

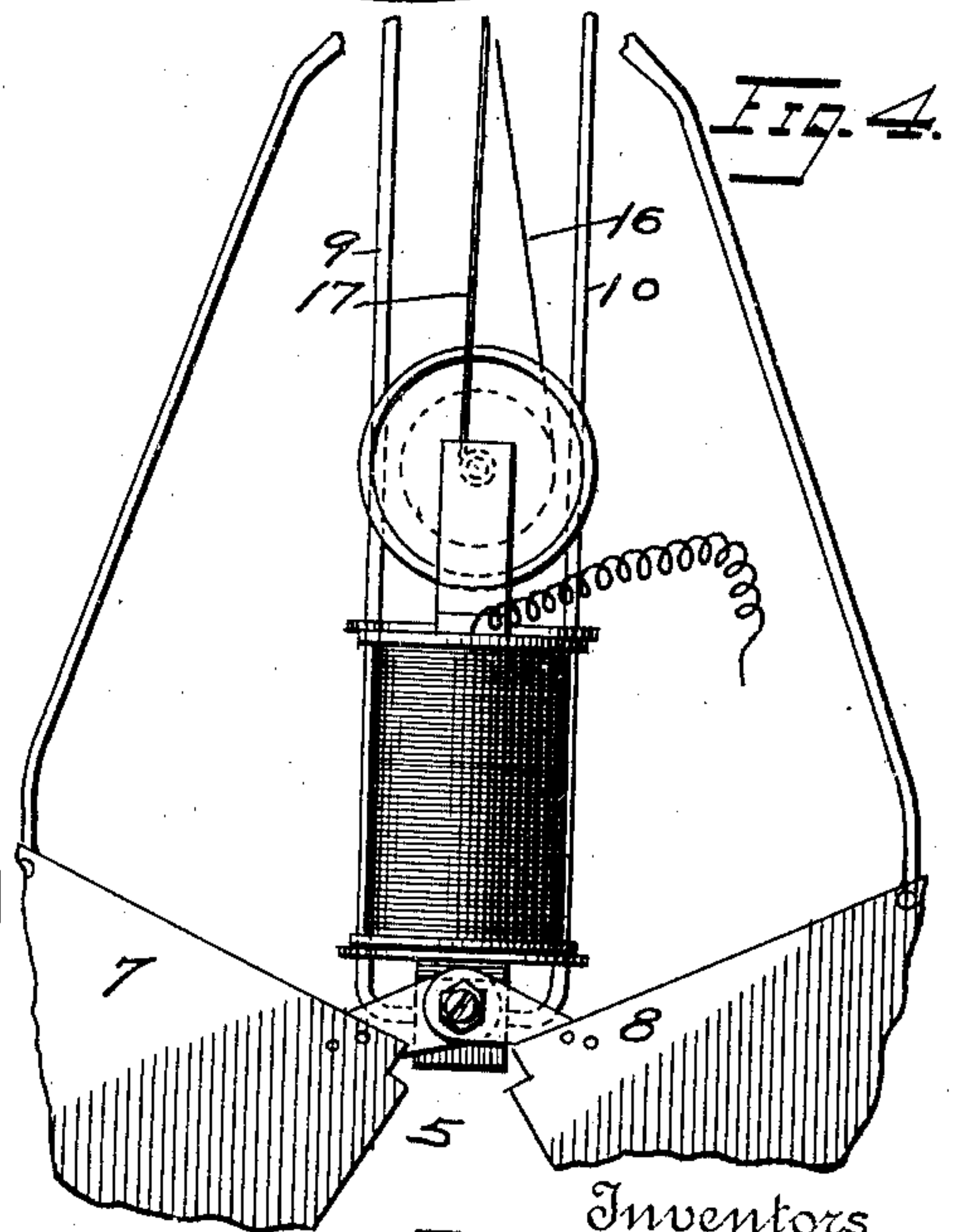
