

(No Model.)

J. E. GIBBS.
HOISTING BUCKET.

No. 582,052.

Patented May 4, 1897.

Fig. 1.

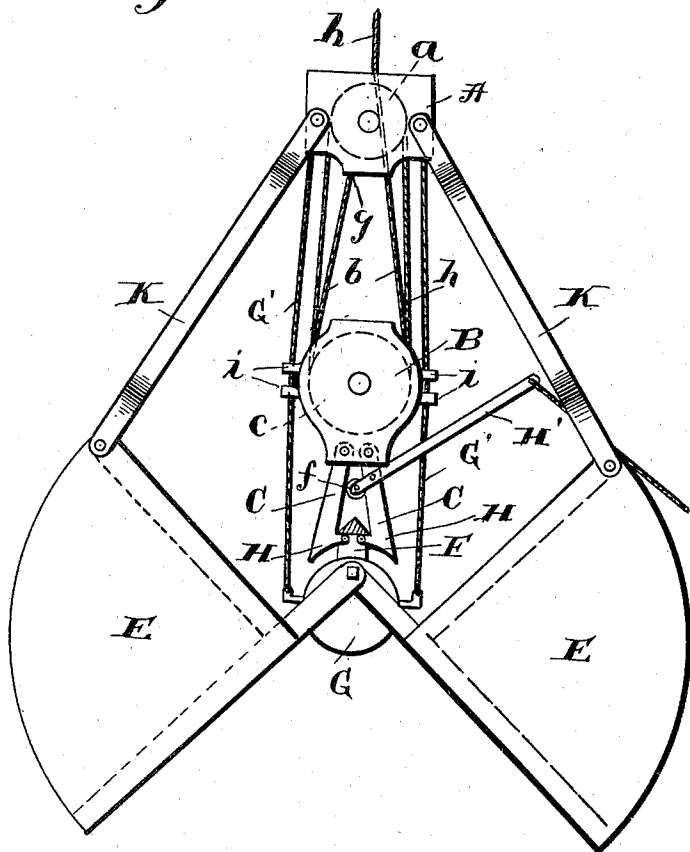
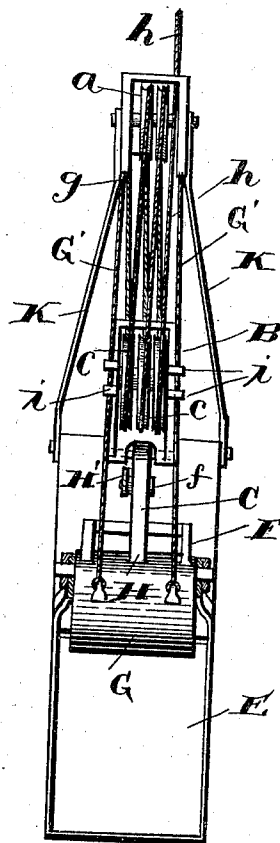


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN E. GIBBS, OF NEW BEDFORD, MASSACHUSETTS.

HOISTING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 582,052, dated May 4, 1897.

Application filed November 16, 1896. Serial No. 612,387. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. GIBBS, of New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Hoisting-Buckets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in hoisting-buckets, and pertains to a bucket constructed to be operated by a single-drum engine.

The object of the invention is to so construct the bucket and its hoisting mechanism that the bucket will open and close and be hoisted by a single rope or chain and then be tripped or opened when desired independent of the hoisting mechanism, and without in any manner interfering therewith. Heretofore the common arrangement of a bucket of this character has been to have one drum of the engine to hoist the bucket and another to open and close it. By my arrangement a single-drum engine and a single hoisting rope or chain will effect the same result.

Figure 1 is a side elevation of a bucket embodying my invention, the same being shown open and in the act of closing. Fig. 2 is an edge view of the hoisting mechanism.

Referring now to the drawings, A represents a head or block carrying sheaves *a*, over which the hoisting rope or chain *b* passes.

B is a block or fall carrying sheaves *c*, and at its lower end the automatically-acting catches C. The upper outer corners of the two parts E, which form the bucket, are pivotally connected to the lower ends of the links K, the upper ends of the said links being pivotally connected to the head or block A.

The inner upper sides of the two parts of the bucket are pivotally connected, as shown clearly in Fig. 1, and carried by the pivot is the weight G, which hangs below the pivot, and extending upward from the pivot is the shouldered head F, under which the hooked ends H of the latches C, which carry small

rollers, engage for the purpose of closing and elevating the bucket to the desired point.

