May 15, 1923. 1,455,547

J. T. NEEDHAM

CARRIER FOR PNEUMATIC DISPATCH TUBING SYSTEMS

Filed July 9, 1921 2 Sheets-Sheet 1

Fig. 1.

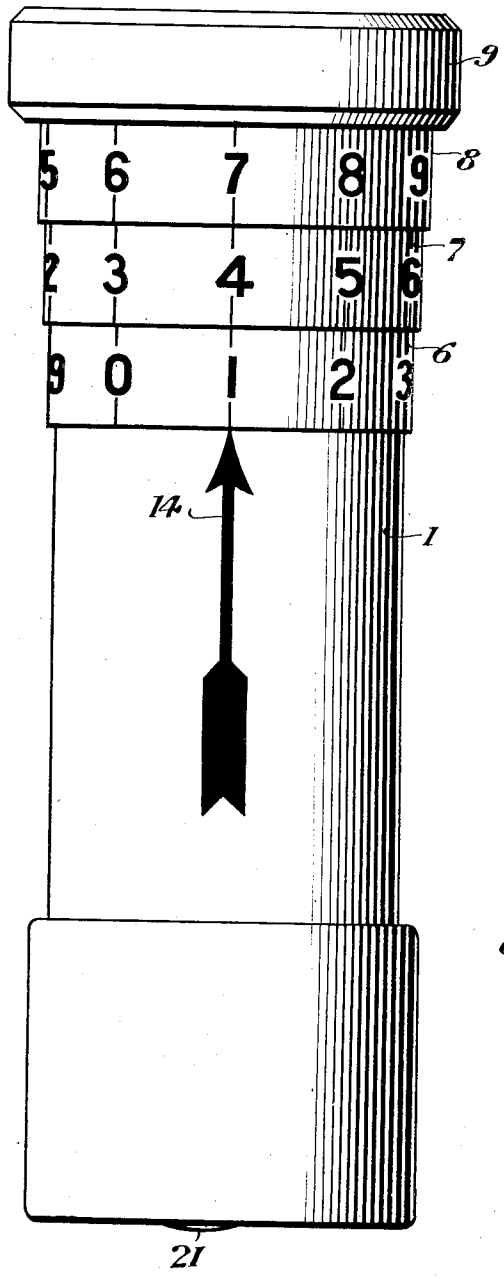
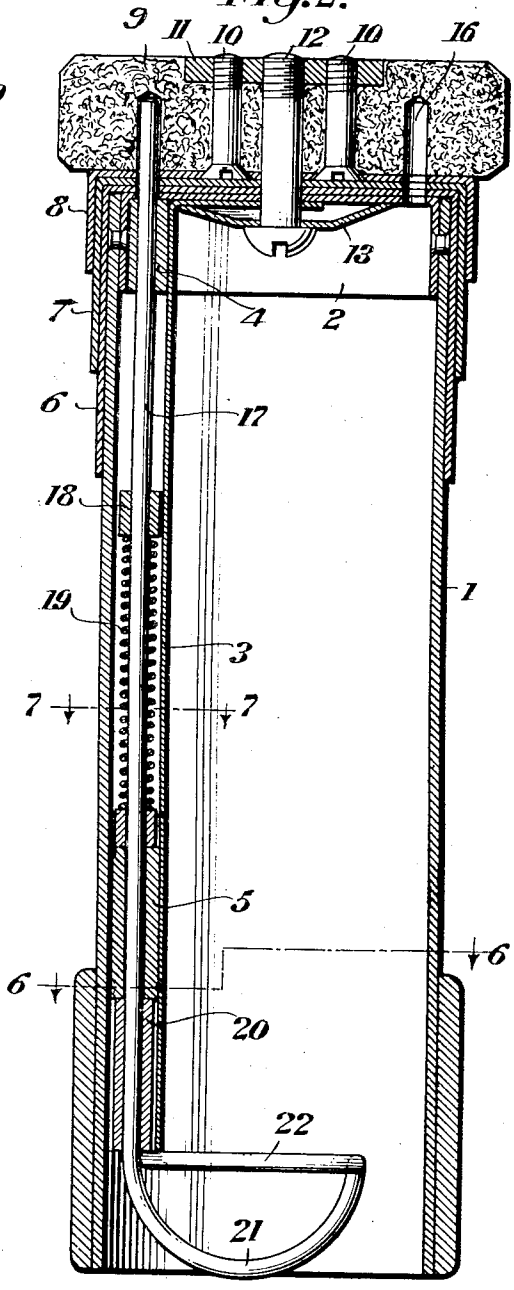


