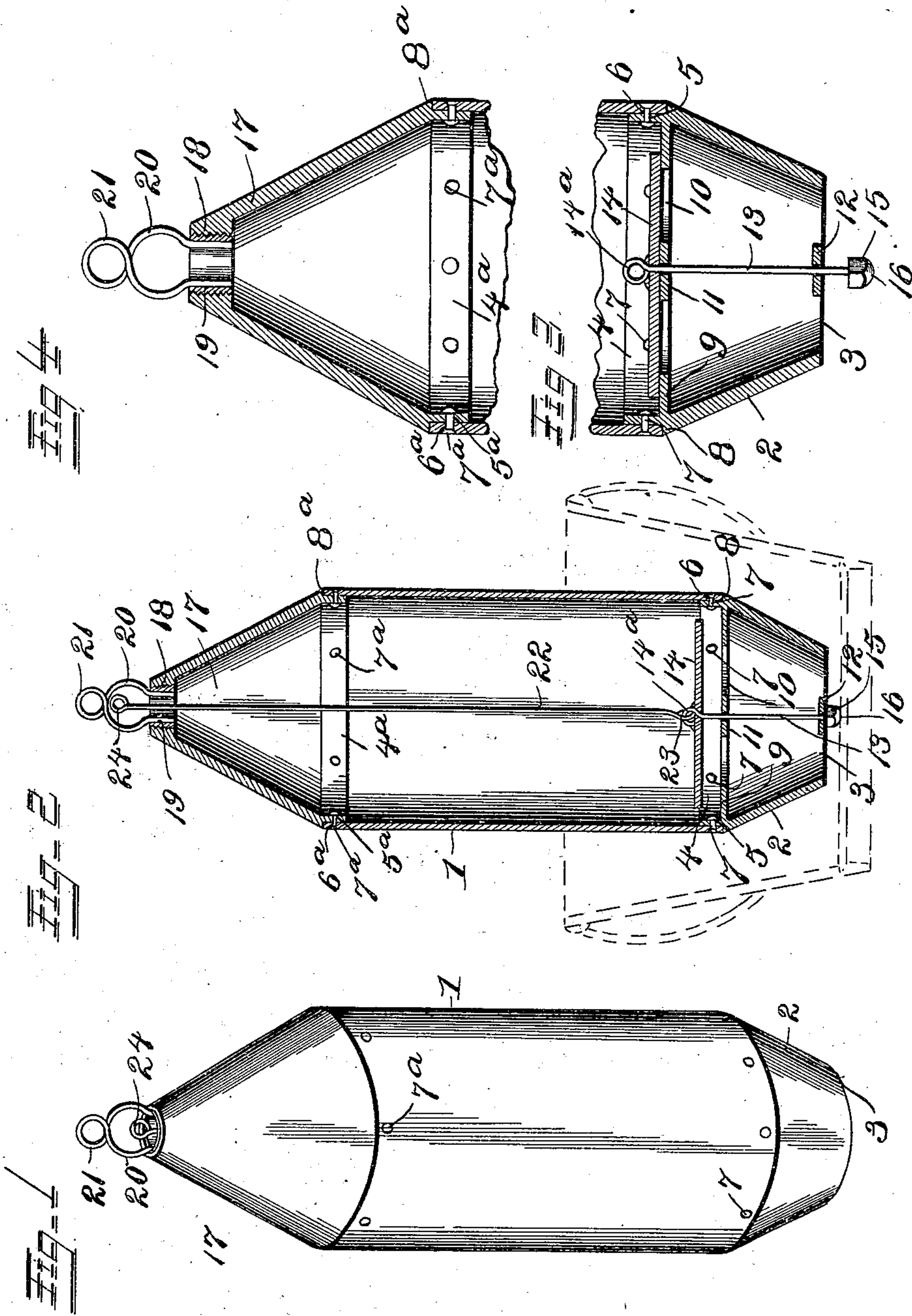


(No Model.)

T. J. GOODWIN.
WELL BUCKET.

No. 549,310.

Patented Nov. 5, 1895.



Inventor

Thomas J. Goodwin.

Witnesses

H. J. Koerth.
J. P. Holthaus.

By his Attorneys,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

THOMAS J. GOODWIN, OF LAMPASAS, TEXAS.

WELL-BUCKET.

SPECIFICATION forming part of Letters Patent No. 549,310, dated November 5, 1895.

Application filed April 2, 1895. Serial No. 544,186. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. GOODWIN, a citizen of the United States, residing at Lampasas, in the county of Lampasas and State of Texas, have invented a new and useful Well-Bucket, of which the following is a specification.

This invention relates to well-buckets; and it has for its object to effect certain improvements in buckets of this character that are employed in bored, drilled, or dug wells.

To this end the main and primary object of the present invention is to construct a simple and efficient well-bucket that will obviate the possibility of being caught by obstructions in the well as it is being raised or lowered. The bucket is also so shaped as to withstand a great amount of wear and is provided with simple and efficient means for being automatically filled and emptied of its contents.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a perspective view of a well-bucket constructed in accordance with this invention. Fig. 2 is a central vertical sectional view thereof. Fig. 3 is an enlarged sectional view at the lower end of the bucket. Fig. 4 is a similar view at the upper end of the bucket.

