

No. 640,071.

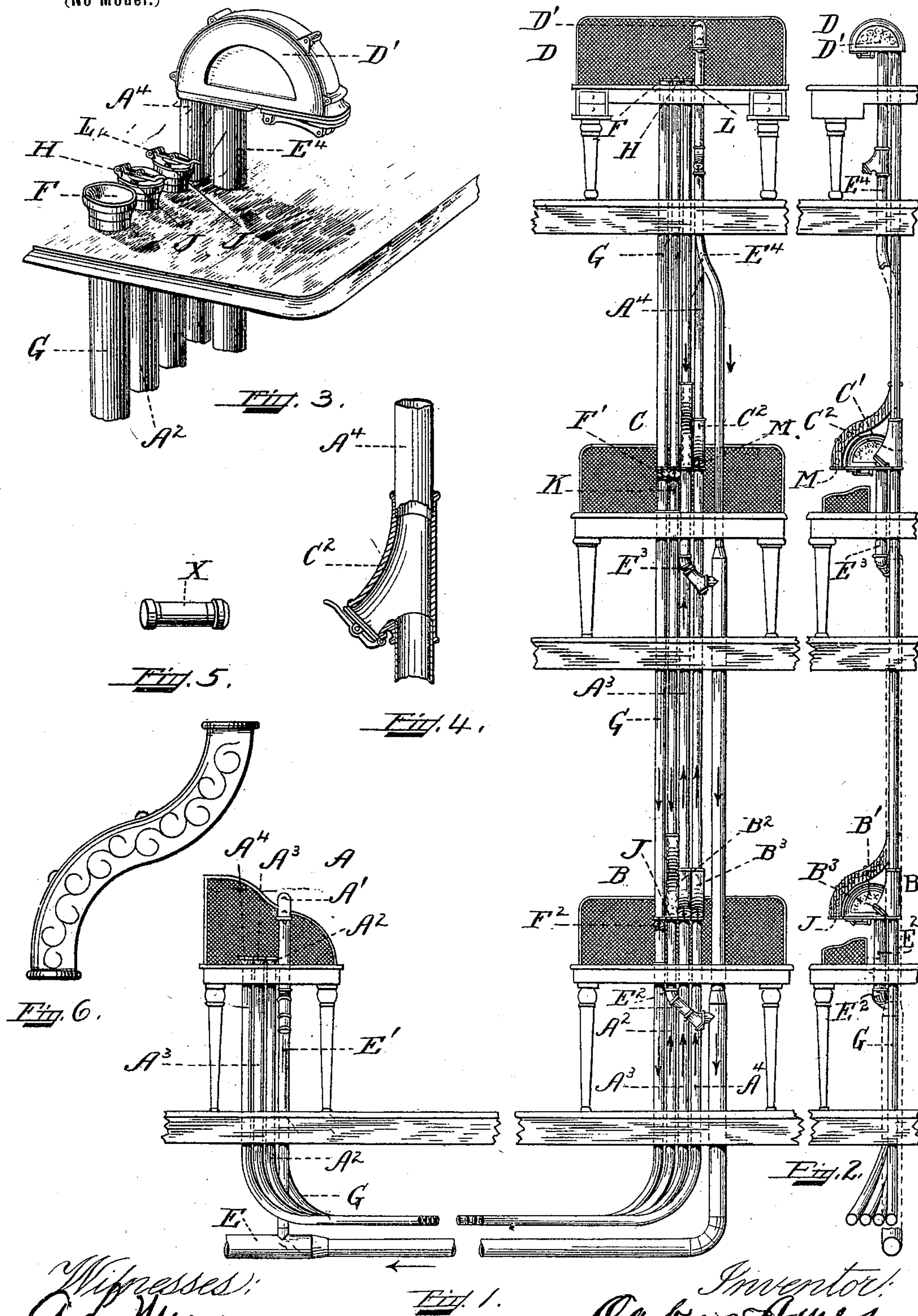
Patented Dec. 26, 1899.

O. AMES.

PNEUMATIC DESPATCH TUBE APPARATUS.

(Application filed Mar. 23, 1899.)

(No Model.)



Witnesses:
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UNITED STATES PATENT OFFICE.

OAKES AMES, OF MILTON, MASSACHUSETTS, ASSIGNOR TO THE LAMSON CONSOLIDATED STORE SERVICE COMPANY, OF NEWARK, NEW JERSEY.

PNEUMATIC-DESPATCH-TUBE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 640,071, dated December 26, 1899.

