

WELL BUCKET.

1,055,385.

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To all whom it may concern:

Be it known that I, JOHN LEE CAHILL, a citizen of the United States, residing at Oklahoma city, in the county of Oklahoma and State of Oklahoma, have invented certain new and useful Improvements in Well-Buckets, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to new and useful improvements in well buckets and more particularly to that class of well buckets which are used in connection with driven or pipe wells.

15 The main object of the invention is to provide a metallic telescoping valve to be used in connection with well buckets of this character and which will do away with the leather and wood used in the present well bucket valve.

20 Another object of the invention is to provide a well bucket of this character which will possess advantages in points of efficiency and durability, is inexpensive of manufacture and at the same time is simple in construction and operation.

25 With the above and other objects in view the invention consists in the novel features of construction and in the combination and arrangement of parts hereinafter more fully described, pointed out in the appended claims, and shown in the accompanying drawings, in which—

30 Figure 1 is a vertical sectional view of a well bucket constructed in accordance with my invention, showing the valve normally closed; Fig. 2 is a similar view showing the valve in its open position; and Fig. 3 is a transverse sectional view.

35 Referring more particularly to the drawings, 1 indicates the body of a bucket which comprises a hollow member frusto conically designed and is preferably of a single piece of galvanized sheet metal or may be made of any other suitable material desired. The upper end of the bucket is to be of substantially the same diameter as the well pipe bore.

40 An annular flange 2 is centrally arranged within the bucket, said flange being formed integral with the side wall of the bucket or it may be secured thereto in any desirable manner. A tubular valve seat 3 is provided having an annular outwardly extending flange 4 formed on its upper end and adapted to engage over the inner edge of the

flange 2 and may be secured thereto by soldering or other suitable means. The lower end of this valve seat tapers inwardly as shown at 5 for a purpose to be specified later. A valve member 6 is provided adapted to telescopically engage within the valve seat 3, said valve member having its upper end tapered outwardly and adapted to frictionally engage the lower end of the valve seat to hold the valve in a normally closed position as shown at Fig. 1. Secured to the lower end of the valve member is a valve stem 7 which projects downwardly beyond the lower end of the body member 1, and is provided with an enlarged end 8 preferably in the shape of a disk which, when the bucket is lowered into the well strikes the water or other obstruction and forces the valve member 6 upwardly and allows the water to pass into the bucket. The valve stem 7 is suitably held in operative position by means of the brace members 8', said brace members having their ends suitably secured to the lower end of the bucket by means of the rivets 9. An opening 10 is formed in the intermediate portion of the brace members adapted to receive the valve stem 7, said valve stem being adapted for slidable movement through the opening 10. In using my improved valve bucket the same is to be lowered into the well by means of a rope or cable until the enlarged end 8 of the valve stem strikes the water or other obstruction, forcing the valve member 6 upwardly out of its seat, allowing the water to flow into the body portion of the bucket.

When the bucket has been lowered far enough to fill the same, it is raised upwardly, the weight of the water closing the valve member 6 to retain the water in the bucket. It will be understood that any suitable means can be used for raising and lowering this bucket in the well.

It will be readily understood that by having the member 8 in the shape of a flat disk, the valve member 6 will be easily opened when this member strikes the water or other obstruction toward which the bucket is lowered. The circular member 8 is especially valuable in case the bucket has been idle for some time and the valve member has become slightly rusty so that it will take quite a force to open the valve. Another reason for having this member 8 arranged beneath the bucket and adapted to open the valve when the bucket is lowered is that the full force

of the water against the valve 6 is broken by the supporting members 8' so that when the water reaches the valve 6, the force of the same will not open the valve in case the same should be slightly stuck to the valve seat 5 by rust or in any other similar manner.

From the above description taken in connection with the drawings the use, advantages, and operation of my improved valve bucket will be readily understood.

While I have shown and described the preferred form of my invention it will be obvious that various changes in the details of construction and in the proportions may be resorted to for successfully carrying the invention into practice without sacrificing the novel features or departing from the scope thereof.

What I claim is:—

1. A well bucket comprising a hollow member frusto conically designed, an annular flange arranged therein, a tapering valve seat mounted upon the inner edge of said flange, a tapering valve arranged within said seat, brace members having their ends secured to the lower end of the bucket and having an opening formed in the intermediate portion thereof, a valve stem secured to the lower end of said valve whereby, when the bucket is lowered into the well, the valve will be raised by having the lower end of the valve stem coming in contact with the water or other obstruction.

2. A well bucket comprising a hollow member frusto conically designed, an annular flange arranged therein, a tapering valve seat open at both ends, an annular flange formed upon the upper end of said valve seat and adapted to engage the inner

edge of the flange arranged in the bucket, a tapering valve member arranged within the valve seat and having its upper end frictionally engaged with the lower end of the valve seat to hold said valve in a normally closed position, and a valve stem secured to the lower end of said valve whereby, when the bucket is lowered into the well, the valve will be raised by having the lower end of the valve stem coming in contact with the water or other obstruction.

3. A well bucket comprising a hollow member frusto conically designed, an inwardly extending annular flange arranged within said bucket, a valve seat tapering inwardly at its lower end, an upwardly extending annular flange formed on its upper end and adapted to engage over the inner edge of the flange in the bucket, a valve member tapering outwardly at its upper end and adapted to frictionally engage the lower end of the valve seat to hold the said valve in a normally closed position, brace members having their ends secured to the lower end of the bucket and having an opening formed in the intermediate portion thereof, a valve stem secured to the lower end of said valve and slidably mounted within said opening when the bucket is lowered into the well, the valve will be raised by having the lower end of the valve stem coming in contact with the water or other obstruction.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JOHN LEE CAHILL.

Witnesses:

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