

No. 780,125.

PATENTED JAN. 17, 1905.

F. PENTLARGE.
TAPPING APPARATUS.
APPLICATION FILED JULY 30, 1904.

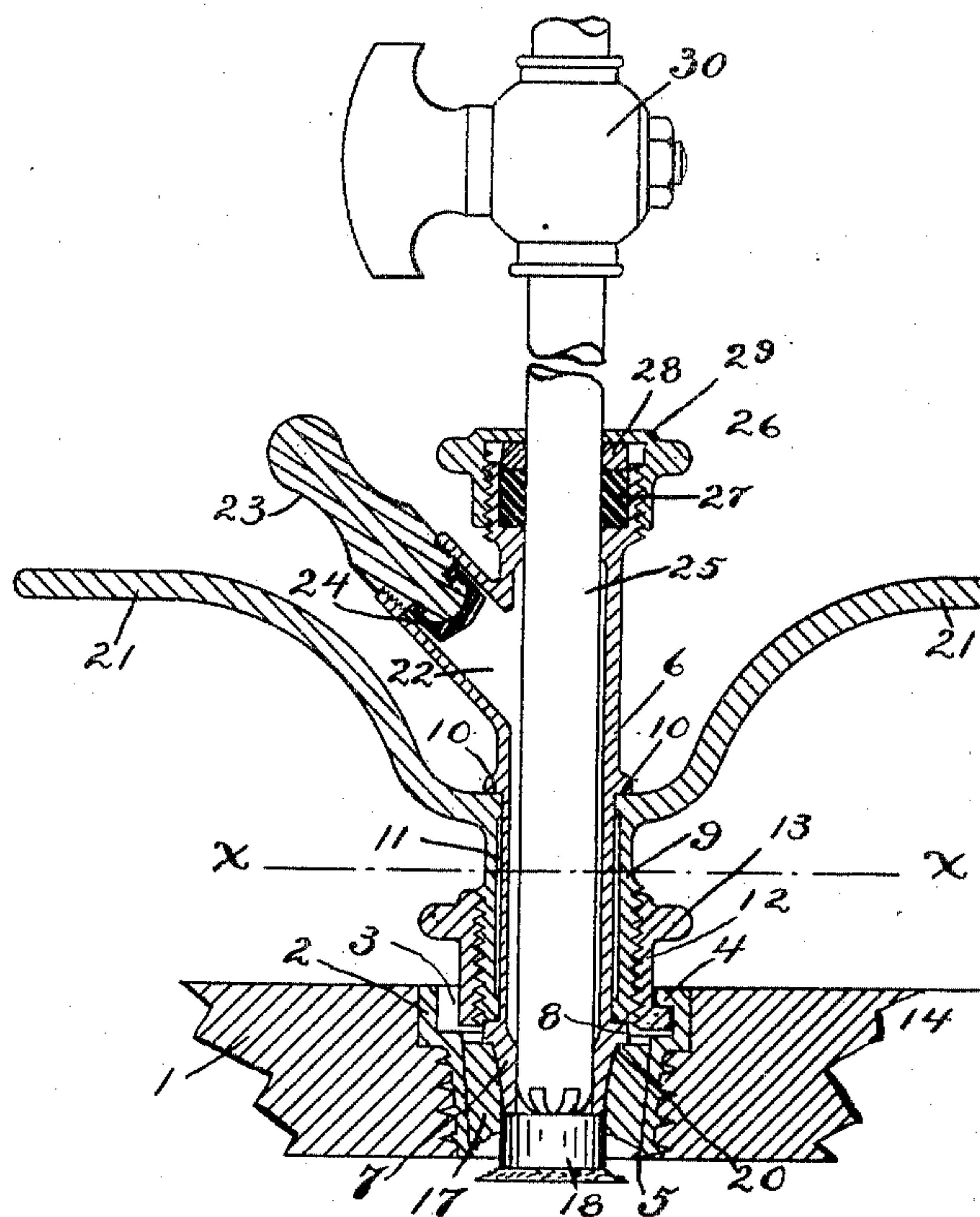


Fig. 1.

