

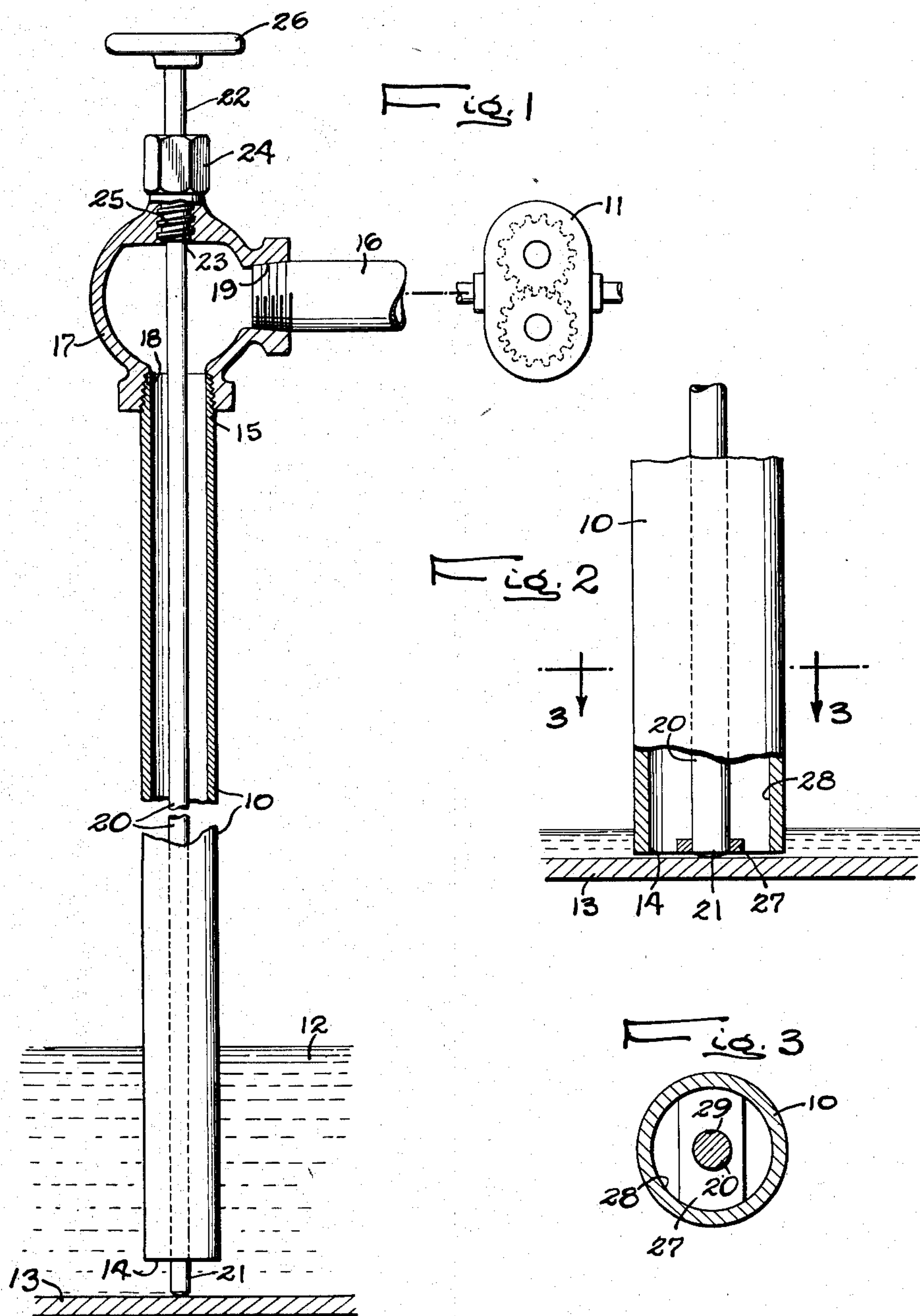
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INTAKE PIPE

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INTAKE PIPE

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1 Claim. (Cl. 103—202)

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This invention relates to portable pump intake pipes which are adapted for connection at one end with the intake of a pump and are open at the other end for lowering into liquid to be withdrawn from a receptacle such as a tank.

The principal object of the invention is to facilitate withdrawal of the liquid from the receptacle by supporting the pipe in a novel manner which enables the pipe inlet opening to be spaced a substantial distance from the bottom of the receptacle during withdrawal of most of the liquid and permits the pipe to be moved axially to reduce the spacing between the inlet opening and the receptacle bottom for withdrawing the remainder of the liquid.

Another object is to provide a novel supporting means for a pump intake pipe which is easy to operate and which is simple and inexpensive to construct.

A more detailed object is to support the pipe during withdrawal of the liquid by means of a rod which projects outwardly beyond the inlet opening of the pipe to rest on the receptacle bottom and which is adjustable axially with respect to the pipe through the medium of a simple screw connection.

Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings, in which

Figure 1 is a fragmentary elevational view partially in section of an intake pipe embodying the present invention.

Fig. 2 is an enlarged view of a part of Fig. 1 showing a different position of the parts.

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 2.

For purposes of illustration, the invention is shown embodied in an intake pipe 10 for a suction pump 11 by means of which liquid 12 is withdrawn from a receptacle 13. Ordinarily, the pipe is disposed vertically in the receptacle with the liquid being drawn upwardly into the pipe through an inlet opening 14 in the lower end thereof, the upper end 15 of the pipe being adapted for connection with the intake 16 of the pump. Such connection is effected, in this instance, by means of a hollow fitting or head 17 which has holes 18 and 19 therein threaded to receive the upper end 15 of the pipe and the outer end of the pump intake 16.

The invention contemplates the provision of a novel support for the pipe 10 which enables the inlet opening 14 of the latter to be spaced a substantial distance from the bottom of the recep-

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tacle 13 (see Fig. 1) to utilize the full cross-sectional area of the pipe during withdrawal of most of the liquid from the receptacle, and permits the pipe to be lowered axially to effect withdrawal of the remainder of the liquid as the level thereof approaches the receptacle bottom (see Fig. 2). To accomplish this, a rod 20 is adjustably supported on the pipe so as to extend longitudinally thereof with its lower end 21 projecting outwardly beyond the inlet opening 14 of the pipe and resting on the receptacle bottom. Adjusting the position of the rod 20 axially with respect to the pipe varies the spacing between the receptacle bottom and the inlet opening.

In the present instance, the rod 20 is longer than the pipe 10 and is centrally disposed within the latter to project the lower rod end 21 outwardly beyond the pipe inlet opening 14 and the upper end portion 22 of the rod through a hole 23 in the top of the fitting and outwardly beyond the latter. Air is prevented from leaking into the pipe 10 through the fitting hole 23 by means of a packed stuffing box 24 which is secured to the top of the fitting so as to surround the rod.

Supporting of the rod 20 within the pipe for adjustment axially with respect to the latter to vary the spacing between the inlet opening 14 and the receptacle bottom is effected herein by threading the hole 23 and the adjacent portion 25 of the rod so that turning of the latter moves the same relative to the pipe. If desired, a suitable hand wheel 26 may be secured to the upper rod end. With this arrangement, the position of the rod relative to the pipe may be adjusted conveniently from a point exteriorly of the pipe and above the receptacle or tank 13.

To center the rod within the pipe while permitting relative axial movement between the two, a crosspiece 27 may be interposed between the rod and the internal wall 28 of the pipe. Herein, the crosspiece is secured to the wall 28 adjacent the inlet opening 14 and is formed with a central aperture 29 for slidably receiving and guiding the lower end portion of the rod.

The invention is especially adapted for use in removing liquid from large receptacles such as tank cars or the like. When the liquid level is relatively high in the receptacle, the pipe 10 is lowered into the liquid so as to dispose the inlet opening adjacent the receptacle bottom, and the wheel 26 is turned in a direction to project the lower rod end 21 a substantial distance beyond the inlet opening. With this adjustment (see Fig. 1), the lower rod end will rest on the receptacle bottom and maintain the inlet opening

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14 spaced from the receptacle bottom for utilizing the full cross-sectional area of the pipe.

As the liquid level approaches the receptacle bottom, the wheel 26 is turned in the opposite direction to retract the lower rod end 21 upwardly into the pipe. The inlet opening is thus lowered along with the level of the liquid and the remainder of the latter is easily removed from the receptacle (see Fig. 2).

From the foregoing, it is apparent that the pump intake pipe 10 is supported to utilize the full cross-sectional area of the pipe in withdrawing most of the contents of a receptacle while permitting the pipe inlet to be lowered toward the receptacle bottom during withdrawal of the remainder of the liquid. The intake pipe described is both simple and inexpensive to construct and is easily operable from a point disposed exteriorly of the pipe.

I claim as my invention:

A pump intake pipe having, in combination, a hollow body having an inlet opening and an outlet opening right angularly spaced from said inlet opening and adapted to be rigidly connected to a rigid conduit leading to a pump, an elongated straight pipe imperforate throughout its length and having one end projecting into said inlet opening and having a fluidtight connection with said body whereby said pipe projects outwardly from the body, said body having a thread-

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ed aperture directly opposite and alined with said inlet opening, an elongated rod extending longitudinally through said pipe and threaded into said aperture with one end projecting outwardly beyond said body and the other end projecting outwardly beyond the outer open end of said pipe, a stuffing box surrounding said rod adjacent said aperture to seal the latter while permitting rotary and axial movement of the rod, and a crosspiece interposed between said rod and the internal wall of said pipe at a point spaced a substantial distance from said aperture and acting to center the rod within the pipe while permitting relative axial movement between the two.

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