No. 711,489. Patented Oct. 21, 1902.

C. M. GEARING.

HOISTING BUCKET.

(Application filed Sept. 20, 1901.)

(No Model.)

Fig. 1.

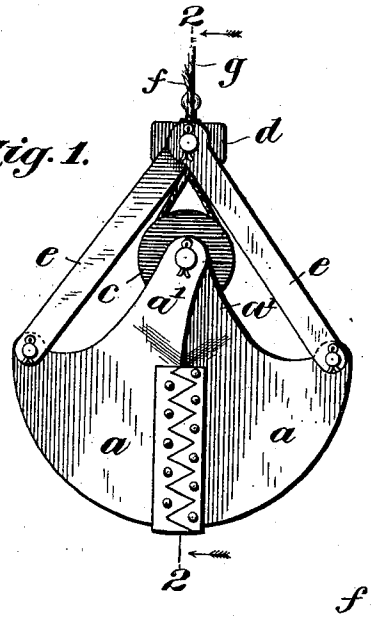
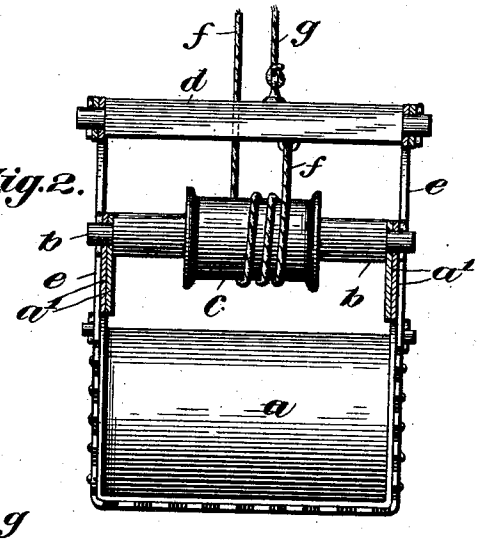


Fig. 2.



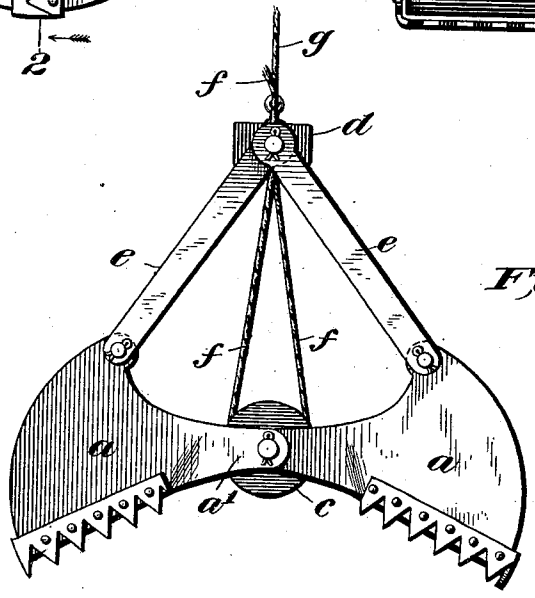


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES M. GEARING, OF BROWNWOOD, TEXAS.

HOISTING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 711,489, dated October 21, 1902.

Application filed September 20, 1901. Serial No. 75,826. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. GEARING, a citizen of the United States of America, residing at Brownwood, in the county of Brown and State of Texas, have invented certain new and useful Improvements in Hoisting-Buckets, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of the bucket closed; Fig. 2, a vertical section on the line 2 2 of Fig. 1; Fig. 3, an end elevation showing the bucket open.

This invention has reference to the "clam-shell" type of hoisting-buckets, in which the bucket is constructed of two segmental scoop-sections pivoted together at their inner upper ends in such a manner that they are adapted to open in the manner of a clam-shell, and of means for automatically opening the bucket when it is lowered onto the body of loose material that is being hoisted and to be automatically closed when it is elevated, the scoops being brought together in such a manner as to gather up a portion of the material and confine it in the closed bucket, as more fully hereinafter set forth.

