(No Model.) 2 Sheets—Sheet 1.

O. JOHNSON.

HOISTING BUCKET.

No. 455,544. Patented July 7, 1891.

Fig. 1.

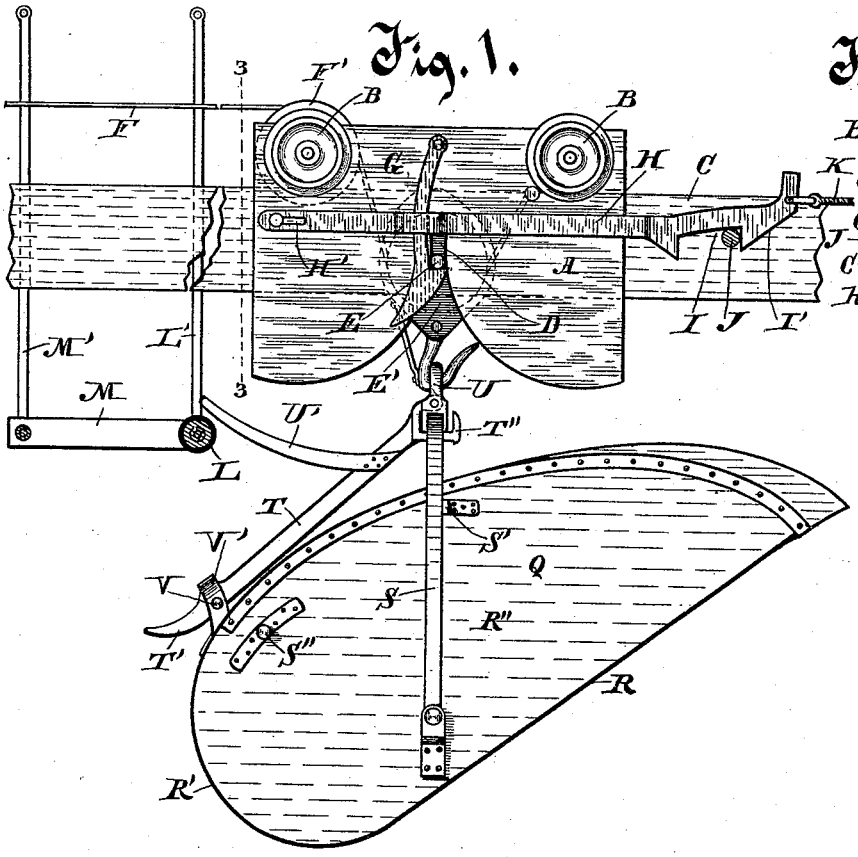
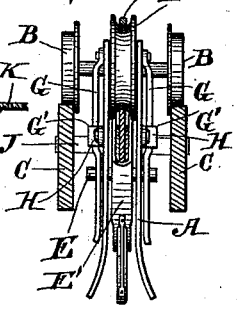


Fig. 3.



Witnesses.

O. F. Keeney.

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(No Model.) 2 Sheets—Sheet 2.

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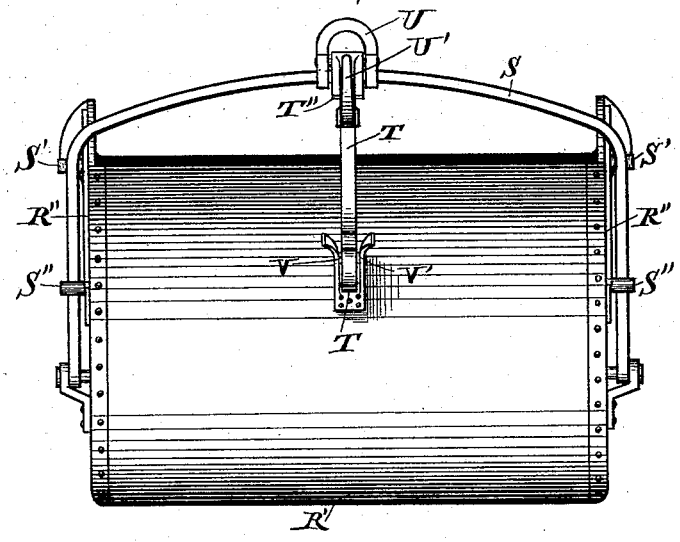
Fig. 2.



Witnesses.

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Inventor.

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UNITED STATES PATENT OFFICE.

OLE JOHNSON, OF MILWAUKEE, WISCONSIN.

HOISTING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 455,544, dated July 7, 1891.

Application filed September 13, 1890. Serial No. 364,812. (No model.)

To all whom it may concern:

Be it known that I, OLE JOHNSON, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Hoisting-Buckets, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to a bucket adapted to be used in connection with an elevator and carrier for raising coal from the ground and conveying and dumping it at a distance therefrom, the bucket being of such novel construction as to make it automatic both in filling and in dumping.

To illustrate the use of my bucket I show it in connection with elevator and carrier mechanism, with which it is adapted to be used.