Fig. 2.



Inventor

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Fig. 3.

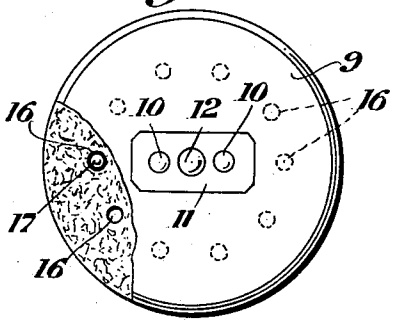


Fig. 4.

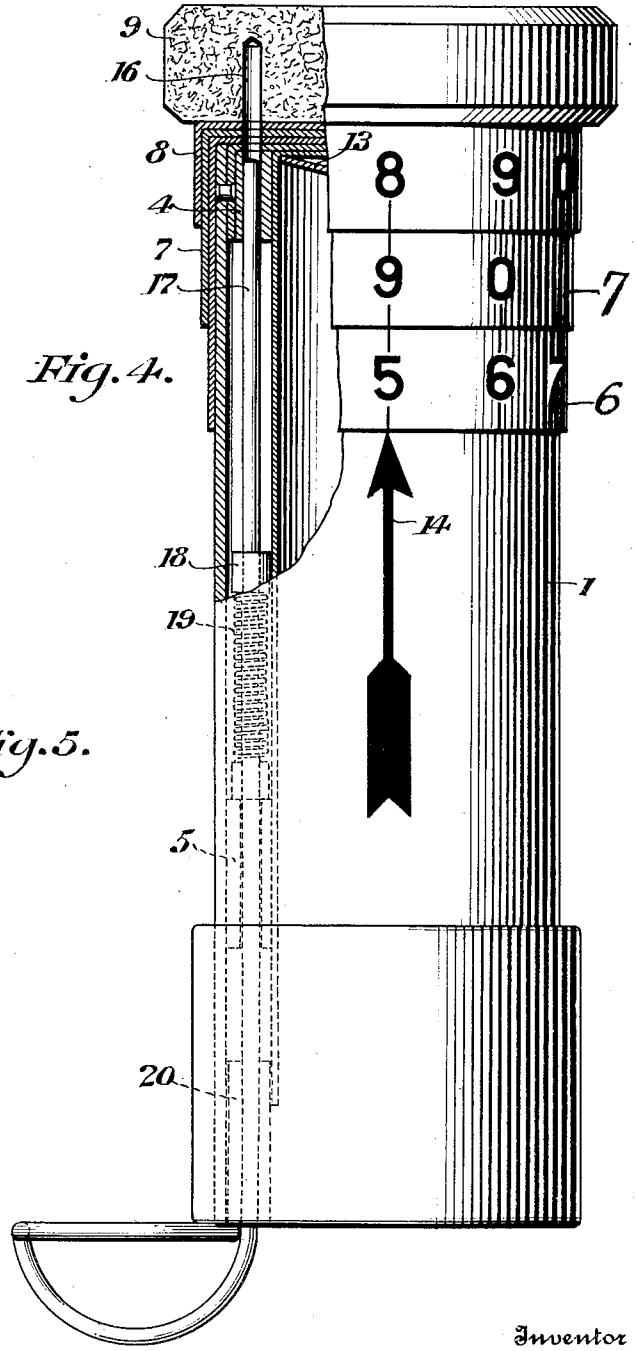


Fig. 5.

