H. M. MINNIS.

CISTERN OUTLET.

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**1,416,228.** **Patented May 16, 1922.**

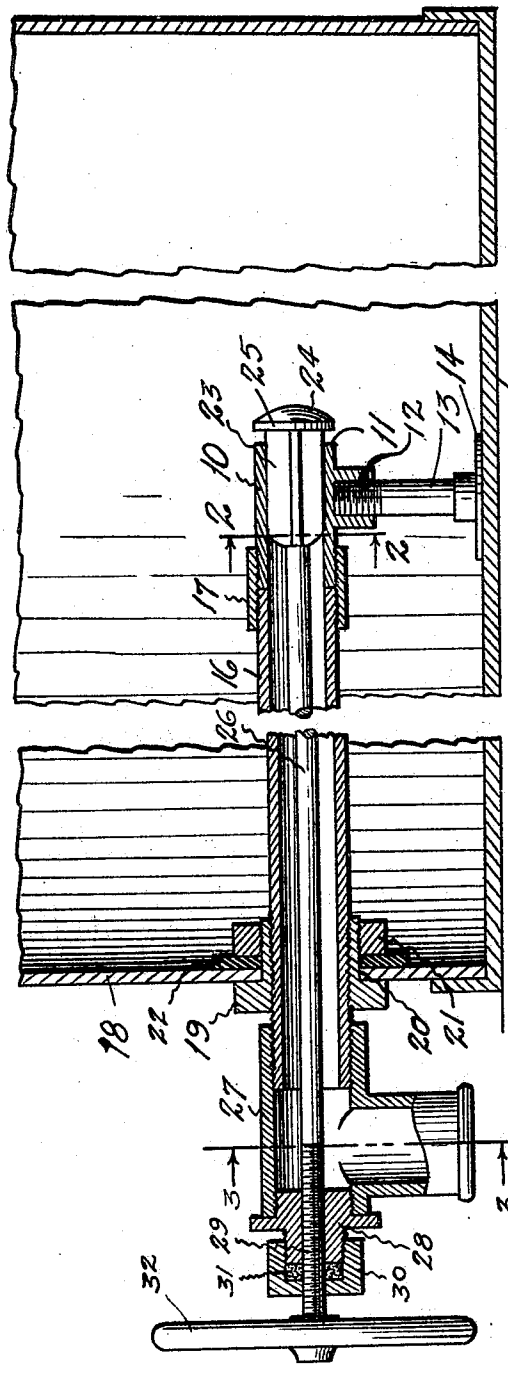



Fig. 1.

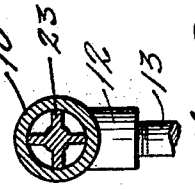



Fig. 2.

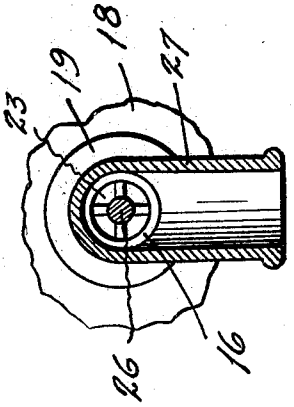



Fig. 3.

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# UNITED STATES PATENT OFFICE.

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## CISTERN OUTLET.

1,416,228. Specification of Letters Patent. Patented May 16, 1922.

Application filed September 29, 1920. Serial No. 413,593.

*To all whom it may concern:*

Be it known that I, HENRY M. MINNIS, a citizen of the United States, residing at Wylie, in the county of Collin and State of Texas, have invented certain new and useful Improvements in Cistern Outlets, of which the following is a specification.

This invention relates to new and useful improvements in cistern outlets.

It is customary in certain localities to collect rainwater in an outside cistern supported above the ground. These cisterns are usually made of thin sheet metal and consequently in cold weather the water freezes inwardly from the wall of the cistern and in the summer time the water nearest the wall has a higher temperature, especially where the cistern is exposed to the rays of the sun. These cisterns are used in localities where the temperature seldom goes below the zero point, but often freezing weather is experienced. Under such conditions the water in the cistern will not be frozen at the center, but will be frozen next to the wall.

The purpose of my invention is to provide an outlet which will receive its supply of water at the center of the cistern thus making it possible to draw water in freezing weather and get cooler water in warm weather. These cisterns are generally provided with a faucet inserted in the wall of the cistern and consequently when the water is frozen, no water can be drawn off and the hottest water is discharged in warm weather. It is also the purpose of my invention to arrange the outlet in such manner that the connections will drain when the outlet is closed.

