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W. H. FRANCIS

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SELECTIVE PNEUMATIC TUBE CARRIER

Filed Nov. 18, 1929

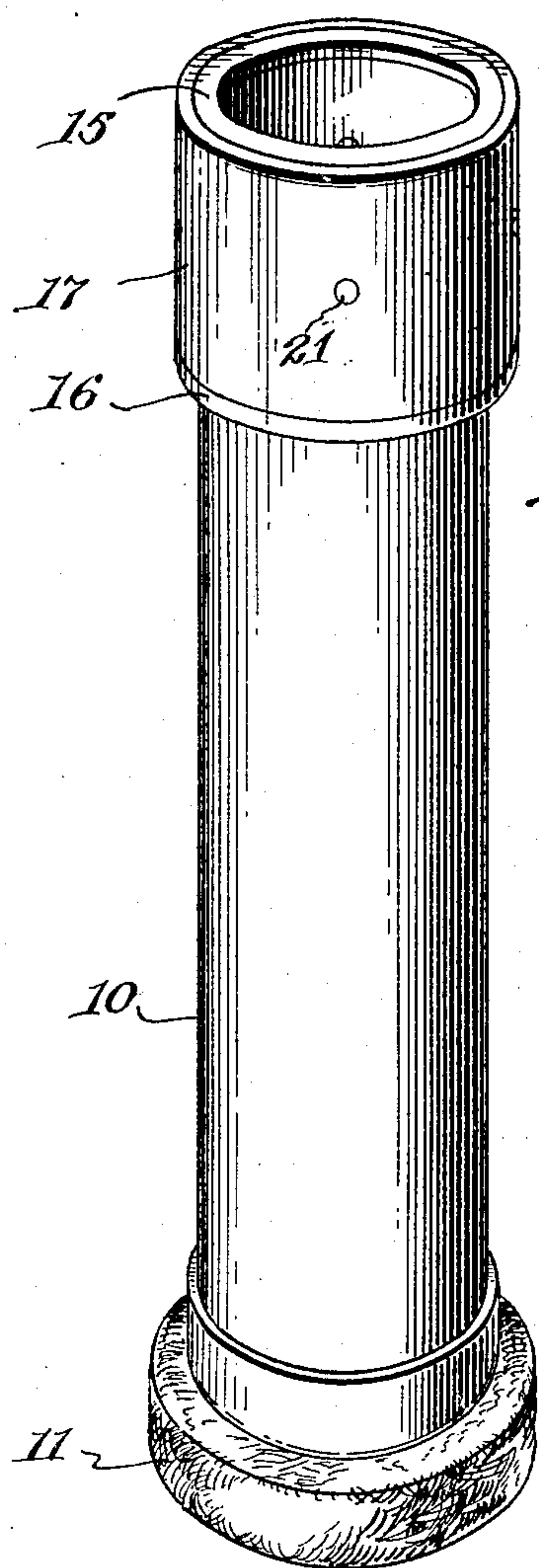


Fig. 1.