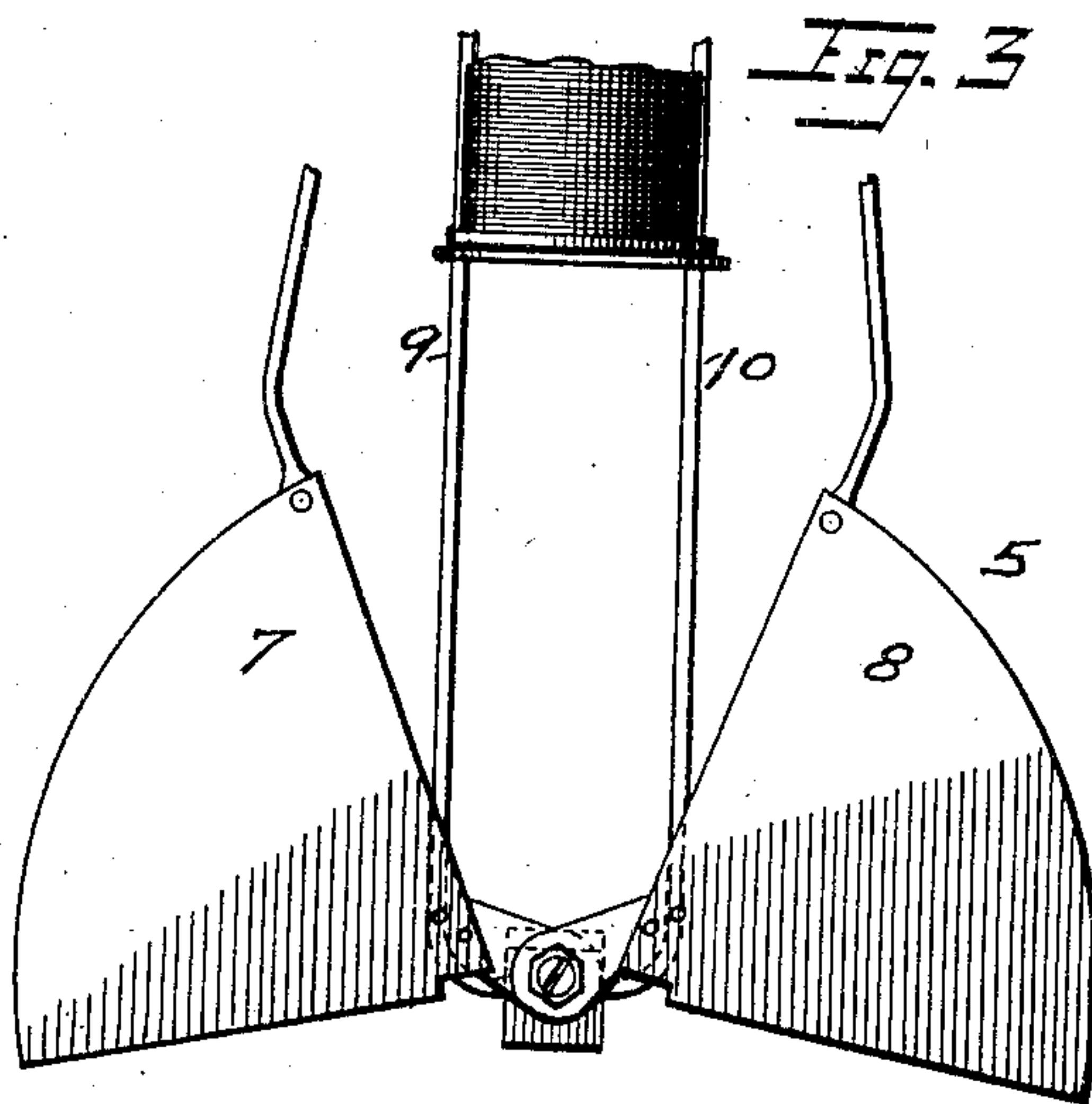
