No. 648,375. Patented May 1, 1900.

B. C. BATCHELLER.

PNEUMATIC CARRIER.

(Application filed Sept. 23, 1898. Renewed Oct. 2, 1899.)

(No Model.)

FIG. 2.

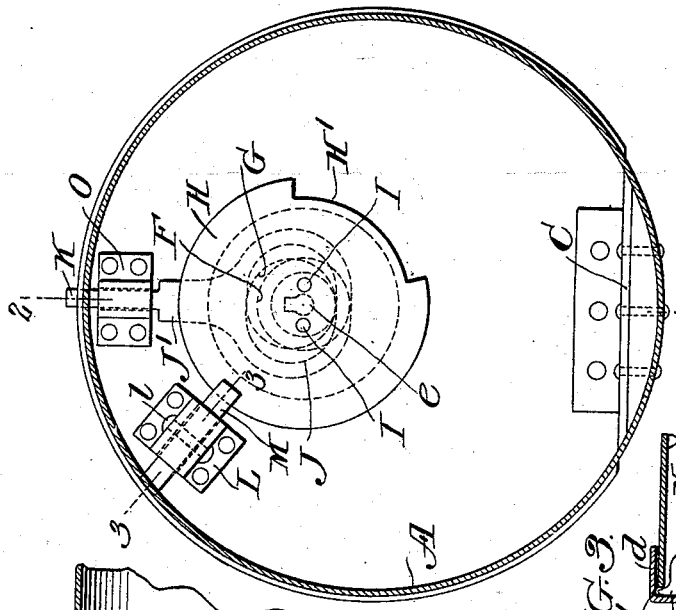


FIG. 3.

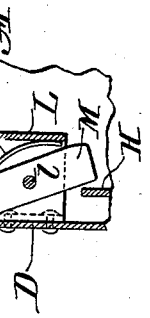


FIG. 1.

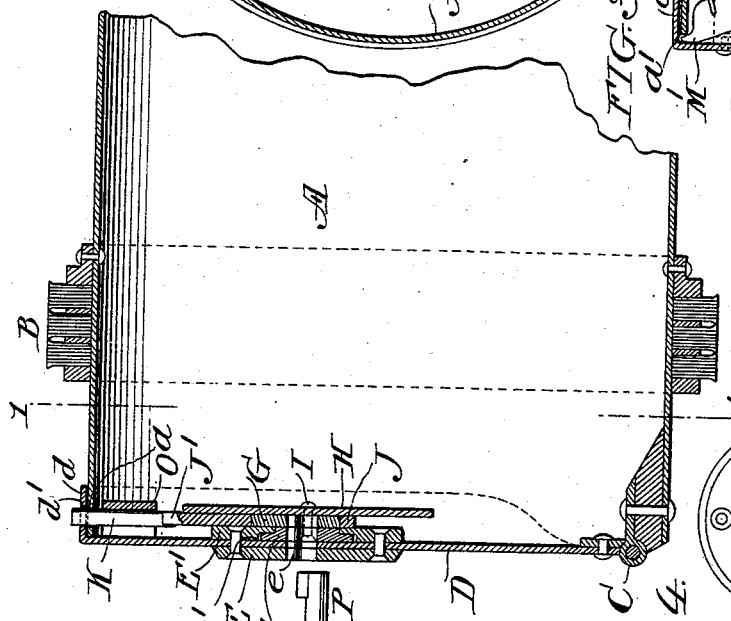


FIG. 4.

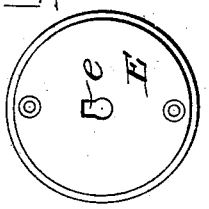
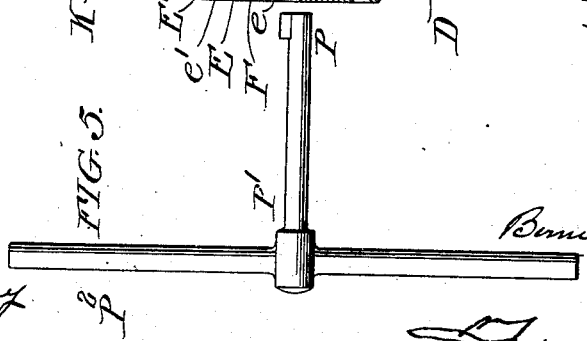


FIG. 5.



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PNEUMATIC CARRIER.

SPECIFICATION forming part of Letters Patent No. 648,375, dated May 1, 1900.

Application filed September 23, 1898. Renewed October 2, 1899. Serial No. 732,408. (No model.)

To all whom it may concern:

Be it known that I, BIRNEY C. BATCHELLER, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Pneumatic Carriers, 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 pneumatic carriers such as are used in connection with pneumatic transit-tubes, and particularly to the locking of the lid of such carriers in place, the object of my invention being to provide means for locking the lid of the carrier of a character which will by novel means provide against the insertion of a carrier into a tube in any condition except one in which the lid is securely locked in place.

The nature of my improvements will be best understood as described in connection with the drawings, in which they are illustrated, and in which—

Figure 1 is a longitudinal section taken as on the line 2 2 of Fig. 2 through the lid end of a carrier and the lid itself. Fig. 2 is a cross-section on the line 1 1 of Fig. 1. Fig. 3 is a cross-sectional view taken on the line 3 3 of Fig. 2. Fig. 4 is a view showing the face of the keyway-plate and keyway formed therein, and Fig. 5 is a side view of the key.

