

C. S. JENNINGS.
 CARRIER FOR PNEUMATIC DESPATCH SYSTEMS.
 APPLICATION FILED OCT. 23, 1907. RENEWED DEC. 21, 1910.

984,816.

Patented Feb. 21, 1911.

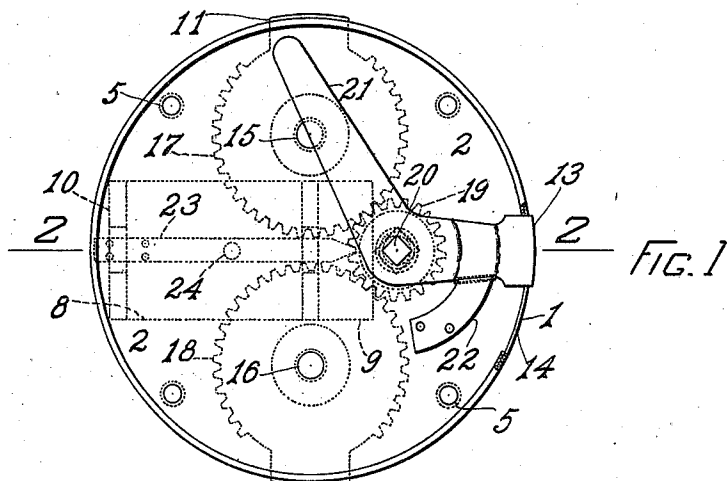


FIG. 1

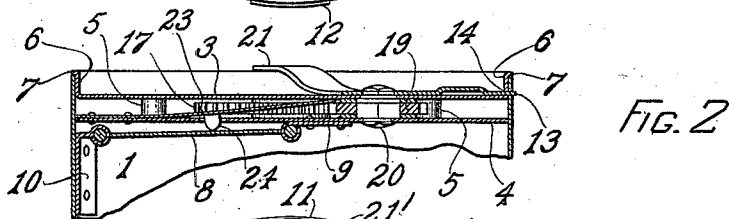


FIG. 2

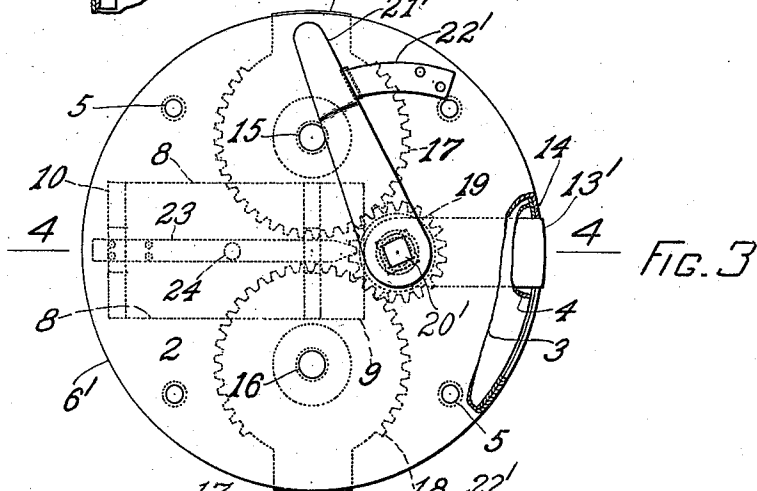


FIG. 3

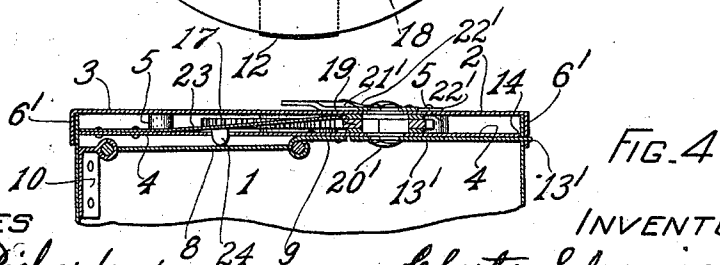


FIG. 4

WITNESSES

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UNITED STATES PATENT OFFICE.

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CARRIER FOR PNEUMATIC-DESPATCH SYSTEMS.

984,816.

Specification of Letters Patent.

Patented Feb. 21, 1911.

Application filed October 23, 1907, Serial No. 398,711. Renewed December 21, 1910. Serial No. 598,879.

To all whom it may concern:

Be it known that I, CHESTER S. JENNINGS, citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Carriers for Pneumatic-Despatch 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.

