Dec. 30, 1941. J. E. SPANKO 2,268,174

EXTENSION DRIVE FOR WATER METERS

Filed April 22, 1941

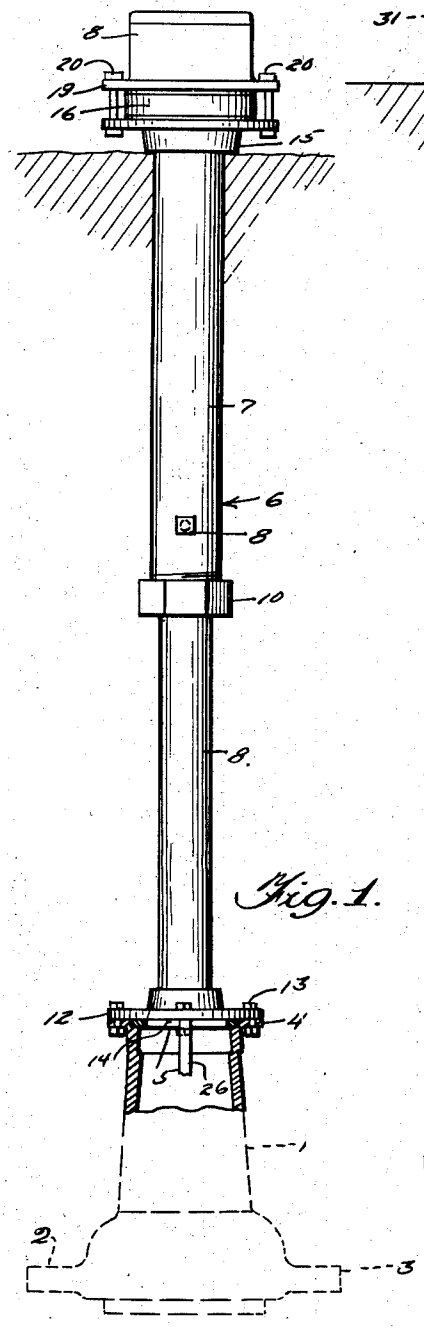


Fig. 1.

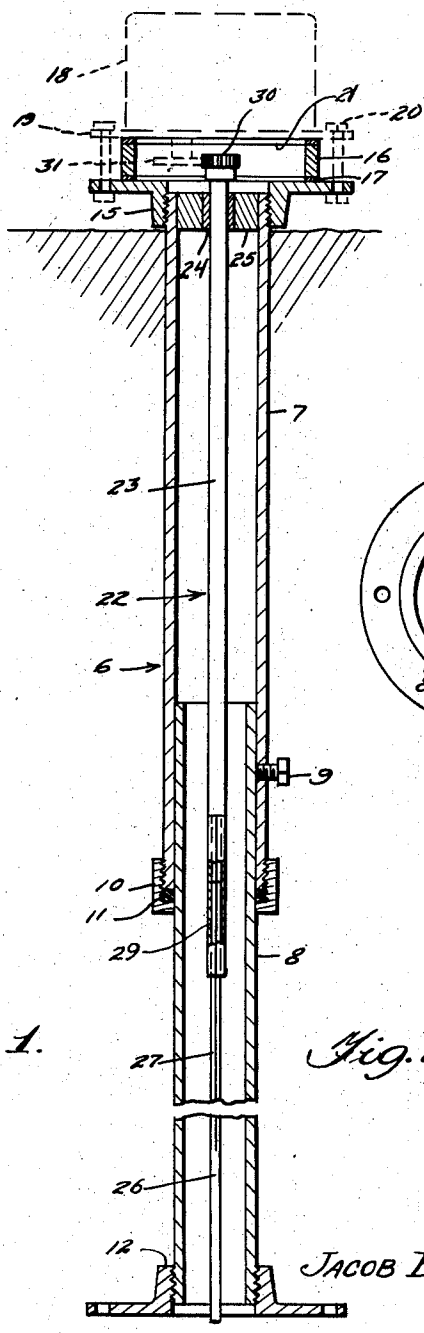


Fig. 2.

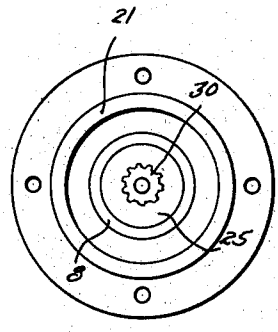


Fig. 3.

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EXTENSION DRIVE FOR WATER METERS

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2 Claims. (Cl. 73—272)

My invention relates to improvements in extension drives for water meters such as are used in connection with water mains to register domestic water consumption.

The primary object of the invention is to provide for an outside non-freezing, meter installation in the water main line in the form of a simply constructed, easily installed drive for the counter providing for surface location of the counter and laying of the main well below the freezing line.

