

Jan. 24, 1928.

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1,657,013

ADAPTER FOR FITTING PUMPS TO CASKS, TANKS, AND THE LIKE

Filed Jan. 15, 1926

2 Sheets-Sheet 1

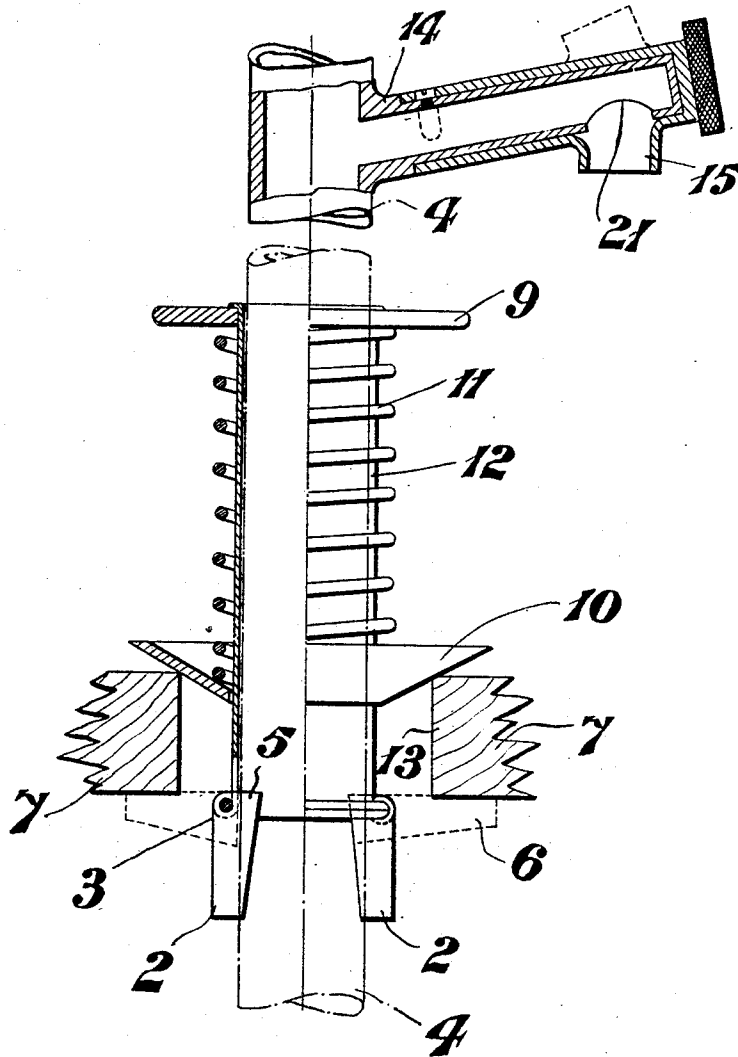


Fig. 1.

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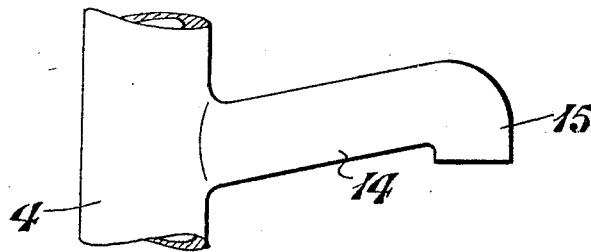


Fig. 2.

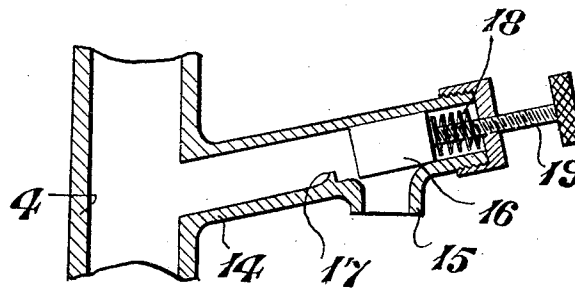


Fig. 3.

