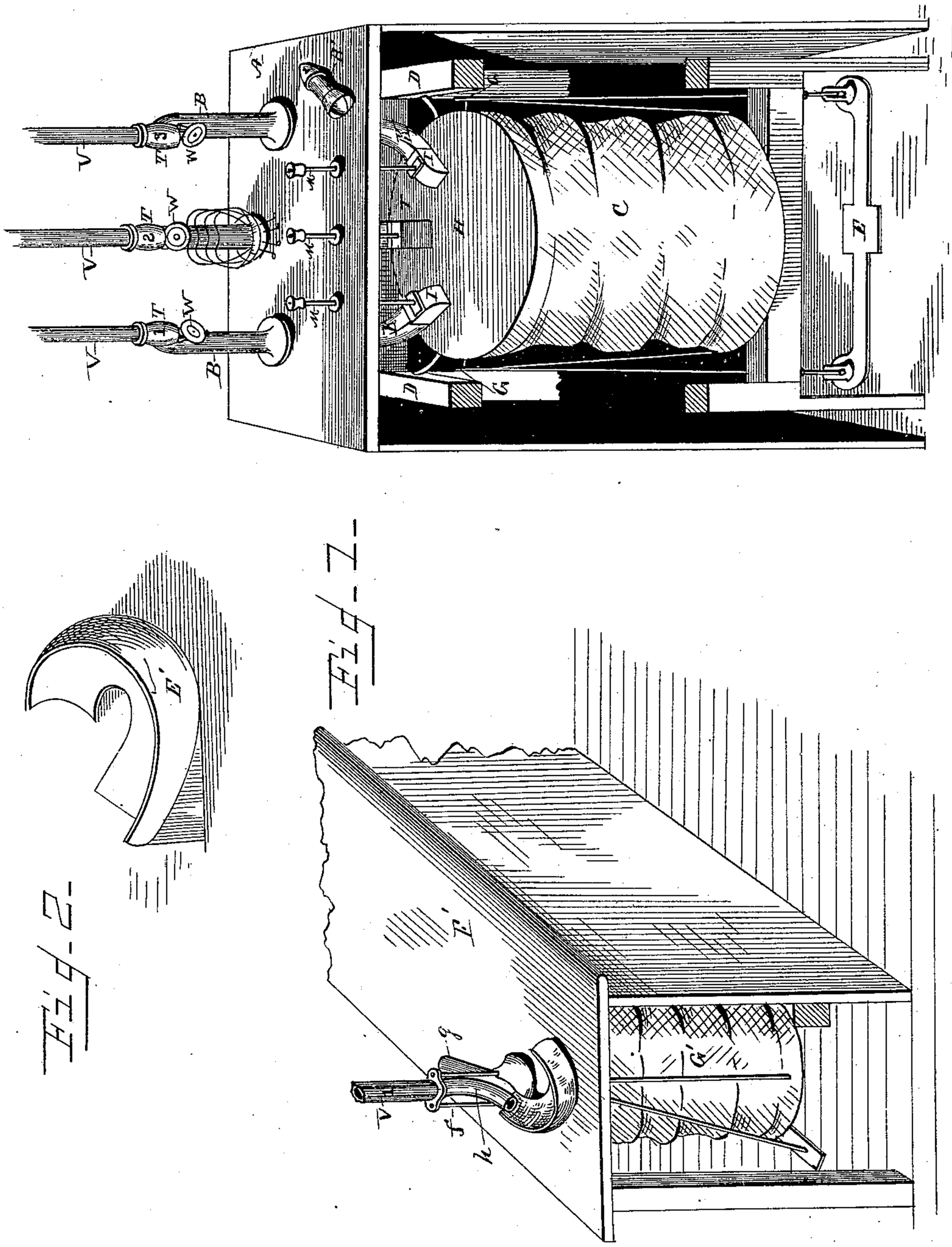
(No Model.) 2 Sheets—Sheet 1.

W. G. DAVIS & W. M. HINMAN.

PNEUMATIC CASH CARRIER.

No. 333,397. Patented Dec. 29, 1885.



