

(No Model.)

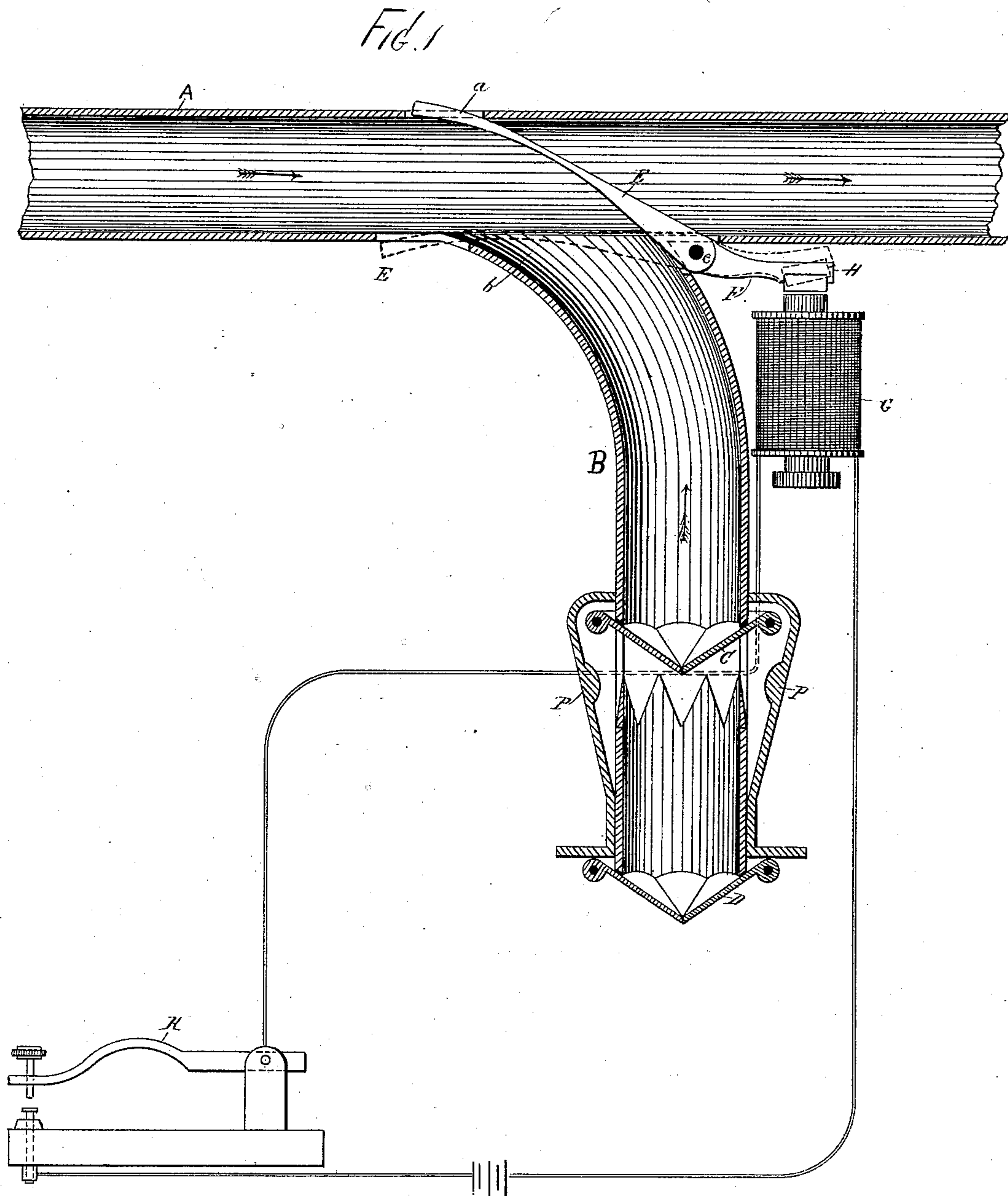
2 Sheets—Sheet 1.

E. S. LEAYCRAFT.

DELIVERY SWITCH FOR PNEUMATIC TUBES.

No. 279,574.

Patented June 19, 1883.



Witnesses,
R. J. Van Boshuizen
Jas. J. Campbell

Inventor,
E. S. Leaycraft
Per G. H. & Co.
attys.

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2 Sheets—Sheet 2.

