Dec. 2, 1941. T. A. KOCHER 2,264,671

SPIGOT

Filed June 4, 1940 2 Sheets-Sheet 1

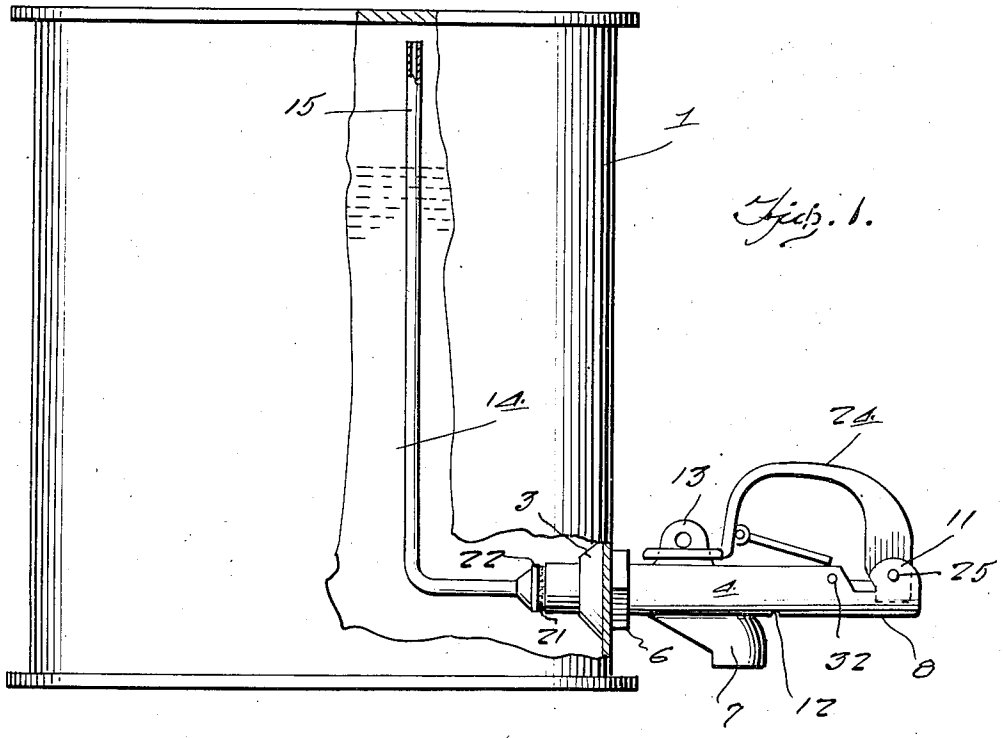


Fig. 1.

Fig. 3.

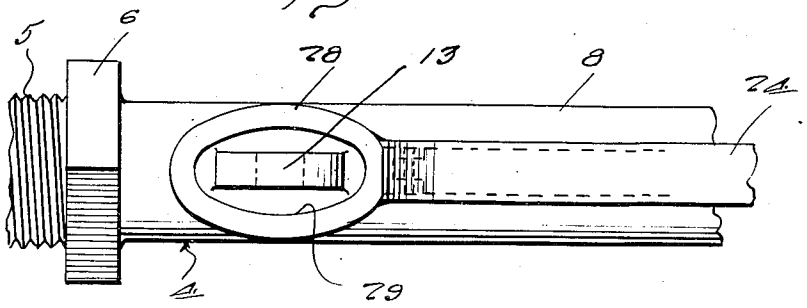
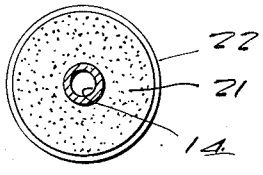


Fig. 4.



