March 15, 1938. E. D. STUDLEY 2,111,228

IDENTIFICATION DEVICE FOR DRAFT FITTINGS

Original Filed Feb. 11, 1935 2 Sheets-Sheet 1

Fig. 1.

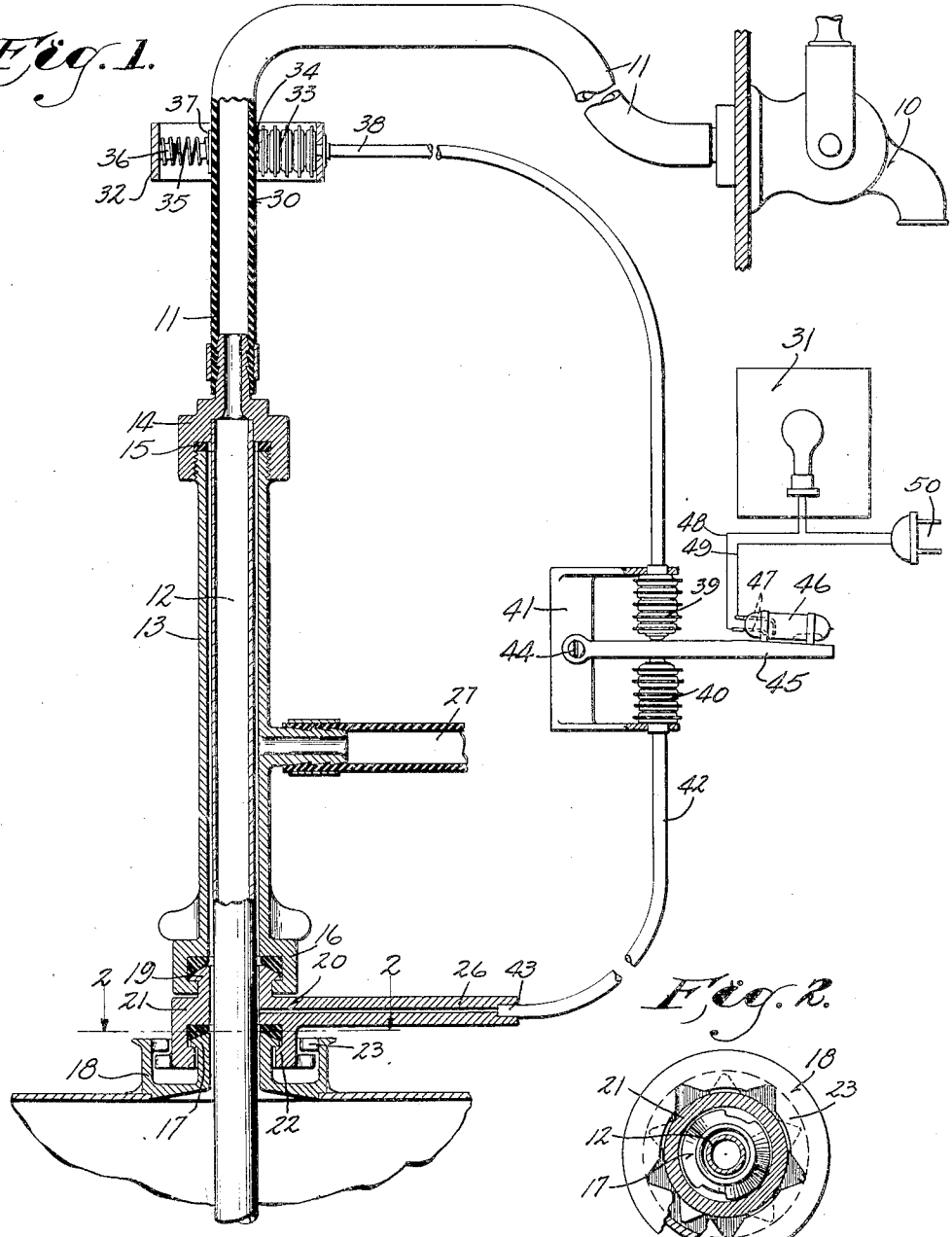


Fig. 2.

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Original Filed Feb. 11, 1935 2 Sheets-Sheet 2

Fig. 3.

