March 3, 1936. O. J. LEINS 2,032,995

BEER TAP

Filed Aug. 21, 1933

Fig. 1.

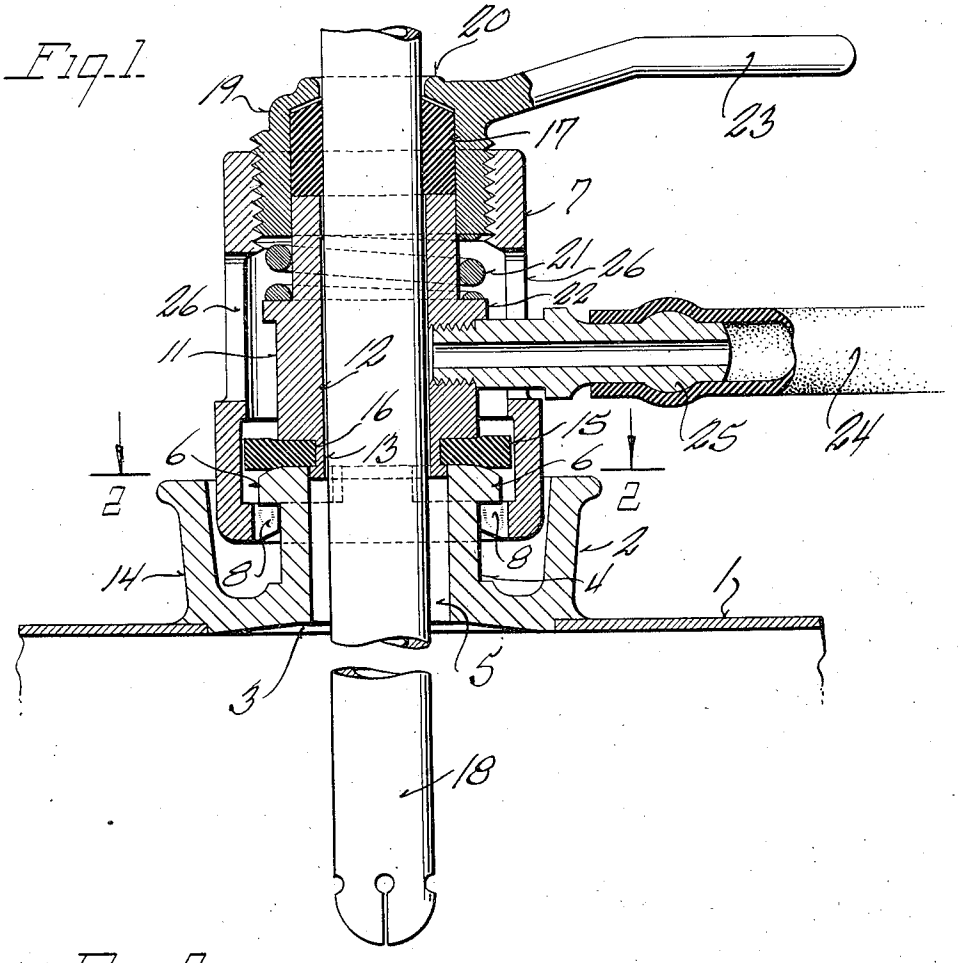
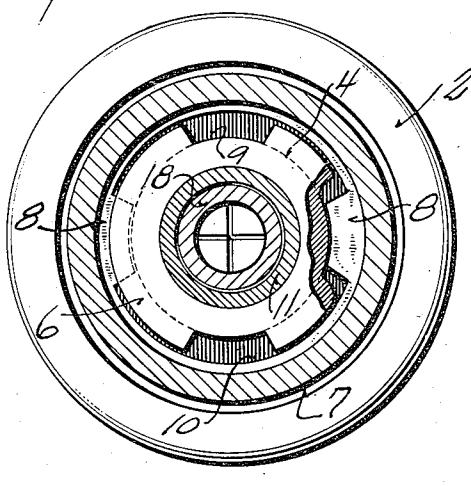


Fig. 2.



INVENTOR.
Oscar J. Leins
BY Bottums, Hudnall, Secher, McNamara & Michael,
ATTORNEYS

Patented Mar. 3, 1936

2,032,995

UNITED STATES PATENT OFFICE

2,032,995

BEER TAP

Oscar J. Leins, Milwaukee, Wis., assignor to Milwaukee Gas Specialty Company, Milwaukee, Wis., a corporation of Wisconsin

Application August 21, 1933, Serial No. 685,999

8 Claims. (Cl. 285—39)

This invention relates to an improved tap particularly adapted for connecting the delivery tube of a draft apparatus with beer barrels, whether metal, wood or composition, although the tap may be used with other liquid containers from which the contents thereof are drawn-off by a draft tube.

