

(No Model.)

2 Sheets—Sheet 1.

G. E. NEWELL.

HOISTING BUCKET.

No. 396,664.

Patented Jan. 22, 1889.

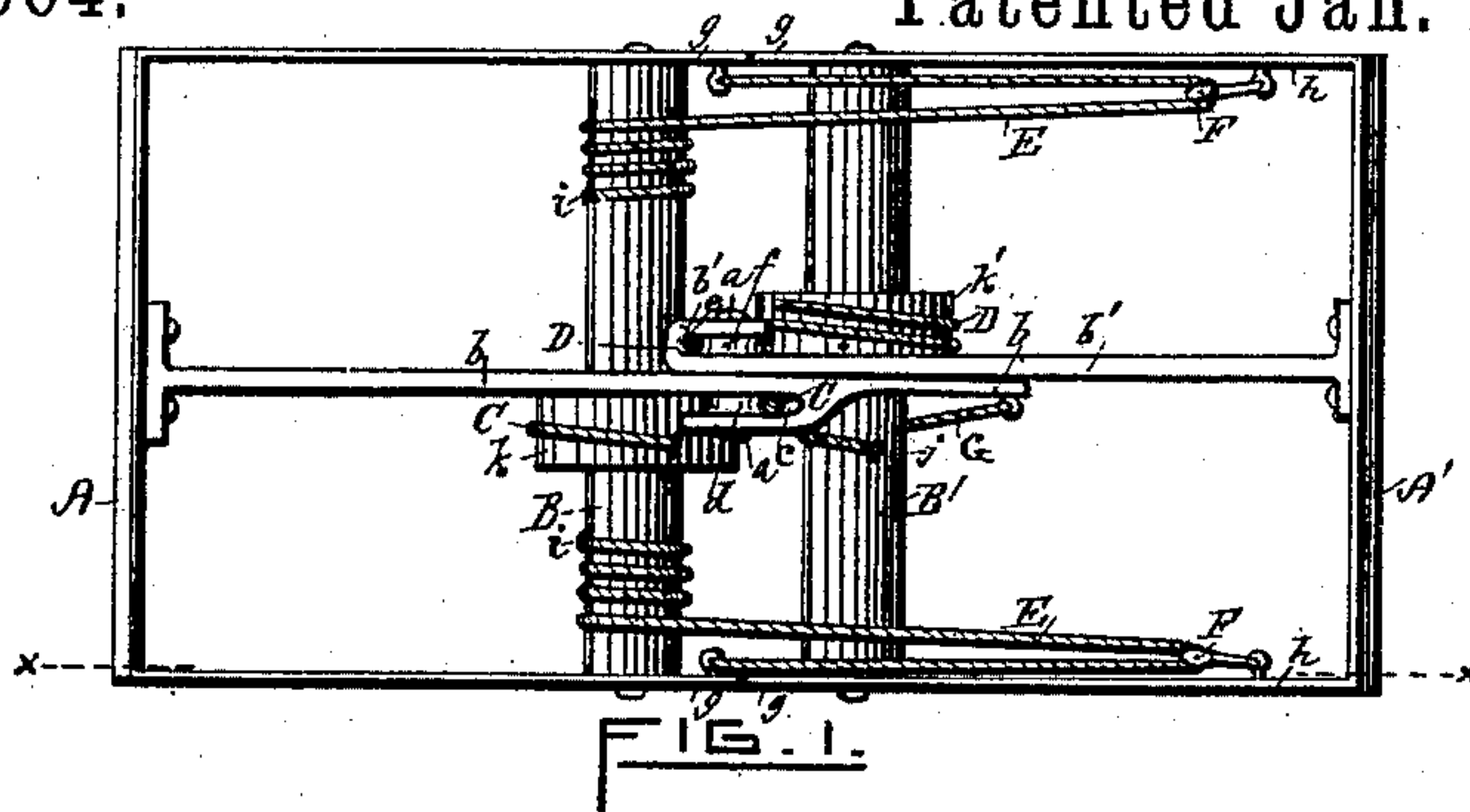


FIG. 2.