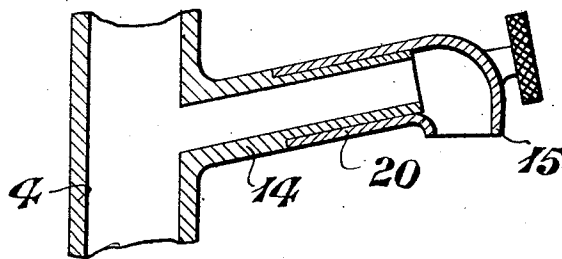


Fig. 4.

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Patented Jan. 24, 1928.

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UNITED STATES PATENT OFFICE.

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ADAPTER FOR FITTING PUMPS TO CASKS, TANKS, AND THE LIKE.

Application filed January 15, 1926, Serial No. 81,604, and in Great Britain February 14, 1925.

This invention relates to an adapter or connecting device for holding a pipe such as a pump barrel or the suction pipe of a pump in the orifice of a cask, drum, tank or other container, and has for its object to provide a simple device of this character which can be applied quickly and securely to the orifice and hold the pipe with its inner end extending to the bottom or opposite side of the container or to any desired depth in the container.

The present invention comprises an adapter or connecting device for holding the suction pipe or barrel of a pump or other pipe in an orifice in a cask, drum or other container, consisting of a tubular member having a fastening device for holding it in the orifice of the container such fastening device having fastening members adapted to be brought into engagement with the parts of the container adjacent the orifice and held there by the pipe to be secured in the orifice when such pipe is pushed into the tubular member.

In the preferred construction of the adapter or connecting device the fastening mechanism consists of two or more spaced levers pivoted to the lower end of the tubular member so as to swing radially outwards therefrom and having projecting portions extending within the tubular member so as to be engaged by the end of the inserted pipe and turned about their pivots into engagement with the inner sides of the container and held there while the pipe is in place in the tubular member.

The projecting portions of the levers adapted to be engaged by the inserted pipe are shaped at their inner ends to allow the end of the inserted pipe to pass beyond them while maintaining their outer ends against the inner sides of the container.

In order that the invention may be more readily understood reference is made to the accompanying drawings in which Figure 1 is a partly sectional elevation of an adapter made in accordance with the present invention and Figures 2, 3 and 4 modifications of the pouring spout. In Figure 1 of the drawings 12 is the tubular member which is provided at its upper end with a fixed flange 9 and on which slides a flange 10 conical on its lower side so as to have a self centering effect on the orifice 13, the orifice 13 being the hole in the container of which portions of the sides are shown at 7. Extending between the flanges 9 and 10 and mounted

freely on the tubular member 12 is a spiral spring 11, and at the lower end of the tubular member 12 is fixed a ring 3, the tubular member 12 being cut away at places to enable fingers or levers 2, 2 pivoted on the ring 3 to move outward radially from the tube. The inner ends 5 of the levers 2 project into the tubular member 12 and are shaped so that they will engage the sides of a pipe such as 4 when the pipe is pushed through the tubular member. The initial movement of the pipe 4 in passing through the tubular member 12 engages the inwardly projecting ends of the levers 2 and turns their outward ends upwards into engagement with the inner surfaces of the container 7 as shown in dotted lines at 6. The spring 11 is of such a length as to force the flange 10 into engagement with the outside of the container while the levers 2 are forced in the opposite direction into engagement with the inside of the container.

When it is desired to use the device, the levers 2 are inserted freely into the orifice 13, and the flange 10 pressed against the edges of the orifice 13 in the container 7. The pipe 4 or pump barrel as the case may be is now passed through the tubular container 12 and pushed against the inner ends of the levers 2, so that the levers 2 are tilted about the pivot ring 3 outwards and upwards until they engage the inner surface of the container 7, against which they are held by the sides of the pipe 4 which engage the shaped ends of the levers 2 upon further inward movement of the pipe 4.

The pipe 4 may be released and removed from the container by applying sufficient pressure on the fixed flange 9 to force the tubular member 12 further into the container 7, when the pressure of the levers 2 against the inside of the container and the pipe 4 will be released so that the pipe 4 can be withdrawn. The removal of the pipe 4 allows the levers 2 to hang freely in the container and so enable the tubular member 12 to be removed from the orifice 13.

