

T. BEMIS.
PNEUMATIC CARRIER.
APPLICATION FILED AUG. 14, 1905.

Fig. 1.

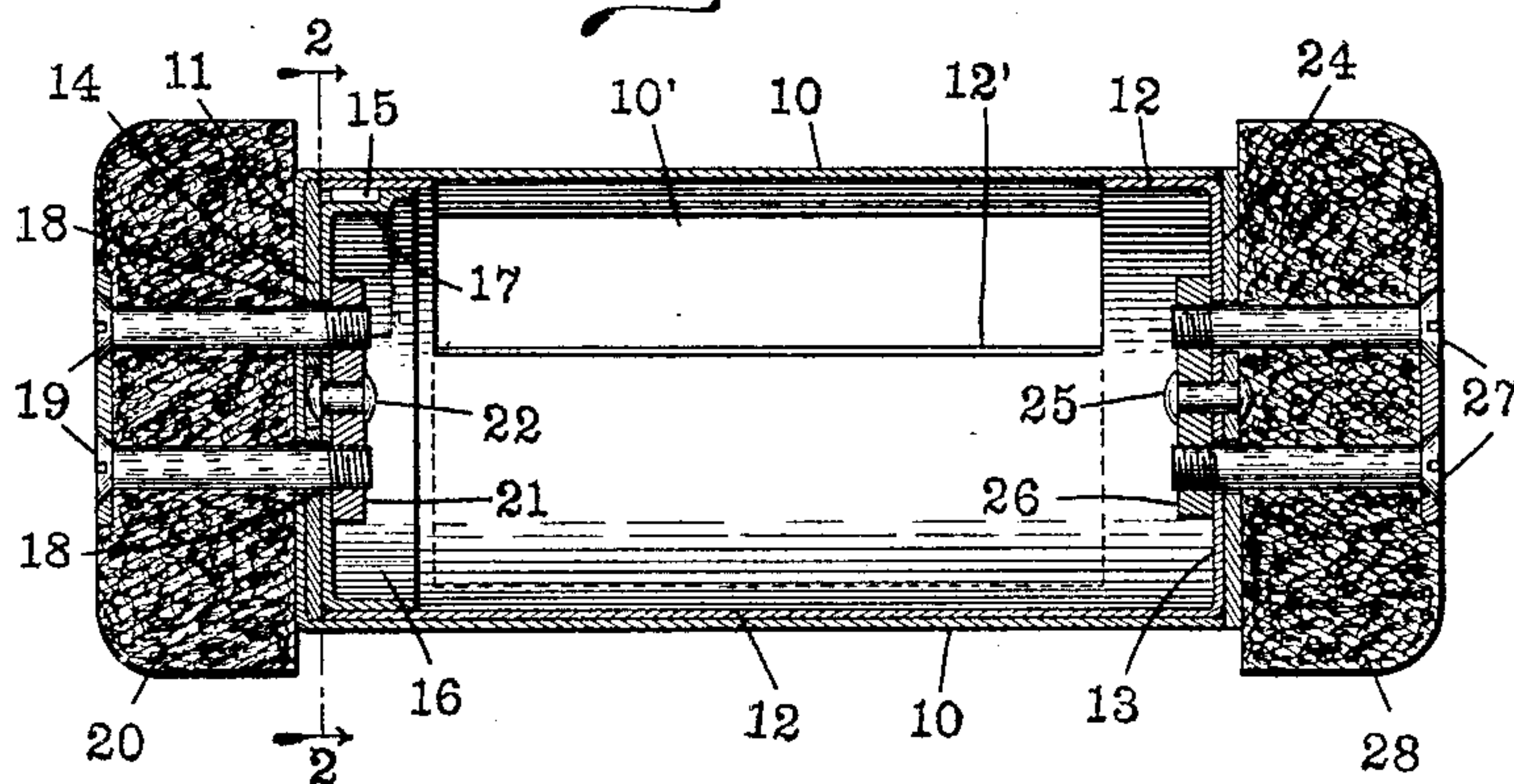


Fig. 2.