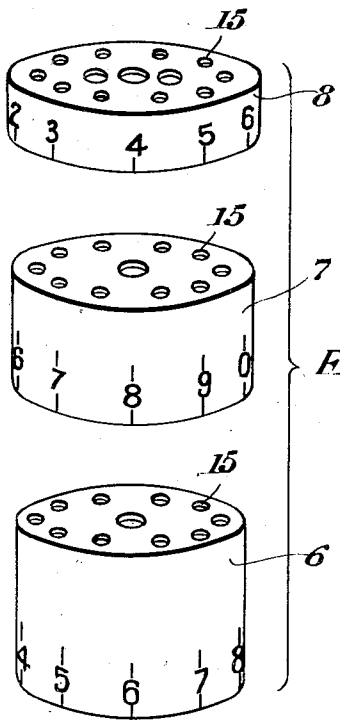


Fig. 6.

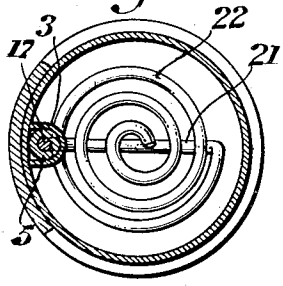
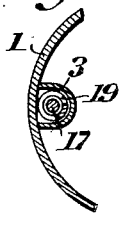


Fig. 7.



Inventor

John T. Needham

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Patented May 15, 1923. 1,455,547

UNITED STATES PATENT OFFICE.

JOHN T. NEEDHAM, OF NORTH PLAINFIELD, NEW JERSEY.

CARRIER FOR PNEUMATIC-DISPATCH TUBING SYSTEMS.

Application filed July 9, 1921. Serial No. 483,458.

To all whom it may concern:

Be it known that I, JOHN T. NEEDHAM, a subject of the King of Great Britain, and resident of North Plainfield, in the county of Somerset and State of New Jersey, have invented certain new and useful Improvements in Carriers for Pneumatic-Dispatch Tubing Systems, of which the following is a specification.

The main object of this invention is to provide a carrier with a station-indicating device of simple construction and which will not become deranged while the carrier is in transit. Pneumatic dispatch tubing systems frequently comprise a central station and a large number of outlying stations. In such a system it is frequently necessary to send carriers from an outlying station to the central station, which carriers are then reset to another outlying station. The carriers used for such a system must be provided with some station-indicating device which can be set by the sending station and which will indicate to the central station operatives the outlying station which is the final destination of the carrier. A station-indicating device for such use must be of very simple construction; must be light and must be so designed that it will not become in any way deranged while the carrier is in transit.

Another object of this invention is to provide a station-indicating device which will be locked in its set position by the means for retaining the contents of the carrier, so that the said station-indicating device cannot become deranged or changed until the carrier has been opened for the discharge of its contents.

Another object of the invention is to provide a carrier with a station-indicating device and with a locking means mounted within the carrier and completely protected by the carrier while in transit.

There are other important objects and advantages of the invention which will appear hereinafter.

In the drawings, Fig. 1 is a side elevation of the carrier;

Fig. 2 a longitudinal sectional central view thereof;

Fig. 3 an end view partly broken away;

Fig. 4 a side elevation of the carrier partly in section, showing the indicator-locking means withdrawn to permit the indicator to be set;

Fig. 5 detail perspective views of the three indicator cups;

Fig. 6 a transverse sectional view of the carrier taken on the line 6—6 of Fig. 2; and

Fig. 7 a detail transverse sectional view taken on the line 7—7 of Fig. 2.

