To all whom it may concern:

Be it known that I, JOHN M. APGAR, a citizen of the United States, residing at Califon, in the county of Hunterdon, State of New Jersey, have invented certain new and useful Improvements in Self-Emptying Buckets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to new and useful improvements in buckets of that general type provided with a valve controlled opening in their bottom portions whereby the buckets may be emptied without the necessity of tilting said buckets.

It is in general the object of the present invention to simplify the structure and improve the efficiency of buckets of this character.

It is more particularly an object to provide a valve structure which is normally operated to positively prevent passage of liquid from the bottom of the bucket, and which may be readily actuated to permit such passage of liquid by the hand of the person grasping the usual bail of the bucket, without releasing the grip on said bail.

With the above and other objects and advantages in view, the invention resides more particularly in the novel combination, formation and arrangement of parts herein described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a vertical sectional view through a bucket constructed in accordance with the present invention.

Fig. 2 is a horizontal sectional view there-through on the line 2—2 of Fig. 1.

Fig. 3 is a detail perspective view of the bail connections.

Referring now more particularly to the accompanying drawings, 5 designates the wall of the bucket, which is circular in cross section and taperingly increased in diameter toward its upper end in the usual manner, and 6 designates the bottom of the bucket, below which the wall portion is projected for a considerable distance to inclose and protect the valve structure of the bottom. The bottom 6 is provided with a central circular opening 7 and from the edge of the bottom at this opening depends an annular flange 8 taperingly reduced in diameter toward its lower edge to form a valve seat, and engageable with this seat is the frusto-conical lower wall portion 9 of a valve body 10 formed in inverted cup-shape, the upper portion of said body being conical.

For actuating this valve body, a pair of rods 11 extend longitudinally at diametrically opposed portions of the inner periphery of the bucket wall 5 and are slidable mounted in ears 12 and 13 projecting inwardly from the upper and lower portions of said wall. The lower ends of these rods are directed inwardly and secured to the valve body at the juncture of its conical upper portion and frusto-conical lower portion. The upper ends of the rods are provided with eyes 14 pivotally engaged with corresponding eyes on the end of an actuated lifting bail 15 corresponding in shape to the ordinary bail 16 of the bucket which is pivoted at its ends in the usual attaching ears 17 on the bucket wall, whereby the buckets may swing freely to extend vertically above the bucket or to lie horizontally at the mouth thereof. To hold the valve body 10 in closing position and to assure a rapid closing movement thereof when the lifting bail 15 is released, a weight 18 is disposed in the conical upper portion thereof.

An exceedingly simple structure has thus been provided for emptying a bucket as desired without the necessity of tilting said bucket to discharge its contents, and the various parts of the valve structure provided are so formed and arranged as to insure a maximum durability, efficiency and ease of operation in use.

What is claimed is:

1. A bucket provided with an opening in its bottom, rods slidably mounted longitudinally at opposed portions of the inner periphery of the wall of the bucket and having their lower ends directed inwardly and a valve body carried by said inwardly directed lower ends for closing said opening.

2. A bucket provided with an opening in its bottom, rods slidably mounted longitudinally at opposed portions of the inner periphery of the wall of the bucket and having their lower ends directed inwardly, a valve body carried by said inwardly directed lower ends for closing said opening and a lifting rod having its ends connected with said slidable rod.

3. A bucket provided with an opening in
its bottom, rods slidably mounted longitudinally at opposed portions of the inner periphery of the wall of the bucket and having their lower ends directed inwardly, a valve body carried by said inwardly directed lower ends for closing said opening and an arcuate lifting bail having its ends pivotally connected with the upper ends of said slidable rods.

4. A bucket provided with an opening in its bottom and having its peripheral wall extending below its bottom, an annular flange depending from the bottom at said opening and taperingly decreased in diameter toward its lower edge to form a valve seat, a valve body of inverted cup-shape having its lower wall portion taperingly reduced in diameter to fit against said valve seat, a seating weight disposed in said valve body and a rod connected with the valve body and slidably mounted in the bucket.

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

JOHN M. APGAR.

Witnesses:

BIVINS APGAR,

ELSTON BEATY.

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