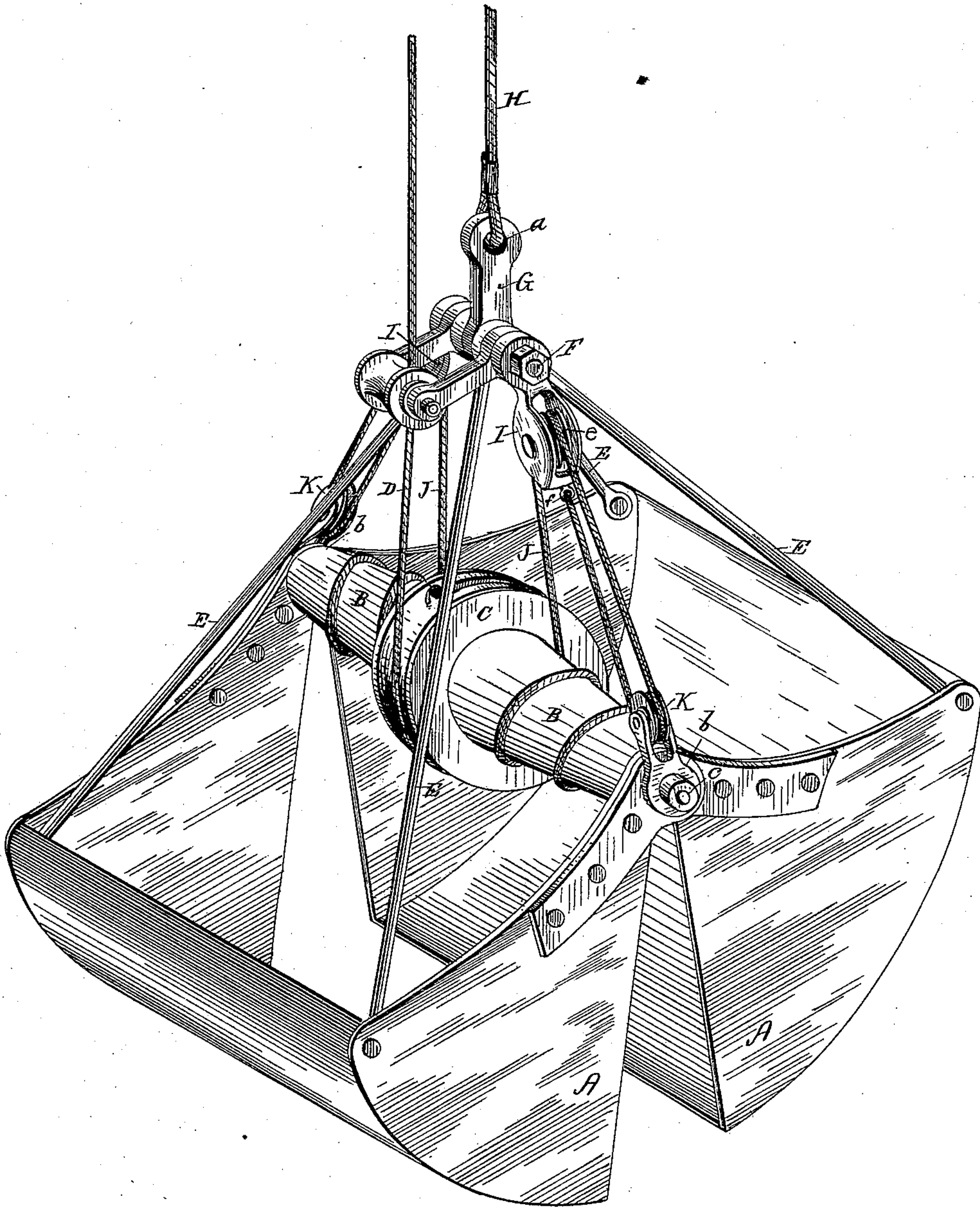


(No Model.)