In the invention illustrated by Figure 2 the pipe or pump barrel 4 at its upper end may be provided with a spout 14 inclined in an upward direction so as to leave its nozzle 15 higher than the end connected to or formed on the pipe or pump barrel 4 so that the surplus liquid in the spout will drain back into the pipe or pump barrel 4.

In Figure 3 the spout is fitted with a freely

sliding plunger 16 which when the device is moved to the upright position moves down by gravity to and rests against the stop 17 and so closes the outlet of the spout. When the device is tilted into pouring position the plunger 16 slides down below the orifice of the spout against a spring 18 which is compressed by the pressure of liquid behind the plunger. A screw 19 may be provided for adjusting the movement of and for holding the plunger 16 against the stop 17 if required when the apparatus is not in use.

In the construction shown in Figure 4 the nozzle portion 15 of the spout forms part of a sleeve 20 rotatably mounted on the spout 15 so that the nozzle 15 can be rotated downwards into using position or upwards when not in use and to ensure draining into the barrel or pipe 4.

In the device shown in Figure 1 the spout 14 is closed at its end and has a delivery opening 21 on its under side over which rotates the sleeve 20 of the nozzle 15 which registers with the delivery opening 21 when turned down and closes such opening when turned upwards.

Figure 2 illustrates a modification in which the pipe or barrel 4 is provided with an upwardly inclined spout 14 having a fixed nozzle 15.

What I claim and desire to secure by Letters Patent is:—

1. In a connecting device of the character described, the combination of a tubular member, spaced levers pivoted at and normally depending from the lower end of said tubular member and with their upper ends projecting a distance into said member, a bung flange on said tubular member above said levers, and a pipe inserted in said tubular member to engage with said projecting ends of the levers to swing said levers outwardly.

2. In a connection device for the purpose described, the combination of a tubular member, spaced bell crank levers pivoted at the lower end of said tubular member and normally positioned with one lever arm extending downwardly and the other inwardly into said tubular member, an abutment flange on said tubular member above said levers, said levers being in the path of a pipe inserted through said tubular member to be swung outwardly thereby to form abutments opposed to said abutment flange.

3. In a connecting device of the character described, the combination of a tubular member for receiving a pipe to be connected, levers pivoted at the end of the tubular member to swing radially and having projecting portions normally extending within the tubular member to be in the path of an inserted

pipe, and a yieldable abutment flange on said tubular member, insertion of a pipe in said tubular member causing said levers to swing outwardly into position opposite to said abutment flange.

4. The combination with a container having an orifice, and a pipe to be connected at said orifice, of a tubular member inserted through said orifice, a fixed flange at the outer end of said tubular member, a slidable bung flange on said tubular member at the outside of said orifice, a spring between said flanges for exerting pressure against said bung flange, levers pivoted on said tubular member below said bung flange to swing radially and having projecting portions extending within the tubular member to be engaged by the end of the inserted pipe to be connected and to be swung outwardly against the container wall at the inside of the orifice.

5. The combination with a container having an orifice, and a pipe to be connected with the container at said orifice, of a tubular member, a bung member slidable on said tubular member, levers pivoted on said tubular member below said bung member and normally hanging downwardly with a part thereof projecting into the tubular member whereby insertion of the pipe through said tubular member will cause the levers to be swung outwardly, a spring pressing the bung member toward said levers and across said orifice at the outside thereof, said levers engaging the container wall at the inside of said orifice.

6. The combination with a container having an orifice, and a pipe to be connected with the container at said orifice, of a connecting device, said device comprising a tubular member for receiving the pipe to be connected, a stationary abutment flange on said tubular member and a movable bung flange thereon, a spring between said flanges, levers pivoted on said tubular member below said bung flange to swing radially and projecting a distance into said tubular member when the pipe is withdrawn therefrom, said tubular member being applied in the orifice with the bung flange extending across the orifice at the outer side thereof, insertion of the pipe through the tubular member causing the levers to be swung outwardly against the container wall at the inner side of the orifice whereby said connecting device will be secured to the container and the orifice closed, and a controllable spout at the outer end of said pipe.

In witness whereof I affix my signature.

ALFRED JAMES KETTLE.