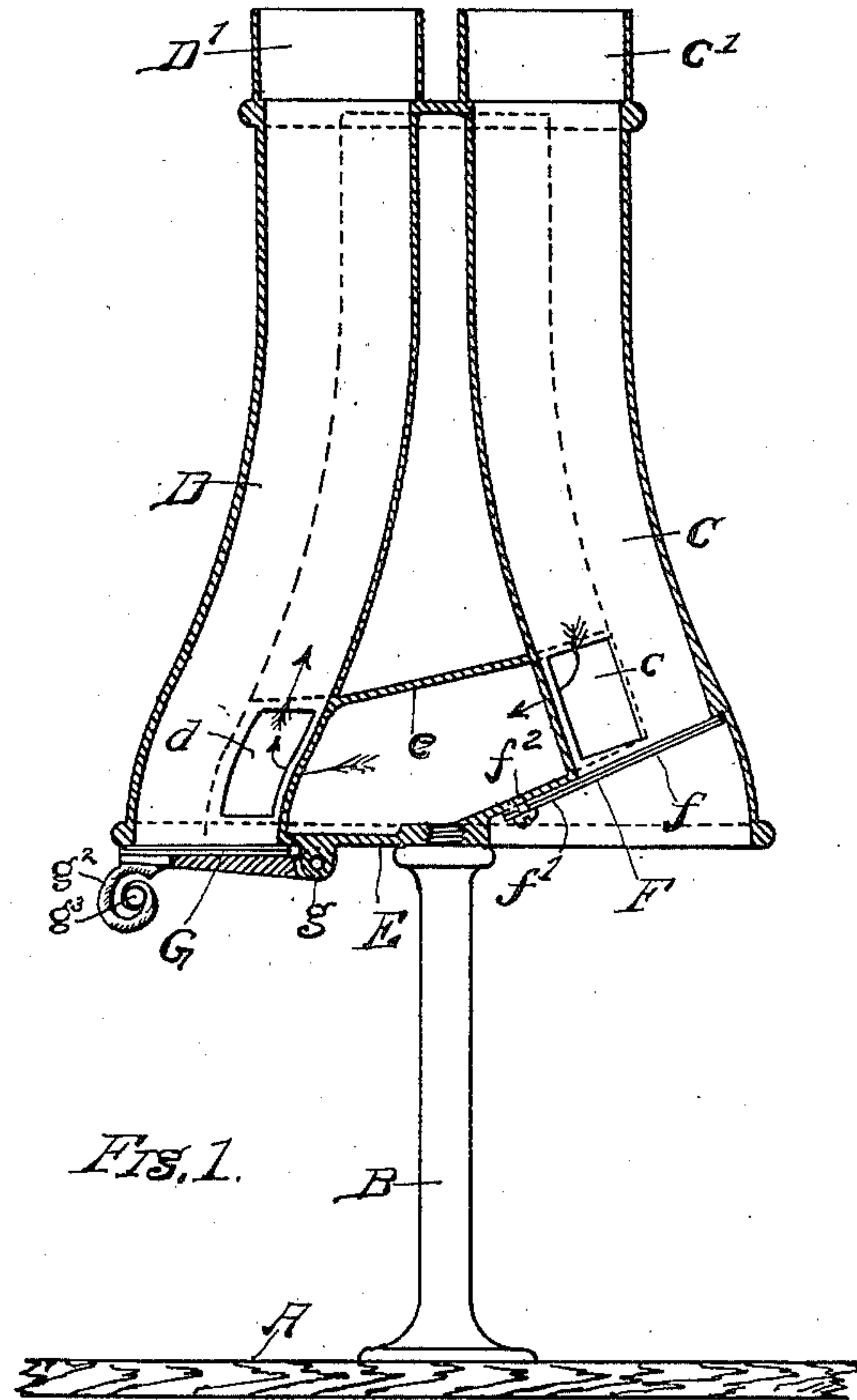
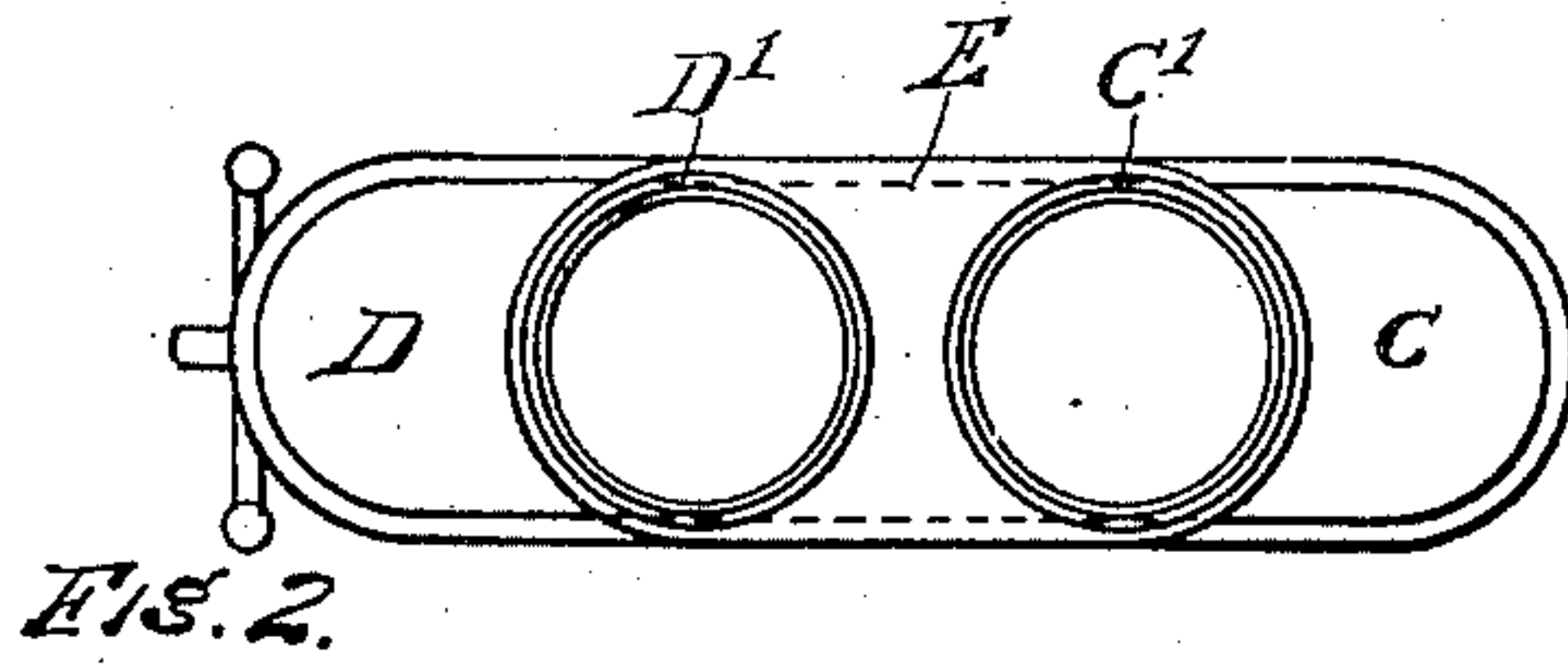


