July 21, 1964 A. F. GREENFIELD 3,141,690

TAPPING DEVICE FOR BARRELS, KEGS OR THE LIKE

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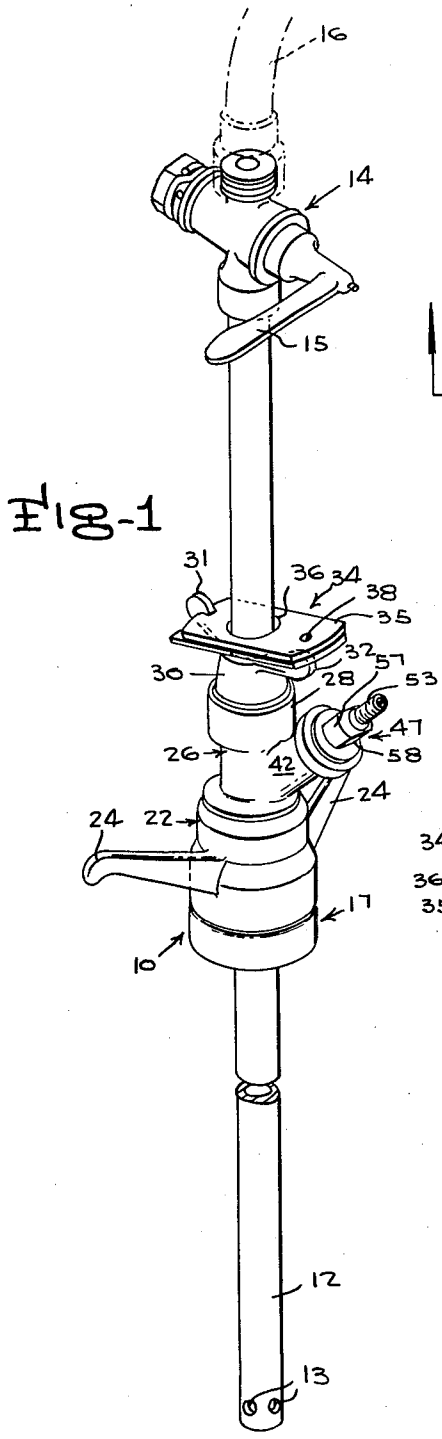