The invention relates to carriers for pneumatic despatch tube systems in which comparatively large carriers are employed, and more especially to means for securing the cover to the body of the carrier.

It is the object of the invention to provide a simple and efficient mechanism for securing the cover to the body of the carrier which will prevent accidental unlocking of the cover and the consequent loss of the contents of the carrier while in transit.

One feature of the invention accordingly consists in providing an operating lever or arm for operating the cover locking mechanism which is so mounted that it moves beyond the periphery of the carrier in operating the locking mechanism to release the cover. While the carrier is in transit, any accidental outward movement of the operating bar will be arrested by the engagement of the bar with the transmission tube so that a sufficient movement of the bar to cause an unlocking of the cover is prevented.

A further feature of the invention consists in providing means for preventing the operation of the cover locking mechanism until the unlocking parts are brought into register with each other. This insures the proper locking of the cover before the carrier is despatched, since an operation of the locking mechanism when the cover is partially closed or an operation thereof when the parts are not in position to insure their proper engagement, is prevented. That is to say, the operator must bring the cover into proper closed position before the locking mechanism can be operated, and thus all danger of despatching a carrier with the cover insecurely locked is avoided. The means which I prefer to employ for preventing the operation of the cover locking mechanism until the cover is properly closed

consists of a device for preventing movement of the operating lever or bar which is rendered inactive by the closing of the cover.

By combining both of the features above referred to in the same construction, the projecting operating bar when locked in position will prevent the despatch of the carrier until the cover has been closed and locked.

These features of the invention, as well as other features which are set forth in the claims, will be understood from an inspection of the accompanying drawings, in which—

Figure 1 is an end view of one form of carrier embodying the invention; Fig. 2 is a sectional view on line 2—2, Fig. 1; Fig. 3 is an end view of a different form of carrier embodying the invention; and Fig. 4 is a sectional view on line 4—4, Fig. 3.

In the construction shown in Figs. 1 and 2, the body of the carrier is in the form of a cylinder 1, one end of which is adapted to be closed by a removable cover 2. This cover comprises an outer plate 3 and an inner plate 4 secured together by studs 5 so that a space is provided between the inner and outer plates in which parts of the locking mechanism are mounted. The outer plate is provided with an upwardly projecting cylindrical rim 6 which fits within the end of the cylinder 1 and is provided with a flange 7 to engage the end of the cylinder. The cover is connected to the body of the carrier by a hinged plate 8, one end of which is pivoted to a clip 9 secured to the inner plate 4 of the cover, and the other end of which is pivoted to a clip 10 secured to the inner surface of the carrier. The locking devices for securing the cover to the body of the carrier comprise three locking bolts 11, 12 and 13 mounted upon the cover and arranged to swing into and out of slots formed in the wall of the carrier, one of which is indicated at 14. The bolts 11 and 12 are mounted between the inner and outer plates of the cover upon studs 15 and 16 and are provided with segmental gears 17 and 18 which mesh with a gear 19 connected with the bolt 13. The bolt 13 is arranged on the outer side of the outer plate 3, and is secured upon the outer end of the shaft 20 to which the gear 19 is secured. The locking bolts are operated by means of an operating bar in the form of a lever 21, which is se-

cured to the shaft 20. For the sake of simplicity it is preferred to form the locking bolt 13 and operating bar 21 from a single piece, the bar and bolt being in the form of a bell crank lever secured upon the end of the shaft 20. The operating bar is locked in locking position by means of a spring latch 22 consisting of a spring plate riveted to the outer side of the cover plate 3 and having its free end bent down through a slot in the plate. When the cover is to be unlocked the spring latch 22 is depressed, and the lever 21 is swung outward. This movement of the lever through connections between the lever and the locking bolts swings the bolts inward free of the slots in the cylinder 1 so that the cover may be raised out of the end of the cylinder and swung to one side. This unlocking movement of the lever 21 carries it beyond the periphery of the cover and carrier, and in case there is any accidental disengagement of the latch 22 and outward movement of the operating lever during the time that the carrier is being transmitted through a carrier tube, the operating lever will engage the inner surface of the carrier tube and a sufficient movement of the lever to effect an unlocking of the cover will be prevented. It is impossible, therefore, for the cover to become unlocked and to open during the transmission of the carrier from one station to another. Since the operating arm projects beyond the periphery of the cover when in unlocking position, it will act as a safety stop for preventing the transmission of a carrier when the cover is open.