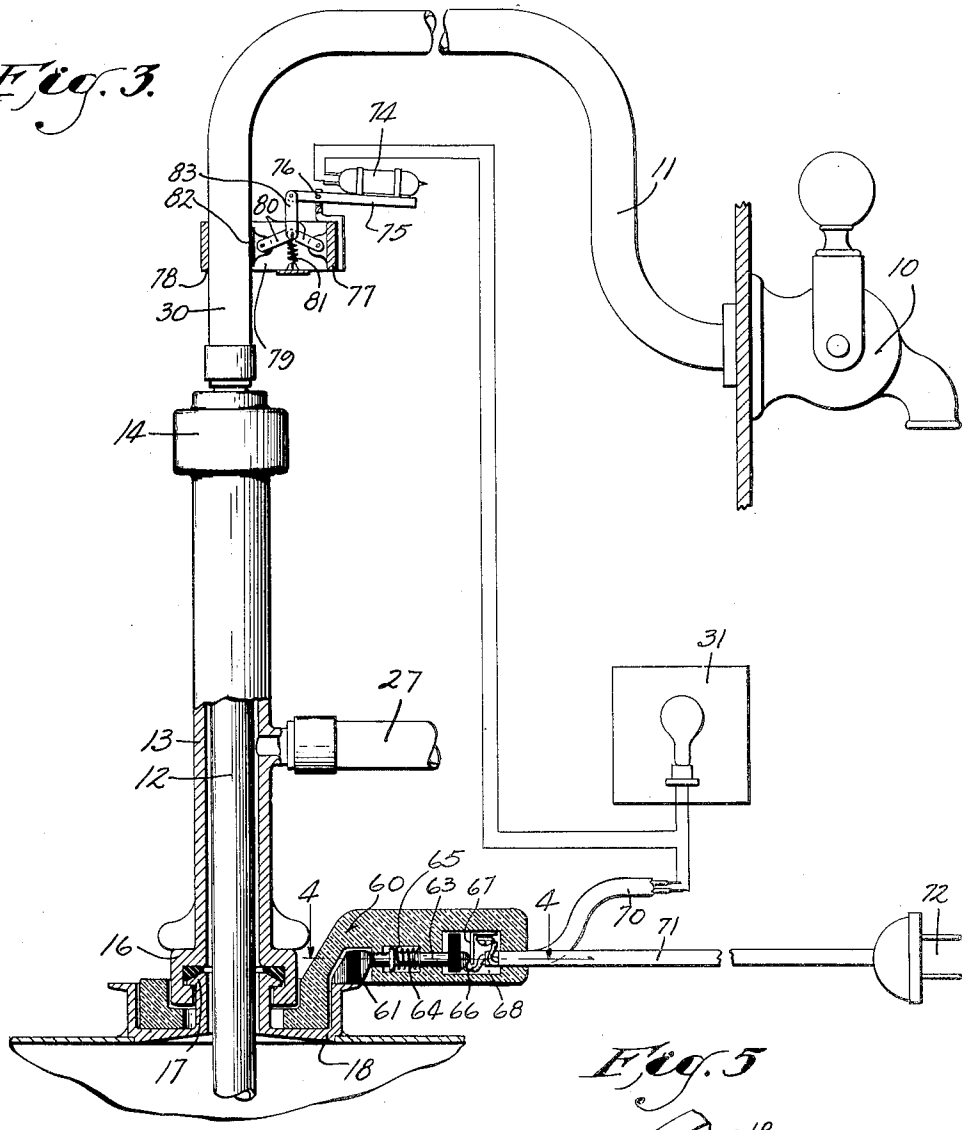


Fig. 5.

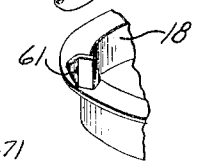
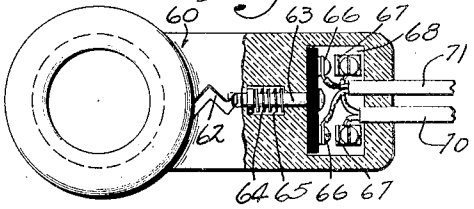


Fig. 4.



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UNITED STATES PATENT OFFICE

2,111,228

IDENTIFICATION DEVICE FOR DRAFT FITTINGS

Earl D. Studley, Milwaukee, Wis.

Application February 11, 1935, Serial No. 5,942
Renewed August 25, 1937

1 Claim. (Cl. 177—311)

My invention relates to improvements in identification devices for draft fittings.

