July 23, 1929. E. M. REARDON 1,722,009

LOCK SPIGOT

Filed May 31, 1928

FIG. 1.

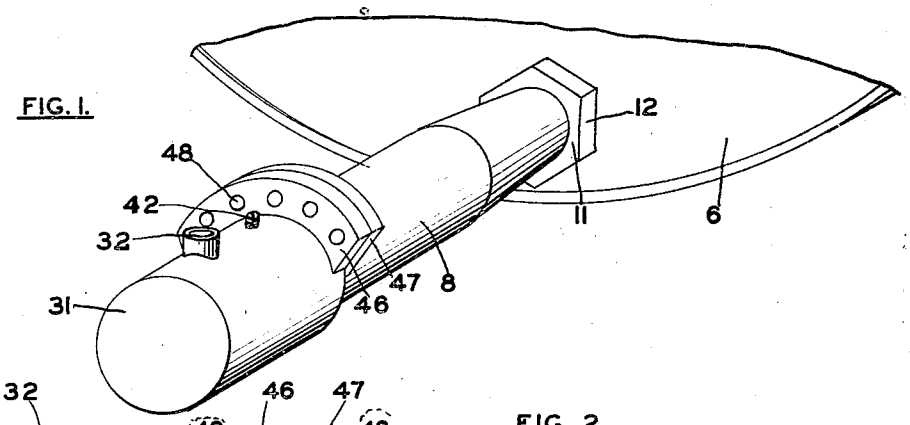


FIG. 2.

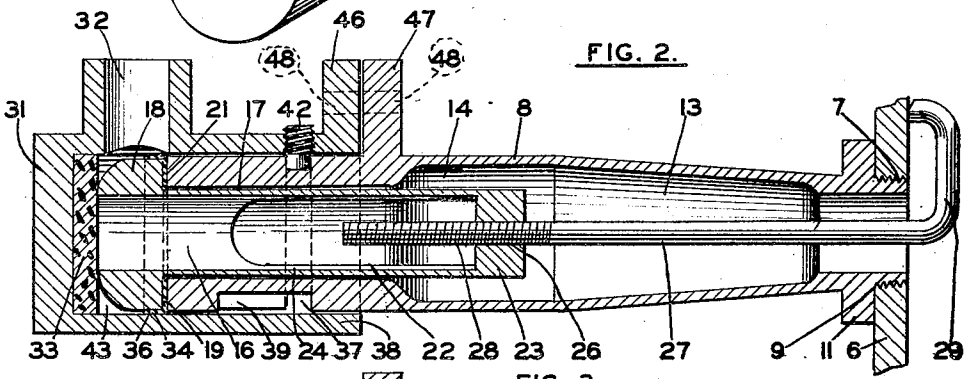
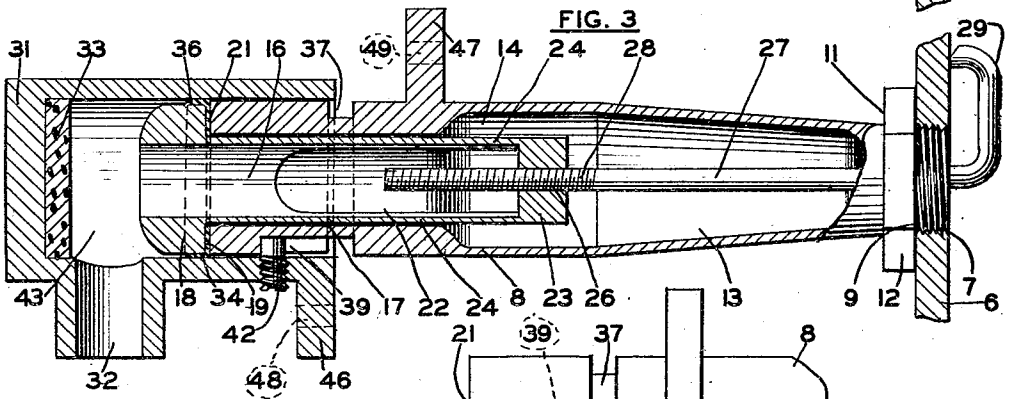


FIG. 3



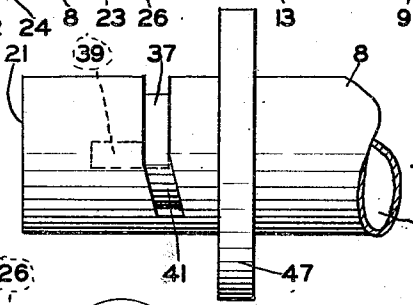


FIG. 4.

