No. 726,072. PATENTED APR. 21, 1903.

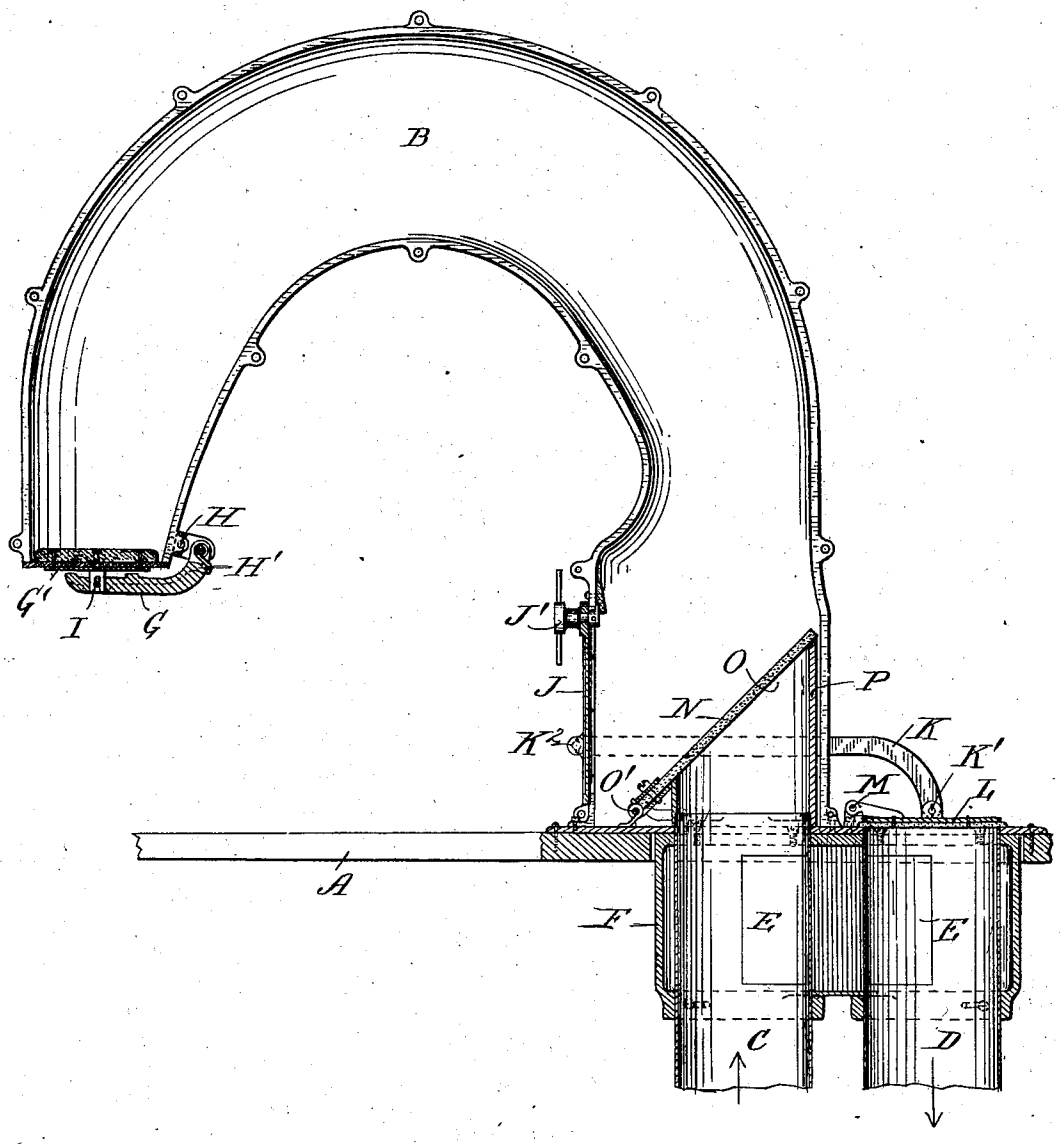
A. KOENIG.

SAFETY VALVE FOR PNEUMATIC TUBES.