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SPIGOT

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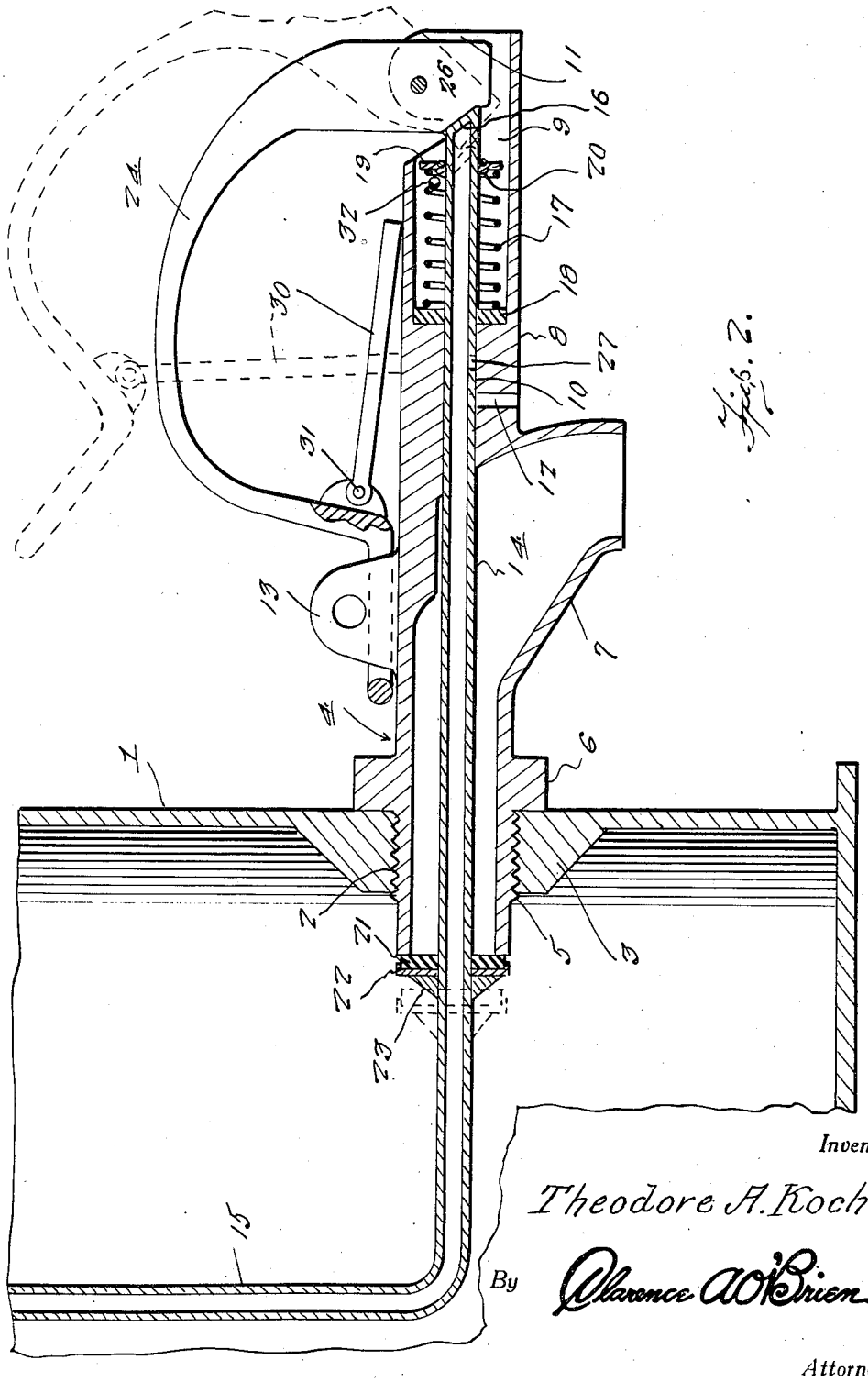

Fig. 2.

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Patented Dec. 2, 1941

2,264,671

UNITED STATES PATENT OFFICE

2,264,671

SPIGOT

Theodore A. Kocher, Newton, Ill.

Application June 4, 1940, Serial No. 338,809

3 Claims. (Cl. 225—5)

My invention relates to improvements in spigots for use in drawing liquid from closed drums, tanks, or the like.