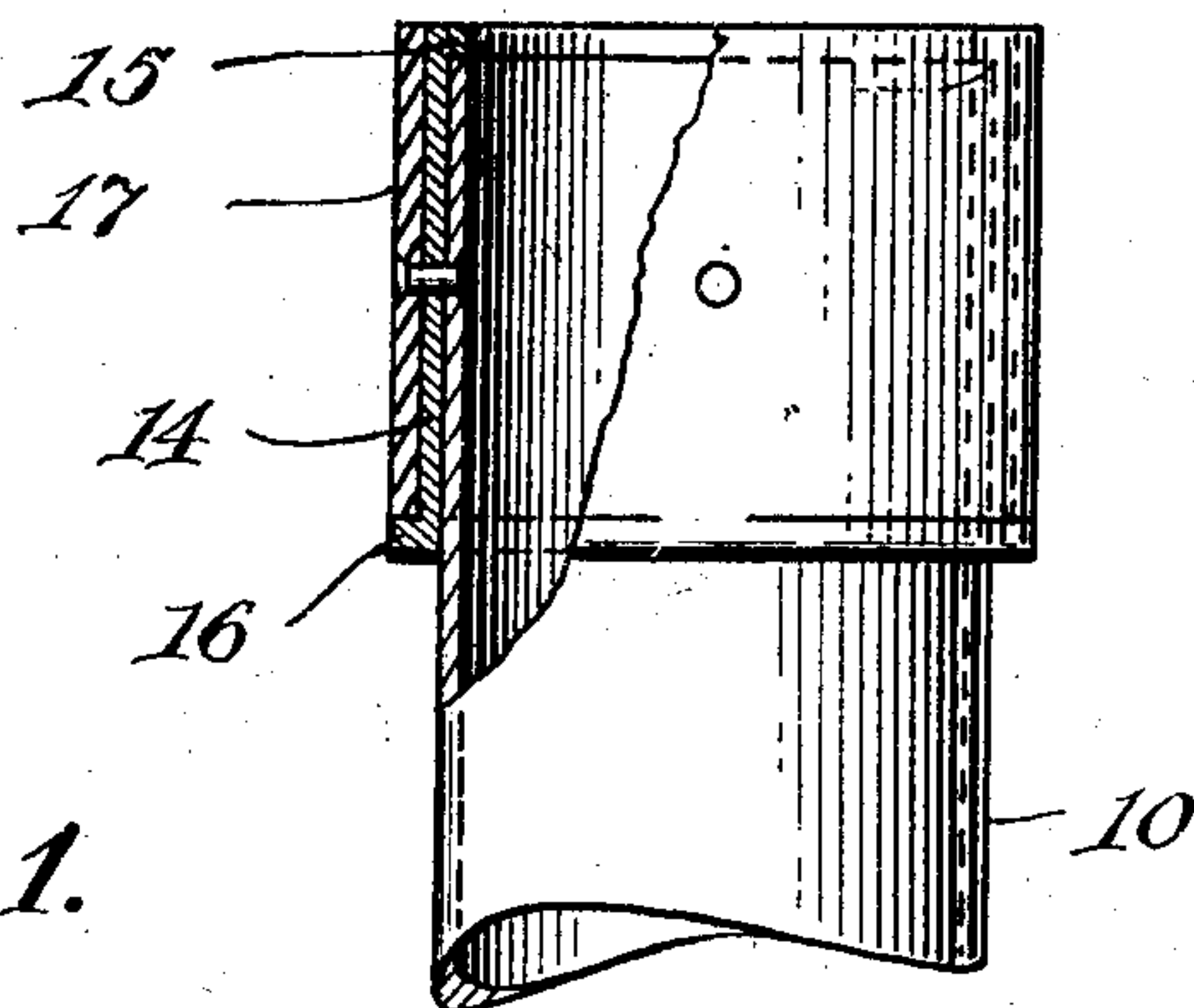


Fig. 2.

