

A. B. CAMPBELL.
PNEUMATIC TRANSMITTER.

No. 454,992.

Patented June 30, 1891.

Fig. 1.

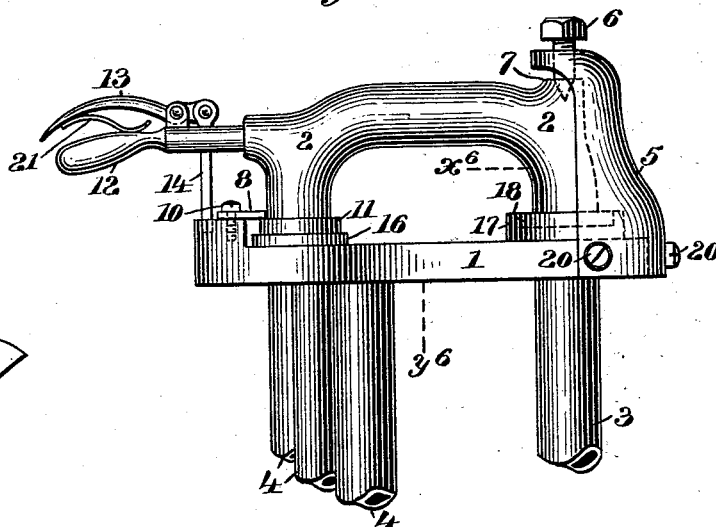


Fig. 3.

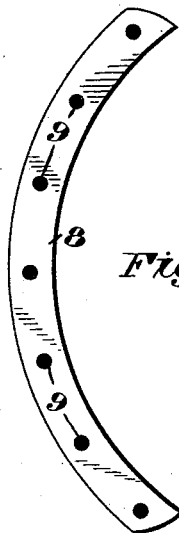
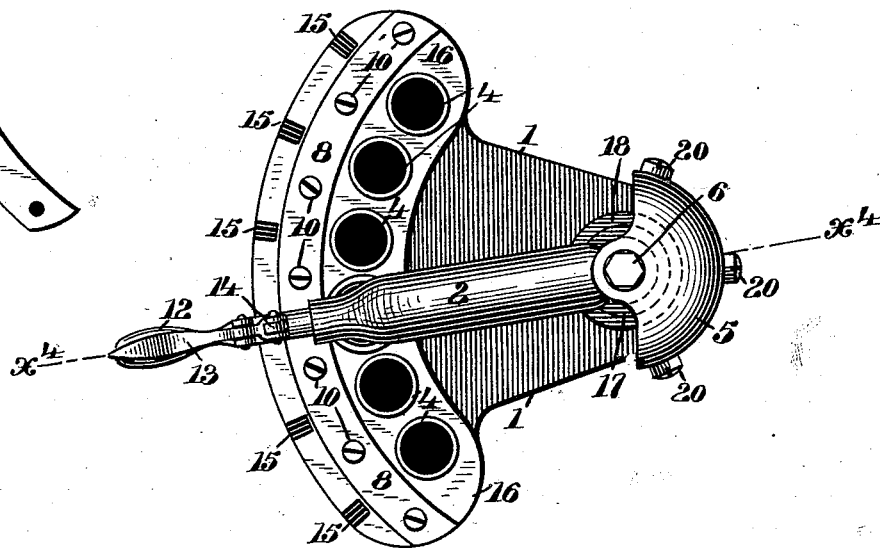


Fig. 2.



Witnesses
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Fig. 4.

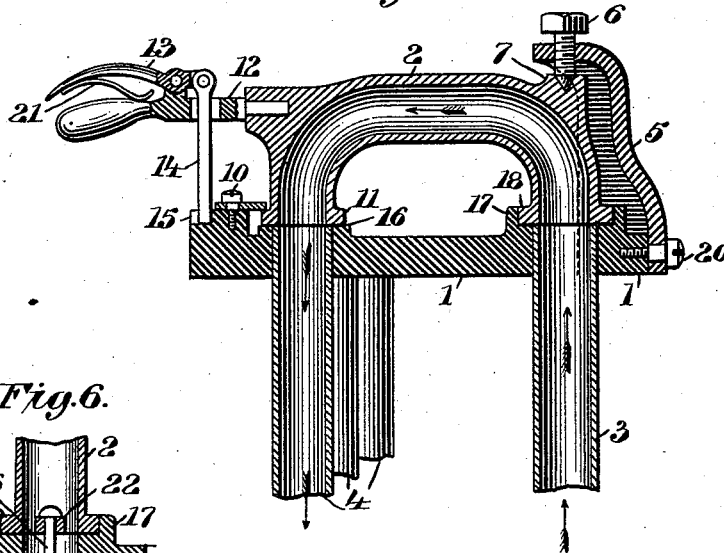


Fig. 6.