WITNESSES
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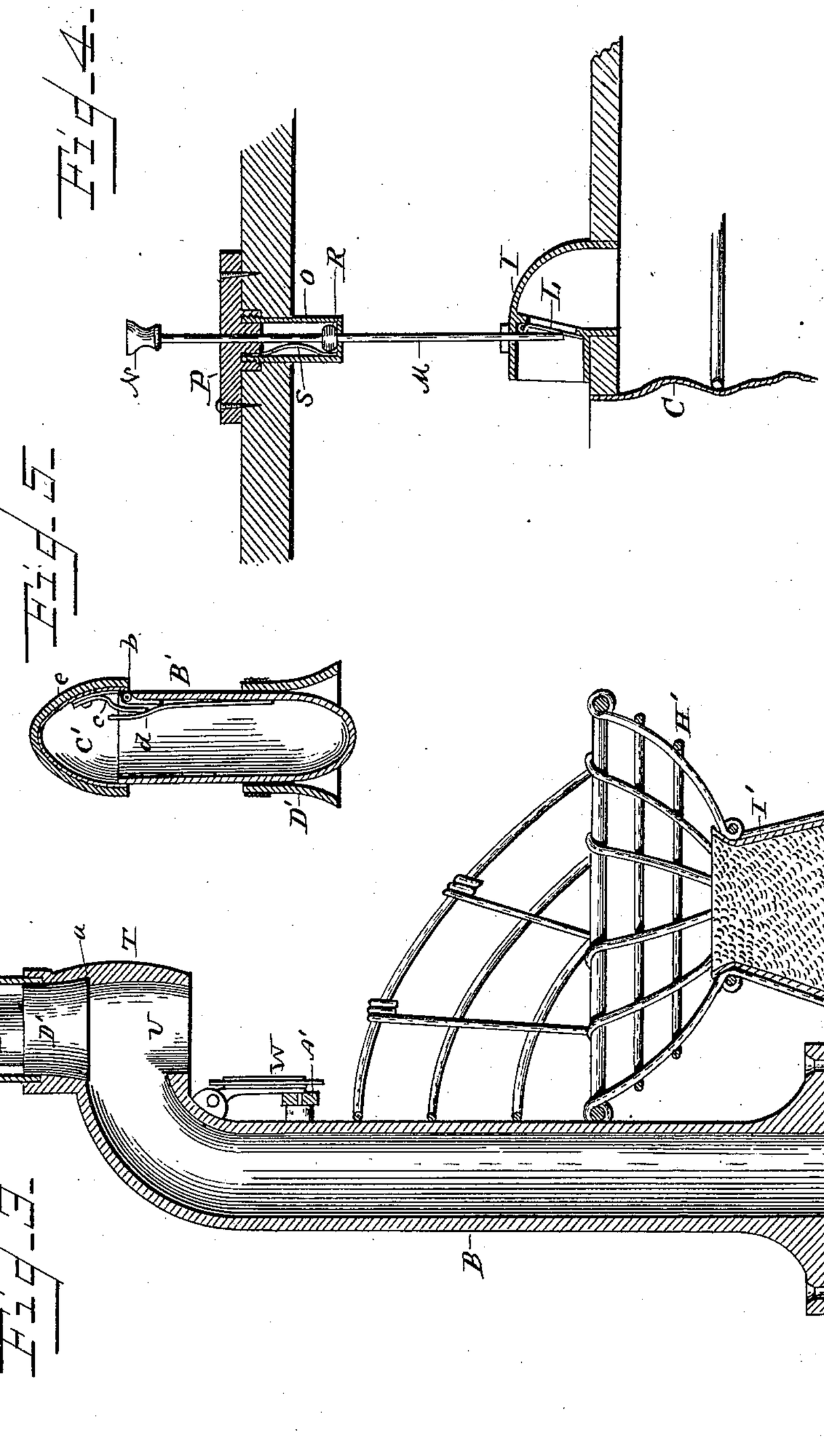

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UNITED STATES PATENT OFFICE.

WILBUR G. DAVIS AND WILLIAM M. HINMAN, OF BOSTON, MASS.

PNEUMATIC CASH-CARRIER.

SPECIFICATION forming part of Letters Patent No 333,397, dated December 29, 1885.

Application filed October 26, 1885. Serial No. 180,903. (No model.)

To all whom it may concern:

Be it known that we, WILBUR G. DAVIS and WM. M. HINMAN, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pneumatic Cash-Carriers, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to improvements in apparatus for pneumatic cash-carriers.

The object of our invention is to improve on certain details of construction and method of operating pneumatic cash-carriers, and more particularly of that class for which Letters Patent of the United States were granted to Wilbur G. Davis, April 22, 1884, No. 297,505, and also on the devices for which an application for a patent was filed by the same party May 15, 1885, Serial No. 165,558.