FIG. 5.

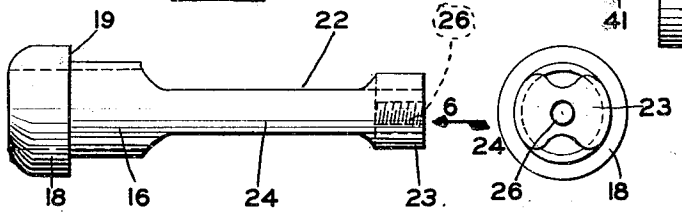


FIG. 6.

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LOCK SPIGOT.

Application filed May 31, 1928. Serial No. 282,009.

This invention relates to spigots, and more especially to that type of spigots adapted to be locked to prevent unauthorized operation thereof or tampering therewith.

An object of the invention is the provision of an improved type of locking spigot wherein the delivery of fluid from the spigot is controlled by movement of the delivery spout upon the body of the spigot.

Another object is the provision of a locking spigot wherein the delivery spout is carried by a head revoluble upon the body of the spigot and wherein delivery of fluid through the spigot may be stopped by turning the delivery spout upwards, with the result that any fluid remaining in the spigot between the bore sealing means and the outer end of the spout, will be retained within a chamber in the head instead of dripping from the end of the spout as would be the case if the spout were left pointed downwards as in the conventional spigot.

A further object is the provision of a spigot of the general character described, wherein means are provided for locking the head against movement upon the body from that position in which the bore is sealed and the spout is directed upwards.

A further object is the provision of a spigot wherein means are provided for preventing unauthorized removal of the spigot from the container with which it is employed.

A further object is the provision of a spigot of the general character described, wherein the same locking means prevents unauthorized opening of the spigot for the purpose of withdrawal of fluid therethrough as well as access to the means whereby the entire spigot is retained in operative position in respect to the receptacle.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood that I do not limit myself to the showing made by the said drawings and description, as I may adopt variations of the preferred form within the scope of my invention as set forth in the claims.

Referring to the drawings:

Figure 1 is a perspective view of a portion of a drum with the spigot of my invention in one of its modifications in operative position thereupon, the spigot being shown in closed position.

Fig. 2 is a longitudinal, medial, vertical sectional view of the spigot and a portion of the receptacle to which it is attached, showing the operative parts thereof in the positions assumed thereby when the spigot is closed.

Fig. 3 is a view similar to Fig. 2, with the operative parts moved to the positions occupied thereby when the spigot is open for the withdrawal of fluid therethrough. A portion of the body is shown in elevation to better disclose the manner of attachment to the receptacle.

Fig. 4 is a top plan view of the outer end of the body of the spigot with the head removed.

Fig. 5 is a top plan view of the core receivable within the bore of the body.

Fig. 6 is an end elevation of the core of Fig. 5, the direction of view being indicated by the arrow 6 of that figure.

In terms of broad inclusion, the spigot of the present invention comprises a body securable in operative position to any desired container. Means for controlling the flow of fluid through the spigot are provided in the form of a head movable upon the body of the spigot to optionally open or seal the bore thereof. Delivery from the head is through a spout extending from that side of the head which is uppermost when in sealing position so that drip from the spout is prevented; and means are provided for locking the head to the body in bore sealing position to prevent unauthorized withdrawal of fluid through the valve.