The hoisting rope or chain *b* has one end connected to the head or block A at the point *g*, and it then passes around the sheaves in the head or block A and the head or block B, respectively, and then upward, as shown at *h*, to the sheave or pulley carried by the boom. Chains *G'* have their upper ends connected to the head A and their lower ends connected to the weight G to limit the downward movement of the pivotally-connected ends of the two parts of the bucket, so that they will be allowed to swing open only about the distance shown in Fig. 1, which is sufficient to enable them to gather the load when closed.

The operation of my invention is as follows: As shown in Fig. 1, the two parts of the bucket are shown in the position as they rest upon the coal or other material to be gathered by them. The block or fall B is dropped down by the slackening of the hoisting-rope *b* until the latches C engage the headed shoulders, as clearly shown. When in this position the starting of the hoisting-engine will draw the block B upward and close the two parts of the bucket J, and when they are in a closed position the block B will have abutted against the under side of the block or head A. In this position the parts of the bucket are locked and a continued pull upon the cord or cable *b* will elevate the bucket the desired distance. When the boom is swung around to the point where it is desired to empty the bucket, a pull is exerted upon the outer end of the trip-lever H', which has its inner end pivotally connected to one of the catches or latch C and its short end projecting between them and provided with a small wheel *f*. A pull upon the outer end of the trip-lever H' separates the latches C and permits the bucket to fall at its inner pivoted ends, the outer upper corners of the bucket being held by the links K, which causes them to separate and open, as clearly represented in Fig. 1. The bucket is then lowered into the hold of the vessel, for instance, if coal is being unloaded, and it will rest upon the coal in an open position, as shown in Fig. 1. A continued slacking of the hoisting-rope *b* will cause the block B to

overhaul itself until the catches C have engaged the shouldered projection F, when it is again ready to be closed and elevated by the operation of the single rope or cable *b*, as has just been described.

The weight G serves to hold the shouldered projection F upward in the position shown in Fig. 1, so that it is always ready to be caught by the catches C when they are lowered, as will be readily understood. The stop-chains G' before referred to pass through perforated ears or projections *i* upon the block B, which causes the chain to serve as a guide for the block B, so that the catches will always engage the shouldered projection.

The catches C are sufficiently heavy to keep the lever H' normally in the position shown in Fig. 1, but if they should not be a spring will be provided for the end of the lever or the lever may be counterweighted, either of which would be readily adapted by a person skilled in the art without departing from the spirit of my invention.

From the above description it will be seen that I have produced a bucket which is closed and hoisted by a single cable or chain and adapted to be tripped or opened without lowering the bucket or without interfering in any manner with the hoisting mechanism and without the necessity of using an additional drum or engine for carrying a rope adapted to independently open or close the bucket.

This bucket will be especially adapted for small coal-dealers, most of whom have a one-drum engine, and will fill a long-felt want by them.

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

1. A hoisting-bucket consisting of two parts partially connected at their inner upper ends, separate upper and lower blocks having abutting surfaces, a hoisting-rope connecting with one of said blocks and passing around the sheaves in said blocks to the hoisting mechanism, the pivotal point of the two parts of the bucket and the lower block having a locking mechanism, and a flexible connection between said pivotal point and the upper block, said connection being wholly below the upper block, substantially as described.

2. A hoisting-bucket comprising two parts

pivotally connected at their upper inner ends, upper and lower blocks, a connection between said pivot of the buckets and the upper block, a hoisting-rope connected with one of said blocks passing around the sheaves and thence to the hoisting mechanism, the lower block having depending latches with shoulders and the pivotal point of the bucket carrying an upwardly-extending shouldered member co-acting with said latches, a trip for the latches, and connections between the upper block and the outer upper ends of the two parts of the bucket, substantially as described.

3. A hoisting-bucket comprising two parts pivotally connected at their upper inner ends, upper and lower blocks, a connection between said bucket-pivot and said upper block, a hoisting-rope connected with one of said blocks passing around the sheaves thereof, and thence to the hoisting mechanism, the pivotal point of the two parts of the bucket carrying an upwardly-extending latching member, the lower block carrying a depending coacting latching member, and a trip for the latching members, substantially as described.

4. A hoisting-bucket comprising two parts pivotally connected at their upper inner ends, upper and lower separate blocks, a connection between the upper block and the pivotal point of the buckets, the pivotal point of the buckets carrying an upwardly-extending shouldered latching member, the lower block carrying two depending latches with inwardly-extending shoulders at their lower ends co-acting with the pivotal latching member, a tripping-lever intermediately pivoted to one of said depending latches and its inner end extending between and engaging the opposite latching member, and a hoisting-rope connected with one of said blocks, passing through the sheaves thereof and thence to the hoisting mechanism, and connections between the upper outer ends of the two parts of the bucket and the upper block, substantially as shown and described.

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

JOHN E. GIBBS.

Witnesses:

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