G. E. NEWELL.  
HOISTING BUCKET.

No. 362,528.

Patented May 10, 1887.



WITNESSES:

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Attorney



# UNITED STATES PATENT OFFICE.

GEORGE E. NEWELL, OF PAWTUCKET, RHODE ISLAND.

## HOISTING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 362,528, dated May 10, 1887.

Application filed March 9, 1886. Serial No. 194,641. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE E. NEWELL, of Pawtucket, in the county of Providence and State of Rhode Island; have invented a new and useful Improvement in Hoisting-Buckets, of which the following is a specification.

My invention relates to an improvement in that class of hoisting-buckets which is described in the Letters Patent of the United States, No. 290,649, dated December 18, 1883, and No. 314,031, dated March 17, 1885; and it consists in the combination of the opening and closing jaws, a wheel and drum and their operating-chains, and an improved system of pulleys, whereby the closing power of the bucket will be greatly increased; and also in the conical form of the drum, whereby a gradually-increasing rapidity of action is secured when closing the jaws of the bucket.

The figure is a perspective view of the bucket provided with my improvements.

In the accompanying drawing, A A are the opposite jaws of the bucket, which are pivoted to each other at the point *b* by means of a rod, *c*, extending from one end of the bucket to the other, and loosely upon the rod *c* is placed the outwardly-tapered or conically-formed drum B, having at its center an enlarged portion or wheel, C, to the periphery of which is secured the hoisting rope or chain D, as usual in such buckets. The rods E E E E are pivoted each to opposite corners of the bucket and converge upwardly to a pivot-bolt, F, to the middle of which is pivoted the link G, having at its outer end an eye, *a*, to which the hoisting rope or chain H is secured.

Upon the projecting ends of the bolt F are secured the pulley-blocks I I, the sheaves *e* of which are adapted to receive the bight of the rope or chain J, and to the opposite ends of the pivot-rod *c* of the jaws A A are secured the sheaves K K. One end of the rope or chain J is secured to the periphery of the tapering drum B at its smaller outer end, and the opposite end of the said rope or chain, after passing over the sheave *e* of the block I and under the sheave K, is secured to the eye *f* at the lower end of the pulley-block I.

By means of the rope or chain J, pulley-block I, and sheave K a fourfold purchase is secured to cause the closing movement of the

jaws of the bucket, and the preferred tapering or conical form of the drum B, upon which the rope or chain J is wound, serves to produce a more rapid closing movement of the jaws as they approach each other after having embedded themselves in the loose coal or other material to be hoisted, the main object of my improvement being to secure a powerful initial closing movement of the jaws without exerting great lifting force upon the bucket, the unlifted weight of the bucket serving to embed the opened jaws deeply into the material to be caught therein, and the increased terminal closing movement caused by the increasing diameter of the drum upon which the rope or chain J is being wound serves to compensate for the desired slower and more powerful initial closing movement. The outer end of the rope or chain J, instead of being attached to the eye *f* of the pulley-block I, may be otherwise secured to the pivot-bolt F, so as to move therewith, thus producing the improved powerful closing effect desired.

I am aware that the main operating parts of the bucket herein described are not new, the same having been fully described in prior Letters Patent; but

I claim as my invention—

1. The combination of the opening and closing jaws with the upwardly-converging rods; the tapered or conically-formed drum and its wheel or enlargement, the bucket-operating ropes or chains, the sheave attached to the pivot of the converging rods, the sheave attached to the pivot of the bucket jaws, and the rope or chain secured to the drum and passing around the sheaves, substantially as described.

2. In a hoisting-bucket, the combination of the opening and closing jaws with the tapering or conically-formed drum, its wheel or enlargement, the attached operating-chain, and the rope or chain secured to the tapering drum and operatively connected with the bucket-jaws, whereby a gradually-accelerated closing movement will be imparted to the jaws of the bucket, substantially as described.

GEORGE E. NEWELL.

Witnesses:

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