No. 674,373. Patented May 21, 1901.

M. ANDERSON.

PNEUMATIC DESPATCH SYSTEM.

(Application filed Dec. 5, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

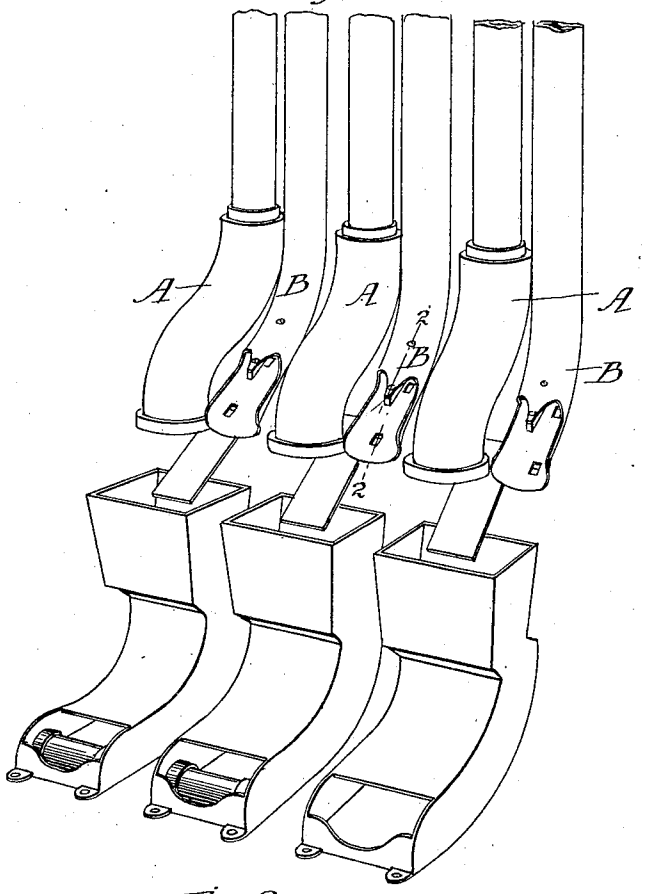
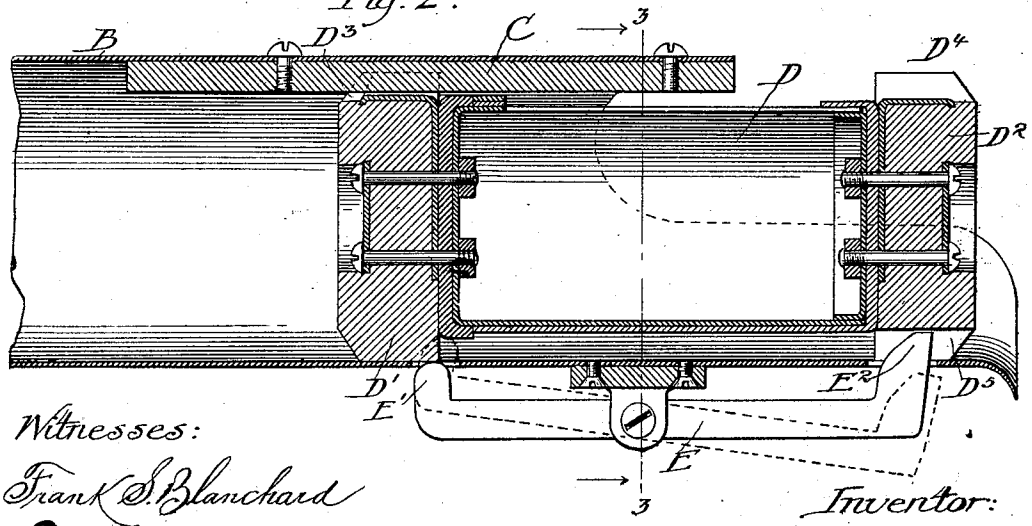


Fig. 2.



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Fig. 3.

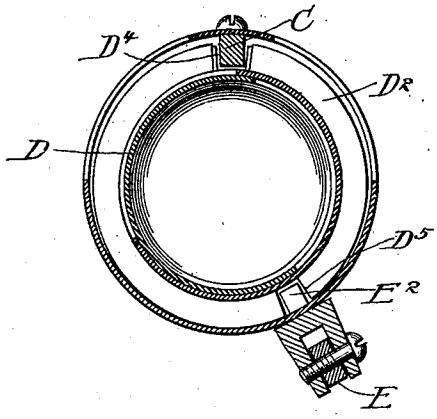


Fig. 4.

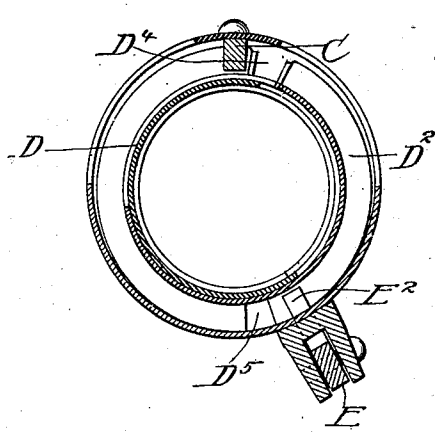


Fig. 5.