The primary object of the invention is to provide an efficient, simply constructed and easily applied, spigot for connection to such drums and which is equipped for admitting air into the top of the drum simultaneously with opening of the spigot and to be automatically locked open.

To the accomplishment of the above, and subordinate objects presently appearing, a preferred embodiment of my invention has been illustrated in the accompanying drawings, set forth in detail in the succeeding description, and defined in the claims appended hereto.

In said drawings:

Figure 1 is a view in side elevation, partly broken away, of the preferred embodiment of my invention applied to a liquid containing drum,

Figure 2 is a fragmentary view in vertical longitudinal section,

Figure 3 is a fragmentary view in top plan, and

Figure 4 is a view in front elevation, partly in section, of the tube and valve member.

Referring to the drawings by numerals, I have shown my improved spigot as applied to the usual type of liquid containing drum 1 having an internally threaded plug opening 2 in the side thereof adjacent the bottom of the drum and extending through an internal boss 3 provided on the wall of the drum.

The spigot comprises an elongated, generally tubular barrel 4, of suitable material, externally threaded adjacent its rear end, as at 5, to be turned into the opening 2 with its rear end extending inwardly past said opening for a short distance and provided in front of the threads, with an external circumferential collar 6 thereon fitting against the outer face of the drum 1 and together with the threads sealing the opening 2. The barrel 4 embodies a depending spout 7 immediately in front of the collar 6 and an extension 8 projecting forwardly from said spout, the extension having a cylindrical axial bore 9 in its front end, forming a chamber therein, a reduced axial counterbore 10 intermediate the bore 9 and spout 7 and forming a guide, and a pair of laterally spaced ears 11 upstanding therefrom in front of the bore 9. A radial air inlet duct 12 is provided in the extension 8 in front of the spout 7 and which extends upwardly into the counterbore 10. An apertured upstanding ear 13 is provided on top of the barrel 4 above spout 7. The purpose of the bores 9, 10, ears 11, and duct 12 and ear 13 will presently appear.

An air inlet tube 14 of substantially smaller diameter than that of the barrel 4 is fitted in the counterbore 10 for endwise sliding movement therein, said tube extending rearwardly out of said barrel 4 for a short distance and having a right angled rear end extension 15 adapted to project upwardly in the drum 1 above the normal level of the liquid therein. The front end of the tube 14 extends through and out of the bore 9 and is formed with an oblique closed tip 16 disposed in the rear of the ears 11.

A coil spring 17 surrounds the front end of the tube 14 and is housed in the bore 10 with one end bearing against a resilient washer 18 fitting over said tube and seated against the rear end of said bore, and its other end bearing against a metal washer 19 sleeve on the tube 14. The last mentioned end of the spring 17 and the washer 19 are preferably soldered to the tube 14 as indicated at 20. The described spring 17 urges the tube 14 forwardly and the washer 18 forms a seal at the outer end of counterbore 10.

The rear end of the barrel 4 is closed under forward movement of the tube 14 through the medium of a disk-like valve member 21 on said tube seating against said end of the barrel and backed by a cup washer 22 soldered to said tube as indicated at 23. As will be understood, the valve member 21 by seating against the rear end of barrel 4 establishes the forward limit of movement of tube 14.

A bail-like operating hand grip 24 is provided for moving the tube rearwardly to move the valve member 21 into unseated position and thereby open the rear end of the barrel 4 so that liquid may pass out of the same. The hand grip 24 is pivoted at one end to the ears 11, as by a pin 25, for vertical swinging movement above the barrel 4 forwardly and rearwardly, said pivoted end being provided with an inclined camming corner 26 adapted for coaction with the tip 16 so that under forward movement of the hand grip into upright position, said tube is cammed rearwardly in opposition to the spring 17 to unseat valve member 21. Under such rearward movement of tube 14, a port 27 therein is adjusted into registration with the duct 12 so that atmospheric air is admitted into the tube 14 to escape therefrom into the drum and break the vacuum existing therein above the liquid. As will be manifest, when the hand grip 24 is moved rearwardly, the spring 17 will act to move the tube 14 forwardly, thereby effecting seating of valve member 21 and adjustment of port 27 out of registration with duct 12.