The object of this invention is to improve and simplify the means for facilitating the filling or loading operation, as more fully hereinafter set forth.

Referring to the drawings by reference-letters, *a* designates the two segmental scoops, having their end walls extended upward to form arms, being pivotally connected together by a single horizontal shaft *b*, which carries midway its length a drum *c*. A cross-bar *d* above the shaft and parallel thereto is pivotally connected at its ends to links or rods *e*, which depend therefrom and are pivotally connected, respectively, to the outer upper corners of the bucket-sections. Connected to the under side of the top bar *d* is the end of a wire rope *f*, which is carried down and around the drum *c* one or more turns and then passed up through a hole in bar *d*. Connected to the top bar adjacent to the hole through which the rope *f* passes is another wire rope *g*.

When the bucket is suspended by rope *g*, the weight of shaft *b* and its drum forces the scoop-sections apart, as shown in Fig. 3, ready to be lowered onto the body of loose material to be elevated. When the bucket is lowered onto the material, it is then elevated by means of the rope *f*, the act of drawing up on this rope serving to raise the drum and shaft, and thus close the scoops upon the material and force a quantity of the material into the bucket as the jaws come together. To unload a bucket, it is simply necessary to slacken rope *f* and throw the weight on the hold-rope *g*, whereupon the weight of the shaft and drum and the load automatically opens the sections and allows the material to drop. It will be observed that when the loaded bucket is raised the rope *f* is wound and unwound; but at no time are there more turns or coils on the drum than were originally wound thereon, the coils or windings forming a traveling bight or loop in the rope in the manner of a bow-drill. This is an essential feature in that it not only serves to steady the parts in their movements, but also because the attaching of the end of the rope to the bar *d* tends to draw the bar *d* down, and thereby force the scoop-sections together through the medium of the links *e*, as is evident.

To facilitate gathering up the load of material, the horizontal edges and also the upright or side edges of the scoops are provided with V-shaped teeth, which may be formed on separate strips and riveted to the outside of the scoops, the strips being set back from the edges proper of the scoops, so as not only to avoid interfering with their complete closing, but also to break the joint between the edges of the scoops and to assist in keeping them in alinement. I prefer them to be made of separate strips, so that they may be attached and detached at will, according to the nature of the material being hoisted. It will be observed that these teeth interlace or fit together, the teeth on one scoop being set opposite the depressions or interteeth spaces on the other section, so that when the scoop-sections are closed they form a close joint and prevent the material spilling when any bucket is elevated. When the bucket-sections are brought together in loading, these teeth dig into the material and greatly facilitate gathering it into the bucket. I consider that the teeth on the side edges are im-

portant, especially in hoisting a body of material consisting of large bodies, such as coal.

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

1. A hoisting-bucket of the clam-shell type, consisting of two pivoted sections whose meeting edges abut against each other when the sections are closed, and sharpened teeth along the transverse meeting edges of the scoops, the teeth being set back from said edges and being adapted to interlace across the closed edges of the scoops when the same are closed, for the purpose set forth.

2. A hoisting-bucket of the clam-shell type, having sharpened teeth along the transverse abutting edges of the opposing scoops, the teeth being carried by removable strips secured to the outside of the scoops and set back from the meeting edges thereof and projecting beyond the same, so as to interlace across the abutting edges of the scoops when the same are brought together.

3. A hoisting-bucket of the clam-shell type, consisting of two pivoted sections whose meeting edges abut against each other when the sections are closed, and interlocking sharpened teeth along the lower edges and the upright edges of the opposing scoops, said teeth being formed on separate strips detachably secured to the outside of the respective scoops, the teeth projecting partially beyond said edges, so as to interlace across the abutting edges of the scoops when the same are closed.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 11th day of September, 1901.

CHARLES M. GEARING.

Witnesses:
H. S. TARVER,
W. T. MELTON.