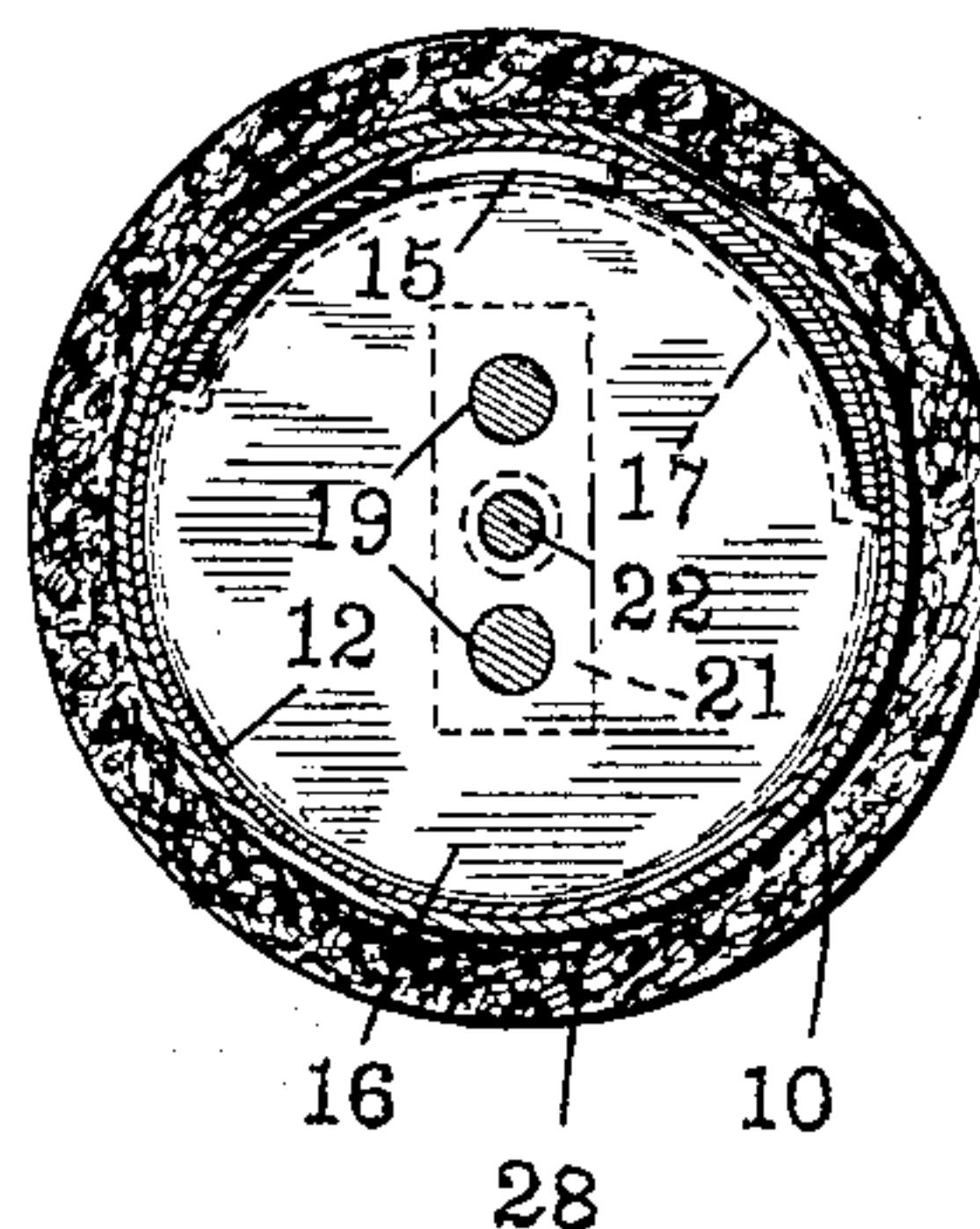


Fig. 3.

