No. 623,971. Patented May 2, 1899.

# B. C. BATCHELLER.

## PNEUMATIC DESPATCH APPARATUS.

(Application filed Mar. 26, 1898.)

(No Model.)

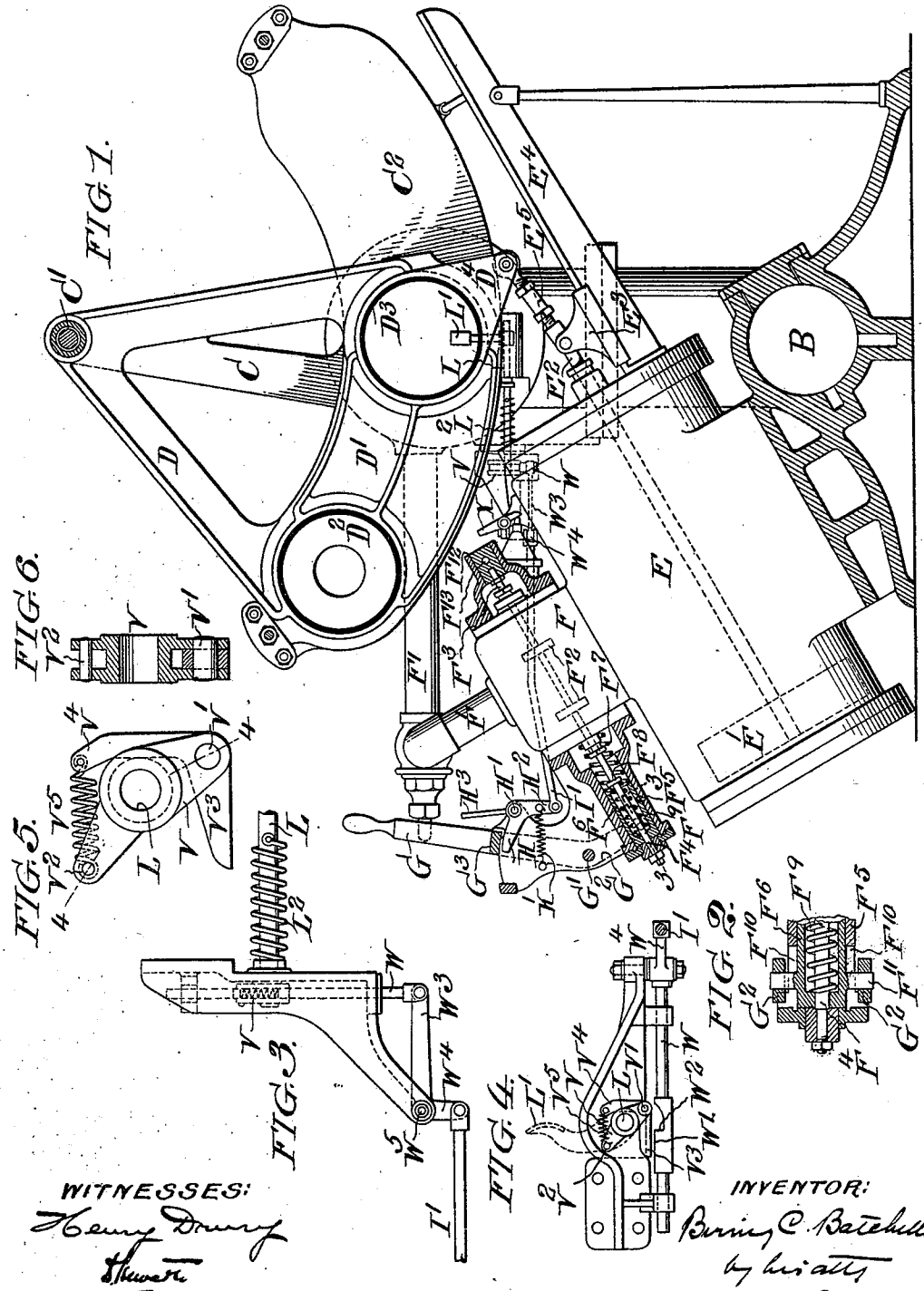


FIG. 1.



FIG. 6.



FIG. 5.



FIG. 3.



FIG. 4.



FIG. 2.

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## PNEUMATIC-DESPATCH APPARATUS.

