Nov. 15, 1949 C. A. GERWECK ET AL 2,488,470

PIPE ASSEMBLY IN A DRIVEN WELL

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FIG. 1.

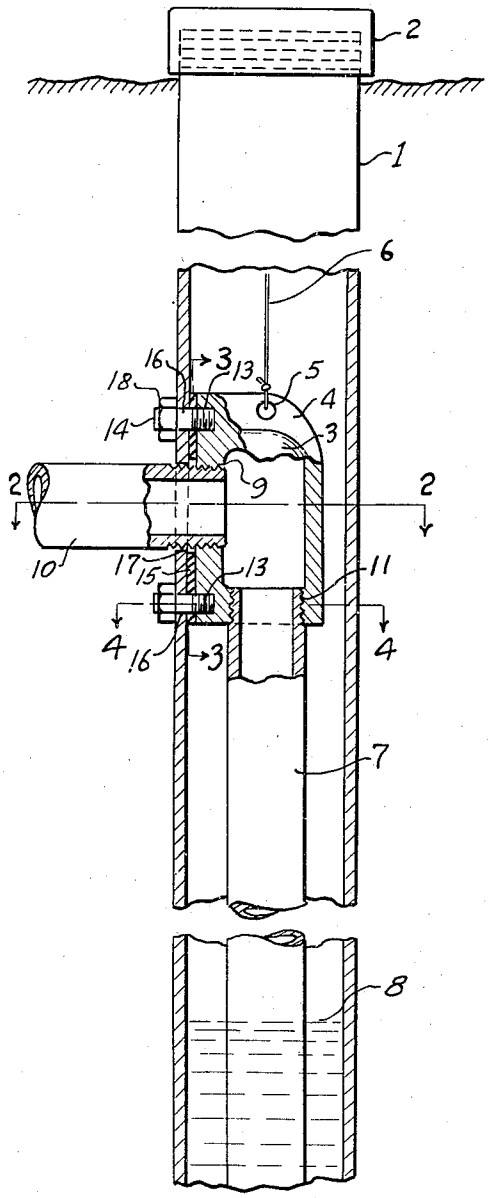


FIG. 2.

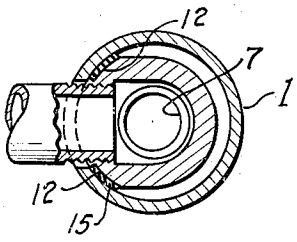


FIG. 3.

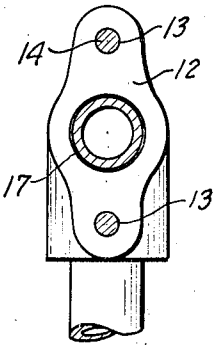
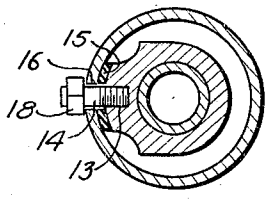


FIG. 4.



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FIG. 5.

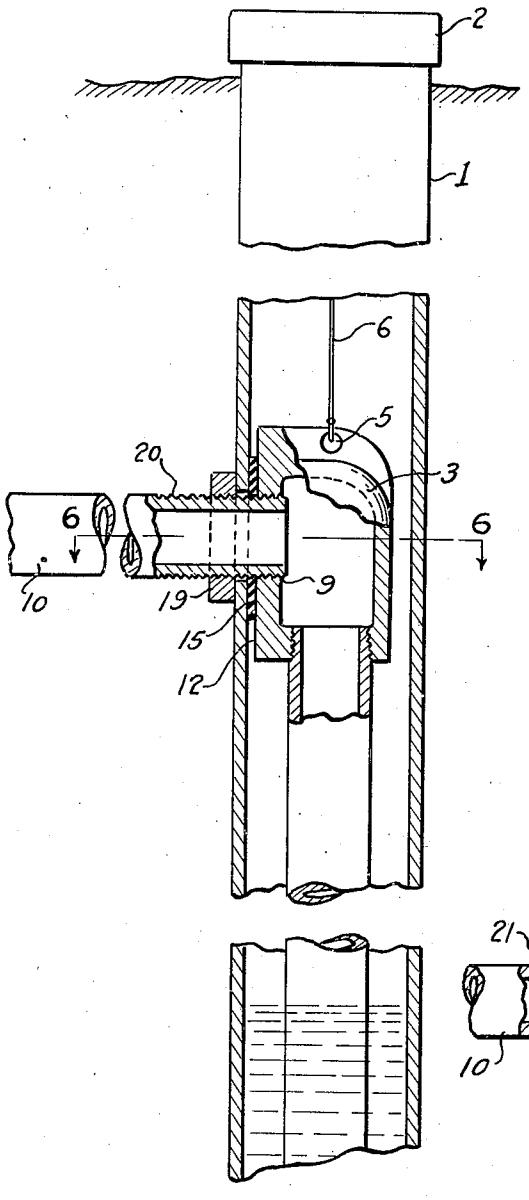


FIG. 6.