APPLICATION FILED JAN. 16, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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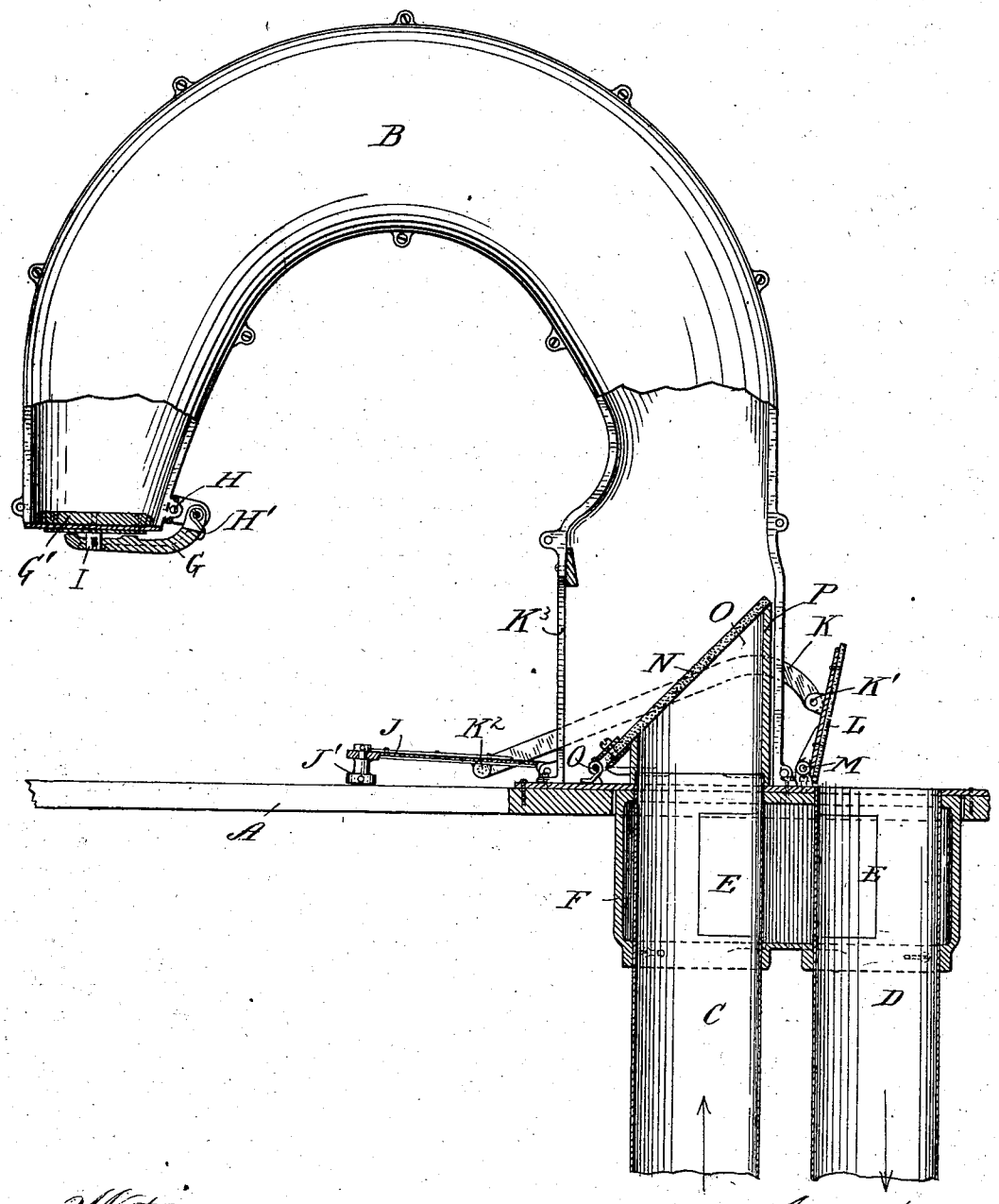
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SAFETY VALVE FOR PNEUMATIC TUBES.

APPLICATION FILED JAN. 16, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

AUGUST KOENIG, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO LAMSON CONSOLIDATED STORE SERVICE COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SAFETY-VALVE FOR PNEUMATIC TUBES.

SPECIFICATION forming part of Letters Patent No. 726,072, dated April 21, 1903.

Application filed January 16, 1902. Serial No. 89,940. (No model.)