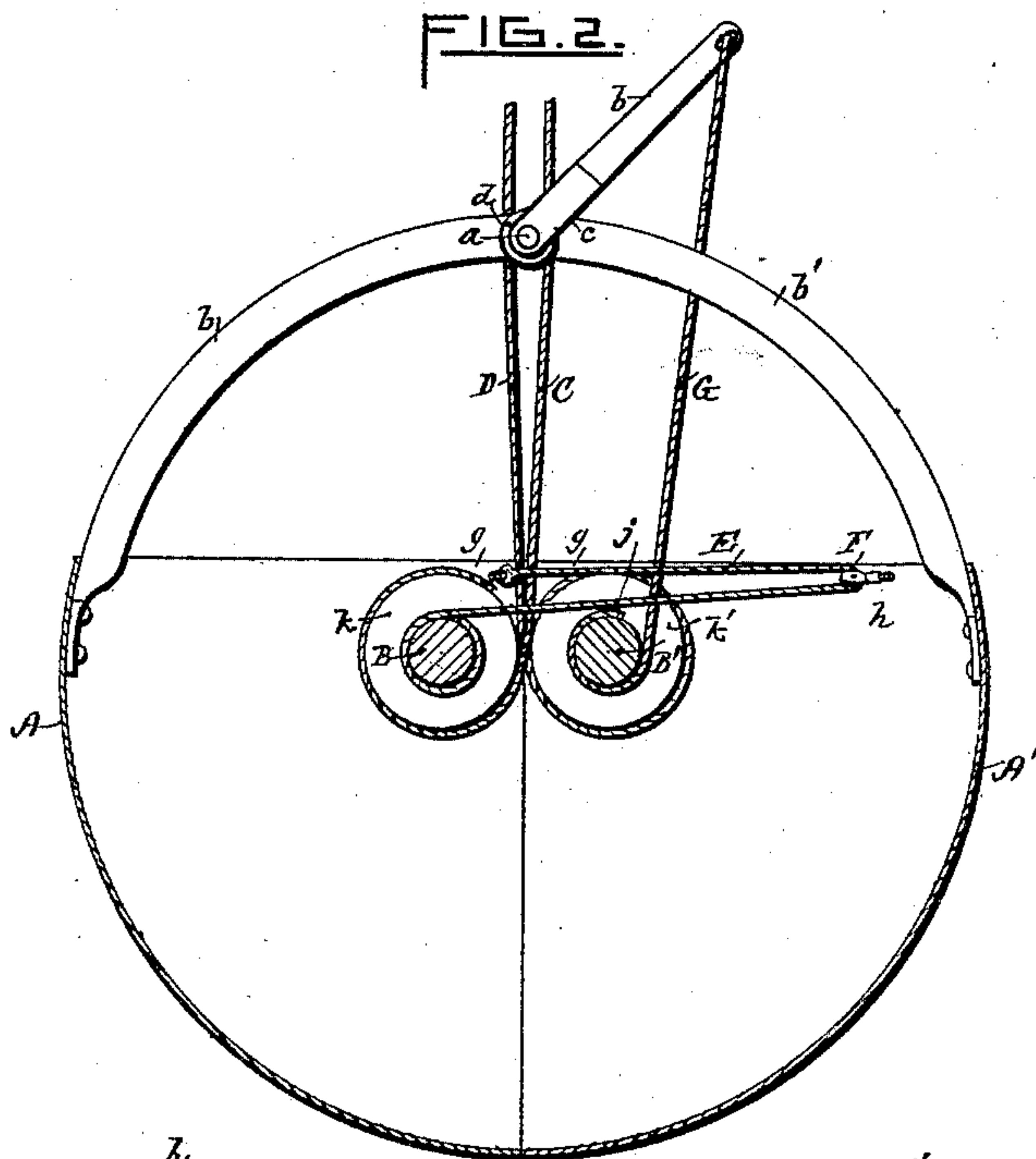
