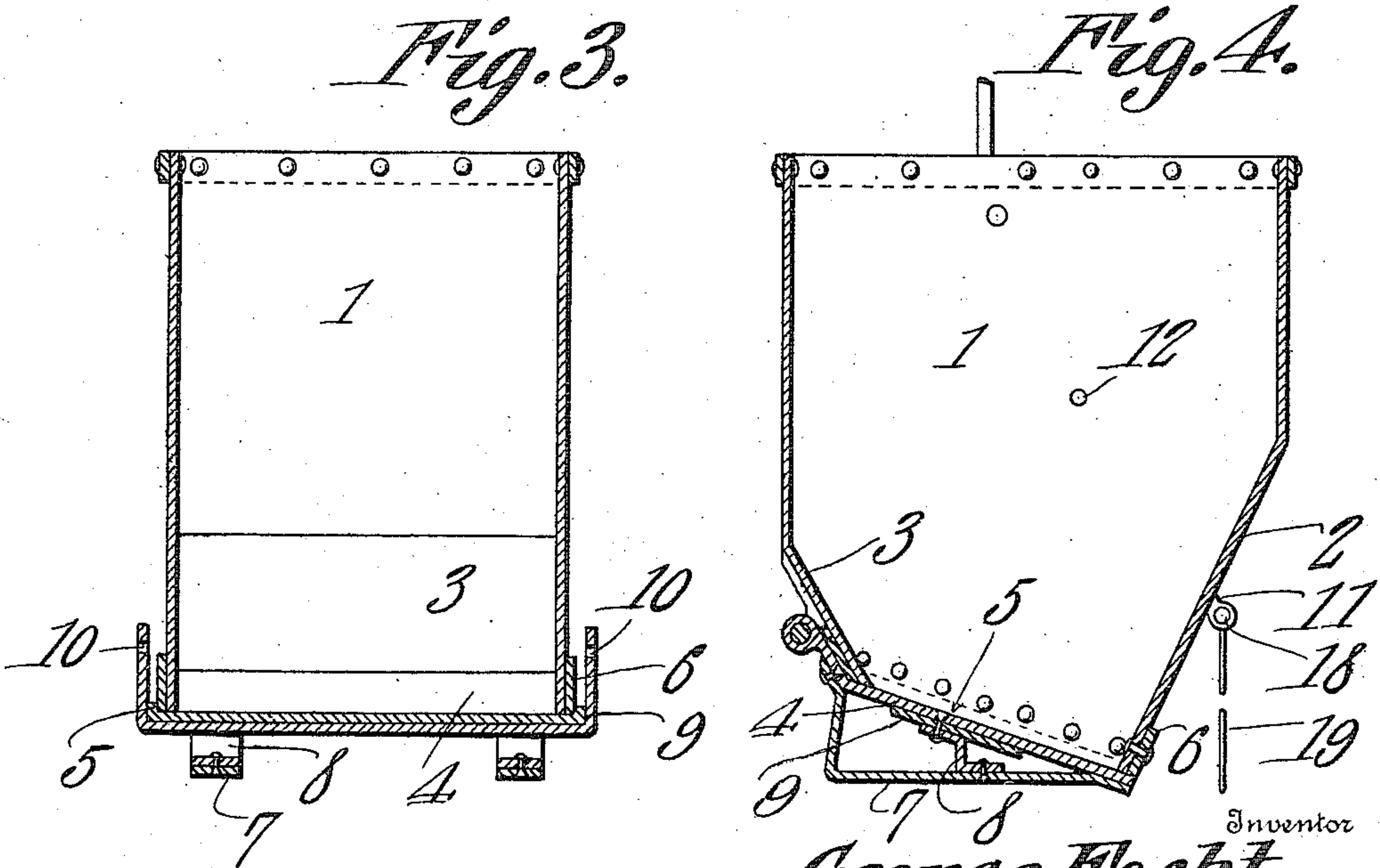
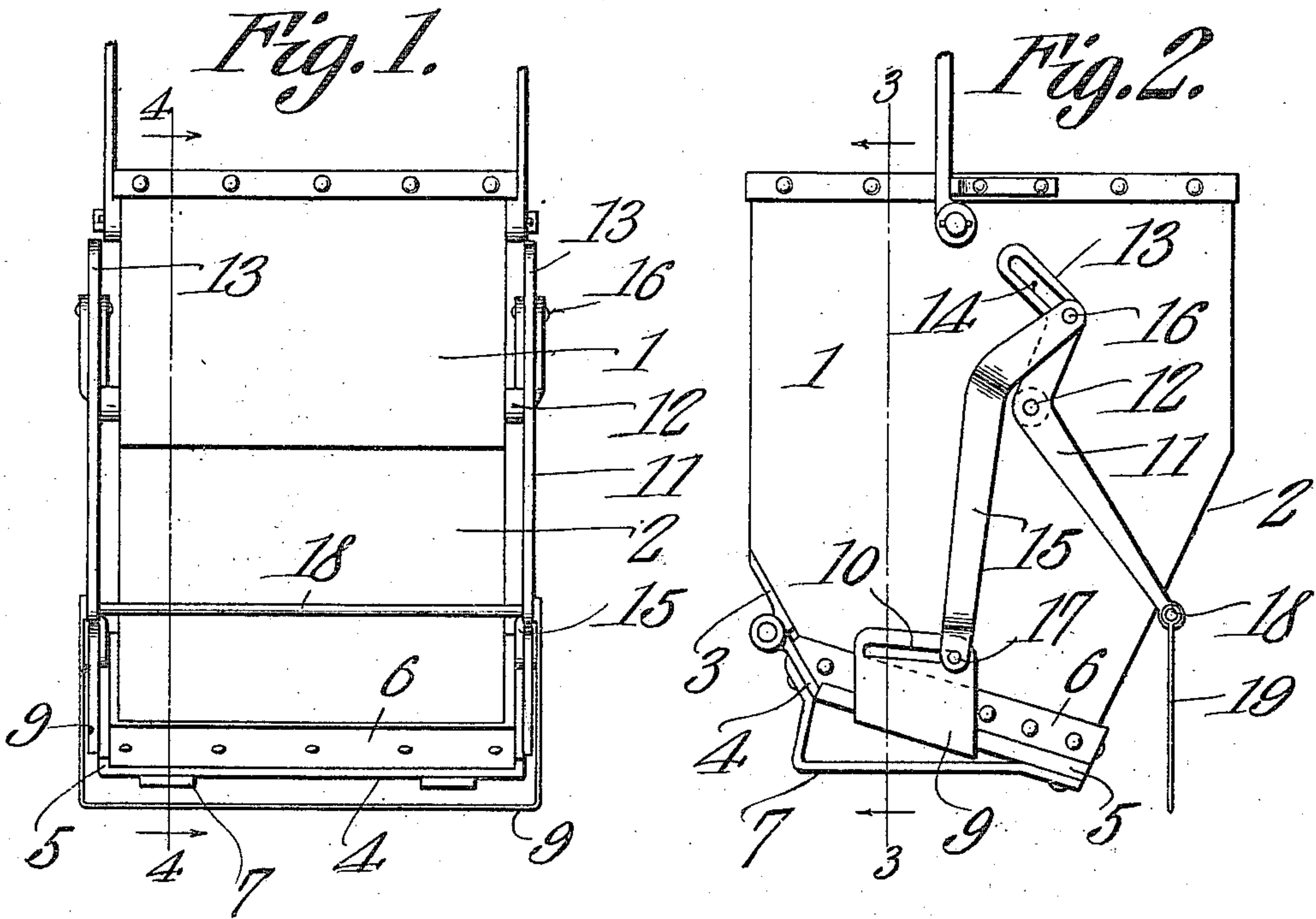