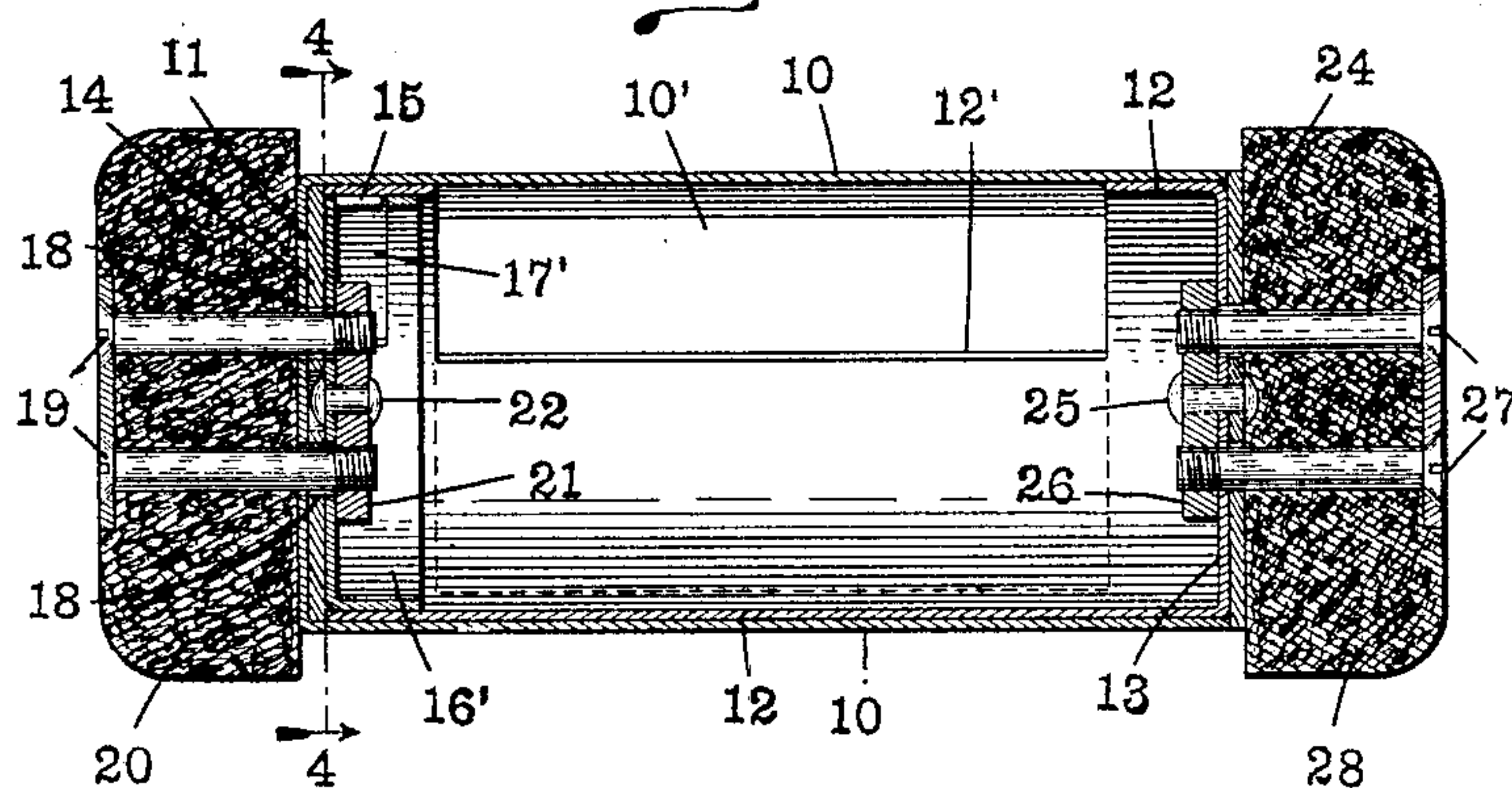


Fig. 4.