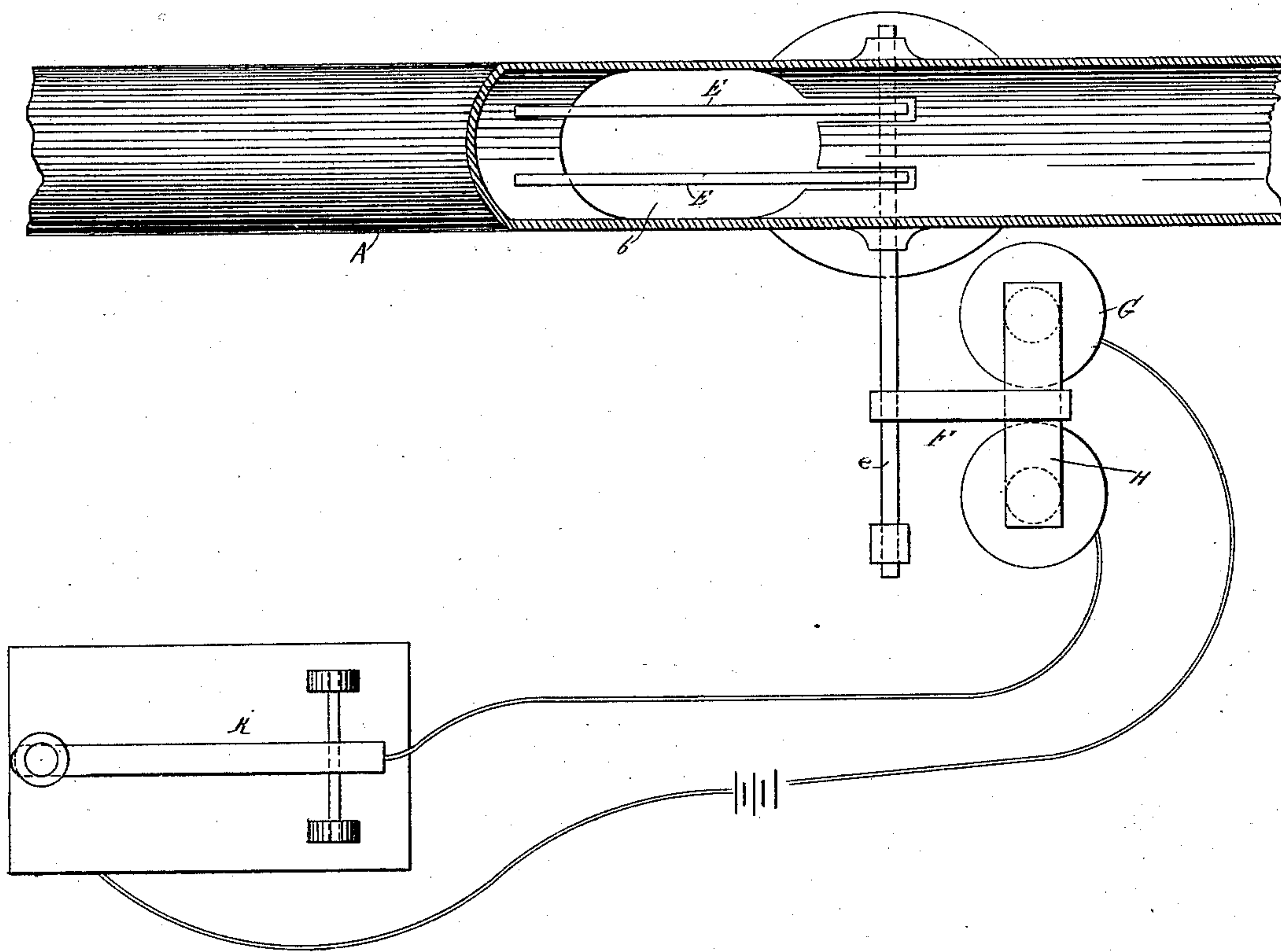
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FIG. 2.



Witnesses,
R. J. Van Borskerck
Jas. J. Campbell

Inventor,
E. S. Leaycraft
Per
Shoat & Co
attys.

UNITED STATES PATENT OFFICE,

EDWIN S. LEAYCRAFT, OF JERSEY CITY, NEW JERSEY.

DELIVERY-SWITCH FOR PNEUMATIC TUBES.

