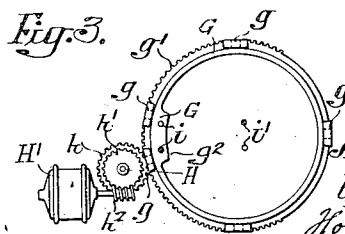
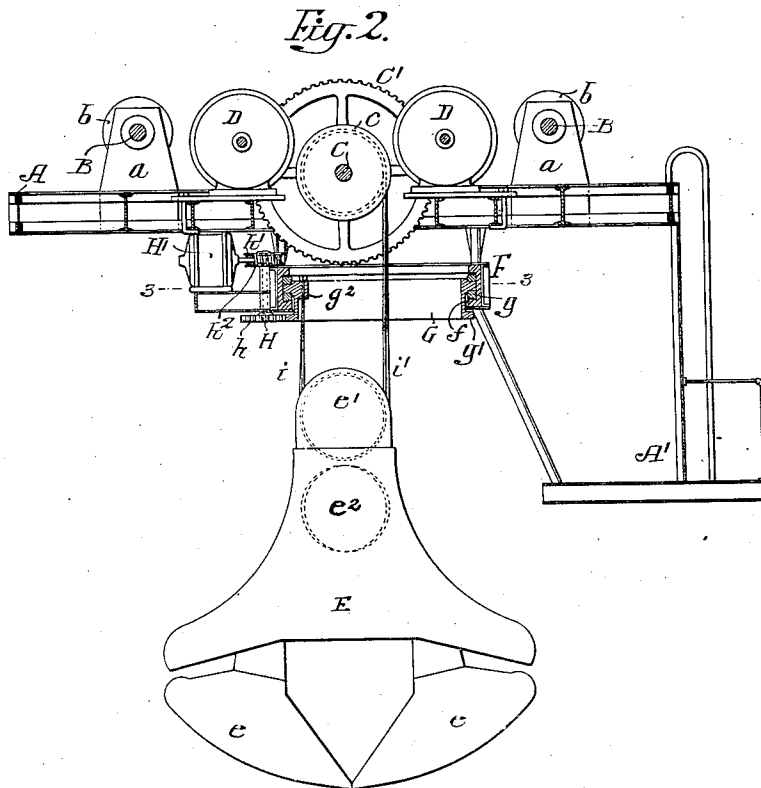
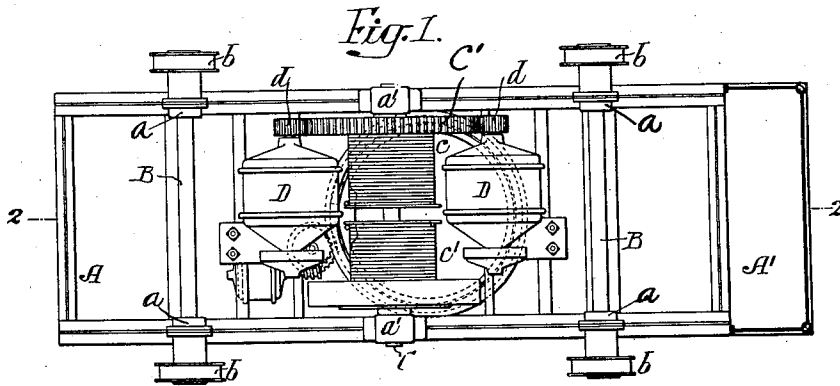


A. C. JOHNSTON.
 MEANS FOR TURNING HOISTING BUCKETS.
 APPLICATION FILED NOV. 6, 1909.

958,646.

Patented May 17, 1910.



Witnesses.-
 William H. Moore.
 Will A. Burrows

Inventor.
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UNITED STATES PATENT OFFICE.

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MEANS FOR TURNING HOISTING-BUCKETS.

958,646.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed November 6, 1909. Serial No. 526,567.

To all whom it may concern:

Be it known that I, ARTHUR C. JOHNSTON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Means for Turning Hoisting-Buckets, of which the following is a specification.

My invention relates to certain improvements in the mechanism for turning hoisting buckets.

