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F. C. SCHOENTHALER, JR.

BUSHING FOR BARRELS.

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NO MODEL.

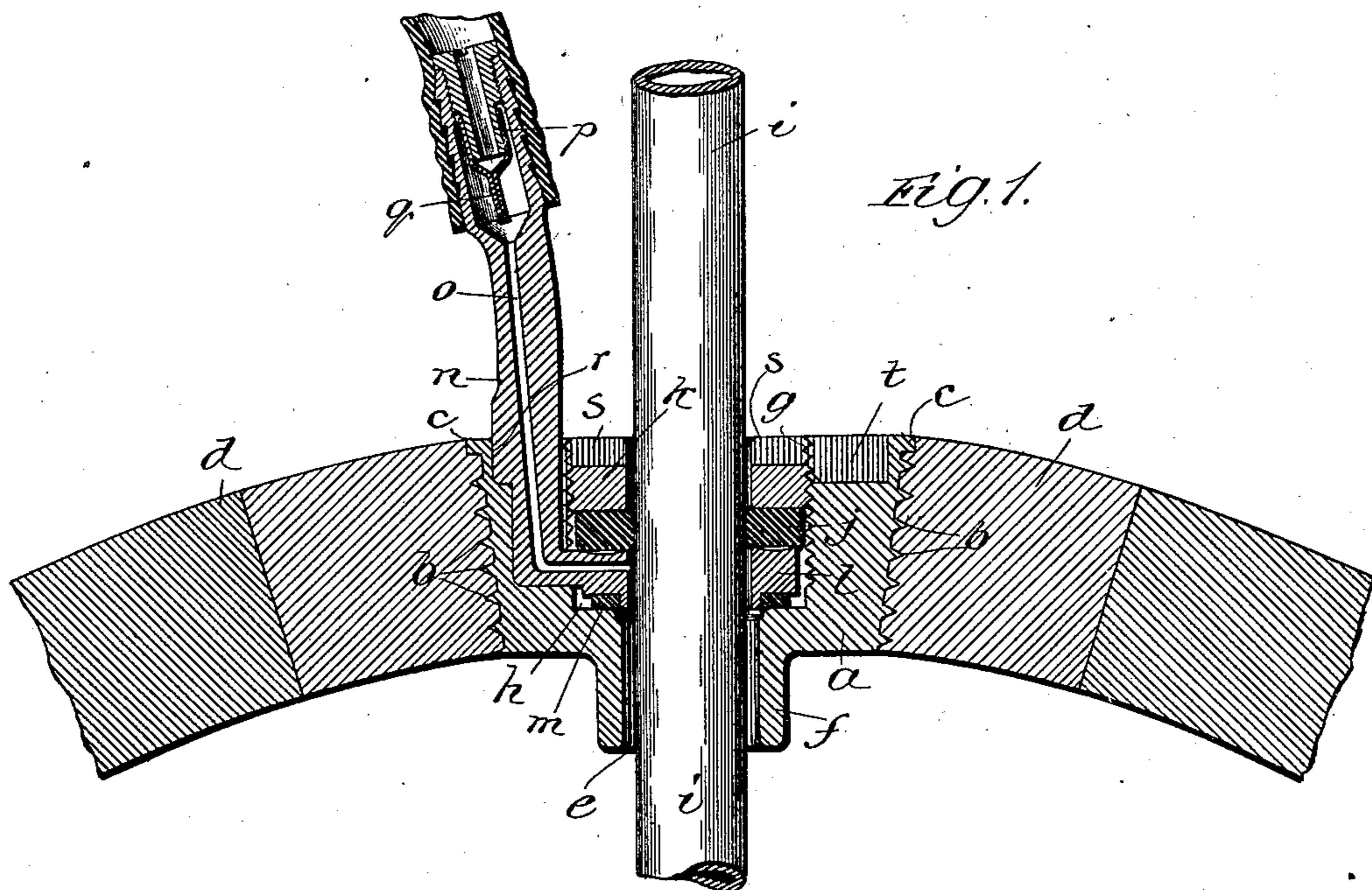


Fig. 2.