A indicates the lid end of a cylindrical carrier such as is commonly employed; B, one of the contact-rings surrounding the cylindrical body of the carrier; C, a hinge to which one edge of a lid D is secured, said lid being formed with a flange *d*, which closes around the end of the cylinder A and is formed, as shown, with a locking-perforation *d'*, which when the lid is closed registers with a similar perforation *a* in the edge of the cylinder. On the outside and inside of the lid-plate are riveted plates E and E', the plate E' having an annular groove, as indicated at *e'*, lying inside of an inner flange, and plate E having a keyhole *e* formed in it for the admission of a key-flange projecting at one side of a key-shank. Supported in the annular groove *e'* is a plate F, which by means of rivets I I is secured to an eccentric G, lying inside of the plate E', and to a segment-disk H, the periphery of which is cut away at H', as clearly shown in Fig. 2. The plate F and eccentric G are formed, as shown, with a central keyway corresponding in shape to the keyway *e*, said keyways registering when the parts are in the position indicated in Figs. 1 and 2, but at other times lying crosswise.

J is a yoke, which surrounds the eccentric F and has a lateral extension J', at the end of which is formed or secured a bolt K, held by means of a bracket O in permanent registry with the bolt-hole *a*.

L is a bracket on the lid D, in which is pivoted on a pin *l* a finger M M', N indicating a spring which normally throws the end M of the finger outward, the other end, M', being of course thrust inward and having a flange at its extreme end which comes in contact with the edge *a'* of the cylinder A when the lid D is closed down upon it, the pressure exerted on this flange being in a direction opposite to that in which the spring N works, and the position of the parts when the lid is fully closed down being as shown in Fig. 3 of the drawings. The arm M of the finger projects, as shown, beyond the edge of the segmental plate H, and when the parts are moved to withdraw the bolt K it comes opposite to the keyway portion H', and the lid being opened the spring moves the arm M up until it lies opposite to the edge of the plate and in case of the rotation of the plate H engages the plate and stops the rotation by coming in contact with one of the shoulders at the end of the keyway portion. This device, which in itself forms a portion of the subject-matter of my former application, Serial No. 675,268, of March 26, 1898, obviously prevents the locking or movement of the bolt in a direction to lock until the closing down of the lid has brought the parts to proper locking position, when, as shown in Fig. 3, the locking-finger is withdrawn from engagement with the segmental plate H.

P indicates the lateral flange of the key, which is secured to a key-shank P', which shank I prefer to make of such length as will prevent the entry of the carrier, with the key in place, into the sending device, through which it is injected into the transmission-tube. In such a sending device, for instance, as is shown and described in my former patent,

No. 595,754, of December 21, 1897, it will be quite obvious that a key projecting from the lid of the carrier and having any considerable length would effectually prevent the operation of the sender. I also design to provide against the insertion of a carrier with the key in place by providing cross-bars P^2, extending out from the shank of the key, which will project beyond the edge of the carrier-cylinder, and thus prevent its being placed in a tubular sender before the key is withdrawn.

A very important feature of my invention is the provision of locking mechanism into which the key can be inserted and from which the key can be withdrawn only in the position of such mechanism which corresponds to the fully-locked position of the bolt or bolts. Thus in the particular design illustrated the key can be inserted and withdrawn when the parts are in the position indicated in Figs. 1 and 2; but at all other times, the flange P of the key being out of registry with the keyway *e*, the key could neither be inserted nor withdrawn. If already in place, it is consequently impossible to withdraw the key until the carrier has been securely locked in place, because the key is not in registry with the keyhole until the lock has resumed this position, and because the lock cannot assume this position until by closing down the lid to full locking position the finger M is moved out of engagement with the segmental plate H.

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

1. In a pneumatic carrier, a lid for closing the carrier in combination with locking devices for securing the lid in closed position, lock-actuating mechanism constructed as described to be operated by a detachable key, and a keyhole and guard-plate constructed as described to prevent the entrance or withdrawal of the key to or from the lock-actuating mechanism in any position of the lock except that in which it is in locking position.

2. In a pneumatic carrier, a lid for closing the carrier in combination with locking devices for securing the lid in closed position, lock-actuating mechanism constructed as described to be operated by a detachable key, a keyhole and guard-plate constructed as described to prevent the entrance or withdrawal of the key to or from the lock-actuating mechanism in any position of the lock except that in which it is in locking position, and means, as latch M and segment H, for preventing the movement of the locking mechanism and withdrawal of the key when the lid is open.

3. In a pneumatic carrier, a lid for closing the carrier in combination with locking devices for securing the lid in closed position, lock-actuating mechanism constructed as described to be operated by a detachable key and a keyhole and guard-plate in the top of the lid constructed as described to prevent the entrance or withdrawal of the key to or from the lock-actuating mechanism in any position of the lock except that in which it is in locking position, and a key having a long shank for operating said locking mechanism.

4. In a pneumatic carrier, a lid for closing the carrier in combination with locking devices for securing the lid in closed position, lock-actuating mechanism constructed as described to be operated by a detachable key and a keyhole and guard-plate in the top of the lid constructed as described to prevent the entrance or withdrawal of the key to or from the lock-actuating mechanism in any position of the lock except that in which it is in locking position and a key having a handle portion formed as described to project beyond the sides of the carrier when the key is engaged therewith.

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