The general purpose and object of my invention is to provide a tap which may be readily and easily applied to the tap fitting of a beer barrel or other container for connecting the delivery tube thereto and when applied will effectively seal the joints between the tap and the tap fitting and between the tap and the delivery tube.

A further object of my invention is to provide a tap in which the packings are compressed into sealing relation with the tap fitting and the delivery tube, respectively, through the clamping means with which the tap is equipped for clamping it on the tap fitting.

A further object of my invention is to provide the clamping means with a single operable member, whereby only one element need be grasped and manipulated to connect the tap to the container and seal the tap fitting and tube joints, respectively.

Another object of my invention is to provide this single operable member with a handle or equivalent readily accessible part, not only to facilitate its operation, but to prevent the grasping of the wrong part to delay the clamping and sealing action of the tap in connecting the tube to a barrel.

Another object of my invention is to provide a spring or equivalent tension in the clamping means to effectively seal the fitting joint and to permit the sealing of that joint in advance of the sealing of the tube joint.

Other and further objects of my invention will appear from the following specification taken in connection with the accompanying drawing, in which—

Fig. 1 is a vertical sectional view with parts in elevation of a tap of my invention shown applied to the tap fitting of a metal container, and connecting a delivery tube thereto; and

Fig. 2 is a horizontal sectional view taken on line 2—2 of Fig. 1.

In the drawing, 1 indicates the top wall of a metal container, such as a steel beer barrel. 2 indicates the metal tap fitting secured to the wall 1 about the discharge opening 3 therein as in containers of this character. The fitting 2 extends outwardly from the container wall and is provided with a tubular tap connecting member 4, the bore 5 of which extends through the member and connects at its inner end with the interior of the container through the discharge opening of the latter, as shown. A plug usually in the form of a cork (not shown) is tightly fitted in the bore 5 when the filled container is shipped from the brewery. The member 4 is provided at or adjacent its upper or outer end with a plurality of laterally, outwardly extending lugs 6, 6 providing tap attaching means on the fitting as in fixtures of this type. The undersides of these lugs are preferably flat and are in the same general horizontal plane.

The tap of my invention comprises a tubular outside casing 7 having a plurality of inwardly extending lugs 8, 8 at or adjacent its lower end to engage under the lugs 6 on the fitting member 4 as shown in Fig. 1. The lugs on both elements as shown in Fig. 2, are circumferentially spaced to provide slots or spaces 9, 10, respectively, between them, whereby the lugs on the casing may pass between the lugs on the fitting on applying the tap to and removing it from the fitting. The lugs are brought into holding or clamping relation on turning the casing with respect to the fitting when the casing lugs are positioned below the fitting lugs. This provides a detachable bayonet joint connection for the tap with the fitting.

Disposed within the casing 7 is a bushing 11 having its bore 12 in register with the bore 5 when the bushing and fitting member 4 are in connected relation as shown. To center these parts, the bushing 11 has its lower end reduced, as at 13, to enter and fit in the upper end of the bore 5. The fitting 2 has an outside flange or wall 14 surrounding the member 4 and in spaced relation thereto to provide a guiding and receiving recess or socket for the lower end of the casing 7 when applying the tap to the fitting. An annular packing or gasket 15 of the desired compressible and sealing material, such as rubber, is carried by the bushing 11 adjacent its lower end 13, the latter having an annular recess 16 on its outer side to receive and hold the gasket. This gasket is adapted to seat on the upper end of the member 4 to seal the joint between the bushing and said member when the gasket is compressed against the member by the bushing in the clamping of the tap on the fitting 2.

Located at the upper end of the bushing 11 and supported thereby is a packing or gasket 17. The latter is in the form of a collar and together with the bushing 11 embraces the delivery tube 18 used with the tap when the tube is inserted into the container through the tap and the fitting 2 as

shown in Fig. 1. The packing 17 directly engages the outer surface of the tube 18 above the bushing and when compressed by the clamping means to be presently described seals the joint between the tap and the tube. The packing 17, like the packing 15, is made of the desired compressible and sealing material, as rubber. The lower end of the tube 18, that is, that portion which is inserted into the container, is slotted or otherwise apertured for entry of the liquid content of the container into the tube for drawing off or dispensing purposes, as in structures of this character.