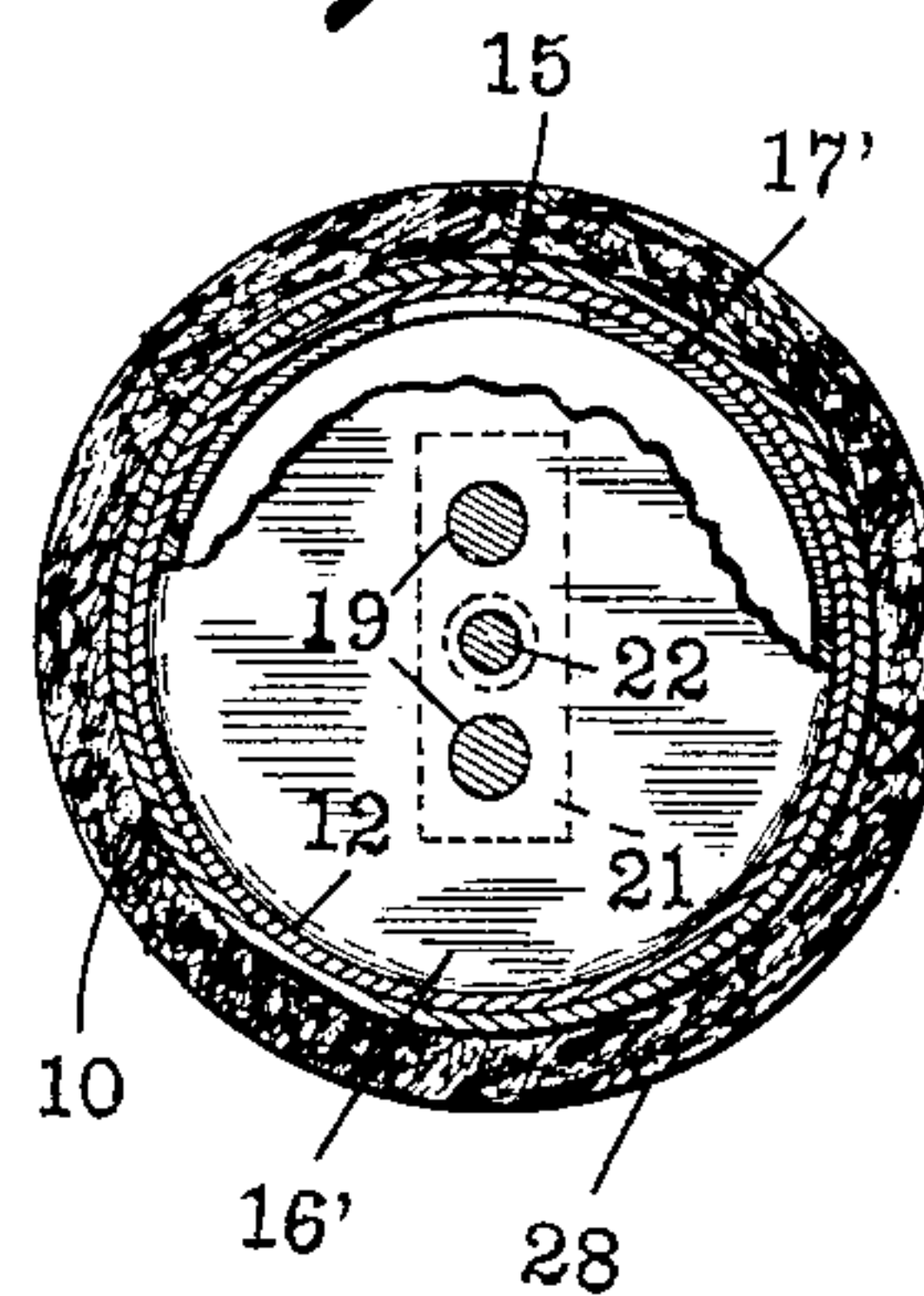


Fig. 5.

