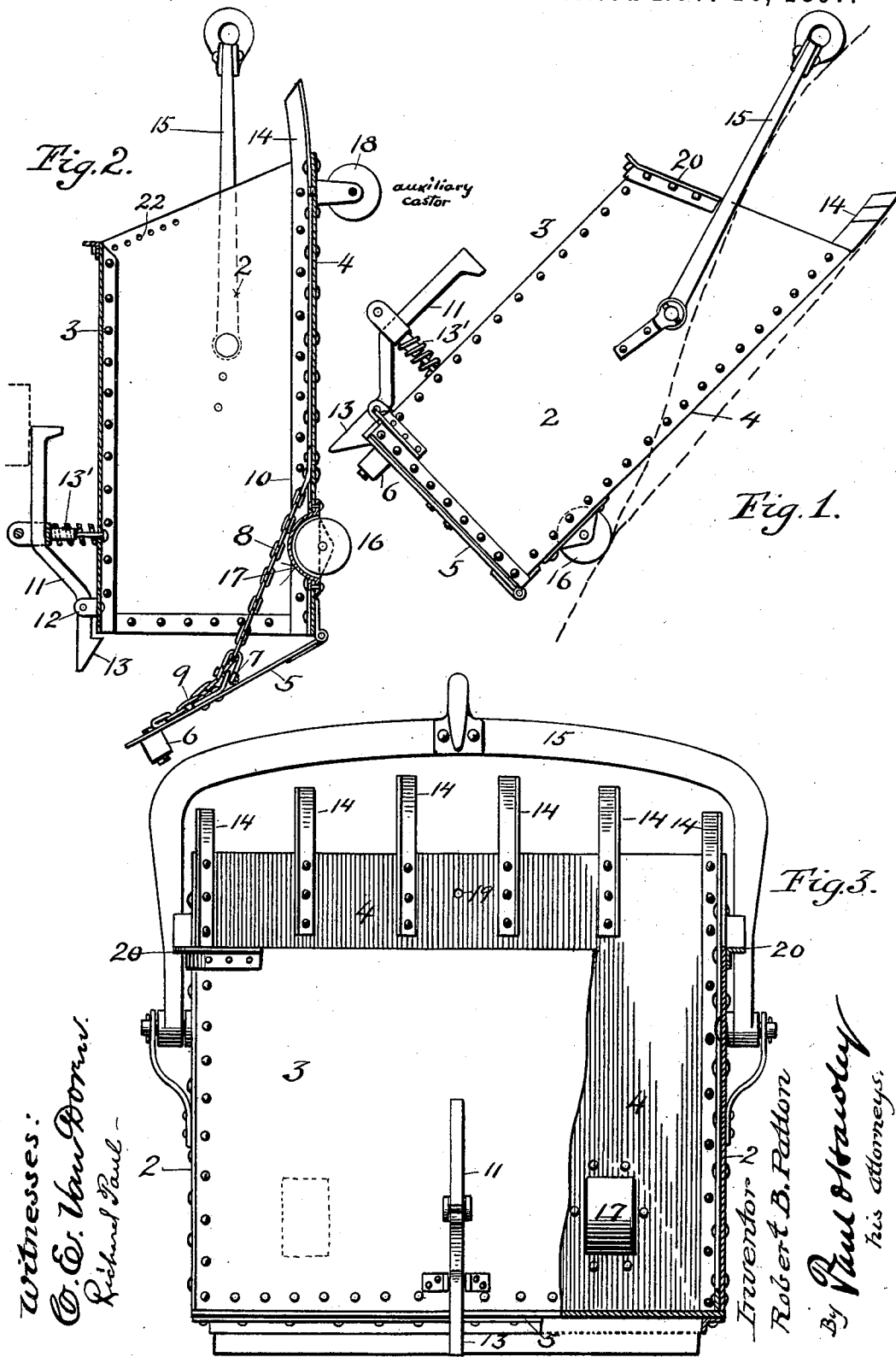


(No Model.)

R. B. PATTON.
PICK-UP BUCKET.

No. 593,969.

Patented Nov. 16, 1897.



UNITED STATES PATENT OFFICE.

ROBERT B. PATTON, OF WEST SUPERIOR, WISCONSIN, ASSIGNOR OF ONE-HALF TO J. H. SESSIONS, OF MINNEAPOLIS, MINNESOTA.

PICK-UP BUCKET.

SPECIFICATION forming part of Letters Patent No. 593,969, dated November 16, 1897.

Application filed October 1, 1896. Serial No. 607,544. (No model.)

To all whom it may concern:

Be it known that I, ROBERT B. PATTON, of West Superior, county of Douglas, State of Wisconsin, have invented certain new and useful Improvements in Pick-Up Buckets, of which the following is a specification.

This invention relates to means for handling coal, sand, or like materials which are conveyed from one dock to another or from the dock to cars or to steamers.

The object of the invention is to provide a pick-up bucket which will be of large capacity which may be worked with comparatively small power and in a most convenient manner, and, further, to provide one which to a great extent will be automatic in its action, whereby a large amount of hand labor now employed may be dispensed with.

A further and particular object of the invention is to provide a bucket which will operate upon the side of a pile of coal or sand and which after being filled and swung upward into a suitable hopper or receiver will dump itself, the dumping being regulated by convenient means upon the bucket.

