

(No Model.)

T. LONG.
ELEVATOR BUCKET.

No. 504,355.

Patented Sept. 5, 1893.

FIG. 1

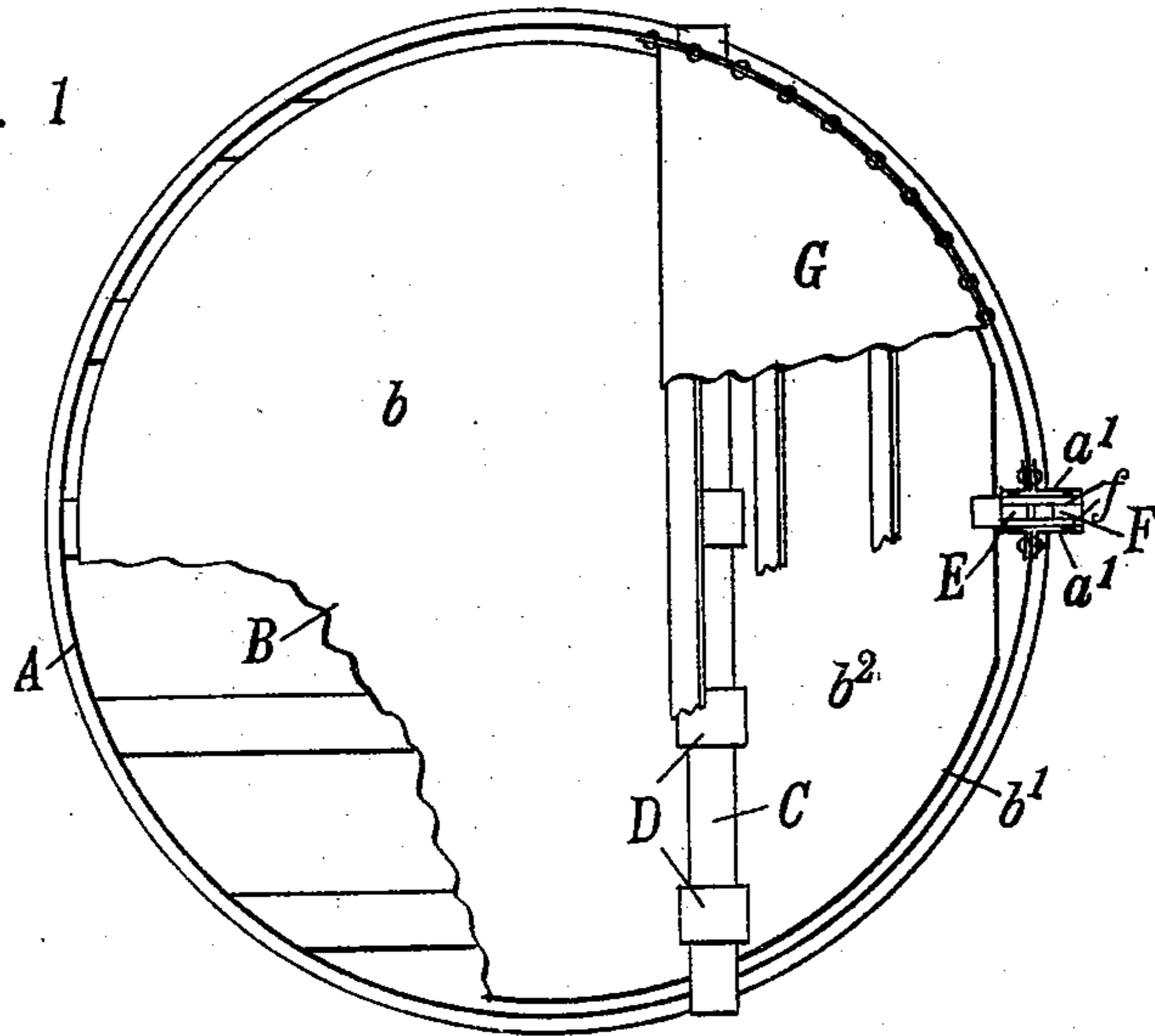
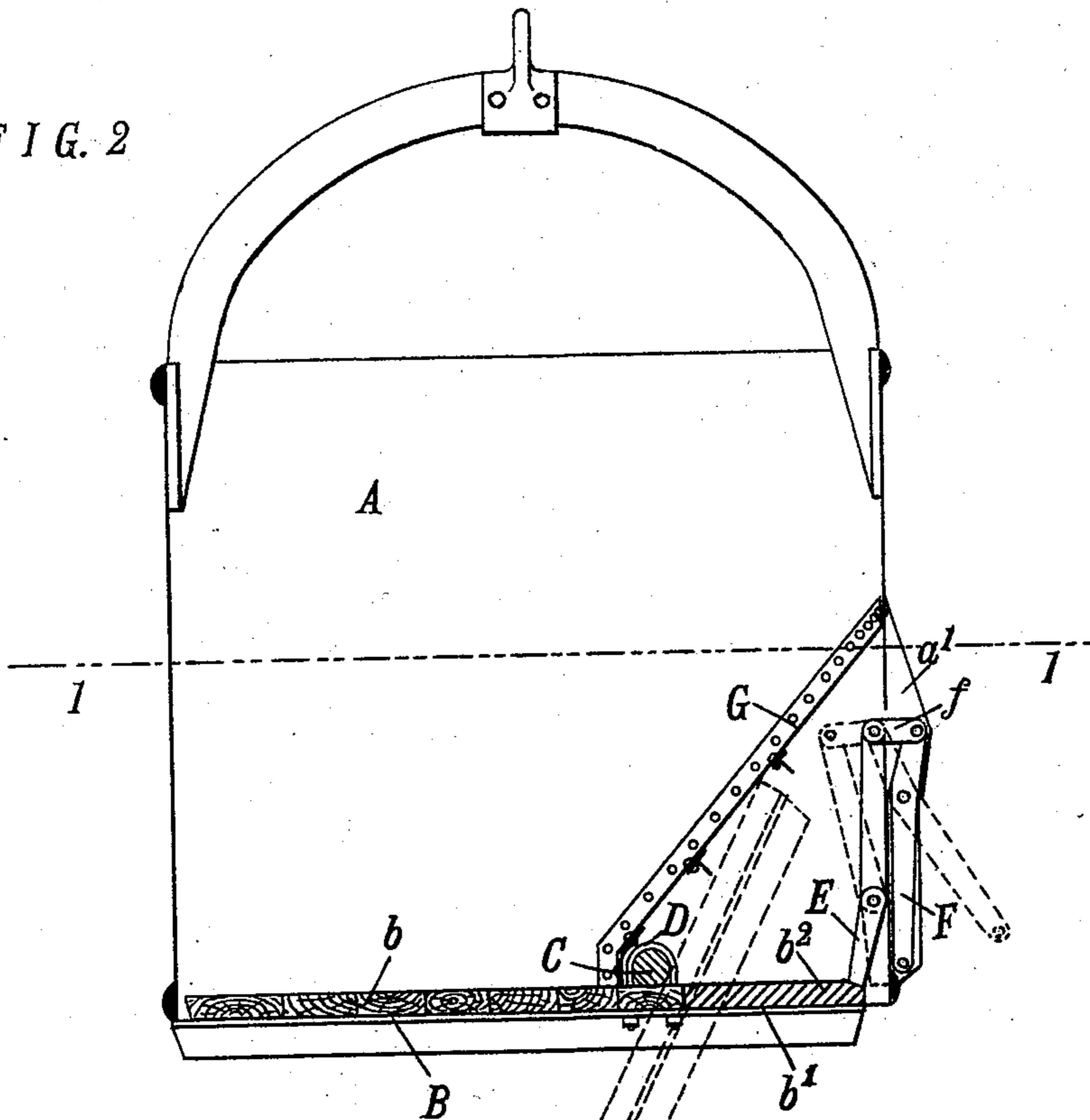


