

(No Model.)

J. W. & A. MATHIS.
PNEUMATIC DESPATCH APPARATUS.

No. 604,405.

Patented May 24, 1898.

Fig. 1.

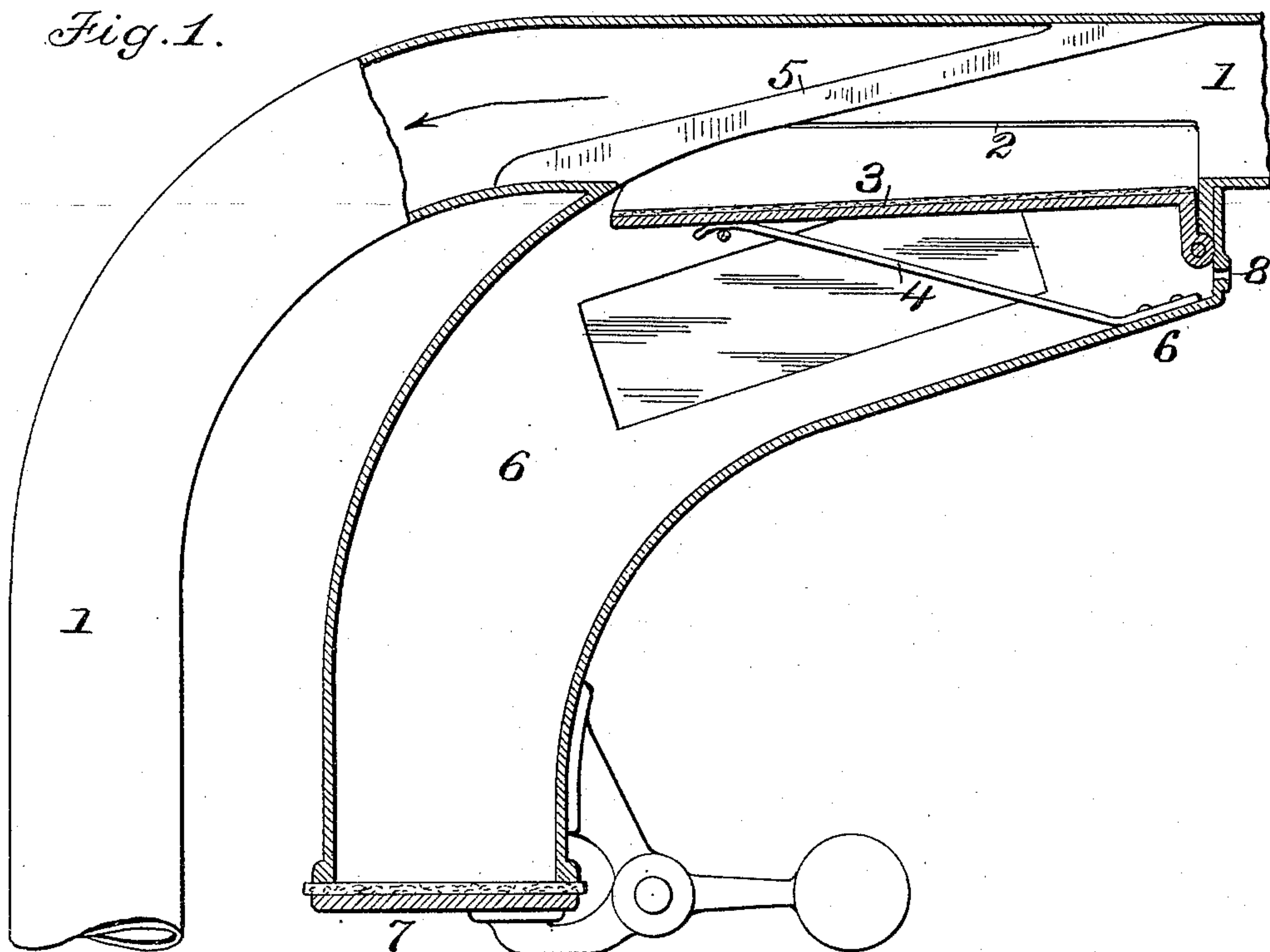
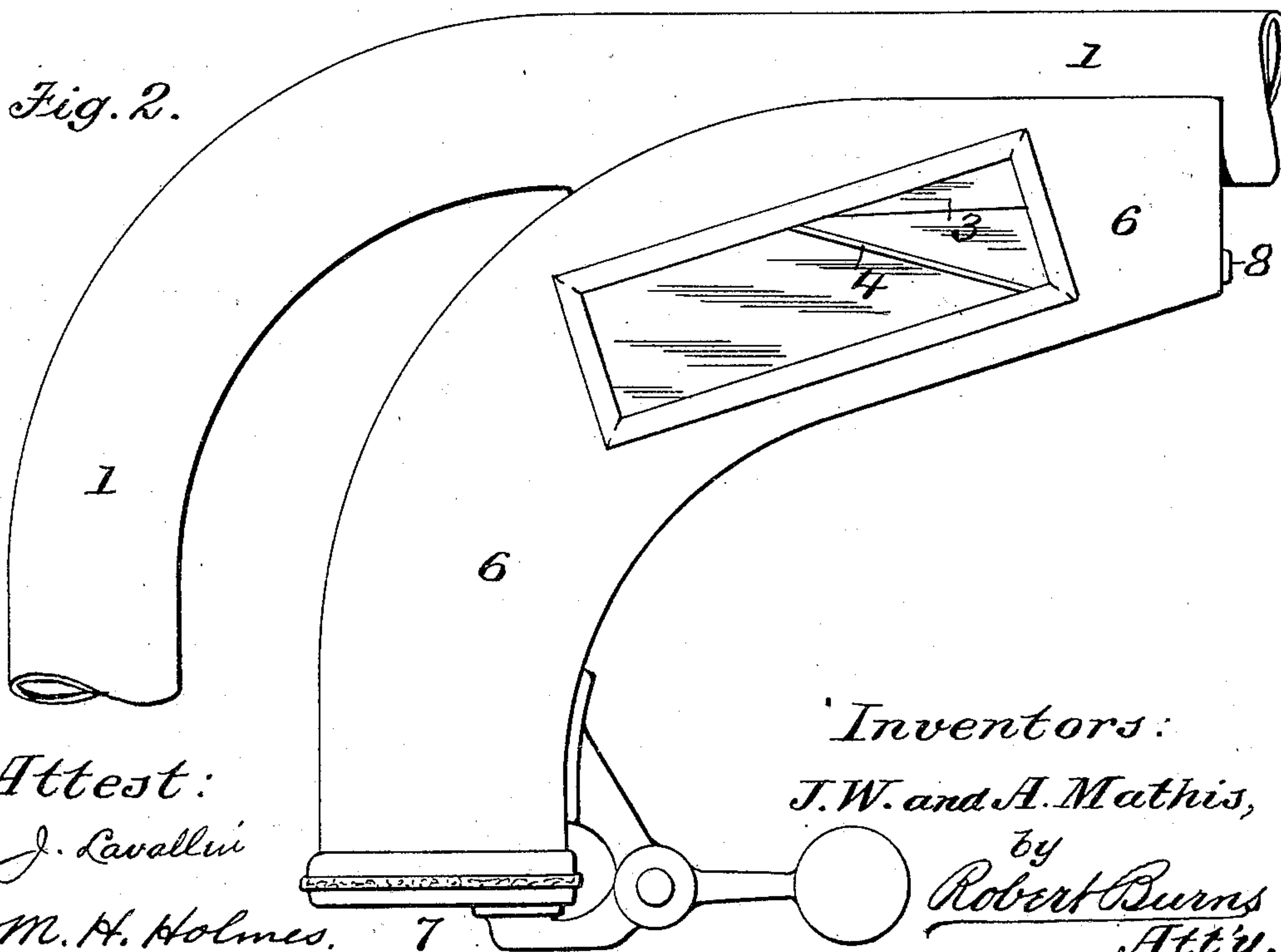