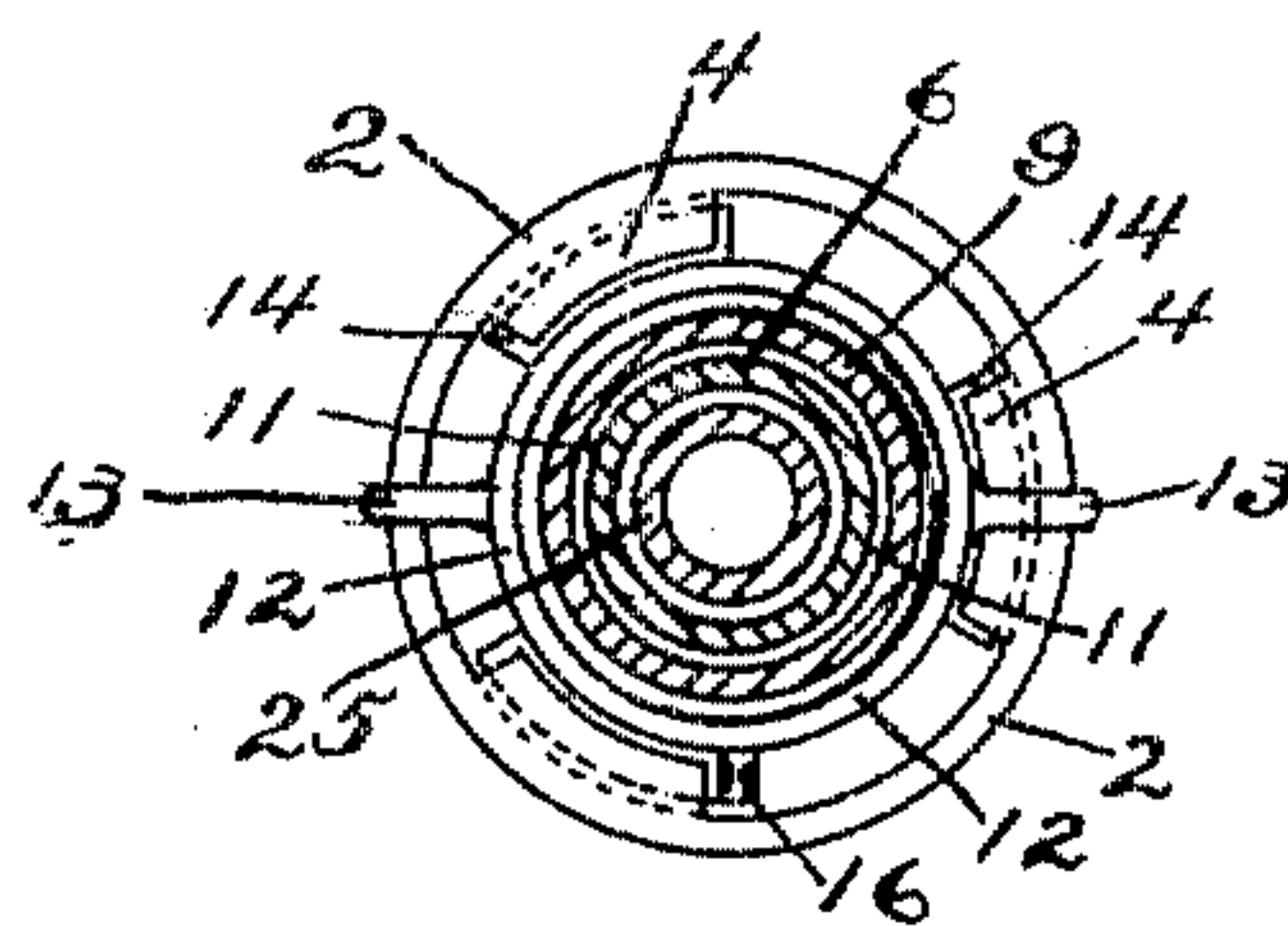


Fig. 3.