Fig-1

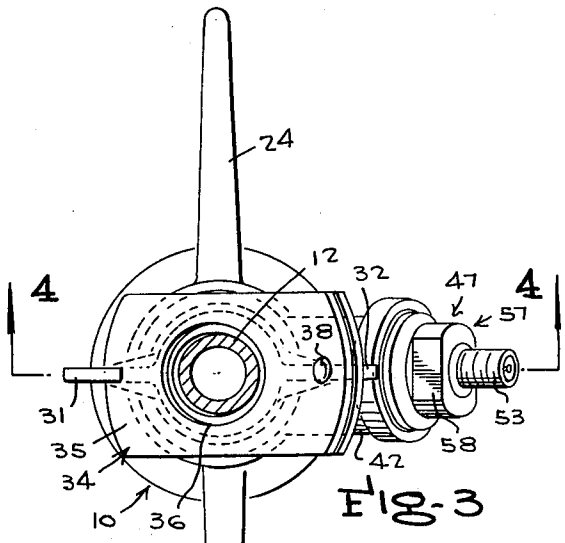


Fig-3

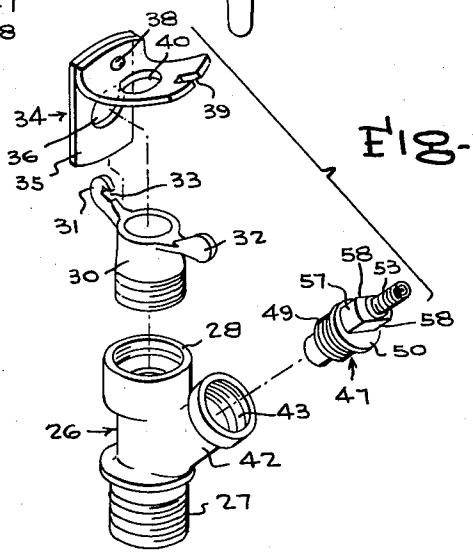


Fig-2

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Fig. 4

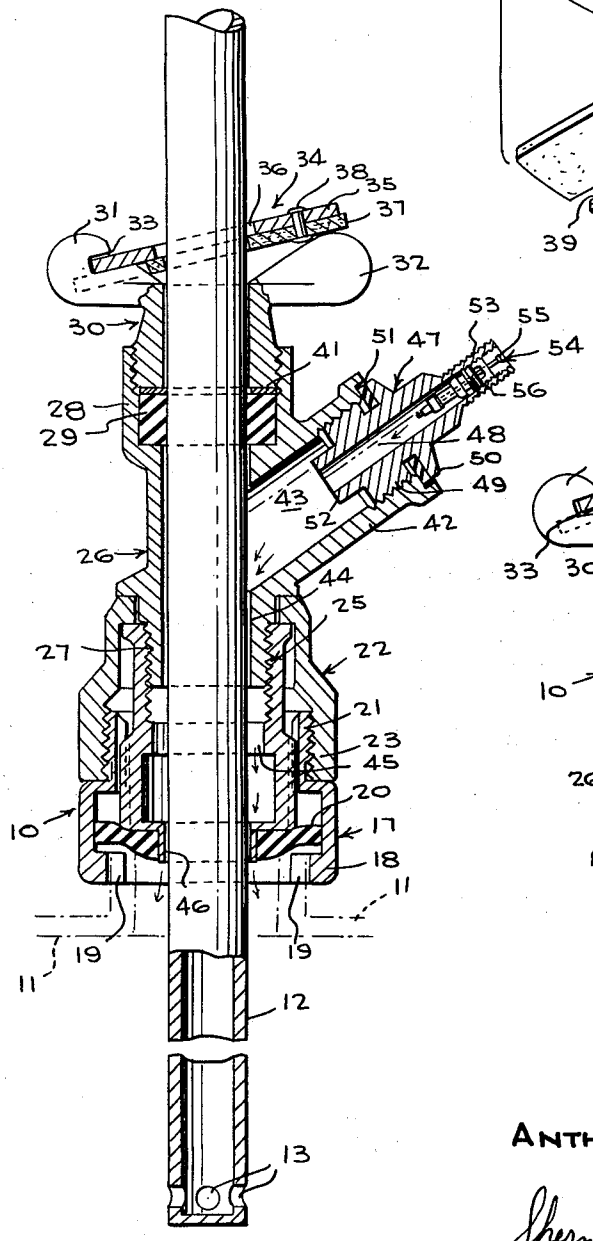
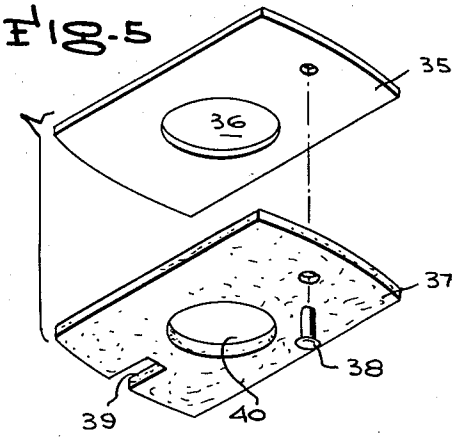


Fig. 5



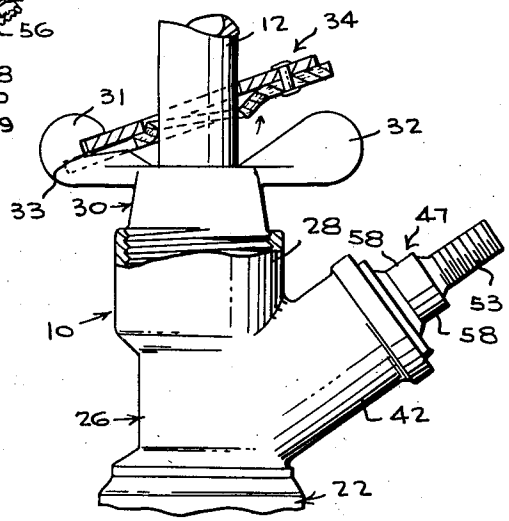


Fig. 6

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TAPPING DEVICE FOR BARRELS, KEGS OR THE LIKE

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1 Claim. (Cl. 287—58)

This invention relates to a tapping rod, and more particularly to an improved tapping rod for use with beverage kegs, barrels or the like such as barrels of beer.