SPECIFICATION forming part of Letters Patent No. 279,574, dated June 19, 1883.

Application filed January 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWIN S. LEAYCRAFT, a citizen of the United States, residing in Jersey City, in the State of New Jersey, have invented a new and useful Improvement in Delivery-Switches for Pneumatic Tubes, of which the following, taken in connection with the accompanying drawings, is a full, clear, and accurate description.

In the drawings, Figure 1 represents a sectional view of my improved delivery-switch as operated by electricity. Fig. 2 is a plan view of the same.

A is a section of the main tube in a pneumatic-tube system.

B is a delivery-tube attached thereto, provided with the valves C and D.

E E represent curved strips or fingers, of metal, pivoted to the outside of the main tube A, at its junction with the tube B, passing and extending to the other side of the tube A, to the recess *a* of the main tube A, and are of such a length as to extend over the opening *b* at the junction of the tubes A and B. The pivot *e*, to which the fingers E E are attached, is provided with the lever F, having at its end the armature H.

G is an ordinary electro-magnet, supported just below the armature H, and connected by means of suitable wires with a battery or other source of electricity and a key, K.

The portion of the tube B between the valves C and D is enlarged, and the lower portion thereof made double, the inner tube being cut, at the end near the valve C, into V-shaped projections of such size as to allow the V-shaped leaves of said valves to pass through them when the valve is open, and the outer tube having projections P for said V-shaped valve-leaves to rest on.

The mode of operation is as follows: The fingers E E, by their weight, occupy a position in the main tube A, as shown by the dotted lines in Fig. 1, being immediately over the opening *b* of the main tube A and its connection with the tube B, thus allowing the carrier or package placed in the main tube A to pass directly through the same. When, however, it is desired to switch the carrier or package into the delivery-tube B the key K is pressed, and the magnet G, being energized, attracts the armature H, thus pulling down the lever

F and raising the fingers E E until the ends touch the upper side of the tube A. The carrier or package passing through the tube A is forced against these fingers, and thus deflected into the delivery-tube B through the opening *b*, opening by its momentum the valve C, and thence passing through the exit-valve D, the enlargement of the tube B between the valves C D permitting a free movement of the carrier through these valves, and preventing it from being sucked back by the current of air from the exit-valve D. The enlargement of the tube B, provided with the two valves C and D, is to overcome the following difficulty: If the tube B were merely provided with a single valve, the air, on the valve being opened by the momentum of the carrier, would tend to rush into the tube through the opening so made, forcing the valve to close and the carrier to be carried back before it was discharged from said tube. By placing a second valve, D, below the first valve, C, and slightly enlarging the tube between the two valves, the carrier is permitted to pass entirely clear of the valve C before the valve D is opened, and before communication is established through the tube B with the outer air. When the valve D is opened by the momentum of the carrier, the air, rushing, as aforesaid, through the open valve D, passes alongside the carrier into the large portion of the tube between the valves, thence against the leaves of the valve C, closing the same, and stopping all further action of the air in said enlarged portion of the tube and any tendency of backward suction of the carrier.

Instead of using the armature H and the magnet G, with its electrical connections, the lever F may be operated in any desired way—for instance, by an ordinary bell-pull and wire, or by an auxiliary pneumatic tube operating a plunger attached to the end of said lever, or by a steam-pipe having a piston connected with said lever, and, in fact, by any suitable means.

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

1. A switch for changing the course of a carrier or object passing through the main tube of a pneumatic system, consisting of movable fingers pivoted to the main tube and moving therein, and actuated by a lever attached thereto, in combination with a switch or delivery

tube connected with the main tube, with means for operating said lever at will.

2. A switch for changing the course of a carrier or object passing through the main tube of a pneumatic system, consisting of movable fingers pivoted to the main tube and moving therein, and which obstructs at will the main tube or the entrance to the switch-tube.

3. A compound delivery-valve for pneumatic tubes, consisting of a valve opening outward placed at the end of said tube, and another

similar valve placed at any desired position in said tube, with the portion of said tube between said valves enlarged, substantially as described, and for the purposes set forth. 15

In testimony whereof I have hereunto set my hand this 30th day of December, 1882.

E. S. LEAYCRAFT.

In presence of—

CHARLES G. COE,

R. T. VAN BOSKERCK.