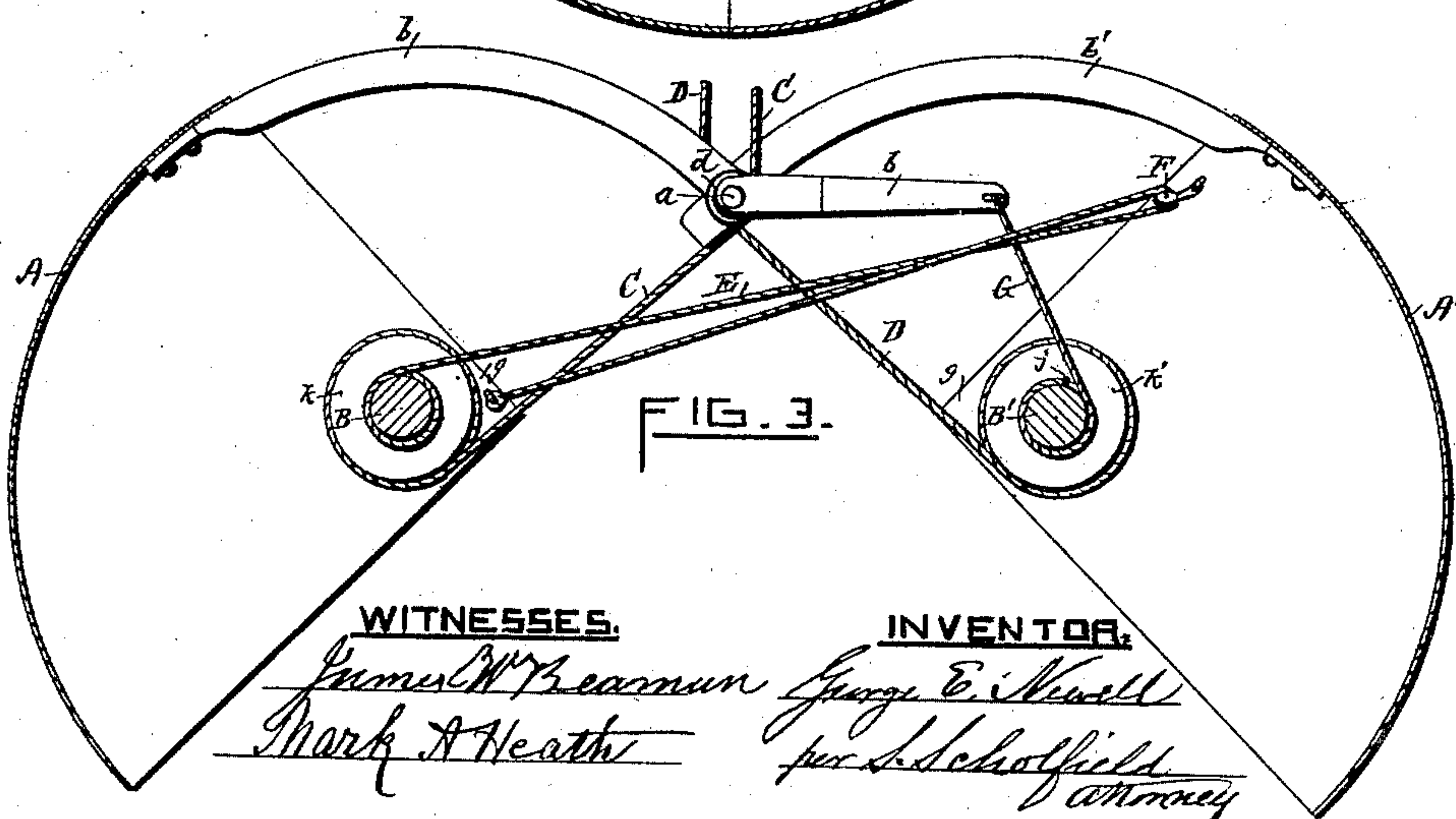