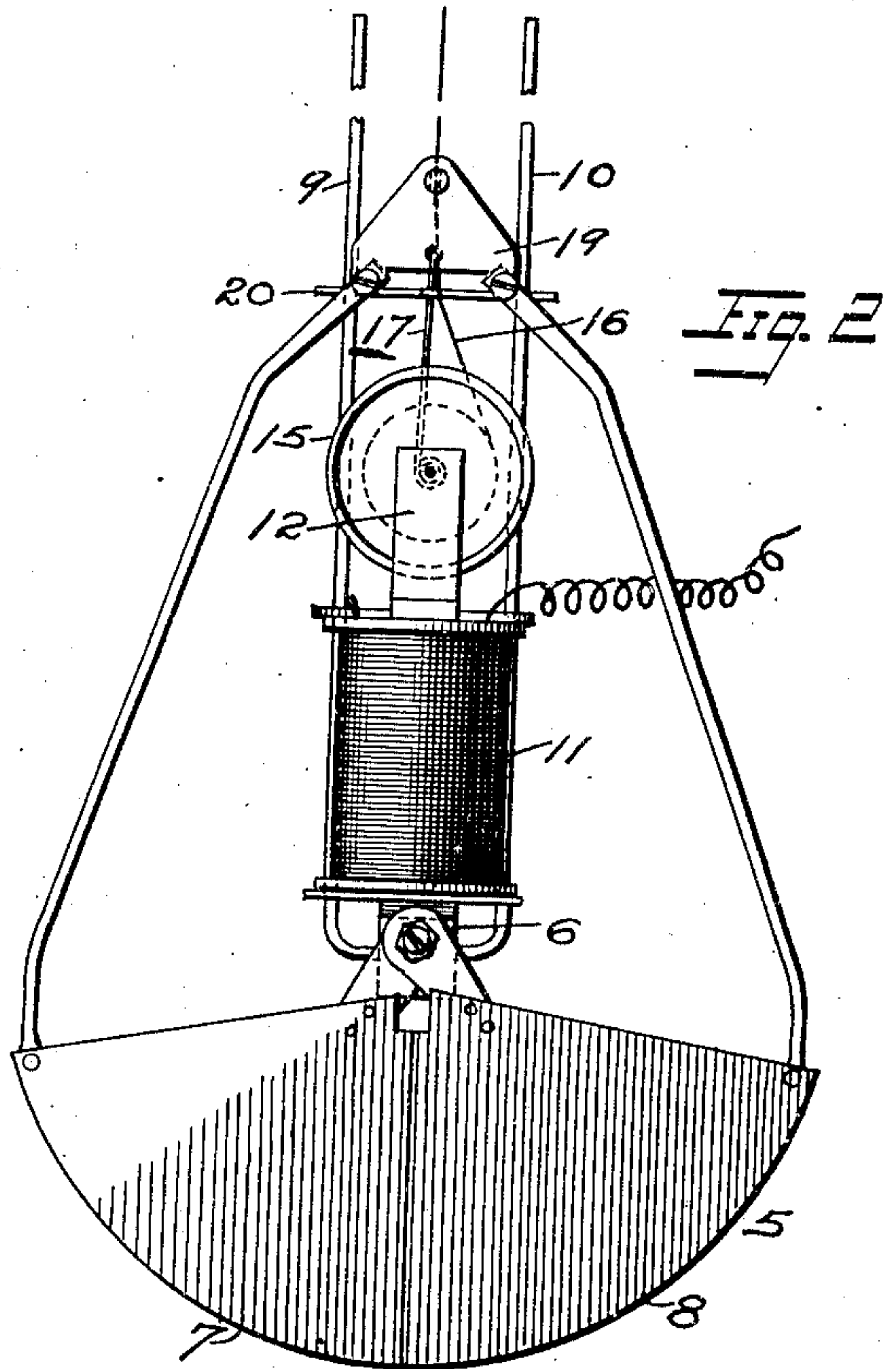