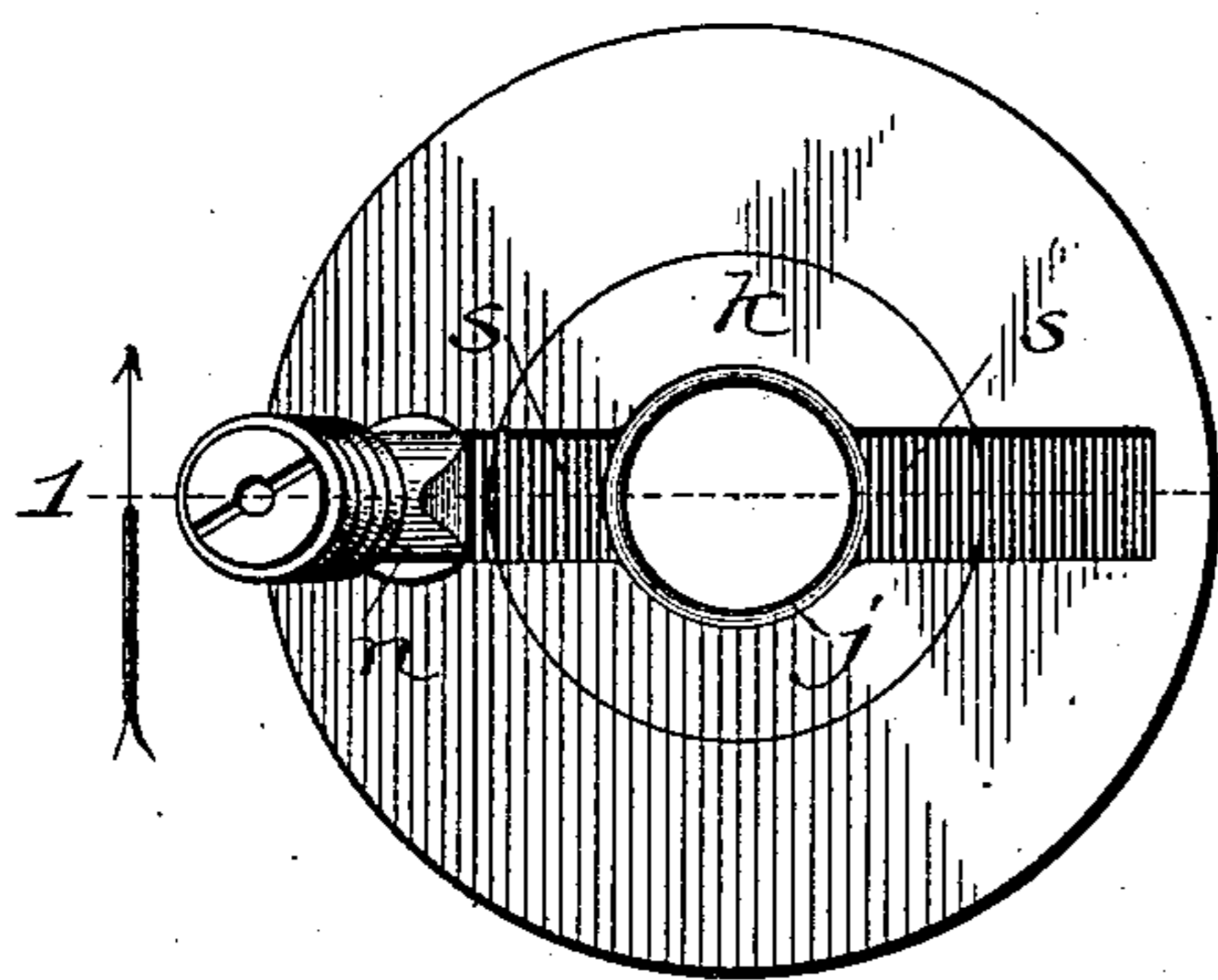


Fig. 3.