In places where beer is dispensed through a number of taps or faucets, it is advantageous to establish confidence with customers to give a positive indication to the customer that the particular brand of beer which the customer has requested is actually being dispensed from the faucet from which the bartender draws the quantity of beer ordered. It is the object of my invention, therefore to provide means especially adaptable to beer barrels and draft fittings therefor, whereby positive identification of the source of beer drawn from a tap may be made known to a customer. It will be obvious from the description hereinafter set forth that my invention and the principle of operation thereof may be adapted to the container of any fluid material to be dispensed, under pressure.

Another object of my invention is to provide equipment to be used in conjunction with fluid containers, whereby unauthorized attachment of such equipment to "foreign" containers may be prevented.

In the drawings:

Fig. 1 is a somewhat diagrammatic view in elevation with certain parts shown in vertical section of my identification device for draft fittings installed for operation upon a basis of differential fluid pressure.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a similar view similarly diagrammatic of an alternative structure operating upon the basis of a switch responsive to fluid pressure, but otherwise concerned with electrical and mechanical connections to a beer barrel and beer faucet.

Fig. 4 is a section on line 4—4 of Fig. 3.

Fig. 5 is a detail perspective of a portion of a tap bushing to be used in conjunction with the structure shown in Fig. 3.

Like parts are designated by the same reference characters throughout the several views.

Included in the usual equipment of a tavern or other place where beer is to be dispensed is the usual tap or faucet 10 from which beer is drawn at the bar or counter. The tap is placed at the end of a conduit or pipe 11 which extends from the room or refrigerator where barrels or kegs of beer are stored. At the end of the pipe 11 is a tap rod 12 surrounded by a sleeve 13 which is maintained in liquid and air-tight relationship to the tap rod 12 by means of a cap 14 and gasket 15. Near the lower end of the tap rod 12 the lower end of the sleeve terminates in a female portion 16 of a bayonet fitting adapted to receive the male portion 17 of a standard type of tap bushing 18. In keeping with my invention, however, the female portion 16 of the sleeve 13 is fitted to the male portion 19 of an adapter 20 forming part of my new identification device.

The adapter is provided with a special collar 21 which provides a female portion 22 which is receivable upon the male portion 17 of a tap bushing 18, which is larger than the standard tap fitting and especially equipped interiorly of the outer margins thereof at 23 with bosses having a special configuration, as shown most clearly in Fig. 2, and since the collar 22 is of a special design complementary to the bosses 23 on the tap fitting, there is provided in this construction means for positively assuring the owner of the beer barrels and the producer of the contents of such beer barrels that no standard tap equipment such as the sleeve 13 and the collar 16 may be received upon the male portion 17 of the beer barrel tap fitting.

Use of sleeve 13 attached to any foreign barrel will automatically discontinue use of electric signals as fitting 16 will attach to bushing 17 and adapter 20 will be of no use on foreign barrels as it will not fit.

Sleeve 13 may be so made as to be useable on bushing 17 as the bushing is identical with all barrels equipped with this standard fitting. My signal unit can not be operated on any container except such as are equipped with special fitting 18, thus assuring customers that beer is only flowing from proper containers as advertised by illuminated sign. This prevents use of any other than the authorized brewer's containers.

It will be noted that the adapter 20 is provided with a laterally extending tube 26, the interior of which is open at the one end into the space between the tap rod 12 and the sleeve 13. This space is filled with gas under pressure supplied to the interior of the beer barrel through a gas supply connection at 27, and, as is well known in the art, the gas pressure in the space between the tap rod 12 and the sleeve 13 is maintained throughout the period during which beer is withdrawn from the barrel to which the tap bushing 18 is secured. In the pipe 11 leading to the tap 10 I provide a flexible or collapsible tube 30 which is distended by the pressure of beer forced into the pipe 11 by the gas pressure entering at 27, as above described. However, when the tap 10 is opened, the pressure of beer in the tube 30 drops, and I make use of this condition to actuate a signalling system, which preferably

takes the form of a visual signal, such as an electric sign 31 shown in Figures 1 and 3.

Signalling system

A collar 32 embraces the flexible portion 30 of the pipe 11 and provides space between the collar and the tube 30 for the reception of a collapsible bellows 33, one end of which is supported and seated against the collar 32 and the other end is provided with a button 34 pressed against one wall of the collapsible tube 30 by the pressure of a spring 35, one end of which is supported upon a boss 36 forming a part of the collar 32 and the other end of which is attached to a pressure plate 37 in contact with a wall of the collapsible tube.