Means are also provided for preventing unauthorized removal of the entire spigot from the receptacle, the parts being so arranged that access to the means for locking the spigot to the receptacle may be prevented by the same locking means which prevents withdrawal of fluid through the spigot.

I am aware that my invention may be embodied in a number of varied specific forms, and that any one of these forms may be employed in conjunction with various types of containers and to handle commodities of many different kinds. It is to be understood however, that I do not wish to be limited to the specific embodiment herein shown and

described, only in so far as is determined by the spirit and scope of the appended claims.

In its present embodiment, the spigot of my invention is shown in operative position for withdrawing fluid from a drum 6 which is provided with a bunghole 7 threaded for the reception of either a sealing plug or a spigot for the withdrawal of fluid therethrough as is conventional. Accordingly, the body 8 of my improved spigot is provided at its inner end with threads 9 complementary to those with which the bunghole 7 is provided.

It should be here observed that the bungholes 7 of conventional drums 6, are provided with right hand threads; and accordingly, the threads 9 are also of right hand pitch to permit reception of the inner end of the body 8 into the receptacle. Preferably a flange 11 is formed adjacent the inner end of the body 8, having two or more opposed flat surfaces 12 for the reception of a wrench to facilitate insertion of the body 8 into the bunghole, and removal therefrom.

The body 8 is substantially tubular, with the bore 13 enlarged adjacent the center of the body to provide a chamber 14. A core 16 is revolubly received within the forward end 17 of the bore 13 of the body 8, this core being hollow to permit the passage of fluid therethrough. A head 18 is provided upon the outer end of the core 16, terminating in a shoulder 19 at the inner portion of the head 18. This shoulder 19 is adapted to bear against the outer end 21 of the body 8 to prevent longitudinal movement of the core 16 inwards of the bore of the body. The sides of the core 16 are cut away at the after end of the core as at 22, to permit the flow of fluid from the bore 13 of the body 8 to the bore of the core 16; and a spider 23 joins the inner extremities of the portions 24 of the core 16 extending inwards from the body 16 thereof on opposite sides of the spaces 22. The spider 23 is drilled axially and tapped with threads 26 of opposite pitch to the threads 9, hence, in the present instance, with left hand threads. A rod 27 is provided with running threads 28 upon its outer end complementary to the threads 26 of the spider 23; and the other end of the rod 27 extends inwards through the bore 13 of the body 8 into the interior of the container 6 where it is bent to provide a portion 29 adapted to be brought into engagement with the interior of the receptacle by rotation of the core 16 upon the threads 28.

It is to be observed that since the threads 28 are of opposite pitch to the threads 9, unauthorized removal of the body 8 from the container 6 is impossible after the core 16 has been tightened upon the rod 27 to bring the portion 29 into engagement with the interior of the receptacle. Since the portion 29 is in tight engagement with the receptacle, rotation thereof will not occur as the body 8 is unthreaded from the bunghole 7. The engagement of the shoulder 19 of the core 16 however, with the outer end 21 of the body 8, will cause the core 16 to be rotated with the body 8. Accordingly, rotation of the body in that direction which will loosen the threads 9, will tighten the threads 28, with the result that only a slight amount of rotation of the body 8 upon the threads 9 will be possible before the core 16 will be tightened upon the rod 27 sufficiently to prevent further rotation of the body 8.

A head 31 is mounted upon the outer end of the body 8 for rotary and longitudinal movement in respect thereto. The outer end of the head 31 is closed; and delivery of fluid therethrough may be had through a spout 32 extending from one side of the head 31. A gasket 33 is provided in the outer end of the head 31, with the result that when the head 31 is slid longitudinally inwards upon the body 8, the gasket 33 engages the outer end of the head 18 of the core 16 to seal the bore thereof and prevent flow of fluid therethrough to the spout 32. Another gasket 34 is retained between the shoulder 19 of the head 18 and the outer end 21 of the body 8, to prevent seepage of fluid between the core and the body; and the periphery of the gasket 34 is bent to extend longitudinally of the body and head to serve as a cup washer 36 to prevent seepage of fluid between the head 31 and body 8.