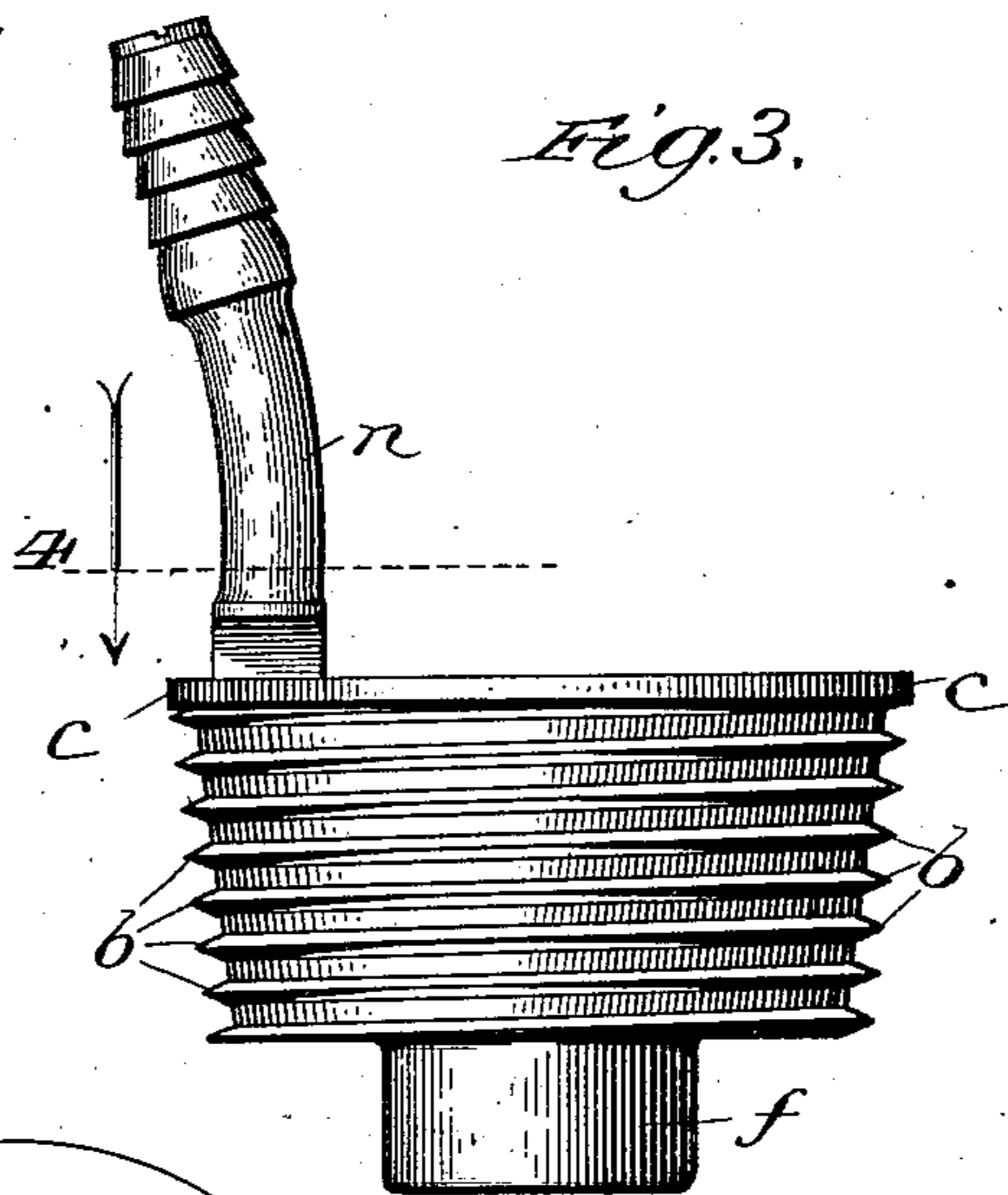
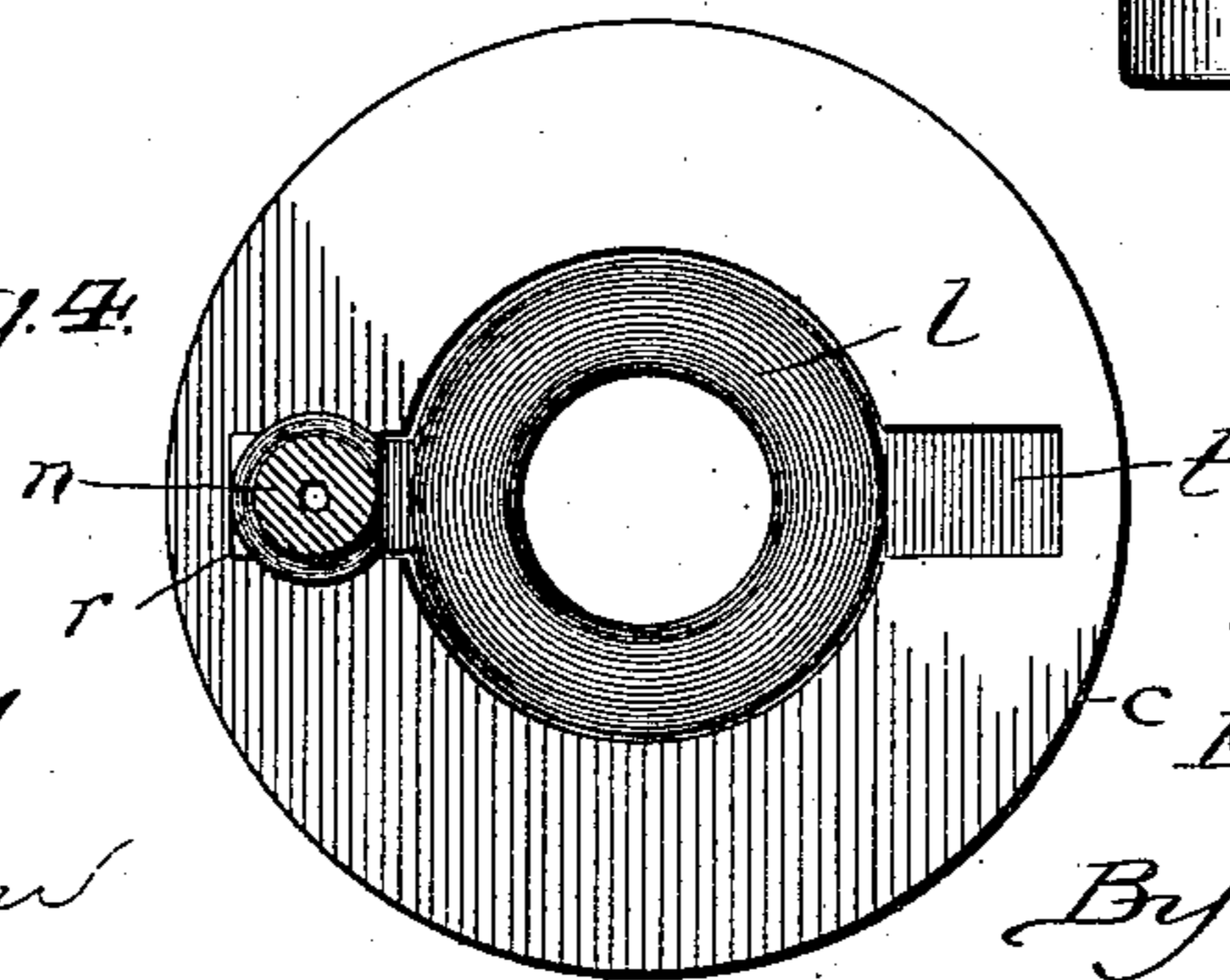