With these ends in view my invention consists in the combination, with the bucket proper, of a bail therefor, trucks or casters provided upon the bottom or side of the bucket to incline the same with respect to the pile or heap into which the bucket drops, a hinged bottom, and a latch therefor; and, further, the invention consists in particular constructions and in combinations, all as hereinafter described, and particularly pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, forming part of this specification, and in which—

Figure 1 illustrates my pick-up bucket in position for operation upon the pile or heap. Fig. 2 is a vertical section thereof, showing the bucket as it appears after the door or bottom has been released. Fig. 3 is a side view of the bucket, a portion of the front or side being broken away.

My pick-up bucket is adapted to be raised by a crane or a hoist and is consequently adapted to assume a vertical position. When it is dropped upon the dock, instead of re-

maining standing upon its end or drop-bottom it will tilt over upon its side or lie against the side of the pile or heap of coal or ore, as shown in Fig. 1.

The bucket is substantially rectangular in cross-section, its dimensions according with the various uses for which it is intended. The sides 2 2 and 3 4 are preferably parallel, and at the bottom or end is a hinged door 5, hinged upon the lower edge of the side or plate 4 and itself of a size to completely close the opening in the bottom of the bucket. This door is preferably provided with a weight 6 and with a clip or U-bolt 7. From the latter a chain 8, having extra links 9, extend to a similar fastening 10 in the side or plate 4. By means of this chain and the clevis 7 the dump of the door is regulated, it being seldom that it is desirable to drop the door down into a straight position, in which case the entire load would fall out at once and probably break the hopper or the car into which the material is discharged. By the simple means the discharge of the material from the bucket may be regulated.

11 represents a lever pivoted upon the block 12 upon the side 3 of the bucket. This lever is provided on its lower end with the hook 13, adapted to engage with the edge of the door 5 when it is raised against the bottom of the bucket, as when the bucket is dropped upon the dock. The other end of the lever is considerably longer and rests against the cushion-spring 13, which normally holds the hook in engagement with the door. The upper end of the lever is adapted to strike against the bottom or the side of the hopper, and as the bucket swings the lever will be operated to release the door. The upper edges of the sides 2 are preferably inclined from the plate 3 to that numbered 4, which latter part may be called the "floor" of the bucket. From the edge of the floor 4 I extend a number of teeth or prongs 14, adapted to work into the material in the pile, and in order to prevent the burying of the bucket these teeth are preferably curved upward, as shown in Fig. 2. For strength the teeth or prongs are preferably made of angle or T iron and are folded or riveted firmly upon the floor 4 of the bucket. The long teeth upon the floor are made by ex-

tending the corner angle-irons of the bucket. These prongs preferably increase in length toward the middle of the floor and will engage the bail 15 after the bucket swings. This bail 15 is provided with a large ring in its upper end, and its lower end is pivoted upon the sides 22 at about two-thirds the distance from the bottom thereof and at one side of the center thereof. Upon the bottom of the plate 10 or floor 4 I provide the wide casters or wheels 16, which raise and incline the floor. These casters are partly accommodated in the housings 17, which project into the bucket.

18 represents a third wheel or caster which may be quickly fastened under the forward end of the bucket, a hole 19 being provided in the plate 4 for the purpose. This is only used when it is desired to draw the bucket from place to place around the dock or yard.

At all times when the bucket is in use upon the pile the casters 18 are removed. When the bucket is drawn upward along the side of the pile or heap of coal, sand, or ore, the rollers or casters 16 at the lower end of the bucket will ride upon the surface of the heap, while as the floor and teeth or prongs 14 are inclined the bucket will naturally dig or scoop into the side of the heap until the bucket is completely filled. To prevent the bucket from burying itself or to regulate the scoop or suction of the bucket, I preferably provide adjustable stops 20 upon the sides 2, with which the bail is engaged, as indicated in Fig. 1. These are made adjustable by supplying a number of holes 22 in the sides 2 to receive two or more bolts by means of which the stops may be secured firmly to the sides.

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

1. In a pick-up bucket, the combination, with the bucket proper of a drop-bottom therefor, a chain fastened within the bucket

and to said bottom to limit the drop of the same, an automatic latch for the bottom, and a bail attached to the sides of the bucket and whereby the bucket is drawn and lifted, as and for the purpose specified.

2. In a pick-up bucket, the combination, with the bucket proper, of the drop-bottom, a latch therefor, the bail attached to the sides of the bucket, and stops for limiting the movement of the bail with respect to the bucket, as and for the purpose specified.

3. The combination, with the bucket proper, of the drop-bottom therefor hinged at one side thereof, means for limiting the movement of said bottom or door, and the automatic latch therefor comprising the hooked lever 11 pivoted on the bucket, having a hook to engage the bottom when it is raised, and having a spring-supported arm at its upper end adapted to strike an obstacle as the bucket is moved, substantially as described.

4. The combination, with the bucket proper, of the hinged door or bottom, the automatic latch therefor, the bail attached to the sides of the bucket, the stops for the bail and the casters provided beneath the rear end of the floor of the bucket, substantially as described.

5. The combination, with the bucket proper, of the hinged door or bottom, the automatic latch therefor, the bail attached to the side of the bucket, the stops for the bail the casters provided beneath the rear end of the floor of the bucket, and the auxiliary caster 18 for use when moving the bucket from place to place, substantially as described.

In testimony whereof I have hereunto set my hand this 16th day of September, A. D. 1896.

ROBERT B. PATTON.

In presence of—

GEO. V. MOSS,
MARGARET PATTERSON.