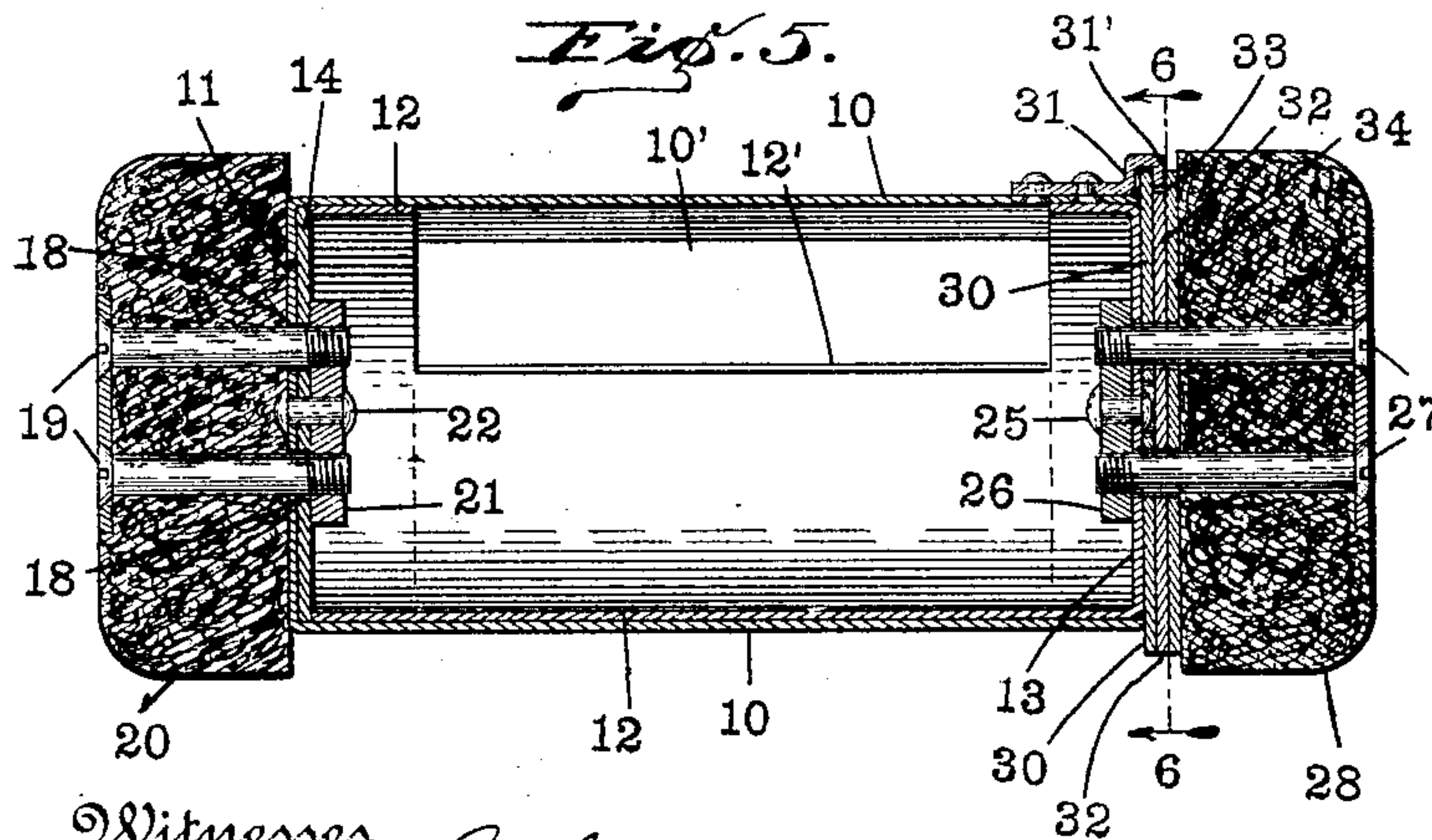
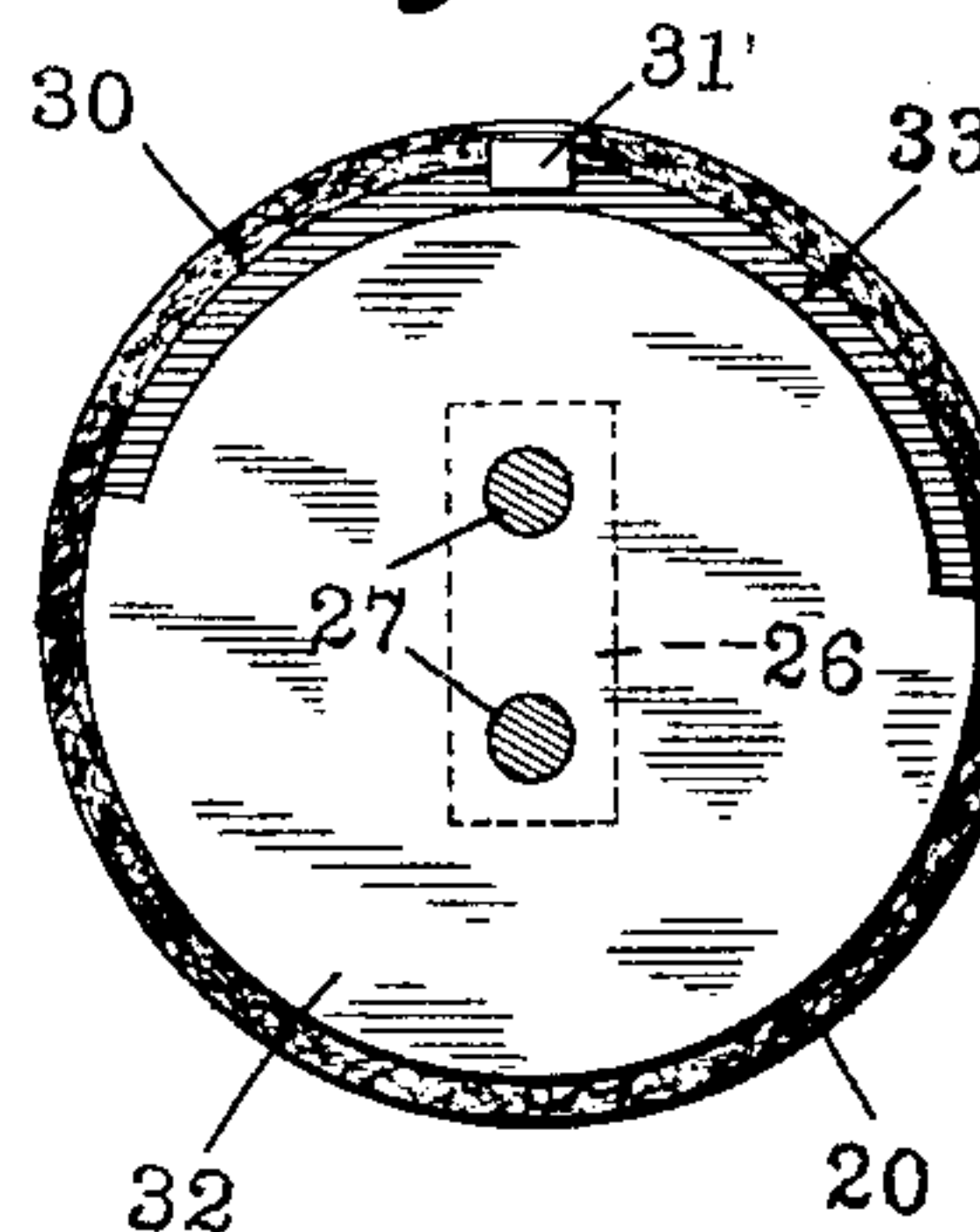