According to the various parts by numerals, 1 designates a carrier body which consists of a tube of hard fiber or other suitable material. This tube is closed at one end by an internal cup 2, the annular flange of which is riveted to the carrier body, as shown in Fig. 2; the other end of the tube is open. To the inner side of the carrier and extending longitudinally thereof is rigidly secured a tube or channel 3. This tube is preferably secured in place by means of locks formed thereon and passed through the body of the carrier, as described in my Patent No. 1,176,918, dated March 28, 1916, but not shown herein. Of course, this tube may be secured within the carrier in any suitable manner. The inner end of the tube or channel 3 is bent laterally and lies close to the inner side of the cup 2, as shown clearly in Fig. 2, and said laterally bent end is apertured for the passage of a retaining screw, as will be more fully hereinafter described. Secured within the inner end of the channel 3 and abutting against the inner side of the cup 2 is a guide sleeve 4; and within said channel near its outer end is also rigidly secured a guide sleeve 5.

Loosely fitting over the closed end of the carrier body is a large indicator cup 6, the annular side of which fits closely against the body of the carrier. This cup is free to turn on the carrier. Fitting over the cup 6 is an indicator cup 7, the annular side of which fits closely against the exterior cup 6. The cup 7 is shorter than the cup 6 so that there is a portion of the cup 6 extending beyond the open end of the cup 7. A third indicator cup 8 fits over the cup 7, this latter cup being shorter than the cup 8, so that a portion of the cup 8 will extend beyond the open end of the cup 7. The cup 8 is rigidly and permanently connected to the felt buffer head 9 by means of screws 10. These screws are countersunk in the

closed end of the cup 8 and are threaded into a clamping plate 11 countersunk in the outer face of the buffer head. By this means the indicator cup 8 may be turned or rotated with the buffer head. The buffer head and the three indicator cups are rotatably connected to the closure cup 2 of the carrier, by the screw 12 which passes outwardly through the laterally bent part of the tube 3 and through the closed ends of all of the cups and is screwed into the clamp plate 11. Between the closed end of the cup 2 and the head of the screw 12 is arranged a spring plate or washer 13, so that all of the parts are clamped together by a yielding means which insures intimate contact and frictional engagement, but at the same time permits independent rotation of all of the indicator cups. The indicator cup 8 and the exposed portions of the cups 7 and 6 are provided with a series of indicating characters. As shown in the drawings they are numbered. It is manifest that by rotating the indicator cups independently, any desired arrangement of the numbers may be secured on the carrier body. An indicating point is marked on the carrier body, the indicating point shown in the drawing being in the form of an arrow 14. By bringing the proper arrangement of numbers in line with the arrow head, the station to which the carrier is to be transmitted will be indicated. In order to lock the indicator cups in their desired relation to each other, the closed end of each cup is provided with a series of perforations 15, one for each indicator number placed on the side of the cup. As shown in the drawings each cup is provided with ten locking apertures 15, one for each number. The buffer head is provided with a series of sockets 16 which register with the locking apertures 15 of the cup 8, said sockets extending a suitable distance into the buffer head. As the buffer head is rigidly secured to the cup 8, the sockets will always register with the locking apertures of the cup.

