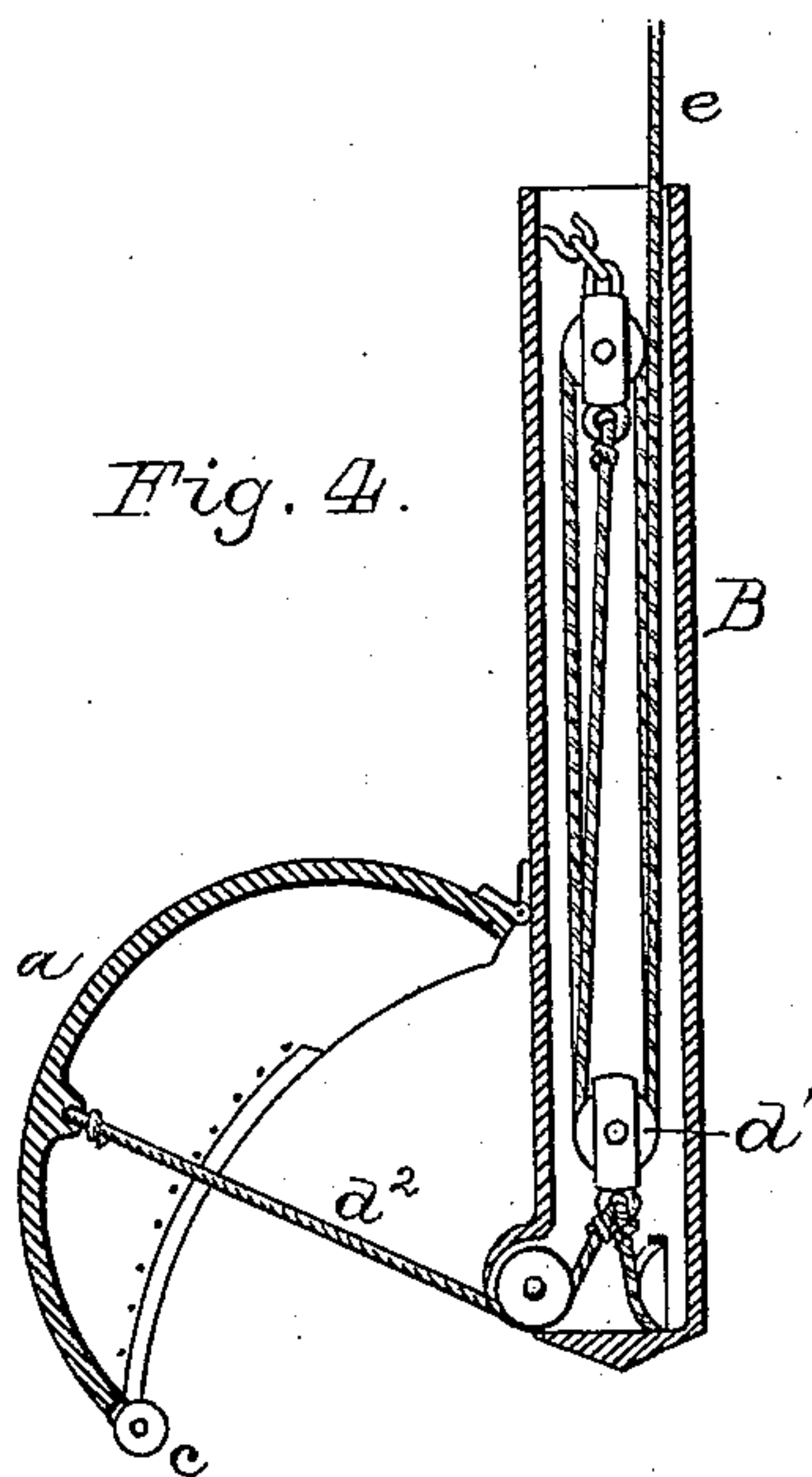