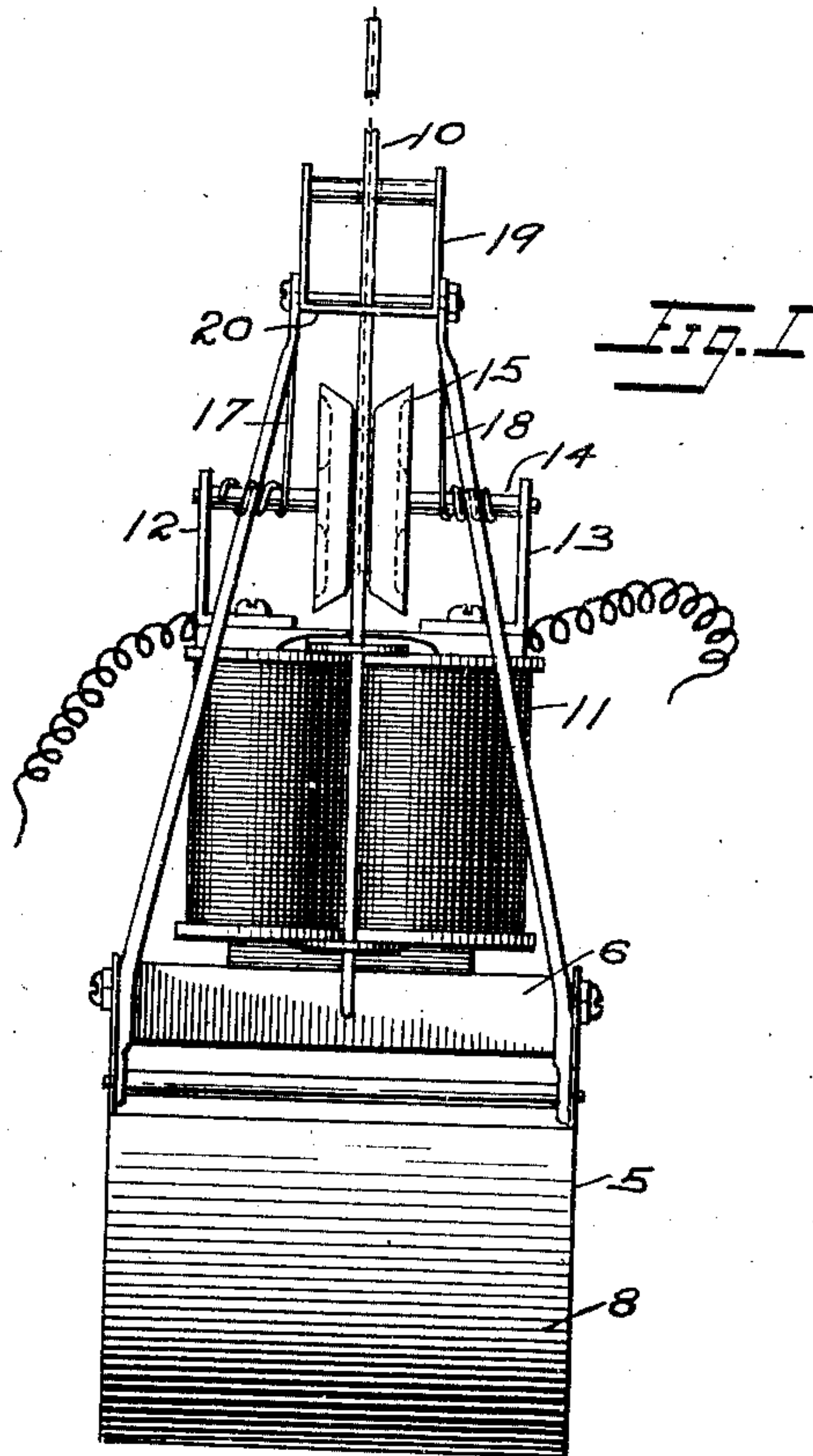
No. 827,080.