Slidably mounted in the sleeves 4 and 5 and extending through the tube or channel 3 is a long locking rod 17. On this rod between the sleeves 4 and 5 is rigidly secured a collar 18; and between said collar and the sleeve 5 is arranged a coil spring 19, said spring tending to force the locking rod toward the closed end of the carrier. Rigidly secured to the locking rod near its outer end and beyond its sleeve 5 is a guide sleeve 20 which is adapted to fit within the channel or tube 3 and will abut against the end of the sleeve 5 when the rod 17 is in its locked position. The locking rod is formed into an arch 21 at its outer end and with a coil 22 at the base of the arch, said coil being adapted to fit within the carrier and to serve as a holding clip for the purpose of retaining the contents of the carrier. The locking rod is rotatable in the sleeves 4 and 5 and may be drawn outwardly against the tension of the spring 19. The rod 17 is of such length that when it is in its locked position, that is to say, when it is forced inwardly to the limit of its movement by the spring 19, its inner end will extend through the locking perforation in the indicator cups and into one of the sockets 16 of the buffer head and thereby lock the indicating means against rotation, the coil 22 engaging the end of the tube 3 and serving as a stop for the rod. To release the locking means, the arch 21 is grasped and the locking rod is drawn outwardly against the tension of the spring 19. When the holding clip coil 22 has been completely withdrawn from the carrier, the locking rod may be rotated to carry the retaining coil beyond the edge of the carrier, as indicated in Fig. 4. The locking rod may then be released to permit the spring 19 to draw the clip coil into engagement with the edge of the carrier and thereby hold the retaining means and the locking rod in their unlocked or open position. The sleeve 20 is of such length that it extends into a channel 3 a sufficient distance to prevent its entire withdrawal from the said tube when the locking means is withdrawn to the position shown in Fig. 4. The inner end of the locking rod will always be guided by the sleeve 4. When the locking device is in the position shown in Fig. 4, the indicator cups are free and may be rotated in either direction to bring the desired combination of numbers opposite the arrow head.

It is to be noted that the locking means and the retaining coil 22 are wholly within the carrier when in their locked and retaining position. It is also manifest that the indicating means cannot become disarranged while the carrier is in transit.

What I claim is:

1. A carrier comprising a tubular body part, a closure rigidly secured to one end thereof, a rotatable indicator cup mounted over the closed end of the carrier and formed with a series of locking apertures, means for rotatably securing said cup in position, a locking rod within the carrier, and a spring forcing said locking rod inwardly to cause it to engage one of the locking apertures in the indicator cup.

2. A carrier comprising a tubular body part, a permanent closure for one end thereof, a rotatable indicator device mounted on the closed end of the carrier, a retaining device to retain the contents of the carrier, and means carried by the retainer to lock the indicator device when the retainer is in its closed or retaining position.

3. A carrier comprising a tubular body part, a permanent closure for one end thereof, a longitudinally extending rotatable

locking rod, means for mounting said rod within the body part, a spring surrounding said rod and normally forcing it inwardly, a holding clip on the outer end of said rod and adapted to fit within the tubular body part, an indicating device mounted on the closed end of the carrier, and means whereby the locking rod will lock said indicating device when the locking rod has been forced inwardly and the holding clip is within the body part.

4. A carrier comprising a tubular body part, a permanent closure for one end thereof, a longitudinally extending rotatable locking rod, means for mounting said rod within the body part, a spring surrounding said rod and normally forcing it inwardly, a holding clip on the outer end of said rod and adapted to fit within the tubular body part, and a rotatable indicator cup mounted on the closed end of the carrier and provided with a series of locking apertures, the locking rod being adapted to extend through one of said apertures to lock the indicator cup when said rod has been forced inwardly and the holding clip is within the body part.

5. A carrier comprising a tubular body part, a permanent closure for one end thereof, a longitudinally extending rotatable locking rod, means for mounting said rod within the body part, a spring surrounding said rod and normally forcing it inwardly, a holding clip on the outer end of said rod and adapted to fit within the tubular body part, a rotatable indicator cup mounted on the closed end of the carrier and provided with a series of locking apertures, and a buffer head rigidly connected to the indicator cup and provided with a series of sockets registering with the locking apertures in said cup, the locking rod being adapted to extend through one of the locking apertures and into the registering socket to lock the indicator cup when said rod has been forced inwardly and the holding clip is within the body part.

6. A carrier comprising a tubular body part, a permanent closure for one end thereof, a longitudinally extending rotatable locking rod, means for mounting said rod within the body part, a spring surrounding said rod and normally forcing it inwardly, a holding clip on the outer end of said rod and adapted to fit within the tubular body part, a series of independently rotatable indicator cups of different lengths mounted on the closed end of the carrier, each of said cups being provided with an annular series of locking apertures in the closed end of the cup, a buffer head rigidly connected to the outermost cup and adapted to turn therewith, a central securing device connecting all of said cups and the buffer head with the closed end of the carrier, and means for frictionally holding all of said cups in engagement, the locking rod being adapted to extend through the locking apertures and into the buffer head when said rod has been forced inwardly and the holding clip is within the body part.

