D. MAC MILLAN.
LOCKING DEVICE FOR CASH CARRIERS IN DESPATCH TUBES.
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THE COLOURED PLAINOGRAPH IN, WASHINGTON, D. C.
To all whom it may concern:

Be it known that I, DUNCAN MACMILLAN, a citizen of the United States, residing at Brooklyn, in the county of Kings, city and State of New York, have invented certain new and useful Improvements in Locking Devices for Cash-Carriers in Despatch-Tubes; and I do 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.

This invention relates to new and useful improvements in cash carriers for despatch tubes and more particularly to a locking device therefor, and the primary object of the invention is to provide a device of this character with means for locking the same so as to positively prevent the sections of the device from being casually opened as the same travels through the tubes.

A further object of the invention resides in providing a locking means which is automatically disposed in its effective position as the sections of the carrier are rotated to a predetermined position.

Still another object of the invention resides in providing means in connection with the locking mechanism for limiting the rotary movement of the sections of the device with respect to one another.

With these and other objects in view, my invention consists of the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claim.

In the accompanying drawing forming a part of this application; Figure 1 is a perspective view of a device constructed in accordance with my invention and shown in this open position. Fig. 2 is a longitudinal section therethrough as seen on line 2–3 of Fig. 4. Fig. 3 is a similar view as seen on line 3–3 of Fig. 4. Fig. 4 is a transverse section from a device as seen on the line 4–4 of Fig. 2. Fig. 5 is a similar view as seen on line 5–5 of Fig. 2. Fig. 6 is a view similar to Fig. 5, the carrier being shown in its closed position; and Fig. 7 is a view similar to Fig. 4 with the parts in closed position.

In describing the invention I shall refer to the drawing in which 1 and 2 designate respectively a pair of nested cylindrical members, each having one end thereof permanently closed and secured, in the usual or any preferred manner to a cushioned head piece 3. In view of the manner of positioning the two cylindrical members with respect to one another and the manner of securing the same to the head pieces, said cylindrical members are capable of rotary movement with respect to one another but are incapable of any longitudinal movement. Each of the members is provided with an elongated opening 4 in the wall thereof and said openings are adapted for registration one with the other when the cylindrical members are rotated to a predetermined position. In the use of such a device as this, the means for retaining the members in closed position with respect to one another has been dependent upon the friction between the two cylindrical members and in the use of the carrier it has been found that the members are often caused to partially rotate thus causing the opening in the device to be uncovered and permitting the cash therein to be lost. My invention primarily contemplates the provision of a means for retaining these members in closed position with respect to one another and to this end the outer member 2 has a rivet or stud 5 secured thereto at a point immediately adjacent the one side edge of the opening therein and intermediate the ends of said opening. This rivet has a hemispherical head 6 formed therein which projects inwardly in the member and the inner member 1 has the wall thereof adjacent the edge of its opening opposite that referred to in connection with the member 2, provided with a groove 7 formed by indenting the same. The depth of this groove 7 decreases toward its inner end and said inner end terminates slightly in advance of a socket 8 which is also formed by an indenture in the member 1. The space remaining between the inner end of the groove 7 and the socket 8 is provided for a purpose to be hereinafter and more particularly set forth.

The members 1 and 2 are formed of spring metal and the stud on the member 2 is adapted to be received in the groove and socket of the member 1 when said members are rotated in one direction. When the members are rotated to a position to close the opening in the device, the stud will be received in contact with the edge of the member having the groove 7 therein.
There will be a frictional contact between the stud and the edge and face of the member 1 having the groove therein but this groove will permit said stud to readily ride over said member 1. This will prevent undue shock and strain from occurring at the time these members meet in frictional contact with one another. The groove 7, decreasing in depth toward its inner end will permit greater frictional contact between the outer face of the member 1 and the stud as said rotation of the members continues. The stud will finally contact with the face of the member 1 in the space between said groove and the socket and upon the continued rotation of the members this stud will be finally received in the socket 8. The space between the socket and groove, however, causing the greatest possible frictional contact between the stud and the member 1 will permit said stud to snap with considerable force into place in said socket. This assures a positive locking means between the members and when so engaged with respect to one another the inner member closes the opening of the outer member and the device is locked in its closed position.

The edge of the opening in the inner member 1 opposite that having the groove 7 continuing therefrom has a notch 9 therein to receive the head 6 when the members are rotated to open the device. Thus the openings in the various members are capable of perfect registration one with the other.

In order to limit the rotary movement of the members with respect to one another, the inner member 1 has the side edges of its opening at one end thereof provided with elongated notches 10. The outer member has secured or otherwise provided thereon at a point adjacent one end of the opening therein an additional stud 11 which is positioned to enter the notches 10 when the members are rotated. This stud limits the rotary movement of the members in both directions and thus said members are held in proper position both when the device is disposed to its closed and open positions.

From the foregoing description of the construction of my improved device and the manner of applying the same to use, the operation thereof will be readily understood and it will be seen that I have provided simple, inexpensive and efficient means for carrying out the objects of my invention.

While I have particularly described the elements best adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to within the scope of the appended claim without departing from the spirit or sacrificing any of the principles of the invention.

Having thus described my invention, what I claim is:

A carrier comprising a pair of nested relatively rotatable members each having an elongated opening therein adapted for registration with one another, the inner member having a guide groove formed therein in one edge of said elongated opening, and adjacent the inner end of said groove is stamped a concave socket, the opposite edge of the opening of said inner member being provided with a notch aligned with said guide groove and socket, a stud carried by the inner walls of the outer member and having formed thereon a rounded head adapted to be received by the guide groove and socket 8 when the members are rotated toward a closed position, and to rest in said socket when the members are fully closed, the aforesaid notch receiving said stud when the openings of said members register.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses:

DUNCAN MACMILLAN.

Witnesses:
THEODORE A. NEWLAN,
DANIEL J. MACMILLAN.