The bellows 33 is distended by pressure of gas which is communicated to the bellows 33 by a pressure conduit 38. At the other end of the pressure conduit is a bellows 39 of the same type as bellows 33. The conduit 38 and the two bellows 33 and 39 constitute a sealed gas filled unit.

A bellows 40 positioned opposite bellows 39 and supported in that position by a yoke 41 to a conduit 42 is connected at 43 to the laterally extending tube 26 forming a part of the adapter 20. Bellows 40 is therefore responsive to gas pressure in the space between the tap rod 12 and the sleeve 13.

Between the bellows 39 and 40, and supported upon a fulcrum at 44, is a switch arm 45 upon which is mounted a mercury switch 46, which is so constructed that when the arm is elevated the mercury in the tube flows to a pair of contacts at 47 to establish an electrical connection for a pair of wires 48 and 49, which, when energized, through a source 50, will cause the electric sign 31 to be illuminated.

From the above description it will be apparent that when the tap 10 is open and the collapsible tube 30 is permitted to slightly respond to the pressure of spring 35, the pressure of liquid or fluid in the tube 38 and bellows 33 will be somewhat relieved because of the expansion of the bellows 33. Bellows 39 will thereupon collapse somewhat under the opposing pressure of gases in the tube 26, conduit 42, and bellows 40, so that the switch arm 45 will be elevated and the electrical contact in mercury switch 46 will be complete to illuminate the sign 31.

The illumination of sign 31 will, under the circumstances above set forth, positively indicate to the customer that the beer withdrawn from tap 10 is identified as beer coming from a brewery supplying the equipment embodied in tap bushing 18 and adapter 20, since no adapter or female portion 16 of sleeve 13 will fit brewery equipment or barrels or tap bushings of any other design than that furnished by a particular source identified by the electric sign 31.

An alternative form of equipment is to be found in the structure shown in Figures 3 to 5, inclusive. This structure, as distinguished from that described above, is principally electrical. The adapter in this electrical equipment is shown at 60. It is likewise receivable only upon a tap bushing of particular design, but the particularity of the design is embodied in a deformed key 61 forming integrally a part of the tap bushing 18.

When the adapter 60 is in position upon the tap bushing 18, the key 61, receivable in a peculiarly formed slot 62 in the adapter, extends into the body of the adapter 60 so as to contact a switch plunger 63 and thrust the switch plunger outwardly radially of the tap bushing against the pressure of a spring 64 housed within a recess 65 in the adapter. Displacement of the switch plunger 63 outwardly radially by the key 61 forces electrical contact 66 against electrical contact 67, both of which contacts are positioned in a recess 68 in the adapter.

From the adapter 60 armoured electric cables 70 and 71 extend respectively to a sign 31, and the current is supplied to the sign through the switch contained in the adapter 60 from a source 72.

At 74 I have shown a mercury switch in series with the adapter switch at 60 and in series with the sign 31. This switch is mounted upon an arm 75 tiltable upon a pivot pin 76 supported by a switch frame 77. The switch frame 77 is in the form of a collar considerably larger in diameter than the diameter of the rubber hose 30 which extends through the collar 77 and bears at 78 against one side thereof. Within the collar 77 therefore, there is space provided at 79 for a set of toggle links 80 and a spring 81 so mounted as to bring pressure upon a pad 82 which in turn bears against a wall of the collapsible pipe 30. Link 83 connects the toggle links 80 to the switch arm 75 so that when pressure within the pipe 30 is relieved by the opening of the beer tap 10, the spring 81 draws the toggle links 80 downwardly thereby tilting the switch arm to switch closed position to accomplish the sign lighting operation desired.

I claim:

In a device of the character described, a container having an opening, a special bushing on said container having an opening aligned with the opening in said container and provided with a special key receiving portion, an adapter having an opening for alignment with the opening in the bushing and provided with a key structure complementary to the key receiving structure of the bushing, a tap conduit tube and sleeve, a discharge faucet connected to one end of said tube, means for securing said sleeve to said adapter with the other end of the tube projecting into said container through said sleeve and adapter opening, a source of pressure connected to the space between the tube and sleeve, a signal device, a signal circuit and a switch connected in series circuit with a source of current, and means including a pressure conduit connected to said opening in said adapter for closing said switch when said discharge faucet is opened.

EARL D. STUDLEY.