Fig. 4.



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UNITED STATES PATENT OFFICE.

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BUSHING FOR BARRELS.

SPECIFICATION forming part of Letters Patent No. 723,553, dated March 24, 1903.

Application filed February 6, 1902. Serial No. 92,813. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. SCHOENTHALER, Jr., a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bushings for Barrels, of which the following is a specification.

This invention relates to that class of bushings which are adapted to be used for barrels containing liquids—such as ale, beer, and the like—and to the particular construction of bushing which partakes of the function of both bush and faucet, so that it can be used economically and efficiently to draw the liquid out of the barrel, as will more fully hereinafter appear.

The principal object of the invention is to provide a simple, economical, and efficient bushing for beer-barrels.

Other objects of the invention will appear from an examination of the drawings and the following description and claims.

The invention consists principally in the combination of a bushing provided with a central axial opening for the insertion of a discharging-tube, a ring inserted in such axial opening and provided with an air-supply passage, and means for holding the parts in operative position.

The invention consists, further, in the combination of a bushing provided with an axial stepped passage, a removable ring provided with an air-passage resting in such axial passage, and screw mechanism for holding the parts in operative position.

The invention consists, further, in the combination of a bushing provided with an axial stepped passage for the insertion of a discharging-tube, the bottom having a smooth bore and the upper a larger threaded bore, a removable ring provided with an upwardly and outwardly extending stem containing an air-passage, a cushioning sealing-ring, and a screw-nut for holding the parts in operative position.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of a bushing in

position in connection with the walls of a beer-barrel; Fig. 2, a plan view of the bushing removed from the barrel looking at it from above; Fig. 3, a side elevation of the same, and Fig. 4 a plan view of the bushing with the locking-nut removed and showing the air-tube in cross-section on line 4 of Fig. 3.