In carrying out the invention I arrange a valve at the center of the cistern and extend a pipe radially from the same through the wall of the cistern. The valve is suitably supported above the bottom of the cistern and a water tight connection is made at the point where the pipe passes through the wall of the cistern. A faucet is mounted on the end of pipe outside of the cistern. The valve stem extends through the pipe and the faucet and has an operating element on its outer end. By this arrangement the valve at the center of the cistern may be opened and closed. When the valve is closed no water can enter the pipe and the faucet, and therefore the same will drain.

The invention will be more readily understood from a reading of the following specification and by reference to the accompanying drawings, in which an example of the invention is shown, and wherein:

Fig. 1 is a sectional view showing a portion of a cistern and an outlet constructed in accordance with my invention,

Fig. 2 is a cross sectional detail on the line 2—2 of Fig. 1, and

Fig. 3 is a cross section on the line 3—3 of Fig. 1.

In the drawings the numeral 10 designates a cylindrical valve casing disposed horizontally and having a ground face 11 at one end. The casing has a screw threaded boss 12 depending from its underside receiving the upper screw threaded end of a pedestal 13 having a base flange 14 which is mounted on the bottom 15 of the cistern. The pedestal is arranged so that the face or seat 11 will be at the center of the cistern. The outer end of the casing 10 is connected with a radially extending pipe 16 by a union 17. The pipe extends through the side wall 18 of the cistern and is screw threaded so as to receive a bushing 19 which fits snugly in an aperture 20 in the wall 18. The bushing is reduced where it passes through the wall 18 and is screw threaded to receive a packing nut 21. A packing washer 22 fits over the reduced end of the bushing and is forced against the inner side of the wall 18 by the nut 21. By this arrangement a water tight joint is had.

A wing valve 23 has a sliding fit in the casing 10, and is provided with an enlarged head 24 having a flat underside receiving a gasket 25 adapted to close against the face 11. When the valve is displaced inwardly away from the face 11, the water from the cistern will pass into the casing and between the wings of the valve and then into the pipe 16. A valve stem 26 extends from the valve through the pipe as is shown in Fig. 1. On the outer end of the pipe a T-shaped faucet 27 is threaded. A plug 28 is screwed into the outer end of the faucet and this plug is internally screw threaded to receive the screw threaded portion 29 of the valve stem. A packing gland nut 30 is screwed onto the plug and receives a packing 31 through which the stem 26 extends. A hand wheel or other operating element 32 is fastened on the outer end of the valve stem.

It will be seen that by turning the hand wheel 32 the valve stem 26 will undergo a longitudinal movement owing to the engage-

ment of its screw threads 29 in the plug 28. By this operation the gasket 25 will either be brought into engagement with the face 11 to close the valve, or will be displaced from said face to open the valve. When the valve is opened the water from the center of the cistern will pass into the casing 10 and through the pipe 16, to the faucet 27 from which it will be discharged as is evident. It will be seen that when the valve 23 is closed any water in the pipe 16 and faucet 27 will drain out. If desired the pipe 16 may be given a slight incline outwardly so as to be sure and drain all of the water in the parts 10, 16 and 27, however, this is not essential. The valve is supported above the bottom of the cistern so as not to become filled with sediment. It is quite obvious that with a cistern 8 feet in diameter extremely cold weather would be necessary to freeze the water at the center, and thus with this outlet in the cistern a supply of water in very cold weather could be had. It is also obvious that the water would be of a lower temperature at the center of the cistern in warm weather, therefore, cooler water may be had under these conditions. By removing the plug 28 the casing, pipe and faucet may be flushed out when desired.

My invention is particularly designed for use with rain water cisterns which are usually set upon low platforms and the bottoms of which are not accessible.

What I claim, is:

The combination with a tank, of an upstanding pedestal arranged in the central portion of the tank, a substantially horizontal valve casing provided with a boss secured to the pedestal, an approximately horizontal pipe extending generally radially within the tank and projecting through the side thereof to the exterior of the same, a coupling for detachably connecting the end of the pipe and the end of the valve casing, means for effecting a water tight joint between the pipe and the wall of the tank, a T coupling mounted upon the outer end of said pipe exteriorly of the tank, a valve body slidably mounted within the valve casing and having an enlarged head at one end thereof to engage the end of the valve casing, said valve body having longitudinal grooves, a stem connected with the inner end of the valve and extending through the pipe and having screw threaded engagement with a portion of the T-coupling, and means to turn the stem.

In testimony whereof I affix my signature.

HENRY M. MINNIS