C. W. HUNT.

DUMPING BUCKET.

APPLICATION FILED JUNE 2, 1910.

967,922.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1.

Fig. 2.

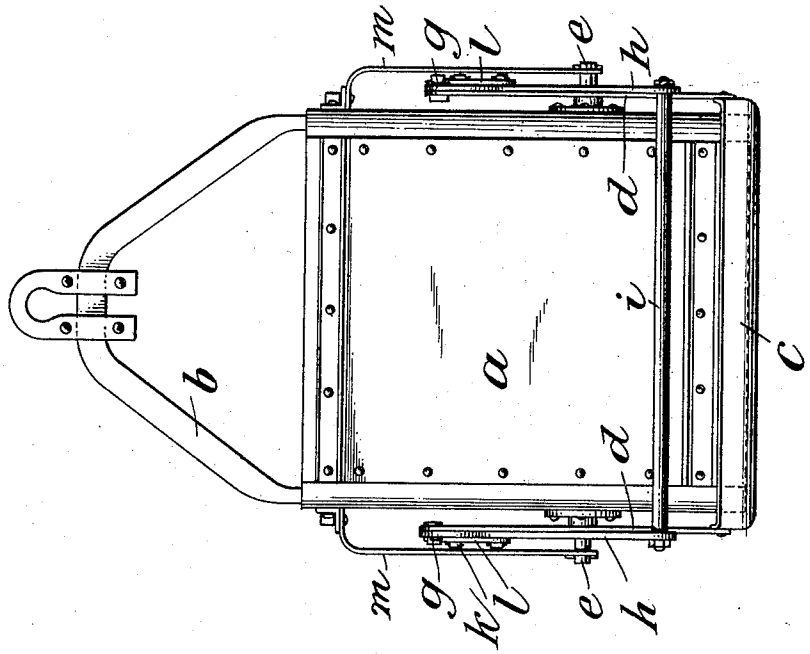
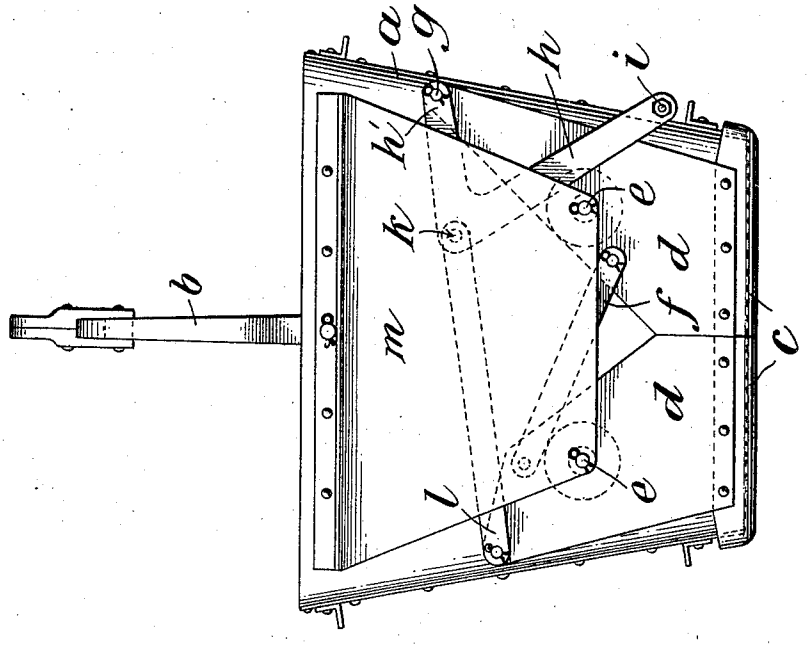


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 4.