The body 8 is provided with a groove 37 extending circumferentially thereof in such position thereupon that the inner end 38 of the head 31 is seated over the groove 37. A portion 39 of the groove 37 extends longitudinally of the body 8 from one end of the circumferential portion; and another portion 41 of the groove at the other end of the circumferential portion is disposed angularly to a plane perpendicular to the bore of the body, extending inwards or toward that end of the body which is adapted to be secured to the container 6. The circumferential portion 37 of the groove, preferably extends throughout substantially half the circumference of the body. A projection is provided upon the head 31 to be slidably received within the grooves 37, 39, and 41. This projection is preferably in the form of a set-screw 42 threaded through the head 31 in such position that when the inner end of the set-screw is engaged within the longitudinal groove 39, the spout 32 is directed vertically downwards as indicated in Fig. 3. Thus it may be seen that the longitudinal groove 39 permits movement of the head 31 longitudinally in respect to the body 8 to optionally space the gasket 33 from the outer end of the head 18 of the core 16 to permit the flow of fluid from the container 6 through the spout 32, or to be moved toward the head 18. The longitudinal groove 39 is of such length that the set-screw 42 engages the circumferential groove 37 when the gasket 33

is closely adjacent or actually seated upon the head 18, with the result that after the head 31 has been rotated sufficienty for the set-screw 42 to traverse the entire length of the circumferential groove 37, the set-screw 42 will be engaged by the inclined surface defining the angular groove 41 so that upon continued rotation of the head 31, the gasket 33 will be pressed tightly upon the head 18 and form a positive seal against flow of fluid from the container 6.

Since the circumferential groove 37 extends throughout substantially 180°, and since, when the set-screw 42 is in the longitudinal groove 39 the spout 32 is pointed downwards, the spout 32 will be directed substantially vertically upwards when the set-screw 42 is seated within the inclined groove 41. Accordingly, whatever fluid may remain in the spout 32 after the gasket 33 has been seated upon the head 18 to prevent further flow of fluid from the container 6, will not drip from the end of the spout 32, but will run back into the chamber 43 upon the interior of the head 31.

Means for locking the head 31 in that position in which the gasket 33 is in sealing position and in which the spout 32 is directed upwards, are provided. A flange 46 is formed upon the inner end 38 of the head 31 to extend radially outwards therefrom; and a complementary flange 47 is formed upon the body 8 in such position that it is closely adjacent the flange 46 when the head 31 has been turned to sealing position. Apertures 48 are formed in the flange 46 and apertures 49 in the flange 47, these apertures being spaced equally from the axis of the body and head, but the apertures 48 being spaced apart a distance different from the spacing of the apertures 49. As a result of the unequal spacing of the two groups of apertures, a relatively small amount of rotation of the head 31 upon the body 8 is necessary to bring one pair of apertures into alignment for the reception of a padlock or other suitable locking means.

The spigot of my invention may be mounted in operative position upon a container 6 by first slanting the spigot sufficiently to permit the portion 29 of the rod 27 to pass through the bunghole 7. The threads 9 on the body 8 should then be engaged with the threads of the bunghole, and the body then rotated sufficiently to tighten the threads to prevent leakage of fluid therepast. It is understood of course, that in final position, the spout 32 should extend downwards when moved to unsealing position. Then the core 16 should be rotated to tighten the portion 29 of the rod 27 against the interior of the container 6. For this purpose the head 31 may be easily removed after the set-screw 42 has been backed out sufficiently to release its engagement within the grooves 37, 39, or 41. After the rod 27 has been so tightened, the head 31 should be replaced and the set-screw 42 tightened into one of the grooves. Then by pushing the head 31 longitudinally inwards upon the body 8 and rotating the head to bring the set-screw 42 into engagement with the inclined slot 41, the gasket 33 may be pressed tightly against the head 18 to seal the passage through the spigot. When in this position, one of each of the apertures 48 and 49 will be found to be in alignment to permit the insertion of suitable locking means. When so locked, not only is withdrawal of fluid through the spigot prevented, but also access to the core 16 is prevented so that removal of the spigot bodily from the container 6 is prevented by the same locking means.