The primary object of this invention is to provide a tapping rod for a beer barrel or keg, wherein the tapping rod of the present invention includes a safety locking mechanism for insuring that the tapping rod can be used with greater safety, and wherein according to the present invention there is also provided a novel and highly efficient valve construction which prevents loss of pressure in the barrel or keg and also helps prevent spoilage of the contents of the barrel or keg.

A further object of the present invention is to provide a tapping rod which includes a means for automatically and safely locking the rod in place, and wherein there will be no interference with the tapping of the keg, and wherein the present invention also helps prevent accidents since the device functions as a lock to prevent blow-back, and wherein there is also provided an air valve which serves to eliminate the necessity of the usual rubber or resilient check valve, the air valve of the present invention serving to eliminate continuous maintenance and also eliminating or minimizing the possibility of spoilage due to pressure leak.

Still another object is to provide such a tapping rod that is economical to manufacture and efficient in operation and which is rugged in structure and foolproof in use.

These and other objects of the invention will become apparent from a reading of the following specification and claim, together with the accompanying drawings, wherein like parts are referred to and indicated by like reference characters and wherein:

FIG. 1 is a fragmentary perspective view illustrating the tapping rod constructed according to the present invention.

FIG. 2 is a perspective view showing certain of the parts separated for clarity of illustration.

FIG. 3 is a horizontal sectional view taken through the tapping rod.

FIG. 4 is a sectional view taken on the line 4—4 of FIG. 3.

FIG. 5 is a perspective view showing the plate and leather-like base piece forming part of the safety lock of the present invention.

FIG. 6 is a fragmentary side elevational view, with parts broken away and in section, showing certain constructional details of the present invention.

Referring in detail to the drawings, the numeral 10 indicates the tapping device of the present invention which is adapted to be used with a barrel, keg or the like 11, FIG. 4. The tapping device 10 includes an elongated hollow rod or pipe 12 which is adapted to have a plurality of spaced apart apertures 13 in the lower end thereof, and the numeral 14 indicates a manually operable control valve which is arranged on the upper portion of the rod 12, FIG. 1. The control valve 14 includes a manually movable handle or lever 15, and the numeral 16 indicates a discharge line which is suitably operatively connected to the control valve 14 for the egress therethrough of beer or the like.

As shown in FIG. 4 for example, the numeral 17 indicates a bung member which has an inwardly disposed shoulder 18 on the lower portion thereof, and a pair of

diametrically opposed projections 19 are integral with the shoulder 18. The numeral 20 indicates a circular yieldable washer which is arranged in the bung element 17 and the washer 20 is adapted to abut the projections 20 and shoulder 18. The bung member 17 further includes an upper threaded section 21 of reduced diameter.

The numeral 22 indicates a coupling element, and the coupling element 22 has an internally threaded portion 23 which is arranged in threaded engagement with the threaded section 21 of the bung member 17, and the coupling element 22 further includes a pair of integral diametrically opposed extensions 24, FIG. 1.

The numeral 25 indicates a bushing which is mounted on the rod 12 within the coupling element 22 and bung member 17.

As shown in the drawings, the numeral 26 indicates a body piece which has a depending threaded portion 27 that is arranged in threaded engagement with the bushing 25, and the body piece 26 further includes an enlarged upper end portion 28 which has its interior recessed for receiving therein a yieldable or resilient gland member 29, and a washer 41 is adapted to be arranged contiguous to the upper portion or upper surface of the gland member 29.