Other and subordinate objects are also comprehended by my invention, all of which, together with the precise nature of my improvements, will be readily understood when the succeeding description and claims are read with reference to the drawing accompanying and forming part of this specification.

In said drawing:

Figure 1 is a view, partly in side elevation and partly in section illustrating the preferred embodiment of my improved extension drive installed.

Figure 2 is a view in vertical section drawn to an enlarged scale, and

Figure 3 is a view in top plan, the counter being detached.

Reference being had to the drawing by numerals, the basic element of my improved extension drive is a telescopic drive housing designed to extend to the surface of the ground from the usual meter supporting casting 1, shown in dotted lines, and which as will be readily understood in the art, is designed to be interposed in the water main line, not shown, with inlet and outlet sides 2, 3 connected in said line. Such castings 1 are provided with a lateral circular, top flange 4 and an internal annular seat 5 therein.

The housing 6 of my invention is designed to extend vertically from said flange 4 to surface levels at different heights from the casting 1 and for that purpose comprising a pair of upper and lower female and male pipe sections 7, and 8, the male section slidably fitting into the lower end of the female section 7 whereby said section 7 is adjustable vertically on the section 8 into different set positions to vary the length of the housing according to requirements. A set screw 9 threaded into the lower end of the section 7 provides for establishing the different set positions of said section. A gland nut 10 is threaded into the lower end of the housing 7, with suitable packing 11 therein, to form a proper sliding seal between said sections. The lower end of the section 8 is secured to the flange 4 of the casting 1 by means of a laterally flanged collar 12 threaded onto said section, and bolts 13 secure said flanges together. A fibre gasket 14 is provided in the seat 5 between the flanges 4 and 13 to properly seal the joint therebetween.

A laterally flanged collar 15 is threaded onto the upper end of the section 7 above the ground level. An annular, band-like, spacing member 16 is provided on top of the flanged collar 15 concentrically of the section 7, said member being relatively smaller than the flange of the collar and upstanding edgewise therefrom. A fibre gasket 17 is interposed between said collar 16 and the flange of the collar 15.

The usual counter 18, having a base flange 19, is bolted exteriorly of the member 16 to the flange of collar 15, as at 20, to seat on a fibre gasket 21 imposed on the upper edge of the member 16.

Extending axially through the housing 6 is a telescopic counter driving shaft 22 including an upper section 23 journaled at its upper end in a bronze bushing 24 fitted in an annular Babbitt metal plug 25 suitably secured in the upper end of housing section 7. A lower shaft section 26 depends from the shaft section 23 into the casting 1 and is operatively connected in any suitable manner to the usual meter operating means in said casting and not shown. The lower shaft section 26 is splined to the upper shaft section 23 as by a flattened end 27 thereon slidable in a correspondingly shaped socket 29 provided in the lower end of the shaft section 23. The upper end of the shaft section 23 extends out of the housing 6 into the member 16 and has fast thereon within said member 16 a gear pinion 30 meshing with the usual meter drive pinion 31 shown in dotted lines in Figure 2 and depending from the bottom of the counter 18 into the spacing member 16.

The construction of my improved extension drive, together with its use, operation and advantages will, it is believed, be readily understood from the foregoing without further explanation.

Manifestly the invention, as described, is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the subjoined claims.

What I claim is:

1. The combination with a counter having an operating gear depending from the bottom thereof, of an extension drive for connecting said

counter above ground to underground operating means including a casing, said drive including a telescopic tubular housing, means on said housing for connecting the same in upstanding position to said casing, a telescopic drive shaft in said housing having an upper end journaled in said housing and extending above the same and a lower end adapted to depend in said casing for operation by said operating means, a collar on the upper end of said housing having a lateral flange, means to attach said counter to said flange in surmounting spaced relation thereto, a ring-like spacing member interposed between said counter and flange and encircling the upper end of said shaft, and said operating gear, and a gear on said upper end of the shaft within said member and meshing with said operating gear.

2. The combination with a counter having an operating gear depending from the bottom thereof, of an extension drive for connecting said counter above ground to underground operating means including a casing, said drive including a telescopic tubular housing, means on said housing for connecting the same in upstanding position to said casing, a telescopic drive shaft in said housing having an upper end journaled in said housing and extending above the same and a lower end adapted to depend in said casing for operation by said operating means, a collar on the upper end of said housing having a lateral flange, means to attach said counter to said flange in surmounting spaced relation thereto, a ring-like spacing member interposed between said counter and flange and encircling the upper end of said shaft, and said operating gear, and a gear on said upper end of the shaft within said member and meshing with said operating gear, said housing comprising a pair of upper and lower pipe sections, the upper one slidable on the lower section into different set positions, a set screw in the outer section for establishing the set positions of said upper section, and a packing gland forming a sliding seal between said sections.

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