FIG. 2



WITNESSES.

Frank. Miller.
M. S. Ingham.

INVENTOR.

Timothy Long
By
Wing + Thurstons
his attorneys

UNITED STATES PATENT OFFICE.

TIMOTHY LONG, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO THE
EXCELSIOR IRON WORKS COMPANY, OF SAME PLACE.

ELEVATOR-BUCKET.

SPECIFICATION forming part of Letters Patent No. 504,355, dated September 5, 1893.

Application filed December 6, 1892. Serial No. 454,215. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY LONG, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Elevator-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.

My invention relates to elevator buckets adapted to lift, carry and dump coal, ore, grain and other similar materials.

The object of my invention is to provide a cheap bucket which may be easily and quickly emptied, and in which after being emptied the parts will automatically resume their previous condition whereby the bucket is ready to be again filled.

The invention consists in the construction and combination of parts shown in the drawings and hereinafter explained and definitely pointed out in the claims.

In the drawings, Figure 1 is a horizontal section of my improved bucket at or near the line 1—1 of Fig. 2,—a portion of the hinged bottom and false bottom being broken away to show the construction more plainly. Fig. 2 is a central vertical section of said bucket.

The bucket A may be made of sheet metal or any other suitable material. As shown in the drawings, it is cylindrical in form, but any other form may be adopted if desired. The bottom B is hinged to the bucket in substantially the manner shown, whereby the part of said bottom on one side of the hinges has the greater area in engagement with the load, while the part of said bottom on the other side of the hinges is the heavier. In the construction shown, a cylindrical bar C is supported at its ends by the sides of the bucket. It does not extend diametrically from one side to the other but lies to one side of a diametrical line. The bottom B is made up of T shaped beams, onto which the floor is secured. A series of U-bolts D embrace the bar C, and are connected with the bottom by nuts, thus hinging the bottom to the bucket. The larger division *b* of the bottom is provided with a plank flooring on which the load in the bucket will rest. The smaller division

b' of the bottom is counterweighted, by the cast iron plates *b*² which are secured on the T beams. The bottom B is so placed with reference to the sides, that the smaller division of the bottom thereof may, when the bottom swings on its hinges, move up into the bucket as shown in the dotted lines in Fig. 2, the larger division at the same time swinging down. When the load has fallen out through the bottom, the smaller division, being the heavier, causes the bottom to swing up toward the horizontal position, until the larger division of the bottom strikes against the sides of the bucket, which serve as a stop.

E represents a latch, which is pivoted to the sides of the bucket; and the lower end of this latch engages with the upper side of the heavier division of the bottom thereby preventing the bottom from turning on its hinge until the latch is withdrawn.

F represents a lever pivoted to the ears *a' a'* on the bucket, and *f* is a link connecting one arm of the lever F with one arm of the latching lever E,—the purpose of the lever F and link *f* being to provide sufficient leverage to make the operation of the latch easy.

To withdraw the latch, a force is applied to the lower end of the lever F, to draw it outward away from the bucket. Since the upper end of the lever F is connected by the link *f* with the upper end of the latch lever E, the above described movement of the lever F rocks the latch lever E, causing its lower end to be drawn outward from engagement with the upper side of the heavier division of the bottom. The lever F may be moved in the described manner by hand, or by any other suitable means. Ordinarily a cord will be secured to its lower end for this purpose. When the force to move the lower end of lever F outward is withdrawn, the weight of said lower end causes the lever to move to a substantially vertical position, at which time the latch lever is in a position to engage with the bottom and hold it closed.

G represents an inclined false bottom constructed over the heavier division of the bottom B. This false bottom protects the heavier portion of the bottom B from any contact with the load, and also serves as a stop to limit the upward movement of said heavier part when

the bottom is swinging open. When this false bottom is employed as described, all of the necessary conditions for successful operation would be present if the hinge axis extended diametrically across the bottom B. So also would the device be operative if this false bottom G were omitted, provided the hinge axis was at one side of the diametrical line, as shown in the drawings. But I prefer the construction shown, in which the hinge axis lies to one side of a diametrical line, and where the false bottom is employed, for the reasons first, that where a false bottom is employed the heavier division *b'* of the bottom B over which it is placed is not called upon to lift any part of the load when the bottom swings open, as it would be were no such false bottom present; and second, when the hinge axis lies to one side of a diametrical line, the bucket will hold more and the opening due to the swinging of the hinged bottom will be larger than it would did the hinge axis divide the bottom into two equal parts.

Having described my invention, I claim—

1. In combination with an elevator bucket, of a bottom hinged thereto, on an axis which divides the bottom into two parts the part of said bottom on one side of the hinge axis being the heavier, the part on the other side presenting the greater area for contact with the load, and a latch adapted to engage with the bottom and hold it closed, substantially as set forth.

2. In combination with an elevator bucket, of a bottom hinged thereto on an axis which

divides the bottom into two parts, the part of the bottom on one side of said hinge axis being heavier than the other, an inclined false bottom which lies over said heavier part and protects it from contact with the load, and a latch adapted to engage with said bottom, substantially as set forth.

3. The combination with an elevator bucket, of a cylindrical bar C, secured to the sides of the bucket, and a bottom, having a series of U-bolts, arranged in line at one side of the center of said bottom, which U-bolts loosely embrace said bar, the smaller division of said bottom being the heavier, with a latch mounted on the side of the bucket and adapted to engage with the bottom and hold it closed, substantially as and for the purpose specified.

4. The combination with an elevator bucket, of a bottom hinged thereto on an axis which divides the bottom into two unequal divisions, of which the smaller is counter-weighted to make it the heavier, a latch-lever pivoted to said bucket and adapted to engage at its lower end with the upper edge of the heavier side of the bottom, an operating lever also pivoted to the side of said bucket, and a link connecting the upper ends of said two levers, substantially as and for the purpose specified.

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

TIMOTHY LONG.

Witnesses:

E. L. THURSTON,
GEO. W. SHORT.