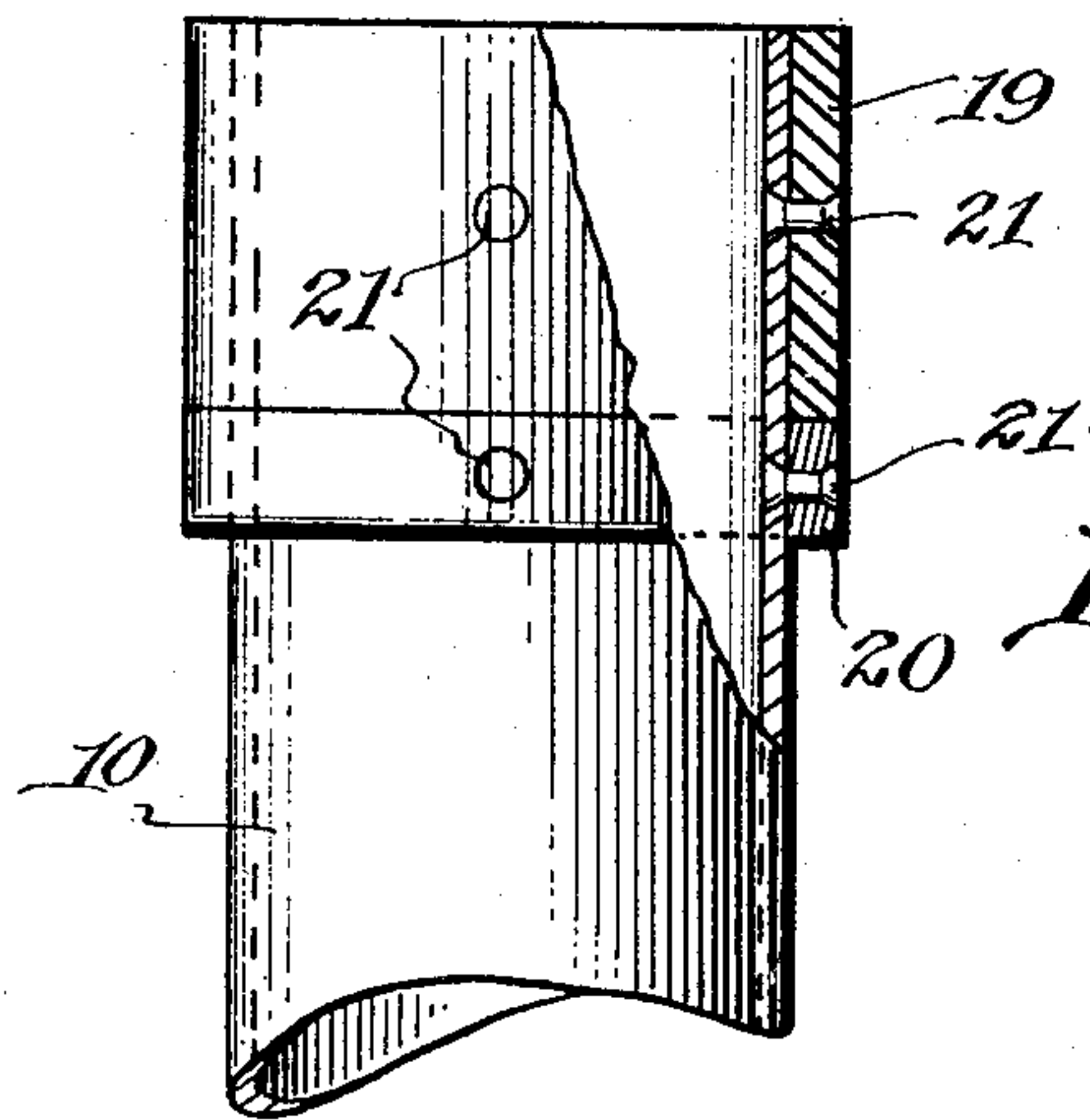


Fig. 3.

