

No. 680,700.

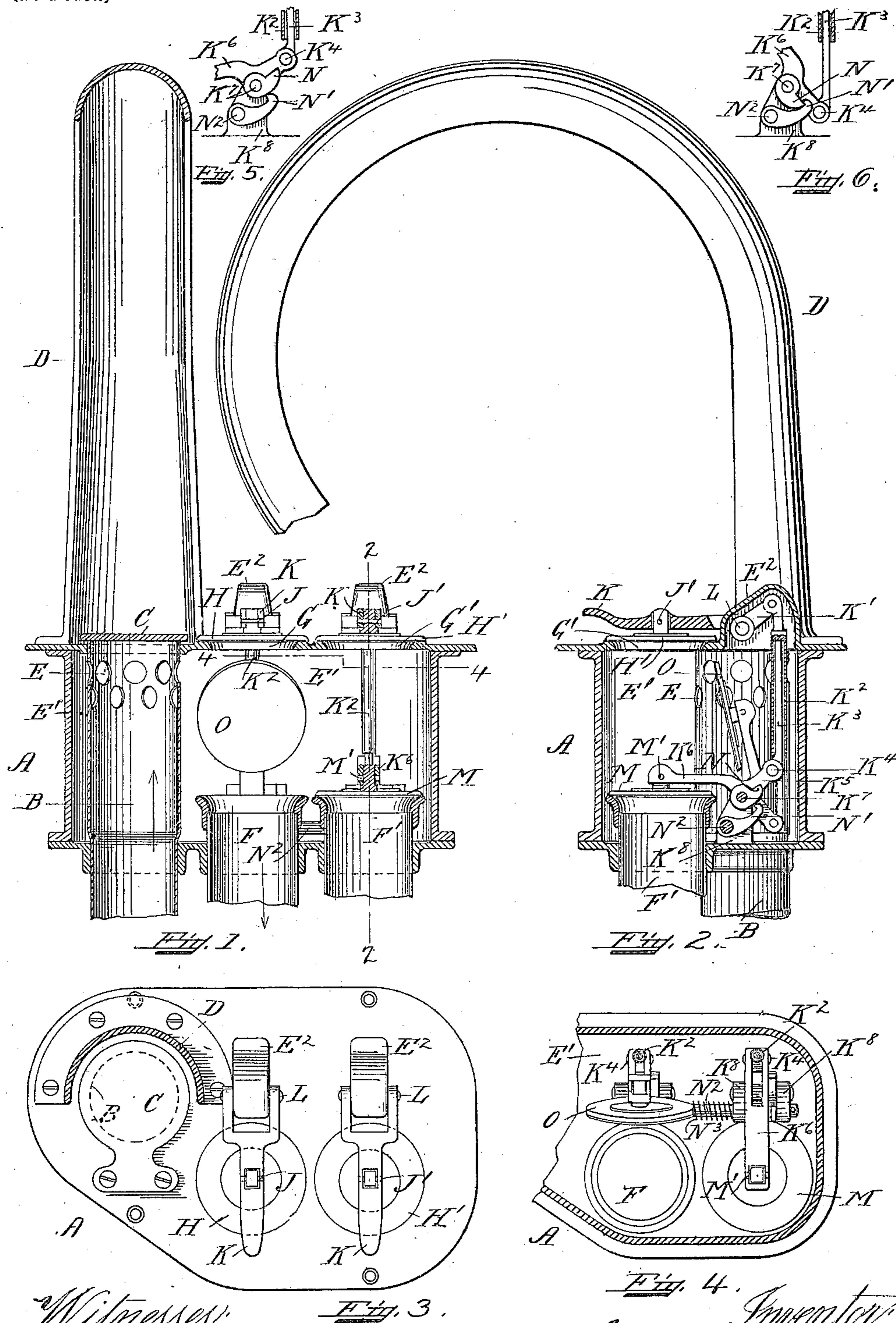
Patented Aug. 20, 1901.

J. T. COWLEY.

PNEUMATIC DESPATCH TUBE APPARATUS.

(Application filed Jan. 19, 1900.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## PNEUMATIC-DESPATCH-TUBE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 680,700, dated August 20, 1901.

Application filed January 19, 1900. Serial No. 1,975. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES T. COWLEY, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Pneumatic-Despatch-Tube Apparatus, of which the following is a specification.

My invention relates to improvements in vacuum pneumatic-despatch apparatus; and the object is to shift the air-current from one tube to another for despatching carriers, so that one current of air may be used for any number of tubes. By this arrangement the carriers may be despatched through any one of a series of tubes by a single current of air, as the air is used in but one tube at one time.

My invention consists of certain novel features hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which illustrate a construction embodying my invention, Figure 1 is a front sectional elevation of the terminal. Fig. 2 is a side elevation, partly in section, of the terminal. Fig. 3 is a top plan view with the chute in section. Fig. 4 is a sectional view showing the interior of the valve-box with one of the valves open. Fig. 5 is a detail view of the catch for holding the valve open with the catch disengaged from the valve-holding mechanism. Fig. 6 is a detail view of the catch for holding the valve open with the catch engaged with the valve-holding mechanism.

Like letters of reference refer to like parts throughout the several views.