The clamping means referred to comprises a rotatable member, preferably in the form of a sleeve 19, fitting in the upper end of the casing 7 about the packing 17 and having threaded connection with the casing as shown. This gives the member 19 the function of a nut and when turned has relative axial movement with respect to the casing 7. The nut 19 fits freely over the upper end of the bushing 11 to retain the latter central in the casing. The nut has an inwardly extending flange or abutment 20 at its upper end to overlap the adjacent end of the packing 17 and compress the same into sealing relation with the tube 18 when the nut or member 19 is turned in a clamping direction, that is, into the casing 7.

A coiled spring 21 of the desired resiliency or strength surrounds the bushing 11 between a rib or abutment 22 thereon and the lower end of the nut 19 as shown. This connects the nut with the bushing 11 and enables the nut when turned in a clamping direction, that is, into the casing 7, to force the bushing toward the fitting member 4 to compress the packing 15 between them and also draw the casing outward from said member to bring the lugs 6, 8 into firm clamping or holding relation. The yielding connection provided by the spring 21 enables the casing 7 to be clamped to the fitting 2 and the lower seal established before the upper packing is compressed. By this arrangement, the tube 18 does not have to be inserted into the container simultaneously with the clamping of the tap on the fitting 2.

In applying the tap to the container, the casing 7 is applied over the fitting member 4 and turned to interengage their lugs 6, 8. This fits the bushing 11 to the member 4, whereupon the clamping member 19 by its handle 23 is turned in a clamping direction to draw the lugs of the casing against those of the member and to compress the packing 15 between the bushing 11 and the member 4 to seal the joint between the tap and the fitting 2. The tube 18 is then inserted into the tap and forced against the plug in the tap fitting to dislodge it into the container. When the tube reaches the bottom of the container, the nut 19 is turned further to compress the packing 17 and seal the joint between the tap and the tube. This clamping and sealing action may be conveniently and quickly performed as it is necessary to manipulate only one clamping means, that is, the nut 19. In providing the latter with a handle, as at 23, its manipulation is greatly facilitated as no tools are needed or required to turn it. Moreover, the handle 23 is a visible indication at all times of the part to be turned, thereby avoiding delay in establishing the connection and the seal as the operator cannot mistake the part to be turned. The spring 21 also provides a yieldable tension allowing the proper adjustment to establish effective leakproof joints at the seals.

The bores of the member 4 and the bushing 11 are slightly larger in diameter than the outside diameter of the tube 18 whereby the gas pressure supplied from the pipe 24 may freely flow into the interior of the container for forcing the contents therefrom through the tube 18. Bushing 11 is equipped with a nipple 25 for the gas supply tube or hose 24. This nipple extends laterally from the bushing and is connected therewith between the packings 15, 17 as shown. The casing 7 is provided with slots or openings 26 on opposite sides for the nipple. In this way, the nipple may be extended from either side of the tap, the bushing being turned to position its nipple opening at either slot before the nipple is applied. The slots may be made wide enough for adjustment of the nipple within limits to position it free of any obstructions which may be present where the container is racked or stored.

With the lower packing 15 extending beyond the lugs 8 and the nipple 25 extending through one of the slots 26, the bushing 11 and associated parts are retained in assembled relation and are prevented from dropping out of the casing 7 when the tap is removed from a fitting. The parts are compact, retain their assembled relation as a unit at all times, and provide an effective and efficient tap construction. Moreover, the latter is simple and inexpensive to manufacture.

The details of construction and arrangement of parts shown and described may be variously changed and modified without departing from the spirit and scope of my invention except as pointed out in the appended claims.

I claim as my invention:

1. A tap for connecting a delivery tube to a tap fitting of a beer barrel, comprising a packing between the tap and the tap fitting, a packing between the tap and the delivery tube, a coupling having a bayonet joint connection with the tap fitting, a nut in threaded connection with the coupling for clamping the coupling to the tap fitting and compressing the packings into sealing relation with the fitting and the tube, respectively, and a yielding connection between the nut and the packing for the tap fitting for compressing the packing for the fitting in advance of the packing for the tube.