Application filed March 23, 1899. Serial No. 710,141. (No model.)

To all whom it may concern:

Be it known that I, OAKES AMES, of Milton, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Pneumatic-Despatch-Tube Apparatus, of which the following is a specification.

This invention relates to new and useful improvements in pneumatic-despatch-tube apparatus; and its object is to provide means of communication between the stations located in different parts of a building.

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

In the accompanying drawings, Figure 1 is an elevation showing four stations with tubes for connecting the stations for the transmission of carriers. Fig. 2 is a side elevation of the arrangement shown in Fig. 1. Fig. 3 is perspective view of the top station. Fig. 4 is a sectional view of one of the inlets for the carriers. Fig. 5 is a perspective view of one of the carriers. Fig. 6 is a side view of one of the drop-terminals.

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

The drawings illustrate four stations A, B, C, and D, which are located in different parts of a building, with B, C, and D located on different floors. The exhaust-pipe E extends from the floor and is connected by the branch E' to the terminal A' at the station A, by the branch pipe E² to the terminal B' at station B, by the branch pipe E³ to the terminal C' at the station C, and by the pipe E⁴ to the terminal D' at station D. When it is desired to send a carrier from station A to station B, the carrier is inserted into the open end of the tube A². It will then travel through the tube A² to the terminal B' at station B, which is similar to the receiving-terminal D'. (Shown in Fig. 3.) When it is desired to send a carrier from station A to station C, the carrier is inserted into the open end of the tube A³, when it will pass through the tube A³ to the terminal C' at station C. When it is desired to send a carrier to station D, the carrier is inserted in the open end of the tube A⁴ and passes through the tube A⁴ to the terminal D' at station D. When it is desired

to send a carrier from station B to station C, the carrier is inserted into the inlet B² in the line A³ and will pass through the tube A³ and be delivered at the terminal C' at station C. When it is desired to send a carrier from station B to station D, the carrier is inserted into the inlet B³ in the tube A⁴ and will pass through the tube A⁴ and be delivered at the terminal D' at station D. When it is desired to send a carrier from station C to station D, the carrier is inserted in the inlet C² in the tube A⁴ and will be delivered at the terminal D' at station D. When it is desired to send a carrier from either of the stations B, C, or D to station A, the carriers will be inserted into either the open end F or the inlets F' or F² of the tube G and be delivered at the terminal A' of the station A, which terminal is similar to terminal D'. (Shown in Fig. 3.) To send a carrier from station D to station B, the cover H, covering the mouth of the tube A², is opened and the carrier is inserted and the cover closed. The carrier will then drop by gravity and be delivered at J at station B. If a carrier is to be sent from station C to station B, it is dropped into the tube at the inlet K and will be delivered at J at station B. If it is desired to send a carrier from station D to station C, the cover L is raised and the carrier dropped into the open end of the tube and the cover closed, when the carrier will drop by gravity and the carrier will be delivered through the terminal M at station C. By closing the covers H and L behind the carriers as the carriers drop by gravity a vacuum will be formed, which will retard their downward movement, thus allowing them to drop without too much force. If the covers H and L are opened and left open, the carriers inserted will drop with too much force. On the other hand, if the covers are tightly closed the carriers will be retarded too much in their descent by reason of the vacuum formed behind them. To overcome both these objections and to control the descent of the carriers, I have provided an opening J in each cover H and L, which, forming a partial vacuum, controls the descent of the carriers. By making the opening larger the carriers will fall with more force, and if the opening is made smaller the

carriers will fall with correspondingly less force.

5 The tube G is left open at F to allow air to be drawn in in order that the carriers may be drawn along the horizontal length of the tube and up into the terminal A' at station A. It is understood that the pipe E is connected to an exhaust-fan, and that the branch
10 pipes E', E², E³, and E⁴, leading from the pipe E to the different terminals, supply a vacuum for drawing the carriers through the different tubes to their respective stations, except where the carriers fall by gravity, as above described.

15 I do not limit myself to the arrangement and construction shown, as the same may be varied without departing from the spirit of my invention.

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 States, is—

In a pneumatic-despatch-tube apparatus, a gravity-tube open at its lower end, a cover 25 for closing the upper end of said tube after the insertion of a carrier and provided with an opening whereby the partial vacuum created by the descent of a carrier controls the travel of the carrier.

30 In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 17th day of March, A. D. 1899.

OAKES AMES.

Witnesses:

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