No. 859,509. PATENTED JULY 9, 1907.

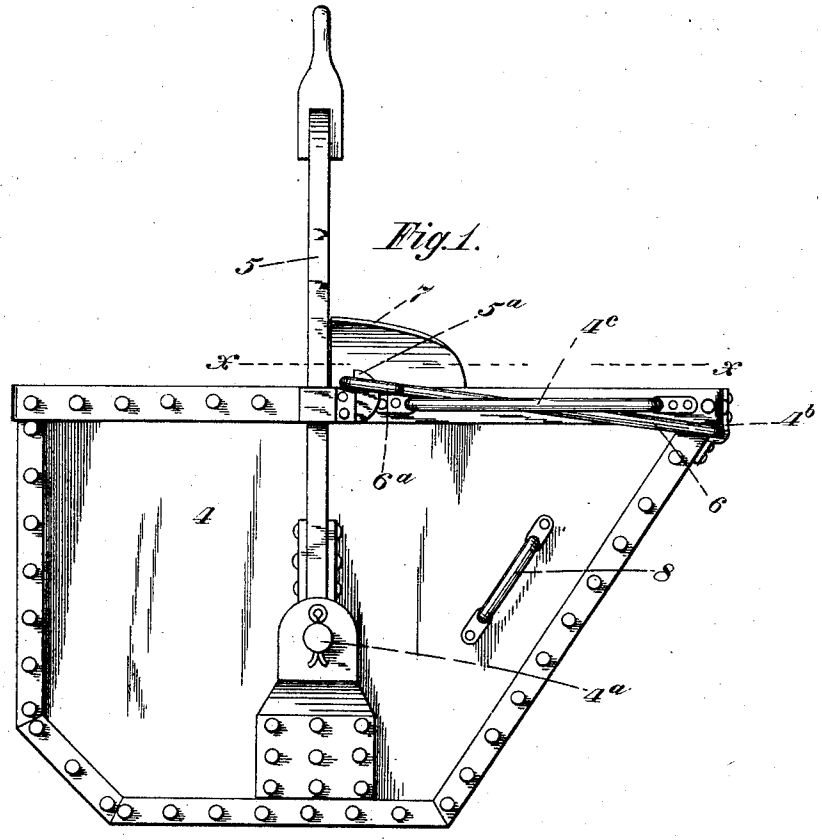
A. McDONALD.

HOISTING BUCKET.

APPLICATION FILED JAN. 9, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

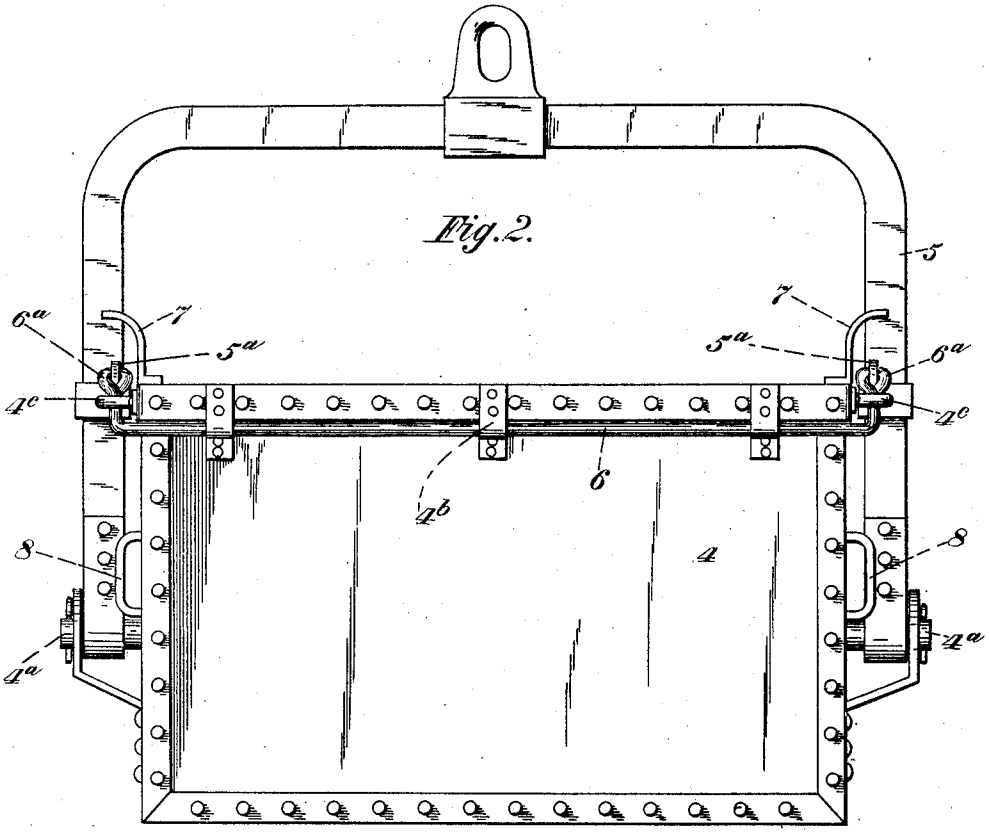
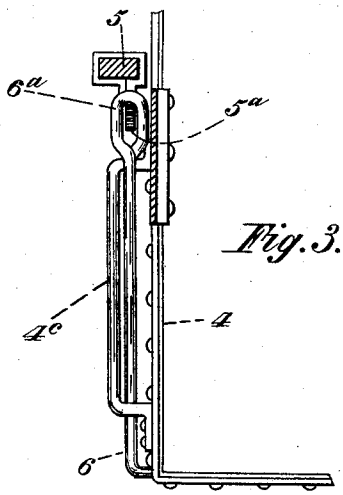


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALEXANDER McDONALD, OF COLUMBUS, OHIO.