Fig. 6.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS BEMIS, OF INDIANAPOLIS, INDIANA.

PNEUMATIC CARRIER.

No. 803,388.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed August 14, 1905. Serial No. 274,083.

To all whom it may concern:

Be it known that I, THOMAS BEMIS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Pneumatic Carriers, of which the following is a specification.

In the operation of pneumatic cash-service systems the carrier within which the cash is placed forms a very important feature, it being necessary to provide a carrier of such form that the cash may be quickly inserted and withdrawn, yet such that when the carrier is closed it cannot be accidentally opened so as to permit the cash to drop out. At the present time the form of carrier most commonly used consists of a pair of telescoping tubular portions, one rotatable within the other and each provided with a longitudinal receiving-opening which may be brought into registry or thrown out of registry by a relative rotative movement of the shells one within the other. In this form of carrier the inner tubular portion is provided with a projecting lug or finger which is firmly riveted thereto and extended into the longitudinal opening of the outer section, the said longitudinal opening of the outer section being provided in the line of travel of the projecting lug with transverse extensions into which the lug may be carried, so as to permit complete registry of the openings of the two telescoping sections. The provision of these transverse extensions of the opening of the outer shell weakens it materially, so that in the course of time it is not unusual that the lug springs the outer shell sufficiently to pass into the interior of the shell, thus splitting the outer shell and ruining the carrier. The construction described also makes it impossible to separate the two sections of the carrier for the purpose of repair.

The object of my present invention is to produce a carrier of such form that its two telescoping members may be readily disassociated and reassociated, to provide such a construction as to prevent accidental longitudinal withdrawal or disassociation of the parts, to provide means for limiting the rotative movement of one shell within the other without the necessity of widening the longitudinal openings of the telescoping members and the consequent weakening of the outer member, to provide means for preventing one member from wearing the other in such manner as to cause destructive cutting thereof, and to pro-

vide such other improvements in details of construction as shall be hereinafter pointed out.