SPECIFICATION forming part of Letters Patent No. 623,971, dated May 2, 1899.

Application filed March 26, 1898. Serial No. 675,267. (No model.)

*To all whom it may concern:*

Be it known that I, BIRNEY C. BATCHELLER, a citizen of the United States of America, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Pneumatic-Despatch Apparatus, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of apparatus for use in connection with pneumatic-despatch systems, having for its object to provide a simple and efficient mechanical device for automatically releasing the sending-lever and returning a sending apparatus to normal position after such apparatus has effected the delivery of a carrier into the system.

In another application filed concurrently with this, Serial No. 675,266, filed March 26, 1898, I have shown and described various modifications of such apparatus, including the one shown in the drawings forming a part of this application, and in said copending application I have claimed, broadly, the provision of mechanism for automatically releasing the lever-lock by the escape of the carrier from the sending apparatus. My present application is therefore of limited scope, relating particularly to the particular mechanical device exhibited in the drawings, in which—

Figure 1 is an elevation, partly in section, taken through the sending apparatus which as here illustrated is adapted for use at an intermediate station. Fig. 2 is an enlarged sectional detail shown as taken on the section-line 3 3 of Fig. 1. Fig. 3 is a plan view of a part of the mechanical device by which the release of the sending-lever is effected. Fig. 4 is an end view of such apparatus. Fig. 5 is an enlarged end view of the head and attached mechanism which is connected with the end of the rock-shaft. Fig. 6 is a sectional view through this head on the line 4 4 of Fig. 5.

The sending apparatus as shown in the drawings does not differ in any material respect from that shown in my former patents, granted December 21, 1897, and numbered 595,754 and 595,756, except in the provision of mechanism for automatically releasing the sending-lever.

Fig. 1, it will be understood, is on a section-line through the intermediate sending apparatus, which is situated in an interrupted portion of the main tube, which main tube is continued around the sending mechanism by the by-pass, (indicated at B,) so that the air can at all times pass freely through the tube notwithstanding that it may be temporarily cut off by the movements of the sending apparatus. The device in which the carriers are directly inserted is pivoted on a shaft C′, supported by arms, such as are indicated at C, and consists of the swinging frame D D′, carrying the sectional tubes $D^2$ and $D^3$, the webs D′ connecting the ends of these tubes fitting against the ends of the interrupted main tube, $C^2$ indicating plates extending out from the stationary frame and by means of which the ends of the sectional tube $D^3$ are closed as it swings toward the right. To an arm $D^4$ is connected the rod $E^5$, the other end of which is connected both with the cross-head $E^3$, moving in the guide $E^4$, and with the piston-rod $E^2$, attached to the piston E′, moving in the cylinder E, F indicating a valve-chest connected with a source of motive fluid (compressed air) by the pipe F′, $F^2$ being the valve which regulates the admission and exhaust of the motive fluid to the cylinder E, and said valve having a stem of which one end $F^3$ extends forward and, as shown, is connected with a sliding block $F^{12}$, having in it a hole $F^{13}$, by means of which and a similar hole in the bearing-box in which the head moves the valve-rod and spindle can be locked against movement by the insertion of a pin. The other end $F^4$ of the valve-rod passes through a box at the end of the casing or chamber F, a portion of which, as shown at $F^5$, serves as a guideway for a hollow plunger $F^6$, through which the valve-rod extends and in which lies a spring $F^9$, the free end resting against a collar $F^8$, attached to the valve-rod, $F^7$ indicating another spring acting to press the plunger $F^6$ outward or toward the left, as shown in the drawings. The plunger is provided with pins or trunnions $F^{11}$, which extend through slots $F^{10}$ in the guideway $F^5$ and to which are

connected the arms $G^2$ of the sending-lever G, pivoted at G' and having, as shown, a cross-bar $G^3$.

H $H^2$ indicate a bell-crank-lever lock pivoted at H' and provided with a spring K', by which it is normally held in position to engage the cross-bar $G^3$ when the lever G is moved to actuate the sending apparatus—that is to say, moved toward the left.

$H^3$ indicates a hand-lever by which the lever-lock can be actuated.

In all of the features above described except as to the particular form and arrangement of the lever-lock the device shown in the drawings is similar to that shown in my former patents above mentioned and need not be further described.