G. FOCHT.
 BOTTOM DOOR DUMP BUCKET.
 APPLICATION FILED DEC. 24, 1909.

985,578.

Patented Feb. 28, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE FOCHT, OF HOBOKEN, NEW JERSEY.

BOTTOM-DOOR DUMP-BUCKET.

985,578.

Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed December 24, 1909. Serial No. 534,775.

To all whom it may concern:

Be it known that I, GEORGE FOCHT, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Bottom-Door Dump-Bucket, of which the following is a specification.

This invention has relation to bottom door dumps and it consists in the novel construction and arrangement of its parts hereinafter shown and described.

The object of the invention is to provide a simple and durable bucket especially adapted to be used for holding and depositing mixed concrete and similar material and its configuration and arrangement of parts is such as to facilitate the egress of the material from the bucket during the act of dumping.

With the above object in view the bucket includes a body having at the lower portions of its front and rear sides converging sections the converging section at the front side being longer than the converging section at the rear side. A bottom or door is hingedly attached to the converging section of the rear side of the bucket and is provided on its side edges with flanges adapted to overlap the lower portions of the sides of the bucket body. A stirrup is applied to the said door and the ends of the stirrup are adapted to extend up along the sides of the body when the door is in closed position. The ends of the stirrup are provided with elongated slots. Levers are fulcrumed to the sides of the bucket and are provided at their working ends with elongated slots. Links are pivotally and slidably connected at their ends with both the levers and the ends of the stirrup and serve as means for drawing and holding the bottom in closed position when the levers are swung down. A yoke is operatively connected with the said levers for automatically swinging the same to open the door when the bucket is lowered to the ground.

In the accompanying drawings;—Figure 1 is a front elevation of a bucket. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse sectional view of the same cut on the line 3—3 of Fig. 2. Fig. 4 is a transverse sectional view of the same cut on the line 4—4 of Fig. 1.

