

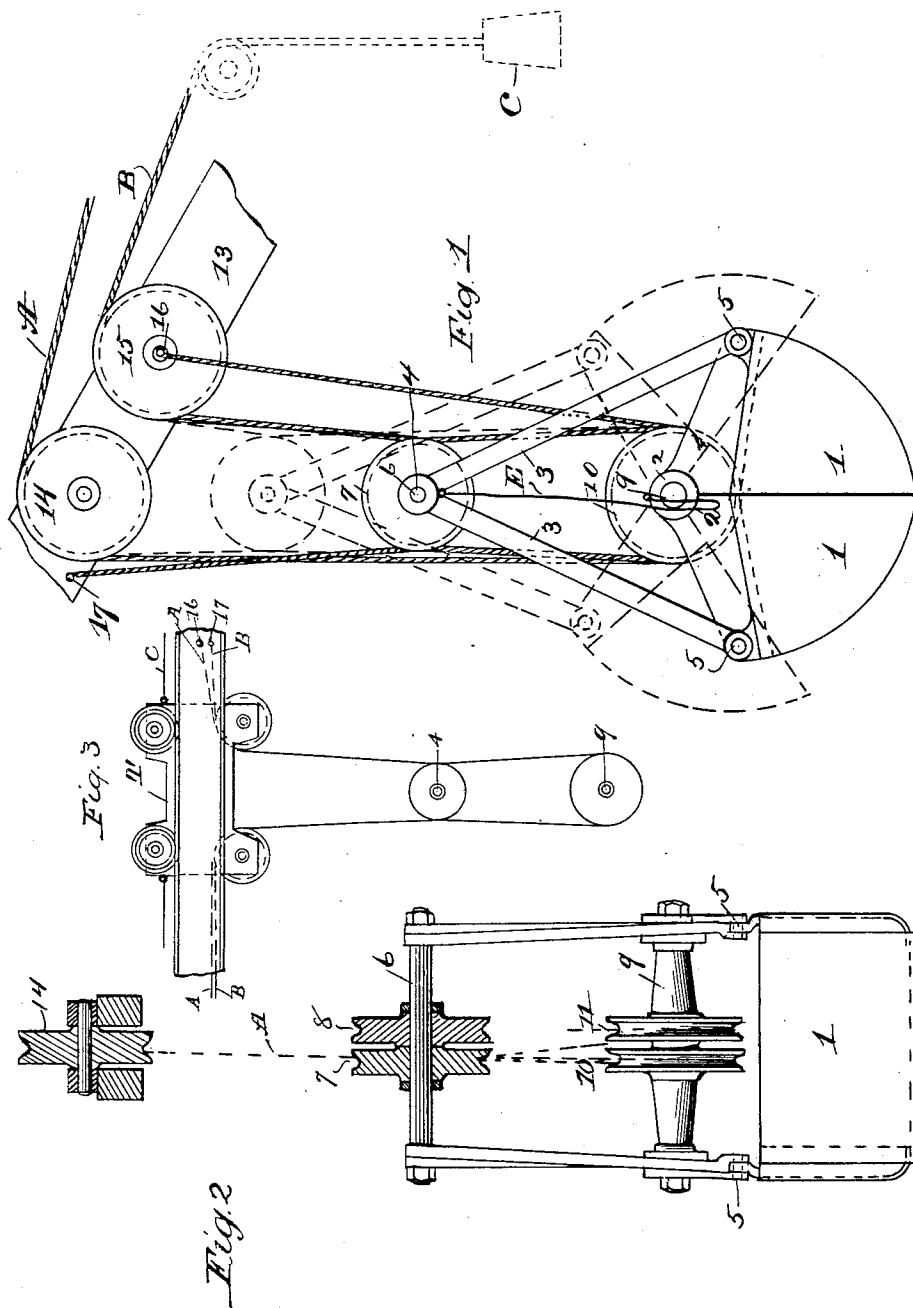
No. 702,908.

Patented June 24, 1902.

E. F. ATHERTON.
HOISTING DEVICE.

(Application filed Mar. 26, 1901.)