From the end of the arm $H^2$ of the lever-lock I extend a rod I', the other or right-hand end of which connects, as shown, with a bell-crank lever $W^4$ $W^3$, pivoted at $W^5$, and the arm $W^3$ of which is in turn connected with a sliding rod W, in which is formed or to which is attached the notched block W', $W^2$ indicating the notch.

L indicates a rock-shaft, to which is attached a finger L' and a spring $L^2$, the action of the spring being to normally hold the finger with its end projecting into the transit-tube in position to be engaged and pushed down by the exit of a carrier from the sending apparatus, the spring immediately returning the finger to normal position after the carrier has passed over it. The rock-shaft lies at right angles to the sliding rod W, and to its end and in position to lie immediately above the notched block W,' I attach the head V, having conveniently two arms, to one of which is connected a pivot-pin V', while to the other a light pin $V^2$ is attached. Pivoted upon the pin V' is the bell-crank latch-lever $V^3$ $V^4$, $V^5$ indicating a spring attached to the arm $V^4$ and normally holding the latch-lever $V^4$ as indicated in the drawings, but permitting it to move in one direction.

The normal position of the parts is as shown in the drawings. When it is desired to insert a carrier in the tube, it is inserted first in the sectional tube $D^2$, and the operator then grasps the sending-lever G and moves it toward the left until its cross-bar $G^3$ is engaged by the arm H of the lock-lever. In this position of the lever it acts to move the controlling-valve of the cylinder E into a position which will cause the motive fluid to be directed into the left-hand end of the cylinder and through the motion of the piston move the frame D and bring the sectional tube $D^2$ into registry with the interrupted ends of the main tube. This action may follow immediately or be temporarily interrupted by the locking of the valve in position, as by the engagement of a pin in the hole $F^{13}$ or by the action of the locking-lever X, actuated by the device indicated at Y and fully described in my former patents before mentioned. On the release of the locking mechanism, however, the sending apparatus will move in the desired direction, and immediately on bringing the tube $D^2$ into registry with the transit-tube the carrier will move into the transit-tube, pressing down the finger L' and of course rotating to a similar degree the shaft L of the head V. As the head rotates, the arm $V^3$ of the latch-lever comes in contact with the top of the block W' and then moves along this top without being further depressed (a motion which is permitted by the spring $V^5$) until the notch $W^2$ is reached, whereupon the action of the spring $V^5$ forces the end of the latch-lever down into the notch. As soon as the carrier has passed over the finger L' the spring $L^2$ rotates the shaft L back to its normal position and the corresponding motion of the head V, acting through the latch-lever $V^3$, forces the sliding rod W toward the left, as shown in Fig. 4, a motion which, acting through the bell-crank lever $W^3$ $W^4$, draws the rod I' toward the right, as shown in Fig. 1, thus drawing down the arm H of the lock-lever and releasing the sending-lever, which immediately moves back to its normal position, the controlling-valve F making a similar movement and all the parts being immediately restored to the position as indicated in the drawings.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a pneumatic-despatch system the combination with a transit-tube of a sending apparatus for feeding a carrier to the tube, a sending-lever for actuating said apparatus, a lever-lock arranged to lock the lever in operative position a finger, as L', arranged in the tube to be engaged and depressed by a carrier passing over it, a resilient support acting to hold the finger in position to project into the tube, a positive actuating connection as rod I' from the lever-lock, and a positive mechanical connection from the finger arranged in relation with the lock-actuating connection as described and so as to engage and actuate said connection to release the lever-lock as the finger returns to normal position after being depressed.

2. In a pneumatic-despatch system the combination with a transit-tube of a sending apparatus for feeding a carrier to the tube, a sending-lever for actuating said apparatus, a lever-lock arranged to lock the lever in operative position, a finger as L' arranged in the tube to be engaged and depressed by a carrier passing over it, a resilient support acting to hold the finger in position to project into the tube, a positive actuating connection as rod I' from the lever-lock, a slide W having a notch, as $W^2$, formed in or secured to it, said slide being positively attached to the rod I', a head as V connected to and moving with the finger L' and a latch attached to said head and arranged to engage and actuate the notched slide as described.

3. In a mechanical device for releasing a sending-lever substantially as specified, the combination of the sliding notched rod W with an oscillatable head V, the bell-crank latch-lever $V^3$ $V^4$ pivoted on said head and a spring to hold said lever in and release it to its normal position while permitting it to turn on its pivot when in contact with the slide-rod.

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