To all whom it may concern:

Be it known that I, AUGUST KOENIG, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Safety-Valves for Pneumatic Tubes, of which the following is a specification.

My invention relates to new and useful improvements in pneumatic-tube apparatus, and its main object is to provide a safety-valve for the terminals of pneumatic tubes whereby in the case of repairs or carriers becoming stuck in the terminal the current may be cut off and the hand inserted to push the carrier along or to make repairs without danger of accident from the traveling carriers coming from the transmission-tube into the terminal.

Another object is to arrange an impact-valve on an incline and which is more readily opened by the traveling carrier than a valve arranged straight across the tube in the usual manner.

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 sectional view of a terminal provided with my improved safety-valve and impact-valve located at an angle of about forty-five degrees, the parts being in a position to receive a carrier from the transmission-tube into the terminal. Fig. 2 is a side view mostly in section and showing the safety-valve opened, so that the hand can be inserted within the terminal for any purpose desired.

Like letters of reference refer to like parts throughout both views.

To the table A is secured the terminal B, with which communicates the transmission-tube C, through which carriers pass from the opposite station into the terminal B by the vacuum. This tube C as well as the return-tube D are secured to the casting F, and said tubes are provided with openings E, by which communication is established between the tubes through the casting F. Outlet end of the terminal B is closed by a valve G', pivoted at I to the arm G, which is pivoted at H to the terminal, and said valve is normally held in its closed position by the spring H'. This valve acts as a muffler—that is, it muffles the sound of the carrier striking the valve O and cushions the carrier, so that it passes slowly from the terminal. This valve O is pivoted at O' and rests at an angle of forty-five degrees on the sleeve P and closes the outlet from said sleeve, which at its lower end encircles the upper end of the transmission-tube C. By arranging the valve O in this inclined position the carrier strikes and opens it easier than with a valve which is arranged straight across the transmission-tube in the usual manner. It is found in practice in a five-inch-vacuum system that with the valve inclined as shown only one-half of the pressure is required to operate the system as where the valve is arranged straight across the tube in the terminal, and, further, that with this inclined valve the carriers strike easier and make much less noise.

The upper end of the return-tube D is closed by the valve L, pivoted at M, and to said valve there is pivoted at K' the fork-lever K, which passes around each side of the terminal and is pivotally secured at its front end K^2 to the door J, which normally closes the opening K^3 in the terminal B. When the valve L is closed, as shown in Fig. 1, the circuit of air is through the tube C, through the openings E, casting F, and down through the tube D, so that the carriers inserted into the tube are drawn along and pass into the terminal B and discharge therefrom. When, however, one or more carriers become stuck in the terminal and do not pass therefrom, or it be desired to make repairs, the door J is opened by operating the lock J' and moving it to the position shown in Fig. 2, which causes the opening of the valve L, and the parts take the position shown in Fig. 2. By opening the valve L the suction between the tube C and tube D is broken, as the suction through the tube D is satisfied by the atmospheric air and the carriers would not be drawn along the tube C, so that the hand can be inserted into

the terminal B above the valve O and the carriers given sufficient push to cause the same to pass around and open the valve G. When the terminal is free of carriers or the desired repairs have been made, the door is closed and locked and the parts assume the position shown in Fig. 1, when the full force of the vacuum passes between the tubes C and D and the carriers are drawn along the tube C and pass into the terminal B.

Having thus described 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 States, is—

1. In an apparatus of the character described, a transmission-tube, a terminal with which said tube communicates, a return-tube outside of the terminal communicating with said transmission-tube, a valve closing said return-tube and adapted to be opened to admit air to the return-tube for breaking the vacuum in the transmission-tube, and a door to which said valve is connected closing an entrance to the terminal and adapted when opened to open said valve.

2. In an apparatus of the character described, a transmission-tube, a terminal with which said tube communicates, a return-tube means independent of the terminal for establishing communication between said return-tube and said transmission-tube, a valve closing said return-tube and adapted to be opened to admit air to said return-tube for breaking the vacuum in said transmission-tube, and a door to which said valve is connected closing an entrance to the terminal and adapted when opened to open said valve.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 6th day of January, A. D. 1902.

AUGUST KOENIG.

Witnesses:
E. L. HARLOW,
A. L. MESSER.