Our invention consists in supplying the bellows at the cashier's desk with a series of nozzles or outlets corresponding to the number of pipes used for the various stations, said outlets being provided with valves which can be opened or closed, at the will of the operator, to direct the air-blast into any one of the pipes, as will more fully hereinafter appear.

Our invention consists, further, of the peculiar construction of the transmitting-standards which support the main tubes, whereby the carrier is readily inserted and discharged from the tubes.

Our invention consists, further, in making the car or carrier oval or egg shaped at both ends, in order that it will accommodate itself to the curves of the tube, and also in providing it with a skirt or apron at the rear end, which is expanded, when the air-pressure is applied, against the sides of the tube, thus preventing the air from passing by the sides of the carrier.

Our invention consists, further, in placing an open basket under the discharge and receiving end of the tube at the cashier's desk, said basket being provided with a sack filled with lead shot, into which the carrier is discharged, and by which means the force of the carrier is broken without injurious effect to the carrier.

Our invention consists, further, in combining with the double tubes of the sales-station a curved chute or trough, into which the carrier is projected by the force of the air-current, the function of said trough being to break the force of the carrier.

Our invention consists, further, in certain details of construction, which will be fully described hereinafter, and pointed out in the claims.

Figure 1 is a view in perspective of the cashier's desk and the salesman's counter, showing the connections with the bellows and the tubes. Fig. 2 is a perspective view of the chute or trough for arresting the force of the carrier. Fig. 3 is a sectional view of the transmitting-standard with the carrier inserted therein, and also a sectional view of the receiving-basket and sack of shot. Fig. 4 is a sectional view of the bellows with the air-outlet and valve and rod for controlling the air-currents. Fig. 5 is a sectional view of the cash-carrier.

A indicates the cashier's desk, on which are securely mounted any desired number of transmitting-standards B, the number of standards B corresponding with the number of stations at the sales-counters.

C is an ordinary forcing-bellows the top of which is firmly secured to the frame D, while the lower portion is free to be moved up and down by means of the treadle E. The treadle E is connected to the bellows by means of the cords F, which are secured at one end to the treadle and at the other end to the bottom of the bellows, the cords passing over the sheaves or pulleys G, secured to the upper or fixed end, H, of the bellows. The upper end of the bellows is provided with a series of outlets or nozzles, I, which communicate with the transmitting-standards B by means of suitable ducts, K. The nozzles or outlets I are provided with hinged valves or doors L, which open toward the standards B, said valves being held in a closed position by means of the rods M. The rods M pass up through the counter A, and are provided with a knob, N, on which is placed a number corresponding with the number of the station with which this line of tubing connects. The rod M also passes through a chamber or cylinder, O, which is screwed or other-

wise secured to the plate P, said plate being attached to the upper side of the counter. The rod M is provided with a ball or projection, R, within the cylinder or chamber O, which impinges against the strap-spring S, located within said cylinder or chamber, so as to hold the rod either in its raised or lowered position. It will be noticed that when the rod M is raised the valve L is free to open outward by the pressure of air from the bellows; but when this particular line is not to be used the rod M is forced down, closes the valve, and holds the same in a closed position. The transmitting standard or tube B connects with the nozzles I, as already stated, and is curved at its upper end, as shown in Fig. 3, terminating in head T, having an opening, U, passing therethrough.

To the upper end of the head T is secured the line of pipe V, said pipe being made of glass or other transparent material, such as is described and claimed in the patent above referred to. The lower end of the head T is adapted to be closed by the valve W when the carrier is to be transmitted to a station, a suitable cushion, A′, of rubber or felt being secured to the standard to prevent the valve from striking against said standard.

The head T is provided with an interior annular recess, *a*, to receive the skirt of the cash-carrier when the same is inserted in the head, as will more fully appear hereinafter.

B′ is the cash-carrier, composed of a cylinder of any suitable material, preferably brass or other suitable metal, the ends of which are oval or egg shape, as shown, in order that it may readily conform to the curves of the tubes forming the line. The carrier B′ is divided into two parts and hinged at *b*, (see Fig. 5,) the top or lid C′ being provided with a projection, *c*, which impinges against a spring, *d*, secured to the inside of the main body of the carrier, and by which means the top is held either in an open or closed position, the front end or lid of the carrier being covered with felt *e* to protect it from injury.