The numeral 30 indicates a fitting or nut which has its lower portion threaded for threadedly engaging the upper portion of the body piece 26, FIG. 4, and formed integral with the fitting 30 is a pair of diametrically opposed lugs 31 and 32. The lug 31 is cut away or provided with a slot as indicated by the numeral 33. The numeral 34 indicates a safety look mechanism which includes a plate made of a suitable material such as a suitable metal, and the plate 35 has a central circular opening 36 therein for the projection therethrough of the rod 12. The numeral 37 indicates a leather-like or flexible base member which is adapted to have an end portion thereof affixed to the plate 35, as, for example, by means of a securing element such as the rivet 38, and the base member 37 is recessed or cut away as at 39 so that the recess 39 will provide clearance for the lugs 31, as for example when the parts are in the position of FIG. 4. The base member 37 has a circular opening 40 therein which is adapted to be arranged in registry with the opening 36 and these registering openings have the rod 12 extended therethrough.

Formed integral with the body piece 26 is an angularly disposed conduit portion 42 which has a hollow interior as indicated by the numeral 43 whereby gas such as air under pressure can be forced down through the passageway or interior 43 and then down through the bore or passageway 44 and then through the space 45 and then through the space 46 so this gas or air under pressure can have a tendency to maintain the necessary pressure on the beer in the barrel 11 to force the beer up through the apertures 13 and up through the hollow rod 12 whereby when the valve 14 is opened by the handle 15, the beer can be discharged out through the nozzle or line 16 in the desired manner.

The numeral 47 indicates a support member which has a centrally disposed bore or passageway 48 therein, and the support member 47 includes an externally threaded portion 49 that is arranged in threaded engagement with the inner end portion of the conduit 42. The support member 47 further includes a flange 50, and a gland member or washer 51 is interposed between the flange 50 and adjacent end portion of the conduit 42. The outer end portion of the support member 47 is threaded as at 53 whereby suitable cap or closure can be arranged in engagement therewith or else a suitable line leading from a source of supply of air or gas under pressure can be suitably connected to the threaded portion 53 of the member 47. The numeral 54 indicates an air check valve or control valve which is suitably mounted within

the bore 48, and the valve unit 54 may have an externally threaded portion 56 which threadedly engages a suitable threaded inner portion of the bore 48.

As shown in FIG. 2 for example, the support member 47 includes an integral enlargement or shoulder portion 57 which is provided with a pair of spaced parallel flat surfaces or faces 58 which are adapted to be conveniently engaged by a tool such as a wrench, as for example when the support member 47 is being loosened or tightened.

From the foregoing, it will be seen that according to the present invention there has been provided an improved tapping rod for use with a barrel, keg, of beer or the like, and in use with the parts arranged as shown in the drawings, the bung member 17 is adapted to be arranged in engagement with the barrel 11 in the usual manner, and for example the projections or lugs 19 are adapted to be used for retaining the bung member 17 connected to the barrel. The lower end of the rod 12 is adapted to extend down into the barrel, and the coupling element 22 is threadedly connected to the bung member 17. The body piece 26 is connected to the bushing 25, and when the parts are properly assembled, the parts or elements are in the position such as that shown in FIG. 4. When the beer is to be dispensed, the valve 14 can be opened so that the beer can flow out through the line 16.

Air under pressure or other suitable gas may be supplied to the interior of the barrel 11 by means of the valve unit 54 and associated parts. Thus, the air supply line can be connected to the threaded portion 53 of the support member 47 whereby the stem 55 of the valve unit 54 will be depressed so that the air under pressure can flow through the passageway 48 and into the hollow passageway 43 of the conduit 42. It is to be noted that the member 47 has its inner end smooth or flat as at 52, and wherein the member 47 is characterized by the absence of the usual check valve or Thomas valve thereon. By eliminating such Thomas check valve on the member 47 and in lieu thereof utilizing the valve unit 54, certain important advantages are achieved. Namely, leakage of air will be prevented since such previously used valves of the Thomas type have been characterized by permitting leakage of air pressure therethrough especially after the Thomas valve has been used for a period of time and such leakage of air or pressure results in spoilage of the beer or other liquid in the keg or barrel 11. When the air pressure supply is removed, the valve unit 54 automatically closes so that the air pressure will be maintained at the proper level within the barrel 11 whereby the beer can be forced into the hollow rod 12 through the openings or apertures 13 and this beer will then flow up through the rod 12 in the usual manner as previously stated.