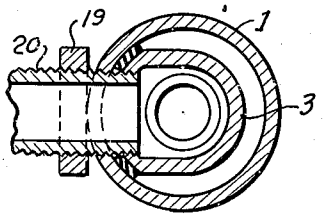


FIG. 7.

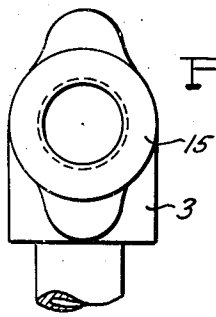
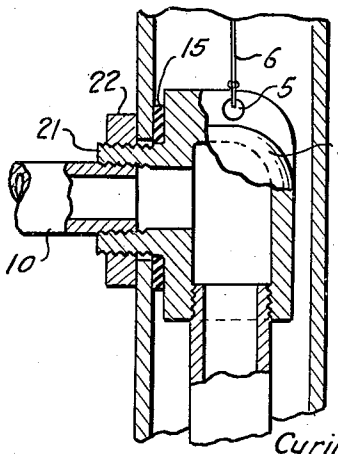


FIG. 8.



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PIPE ASSEMBLY IN A DRIVEL WELL

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6 Claims. (Cl. 285—2)

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This invention relates to a pipe assembly in a driven well. In a driven well it is customary to have the service pipe tap the well casing below the frost line, for a separate pipe has to be incorporated in the driven well casing for the purpose of reaching the water level and pumping the contents of the well out. It is customary to simply place an opening at the side of the casing and then fit a service pipe into an elbow on the top of the water pipe. This results in unsanitary and unhealthy conditions for some of the surface water passing through the ground and other foul matter may seep through the opening for the service pipe in the well casing and find its way down into the water.

It is the object of the present invention to provide a coupling between the service pipe and the vertical water pipe which is sealed to the wall of the driven well casing in such a way as to completely exclude any foreign matter getting into the well casing around the service pipe. To that end we provide a special elbow which is arranged to fit the inside of the driven well casing and which is provided with a sealing gasket and means for drawing the elbow and the sealing gasket tightly into engagement with the inside wall of the driven pipe casing.

Referring to the drawings:

Figure 1 is a vertical section of a driven well provided with our service pipe assembly.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is a section on the line 4—4 of Figure 1.

Figure 5 is a vertical section through a driven well showing a modified form of the invention.

Figure 6 is a section taken on the line 6—6 of Figure 5.

Figure 7 is an elevation of the modified form coupling shown in Figure 5.

Figure 8 is a vertical section showing a still further modification of the coupling.

The driven well casing is designated 1 and this is provided with a suitable cap 2. In the form of the invention shown in Figures 1–4 inclusive, we provide an elbow 3 which is a casting or casing. This casting is provided with a rib 4 along its top which has a perforation 5 to which a wire or strong cord 6 may be tied for letting the water pipe 7 down into the well to reach the water level 8. This elbow has the tapped opening 9 to receive the service pipe 10 and a tapped opening 11 to which the water pipe 7 is screwed. The elbow has a machined face 12 which is machined

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to duplicate the curve of the internal wall of the driven wall pipe 1. In this machined face a pair of screw stud sockets 13 are made to receive the screw studs 14 which are turned into the sockets with a screwdriver. A fiber gasket 15 fits over the machined face of the elbow and over the screw studs.

The elbow together with the water pipe 7 screwed into the bottom of the elbow is let down into the driven well. The driven well has openings 16 drilled through the side to receive the screw studs 14. These screw studs are screwed into the sockets 13 before the pipe is lowered. The elbow may be manipulated by the wire or cord that supports it and by one's finger passed through the opening 17 to cause the studs 14 to register with the openings 16. Thereupon the studs may be passed through the openings and nuts 18 screwed on to the outer ends of the studs. Thus the elbow together with the gasket may be brought tightly up against the inside of the driven well casing to afford a water-tight joint. The service pipe 17 may then be screwed into the tapped opening 9 of the elbow and one has a complete water-tight joint so that no extraneous liquid or foul matter may pass through the opening 17 and the driven well casing.