Figure 1 is an axial section of a carrier constructed in accordance with my invention; Fig. 2, a transverse section on line 2 2 of Fig. 1; Fig. 3, an axial section of a modified form of carrier; Fig. 4, a section on line 4 4 of Fig. 3; Fig. 5, a longitudinal section of another modified form of carrier, and Fig. 6 a section on line 6 6 of Fig. 5.

In the drawings, 10 indicates the outer tubular member, provided with a head 11 at one end, this head being integral with the body, as shown, or being attached thereto in any desired manner. The carrier member 10 is provided with an intermediate longitudinal opening 10', through which the cash may be introduced and withdrawn. Telescoped within the carrier member 10 is the inner carrier member 12, having a head 13 and a cash-opening 12', the construction of this carrier member being substantially identical with that of member 10, except that its external diameter is substantially equal to the internal diameter of the outer member, and the inner member is slightly shorter than the outer member to permit the introduction of a steel wearing-plate 14, said plate having a diameter substantially equal to the internal diameter of the member 10, so that the inner open end of the inner member when the parts are assembled will engage this plate, the wear due to rotation of one member with the other being taken by this plate instead of by the thin head 11 of the outer member 10. The construction described thus far is the same in all three of the forms shown in the drawings.

Referring now especially to Figs. 1 and 2, in this form I secure either by soldering, riveting, or otherwise to the interior of the inner member 12 at its open end a small lug 15. I also provide the flanged cap 16, the external diameter of which is substantially equal to the internal diameter of member 12, so that it will fit nicely the interior of said member, but may be introduced through the openings 10' 12', if desired. This cap 16 is preferably formed of sheet metal and is provided on its periphery with a depression or portion of reduced radius 17, adapted to receive the lug 15. The depression 17 is of such length that when the lug 15 is at one end of the depression the openings 10' and 12' will be in registry, and when the lug 15 is at the other end of the depression 17 the said openings

will be entirely out of registry. The head 11, plate 14, and cap 16 are provided with aligned bolt-openings 18 upon opposite sides of the center, so that screws or bolts 19, which pass through the usual felt head 20, may pass through these opening 18 into a double nut 21. This double nut is preferable to two single nuts, because any amount of vibration cannot produce rotation of the nut upon the bolts. For convenience and security I prefer to rivet the nut 21 to the cap 16 by means of a rivet 22, so that the nut cannot become disassociated from the cap. At the opposite end of the carrier shown in Fig. 3 I provide a steel plate 24, which is secured to the end 13 of the carrier-section 12 by means of a rivet 25, which also serves to secure the double nut 26 to the inside of said head. The plate 24 has a diameter approximately equal to the external diameter of the outer section 10, so that its open end may engage said plate and wear against it. Bolts 27 pass through the felt head 28 into the double nut 26. It will be noticed that in this construction the two sections 10 and 12 may be disassociated by withdrawing screws 19 from nut 21, this action permitting the removal of the felt head 20 and the consequent freeing of the cap 16, whereupon the two shells may be withdrawn from each other longitudinally.

In the construction shown in Figs. 3 and 4 the cap 16' takes the place of the cap 16, the only difference being that instead of stamping a depression 17 the material of the cap is removed through a portion of its corner, so as to form a slot 17', into which the lug 15 may enter and in which it may travel.

In the construction shown in Figs. 5 and 6 the wearing-plate 14 and double nut 21 are secured to the head 11 by the rivet 22. In this form the two sections of the carrier are normally held together longitudinally by the following mechanism: The double nut 26 is secured to the head 13 of the inner member 12 by a rivet 25, (as in the other constructions.) In place of the plate 24, however, I provide a plate 30, the diameter of which is greater than the external diameter of the exterior carrier member 10, and secured to the exterior carrier member by rivets or otherwise is a hook 31, the inturned finger 31' of which embraces the plate 30, so that when the bolts 27 are passed through said plate into nut 26 the finger member 31 31' serves to prevent longitudinal withdrawal of the two carrier members. Any suitable means may be provided to limit the rotative movement of one drum within the other; but I prefer the provision of a plate 32, through which the bolts 27 pass. This plate is provided in its periphery with a notch 33 of such length as to properly limit the rotative movement of the carrier members, and in order to protect the felt head 28 I prefer to provide a third plate 34 of a diameter substantially equal to that of

the other plates, although it will be readily understood that this plate 34 is not absolutely essential. With this form it will be noticed that by withdrawing bolts 27 from nut 26 and withdrawing the head 28 the plates 34 and 32 will draw off with the head, while the plate 30 will be held in position by the finger member. So soon as the bolts 27 have been drawn out of this plate 30 it may be shifted transversely enough to be withdrawn from the finger member 31, whereupon the internal carrier member 12 may be withdrawn.

