No. 840,880. PATENTED JAN. 8, 1907.

F. R. TAISEY.

PNEUMATIC DESPATCH APPARATUS.

APPLICATION FILED MAY 24, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

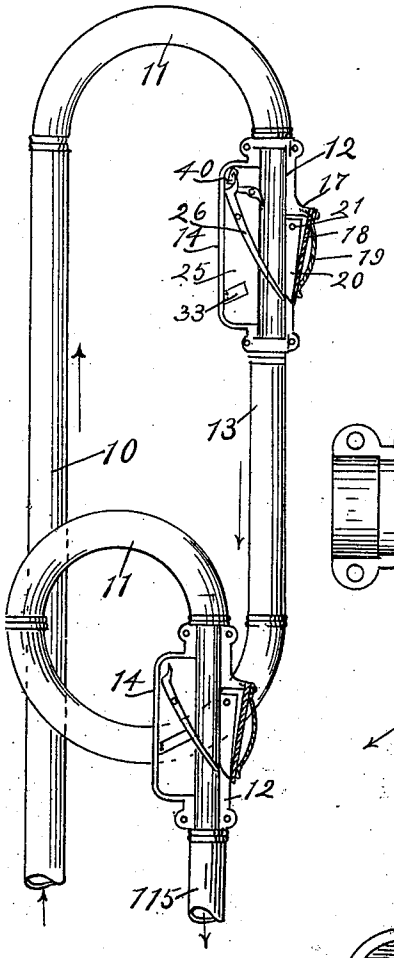


Fig. 2.

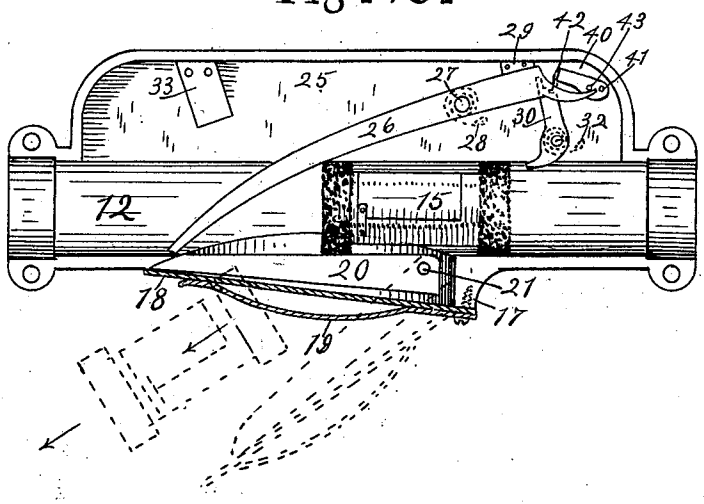


Fig. 3.

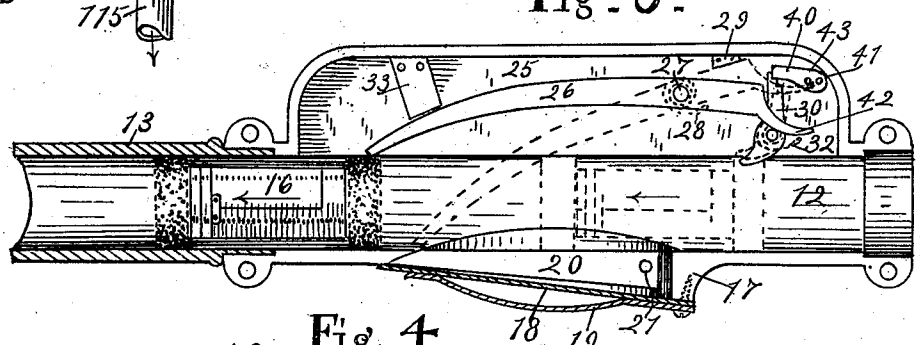
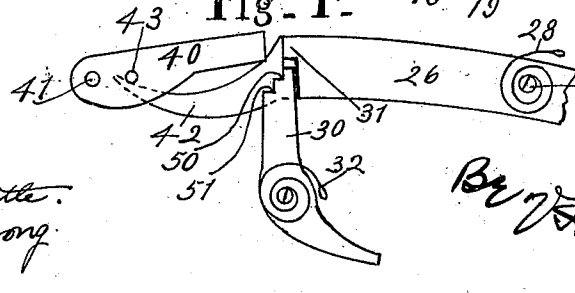


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 5.