In the art to which this invention relates it is well known that manufacturers of beer kegs and barrels provide the same with a metallic bushing into which the ordinary plug may be driven to seal the barrel and that in use this plug must be removed and a faucet or similar element for the withdrawal of liquid substituted in place thereof. It is also well known that the manufacture of the bush and faucet plugs is very expensive in that they are made in two separate and independent parts containing a number of pieces, so that the combined cost of all these pieces when made in large quantities amounts to a large sum. Further, it is sometimes very difficult and annoying to place the faucet-plug in operative position in that it projects considerably beyond the package, which renders it liable to injury and disturbance.

My invention therefore is intended, primarily, to remove the above-noted objections by providing a bushing which is, in effect, a compound bush and faucet—that is, one compact mechanism which accomplishes the functions, advantages, and results of a bushing and faucet plug, dispensing largely with the annoyance attendant on the use of the ordinary bush and bung. It will also be noticed that the mechanism is very compact and does not in any way project to materially affect the handling of the package, and finally that it is simple in construction, economical to manufacture, and efficient in operation, all of which will more fully hereinafter appear.

In constructing a bushing in accordance with these improvements I provide a bushing portion *a*, screw-threaded on its outer periphery, as at *b*, and having an upper annular shoulder or flange portion *c*, the whole adapted to be screw-threaded into engagement with the walls *d* of a beer-barrel or similar element, as shown particularly in Fig. 1.

The bushing is provided with a central axially-disposed stepped opening having a passage *e*, as shown in Fig. 1, of two diameters, the

lower diameter being a smooth bore and terminating in the tubular projection *f* at the lower end of the bushing, while the upper and larger diameter of this axial bore is screw-threaded, as at *g*, the end at or near a shoulder *h* intermediate the smooth and threaded bores.

It is desirable to provide means by which the liquid may be withdrawn from the package. To accomplish this result, a discharge tube or pipe *i* is provided and passed through the axial opening of the bushing. In order to hold this in place, screw mechanism is provided, consisting of a rubber or cushioning washer *j* and a ring-nut *k*. The ring-nut engages the threaded bore of the bushing, forces the cushioning-washer downwardly, spreading it at the same time, so as to firmly clasp the discharging-tube, hold it in position, and seal the opening against the discharge of liquid. It is also desirable to supply air under pressure to the package, so as to force the liquid out through the discharge-tube. To accomplish this, I provide a removable ring *l*, which is arranged in the stepped axial opening and against the shoulder thereof, the lower portion of which is preferably provided with a sealing-seat *m*, similar to a valve-seat, to form a seal between the ring and the shoulder, such seat being preferably formed of rubber. This ring has formed integral therewith and extending outwardly and upwardly therefrom an L-shaped tubular projection *n*, having an air-passage *o* extending through such portion and ending at the inner bore of the ring, which inner bore is of slightly-larger diameter than the discharge-tube, so that air may enter the space between the ring and the discharge-tube, and thence through the passage *e* under the package to be used whenever desirable or necessary for the forcing out of the liquid. The upper part of this air-passage is provided with a nipple *p*, which contains a threaded plug provided with a check-valve *q*, formed of a flattened rubber tube, which permits the introduction of air under pressure, but prevents it or any liquid from escaping. It is desirable that this ring, with its air-tube, should be prevented from rotating in order to economize space. To accomplish this result, one portion of the walls of the bushing is slotted or grooved, as at *r*, so as to permit the air-tube to enter therein and act to hold it firmly in position against rotation. The ring-nut should be slotted, as at *s*, so that a proper wrench may be used to place it in position or remove it therefrom. The bushing should also have a second slot *t* opposite the groove *r*, so that a wrench could also be used successfully here for the insertion or removal of the bushing, it being understood, of course, that the bush is put in position after the barrel is made and that it is oftentimes necessary to remove it therefrom for purposes of repair and renewal.

In operation the bushing is supplied by the

manufacturer and a cork or plug driven in the passage *e*, which prevents any liquid from escaping. The ring, with its air-tube, is removed, so that as no air can pass through the walls of the bushing there is no danger of any liquid escaping. The user is supplied with one of these rings and air-tubes, which he can use with any number of barrels, and as this ring and tube are only in place when the barrel is used it will be seen that the package can be handled without any disagreeable effects to the hands or annoyance to the operator.

