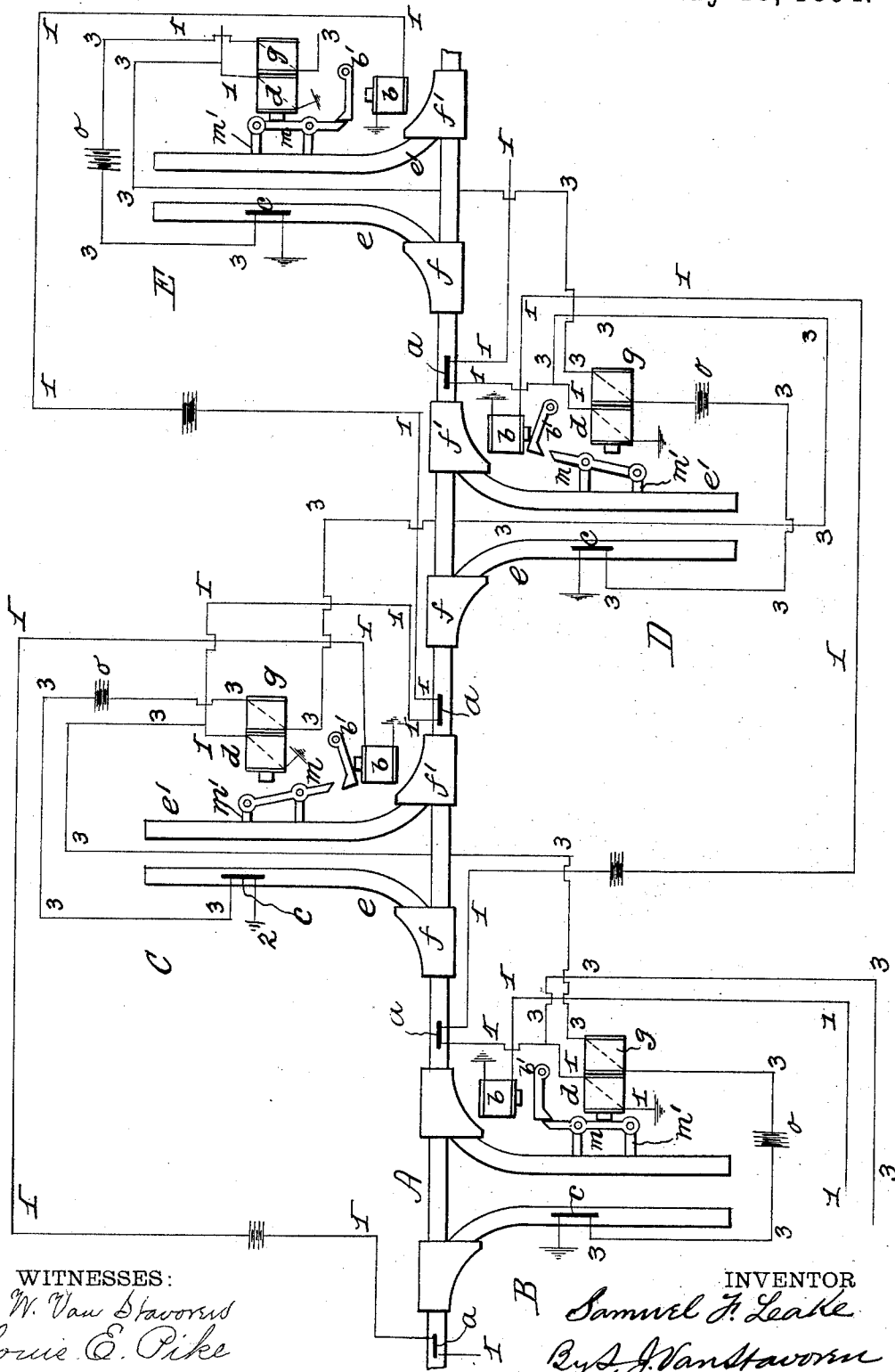


(No Model.)

S. F. LEAKE.
PNEUMATIC DISPATCH TUBE SYSTEM.

No. 519,719.

Patented May 15, 1894.



WITNESSES:

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SAMUEL F. LEAKE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE
LEAKE PNEUMATIC TRANSPORTATION COMPANY, OF SAME PLACE.

PNEUMATIC DISPATCH-TUBE SYSTEM.

SPECIFICATION forming part of Letters Patent No. 519,719, dated May 15, 1894.