An other important aspect or feature of the present invention is the locking mechanism 34 which includes the plate 35 having the resilient or leather-like piece 37 connected thereto as at 38. By properly positioning the plate 35 in engagement with the slot 33 of the lug 31 as shown in FIG. 4, the base piece 37 will be pinched or tightly squeezed so that the portions of the member 37 in the vicinity of the opening 40 will exert a camming or locking action on the rod 12 in order to prevent accidental movement or blow-back of the rod 12 as frequently occurs due to pressure within the barrel or other reasons. Such blow-back of the rod 12 is dangerous since it may fly up in the face of the workmen or other persons in the vicinity of the barrel and cause serious injuries to the workmen's hands, face or other parts of the body, but with the present invention these serious drawbacks of existing equipment are overcome or obviated.

The parts can be made of any suitable material and in different shapes or sizes as desired or required.

The lock 34 is constructed so that by manually moving the plate 35 and member 37 in the proper direction, the camming action on the rod 12 can be overcome so as to permit shifting or adjustment of the rod 12 when desired. As shown in FIG. 4 when the edge or end of the plate 35 is engaged in the slot 33, the plate 35 and member 37 are arranged in a slanting or angular disposition relative to the longitudinal axis of the rod 12 so that the lug 32 serves as a support or rest for helping to maintain the lock in its proper position. The recess or cut-away portion 39 provides a clearance to permit the member 37 to properly fit on the lug 31 as, for example, as shown in FIG. 4

The tapping device 10 is constructed so that the various parts can be readily separated or disassembled as for example when the parts are to be cleaned or replaced or the like. For example, the bung member 17 can be separated from the coupling element 22, and similarly the body piece 26 can be separated from the parts, and also the support member 47 can be separated or detached from the conduit 42 due to the threaded connections between these parts. Similarly the fitting 30 can be unscrewed from or screwed into the body piece 26.

The mechanism 34 functions as a locking safety device, and the valve construction including the unit 54 serves to prevent spoilage of the contents of the barrel from air. Also, by eliminating the rubber Thomas valve and using the valve unit 54, there will be an important saving in cost of equipment since the Thomas valve is expensive and the rubber Thomas valve has a tendency to wear out after being used. With the present invention a suitable material such as stainless steel is adapted to be used, and the valve construction on the support member 47 will maintain the proper pressure in the barrel so that it is not necessary to use the rubber Thomas valve.

Heretofore after a keg or barrel has been tapped, initially the beer tastes flavorful, but such barrels have a tendency to lose pressure and hence some of the flavor is lost and the beer tastes flat due to leakage through the rubber Thomas valve, but with the present invention the beer remains fresh since there is less likelihood of leakage. Also with the present invention the pressure can be properly maintained in the barrel and if desired additional air can be readily supplied to the interior of the barrel and regulation of the air pressure or gas pressure is greatly simplified.

Primarily the present invention relates to a tapping rod which automatically locks the rod in place and wherein there is no interference with tapping of the keg, and wherein accidents such as those occur when the hands slip off the tapping rod are prevented. The locking safety device includes the metal plate 35 which is joined to the leather piece 37 as at 38 and these parts cooperatively function as a lock to prevent blow-back.

The air valve of the present invention is adapted to be made of stainless steel and eliminates the usual Thomas valve so that the necessity of continuous maintenance is eliminated, and also the present invention will help eliminate spoilage due to pressure leakage.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

What is claimed is:

In a beer barrel tapping device of the type that includes an elongated rod, a fitting having a centrally disposed opening therein for the projection therethrough of said rod, said fitting being provided with a pair of upstanding diametrically opposed lugs, one of said lugs having a slot therein, a locking device including a plate having a circular opening therein, a flexible base piece having an end portion affixed to said plate, and said base piece having a recess in its other end and said recess providing clearance for the said one lug that has the slot therein, said base piece having a circular opening smaller than the opening in the plate therein which is arranged in registry with the circular opening in the plate,

and said registering openings having the rod extended therethrough.

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