The object of the invention is to so construct the mechanism that the bucket can be turned after it has been lowered into the hold of a vessel and at the same time shifted so that it will extend for a considerable distance under the deck, and thus more material can be removed from the hold of the vessel than heretofore and a larger bucket can be used than when the hoisting mechanism is not provided with a bucket turning device.

The hatchways of a vessel are limited in width but can be of any length desired, the length of the hatchway extending across the vessel, so that, by the use of a narrow and comparatively long bucket, the bucket can be lowered through the hatchway into the hold of the vessel and turned, and when filled the bucket can be turned to its original position and readily removed through the hatchway.

In the accompanying drawing:—Figure 1, is a plan view of a hoisting bucket and carriage illustrating my invention; Fig. 2, is a longitudinal sectional view on the line 2—2, Fig. 1; Fig. 3, is a plan view on the line 3—3, Fig. 2.

A is the frame of the carriage having bearings *a* for the axles B carrying the grooved wheels *b* which are adapted to travel on the tracks of a crane or through an overhead structure.

C is the drum shaft on which are mounted the two hoisting drums *c*, *c'*. This drum shaft is mounted in bearings *a'* on the frame A and on the drum shaft is a gear wheel *C'* which meshes with pinions *d* on the shaft of the electric motors D, which are mounted on the frame A. These motors are controlled from the platform A' depending from one end of the carriage A.

E is the hoisting bucket having jaws *e*, *e'* which are opened or closed by manipulating the ropes *i*, *i'*. These ropes are adapted to

sheaves *e'*, *e''* on the bucket, and one rope is coiled on the drum *c* and the other on the drum *c'*.

Depending from the underside of the carriage A is a frame F having an open center, and this frame has an internal track *f* for the wheels *g* carried by an open ring G having at its lower edge, in the present instance, a segmental rack *g'* with which meshes a driving gear wheel *h*. The ropes *i*, *i'* pass from the drums through the open ring and around sheaves *e'* on the bucket and their ends are secured to the ring at *g''*. The pinion *h* is mounted on a vertical shaft H adapted to bearings in the frame F and on the upper end of the shaft is a worm wheel *h'* meshing with a worm *h''* on the shaft of a motor H'. This motor is also controlled from the platform A'.

By the above construction it will be seen that any suitable mechanism can be used to raise and lower the bucket, and by throwing in the motor H' the bucket will not only be turned to a position at right angles to its normal position, but will also be moved to one side or the other of the hatchway, according to the direction of motion of the toothed segment. Thus by this means a long narrow bucket of great capacity can be lowered through the hatchway and then turned at right angles to the longitudinal line of the hatchway, and at the same time moved toward one side so as to extend a considerable distance under the deck and thus receive material at a point inaccessible to the ordinary non-turning bucket. The hatchways of a vessel can be arranged comparatively close together, so that a bucket of this type will remove the greater bulk from the hold of the vessel and consequently very little hand shoveling is required.

While I have shown hoisting mechanism having two drums, it will be understood that different types of mechanism having one or more drums may be used without departing from the essential features of the invention.

I claim:—

1. The combination in means for turning hoisting buckets, of a carriage, a rotatable member mounted on the carriage, hoisting means, a bucket, sheaves on the bucket, ropes passing from the hoisting means around the sheaves and secured to the said rotatable

member, and means for turning the said member so as to turn the bucket and move it laterally.

2. The combination in means for turning
5 hoisting buckets, of a carriage, hoisting means, a frame depending from the carriage, a ring pivotally mounted on the frame, a bucket, sheaves on the bucket, ropes
10 extending from the hoisting means, the end of each rope being secured to the said ring, a segment, gearing, and a motor whereby the ring is shifted so as to turn the bucket and move it bodily to one side or the other.

3. The combination in means for turning
15 hoisting buckets, of a carriage, hoisting

drums mounted thereon, an open ring mounted on the carriage, means for turning said ring, a bucket, ropes extending from the hoisting drums through the ring to the bucket and attached to the ring so that the 20 bucket will be suspended on a line at one side of the center of the ring.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ARTHUR C. JOHNSTON.

Witnesses:

WM. E. SHUPE,

WM. A. BARR.