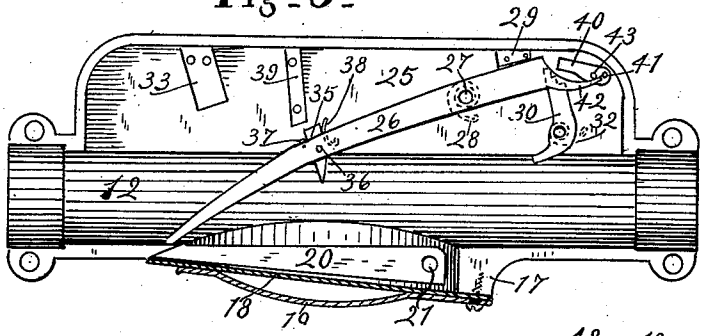


Fig. 6.

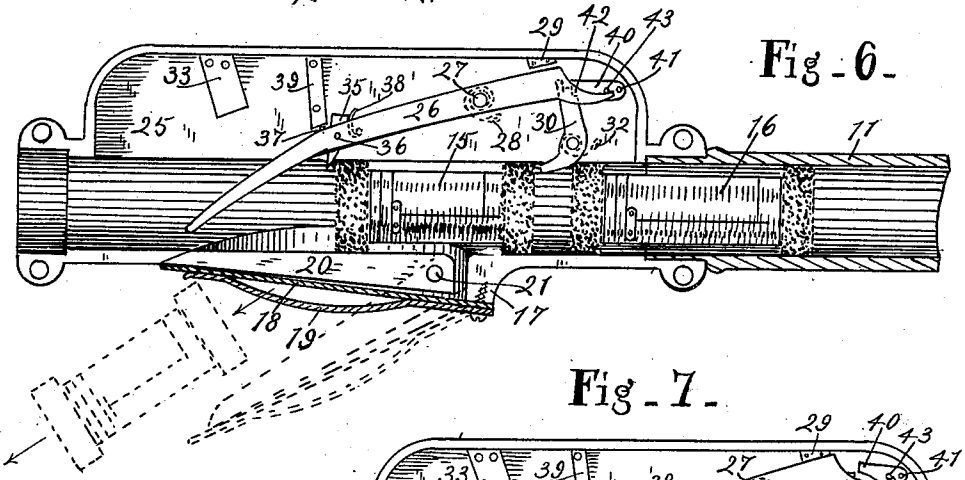


Fig. 7.

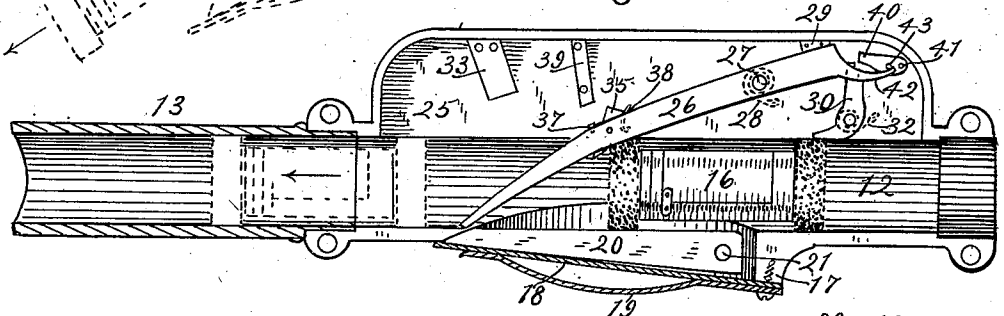
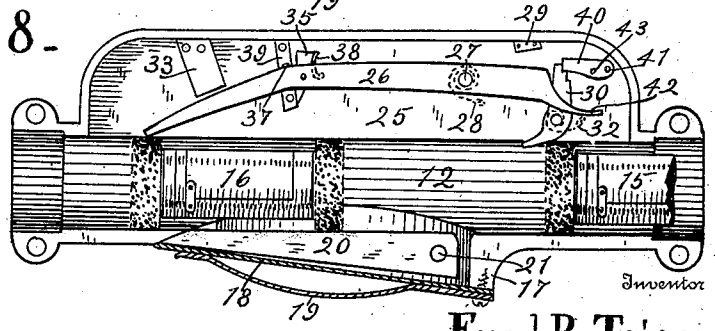


Fig. 8.