Fig. 3.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

HUGO W. FORSLUND, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE NATIONAL PNEUMATIC SERVICE COMPANY, OF SAME PLACE.

## TERMINAL FOR PNEUMATIC STORE-SERVICE SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 652,537, dated June 26, 1900.

Application filed February 6, 1900. Serial No. 4,160. (No model.)

*To all whom it may concern:*

Be it known that I, HUGO W. FORSLUND, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Terminals for Pneumatic Store-Service Systems, of which the following is a specification.

My invention relates to pneumatic - despatch-tube apparatus such as is commonly used in stores and large commercial houses for transmitting cash between a central cashier's station, usually located in the basement of the building, and a large number of out-lying salesmen's stations; and my invention resides more particularly in a terminal device for use at a salesman's station of the type technically known in the art as a "downward-discharge" terminal—that is, one in which the carrier from the central or cashier's station arrives through a tube located above the counter or other point of discharge and is ejected downwardly therefrom on said counter or in a suitable basket or other receptacle for its reception, the carrier being transmitted to the cashier's station through a sending-tube lying parallel with the downwardly-extending receiving-tube; and my invention consists in certain novel, useful, and convenient arrangements and combinations of parts in a terminal of that character, all as hereinafter more particularly described, and pointed out in the claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, in central vertical section, of a terminal constructed in accordance with my invention. Fig. 2 is a top or plan view, and Fig. 3 is a bottom view.

Similar letters of reference refer to similar parts throughout the several views.

A designates a counter, table, shelf, or other support at the salesman's station on which the carrier is to be received. On this counter is supported a post or standard B, so located as that a line passing through its longitudinal axis will pass centrally between a pair of parallel downwardly-extending main tubes C' and D' of the system. At its top the standard B supports a horizontally-disposed ob-

long frame or plate E, the latter being centrally secured on said standard, and at its opposite ends and at equal distances from the standard receiving the lower ends of the symmetrically-arranged and outwardly-curved terminal tubes C and D. Of these tubes C is the tube through which the carrier is received from the central or cashier's station, and D is the tube through which the carrier is transmitted to said central or cashier's station, said tubes at their upper ends being united to the parallel main receiving and sending tubes C' and D' of the system in any suitable manner.