FIG. 3.



WITNESSES.

*Samuel W. Beaman*  
*Mark A. Heath*

INVENTOR.

*George E. Newell*  
*per S. Scholfield*  
*attorney*

(No Model.)

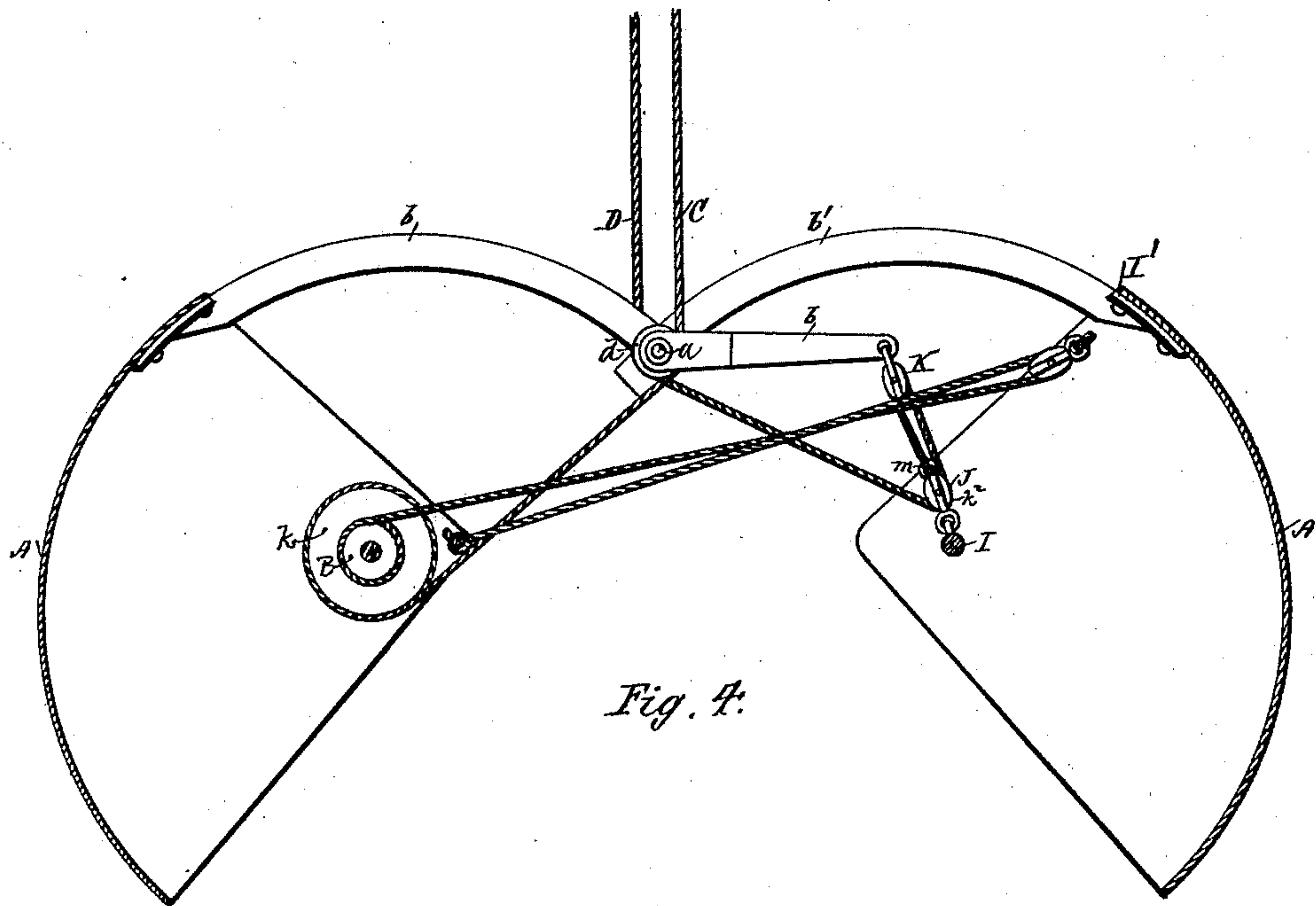
2 Sheets—Sheet 2.

G. E. NEWELL.

## HOISTING BUCKET.

No. 396,664.

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*Witnesses.*

James W. Bramar  
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# UNITED STATES PATENT OFFICE.

GEORGE E. NEWELL, OF PAWTUCKET, RHODE ISLAND.