7. A carrier comprising a tubular body part, a permanent closure for one end thereof, a longitudinally movable locking rod, means for mounting said rod within the body part, a spring surrounding said rod and normally forcing it inwardly, a rotatable indicator cup mounted on the closed end of the carrier and provided with a series of locking apertures, and a buffer head rigidly connected to the indicator cup and provided with a series of sockets registering with the locking apertures in said cup, the locking rod being adapted to extend through one of the locking apertures and into the registering socket to lock the indicator cup when said rod has been forced inwardly.

8. A carrier comprising a tubular body part, a permanent closure for one end thereof, a longitudinally movable locking rod, means for mounting said rod within the body part, a spring surrounding said rod and normally forcing it inwardly, a series of independently rotatable indicator cups of different lengths mounted on the closed end of the carrier, each of said cups being provided with an annular series of locking apertures in the closed end of the cup, a buffer head rigidly connected to the outermost cup and adapted to turn therewith, a central securing device connecting all of said cups and the buffer head to the closed end of the carrier, and means for frictionally holding all of said cups in engagement, the locking rod being adapted to extend through the locking apertures and into the buffer head when said rod has been forced inwardly.

9. A carrier comprising a tubular body part, a permanent closure for one end thereof, a rotatable indicator cup mounted on the closed end of the carrier, a buffer head rigidly connected to the indicator cup, means for centrally pivoting the indicator cup and the buffer head on the closed end of the carrier to permit the cup and head to be rotated on the carrier, indicating characters on the side of the indicator cup, and a locking means within the carrier adapted to be brought into engagement with the cups to lock them to the carrier body and to be moved out of engagement with said cups to release them for independent rotation.

10. A carrier comprising a tubular body part, a permanent closure for one end thereof, a series of independently rotatable indicator cups of different lengths mounted on the closed end of the carrier, a buffer head rigidly connected to the outermost cup and adapted to turn therewith, a central securing device connecting all of said cups and the

buffer head to the closed end of the carrier, means for frictionally holding all of said cups in engagement, and a locking means within the carrier adapted to lock all of said cups to the carrier to hold them against rotation.

11. A carrier comprising a tubular body part, a rotatable indicator means mounted on one end thereof, and a locking means within the carrier adapted to be brought into engagement with the indicator means to lock it against movement or to be released from said indicator means to permit it to be adjusted on the carrier.

12. A carrier comprising a tubular body part, a movable indicator means mounted on one end thereof, and a locking means within the carrier adapted to be brought into engagement with the movable indicator means to lock it against movement or to be released from said movable indicator means to permit it to be adjusted on the carrier.

13. A carrier comprising a tubular body part, a movable indicator device mounted on one end thereof, a movable retaining device adapted to be placed in position to retain the contents of the carrier, and means carried by the retainer to lock the movable indicator device when the retainer is in its closed or retaining position, said retaining means releasing the indicator when in its open or non-retaining position.

14. A carrier comprising a tubular body part, a movable indicator device mounted on one end thereof, a retaining device mounted wholly within the carrier and adapted to retain the contents of the carrier, and means carried by the retainer to lock the movable indicator device when the retainer is in its closed or retaining position.

15. A carrier comprising a tubular body part, a movable indicator device mounted on one end thereof, a spring pressed retaining device mounted wholly within the carrier and adapted to retain the contents of the carrier, and means carried by the spring pressed retainer to lock the movable indicator device when the spring pressed retainer is in its closed or retaining position.

In testimony whereof I hereunto affix my signature.

JOHN T. NEEDHAM.