F. SWALLOW.

WELL BUCKET.

APPLICATION FILED MAR. 25, 1915.

1,183,327. Patented May 16, 1916.

Fig. 1.

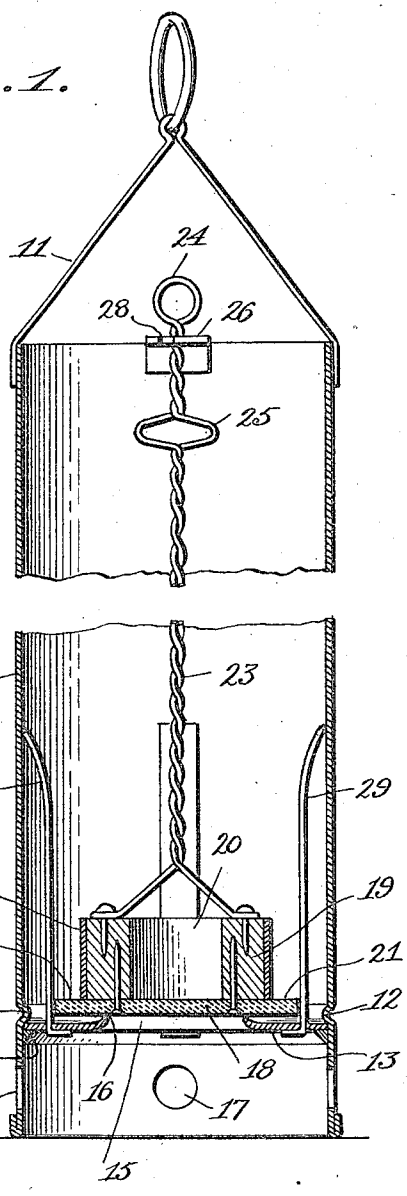


Fig. 2.

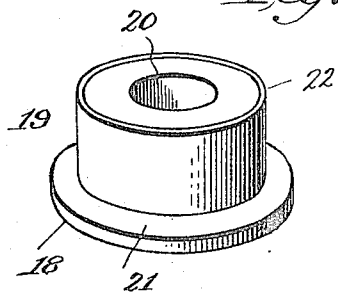


Fig. 3.

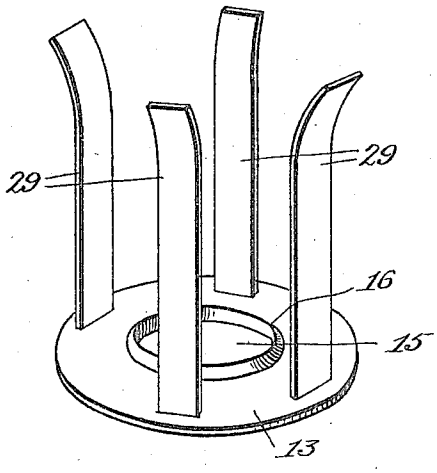
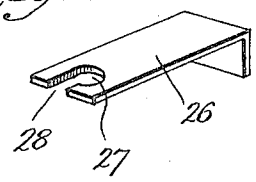


Fig. 4.



Inventor

Frederic Swallow

By Edwin L. Yewell

his Attorney

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERIC SWALLOW, OF CLAREMORE, OKLAHOMA.

WELL-BUCKET.

1,183,327. Specification of Letters Patent. Patented May 16, 1916.

Application filed March 25, 1915. Serial No. 17,029.

To all whom it may concern:

Be it known that I, FREDERIC SWALLOW, a citizen of the United States, residing at Claremore, in the county of Rogers and State of Oklahoma, have invented certain new and useful Improvements in Well-Buckets, of which the following is a specification.

This invention relates to that class of well buckets adapted for use in drilled wells and which are usually of a great length compared with their diameter. Heretofore, the valves in this class of buckets have usually been provided with a projection extending from their bottom side which is adapted to contact with a fixed body, or be pushed upwardly by the hand of the operator to empty the contents of the bucket. This type of valve operating means is objectionable, because the shocks and jars given the valves soon destroy them and consequently new valves have to be inserted.

A particular object of this invention is to provide a valve having a lifting means attached to its upper side and which extends to the top of the bucket and operable therefrom.

Another particular object is to provide a valve having a water cup on its upper side, so that, when the bucket is emptied of its contents, sufficient water remains in the cup to keep the leather packing of the valve moist.

A further object is to provide a valve plate having a raised valve seat formed thereon, the same being adapted to form a positive cut-off together with the leather packing of the valve.

These and other objects hereinafter set forth, are attained by the means illustrated in the accompanying drawing, in which:—

Figure 1 is a vertical sectional view through a well bucket showing my improved valve therein. Fig. 2 is a detail perspective view of the valve shown in section in Fig. 1. Fig. 3 is a like view of the valve plate removed from the bucket, and Fig. 4 is a detail view of the guide and stop plate.

In all of the figures of the drawing, like reference numerals designate like parts.

Referring to the drawing, 10 designates the bucket having a bail 11 at its upper end by which it is lowered and raised in the well through the medium of the usual chain, rope or other suspending means.

