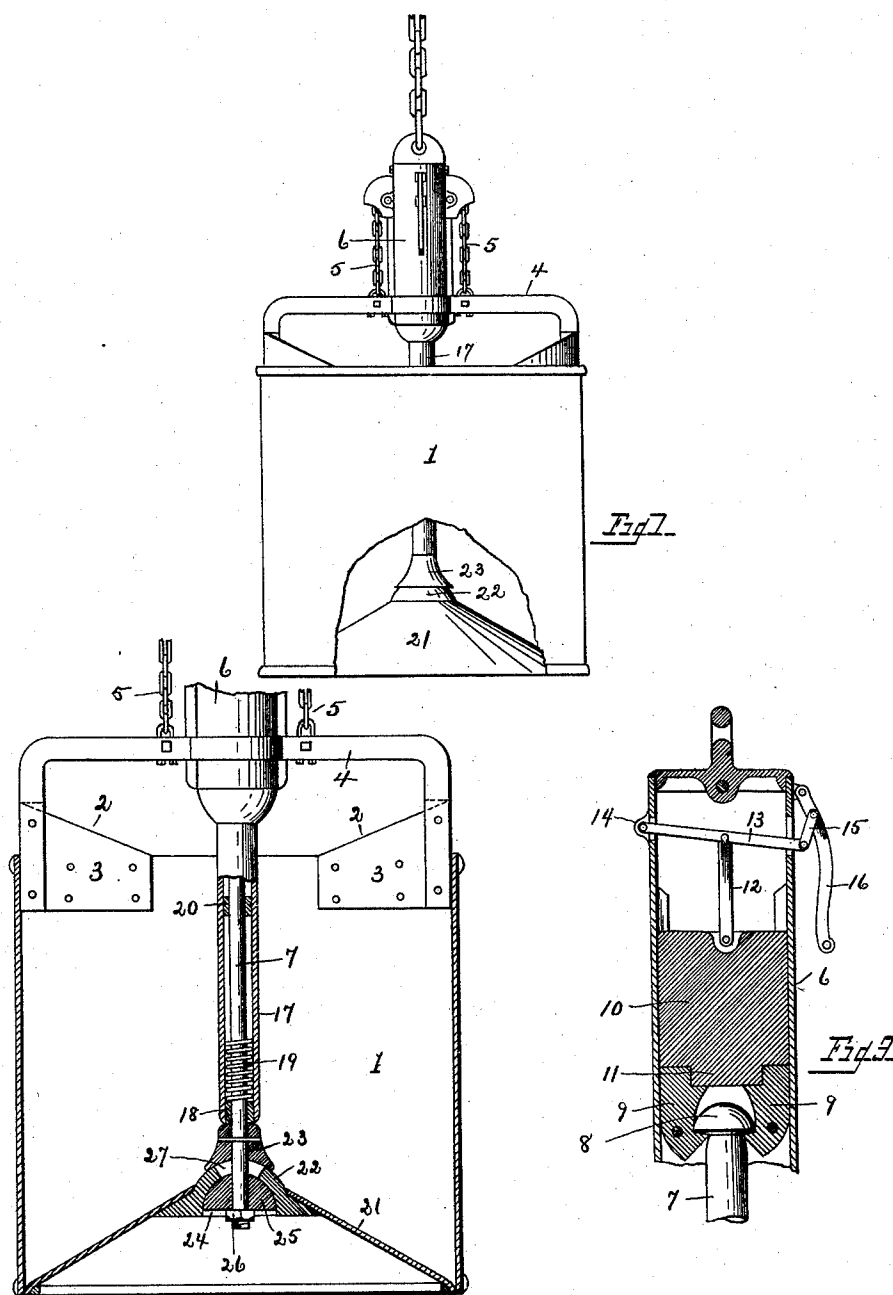


(No Model.)

W. E. LUDLOW.
DUMPING BUCKET.

No. 476,285.

Patented June 7, 1892.



WITNESSES

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WILLIAM EDGAR LUDLOW, OF TOLEDO, ASSIGNOR TO THE LUDLOW MANUFACTURING COMPANY, OF CLEVELAND, OHIO.

DUMPING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 476,285, dated June 7, 1892.

Application filed January 12, 1892. Serial No. 417,807. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EDGAR LUDLOW, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Dumping-Buckets; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

This invention relates to dumping-buckets, and more particularly to that character of bucket employed in loading and unloading coal and analogous material in which the bottom of the bucket drops to dump the coal.