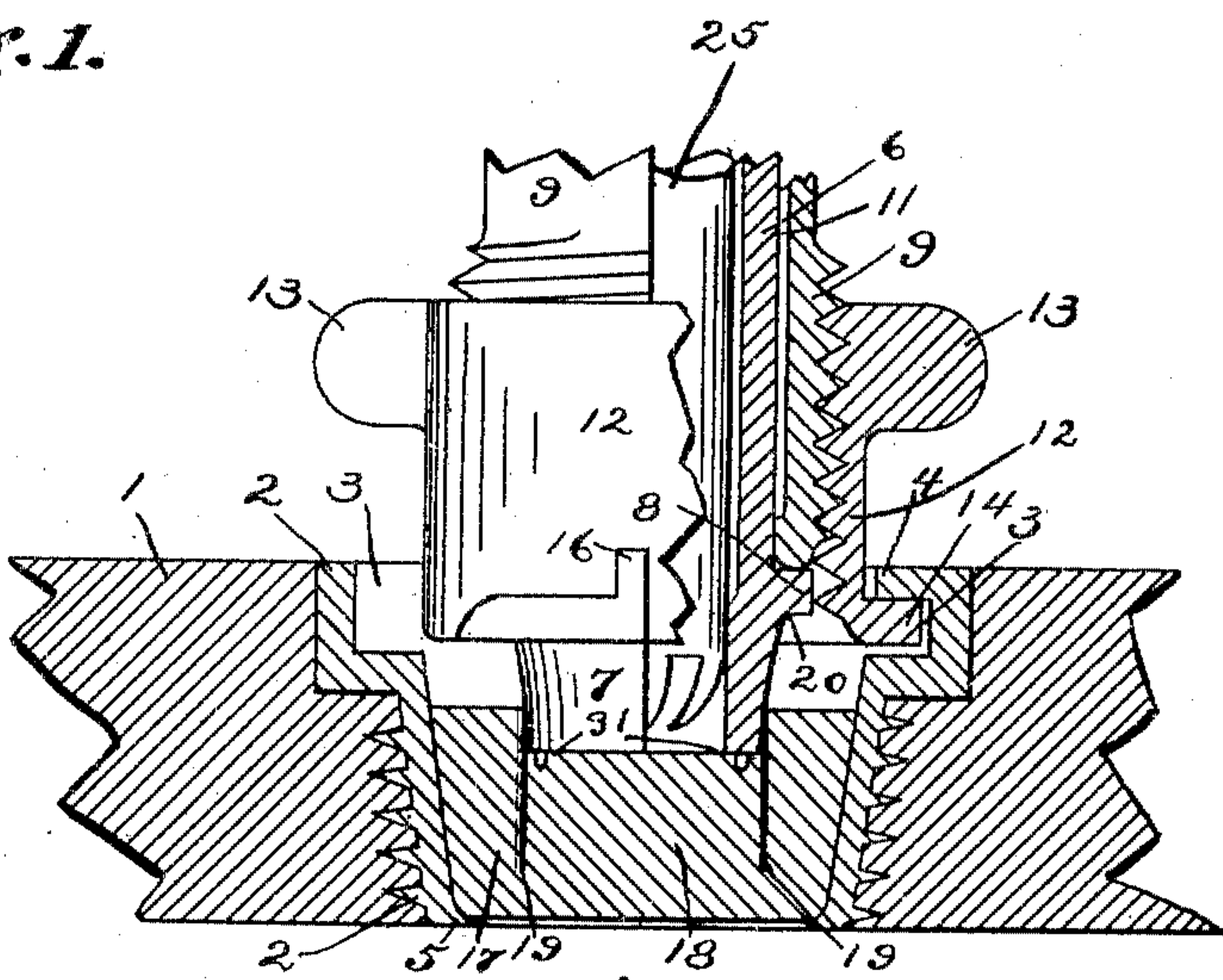


Fig. 2.

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FREDERICK PENTLARGE, OF CINCINNATI, OHIO, ASSIGNOR TO THE
UNITED STATES BUNG MANUFACTURING COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF NEW YORK.

TAPPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 780,125, dated January 17, 1905.

Application filed July 30, 1904. Serial No. 218,909.

To all whom it may concern:

Be it known that I, FREDERICK PENTLARGE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Tapping Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My improvements relate to apparatus for readily and easily tapping barrels, kegs, and other liquid-receptacles for the removal of the liquid contents; and the improvements have particular relation to that construction of tapping apparatus set forth and described in that certain pending application for Letters Patent of the United States, Serial No. 158,137, filed by the said Frederick Pentlarge and John H. Vehr.

The special purpose of the present invention is to provide means for advancing the plunger to start the core of the bung without rotating the plunger, whereby the necessity of disconnecting the air-tube from the apparatus is avoided, so that the apparatus may be instantly removed from one barrel and connected with another without trouble; and as a further object the improvements have relation to the means provided for advancing the plunger to its annular seat on the bung positively without rotation, whereby friction is largely avoided and a positive air-tight connection between plunger and bung is obtained with the expenditure of very little power as compared with what is necessary to obtain a tight connection where the plunger is rotated upon the seat.

In the drawings, Figure 1 is a central vertical section of the apparatus with the plunger seated on the bung ready for tapping. Fig. 2 is a similar section, partly in elevation, before the plunger is advanced to its seat. Fig. 3 is a cross-section taken on the lines *x x* of Fig. 1.

1 is a portion of the head of the barrel or keg, provided with a faucet-opening in which is secured, flush with the outer and inner surface of the head, the bung-bushing 2 of the

ordinary size. This bushing is enlarged at its outer portion to form an annular recess 3 and is provided with reëntering flanges or shoulders 4 4, while its inner edge is provided with a flange 5 to hold the annular portion of the bung under the pressure of the plunger.

6 is the plunger, tubular in construction and provided with a slightly-conical driving portion or nose 7. Above this driving end portion the plunger is formed with an annular flange 8, upon which is mounted the driving-sleeve 9, free to rotate on the plunger-tube and held in position by the flange 8 below and the flange 10 above, while in order to avoid too much friction in this rotation the driving-sleeve is cored at 11 to present only bearing-surfaces between sleeve and plunger at top and bottom, and it is also rounded off at the bottom where it contacts with the flange 8. The under surface of the flange 8 merges into the conical surface of the plunger to form an annular shoulder 20 to seat itself on the bung, as will be hereinafter described.