The hand grip 24 is provided with an enlarged free end 28 slotted, as at 29, and adapted to swing down against the top of barrel 4 over ear 13, whereby rearward movement of said grip is limited and said grip may be locked against operation by the insertion of a padlock hasp, not shown, through the aperture of said ear. In its rearward limit of movement, the hand grip 24 arches upwardly from the barrel 4.

Means are provided for automatically locking the hand grip in the forward limit of movement thereof and thereby locking the valve member 21 in unseated open position. The locking means comprises a rod 30 pivoted at one end, as at 31, to said hand grip 24 to swing downwardly thereon into vertical position under the influence of gravity, when the hand grip is swung into its forward limit of movement, and so that its free end is opposed to the top of barrel 4 thereby blocking downward swinging of said hand grip. When the hand grip 24 is swung rearwardly, the rod 30 may be manipulated by the fingers to fold the same inwardly of said grip so that it will lie on top of the barrel 4 in the rearward limit of movement of said grip.

The valve member 21 and washer 22 are of substantially the same diameter as the inner or rear end of the barrel 4 so that these parts may clear the opening 2 when the spigot is applied.

A small hole 32 is provided in the extension 8 for the insertion of a nail, not shown, laterally into the bore 9 in front of washer 19 when the tube 14 is in its rearmost limit of movement, so that said tube may be held retracted in an out of the way position when assembling the hand grip 24 with the barrel 4 or replacing said grip with a new one.

It may be explained, that spring 17 frictionally locking to the washer 18 and being soldered to the tube 14 acts to prevent the tube 14 from rotating in the barrel 4.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention without further explanation, since the operation of the same has been set forth in connection with the description of parts.

Manifestly the invention, as described, is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of subjoined claims.

What I claim is:

1. A spigot for insertion in a side bunghole of a liquid containing drum comprising an elongated substantially cylindrical barrel having a threaded rear end for turning into said hole, an open front end, a depending spout intermediate said ends and a reduced bore therein intermediate said spout and front end, an air venting tube of smaller diameter than said barrel including a main part having a closed front end slidably fitting in said reduced bore for axial movement of said tube forwardly and rearwardly, said part having a rear end extension adapted to project upwardly in said drum above the normal liquid level therein, spring means in said barrel urging said tube forwardly, means on said main part of the tube closing the rear end of the barrel under forward movement of said tube, manipulative means on the front end of said barrel for moving said tube rearwardly in limited degree in opposition to said spring means, and a pair of air ports in said tube and barrel, respectively, registering in the rearward limit of movement of said tube to admit air to the latter, said manipulative means comprising a bail-like hand grip pivoted at one end to said barrel for swinging movement into upright position, and a rod pivoted on said hand grip to swing into vertical position in the upright position of said grip and block swinging of the grip from upright position by engagement with said barrel.

2. A spigot comprising a barrel embodying a valve seat, a valve for movement in opposite directions toward and from said seat, and means to move said valve in one direction comprising a bail-like hand grip pivoted at one end to said barrel for swinging movement into upright position, and a rod pivoted on said grip to swing into vertical position in the upright position of the grip and block swinging of the grip from upright position by engagement with said barrel.

3. A spigot comprising a barrel embodying a valve seat, a valve for movement in opposite directions toward and from said seat, and means to move said valve in one direction comprising a bail-like hand grip pivoted at one end to said barrel for swinging movement into upright position, and a rod pivoted on said grip to swing into vertical position in the upright position of the grip and block swinging of the grip from upright position by engagement with said barrel, said rod being swingable into said grip in the plane thereof out of blocking position.

THEODORE A. KOCHER.