March 10, 1936. F. E. RICE 2,033,786

TAP AND ROD ASSEMBLY

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Fig. 1

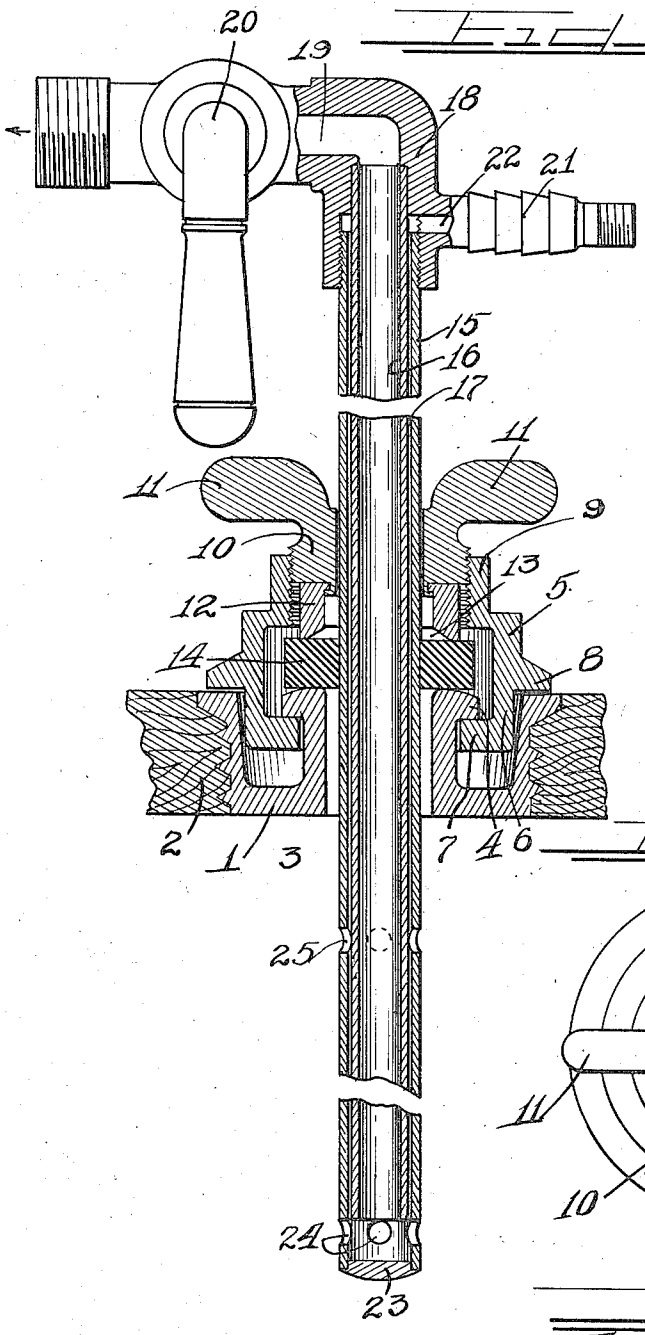
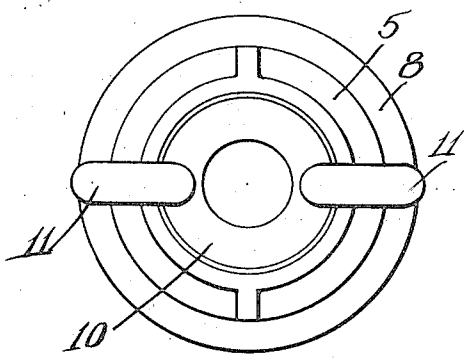


Fig. 2



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TAP AND ROD ASSEMBLY

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1 Claim. (Cl. 285—40)

The present invention relates to tap and rod assembly and is herein illustrated as an assembly for tapping beer barrels and the like.

An object of the present invention is to provide a tap and rod assembly which is simple in construction, efficient in use, and economical to manufacture.

Another object of the invention is to provide a tap wherein a single washer is utilized to seal the connection between the tap and a bush and also secure the pump rod in the tap.

A further object of the invention is to provide a pump rod having separate passages for air and the beer, together with air supply and beer discharge means, and also means affording communication between said passages and different points within a tapped barrel.

Another and still further object of the invention is to provide a tap and rod assembly wherein air is admitted to a tapped barrel through the pump rod structure instead of through the tap.

A still further object of the invention is to provide a tap and rod assembly wherein a duct for air admission is provided to enable use of a single washer for sealing the joint between the tap and a bush and also for retaining the pump rod in place in the tap.

A still further object of the invention is to provide a tap utilizing a single washer for sealing the joint between the tap and a bush and also for retaining a pump rod in place in the tap, together with a follower engageable with said washer for compressing it in more than one direction.

Generally speaking, the invention contemplates a pump rod structure having passages, which are separate, one of which constituting an air passage and the other a liquid passage, together with means for supplying air to the air passage and discharging liquid from the liquid passage, and means affording communication between the passages and the interior of a barrel at different points in the barrel.

The invention further contemplates a tap so constructed as to enable use of a single washer for sealing the joint between a tap and a bush and also for locking the pump rod in the tap and wherein provision is made to compress the washer in a plurality of directions, for securing the results just mentioned.