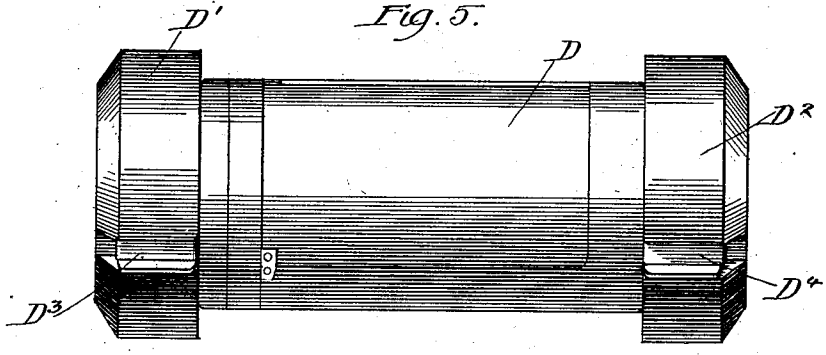
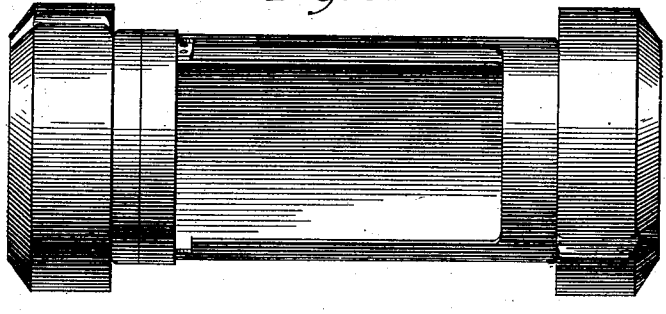


Fig. 6.



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UNITED STATES PATENT OFFICE.

MAURICE ANDERSON, OF CHICAGO, ILLINOIS.

PNEUMATIC-DESPATCH SYSTEM.

SPECIFICATION forming part of Letters Patent No. 674,373, dated May 21, 1901.

Application filed December 5, 1898. Serial No. 698,310. (No model.)

To all whom it may concern:

Be it known that I, MAURICE ANDERSON, a citizen 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 Systems, of which the following is a specification.

My invention relates to pneumatic-despatch systems, and has for its object to provide a new and improved construction therefor.

My invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a view showing the discharge and receiving ends of a series of pneumatic tubes as they appear at the cashier's desk. Fig. 2 is a longitudinal section on line 2 2, Fig. 1, showing the cash-box in position in the return-tube. Fig. 3 is a section on line 3 3, Fig. 2, when the cash-box is closed. Fig. 4 is a view similar to Fig. 3 when the cash-box is partially open at the time when it is inserted into the return-tube. Fig. 5 is a plan view of one form of cash-box, showing the cash-box closed. Fig. 6 is a view similar to Fig. 5, showing the cash-box open.

Like letters refer to like parts throughout the several figures.

My present invention is adapted to be used in connection with pneumatic-despatch systems of any description. As herein illustrated, I have shown it as applied to such systems as are used in stores for facilitating the handling of money and the like. In such systems, for example, a series of tubes run to a central station, generally the cashier's desk, from different parts of the store, and one person or cashier attends to a series of these tubes, removing the money from the cash-boxes and returning the proper change, &c. Experience has shown that the cashier often inserts the wrong cash-box in the wrong return-tube, so that it may be returned to a point entirely different from that from which it was received. This causes confusion and delay and often loss of money to the proprietors of the store. One of the objects of my present invention is to insure the proper return of the cash-boxes to the points from which they were received, and thus avoid all these difficulties.

In Fig. 1 I have illustrated the ends of a series of tubes as they would appear at the cashier's desk. It is of course evident that one cashier can attend to a number of tubes, and I have not attempted to show a complete arrangement, but have shown several tubes, so as to more clearly illustrate my invention. As illustrated in this figure, the tubes A are the discharge-tubes—that is, the tubes through which the cash-boxes are received by the cashier. The tubes B are the return-tubes—that is, the tubes in which the cash-boxes are placed so as to be returned to the points from which they were received. When the end of the cash-box is inserted in one of the tubes B, the air causes it to be drawn within said tube provided it is the proper cash-box for said tube, and it is then carried along to its destination in the ordinary manner. In order to insure the proper cash-box being placed in the proper return-tube, I provide the return-tube with what may be called an "indicator," which when the wrong cash-box is placed in the wrong return-tube indicates this fact to the cashier. I prefer to have this indicating device and the parts associated therewith so arranged that when the wrong cash-box is placed in the wrong return-tube it is stopped before it goes beyond the control of the cashier, so as to give the cashier an opportunity to withdraw it and put it into the tube in which it belongs. As illustrated in the drawings, I provide the return-tube B with a suitable guide C. The ends D′ D^2 of the cash-box D are provided with suitable grooves D^3 D^4 for the guide C, said grooves being in alinement when the cash-box is completely closed, so as to permit the cash-box to be inserted in the return-tube. Each tube is preferably provided with a suitable engaging device which engages the cash-box when it is placed in the wrong tube and prevents it from being carried to its destination. As illustrated in the drawings, I have shown this engaging device as consisting of a lever or pivoted arm E, provided with the projecting ends E′ E^2. The tube B is provided with suitable openings opposite these ends, so that they may be moved to project partly into the tube. When the cash-box is inserted into the tube, the upper end D′ of the cash-box strikes the end E′ of the arm E and moves it downwardly, thus moving the end E^2 of the arm E upwardly into the tube. Ordina-