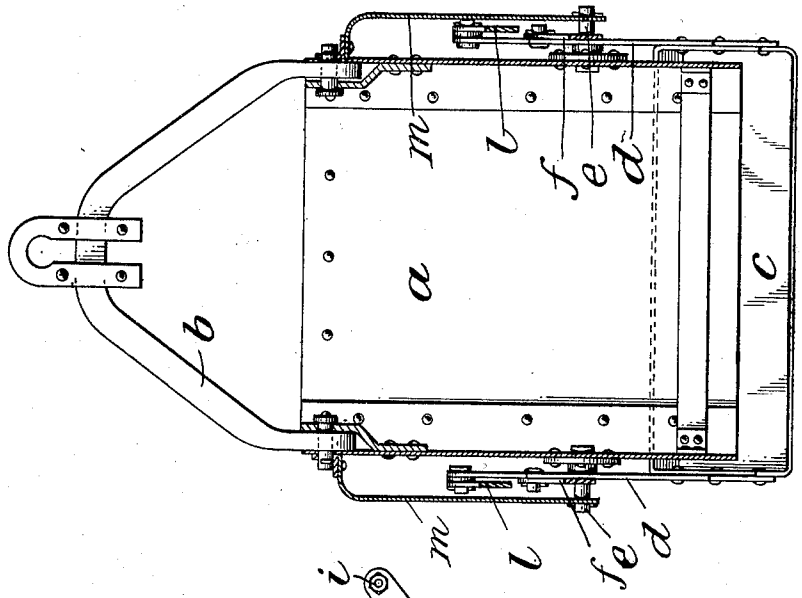
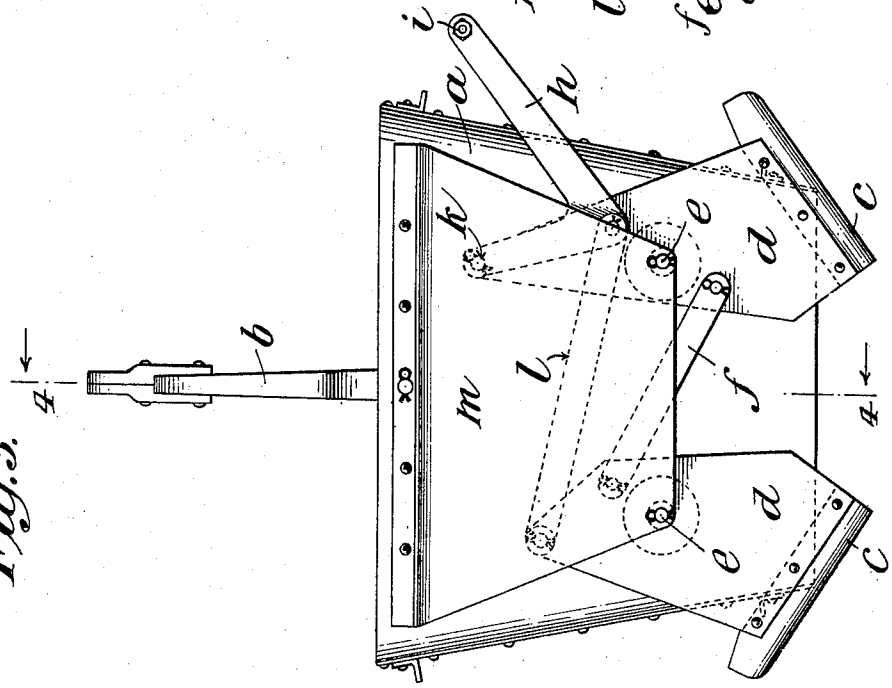


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES WALLACE HUNT, OF WEST NEW BRIGHTON, NEW YORK.

DUMPING-BUCKET.

967,922. Specification of Letters Patent. **Patented Aug. 23, 1910.**

Application filed June 2, 1910. Serial No. 564,606.

To all whom it may concern:

Be it known that I, CHARLES WALLACE HUNT, a citizen of the United States, residing in West New Brighton, in the borough of Richmond of the city of New York, in the State of New York, have invented certain new and useful Improvements in Dumping-Buckets, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

This invention has for its object the production of an improved bucket for hoisting and handling coal, ore or other materials, which can be very easily dumped by hand through the bottom, the gates or jaws which form the bottom of the bucket being so mounted and provided with such locking and operating means that when in closed position they support the load without danger of accidental discharge and yet can be opened with little effort.

The invention will be more fully explained hereinafter with reference to the accompanying drawings in which it is illustrated and in which—

Figure 1 is a view in side elevation of a bucket which embodies the invention, the bucket being closed. Fig. 2 is a view thereof in side elevation. Fig. 3 is a view similar to Fig. 1 but showing the bucket open. Fig. 4 is a view in section on the plane indicated by the broken line 4—4 of Fig. 3.

The body or shell *a* of the bucket may be made of any suitable material and may have any suitable form and dimensions. As shown, it is a substantially square body, without top or bottom, and is provided with a suitable bail *b*. The bottom of the bucket is formed by two jaws or gates *c*, *c*, which, when closed, support the load, and when open, as shown in Fig. 3, permit the load to be discharged between them. Each jaw or gate is carried by arms or cheek pieces *d* which are pivoted upon studs *e* mounted in the opposite side walls of the bucket. The pivotal axis is nearly equi-distant from the inner and outer edges of the jaw, so that the jaw is nearly balanced, the pivotal axis being preferably a little nearer the vertical plane of the outer edge so that the slightly unbalanced load on the jaw assists in the opening of the jaw when its opening movement is started. The two opposed cheek pieces *d*, *d*, at each side of the bucket, are connected by a link *f* which is pivoted to one cheek piece below the plane of the pivot *e* and to the other cheek piece above the plane of the pivot *e*, so that the two jaws shall move together but in opposite directions. Upon one of the cheek pieces *d*, *d*, at each side of the bucket, is pivoted at the extremity of its shorter arm, as at *g*, the bell crank dumping lever *h*, the cheek pieces *d* to which the dumping levers are pivoted being preferably extended up somewhat farther than the other cheek pieces, as clearly shown in Fig. 1. The ends of the long arms of the two levers are connected by a handle bar *i*. At its angle, as at *k*, each lever *h* has pivotally connected thereto a link *l*, the other end of which is pivotally connected to the other cheek piece *d*, also at a point above its pivotal axis *e*.