In the form of the invention shown in Figures 5–7 inclusive the studs are omitted. The gasket 15 is cemented directly to the machined face of the elbow 3. The service pipe has a nut 19 threaded on the threads 20. After the service pipe pin has been screwed into the tapped opening 9 of the elbow the nut may be turned on the threads 20 of the service pipe to draw the elbow and the gasket 15 against the inside of the driven well casing.

In the form of the invention shown in Figure 8 the elbow 3 is provided with an externally threaded nipple 21. This nipple is also internally threaded. The nut 22 may be fitted onto this nipple and turned down to draw the elbow and the gasket 15 tightly into engagement with the driven well casing. The service pipe 10 then may be screwed in place.

What we claim is:

1. A member for affording a water-tight coupling in the assembly of a vertical tubular water pipe and a lateral service pipe in a driven well casing, having in combination, an elbow having on one side a part cylindrical face shaped to the interior contour of the driven wall casing, said elbow having a tapped opening in the side bearing said face for the service pipe and a tapped opening in the lower end for the vertical water

pipe, the said elbow arranged to take means for drawing the said face of the elbow and the intervening gasket in water-tight relation with the inside of the driven well casing.

2. A member for affording a water-tight coupling in the assembly of a vertical tubular water pipe and a lateral service pipe in a driven well casing, having in combination, an elbow having on one side a part cylindrical face shaped to the interior contour of the driven well casing, said elbow having a tapped opening in the side bearing said face for the service pipe and a tapped opening in the lower end for the vertical water pipe, a gasket fitting over the said face of the elbow, and means coupled with said elbow for drawing the elbow, the shaped face and the gasket into water-tight relation against the inside of the driven well casing.

3. A member for affording a water-tight coupling in the assembly of a vertical tubular water pipe and a lateral service pipe in a driven well casing, having in combination, an elbow having on one side a part cylindrical face shaped to the interior contour of the driven wall casing, said elbow having a tapped opening in the side bearing said face for the service pipe and a tapped opening in the lower end for the vertical water pipe, a gasket fitting over the said face of the elbow and screw means cooperating with the elbow for drawing the elbow with its face and the intervening gasket in water-tight relation with the inside of the driven wall casing.

4. A member for affording a water-tight coupling in the assembly of a vertical water pipe and a lateral service pipe in a driven well casing, having in combination, an elbow having on one side a face shaped to the interior contour of the driven wall casing, said elbow having a tapped opening in said face for the service pipe and a tapped opening in the lower end for the vertical water pipe, a gasket fitting over the said face of the elbow, and screw means cooperating with the elbow for drawing the elbow with its face and the intervening gasket into water-tight relation with the driven wall casing, said screw means comprising a pair of threaded studs secured in the face of the elbow and passing through the gasket, the said studs being arranged to pass through holes in the side wall of the driven wall casing and receive nuts for drawing the elbow with its shaped face and the gasket into water-tight relation with the driven well casing.

5. A member for affording a water-tight coupling in the assembly of a vertical water pipe and a lateral service pipe in a driven well casing, having in combination, an elbow having on one side a face shaped to the interior contour of the driven wall casing, said elbow having a tapped opening in said face for the service pipe and a tapped opening in the lower end of the casing for the vertical water pipe, a gasket fitting over the said face of the elbow, and screw means cooperating with the elbow for drawing the elbow with its shaped face and the intervening gasket in water-tight relation with the driven wall casing, said screw means comprising an externally threaded service pipe end which is turned into the elbow and a nut engaging on said threads for drawing the elbow with its shaped face and the gasket into water-tight relation with the driven well casing.

6. A member for affording a water-tight coupling in the assembly of a vertical water pipe and a lateral service pipe in a driven well casing, having in combination, an elbow having on one side a face shaped to the interior contour of the driven wall casing, said elbow having a tapped opening in said face for the service pipe and a tapped opening in the lower end for the vertical water pipe, a gasket fitting over the said face of the casing, and screw means cooperating with the elbow for drawing the elbow with its shaped face and the intervening gasket into water-tight relation with the driven wall casing, the said screw means comprising an externally and internally threaded nipple projected from the shaped face of the elbow and arranged to pass through an opening in the driven wall casing and receive a nut for drawing the elbow, and the intervening gasket in water-tight relation with the driven well casing.

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