PATENTED JULY 31, 1906.

F. O. CLUKIES & A. M. HAZELL.

AUTOMATIC BUCKET.

APPLICATION FILED SEPT. 14, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

FRANK O. CLUKIES AND ARTHUR M. HAZELL, OF NEW YORK, N. Y.

## AUTOMATIC BUCKET.

No. 827,080.

Specification of Letters Patent.

Patented July 31, 1906.

Application filed September 14, 1905. Serial No. 278,501.

*To all whom it may concern:*

Be it known that we, FRANK O. CLUKIES, a citizen of the United States, and ARTHUR M. HAZELL, a citizen of the British West Indies, and residents of New York, in the county and State of New York, have invented a new and useful Automatic Bucket, of which the following is a specification.

This invention relates to automatic buckets used in the unloading of coal or other material from barges or similar purposes, and has for its object to provide simple and effective means for electrically operating the bucket when engaging and discharging the material being handled.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation of the bucket in a closed position. Fig. 2 is a side view thereof. Fig. 3 is a side view of the bucket open, showing a portion of the operating device; and Fig. 4 is a side view of a portion of the electrically-operating device in the act of closing the bucket.

In the accompanying drawings the same numerals of reference refer to like parts in each of the views; and in practice we provide an ordinary coal-bucket 5 with a cross-bar 6, which is formed to act as an armature and on which the two halves of the bucket 7 and 8 are pivotally mounted. Connected with this cross-beam or armature are two guide-posts 9 and 10, in which is slidably mounted an electromagnet 11, adapted to engage the armature 6 when magnetized, as will be readily understood. In two standards 12 and 13 on the top of the electromagnet is mounted an axle 14, on which is secured a grooved pulley 15, around which the lifting rope or chain 16 is wound, and two ropes or chains 17 and 18, secured to the bucket-head 19, are wound upon this axle as the electromagnet is raised and unwound therefrom as it is lowered, it being understood that the lifting rope or chain 16 is wound upon the grooved pulley when the electromagnet is in a lowered position and unwound therefrom as the magnet is raised, so that the rope 16 is being unwound as the ropes 17 and 18 are being wound upon the axle, and vice versa. On the head 19 of the bucket a plate 20 is secured in which the guide-posts 9 and 10 are slidably mounted.

In operation the bucket being open, as shown in Fig. 3, is lowered to contact with the coal or other material to be handled, and when in engagement with the coal the weight of the bucket being released from the pulley 15 by continuing to lower the rope or chain 16 the electromagnet will by reason of its own weight be lowered on the armature 60 forming part of the cross-beam 6 and being magnetized by an electric current when coming in contact with the armature will engage the same and adhere to it, so that when again raising the magnet the cross-beam will be raised and the buckets will be closed, this operation being partly shown in Fig. 4. When the bucket is closed, it will be held in that position as long as the magnet is magnetized; but when the bucket is at the required point by breaking the circuit the magnet will be demagnetized, thereby releasing the armature, and the bucket will open, as shown in Fig. 3, and the contents thereof will be discharged, as will be readily understood.

It will thus be seen that we have provided simple and efficient means for electrically operating the bucket.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. An automatic bucket and an electromagnet mounted thereon adapted to act as a grapple and trip to close and open the bucket.

2. An automatic bucket having an armature mounted on a cross-beam thereof and an electromagnet mounted above said armature, for the purpose set forth.

3. An automatic bucket provided with a cross-beam having an armature mounted thereon, guides on said cross-beam, an electromagnet mounted in said guides adapted to contact with said armature, and a grooved pulley and axle mounted on said magnet, a rope or chain in engagement with said pulley adapted to lift the entire bucket, and a second rope or chain, in engagement with the head of the bucket and with said axle, as and for the purpose set forth.

4. An automatic bucket provided with a cross-beam having an armature formed thereon, guides on said cross-beam, an electromagnet mounted in said guides adapted to contact with said armature, and a grooved

pulley and axle mounted on said magnet, a rope or chain in engagement with said pulley adapted to lift the entire bucket, and ropes or chains in engagement with the head of the  
5 bucket and with said axle, said last-named ropes being wound upon the axle when said pulley is in a raised position.

In testimony whereof we have signed our

names to this specification in the presence of two subscribing witnesses.

FRANK O. CLUKIES.  
ARTHUR M. HAZELL.

Witnesses:

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