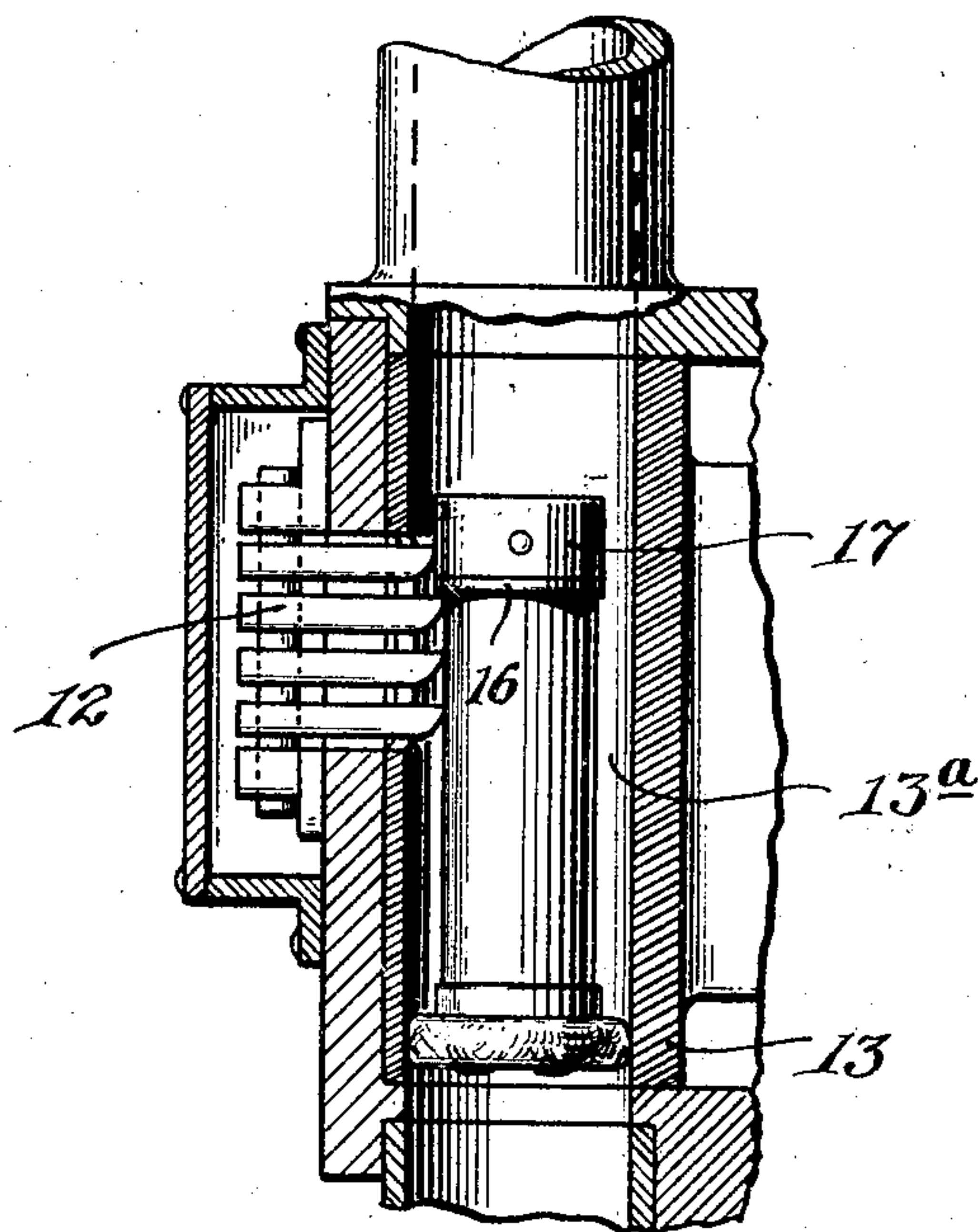


Fig. 4.

Inventor

William H. Francis

Eugene C. Brown
Attorney

UNITED STATES PATENT OFFICE

WILLIAM H. FRANCIS, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO THE WESTERN UNION TELEGRAPH COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

SELECTIVE PNEUMATIC-TUBE CARRIER

Application filed November 18, 1929. Serial No. 408,079.

This invention relates to carriers for pneumatic dispatch tubes and has special reference to a carrier for use in connection with such pneumatic tube systems as that disclosed in the patent to W. V. McGuinness et al, No. 1,733,026.

Systems of this character distribute the carriers used selectively to different stations or offices and the selector devices require for their operation that the lower edge of the reinforcing collar, commonly employed at the open end of the carrier, have its location on the carrier definitely established with great regard to accuracy and that such lower edge have great wear resisting properties so as to prevent the lower edge from wearing away in use to an extent sufficient to vitiate the care used in constructing the carrier with the edge definitely established.

Commonly, carriers for pneumatic tubes have their open ends reinforced by a fibre collar, fibre being used because a metallic collar of the same dimension is too heavy and further because a metallic collar constructed like the fibre collars used, is very noisy when the carrier moves through the tubes. Fibre, however, is not readily positioned with exactness under the usual conditions of manufacture of these carriers and is, moreover, subject to very rapid wear and bruising of the lower edge when used in connection with selective relays such as shown in the aforesaid patent.

Among the objects, therefore, of the present invention is to provide an improved construction of carrier having a novel arrangement of collar wherein the lower edge is positioned with the required degree of accuracy; to provide a collar for this purpose having a lower edge of great wear resistance; and to provide an improved collar for this purpose wherein the tendency to wear will be on a metal surface but in which the metal used in the collar is so disposed and guarded that it does not contact with the tube walls in the passage of carriers so constructed through pneumatic tubes.