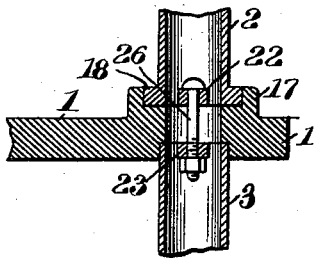


Fig. 7.

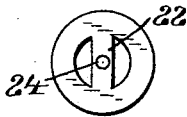


Fig. 8.

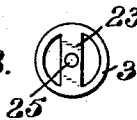
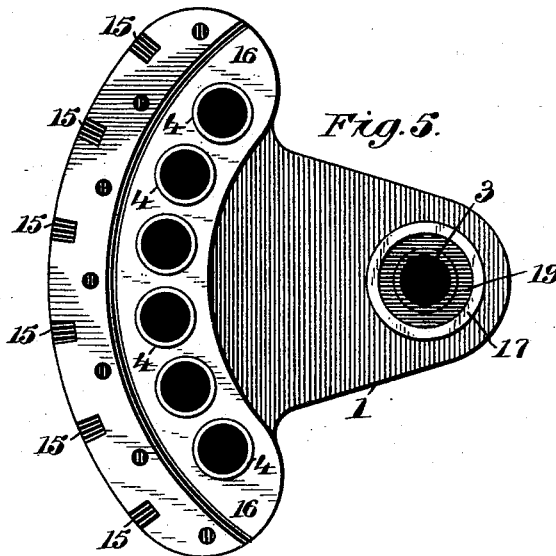


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

AMMI B. CAMPBELL, OF BRIDGEPORT, CONNECTICUT.

PNEUMATIC TRANSMITTER.

SPECIFICATION forming part of Letters Patent No. 454,992, dated June 30, 1891.

Application filed November 17, 1890. Serial No. 371,631. (No model.)

To all whom it may concern:

Be it known that I, AMMI B. CAMPBELL, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Pneumatic Transmitters, of which the following is a specification.

My invention relates to an improved pneumatic transmitting device. Its object is to facilitate the delivery of the dispatch-carrier from one end of the line, preferably at the cashier's desk, to its proper destination.

To this end my invention consists of a series of delivery-tubes arranged in a circle about a single air-tube. The openings or mouths of all such tubes are arranged upon the same plane. A radially-operating hollow pneumatic switch, preferably curved in form, so that its receiving and discharging ports shall also be upon the same plane. One of such ports is placed over the mouth of the air-tube, such switch pivotally attached thereto and so arranged upon its pivoted support that its other or discharging port may be brought into communication with any one of the series of delivery-tubes, all of which improvements will be more fully described in the following specification, and particularly pointed out in the claims.

To more fully understand my invention, reference is had to the accompanying drawings, which form a part of this specification.

Figure 1 represents a side elevation of my invention, showing a section of the air-tube and dispatch or delivery tubes attached to a base or bed plate. Fig. 2 represents a plan view of Fig. 1. Fig. 3 represents a detail view. Fig. 4 represents a sectional side elevation through line X⁴ of Fig. 2. Fig. 5 represents a plan view of the bed-plate, showing the arrangement of the different tubes attached thereto. Figs. 6, 7, and 8 represent modifications.

Its construction and operation are as follows: 1 represents the bed-plate which supports the mechanism connected with the transmitter; 2, the air-switch; 3, the air-tube; 4, the carrier delivery tubes; 5, bracket attached to the bed-plate and overhanging a portion of the air-switch; 6, pivot-screw in the bracket 5, the pointed end of which screw engages a corre-

spondingly-tapering seat provided in the hub 7 of the switch 2; 8, gib having holes 9, such gib attached by screws 10 to the bed-plate 1, overhanging and engaging the upper surface of the flange 11 of switch 2; 12, handle projecting from the front end of switch 2, such handle supporting the locking-lever 13 and locking-bolt 14, the free end of such bolt engaging with the notches 15 of the bed-plate 1, thus defining the position of the air-switch for each delivery-tube.

Heretofore "pneumatic switches," so called, have been employed to switch the dispatch-carrier from one line of pipe into another line to deliver the same at some predetermined point or station along the route. Such a device is more properly a carrier-switch.

In my construction I employ the switch as such to divert or switch the air-current from the air-tube into any one of a series of delivery-tubes, using only one air-tube to dispatch carriers through any number of delivery-tubes.