The above, other and further objects of the invention will be apparent from the following description, accompanying drawing and appended claim.

The accompanying drawing illustrates various aspects of the present invention, and the views thereof are as follows:

Figure 1 is a central sectional view through a pump rod structure and tap, constructed in accordance with the principles of the present invention, and showing the relationship of the parts as the same appear prior to the tightening of the nut in the thimble.

Figure 2 is a top plan view of the thimble as illustrated in Figure 1.

The drawing will now be explained.

A bush, indicated generally at 1, preferably of the well-known "Peerless" type, is secured in a barrel 2 in conventional manner. This bush is provided with the usual neck 3 which is fashioned with outstanding flanges 4 at the upper end of the neck for cooperating with a tap for securing the tap to the bush in the usual manner.

The tap of the illustrated form of the invention includes a thimble 5 having formed at one end lugs 6 at the extremities of which are inturned feet 7 for underlying the flanges 4 of the neck of the bush. The thimble is provided with an annular flange 8 for overlying the joint between the thimble and the bush to steady the pump rod structure supported by the tap. The upper end 9 of the thimble is open, and interiorly threaded to receive a nut 10. The nut 10 is shown as exteriorly threaded to engage the open end 9 of the thimble. The nut is preferably provided with wings 11 for ease in use.

Secured to the underface of the nut 10 is a follower 12, mounted on the nut so as to have relative rotation with respect thereto, and with its washer engaging face inclined at 13.

Within the thimble 5 is a single sealing washer 14 which is compressible by the nut, under certain conditions, and which washer serves two purposes: (1) to seal the joint between the tap and the bush, and (2) to clamp the pump rod securely in position in the tap.

The outer face of the neck 3 of the bush is convex so that when the nut 10 is screwed home the inclined face 13 of the follower will compress the washer 14 in more than one direction.

The illustrated form of pump rod structure contemplates an outer pipe 15 and an inner pipe 16, which pipes are separated to provide a space 17 between them.

A header 18, carries the pipes, and is provided with a passage 19 communicating with the interior of the inner pipe 16 and in which passage is interposed a valve 20. The header also is provided with a nipple 21 to which may be connected an air supply line from any means for

compressing air. The header is provided with a passage 22 affording air communication with the space 17 between the pipes 15 and 16.

The lower end of the outer pipe 15 is closed, as by a plug 23, which serves as a stop when the rod is inserted in a barrel, with the plug 23 resting on the bottom of the barrel. Adjacent the plug 23 the outer pipe 15 is apertured at 24 to allow fluid admission into the pipe. The outer pipe 15 is also apertured at 25, in spaced relation to the apertures 24, to afford communication between the air space 17 and the interior of the barrel. The apertures 25 are so fashioned in the pipe 15 as to lie adjacent the underside of the top of a tapped barrel while the apertures 24 are adjacent the bottom.

The air line connected to the nipple may, if desired, be provided with a valve for controlling air admission to the tapped barrel.

The header 18 is provided with a threaded end 26 for receiving a pipe connection to cooling coils for cooling the beer discharged from the barrel.

The arrangement of the parts appearing in Figure 1 is as the same appear after the rod structure has been inserted through the nut 10 and the tap and into the barrel prior to the time that the nut has been screwed home to compress the washer 14. As the nut 10 is screwed home, the beveled face 13 of the follower 12 thereof will compress the washer against the convex end of the neck 3 of the bush to seal the joint between the tap and the bush and at the same time will compress the washer radially against and toward the pump rod structure to secure the pump structure in the tap and prevent accidental displacement of the rod structure from the barrel because of gas pressure in the barrel.

While the space 17 has herein been described as an air space and the inner pipe 16 described as the beer discharge passage, yet it is to be understood that these may be interchanged, if desired, in which event the air connection and the liquid discharge connection would also be interchanged, as also would be the means affording communication between these passages and the interior of the tapped barrel.

It will be observed that the present invention provides a tap whereby a single washer may be utilized for sealing the joint between the tap and a bush and at the same time clamping the pump rod in position in the tap.

It will also be observed that the pump rod structure of the present invention provides a separate and distinct duct or passageway for the compressed air thereby enabling the use of a single washer for sealing the joint and clamping the rod in position.

In operation, compressed air is admitted to the interior of the barrel through the space 17, entering the barrel through the apertures 25, to thus force the beer or other liquid content of the barrel upwardly through the pipe 16, then outwardly, whenever the valve 20 is opened.

The invention has been described herein or more less precisely as to details, yet it is to be understood that the invention is not to be limited thereby, as changes may be made in the arrangement and proportion of parts, and equivalents may be substituted without departing from the spirit and scope of the invention.

The invention is claimed as follows:

A tap for a beer barrel including a thimble adapted for connection to a tap bush, said thimble having one end formed with lugs for engaging the tap bush flanges and at its other end open and interiorly threaded to receive a nut, a nut engageable within the threaded end of said thimble, a single sealing washer carried by and within said thimble between the nut and the lugs for seating against the tap bush neck to seal it and to compressibly clamp a pump rod in said tap when said nut is screwed home, said nut having a washer engaging part which is rotatable relatively to the nut and shaped to compress the washer against the rod as the nut is moved to compress the washer against the tap bush neck.

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