With the above and other objects in view the invention will now be described in detail and then specifically claimed, reference be-

ing had to the accompanying drawings, wherein:—

Figure 1 is a perspective view of a carrier constructed in accordance with this invention.

Figure 2 is a side elevation, partly in section, of the mouth or open end portion of such a carrier.

Figure 3 is a view, similar to Fig. 2 but showing a modification of the construction.

Figure 4 is a section through a portion of an automatic selector of the kind shown in the patent above referred to and disclosing the manner in which the selector fingers engage with the collars of carriers cased therein. In the invention as here illustrated the body 10 of the carrier is of the usual tubular form having one end open and the remaining end closed and provided with a suitable piston head 11 designed to fit closely in the tubes of the system to receive the pressure of the air used in transmission. These posts are common in the art and will not be further described.

Since the body 10 is, for many reasons, made of light and thin material it is necessary that the open end should be reinforced and a collar of fibre is commonly employed for this purpose. In using these carriers in selecting devices certain selector fingers engage under the lower edges of carriers passing through the selector cylinder 13 which then rotates until the chamber 13^a in which the carrier lies reaches the proper position for forwarding. At this time, the cylinder having momentarily the fingers retaining the carrier have been withdrawn and the carrier drops into the proper tube, the specific mechanism for this being set forth in the aforesaid patent. As the lower edge of the carrier collar repeatedly engages the fingers it soon becomes bruised and worn or distorted if provision is not made to prevent this action. To this end the collar, in the present invention, is constructed as follows:—

In the form shown in Figure 2 a metallic sleeve 14 is slipped over the open end of the body 10. At its top this sleeve is provided with an inwardly extending flange 15 which covers the top edge of the body 10, the inner

periphery of this flange being flush with the inner surface of the body 10 so that the space within the body is in no way obstructed by the flange. This flange not only protects the body edge against damage but also serves as a stop or gauge in properly positioning the sleeve 14. At the bottom, the sleeve 14 is provided with an outwardly extending flange 16 and on this sleeve is fitted a second sleeve 17 of fibre or like material which extends from the flange 16 to the top of the sleeve and is preferably of such thickness that its outer surface is flush with the periphery of the flange 16. Rivets 21 pass through the body 10 and both sleeves and serve to secure the three parts firmly together. With this construction it will be seen that the metal is prevented from contact with the tube walls since the head 11 is of greater diameter than the sleeve and the upper edge only of the sleeve 17 can engage said wall if the open end of the carrier swings to one side or the other in its passage through a tube. Also this construction provides a sleeve of relatively soft material and a wear band beneath and engaging and protecting the lower edge of said sleeve.

In the form shown in Figure 3 a fibre or other like sleeve 19 is secured on the open end of the body 10 by rivets 21 and the lower edge of this sleeve 19 is protected by a metal ring 20 seated on the body 10 against said edge and secured by rivets 21. In this form, like that of Figure 2, provision is made of a sleeve of relatively soft material and a wear band engaging and protecting the lower end of said sleeve.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material spirit thereof. It is not, therefore, desired to confine the invention to the exact form herein shown and described, but it is desired to include all such as properly come within the scope claimed.

What is claimed, is:—

1. A carrier for the purpose described having a tubular body, a reinforcing sleeve of relatively soft material surrounding one end of the body, and a wear and gauge band carried on the body and resting against the lower end of said sleeve.

2. A carrier for the purpose described having a tubular body, a sleeve of relatively hard and wear resisting material fitted on one end of the body and provided at its lower end with an outwardly extending flange, and a second sleeve of relatively soft material fitted on the first sleeve with its lower end resting on said flange.

3. A carrier for the purpose described having a tubular body, a sleeve of relatively hard and wear resisting material fitted on one end of the body and provided at its lower end with an outwardly extending flange, a second

sleeve of relatively soft material fitted on the first sleeve with its lower end resting on said flange, said first sleeve having an inwardly projecting flange at its upper end covering the upper edge of the body and abutting thereagainst to form a positioning stop for the first sleeve and to protect said upper edge.

In testimony whereof I affix my signature.

WILLIAM H. FRANCIS.