The bucket includes a body 1 having at the lower portion of its front side an inclined section 2 and at the lower portion of

its rear side an inclined section 3. The said sections 2 and 3 converge toward each other at their lower edges and the section 2 is longer than the section 3. A door 4 is hingedly attached at its rear edge to the inclined section 3 and is provided at its side edges with upstanding flanges 5 adapted to overlap the sides of the body 1 when the said door is in closed position against the lower edges of the said body 1. A strengthening band 6 is applied to the outer surfaces of the lower edge portions of the body 1. Angular pedestals 7 are attached to the door 4 and are of such configuration as to hold the body 1 in an erect position upon level ground or a level support when the door is closed and while the said body is being filled with material. Z braces 8 are interposed between the intermediate points of the pedestal 7 and the door 4 and are adapted to brace both the door and the pedestals against the strain to which those structures are subjected. A stirrup 9 is applied to the intermediate portion of the door 4 and the end portions of the said stirrup are adapted to project up along the sides of the body 1 when the said door is in closed position. The end portions of the stirrup 9 are provided with elongated slots 10 which are approximately in alinement with the hinge pivot point of the door 4. Levers 11 are fulcrumed to the sides of the body 1 at points 12 and the said points 12 are nearer the vertical plane of the upper section of the front side of the body 1 than the forward end of the slot 10.

The levers 11 are in the form of bell cranks and are provided at their working ends with angularly disposed extremities 13 having elongated slots 14. The extremities 17 are approximately parallel with the collar end portion of the levers 11. Links 15 are provided at their upper ends with pins 16 which pass through the slots 14 of the extremities 13 thus establishing both pivot and sliding connection with the levers 11. The said links 15 are provided at their lower ends with pins 17 which pass through the slot 10 in the ends of the stirrup 9 and thus both pivot and sliding connection is established between said links and the said stirrup. The opposite end portions of the links 15 are angularly disposed toward each other, the apices of the angles occurring adjacent the pivot point 12.

The power end portions of the levers 11

are of such a length that the forward ends of the levers may move in an arc which terminates at one end at a point between the upper and lower edges of the inclined section 2 and at its upper end at a point below the upper edge of the front of the body 1. A cross rod 18 connects the forward ends of the levers together and the said rod is located in front of the front side of the said body 1. A yoke 19 is pivotally connected at its ends with the rod 18 and said yoke is adapted to hang pendent on the said rod and when the door 4 is in closed position against the body 1 and the forward portions of the lever 11 are swung down, the intermediate portion of the yoke 19 will be below the level of the lower portions of the pedestals 7. By this arrangement and assemblage of parts it will be seen that when the door is closed against the lower edges of the sides of the body 1, the pins 17 carried at the lower end of the links 15 will be at the forward end of the slots 10 and the pins 16 carried at the upper ends of the said links will be at the forward lower end of the slots 14 in the extremities 13 of the levers 11, also the pins 16 will be slightly in advance of a straight line passing through the centers of the pins 17 and the pivots 12. The forward ends of the levers 11 will be swung down and rods 18 will be against the outer surface of the inclined section 2 of the front of the body 1. Thus it will be seen that the door 4 is held in locked position against the lower edges of the body. When the parts are thus locked together and the bucket is lowered to the ground for the purpose of filling, the yoke 19 is swung upwardly and may be permitted to rest upon the surface of the ground. After the bucket has been filled with material it is elevated and conveyed to any desired point when it is lowered and as the bucket approaches the ground or other foundation the intermediate portion of the yoke 19 is the first to engage or come in contact therewith and the said yoke will swing the forward end of the levers 11 upward. As the said levers 11 turn upon the pivots 12 the extremities 13 are moved toward the rear side of the body 1 and consequently the pins 16 are carried behind the line from the centers of the pins 17 to the pivot points 12 and the levers 11 continue to swing until the cross rod comes in contact with the upper vertical portion of the front of the body 1. At

the same time the pins 16 move along the slots 14 as the rear ends of the said slots are inclined downwardly and thus it is possible for the door 4 to swing upon its hinge connection with the section 3 of the body 1. As the said door begins to swing to an open position, the pins 17 move along the slots 10 until they come in contact with the rear end thereof and complete the opening movement of the door 4. After the initial opening movement of the door 4 the material within the body 1 upon the relatively long inclined section 2 bears directly against the inner face of the door, by gravity, and thus the said door is subjected to a thrust strain approximately at a right angle to its plane. This thrust strain forces the door open promptly, and when the forward portion of the bucket has become emptied of its contained material, the material at the rear portion of the bucket descends along the inclined section 3 and sweeps across the inner face of the door 4 and clears the same.

Having described the invention what I claim as new and desire to secure by Letters Patent is:—

1. A bucket comprising a body, a door hinged to the body, a lever fulcrumed upon the body, and a link slidably and pivotally connected with both the lever and the door.

2. A bucket comprising a body, a door hinged to the body, a stirrup attached to the door and having slotted end portions projecting above the upper surface of the door, a lever fulcrumed to the body and having a slot in its working end, a link having at its ends pins which slidably and pivotally engage the slots of the stirrup and lever, respectively.

3. A bucket comprising a body, a door hinged to the body, a stirrup lying under the intermediate portion of the door and having end portions provided with slots, levers fulcrumed to the sides of the body and having slots in its working ends, and links having pins at their opposite ends which engage the slots of the stirrup and levers, respectively.

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

GEORGE FOCHT.

Witnesses:

CHARLES FAIST,

CHARLES J. MAYSER.