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UNITED STATES PATENT OFFICE.

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PNEUMATIC-DESPATCH APPARATUS.

No. 840,880. Specification of Letters Patent. Patented Jan. 8, 1907.

Application filed May 24, 1906. Serial No. 318,473.

To all whom it may concern:

Be it known that I, FRED R. TAISEY, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Pneumatic-Despatch Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

The object of this invention is to provide an efficient and practical means in a pneumatic-despatch apparatus that is controlled by the varying lengths of the carriers for causing the discharge of a carrier and permitting other carriers to pass. The means for causing the discharge of the carrier is a carrier-director mounted in an inclined position on the far side of the discharge-opening in the terminal and having means, such as a trip, on the near side of the discharge-opening for holding the director closed, said means being releasable by a carrier.

The full nature of this invention will be more fully understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is an elevation of a portion of a pneumatic-despatch apparatus with two terminals. Fig. 2 is a longitudinal section of the first terminal with a short carrier therein, the discharge of said carrier being shown by dotted lines. Fig. 3 is the same with the long carrier shown and with the parts in a position permitting the passage of said carrier on through said terminal, a former position of said parts being shown by dotted lines. Fig. 4 is a side elevation of the upper end of the director and associated parts in normal position, part being broken away. Fig. 5 is a modified form of Fig. 2, but without a carrier therein, said modified form having a stop-trip about midway of the director. Fig. 6 is the same with two carriers therein, a long carrier following a short carrier, the discharge of the short carrier being shown by dotted lines. Fig. 7 is the same, showing the long carrier in position to pass on through the terminal, the further movement of the carrier being shown by dotted lines. Fig. 8 is the same as Fig. 6, showing two carriers, the long carrier passing on through the terminal and the short carrier being stopped.

The device shown in the drawings has a straight section 10 of the despatch-tube, followed by a semicircular section 11, that is attached to the first terminal 12, from which an outgoing portion 13 of the tube leads to another section 11 and a second terminal 14, from which an outgoing tube 115 leads.

In the first terminal means is provided for discharging one carrier—the short one, 15—and for permitting the other carrier—the long one, 16—to pass on to the next terminal 14. The terminal 12 has on one side an inclined extension 17, through which there is a discharge-opening for a carrier. This is closed by a leather valve or clapper 18, hinged or secured to the rear wall of the extension 17 and held closed by a spring 19. Within the discharge-opening a guide-plate 20 is pivoted by a pin 21 to the extension 17 near its rear end. This guide is free at its front end and rests loosely on the valve 18. Its inner surface when the valve is closed is intended to be flush with the interior surface of the passage-way through the terminal. The part 20 is a guide or track for the carrier as it passes over the valve. Without said guide 20 the carrier might by engagement with the director opposite be slightly turned sidewise, so that it would strike against the forward wall of the discharge-opening. The spring 19 shown is hardly needed, because the suction will hold the valve 18 normally closed.

There is a casing extension 25 on the terminal 12, lying diametrically opposite the discharge-opening and having within it a chamber for the location of a director 26 and the associated parts. This director 26 is pivoted by a pivot 27 within said casing 25, and a spring 28 tends to hold said director in the position shown in Fig. 2—that is, the normal position—so that the forward curved ends of said director project into and across the passage-way of the terminal beyond or on the farther side of the discharge-opening. There is a stop 29 for limiting the closing movement of the director under the action of the spring 28.