When it is desired to withdraw fluid from the container 6, the locking means may be removed by authorized persons, to permit first, the rotation of the head 31 upon the body 8, and then the longitudinal movement of the head 31 outwards upon the body 8. This will result in the spacing of the gasket 33 from the head 18 and permit unrestricted flow of fluid therepast through the spout 32, which, it will be observed, is directed vertically downwards.

When the quantity of fluid desired has been withdrawn from the container 6, the head 31 is then pushed longitudinally inwards upon the body 8, and then rotated until the set-screw 42 engages the inclined slot 41 and brings the gasket 33 into such tight engagement with the head 18 that the passage of fluid through the spigot is prevented. It will be observed that when this has been effected, the spout 32 is directed vertically upwards so that no drip from the spout will result.

It should be further observed that replacement of the gasket 33 is very easy of accomplishment, it being necessary only to remove the head 31 from the body 8 as previously described, and replace the gasket 33. Since this gasket is the element of my spigot, which serves to stop the flow of fluid, this is the portion of the device which will require replacement more frequently than any other; and accordingly, this ease of replacement is one of the advantageous features of the invention.

I claim:

1. In a spigot, a body threaded for attachment to a container, a rod extending from within said body and adapted to be brought into engagement with the interior of the container to prevent unauthorized removal of said body, and lock controlled means permitting access to said rod.

2. In a spigot, a body threaded for attachment to a container, a core disposed within said body, a rod threaded to said core with threads of opposite pitch to those of the body, said rod extending from within the body and

adapted to be brought into engagement with the interior of the container to prevent unauthorized removal of the body, and lock controlled means for permitting access to said core.

3. In a spigot, a body threaded for attachment to a container, a core revolubly disposed within said body, a rod threaded to said core with threads of opposite pitch to those of the body, said rod extending from within the body and adapted to be tightened into engagement with the interior of the container by rotation of the core within the body and upon the rod, and lock controlled means for permitting access to said core.

4. In a spigot, a body threaded for attachment to a container, said body having a passage therethrough communicating with the interior of the container, a core revolubly disposed within said body, a rod threaded to said core with threads of opposite pitch to those of the body, said rod extending from within the body and adapted to be tightened into engagement with the interior of the container by rotation of the core within the body and upon the rod, means for optionally opening and closing said passage, and lock controlled means for permitting access to said core and said passage controlling means.

5. In a spigot, a tubular body adapted to be secured to a receptacle to establish communication with the interior of the receptacle through the bore of the body, a head mounted for rotary movement upon the outer end of the body to close said bore, a spout extending from one side of the head, a flange carried by the body and a complementary flange carried by the head, said flanges having apertures for the reception of locking means positioned in register with each other when the head is positioned with its spout directed upwards to prevent drip.

6. In a spigot, a tubular body adapted to be secured to a receptacle to establish communication with the interior thereof through the bore of the body, a head mounted for rotary and longitudinal movement upon the outer end of said body, an inclined surface on said body, a projection on said head bearing against said surface to slide the head longitudinally upon the body to seal the bore thereof as the head is rotated thereupon, and locking flanges carried by said head and body having apertures therein for the reception of locking means to prevent unauthorized relative movement of said head and body from bore sealing position.

7. In a spigot, a tubular body adapted to be secured to a receptacle to establish communication with the interior thereof through the bore of the body, a head mounted for rotary and longitudinal movement upon the outer end of said body, an inclined surface on said body, a projection on said head bearing against said surface to slide the head longitudinally upon the body to seal the bore thereof as the head is rotated thereupon, locking flanges carried by said head and body having apertures therein for the reception of locking means to prevent unauthorized relative movement of said head and body from bore sealing position, and a spout extending from that side of the head which is uppermost when in sealing position.