Referring to the accompanying drawings, 1 designates the cylindrical body of the well-bucket, which body is constructed, preferably, of galvanized iron, so as not to be susceptible to rusting, while at the same time being capable of withstanding considerable wear. The cylindrical body 1 is of the same diameter throughout its entire length and is open at both ends. To the lower open end of the body 1 is adapted to be fitted the separate malleable cast-iron bottom cap 2, which is formed of a single casting and is made of cast-iron in order to withstand the hard wear to which the ends of well-buckets are usually subjected, and the said cast-iron bottom cap 2 is provided with a circular bottom opening 3 to provide for the inlet and outlet of water.

The conical or tapered shape of the bottom cap 2 prevents the bucket from catching on

obstructions while being lowered into the well, and at its upper edge the said cast-iron bottom cap 2 is provided with a circular attaching-flange 4, that snugly fits inside of the lower open end of the body 1. The flange 4 is provided with a circular series of rivet holes or openings 5, that are adapted to be aligned with similar holes or openings 6 in the lower end of the body 1 to receive the securing-rivets 7, that are driven in the aligned holes or openings in the outside of the bucket after the assembling of the parts thereof. These rivets are subsequently soldered firmly in place in order to additionally secure them in position and provide a perfectly-smooth exterior for the body of the bucket to prevent the rivet-heads from engaging obstructions.

The bottom cap 2 is provided at the base of the flange 4 with a shoulder-offset 8, that fits against the lower end of the body 1, whereby the exterior face of the body is disposed flush with the greatest diameter of the bottom cap. The bottom cap 2 is further provided in the upper wide part thereof with an integral flat valve-seat 9, having a central valve-opening 10, across which opening extends an integral centrally-perforated upper guide-bar 11, that is arranged directly above and parallel with the lower centrally-perforated guide-bar 12, also formed integrally with the cap 2 and extending transversely across the opening 3.

The guide-bars 11 and 12 guide and support for vertical movement the short valve-stem 13, on the upper end of which is attached the valve-disk 14, that works on top of the seat 9 over the opening 10. The valve-stem 13 is provided at its upper end, immediately above the valve-disk 14, with an eye 14^a, and onto the lower extremity of the stem 13, below the guide-bar 12, is fitted the foot-nut 15, which is suitably secured permanently on the stem, and the lower side of the nut is rounded, as at 16, so that it will not injure an ordinary water bucket or pail when the well-bucket is lowered thereinto so as to be emptied of its contents. The foot-nut 15 normally projects below the opening 3, and after the bucket has been filled and drawn to the top of the well it is simply necessary to lower the well-bucket into the receptacle that is to receive the water, when the nut 15 will strike the bottom of such receptacle and will cause the

valve 14 to be raised and allow the contents of the well-bucket to discharge out of the opening 3.

The upper end of the body 1 is adapted to be inclosed by the malleable cast-iron conical top cap 17. The conical top cap 17 is provided at its upper end or apex with an interiorly-threaded opening 18, and at its lower wide end the said cap is provided with a circular attaching-flange 4^a and a shoulder-off-set 8^a, that corresponds with the similar part of the bottom cap 2. The flange 4^a of the cap 17 fits snugly in the upper end of the body 1 to dispose the largest diameter of the cap flush with the body, and said flange 4^a is also provided with holes or openings 5^a, that are aligned with similar holes or openings 6^a to receive the rivets 7^a, inserted from the outside of the bucket and subsequently soldered in place.

The interiorly-threaded opening 18 at the upper end of the cap 17 is adapted to removably receive therein the exteriorly-threaded portion 19 of the hoisting-bail 20, which extends above the opening 18. The hoisting-bail 20 is provided with an integral separate ring portion 21, to which is designed to be connected the rope or chain for raising and lowering the bucket.

Arranged to work inside of the body of the bucket 1, in connection with the valve 14, is a supplemental valve-rod 22, the lower end of which is provided with a loop 23, loosely engaging the eye 14^a at the upper end of the valve-stem 13. The supplemental valve-rod 22 extends the entire length of the body of the bucket, from the top to the bottom thereof, and the upper end of said rod extends through the top opening 18 of the cap 17 and is provided with an engaging-loop 24, that is disposed within the area of the bail 20, below the ring portion 21 thereof, entirely out of the way of the rope or chain that is connected to the ring portion 21 of the bail 20.

Ordinarily while the well-bucket is in use the supplemental valve-rod 22 does not interfere at all with the opening of the valve

by the valve-stem 13; but it will be obvious that in the event of the bail 20, or the ring-portion 21 thereof, breaking while the bucket is in the well it is simply necessary to introduce a pair of grabs or other suitable fishing-tool into the well and engage the same with the engaging-loop 24 of the supplemental valve-rod 22. After engaging the fishing-tool with the loop of the supplemental valve-rod an upward pull will raise the valve-disk 14, so that the bucket will be emptied of its contents and thereby sufficiently lightened, so that it can be easily withdrawn from the well and a new bail readily fitted in position.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

In a well bucket, the combination of a cylindrical body provided in its lower end with a valve seat, a top cap fitted to the upper end of said body and provided in its upper end with an interiorly threaded opening, a valve operating stem mounted within the lower end of the body and carrying at its upper end a valve disk working above said valve seat, a hoisting bail having a threaded portion engaging the opening of the top cap, and a separate ring portion, and a supplemental valve rod arranged within the body and loosely connected at its lower end with said valve disk, said supplemental valve rod being provided at its upper end with an engaging loop disposed within the hoisting bail below the ring portion thereof, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOMAS J. GOODWIN.

Witnesses:

J. W. TOWNSEN,
J. S. HORSELL.