2. A tap for connecting a delivery tube to a tap fitting of a beer barrel, comprising a casing having detachable connection with the tap fitting, a bushing shiftable lengthwise in the casing and adapted to embrace the delivery tube, packings within the casing at the opposite ends of the bushing, one for the tap fitting and the other for the tube, a clamping member threadedly connected with the casing and acting through the bushing to clamp the casing to the fitting and compress the packing for the fitting into sealing relation therewith, said clamping member having means engageable with the other packing for compressing it into sealing relation with the tube, and a coiled spring about the bushing providing a yielding connection for the clamping member with the bushing.

3. A tap for connecting a delivery tube to a tap fitting of a beer barrel, comprising an outer casing having fitting engaging lugs at its lower end, a bushing shiftable lengthwise in the casing, packings within the casing, one at the upper end of the bushing and embracing therewith the delivery tube when inserted into the tap, the other packing being carried by the bushing at its lower end and seatable on the fitting when the tap is attached thereto, a clamping nut threadedly connected with the casing about the upper packing and having a flange engageable therewith, a

coiled spring about the bushing between an abutment thereon and the nut, and a handle member connected with the nut for turning the same.

4. A tap for connecting a delivery tube to a tap fitting of a beer barrel, comprising an outer casing having fitting engaging lugs at its lower end, a bushing shiftable lengthwise in the casing, packings within the casing, one at the upper end of the bushing and embracing therewith the delivery tube when inserted into the tap, the other packing being carried by the bushing at its lower end and seatable on the fitting when the tap is attached thereto, a clamping nut threadedly connected with the casing about the upper packing and having a flange engageable therewith, a coiled spring about the bushing between an abutment thereon and the nut, and a nipple for a pressure hose connected with the bushing between the packings, said nipple extending laterally outward from the bushing through an opening in the casing.

5. A tap for connecting a delivery tube to a tap fitting of a liquid container, comprising an outer casing having detachable connection at its lower end with the tap fitting, packings within the casing, one adjacent its lower end for the fitting, and the other adjacent the upper end of the casing for the tube, a clamping member adjustably mounted on the casing and engaging the upper packing for compressing it into sealing relation with the tube, and means in the casing between the packings for transmitting the clamping action of said member to the lower packing to compress it into sealing relation with the fitting, said means being yieldable whereby the lower packing may be compressed in advance of the upper packing.

6. A tap for connecting a delivery tube to a tap fitting of a liquid container, comprising an outer casing having a detachable connection at its lower end with the tap fitting, packings within the casing, one adjacent its lower end for the fitting and the other adjacent the upper end of the casing for the tube, a clamping member adjustably mounted on the casing and engaging the upper packing for compressing it into sealing relation with the tube, means in the casing between the packings for transmitting the clamping action of the clamping member to lower the packing to compress it into sealing relation with the fitting, said means being yieldable whereby the lower packing may be compressed in advance of the upper packing, and a handle connected with the clamping member and extending laterally outward therefrom for operating the clamping member.

7. A tap for connecting a delivery tube to a tap fitting of a liquid container, comprising an outer casing having a detachable connection at its lower end with the tap fitting, packings within the casing, one adjacent its lower end for the fitting and the other adjacent the upper end of the casing for the tube, a clamping member adjustably mounted on the casing and engageable with the upper packing for compressing it into sealing relation with the tube, a bushing disposed between the packings to embrace the tube and transmit the clamping action of the clamping member to the lower packing to compress it into sealing engagement with the fitting, and a nipple for a pressure hose connected with the bushing between the packings, said nipple extending laterally outward from the bushing through an opening in the casing.

8. A tap for connecting a delivery tube to a tap fitting of a liquid container, comprising an outer casing having means for detachably connecting the lower end of the casing to the tap fitting, packings within the casing, one adjacent its lower end for the fitting and the other spaced thereabove and cooperable with the tube, clamping means having a direct threaded interconnection with the casing and operable to compress the upper packing into sealing relation with the tube, a bushing engaged with and spacing the packings and providing a wall portion embracing the tube between the packings, said bushing providing seats for the packings and serving to transmit the clamping action of the clamping means to the lower packing to compress it in sealing engagement with the fitting, said outer casing having an elongated opening extending lengthwise of the casing opposite the bushing, and a pressure hose connecting means carried by and connected with the interior of the bushing between the packings and extending outwardly from the bushing through said opening in the casing, the wall portion of the bushing between the packings being imperforate, except for the opening provided in said wall portion for the pressure hose connecting means.

OSCAR J. LEINS.