The tubes C and D at or near their lower ends have longitudinal apertures *c* and *d* respectively formed through their opposing walls to permit the free passage of the propelling-current from the receiving to the sending tube, there being formed between such cut-away portions of the tubes an air-tight casing *e*, forming a guide or by-pass for the current. The receiving-tube C at or near its lower end is closed by a door or flap F, which may conveniently and economically consist of a plain leather disk *f* of the requisite diameter, having a shank *f'*, pivoted or hinged at *f*<sup>2</sup> to the under side of the lower wall of the casing *e* and normally held closed to its seat against the action of gravity by the suction of the air-current flowing through the system. The lower end of the sending-tube D is closed by a door or flap G, pivoted at *g* to a lug on the lower side of the plate E and normally held closed against the action of gravity by the suction of the current, aided by a coiled spring *g'*. In order to facilitate the more ready opening of the door G from either side of the terminal and with the least interference by the hand of the operator in the operation of despatching a carrier, I secure in the usual opening knob or lug *g*<sup>2</sup> a laterally-extending rod *g*<sup>3</sup>, the ends of which are obviously more conveniently within reach of an operator on either side of the terminal than the knob or lug itself.

The operation of my improved terminal is obvious from the foregoing description. A carrier from the central or cashier's station arriving by way of the main tube C' enters



and descends through the outwardly-curved receiving-tube C of the terminal under the combined impulse of gravity and the propelling-current. The forward end of the carrier impinging upon the hinged door or flap F opens the same against the suction of the current normally tending to keep it closed and the carrier drops onto the counter or table A or into a suitable basket or other receptacle (not shown) arranged beneath the discharging end of tube C, the door or flap F being instantly drawn closed by the suction of the current after the carrier has been discharged. A carrier to be transmitted to the cashier's station is despatched by simply opening the door G, thrusting the carrier upwardly into the sending-tube D, and allowing the door G, under the action of its spring  $g'$ , to close behind the carrier, whereupon the carrier is instantly subjected to the action of the propelling-current entering the lower end of tube D from the by-pass  $e$  through the longitudinal apertures  $d$  and is carried upward through the tubes D and D' to its destination at the cashier's desk.

Having thus described the construction and mode of operation of my improved terminal, I will point out some of the advantages which I believe it possesses over the common form of terminal of this type.

Both the curved receiving and despatching terminal tubes, with their closing doors, current by-pass, supporting device, and all appurtenances, are arranged in one and the same vertical plane, thus enabling the terminal to be made very narrow laterally and to occupy a minimum of space on a counter or table. By disposing the outwardly-curved receiving and despatching tubes C and D symmetrically with respect to the supporting-standard B and securing their lower ends rigidly in the horizontal plate or frame E, I effect a desirable combination of strength and rigidity of parts with a graceful and pleasing appearance to the eye, and by locating the current by-pass  $e$  adjacent the very ends of the receiving and despatching tubes C and D, I maintain the impelling effect of the current upon the carriers to the very point of the discharge. Furthermore, by reason of the compact arrangement of the tubes C and D, the by-pass  $e$ , and the supporting-plate E these parts may, if desired, all easily be formed in a single casting, thus contributing to economy in the cost of manufacture.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In a downward-discharge terminal for pneumatic store-service systems, in combination two downwardly-extending receiving and sending tubes symmetrically disposed with reference to a vertical line passing centrally between them, and joined at their upper ends to the main tubes of the system, a horizontal plate or frame in the opposite ends of which are secured the lower ends of the tubes, a by-pass between said tubes above said horizontal plate for the passage of the air-current from one tube to the other, and suitable doors or flaps closing the ends of said tubes.

2. In a downward-discharge terminal for pneumatic store-service systems, in combination two downwardly-extending receiving and sending tubes symmetrically disposed with reference to a vertical line passing centrally between them, and joined at their upper ends to the main tubes of the system, a horizontal plate in the opposite ends of which are secured the lower ends of the tubes, a by-pass between said tubes above said horizontal plate for the passage of the air-current from one tube to the other, suitable doors or flaps closing the ends of said tubes, and a vertical post or standard having its upper end secured to the under side of said horizontal plate and serving as a support to the terminal.

3. In a downward-discharge terminal for pneumatic store-service systems, in combination two downwardly-extending and outwardly and oppositely curved receiving and sending tubes symmetrically disposed with reference to a vertical line passing centrally between them, and joined at their upper ends to the main tubes of the system, a horizontal plate in the opposite ends of which are secured the lower ends of the tubes, a by-pass between the lower ends of said tubes above said horizontal plate for the passage of the air-current from one tube to the other, suitable doors or flaps closing the ends of said tubes, and a vertical post or standard having its upper end secured to the under side of said horizontal plate centrally thereof, and serving as a support for the terminal.

In testimony that I claim the foregoing as my invention I have hereunto signed my name in the presence of two witnesses.

HUGO W. FORSLUND.

Witnesses:

SAMUEL N. POND,  
GEORGE E. HALEY.