The driving-sleeve 9 is screw-threaded to engage the correspondingly-threaded coupling-sleeve 12, which coupling-sleeve is provided with ears 13 13 for conveniently turning same. This coupling-sleeve is connected to the bushing by means of a bayonet-lock, which consists of lugs 14 14 on the coupling-sleeve to engage under the corresponding lugs 4 4 on the bushing, and 16 is a pin on the sleeve to form a stop when the sleeve is locked to the bushing.

17 is the bung, which has been driven into the bushing to seal the barrel when filled. The central portion or core 18 of this bung has been partially severed from the bung by the annular cut 19, so that the core can be readily broken away from the bung proper by the plunger, but leaving the core to serve as a central plug until finally dislodged and driven into the barrel, as will be hereinafter described.

21 21 are handles extending out radially from the upper portion of the driving-sleeve 9, by means of which the driving-sleeve is rotated.

22 is the air-inlet tube for discharging the

contents of the barrel by compressed air, opening into the plunger-tube 6 above the driving-sleeve and provided with the nipple 23 for securing the usual flexible air-pipe thereto, and this nipple is provided with a rubber valve 24 of the usual construction to prevent any escape of air through the nipple when the air-pipe is disconnected.

25 is the siphon or faucet tube, which passes down through the center of the plunger, a tight joint being formed between plunger and tube by the stuffing-box 26, consisting of the packing 27, packing-ring 28, and packing nut or cap 29, screw-threaded on the upper end of the plunger. The siphon-tube is provided with the usual petcock 30 and connections for the pump or discharge-pipe.

When it is desired to use the tapping apparatus, the coupling-sleeve 12 is locked to the bushing by the bayonet-lock, with the nose of the plunger resting on the core 18 of the bung, as shown in Fig. 2. The driving-sleeve is then rotated by turning the handles 21, and as the coupling-sleeve is locked in position this rotation advances the plunger, so that the plunger-nose breaks away the core 18 from the bung, but without entirely dislodging it. Under this movement the plunger advances without rotation, and consequently the air-pipe couplings do not have to be disconnected. In order to insure this non-rotation of the plunger initially, I preferably provide teats 31 on the lower end of the plunger to engage the surface of the bung-core.

With the breaking away of the core of the bung the curved annular shoulder 20 of the plunger is brought down tightly on the ring portion of the bung, compressing it between plunger and the shoulder 5 of the bushing, thus forming an air-tight joint between the bung and plunger without the use of any packing, and as the distance from the driving end of the plunger to the shoulder 20 is less than the thickness of the bung-core this tight seat for the plunger in the bung is obtained before the bung-core is dislodged, as shown in Fig. 1. The faucet-tube is then pushed down on the core, and a slight tap or two is all that is necessary to force the bung-core into the barrel without disturbing the contents of the barrel by hammering on the bung.

With the construction shown for advancing

the plunger without rotation not only is any disconnection of the air-pipe couplings dispensed with, but friction in seating the plunger on the bung is largely avoided, so that much less force is required to obtain an air-tight joint between plunger and bung.

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

1. In a tapping apparatus, a plunger having an annular shoulder and a reduced bung-core-driving end, a driving-sleeve loosely secured to the plunger, a coupling-sleeve for locking said driving-sleeve and plunger to the bushing, and means for advancing said driving-sleeve to advance the plunger without rotation, for starting the bung-core and effecting a seal between the said shoulder and the bung, and means for thereafter dislodging the bung-core.

2. In a tapping apparatus, a plunger having an annular shoulder and a reduced bung-core-driving end, a driving-sleeve mounted to rotate on the plunger with flanges on the plunger to hold the driving-sleeve in place, a coupling-sleeve screw-threaded on the driving-sleeve with means for locking the coupling-sleeve to the bushing, means for rotating the driving-sleeve in the coupling-sleeve to advance the plunger without rotation, for starting the bung-core and effecting a seal between said shoulder and the bung, and means for thereafter dislodging the bung-core.

3. In a tapping apparatus, a plunger having an annular shoulder and a reduced bung-core-driving end, a driving-sleeve mounted to rotate on the plunger, with flanges on the plunger to hold the driving-sleeve in place, a coupling-sleeve screw-threaded on the driving-sleeve, lugs on the coupling-sleeve and corresponding lugs on the bushing under which they engage to lock the coupling-sleeve to the bushing, radial arms on the driving-sleeve for rotating same to advance the plunger, without rotation, for starting the bung-core and effecting a seal between said shoulder and the bung and means for thereafter dislodging the bung.

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