HOISTING-BUCKET.

No. 859,509. Specification of Letters Patent. Patented July 9, 1907.

Application filed January 9, 1907. Serial No. 351,465.

To all whom it may concern:

Be it known that I, ALEXANDER McDONALD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Hoisting-Buckets, of which the following is a specification.

Heretofore ordinary hoisting buckets of the tilting or dumping variety have been troublesome and dangerous in use because of the difficulty in one case of disengaging the latch to discharge the load, there being great strain between the parts, and in the other because of the liability of the latching devices to unexpectedly pull asunder and precipitate the load, thereby greatly endangering the lives and limbs of the workmen. To prevent these troubles it was necessary to exercise great care and judgment in loading the bucket so as to obtain only a slight preponderance of load at the discharge side of the bucket. This exercise of care consumed time, and faulty judgment oftentimes resulted in serious accident.

The object of my invention therefore is to provide means whereby strain on the latching devices is wholly or to a great extent relieved, even when the bucket is naturally loaded, and without the exercise of special care.

The invention consists in the construction hereinafter described and claimed, the invention not being confined to the precise forms of the parts shown in the accompanying drawings forming a part hereof.

In said drawings—Figure 1 is a view in side elevation of the bucket with my appliances attached; Fig. 2 is an elevation of the same looking at the discharging end of the bucket; Fig. 3 is a detail plan and section looking from the line x—x Fig. 1.

On the several views 4 designates the bucket the body of which is of the ordinary form and provided with the usual bail 5 by which the bucket is supported and on which the bucket rocks or tilts at studs 4^a. The bail is provided with hooks 5^a that stand adjacent the edge of the bucket when the latter is in load-carrying position, and at the top of the discharge side of the bucket is hinged a U-shaped latching member 6, said latching device being provided at its free ends with loops 6^a that engage the hooks 5^a. The U-shaped latching member is secured at its middle or cross portion to the outer end of the bucket by straps 4^b suitably riveted to the outer side of the end of the bucket, and the arms of said U-shaped member swing on the intermediate or cross portion as a pivot.

4^a designates guards on the bucket for holding the swinging arms of the U-shaped latching member parallel to the side of the bucket. The guards 4^c also limit the oscillation of the U-shaped latching member and hold it in position for automatic latching when the bucket is restored to upright position. When the U-shaped member is an integral structure, as shown, the operation of one of its arms effects the operation of the other.

Riveted to the inner walls of the bucket on its discharging side are small pieces 7 of stout sheet metal that are curved or bent outwardly at their upper portions to constitute stops to prevent the bucket from tilting toward the non-discharging end.

When the bucket is in load-carrying position, that is, the position shown in Fig. 1, its capacity or weight at the non-discharging side is slightly greater than that at the discharging side, hence when the bucket is naturally and normally loaded the tendency of the weight at said side is to throw the stops 7 against the bail 5. This, of course, prevents the bucket from turning over to that side, while the engagement of the U-shaped member with the hooks 4^a prevents the bucket from accidental tilting toward the discharging direction until the latch is lifted off said hooks and the bucket positively operated to discharge the load. Because the bucket is ordinarily held with the stops against the bail, the latching device will normally lie loosely on the hooks and the U-shaped latching member is therefore easily lifted from the hooks for permitting the discharge of the load.

8 designates the usual handle on a bucket of the kind shown, for pulling the discharge end of the bucket down after the latching device is lifted off the hooks.

With this construction it will be observed that the bucket can be loaded without special care and that the latching devices are relieved of strain and the U-shaped member thereof is at all times easily lifted off the cooperating hooks. The long arms of the U-shaped latching member brace the discharging end of the bucket, and because of their length the arc of movement of the loops is comparatively flat and said loops are therefore for this reason more easily lifted off the hooks even if the preponderance of weight be at the discharge side of the bucket.

What I claim and desire to secure by Letters Patent is:

1. The combination with a bucket, of a bail provided with a hook, said bail pivoted to the sides of the bucket and the bucket being normally divided by the plane of the bail into a discharging and a non-discharging end, a latching device hinged to the discharge end of the bucket at its upper edge and to engage the hook on the bail; and a stop on the discharge side of the bucket to engage the bail to prevent the bucket from tilting towards the non-discharging side.

2. The combination with a bucket, of a bail provided with a hook, said bail pivoted to the sides of the bucket and said bucket being normally divided by the plane of the bail into a discharging and a non-discharging end, a latching device hinged to the discharge end of the bucket at its upper edge and to engage the hook on the bail, a stop on the discharge side of the bucket to engage the bail to prevent the bucket from tilting towards the non-discharging side, and guards 4^c on the discharging end of the bucket to limit the oscillation of the latching device and retain it in position to automatically engage the hook on the bail when the bucket is turned to upright position, substantially as described.

ALEXANDER McDONALD.

Witnesses:
ALICE B. COOK,
PAUL FINCKEL.