## HOISTING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 396,664, dated January 22, 1889.

Application filed August 6, 1888. Serial No. 282,086. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE E. NEWELL, a citizen of the United States, residing at 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 that class of hoisting-buckets which are adapted for the purpose of lifting coal from the hold of a vessel; and it consists in providing the bucket with a powerful opening movement, as hereinafter fully set forth.

Figure 1 represents a top view of a hoisting-bucket provided with my improvement. Fig. 2 represents a vertical section taken in the line *xx* of Fig. 1. Fig. 3 represents a corresponding section with the buckets open. Fig. 4 is a similar view showing a modification of the power-multiplying movement for opening the bucket.

In the accompanying drawings, *A A'* are the opposite holding-jaws of the bucket, which are pivoted to each other by means of the bolt *a*, which passes through the lever *b*, attached to the jaw *A*, and the arm *b'*, which is connected to the jaw *A'*. The arm *b'* will thus be pivoted to the lever *b* at a point intermediate of its ends.

At the adjacent inner corners, *g*, of the jaws *A A'* are journaled the drums *B B'*, which are provided with enlarged wheels *k k'*, to which the hoisting ropes or chains *C* and *D* are respectively attached. The hoisting rope or chain *C* passes upward from the wheel *k*, to the periphery of which it is attached, through the guiding-eye *c*, formed at the side of the lever *b*, and which is provided with the friction-wheel *d*, and the hoisting rope or chain *D* passes upward from the wheel *k'*, to the periphery of which it is attached, and through the guiding-eye *e*, formed at the side of the arm *b'*, and which is provided with the friction-wheel *f*, the said friction-wheels *d* and *f* being made to turn loosely upon the connecting-bolt *a*.

To the corners *gg* of the jaw *A* are attached the ropes or chains *E*, the said ropes or chains passing over the sheaves of the pulley-blocks *F*, which are attached to the sides *h* of the jaw *A'*, the said ropes or chains having their ends attached to the drum *B* at the points *i*, so that when the wheel *k* and drum *B* are

turned in the proper direction the jaws *A A'* will be drawn toward each other with a twofold purchase, and when the wheel *k* is made of twice the diameter of the drum *B* a pull upon the hoisting rope or chain *C* will cause the closing of the jaws *A A'* with a fourfold purchase, thus securing a powerful closing movement upon the coal to be lifted. To the outer end of the lever *b* is attached the rope or chain *G*, the opposite end of which is attached to the drum *B'* at the point *j*. The wheel *k'*, being made about twice the diameter of the drum *B'*, will cause the jaws *A A'* to be thrown open with a twofold purchase when pulling upon the rope or chain *D*, which is attached to the periphery of the wheel *k'*.

Instead of the wheel *k'* and drum *B'*, as above described, equivalent pulley-blocks, *J* and *K*, may be employed, as shown in Fig. 4, in which case the rope or chain *D* may pass around the wheel or sheave *k<sup>2</sup>* of the pulley-block *J*, which is attached to the fixed rod *I*, connecting the two opposite corners of the bucket-jaw *A'*, and thence around the sheave of the pulley-block *K*, attached to the outer end of the lever *b*, and have its end fastened to the block *J* at the point *m*, and by this means the bucket will be thrown open with a twofold purchase, as before, when pulling upon the rope or chain *D*. In order to still further increase the leverage for opening the jaws, an additional number of sheaves can be employed in the pulley-blocks with a corresponding increase of power for opening the bucket. Instead of the rod *I*, the pulley-block *J* may be attached to the edge *I'* of the bucket-jaw *A'*, with a corresponding increase in the length of the lever *b*; or the rod *I* can be placed at any intermediate point.

I claim as my invention—

In a hoisting-bucket, the combination, with the bucket-jaw and lever, of the opposite bucket-jaw pivoted to the said lever at a point intermediate of its ends, the guided rope or chain *C*, for closing the bucket, the guided rope or chain *G*, which is operatively connected with the outer end of the lever, and the power-multiplying movement for opening the bucket, substantially as described.

GEORGE E. NEWELL.

Witnesses:

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E. S. BOWEN.