Near the bottom of the bucket, preferably about one inch from the lower edge thereof, is formed an internal ridge 12, against which is positioned the metal valve plate 13 which is secured in place preferably with solder as indicated at 14. This plate 13 is provided with a central opening 15, the edge of the plate around the opening being bent upwardly to form an annular valve seat 16, said edge being preferably drawn to a fine edge for a purpose hereinafter set forth. The lower edge of the bucket is turned upon itself to form a reinforced edge and the walls of the bucket below the valve plate are provided with a plurality of openings 17. As thus constructed the valve plate 13 is far enough above the bottom edge of the bucket to protect it from being struck by surrounding objects when the bucket is lifted out of the well, and the bucket can be placed upon a suitable rest and its contents can be emptied therefrom through the openings 17.

The valve comprises a leather disk 18 which is secured, in any suitable manner, to a cylindrical body portion 19, said body portion being formed of light weight, preferably wood, and is provided with a vertical opening 20 therethrough, which when the disk 18 is secured in place, forms a cup on the upper side of the valve. The leather disk is of larger diameter than the body portion forming an annular ledge 21 around the body portion, thus exposing a portion of the upper surface directly with the water carried in the bucket. This annular ledge also receives the weight of the water in the bucket, which will slightly flex the ledge downwardly with a tendency of contacting with the valve plate, thus compressing the leather disk in intimate relation with the sharpened seat 16 and forming an effective seal. A metallic ring 22 is preferably used around the body portion to protect the same and prevent its splitting from expansion and contraction.

Secured to the top of the body portion of the valve is a lifting rod 23, the same extending to the top of the bucket, and is preferably formed of twisted wire as shown, said wire being formed with a loop 24 at its upper end, by which it is grasped to lift the valve, and another loop 25 located slightly below the top loop and adapted to engage a stop plate 26 which extends from the side of the bucket and overhangs the center, said stop plate being provided with an

aperture 27 through which the rod 23 is free to move, thus forming a guide for the upper end of the rod when the valve is lifted and also serving to prevent the valve from tilting sidewise. A narrow slot 28 is formed in one edge of the plate 26 and serves as an entrance to the aperture 27, so that the rod can be inserted and removed from engagement with the plate.

To guide and retain the valve in a central position in the bucket, a plurality of vertical guide strips 29, preferably four as shown, are secured at their lower ends to the valve plate 13, and extend upwardly a distance above the top of the valve and having their free ends bent outwardly to serve as entering guides when the valve is inserted in the bucket. These guide strips are spaced from the sides of the bucket thus positioning the valve centrallv of the bucket with the periphery of the leather disk spaced from the walls of the bucket forming a passage therearound for the water.

In operation, the bucket is lowered into the well with the valve closed as shown in Fig. 1, and upon striking the body of water is forced upwardly from its seat allowing the water to enter and fill the bucket, then when the bucket is drawn upwardly, the weight of the water therein closes the valve and the leather disk engages the valve seat in the manner before described. The bucket is then lifted from the well and the water is drained therefrom by grasping the ring 24 and lifting the valve from its seat. This operation will drain the bucket but the cup in the valve will retain sufficient to keep the leather disk moist, even should the bucket be lifted out of the well and exposed to dry atmosphere.

From the above description, it will be seen that strong, simple and cheap construction is provided.

Having thus fully described the invention, what is claimed is:—

1. A well bucket having a valve plate therein which is provided with a central opening, a valve having a water cup in its upper side and a leather disk forming the bottom of said cup, said disk adapted to close said central opening in the valve plate, and means secured to said valve for operating it from the top of the bucket.

2. A well bucket having an internal ridge above its lower end, a valve plate secured against said ridge, said plate having a central opening whose surrounding edges are upturned to form a raised valve seat, a valve having a water cup in its upper side and a leather disk on its bottom side adapted to engage said valve seat, and means secured to said valve for operating it at the top of the bucket and prevent its tilting therein.

3. In a well bucket, a valve plate secured therein above its lower end, said plate having a central opening whose surrounding edges are upturned to form a raised valve seat, a valve having a body portion with a central opening therethrough and a leather disk on the bottom side of said body portion closing said opening and forming a water cup, said leather dish being of greater diameter than said body portion to form an annular ledge therearound, and means secured to said valve for operating it at the top of the bucket.

4. In a well bucket, a valve plate secured therein, said plate having a central opening whose surrounding edges are upturned to form a raised valve seat, a valve having a water cup in its upper side, a leather disk secured thereto forming one side of said cup and whose edge projects beyond the body of said valve, guide strips projecting upwardly from said valve plate and adapted to engage the projecting edge of the leather disk to center the valve, and means secured to said valve for operating it at the top of the bucket.

5. A well bucket having a valve plate therein which is provided with a central opening, a valve having a water cup in its upper side and a leather disk forming the bottom of said cup, said disk adapted to close said central opening in the valve plate, upstanding means secured to said valve plate for centering said valve, and means secured to said valve for operating it from the top of the bucket.

In testimony whereof I hereunto affix my hand this 22nd day of March, 1915.

FREDERIC SWALLOW.

Witnesses:
L. S. ROBSON,
JOHN T. EZZARD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."