The means shown for preventing operation of the locking mechanism until the cover has been brought into closed position consists in the construction shown of a locking device arranged to engage the teeth of the gear 19 and to be moved out of engagement with the gear when the cover is brought into closed position. This locking device is in the form of a spring plate 23 secured to the inner plate 4 of the cover, and having its free end arranged to lie between the teeth of the gear 19. A stud 24 projects downward from the spring plate 23 and when the cover is closed this stud engages the hinged plate 8 and lifts the locking plate 23 out of engagement with the gear 19. When the cover is fully closed, therefore, the locking mechanism may be operated, but until the cover is closed the operation of the locking mechanism is prevented by the locking plate 23. When the locking mechanism has been operated to unlock the cover, and the cover is raised out of the end of the cylinder 1, the stud 24 on the locking plate 23 moves away from the hinged plate 8 so that the locking plate engages the gear 19 and prevents operation of the locking mechanism until the cover is again brought into closed position with the locking bolts in position to register with the

slots in the body of the carrier. It is impossible, therefore, for a careless operator to operate the locking mechanism when the cover has been only partially closed, which would result in injury to the carrier and locking mechanism or an insecure fastening of the cover in the end of the carrier. This locking device, in connection with the outwardly projecting operating bar, also prevents the sending of a carrier with the cover open or only partially closed, since the complete closing of the cover is necessary before the operating bar can be moved into position within the periphery of the carrier.

In Figs. 3 and 4 a locking mechanism is shown which is substantially the same as the locking mechanism shown in Figs. 1 and 2, the mechanism being applied to a cover, the rim 6' of which fits outside the end of the carrier body instead of inside the end of the carrier body. In this construction the locking bolt 13' is secured to the inner end of the shaft 20'. In this construction also the spring latch 22' for latching the operating lever 21' in locking position is arranged to engage the locking lever instead of being arranged to engage the locking bolt as in the construction shown in Figs. 1 and 2. In other respects the two constructions are substantially the same and operate in substantially the same manner.

Having set forth the nature and object of the invention, and specifically described two forms of carriers in which it may be embodied, what I claim is:—

1. A carrier for pneumatic despatch systems, having, in combination, a body, a cover, a plurality of pivoted locking bolts mounted on the cover, gears connecting said bolts, and an operating bar mounted to lie within the periphery when in locking position and to project beyond the periphery when in unlocking position, substantially as described.

2. A carrier for pneumatic despatch systems, having, in combination, a body, a cover, a hinge plate pivoted at opposite ends to the body and cover respectively, cover locking mechanism, and a locking device for preventing the operation of the cover locking mechanism arranged to be moved into inactive position by engagement with the hinge plate, substantially as described.

3. A carrier for pneumatic despatch systems, having, in combination, a body, a cover, a plurality of pivoted locking bolts mounted on the cover, an operating bar secured to the pivot of one of said bolts and arranged to lie within the periphery when in locking position, and to project beyond the periphery when in unlocking position, and means for connecting said bolts to move in unison, substantially as described.

4. A carrier for pneumatic despatch systems, having, in combination, a body, a

cover, a plurality of pivoted locking bolts mounted on the cover, gears connecting said bolts, an operating bar, and a locking device arranged to engage one of said gears, and means for rendering said locking device inactive by the closing of the cover and active by the opening of the cover, substantially as described.

5 5. A carrier for pneumatic despatch systems, having, in combination, a body, a cover, two locking bolts provided with gear segments, a third locking bolt, a gear connected with said bolt and engaging said gear segments, and an operating bar connected
10 with said gear, substantially as described.

6. A carrier for pneumatic despatch systems, having, in combination, a body, a cover, two gears mounted on the cover, locking bolts formed on the gears, an operating
15 gear engaging the said two gears, a locking bolt secured to the shaft of said operating gear, and an operating bar connected with said operating gear, substantially as described.

20 7. A carrier for pneumatic despatch systems, having, in combination, a body, a cover formed of inner and outer plates, a

shaft journaled in said plates, a gear secured to the shaft between the plates, segmental gears arranged between the plates
30 and provided with locking bolts, a locking bolt secured to said shaft, and an operating bar secured to said shaft and arranged to project beyond the periphery of the cover
35 when in unlocking position and to lie within the periphery when in locking position, substantially as described.

8. A carrier for pneumatic despatch systems, having, in combination, a body, a cover, a plurality of locking bolts mounted
40 on the cover, an operating bar connected with one of said bolts and arranged to swing within the periphery in operating the bolts to unlock the cover, devices for simultaneously operating the bolts, and a spring
45 latch for retaining the operating bar in locking position, substantially as described.

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

CHESTER S. JENNINGS.

Witnesses:

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ANNIE C. RICHARDSON.