The tubes 3 and 4, as shown in the several views, are properly secured to the bed-plate 1, and such bed-plate preferably arranged upon a horizontal plane, as shown in Figs. 1 and 4. On the upper surface of the bed-plate the face 16 is raised just above the surface of the bed-plate proper, which face is made true and level, thus making with the under side or surface of the switch-flange 11 as near as possible an air-tight joint. The recessed hub 17 is also provided for the flange 18 of the switch. The under side of flange 18 and the bottom 19 (see also Fig. 5) of the recessed hub 17 are also made true and air-tight. The bracket 5 is secured to the bed-plate by screws 20, and by means of the pivot-screw 6 in such bracket the bearing-surfaces of the switch-flanges 11 and 18 are kept as tight as practicable with the proper working of the switch. The gib 8 also assists in preserving contact at the forward end of the switch.

Its operation is as follows: The device is located within easy reach of the operator, and when necessary to dispatch a carrier to a certain station the carrier is dropped into the tube for such station. The switch-handle 12 is grasped, lever 13 compressed, locking-bolt 14 withdrawn from its notch in the bed-plate,

the switch turned on its pivoted support and brought over the tube holding the carrier. The pressure on the locking-lever being then relieved the locking-bolt by the action of spring 21 is forced into its proper notch. The air-current flowing through the switch from the air-tube 3 will propel the carrier to its destination. As the air-current is never shut off or checked, it may continue to flow through such delivery-tube until switched off into any one of the other tubes until required to dispatch a carrier through the same. Placing the bed-plate on a horizontal plane, with the inlet and outlet ports of the air-switch on the same plane and the delivery-tubes arranged at right angles therewith, enables the carrier to fall by its own gravity far enough within its tube to prevent its colliding with the air-switch when such switch is moved over such tube.

If necessary to extend the delivery system and establish new stations, which would necessitate an increase in the number of delivery-tubes, the capacity of the bed-plate could be increased and making, if required, a complete circle of delivery-tubes about the air-tube, such air-tube representing, as now, the center of the circle. As now constructed the bracket 5 would interfere and prevent a complete revolution of the air-switch.

The modification shown in Figs. 6, 7, and 8 would enable the switch to make a complete revolution. Fig. 6 represents a sectional side elevation of the bed-plate, air-switch, and air-tube, also section of air-switch through line x^a of Fig. 1 and section of bed-plate through line y^b of Fig. 1. The ribs 22 and 23 extend across the mouth or port of the air-switch (see Fig. 7) and the air-pipe (see Fig. 8,) each rib provided with the hole 24 or 25. The bolt 26, (see Fig. 6,) passing through such holes, will draw the air-switch down upon its seat firm enough to enable it to revolve freely without leakage of air. Instead of the rib 23 being placed in the mouth of the air-tube, it could be located in the bed-plate with equally as good results.

The advantage derived from the construction above described over the present method now employed in dispatching carriers is readily seen and appreciated by the facility with which such business is done. As before mentioned, only one air-tube is used, which receives the air direct from the blower, and by means of my specially-constructed air-switch the air may be diverted or switched from such air-tube into as many different delivery-tubes as may be required. Such air-switch arranged to move in a circular path is always within easy reach of the operator.

The curved or U-shaped construction of my air-switch, with its inlet and outlet ports arranged upon the same plane, assists very materially by its weight alone in preserving the air-tight contact between the friction-surface of such air-switch and the bed-plate, thereby requiring no special packing to make a tight joint.

I do not wish to be confined to the exact details of construction herein shown and described, as some of them may be changed without departing from the spirit of my invention. For instance, the manner of locking the air-switch in its several positions and the bracket for holding such air-switch in contact with the bed-plate may be substituted for other well known and equally as efficient means for accomplishing the same purpose.

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

1. The combination, in a pneumatic transmitter, of an air-tube, a series of dispatch delivery-tubes arranged in circular form about such air-tube, with an air-switch having double ports, a channel between such ports, said switch pivotally mounted over the air-tube in the manner substantially as shown, with one of its ports in communication with the air-tube, said switch arranged to turn on its pivoted support and bring its other port in communication with the delivery dispatch-tubes, substantially as shown.

2. The combination, in a pneumatic transmitter, of an air-tube, a series of delivery-tubes arranged in circular form about such air-tube, and a bed-plate, such tubes arranged therein in the manner substantially as shown, the ends of such tubes on the same plane with such bed-plate, with an air-switch having double ports, a channel between such ports, such ports opening downward from such channel, such air-switch with one of its ports pivotally mounted over the air-tube, and means, substantially as shown, to effect such pivoted support, such switch arranged to turn on its pivoted support, and thereby bring its other port in communication with any one of the series of delivery-tubes, and means, substantially as shown, to lock such switch, and means, substantially as shown, to effect a tight joint between such switch and the bed-plate, as described.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut.

AMMI B. CAMPBELL.

Witnesses:

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THEODORE HUGO.