The director is normally prevented from opening by a trip 30, that is pivoted on a pin in the casing 25, with its lower end projecting into the pathway of the carrier and its upper end lying in a notch under the shoulder 31 at one end of the director 26. A spring 32

forces the trip 30 into engagement with the director 26. The lower end of the trip is curved in the direction of the movement of the carrier through the passage-way, so that it will be engaged by the carrier and moved out of engagement with the director 26, whereby said director can be elevated out of the path of the carrier by the forward end of the carrier; but the forward end of the carrier must engage the director while the rear end of the carrier is in engagement with the trip 30 and holding it out of engagement with the director, as shown in Fig. 2. Then, and only then, can the director be elevated to permit a carrier to pass on through the despatch-tube. Hence, as herein shown, only the longer carrier 16 can release the director and pass through the despatch-tube. The carrier 15 is so short that it releases the trip 30, so that the trip engages the director 26 and holds it rigidly closed before the forward end of the carrier 15 reaches the director, and therefore the inclined lower surface of the director deflects the carrier out through the discharge-opening, as shown in Fig. 2. A buffer 33 receives the free end of the director when it is thrown upward by the longer carrier, as shown in Fig. 3.

To prevent a second carrier from discharging with a preceding carrier, a latch 40 is pivoted at 41 in the casing 25, arranged for its free end to engage the upper end of the trip 30, that extends into the passage-way far enough to stop the carrier. This is only while the director is in its open position, as shown in Fig. 3, and the movement thereof has been started, as shown in Fig. 6. An arm 42 projects from the rear upper end of the director under a pin 43 in said latch, the arrangement being such that the latch will be held in an upper disengaged position normally, as shown in Fig. 5, so that a carrier may then throw the trip 30. After the trip 30 has been moved by a passing carrier and the director being partially operated, as shown in Fig. 6, the latch 40 will come into engagement with the lower notch of the trip 30 and stop the passage of a subsequent carrier until the parts are again in their normal position. The carriers herein shown are ordinary flat-headed carriers varying in length; but I do not wish to be limited to carriers of any particular form.

The trip 30 has upper and lower notches 50 and 51 for the latch 40. Normally the latch is held above the strip so that it would not interfere with the movement of the trip out of the way of a passing carrier unless the latch be lowered into locking engagement with the trip by some movement of the director. As a relatively short carrier passes through the terminal it passes and releases the trip 30, so that its extreme upper end is thrown by its spring against the end of the director 20, as shown in Fig. 4, and immediately under the shoulder 31. There is some play or space left between the upper end of the trip and the shoulder 31, so that the forward end of said carrier engages the director and partially operates it—that is, moves it to the position shown in Fig. 6—and as far as the trip will permit the director to be moved for such movement of the director brings the shoulder 31 down upon the top of the trip. This locks the director in the position shown in Fig. 6 and causes it to deflect and discharge the carrier as they are shown. Such partial movement of the director causes its arms 42 to permit the latch 40 to drop into the lower notch 51 of the trip and lock the trip so that no following carrier can pass through until the director resumes its normal position. On the other hand, when a relatively long carrier passes through it also operates the trip 30, so that the upper end of the trip is moved back under the latch and the rear end of the carrier does not release said trip until the forward end of the carrier has actuated or moved the director far enough to bring the shoulder 31 down lower than the top end of the trip. Then when the trip is released by the further movement of the carrier, it cannot move under the shoulder 31, but strikes against the rear surface of the shoulder 31, as shown in Figs. 3 and 8, so it cannot lock the director, but permits it to open to the position shown in said figures, and such opening movement of the director permits the latch to fall; but since the upper end of the trip bears now against the rear surface of the shoulder 31 the end of the latch drops into the upper notch 50 and locks the trip so that no following carrier can enter the terminal until said long carrier has passed on beyond the terminal and released the director and the parts resume their normal positions.