Application filed March 1, 1893. Serial No. 464,217. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL F. LEAKE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Pneumatic Dispatch-Tube Systems; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to pneumatic dispatch tube systems having main and sub-stations in which the transmitter devices at the stations are by the traveling carriers locked at stations ahead of them and unlocked to the rear of them and a carrier in passing into a destined station unlocks the transmitter device thereat; and it has for its object to so arrange the system that the carrier will lock the transmitter devices at two stations ahead of and unlock said devices at the station to the rear of it so as to insure greater safety under high speed of travel or when the stations are close together.

My invention accordingly consists of the combinations, constructions and arrangements of parts as hereinafter more particularly described in the specification and pointed out in the claims.

Reference is had to the accompanying drawing which is a diagrammatic view of a part of a pneumatic dispatch tube system with sub-stations embodying my invention and showing the same arranged for the traveling carriers to successively lock the transmitter devices at two stations ahead of it and unlock said devices at the station immediately to the rear of it and furthermore showing that a carrier entering a sub-station unlocks the transmitter devices at said station and at others previously locked ahead of said station.

A represents a part of the main tube; B C D and E, sub-stations connected thereto by inlet and outlet tubes *e e'* respectively. At the junction of said main and inlet and outlet tubes for the sub-stations are switch boxes *f* and *f'* respectively. The switches therein for diverting the carriers may be of any suitable or desired kind and actuated by power

devices or by the carrier which are not shown as they form no part of this invention. In line with the inlet tube *e* and the outlet tube *e'* for the sub-stations are suitably constructed carrier receivers and transmitters respectively. As these form no part of the invention they are not shown.

Along the line of way of tube A between each sub-station are circuit terminal contacts *a* which are bridged by a finger or brush on the carriers, and in the inlet tubes *e* at the sub-stations are other like contacts C. The contacts *a* are included in circuit 1—1, one side of which leads to a magnet *d* and thence to ground at the station to the rear of said contact, and the other side leads to a magnet *b* two stations ahead of said contact and thence to ground, said circuit including a battery as desired. The contact *c* in the inlet tube of each sub-station has one of its terminals leading directly to ground as shown at 2 and the other terminal has a circuit wire leading to a magnet *g* at the station whereat the contact *c* is located and to the magnet *d* at the sub-station ahead of said first named station.

The magnets *d* and *g* have common pole pieces as shown and in front of each said pole piece at each sub-station is a pivoted armature lever *m* having at one end a pin or gate *m'* which slides into the outlet tube *e'* to respectively lock it against a carrier from the transmitter or unlock and open said tube for the carriers to pass through to the main tube. The opposite ends of said levers normally interlock with the armatures *b'* for magnets *b* as shown at station B being held in locking impingement by springs or gravity as desired.

The operation is as follows: a carrier bridging contacts *a* closes the circuit 1—1 through the magnet *d* at the station to the rear of said contacts (as at station B); attracts lever *m* to its normal or unlocking position to open the outlet tube *e'* thereat; and the magnet *b* at two stations ahead of said contacts (as at station D) attracts its armature *b'* and lever *m* at said station being released it moves the pin or gate *m'* to locking position in tube *e'* at station D and so on throughout its travel in the main tube to lock the transmitter tube or devices two stations ahead of it and unlock

said devices one station to the rear of it. If a carrier be diverted to the inlet or receiver tube *e* of a station it bridges the contacts *c* and completes circuit wire 3 from ground 2 through its battery *o* through magnet *g* at said station to attract lever *m* to move pin or gate *m'* to open said tube for the transmission of carriers to tube *A* and thence through magnet *d* at the station ahead of said first named station to attract the lever *m* and unlock the outlet tube thereat which was previously locked by the carrier before passing into its destined station. A carrier arriving at its destined station therefore unlocks the transmitter tube *e'* thereat and also unlocks said tube at the station ahead of said destined station.

I do not confine myself to the construction and arrangements of the described parts as it is evident they may be variously changed without departing from the invention, thus for instance, the locking of the transmitter tube may be effected at more than two stations ahead of the carrier.

What I claim is—

1. In a pneumatic dispatch tube system

having sub-stations, with inlet and outlet receiver and transmitter tubes, a locking mechanism for the transmitter tubes, actuating mechanism for effecting such locking and for unlocking the same controlled by a traveling carrier for locking the transmitter tube two stations ahead of it and for unlocking said tube one station to the rear of it, substantially as described.

2. In a pneumatic dispatch tube system having sub-stations with locking mechanism for the outlet or transmitter tubes of the sub-station and actuating mechanism for effecting such locking and for unlocking the same controlled by a traveling carrier, which when diverted to its destined stations unlocks said tube at said station and at the station ahead of the destined station, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL F. LEAKE.

Witnesses:

FRANK H. MASSEY,
S. J. VAN STAVOREN.