rily the end E^2 of the arm E when in this position would engage the end of the cash-box and prevent its further movement. In the present instance this will be the case when the wrong cash-box is placed in the tube, and hence the cashier's attention will be attracted to the mistake. In fact, it will be impossible to get the cash-box into the tube, thus making it necessary for the cashier to put it into the right tube. In order to allow the cash-box to pass the obstruction when placed in the proper tube, I have the relative position of the guide C and the arm E different in the several tubes under the supervision of any one person, and I provide a groove D^5 in the rear end D^2 of the cash-box, so positioned that when the proper cash-box is placed in the return-tube and the cash-box is properly closed the groove D^5 is opposite the end E^2 of the arm E and permits the box to be slid past the said end without obstruction. It will thus be seen that when any other than the proper box is placed in a tube the groove D^5 will not be in the proper relative position, and hence the end E^2 of the arm E will obstruct the passage of the box. It will thus be seen that all difficulty from the returning of the cash-boxes to the wrong stations is entirely obviated and mistakes of this kind are made impossible.

When my invention is used, the simplest form is that in which the same end is always placed first in the tube, and in order to facilitate the operation of the cashier I provide some means by which this end may be easily recognized. For example, I may make the end D′ of a different color from the end D^2, so that it will be easy to ascertain which end is to be inserted first. Of course, this element is not necessary, but makes it easier to handle the cash-boxes, for if the wrong end is placed in the tube the cashier will soon discover it and must necessarily correct the error. I have also found that there is difficulty in these pneumatic systems caused by the boxes sticking at curves and the like. I further find that this difficulty is mostly due to the fact that the boxes are improperly closed when placed in the return-tube and the material—as, for example, the coin or bills—project through the opening and cause the box to stick. This evil is prevented with the use of my device, for since the ordinary box is opened and closed by rotating the ends D′ and D^2 with relation to each other (see Fig. 6) the box must be entirely closed before the groove D^5 will be brought to the proper relative position to allow the passage of the box past the end E^2 of the arm E. Fig. 3, for example, shows the box closed and in the proper tube, the end E^2 being in the groove D^5. Fig. 4 shows the same box not completely closed, and it will be seen that in this case the groove D^5 is moved out of position, so that the end E^2 strikes the end of the cash-box and prevents its further movement.

I have described in detail a particular construction embodying my invention; but it is of course evident that the several parts may be varied in form, construction, and arrangement without departing from the spirit of my invention.

For illustrative purposes I have shown my invention applied to a cash-carrier system and but one form of the several specified parts, though I do not wish thereby to be understood as limiting myself to this particular use of the invention or to the particular details of construction here illustrated.

I claim—

1. A despatch system, comprising a series of return-tubes leading to different points, but having their receiving ends in proximity to each other, a series of boxes differing among themselves and adapted to be passed each through a particular tube, and engaging devices associated one with each tube and differing among themselves, each such engaging device adapted to permit the insertion of the proper box and prevent the passage of any others.

2. A despatch system, comprising a series of return-tubes leading to different points, but having their receiving ends in proximity to each other, a series of boxes differing among themselves and provided each with a two-part controlling device, so arranged that only when the box is closed it is adapted to be passed through a particular tube, and engaging devices associated one with each tube and differing among themselves, each such engaging device adapted to permit the insertion of the proper box and to prevent the passage of any other.

3. In a despatch system, the combination of a despatch-tube, having a receiving end, with a carrier-box, said carrier-box provided with a two-part controlling element, said two parts movable with reference to each other, and a coacting controller part on the tube which operates in connection with the controller part on the box to permit the same to pass into the tube only when the box is wholly closed.

4. A despatch system, comprising a series of return-tubes leading to different points, but having their receiving ends in proximity to each other, a series of boxes differing among themselves and each having slotted ends which register only when the boxes are fully closed, a guide within such receiving end, and engaging devices associated one with each receiving end and differing among themselves, each such engaging device adapted to permit the insertion of the proper box and prevent the passage of any others.

5. A despatch system, comprising a series of return-tubes leading to different points and having their receiving ends in proximity to each other, a series of boxes differing among themselves and adapted to be passed each through a particular tube, engaging devices associated one with each tube and consisting of a pivotal double-ended piece at each re-

ceiving end, a coacting groove on the box, each such engaging device adapted to permit the insertion of the proper box and prevent the passage of any others.

6. In a despatch system, the combination of a tube with a receiving end, carrying a double-pointed pivoted piece and a guide-piece, with a box having grooves to receive the guide, and a further groove to receive one end of the pivoted piece when the opposite end thereof is depressed by engagement with such box.

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