Fig. 2.



Attest:

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UNITED STATES PATENT OFFICE.

JULIEN W. MATHIS AND AUGUST MATHIS, OF CHICAGO, ILLINOIS.

PNEUMATIC-DESPATCH APPARATUS.

SPECIFICATION forming part of Letters Patent No. 604,405, dated May 24, 1898.

Application filed November 3, 1897. Serial No. 657,292. (No model.)

To all whom it may concern:

Be it known that we, JULIEN W. MATHIS and AUGUST MATHIS, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Pneumatic-Despatch Apparatus; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

The present invention relates to that type of pneumatic-despatch apparatus in which the carriers are drawn through the despatch-tubes by an exhaust in front of the same, as distinguished from a blast-pressure behind the carrier, and the present improvement more expressly relates to that type of such apparatus in which a flap on the side of the despatch-tube opens to permit of the discharge of the carrier, an example of which forms the subject-matter of our application for Letters Patent filed June 1, 1897, Serial No. 639,053, the object of the present improvement being to provide a simple and effective means by which the discharge of the carrier past said flap in the side of the despatch-tube is insured and all liability of the carrier lodging in the discharge-opening prevented in a very perfect manner, as will hereinafter more fully appear and be more particularly pointed out in the claims. We attain such object by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a portion of a pneumatic-despatch apparatus, illustrating the present improvement; Fig. 2, a side elevation of the same.

Similar numerals of reference indicate like parts in both views.

Referring to the drawings, 1 represents a portion of the despatch-tube, having a discharge-opening 2 in its side that is covered by a flap or shutter 3, hinged at one end to the despatch-tube 1, the free end of the hinged shutter 3 being connected to one end of a spring 4, the other end of which is attached to a fixed part of the apparatus. The tendency of the spring is to maintain the hinged shutter 3 normally in a partially open condition, as represented in Fig. 1, when the suction or

exhaust force employed in the apparatus is absent from the interior of the despatch-tube 1, a further closing of said shutter by the pressure of such suction or exhaust in the interior of the despatch-tube 1 being effected against the tension of the spring in one direction, while a further opening of said shutter to permit the discharge of the carrier is effected against the tension of said spring in an opposite direction.

The carrier is deflected outward through the opening 2 by means of an obliquely-arranged deflector 5, that extends from the far end of such opening 2 to the opposite wall of the despatch-tube 1, as shown.

Such construction and operation of parts as above described is the same as that forming the subject-matter of our former application, and as so arranged is open to the objection that where a low degree of suction is employed in the apparatus the momentum of the carrier will not be sufficient to discharge said carrier out past such shutter, and the carrier will consequently stick between the shutter and render the apparatus inoperative. With a view to avoid such difficulty the present invention provides a receiving-chamber 6, that entirely incloses the hinged shutter 3, as shown, so as to receive the carrier as it discharges through the opening in the despatch-tube controlled by said shutter. With such provision the hinged shutter and the discharge-opening in the despatch-tube are housed against the outer atmosphere while such shutter is in its opened condition to discharge a carrier. In consequence thereof the outside atmosphere cannot pass through the discharge-opening into the despatch-tube to supply the exhaust or suction existing in such tube, and such exhaust will remain unimpaired to effect a discharge of the carrier into the receiving-chamber 6 in a certain and perfect manner.

7 is a weighted or self-closing gate closing a discharge-opening in the bottom of the receiving chamber or housing 6.

8 is a small orifice in one of the walls of the chamber or housing 6 to admit of a gradual inflow of air to restore the equilibrium of pressure within the same in relation to the outer atmosphere, so that with the closure of the hinged shutter 3, after the passage of the

carrier, the reduced pressure that has occurred within the receiving-chamber 6 will be gradually brought back to that of the atmosphere by the inlet of air through the orifice 8, and when this occurs the carrier will by its gravity be discharged through the gate 7. In some cases the orifice 8 may be dispensed with and dependence placed upon the leakage of air that will in time take place around the edges of the gate 7.

Having thus fully described our said invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a pneumatic-despatch apparatus that is operated by suction or exhaust, the combination of a pneumatic-despatch tube having a side opening, a hinged shutter closing the same, a spring tending to hold said shutter in a substantially closed condition, and a closed receiving-chamber inclosing the shutter and discharge-opening, and provided on

its lower end with an opening closed by a self-closing gate, substantially as set forth.

2. In a pneumatic-despatch apparatus that is operated by suction or exhaust, the combination of a pneumatic-despatch tube having a side opening, a hinged shutter closing the same, a spring tending to hold said shutter in a substantially closed condition, and a closed receiving-chamber inclosing the shutter and discharge-opening and provided on its side with a small air-inlet opening, and on its lower end with an opening closed by a self-closing gate, substantially as set forth.

In testimony whereof witness our hands this 30th day of October, 1897.

JULIEN W. MATHIS.
AUGUST MATHIS.

In presence of—

ROBERT BURNS,
JAMES LAVALLIN.