I claim—

1. In mechanisms of the class described, the combination of a bushing provided with an axial opening adapted to receive a fluid-discharging tube and having an opening there-through between the discharge-tube and the periphery of the bushing, a removable ring inserted entirely within such bushing held against rotation and provided with an air-inlet passage extending therethrough, and means for holding the ring and other parts in position, substantially as described.
2. In mechanisms of the class described, the combination of a bushing provided with an axial stepped opening adapted to receive a discharging-tube, an inwardly-extending annular shoulder formed by the wall of such stepped opening, a ring resting against the shoulder of such stepped opening and held against rotation and provided with an air-passage extending therethrough, and a ring-nut engaging with the bushing for holding the parts in operative position, substantially as described.
3. In mechanisms of the class described, the combination of a threaded bushing provided with a stepped axial opening adapted to receive a discharging-tube, the lower part of such opening being a smooth bore and the upper part a larger internal-threaded bore, a ring provided with an outwardly or upwardly extending tube containing an air-passage extending therethrough arranged to rest against the shoulder in such bushing and be prevented from rotation, a cushioned washer resting against such ring, and a ring-nut engaging the threaded bore of the bushing for holding the parts in position, substantially as described.
4. In mechanisms of the class described, the combination of a threaded bushing provided with a stepped axial opening adapted to receive a discharging-tube, the lower part of which is a smooth bore and the upper part a larger internal-threaded bore, the walls of such stepped passage forming an annular shoulder, a removable ring in such stepped opening provided with an air-tube and passage and resting against the shoulder of the axial passage, a cushioned washer resting against such ring, and a ring-nut in the threaded bore of such bushing to hold the parts in position, substantially as described.
5. In mechanisms of the class described, the

combination of a threaded bushing provided with an axial stepped opening, the lower part of which is a smooth bore and the upper part a larger internal-threaded bore and provided with a radial groove, a loose ring removably held in position in such passage and provided with an upwardly-extending air-tube arranged in the radial groove of the bushing by which it is held against rotation and provided with an air-passage extending there-
 10 through, a cushioned washer resting against the removable ring, and a ring-nut engaging the threaded bore of the bushing to hold the parts in position, substantially as described.

6. In mechanisms of the class described, the combination of a threaded bushing provided with an axial stepped bore, the lower part of which is a smooth bore and the upper part a relatively larger internal-threaded bore con-
 20 taining a radial groove, a removable ring provided with a sealing-seat resting against the shoulder of the axial bore, an upwardly-extending air-tube resting in the radial groove of the bushing by which it is held against ro-
 25 tation and containing an air-passage extending therethrough and through the ring, a cushioned washer resting against the removable ring, a ring-nut engaging the threaded bore of the bushing contacting the cushioned
 30 washer to hold the parts in position, and a check-valve in the air-tube, substantially as described.

7. In mechanism of the class described, the combination of a bushing provided with an
 35 axial opening adapted to receive a discharge-tube and provided with a radial groove in the inner walls of such bushing for forming an inlet-passage, a removable ring mounted in

such bushing and provided with an air-pas-
 sage extending therethrough and having an
 40 outwardly-extending arm provided with an air-inlet passage therethrough communicat-
 ing with the air-passage in the ring and ex-
 tending out through the radial groove in the
 bushing, and means for holding the parts in
 45 operative position, substantially as described.

8. In mechanisms of the class described, the combination of a bushing provided with an axial opening, a fluid-discharge pipe extend-
 ing therethrough, a removable ring provided
 50 with an outwardly-extending tube having an air-inlet passage extending through it and
 such tube such ring being arranged entirely within the axial opening of such bushing and
 intermediate it and the discharging-tube, and
 55 means for sealing and holding the removable ring and fluid-discharge pipe in position, sub-
 stantially as described.

9. In mechanisms of the class described, the combination of a bushing provided with an
 60 axial opening, a fluid-discharging pipe there-
 in, a removable ring provided with an out-
 wardly-extending tube having an air-inlet
 passage extending through it and said tube
 such ring being arranged entirely within the
 65 axial opening of such bushing and interme-
 diate it and the fluid-discharging tube, a
 cushioning-washer for sealing and holding
 such fluid-discharging pipe and removable
 ring in position, and means for compressing
 70 said washer to operatively hold the parts in
 position, substantially as described.

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Witnesses:

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