A represents a terminal, to which is connected the transmission-tube B, having its upper end closed by the valve C, which is held normally closed by the suction of the air within the tube B and is opened by the impact of the carrier as it passes out from the tube B into the chute D, from which the carrier is delivered to a suitable receptacle. The transmission-tube B is provided at its upper end with a series of perforations E, through which the air passes into the valve-box E'. The lever K is provided with an arm K', to which is pivoted the sleeve K<sup>2</sup>, extending downwardly within the valve-box E'. Within

the sleeve K<sup>2</sup> is a rod K<sup>3</sup>, and the lower end of this rod is pivoted at K<sup>4</sup> to the arm K<sup>5</sup>, extending outwardly from the lever K<sup>6</sup>. This lever K<sup>6</sup> is pivoted at K<sup>7</sup> to the lugs K<sup>8</sup>, projecting upwardly within the valve-box E'. On the outer end of the lever K<sup>6</sup> is mounted the valve M, which is loosely pivoted to the lever K<sup>6</sup> at M'. This valve M is adapted to close the upper end of the tube F' when the catch N, which is mounted on the side of the lever K<sup>6</sup>, is disengaged from the catch N', as shown in Fig. 2. The catch N' is secured to the shaft N<sup>2</sup> and is held in its raised position by the spring N<sup>3</sup>, one end of which is secured to the shaft N<sup>2</sup>, and the opposite end is secured to one of the lugs K<sup>8</sup>. The tube F is adapted to be closed by the valve O, of similar construction and operated by similar mechanism to the one just described.

The operation is as follows: Assuming that it is desired to despatch a carrier through the transmission-tube F, the lever K, connected to the valve H, closing the opening G, will be raised. As the lever K is raised the arm K', connected to said lever, will be lowered and will move downwardly with it the tube K<sup>2</sup> and also the rod K<sup>3</sup> within said tube. The rod K<sup>3</sup> being pivoted to the arm K<sup>5</sup> at K<sup>4</sup> on the lever K<sup>6</sup>, the arm K<sup>5</sup> will be lowered also and the lever K<sup>6</sup>, carrying the valve O, will be raised to the position shown in Figs. 1, 2, and 4. With the valve O in this position the carrier may be dropped into the tube F through the opening G, after which the valve H will be closed without affecting the valve O, as the valve O will be held in its raised position by the catch N', engaging with the catch N, mounted on the inside of the lever K<sup>6</sup>, which carries said valve. The valve O will thus remain open until it is desired to despatch a carrier through the tube F' or any other tube of the series, and the current will continue to pass through the tube F, and any number of carriers may be despatched in succession through the tube F without disturbing the valve O. When it is desired to despatch a carrier through the tube F', the lever K, carrying the valve H', covering the opening G', will be raised and the arm K' on the lever H will be lowered, moving

down with it the tube  $K^2$  and also the rod  $K^3$  within said tube. This rod  $K^3$  being pivoted to the arm  $K^5$  on the lever  $K^6$ , the lever  $K^6$  will be raised, carrying with it the valve M.

5 As the lever  $K^6$  rises the catch N, secured to said lever, will force backwardly the catch  $N'$ , and the continued movement of the lever  $K^6$  will release the catch  $N'$  on the shaft  $N^2$  and allow the valve O to drop, closing the

10 opening end of the transmission-tube F. The further movement of the lever  $K^6$  will cause the catch  $N'$  to engage with the catch N and retain the lever  $K^6$  and the valve M in their raised positions, thus leaving the end of the

15 transmission-tube F' open to receive a carrier when dropped into the said tube through the opening G' in the valve-box E'. It will thus be seen that as the valve M, closing the tube F', is opened the valve O, closing the tube F,

20 is closed, and the current of air will be changed from passing down through the tube F so that it will pass through the tube F' instead until it is desired to again despatch a carrier through the tube F, when the valve O will

25 again be raised, as previously described, and the valve M will be closed, as shown in Fig. 1.

Having thus ascertained the nature of my invention and set forth a construction embodying the same, what I claim as new, and desire to secure by Letters Patent of the United

30 States, is—

1. In a pneumatic-despatch-tube apparatus, a series of transmission-tubes, a return-tube, an inclosure forming a communication

35 between said transmission and return tubes, and means for closing the ends of the transmission-tubes.

2. In a pneumatic-despatch-tube apparatus, a series of transmission-tubes, a return-

40 tube, an inclosure forming a communication between said transmission and return tubes, valves for closing the ends of the transmission-tubes, openings in said inclosure in aline-

ment with said transmission-tubes, and means for closing said openings.

3. In a pneumatic-despatch-tube apparatus, a series of transmission-tubes, a return-tube, an inclosure forming a communication between said transmission and return tubes, valves for closing the ends of the transmis-

50 sion-tubes, and mechanism for holding one of the transmission-tube valves open at a time.

4. In a pneumatic-despatch-tube apparatus, a series of transmission-tubes, a return-

55 tube, an inclosure forming a communication between said transmission and return tubes, valves for closing the ends of the transmission-tubes, openings in said inclosure in alignment with said transmission-tubes, valves for

60 closing said openings, and mechanism for holding one of the transmission-tube valves open at a time.

5. In a pneumatic-despatch-tube apparatus, a series of transmission-tubes, a return-

65 tube, an inclosure forming a communication between said transmission and return tubes, valves for closing the ends of the transmission-tubes, openings in said inclosure in alignment with said transmission-tubes, valves for

70 closing said openings, mechanism for holding one of the transmission-tube valves open at a time, and mechanism cooperating with all of said transmission-tube valves whereby the opening of one of said

75 transmission-tube valves will close the other transmission-tube valves.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 9th day of 80 January, A. D. 1900.

JAMES T. COWLEY.

Witnesses:

A. L. MESSER,  
C. A. STEWART.