D′ is a skirt or apron of felt or other suitable material secured around the rear end of the carrier, and is arranged to flare outwardly, so as to impinge against the inside of the tube, to prevent the air from passing by the carrier.

In practice the carrier is placed in the head T and pushed up until the skirt D′ rests on the ledge *a*. The valve W is now closed and the treadle operated to work the bellows. The air from the bellows passing up through the standard B comes in contact with the carrier B′ and forces it rapidly to the station or other end of the line of tubing, where it is caught by the receiver E′.

F′ indicates the sales counter or station to which the tube V leads from the cashier's desk, one tube for each station. The tube V at this end of the line is supported by a suitable standard or support, *f*, in which are pivoted the movable tube-sections *g* and *h*, said tube-sections being joined together and both adapted to be brought under the end of the pipe V. The tube-section *g* communicates with the bellows G′, located under the counter F, while the tube-section *h* communicates with the pipe V and chute E′ at all times except when it is desired to transmit the carrier to the cashier's desk, then the tubes are swung on their pivots to bring the section *g* in communication with the pipe V.

These tube-sections and the manner of operating them are fully set forth and claimed in the application of W. G. Davis, above referred to, and need not be further described in this connection.

The chute E′ consists of a curved metallic shell open at the top, but having the upper edge projecting over to prevent the carrier from jumping out of the trough, said chute being secured to the counter at the end of the tube-section *h*, and is adapted to stop or gradually break the force of the carrier. As the carrier emerges from the tube-section *h*, it impinges on the curved inside of the trough, which breaks its force and permits it to fall gently on the counter.

H′ is a wire basket, adapted to fit close against the standard B, the rear side of said basket being made higher than the front side, as shown. The bottom of the basket H′ is open and adapted to receive a pocket or bag, I′, of leather or other suitable material, said pocket being filled with lead shot to break the force of the carrier as it is sent from the station to the cashier's desk.

In practice we have found that the lead shot contained in the pocket or bag is very effective in stopping or resisting the force of the carrier as it emerges from the tube, and does not injure or break the carrier, and, furthermore, the shot does not pack solid, as is the case with sand and other material.

In practice we may find it desirable to use the transmitting-standard B at both ends of the line—*i. e.*, at the various stations, as well as at the cashier's desk or central station.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In pneumatic cash-carriers, the bellows C, provided with a series of nozzles communicating with the transmitting-standards B, said nozzles being provided with valves L, in combination with the rods M, whereby any one of the series of nozzles may be brought into working communication with its corresponding tube, as set forth.

2. In pneumatic cash-carriers, the standards B, curved, as described, and terminating in an open head, T, the upper portion of said head being connected to the line of pipe leading to a station, the lower portion of said head being adapted to be closed by a suitable valve, whereby the carrier is readily inserted and transmitted to its destination, as set forth.

3. In pneumatic cash-carriers, the head T, provided with the groove or recess *a*, in com-

bination with the carrier B′, having the skirt D′, whereby said carrier is held in position in the tube until the valve W is closed and the air-current is applied, as set forth.

4. A cash-carrier for pneumatic tubes, consisting of a metallic cylinder having both ends oval, as described, whereby said carrier adapts itself to the curves of the tube, as set forth.

5. A cash-carrier for pneumatic tubes, consisting of a metallic cylinder with oval ends, hinged in two sections, as described, and provided at its rear end with felt skirt or apron D′, as set forth.

6. A cash-carrier for pneumatic tubes, consisting of a metallic cylinder with oval ends, hinged in two sections, in combination with the spring *d* and lug *c*, as set forth.

7. A receiver for cash-carriers, consisting of a sack or other suitable receptacle filled with lead shot placed under the receiving-opening of the standard B, as set forth.

8. The plate P, having the cylinder O attached thereto, said cylinder being provided with a spring, S, in combination with the rod M, provided with the projection R, whereby the rod is held in position, as set forth.

9. The rod M, provided with the projection R, and working against the spring S in the cylinder or chamber O, in combination with the nozzle I and valve L, as set forth.

10. In a cash-carrier, the combination of the bent tube *h* with the curved chute or trough E′, as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WILBUR G. DAVIS.
WILLIAM M. HINMAN.

Witnesses:
JOHN J. DOWD,
WM. M. JEWETT.