In the modified form shown in Figs. 5 to 8 a stop-trip 35 is added, it being pivoted at 36 on the director and toward its front end and is held normally against a stop 37 by a spring 38, so that the upper end of the stop-trip will engage the lower end of the fixed stop 39, that is secured to the casing 35, if the director is moved upward. This stop-trip 35 when a short carrier is used locks and holds the director until the latch 40 has engaged the trip 30 after the latter has been released by the short carrier, and so then the director is locked at its rear end and the stop-trip performs no further function and the short carrier is deflected out of the terminal; but the front end of a long carrier releases the stop-trip 35 before leaving the trip 30 and moves the stop-trip 35 out of engagement with the fixed stop 39. The director is operated the same as if the stop-trip 35 were not present, and the carrier passes on beyond the terminal.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A terminal in a pneumatic-despatch ap-

paratus having a discharge-opening, a director arranged in the passage-way through the terminal to deflect a carrier through said discharge-opening, and means mounted on the terminal for engaging and preventing said director from being opened and that is released by a suitable carrier.

2. A terminal in a pneumatic-despatch apparatus with a discharge-opening, carriers of varying lengths, a director projecting normally into the pathway of the carriers, and spring-held means mounted on the terminal with one end projecting into the pathway of the carriers and the other adapted to hold and lock said director in its normal position except when released by a carrier, said means being located sufficiently far from the forward end of the director that short carriers will release said trip in time for it to lock said director while long carriers will not release the trip in time to lock said director.

3. A terminal in a pneumatic-despatch apparatus with a discharge-opening, a pivoted director projecting into the passage-way through said terminal, carriers varying in length, and means for preventing said director from being opened that is located sufficiently in advance of said director so that said means will be released and the director moved simultaneously by a carrier of a certain length.

4. A terminal in a pneumatic-despatch apparatus with a discharge-opening, a director projecting into the passage-way through the terminal and pivoted between its ends, a trip pivoted between its ends with one end projecting into the passage-way through the terminal and the other end normally engaging one end of said director, and carriers varying in length, one carrier being long enough to simultaneously release the trip and open the director.

5. A terminal in a pneumatic-despatch apparatus with a discharge-opening, a director projecting into the passage-way through the terminal and pivoted between its ends, a trip pivoted between its ends with one end projecting into the passage-way through the terminal and the other end normally engaging one end of said director, carriers varying in length, one carrier being long enough to simultaneously release the trip and open the director, and a latch controlled by said director for engaging said trip and holding it in a position to stop a succeeding carrier as long as said director is out of normal position.

6. A terminal in a pneumatic-despatch apparatus having a discharge-opening and a chamber opposite the discharge-opening, a director pivoted in said chamber and projecting into said passage-way through the terminal for deflecting a carrier through the discharge-opening, a stop-trip pivoted on said director and projecting into the passage-way through the terminal, and a fixed stop in position to be engaged by said stop-trip when the director is moved unless the stop-trip has been previously actuated.

7. A terminal in a pneumatic-despatch apparatus having a discharge-opening, and a chamber opposite the discharge-opening, a director projecting into the passage-way of the terminal for discharging a carrier, a fixed stop, and a stop-trip pivoted to the director in position to engage said fixed stop excepting when actuated by a suitable carrier.

8. A terminal in a pneumatic-despatch apparatus with a discharge-opening, a director projecting into the passage-way through the terminal and pivoted between its ends, a trip pivoted between its ends with one end projecting into the passage-way through the terminal and the other end normally engaging one end of said director, carriers varying in length, one carrier being long enough to simultaneously release the trip and open the director, a stop-trip pivoted to the director toward its deflecting end and projecting into the passage-way through the terminal, and a fixed stop in position to be engaged by said stop-trip when the director is moved unless the stop-trip has been previously actuated.

9. A terminal in a pneumatic-despatch apparatus having a discharge-opening and a chamber opposite the discharge-opening, a director pivoted in said chamber and projecting into said passage-way through the terminal for deflecting a carrier through the discharge-opening, a stop-trip pivoted on said director and projecting into the passage-way through the terminal and a fixed stop in position to be engaged by said trip when the director is moved unless the stop-trip has been previously actuated, and means controlled by said director for stopping a carrier when the director is moved from its normal position.

In witness whereof I have hereunto affixed my signature in the presence of the witnesses herein named.

FRED R. TAISEY.

Witnesses:
HELEN B. MCCORD,
N. ALLEMONG.