One object of the invention is to provide a yielding connection or coupling comprising an articulation of the rod of the bucket, having a base or socket-joint between the bottom and body of the bucket, so that should the bottom when lowered or dropped contact with an article previous to resuming its normal position such contact will not bend the rod to which the bottom is connected, and said connection also allowing the escape of large or unwieldy lumps of coal, which would otherwise have a tendency to wedge between the said bottom and the mouth of the body, and thus prevent the bottom from returning to its proper position.

A further object is to provide a bail having bail-ears designed to reinforce the upper rim of the bucket and also to throw the bail within the sides of the bucket, whereby the bucket shall present a practically smooth exterior, thus preventing any abrasion or catching on the hatchway or other opening through which the bucket may be lowered.

The invention consists in the novel construction and combination of parts of a dumping-bucket, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming part of this specification, and in which like numerals of reference indicate corresponding parts, Figure 1 is a front elevation of the bucket, a section being broken away to disclose the exterior appearance of the ball-and-

socket joint. Fig. 2 is a longitudinal vertical sectional view showing more particularly the construction of the ball-and-socket joint. Fig. 3 is a detail sectional view showing the construction of the trip mechanism.

Referring to the drawings, 1 designates the body of the bucket, which is preferably circular in cross-section and constructed of any suitable material. To the upper inner portion of the body are secured the bail-ears 2, which are constructed with a body portion 3, of a contour to correspond to the interior of the body, to which they are firmly secured. The upper portions of said ears are angular in form, as clearly seen in Figs. 1 and 2, and to these angular portions the ends of the bail 4 are bolted, the said ends being on the interior of the body, thus leaving the exterior of the latter practically smooth and free from projections of any sort.

5 designates chains, which are secured to the bail and pass over pulleys to the interior of a hanger 6, where their full ends are connected by straps (not shown) with the upper end of the rod 7, the lower end of which supports the bucket-bottom, to be described farther on. The said upper end of rod 7 is provided with a head 8, designed to be engaged by pivoted catches 9, which are held in locked engagement with the said head by means of a weight 10, having a projection 11, designed to fit between the said catches, as clearly shown in Fig. 3.

12 designates a link, the lower end of which is pivotally connected to the weight 10 and the upper end to a lever 13, pivoted at 14 to the hanger 6. The free end of lever 13 projects beyond the hanger and is connected by a link 15 to the trip-lever 16, which latter is to occupy a position practically parallel with the casing, whereby to guard it from injury by contacting with the hatchway or other opening through which the bucket may be lowered.

17 designates a tubular casing formed, preferably, integral at its upper end with the hanger 6 and extending downward to within a short distance of the bucket-bottom. Within this casing works the rod 7, on which is fitted a coiled spring 19, resting at its lower end upon the collar 18, secured within the casing 17, a second collar 20, secured to the

rod 7 some distance above the first collar, serving to contact with the spring 19, and thus break the fall of the bucket-bottom, as will presently appear.

- 5 21 designates the bottom, which is preferably cone-shaped, in the apex of which is secured a socket 22, the upper surface of which works against a recessed bearing 23, secured on rod 7. Within the recess 24 of the socket is
10 placed a half-ball 25, through which passes the rod 7, a nut 26 on the rod serving to hold the said ball in place. The socket is provided with an opening 27, whereby to allow the bottom
15 either to revolve or to tip in any desired direction, the bearing 23 being of a size to cover the opening 27, so as to prevent the entrance of coal or other extraneous substances to the ball-joint.

- As shown in Fig. 2, the lower end of casing
20 17 is rounded, as is also the upper surface of the bearing 23, and by this construction the danger of pieces of coal lodging between the parts and preventing their close contact is avoided.

Having thus fully described my invention, 25 what I claim as new, and desire to secure by Letters Patent, is—

1. In a dumping-bucket, a body, a bail attached thereto, a trip mechanism, a movable rod engaged by the trip and carrying on its 30 lower end the bucket-bottom, a tubular casing inclosing the rod, and a ball-and-socket joint between the said casing and the bottom.

2. In a dumping-bucket, a body, a bail attached thereto, a trip mechanism, a movable 35 rod engaged by the trip and carrying on its lower end the bucket-bottom, a tubular casing inclosing the rod, and a socket carried by the bottom, a ball carried by the rod and engaging the socket, and a recessed bearing be- 40 tween the socket and the said casing.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

WILLIAM EDGAR LUDLOW.

Witnesses:

WILLIAM WEBSTER,
CARROLL J. WEBSTER.