(No Model.)



Witnesses.
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UNITED STATES PATENT OFFICE.

EDMOND F. ATHERTON, OF CLEVELAND, OHIO.

HOISTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 702,908, dated June 24, 1902.

Application filed March 26, 1901. Serial No. 53,005. (No model.)

To all whom it may concern:

Be it known that I, EDMOND F. ATHERTON, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Hoisting Devices, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same.

The objects of the invention are to provide means for raising, lowering, closing, and dumping a divided ore-bucket, whereby the bucket can be transferred and lowered simultaneously, and I aim to accomplish these results in the manner hereinafter described, shown in the accompanying drawings, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of my improved apparatus. Fig. 2 is an end view, partially in section. Fig. 3 is a view of traveler.

In the views, 1 1 represent the halves of an ore-bucket, pivoted together at 2.

3 3 are arms pivoted together at 4 and to the upper edges of the buckets at 5. On the shaft 6, to which the arms are pivoted, are the two sheaves 7 and 8, and on the shaft 9, upon which the halves of the bucket are pivoted, are placed the sheaves 10 and 11. Upon a carrier at 12 or the peak of the derrick-arm 13 are placed the sheaves 14 and 15.

To give the necessary power and freedom of movement, the hoisting-rope A is passed over the sheave 14, thence over the sheave 10 on the bucket-pivot, thence it passes over the sheave 7, thence down again over the second sheave 11 on the bucket-shaft, and thence to a dead-point 16 on the derrick arm or traveler. The holding-rope B passes over the sheave 15 on the derrick-arm, thence over the second sheave 8 on the shaft connecting the arms, and thence to a dead-point 17 on the derrick-arm.

Heretofore it has sometimes been necessary to raise the bucket to the peak to transfer it to the position desired for dumping, and after it has been lowered to then dump it. Here, however, I can raise the bucket, transfer it where desired, and lower it during the passage, thus economizing much time.

By my improved device I economize both time and power.

In connection with the holding-line B a counterweight should be employed to maintain the line taut in all positions, and when the hoisting-line is still the bucket can be readily dumped by pulling up upon the holding-line, which will part the divisions thereof, as shown in dotted lines.

In Fig. 3, C represents the trolley-rope, and T the traveler. The operation, however, of the device is the same.

It will readily be seen that the power can be increased in this device by multiplying the number of the pulleys of the sheaves on the bail and bucket shaft, since this will still be within the spirit of my invention.

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

1. In a bucket hoisting and dumping device, the combination with a divided bucket, the parts of which are pivoted together, of a pivot-shaft, arms pivoted together over the bucket and to the upper edges of the bucket, a shaft upon which the arms are pivoted, sheaves upon the two pivot-shafts, and supporting-sheaves upon the peak or traveler above, a hoisting-rope passing over one of the supporting-sheaves, thence over one of the sheaves on the bucket-shaft, thence over one of the sheaves on the pivot-shaft for the arms, thence over the other sheave on the bucket-shaft, and thence to a dead-point on the peak or traveler, and a holding-rope, passing over the other sheave, on the peak, or traveler, thence over the other sheave on the pivot-shaft for the arms and thence to a dead-point on the peak or traveler.

2. In a hoisting and dumping device for a divided bucket, the divisions of which are pivoted to a common shaft, means for raising or lowering the same while transferring it from place to place and for dumping the same, consisting of sheaves upon the pivotal bucket-shaft, arms pivoted to the divisions of the bucket, and to one another at their upper extremities, a pivotal shaft for the arms, sheaves upon the said shaft, and sheaves upon an overhead peak and a hoisting-line passing over one of the sheaves on the peak

and traversing the sheave on the arm-shaft,
and both sheaves on the bucket-shaft, finally
secured at a dead-point upon the peak, and a
holding-line passing over another pulley upon
5 the peak and traversing a pulley on the arm-
shaft, and secured to a dead-point on the
peak, substantially as described.

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

EDMOND F. ATHERTON.

Witnesses:

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