When the jaws are closed, as shown in Figs. 1 and 2, the pivots *g*, *k* and *l*, at each side of the bucket, are approximately in line, the pivot *k*, if out of line preferably standing slightly above the line, so that the tendency of the load on the jaws, if slightly unbalanced, to open the jaws, is resisted by the alinement of the members of the toggle system formed by the short arm *h'* of the lever *h* and the link *l* at each side, the bearing of the handle bar *i* against the end of the bucket preventing the breaking of the toggle upward in case the pivots *g*, *k* and *l* are slightly out of line. When it is desired to open the jaws and dump the load a gentle pull outward on the handle bar *i* serves to break the toggles downward and to pull the upper ends of the cheek pieces *d*, *d*, toward each other, forcing the jaws *c*, *c* outward in opposite directions through the link *f*. The movement of the jaws to dump the load is thus easily started and is continued by the continued movement of the handle bar *i* without difficulty. To close the jaws, after the dumping of the load, the handle bar *i* is pulled downward and the jaws are thereby restored to their closed positions in which they are locked against accidental movement in the manner already described. In the opening movement of the jaws each jaw swings so closely to the lower edge of the corresponding end wall of the bucket that any material which may cling to the upper surface of the jaw is scraped therefrom.

For the protection of the links and their connections, an apron *m* is secured to each side wall of the bucket, near its upper edge,

and depends downward outside of the links and cheek pieces.

It will be understood that the form and arrangement of the various parts involved in the support, locking and operation of the jaws may be varied to meet different conditions of use and that the invention, therefore, is not restricted to the precise arrangement and relation shown.

I claim as my invention:

1. In a dumping bucket, the combination of a bucket body, jaws to close the bottom thereof, cheek pieces by which the jaws are pivotally hung upon the walls of the bucket, toggle links connecting the cheek pieces above their pivots and serving when in line to hold the jaws in closed position, and an operating lever connected to the toggle links to break the toggle and swing the jaws outward.

2. In a dumping bucket, the combination of a bucket body, jaws to close the bottom thereof, cheek pieces by which the jaws are pivotally hung upon the walls of the bucket, the pivotal axis of the cheek pieces of each jaw being substantially above the middle line of the corresponding jaw, toggle links connecting the cheek pieces above their pivots and serving when in line to hold the jaws in closed position, and an operating lever connected to the toggle links to break the toggle and swing the jaws outward.

3. In a dumping bucket, the combination of a bucket body, jaws to close the bottom thereof, cheek pieces by which the jaws are pivotally hung upon the walls of the bucket, toggle links connecting the cheek pieces above their pivots and serving when in line to hold the jaws in closed position, an operating lever connected to the toggle to break the toggle and swing the jaws outward, and a link connecting opposite cheek pieces above and below their pivots.

4. In a dumping bucket, the combination of a bucket body, jaws to close the bottom thereof, cheek pieces by which the jaws are pivotally hung upon the walls of the bucket, a bell crank lever pivotally connected to one of the cheek pieces at the extremity of one arm, and a link connecting the angle of the lever with the other cheek piece.

5. In a dumping bucket, the combination of a bucket body, jaws to close the bottom thereof, cheek pieces by which the jaws are pivotally hung upon the walls of the bucket, a bell crank lever pivotally connected to one of the cheek pieces at the extremity of one arm, a link connecting the angle of the lever with the other cheek piece, and a link connecting the opposite cheek pieces above and below their pivots.

6. In a dumping bucket, the combination of a bucket body, jaws to close the bottom thereof, cheek pieces at each side of the bucket by which the jaws are pivotally hung upon the walls of the bucket, bell crank levers pivoted at the extremities of one arm of each upon the corresponding cheek pieces, links connecting the angles of the bell crank levers with the opposite cheek pieces and a handle bar connecting the extremities of the other arm of each of the bell crank levers.

7. In a dumping bucket, the combination of a bucket body, jaws to close the bottom thereof, cheek pieces at each side of the bucket by which the jaws are pivotally hung upon the walls of the bucket, bell crank levers pivoted at the extremities of one arm of each upon the corresponding cheek pieces, links connecting the angles of the bell crank levers with the opposite cheek pieces, a handle bar connecting the extremities of the other arm of each of the bell crank levers, and links connecting the opposite cheek pieces at each side of the bucket above and below their pivots.

This specification signed and witnessed this 31st day of May, A. D. 1910.

CHARLES WALLACE HUNT.

Signed in the presence of—

GEO. K. JENCKES,

C. C. KING.