I claim as my invention—

1. A cash-carrier for pneumatic-service systems consisting of a pair of telescopic tubular members, one rotatable within the other and each having a medial longitudinal opening, which openings may be brought into registry, and a pair of interacting stop members one carried by each of the telescoping members to limit rotative movement thereof, means for detachably securing one of said stop members to its carrier member, said stop members interengaging to normally prevent longitudinal separation of the carrier member, and a wearing-plate interposed between the head of the outer member and the inner end of the inner member.

2. A carrier for pneumatic-service systems, consisting of a pair of telescoping cylindrical members each having a head at one end and a medial longitudinal receiving-opening, an inwardly-projecting lug carried near the inner open end of the inner member, a cap lying within said inner member and detachably secured to the outer member, said cap and lug interengaging to normally prevent longitudinal separation of the cylindrical members and to limit relative rotative movement thereof.

3. A carrier for pneumatic-service systems, consisting of a pair of telescoping cylindrical members each having a head at one end and a medial longitudinal receiving-opening, an inwardly-projecting lug carried near the inner open end of the inner member, a cap lying within said inner member and detachably secured to the outer member, said cap and lug interengaging to normally prevent longitudinal separation of the cylindrical members and to limit relative rotative movement thereof, and a wearing-plate interposed between the head of the outer member and the inner end of the inner member.

4. A carrier for pneumatic-service systems, consisting of a pair of telescoping cylindrical members each having a head at one end and a medial longitudinal receiving-opening, a cap mounted within the inner member and detachably secured to the outer member and interengaging with the inner member to limit relative rotative movement of the members and normally prevent longitudinal separation.

5. A carrier for pneumatic-service systems, consisting of a pair of telescoping cylindrical

members each having a head at one end and a medial longitudinal receiving-opening, a cap mounted within the inner member and detachably secured to the outer member and inter-
5 engaging with the inner member to limit relative rotative movement of the members and normally prevent longitudinal separation, and a wearing-plate interposed between the head of the outer member and the inner end of the
10 inner member.

6. A carrier for pneumatic-service systems, consisting of a pair of telescoping cylindrical members each having a head and a medial longitudinal receiving-opening, an inwardly-
15 projecting lug carried by the open inner end of the inner member, a cap 16 having a peripheral lug-receiving depression 17 mounted within the inner member, and means for detachably securing said cap to the outer mem-
20 ber whereby, when said cap is secured to its member the relative rotative movement of the cylindrical members will be limited and longitudinal separation thereof prevented.

7. A carrier for pneumatic-service systems,
25 consisting of a pair of telescoping cylindrical members each having a head and a medial longitudinal receiving-opening, an inwardly-projecting lug carried by the open inner end of the inner member, a cap 16 having a pe-

ripheral lug-receiving depression 17 mounted 30 within the inner member, and means for detachably securing said cap to the outer member whereby when said cap is secured to its member the relative rotative movement of the
35 cylindrical members will be limited and longitudinal separation thereof prevented, and a wearing-plate interposed between the head of the outer member and the inner end of the inner member.

8. A carrier for pneumatic-service systems, 40 consisting of a pair of telescoping cylindrical members each having a head at one end and a medial longitudinal receiving-opening, a cap lying within said inner member and detach-
45 ably secured to the outer member, and interengaging portions carried by the cap and inner member to restrain longitudinal movement of the two members, and a wearing-plate interposed between the head of the outer mem-
50 ber and the inner end of the inner member.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 11th day of August, A. D. 1905.

THOMAS BEMIS. [L. s.]

Witnesses:

ARTHUR M. HOOD,
JAMES R. HAWKES.