

(No Model.)

R. J. P. GOODWIN.

FLEXIBLE CARRIER FOR PNEUMATIC TUBES.

No. 299,216.

Patented May 27, 1884.

Fig. 1.

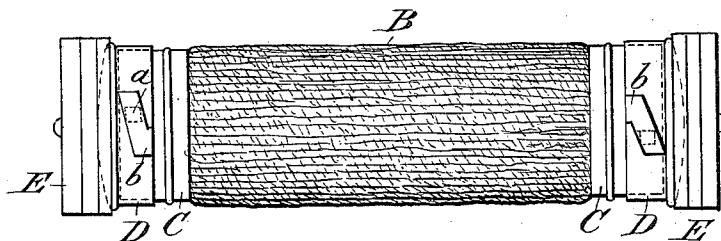


Fig. 2.

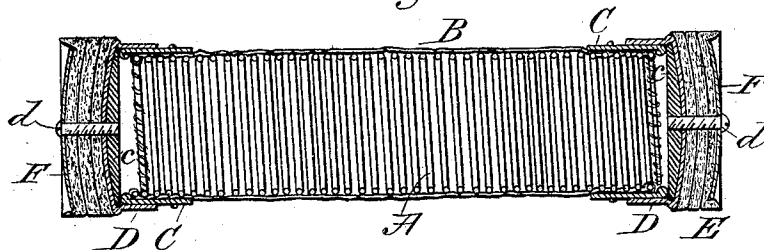


Fig. 3.

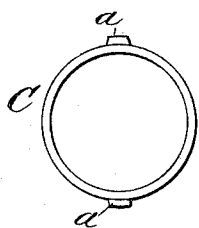


Fig. 4.

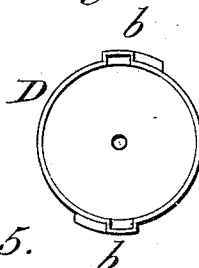
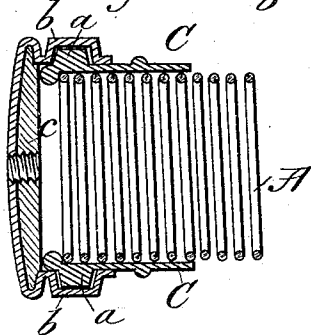


Fig. 5.



Attest:

H. H. Schott
A. R. Brown.

Inventor:

Richard J. P. Goodwin
per J. C. Foster atty

UNITED STATES PATENT OFFICE.

RICHARD J. P. GOODWIN, OF MANCHESTER, NEW HAMPSHIRE.

FLEXIBLE CARRIER FOR PNEUMATIC TUBES.

SPECIFICATION forming part of Letters Patent No. 299,216, dated May 27, 1884.

Application filed November 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. P. GOODWIN, a citizen of the United States, residing at Manchester, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Flexible Cash Boxes or Carriers for Pneumatic Tubes or Transmitters; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Heretofore one of the greatest obstacles to the successful working of pneumatic tubes or transmitters has been that while the various cars, boxes, or carriers now in use act well enough in straight tubes they are incapable of turning curves, especially sharp ones, except with great difficulty. This results from the fact that such boxes or carriers have usually been made of rigid or inelastic material only.

In order to obviate this objection to the cash boxes or carriers heretofore employed in pneumatic tubes or transmitters, my invention consists of a flexible carrier, cylindrical in form, the walls of which are preferably composed of a close spiral spring having an elastic covering or envelope of fibrous material, said carrier being closed at both ends by detachable caps, as hereinafter more fully described and claimed.

In the annexed drawings, illustrating my invention, Figure 1 is a side view of my flexible cash box or carrier. Fig. 2 is a longitudinal section of the same. Fig. 3 is a view of one of the end collars. Fig. 4 is a view of one of the cap-pieces. Fig. 5 is an enlarged sectional detail showing one end of the cylindrical carrier with covering and packing-wads removed.

Like letters of reference designate like parts in the several views.

The body of my flexible cash-carrier consists, preferably, of a spiral spring, A, around which is woven an elastic covering or envelope, B, of fibrous material, such as silk, cotton, wool, linen, &c. This covering or envelope is secured to each end of the spiral spring by being interwoven completely over the first

coil, as shown in Fig. 2, thereby preventing the spring from escaping from its envelope. A metallic collar, C, is placed upon each end of the tubular carrier, fitting closely, and is secured upon the same by rivets or other appropriate means. Each collar C is provided with one or more bosses or lugs, *a*, which engage with slots or grooves *b*, formed in the caps D, that are thus detachably connected to the collars with bayonet-joints. The cap D at each end is preferably made of metal, recessed, if desired, for the reception of a rubber cork or wooden disk, *c*. To the top or outer side of each cap is secured a wad or washer, E—one or more—of felt, leather, cloth, or other suitable material, a smaller washer, F, of metal, being placed over the outer side of the felt washer or washers, and the whole held by a bolt or screw, *d*, passed through the washers and cap.

Instead of being secured by a bolt or bolts, it is obvious that the washers may be connected to the cap by any suitable means. These wads or washers E are of larger diameter than the carrier, and, being composed of felt or other suitable material, they serve the purpose of packing in preventing the escape or passage of air along the side of the carrier as it is propelled on its mission through the pneumatic tube.

It is obvious that a flexible box or carrier made as described will readily turn curves or angles in the pneumatic tube without collapsing, the spiral spring A, that forms the body of the carrier, being possessed of sufficient stiffness to support the outer covering or envelope, B, and yet capable of yielding readily under pressure against the walls of the pneumatic tube at any turn or angle therein.

Instead of the spiral spring A and fibrous covering B, the body of the carrier might be made of a rubber or leather tube, with collars and detachable metallic caps at one or both ends; but tubes of rubber or leather do not fully meet the requirements of a flexible carrier, for the reason that rubber deteriorates in a short time, becoming stiff and inflexible, besides being liable to collapse under the pressure of a curve or angle in the pneumatic tube, leather being also subject to similar objections. The spiral spring A, on the con-

trary, maintains its cylindrical shape to a better extent than any other when bent or curved longitudinally, and readily resumes a straight form after passing curves or bends in the tube through which it is propelled.

5 It will be seen that both ends of my flexible carrier are alike provided with detachable caps or covers. This is done as a matter of convenience, as the carrier may thus be opened
10 at either end for the purpose of gaining access to its interior.

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

15 1. In a flexible cash box or carrier for pneumatic tubes or transmitters, the combination of a spiral spring, a fibrous covering or envelope inclosing said spring, a metallic collar secured to each end of the spring, and a cap

detachably connected to each of said collars, 20 substantially as described.

2. The combination, with a cash box or carrier for pneumatic tubes or transmitters, of a metallic cap, D, provided with felt, cloth, or leather washers E, and a metallic washer, F, 25 substantially as described.

3. In a flexible cash box or carrier for pneumatic tubes or transmitters, the combination of the spiral spring A, envelope B, collars C C, caps D D, and washers E F, substantially 30 as described.

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

RICHARD J. P. GOODWIN.

Witnesses:

THOMAS CONNOLLY,
E. M. TOPLIFF.