In the drawings, Figure 1 is a side elevation of my improved bucket in connection with mechanism with which it is adapted to be used. Fig. 2 is a rear end elevation of the bucket. Fig. 3 is a transverse vertical section of the track and carrier adapted for operating my improved bucket, which view is taken on line 3 3 of Fig. 1, looking toward the right.

The elevator and carrier shown in the drawings and with which my improved bucket is adapted to be used includes the carrier-frame A, provided with flanged wheels B B, which travel on the two-rail track C. The frame has a recess D, adapted to receive the spindle E of the pulley of the free block E'. The cable F is secured at one end to the frame A at one side of the recess D and runs under the pulley in the block E' and over a pulley F' in the carrier. A double latch G is suspended pivotally in the carrier immediately above the recess D and is adapted to catch the spindle E. A carrier-locking latch H is pivoted at its rear end to the carrier-frame by pins passing through slots H' H' therefor in the latch, whereby a certain amount of horizontal lost motion is provided for. The shanks of the latch G pass through recesses G' G' therefor in the latch H, and the movement forward of the carrier, the latch H being at rest, throws the latch G rearwardly out of engagement with the spindle E. Near its other extremity the latch H is provided with a recess I, adapted to engage a rod J, fixed in the track. The latch H is beveled off at I', so as to be lifted by coming in contact with the rod J. A retrieving-rope K is attached to the front end of the latch H and is adapted to pull the carrier in that direction.

A stop for engaging a latch on the bucket and dumping it is constructed by suspending a cross-bar L in the free ends of the swinging rods L' L', attached to a support a little above the track C. This cross-bar is re-enforced by bars M M, connected movably to the rods L' L' and to the rods M' M', which latter rods are suspended parallel to and at a little distance from the rods L' L'.

My improved bucket is advisably constructed of heavy sheet metal in the form shown in Figs. 1 and 2, having a flat bottom R, a curved rear end R', and side walls R'' R'', which are mostly vertical, but which near the front end are curved or flare outwardly near the bottom R. A bail S is hinged to the sides R'' R'' at a little distance from the bottom R and at the rear of the center of gravity of the bucket, so that when otherwise unsupported the bucket will tilt forwardly, throwing its front end downwardly, so as to discharge its contents by gravity. Stops S' and S'' are fixed on the bucket, respectively, in front and rear of the bail S and are adapted to limit the movement of the bucket relative to the bail.

A latch T, pivoted at its upper end to the link U, is provided at its free end with a recess adapted to receive and be engaged by a catch on the rear end of the bucket, conveniently constructed of a rod V, inserted through brackets V' V', fixed centrally on the rear wall of the bucket. The under outer end of the latch T is curved outwardly at T' to adapt it to bear against and guide the movement of the latch against the rod V when coming into position. Near its other extremity the latch T is provided with a forwardly-extending head T'', adapted to strike a stop and throw the latch T out of engagement with the catch V when the bucket has moved forwardly to the point at which it is to be discharged. A rearwardly-curved arm U' is secured rigidly to the latch T and is adapted to engage the

cross-bar L and lift the latch T out of engagement with the catch V when the carrier and bucket are run thereto rearwardly.

When the latch T is in engagement with the catch V and the bucket is suspended freely, the bucket will assume the position shown in Fig. 1, the bottom R being in an oblique direction upwardly and outwardly toward its front edge. In this position the bucket is adapted to and will automatically fill itself when drawn forward against a pile of coal or other material to be taken up.

The flat bottom R extends from the front end of the bucket rearwardly beyond the point at which the bail is attached to the bucket, and the rear wall R′ curves upwardly and again forwardly sharply therefrom, so as to form a bucket in a pocket form, which opens forwardly and upwardly, substantially in the general direction of the longer line of the axis or plane of the bottom.

What I claim as new, and desire to secure by Letters Patent, is—

1. A hoisting-bucket comprising a flat front wall and bottom R, normally in an oblique position, a rearwardly, upwardly, and forwardly curved wall R′, the wall R′ being a continuation of the wall R and being curved in longitudinal section of the bucket its entire length, the two walls R and R′ forming the entire front, bottom, and rear walls of the bucket, side walls substantially vertical, a bail hinged to the side walls near the bottom and at the rear of the center of gravity of the bucket, stops S′ and S″, fixed on the side walls and adapted to limit the tilting of the bucket, a latch T, pivoted on the bail at the top, and a catch on the latch adapted to engage a catch on the bucket at the rear of the bail, substantially as described.

2. A bucket for an elevator and carrier constructed of plate metal, comprising a flat bottom R, a curved wall R′, side walls arranged vertically except near their front ends, where they flare outwardly, a bail hinged to the side walls near the bottom and at the rear of the center of gravity, stops, as S′ and S″, fixed on the side walls and so located as to limit the tilting of the bucket to the rear and to the front, a latch T, having a forwardly-projecting head T″ and a rearwardly-curved end T′, an arm U′ on said latch, and a catch V, fixed on the bucket, arranged to be caught by the latch T, substantially as described.

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

OLE JOHNSON.

Witnesses:
C. T. BENEDICT,
ANNA FAUST.