8. In a spigot, a tubular body adapted to be secured to a receptacle to establish communication with the interior thereof through the bore of the body, a head mounted for rotary and longitudinal movement upon the outer end of said body, said body being provided with a groove extending circumferentially thereof throughout substantially half the circumference of the body, a portion of said groove being disposed angularly to a plane perpendicular to the bore of the body, a projection on said head slidable in said groove, a delivery spout on that side of the head which is uppermost when in bore sealing position, and locking flanges on said head and body having apertures therein for the reception of locking means to prevent relative movement of the head and body from bore sealing position.

9. In a spigot, a tubular body threaded for attachment to a container, a hollow core revolubly disposed within the bore of said body, said core extending beyond the outer end of the body, a shoulder on said core in engagement with the outer end of the body to prevent movement of the core longitudinally inwards therein, a spider rigid with the inner end of said core, a rod threaded into said spider with threads of opposite pitch to those of the body, said rod extending through the inner end of the body and adapted to be brought into engagement with the interior of the container, a head mounted for rotary and longitudinal movement upon the outer end of said body, said body being provided with a groove extending circumferentially thereof, a portion of the groove being disposed angularly to a plane perpendicular to the bore of the body, a gasket disposed within said head, and a projection on said head slidable in said groove to bring the gasket into engagement with the outer end of the core when the projection engages the angularly disposed position of said groove.

10. In a spigot, a tubular body threaded for attachment to a container, a hollow core revolubly disposed within the bore of said body, said core extending beyond the outer end of the body, a shoulder on said core in engagement with the outer end of the body to prevent movement of the core longitudinally inwards therein, a spider rigid with the inner end of said core, a rod threaded into said spider with threads of opposite pitch to those of the body, said rod extending through the inner end of the body and adapted to be

brought into engagement with the interior of the container, a head mounted for rotary and longitudinal movement upon the outer end of said body, said body being provided with a groove extending circumferentially thereof, a portion of the groove being disposed angularly to a plane perpendicular to the bore of the body, a gasket disposed within said head, a projection on said head slidable in said groove to bring the gasket into engagement with the outer end of the core when the projection engages the angularly disposed position of said groove, and a delivery spout on that side of the head which is uppermost when in bore sealing position.

11. In a spigot, a tubular body threaded for attachment to a container, a hollow core revolubly disposed within the bore of said body, said core extending beyond the outer end of the body, a shoulder on said core in engagement with the outer end of the body to prevent movement of the core longitudinally inwards therein, a spider rigid with the inner end of said core, a rod threaded into said spider with threads of opposite pitch to those of the body, said rod extending through the inner end of the body and adapted to be brought into engagement with the interior of the container, a head mounted for rotary and longitudinal movement upon the outer end of said body, said body being provided with a groove extending circumferentially thereof, a portion of the groove being disposed angularly to a plane perpendicular to the bore of the body and a groove extending longitudinally of the body from that end of the groove opposite the angularly disposed portion, a gasket disposed within said head, a projection on said head slidable in said grooves, and a delivery spout on that side of the head which is uppermost when in bore sealing position.

12. In a spigot, a tubular body threaded for attachment to a container, a hollow core revolubly disposed within the bore of said body, said core extending beyond the outer end of the body, a shoulder on said core in engagement with the outer end of the body to prevent movement of the core longitudinally inwards therein, a spider rigid with the inner end of said core, a rod threaded into said spider with threads of opposite pitch to those of the body, said rod extending through the inner end of the body and adapted to be brought into engagement with the interior of the container, a head mounted for rotary and longitudinal movement upon the outer end of said body, said body being provided with a groove extending circumferentially thereof, a portion of the groove being disposed angularly to a plane perpendicular to the bore of the body and a groove extending longitudinally of the body from that end of the groove opposite the angularly disposed portion, a gasket disposed within said head, a projection on said head slidable in said grooves a delivery spout on that side of the head which is uppermost when in bore sealing position, and locking flanges on said head and body having apertures therein for the reception of locking means to prevent unauthorized relative movement of the head and body from bore sealing position.

In testimony whereof I have signed my name to this specification.

E. M. REARDON.