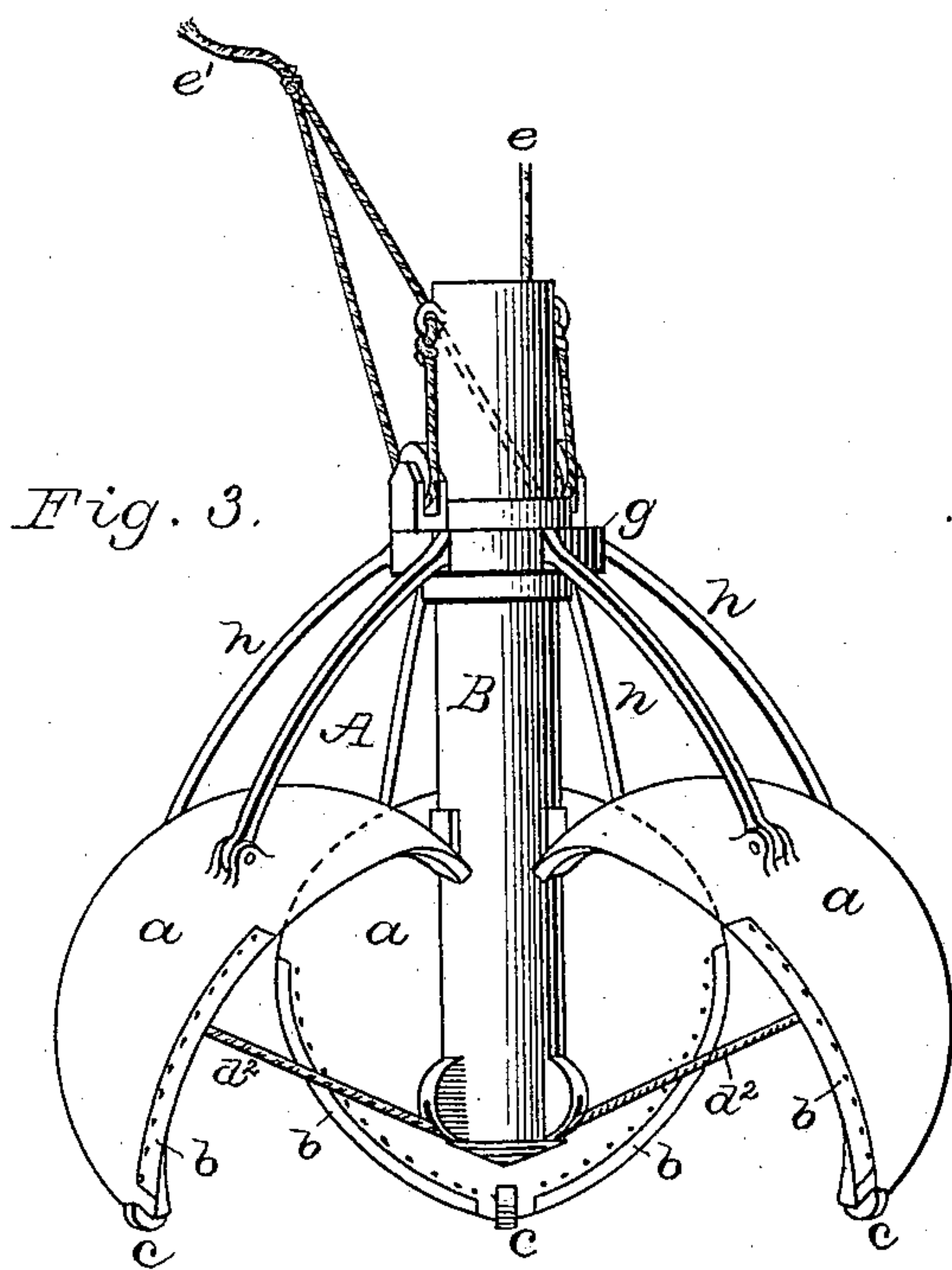
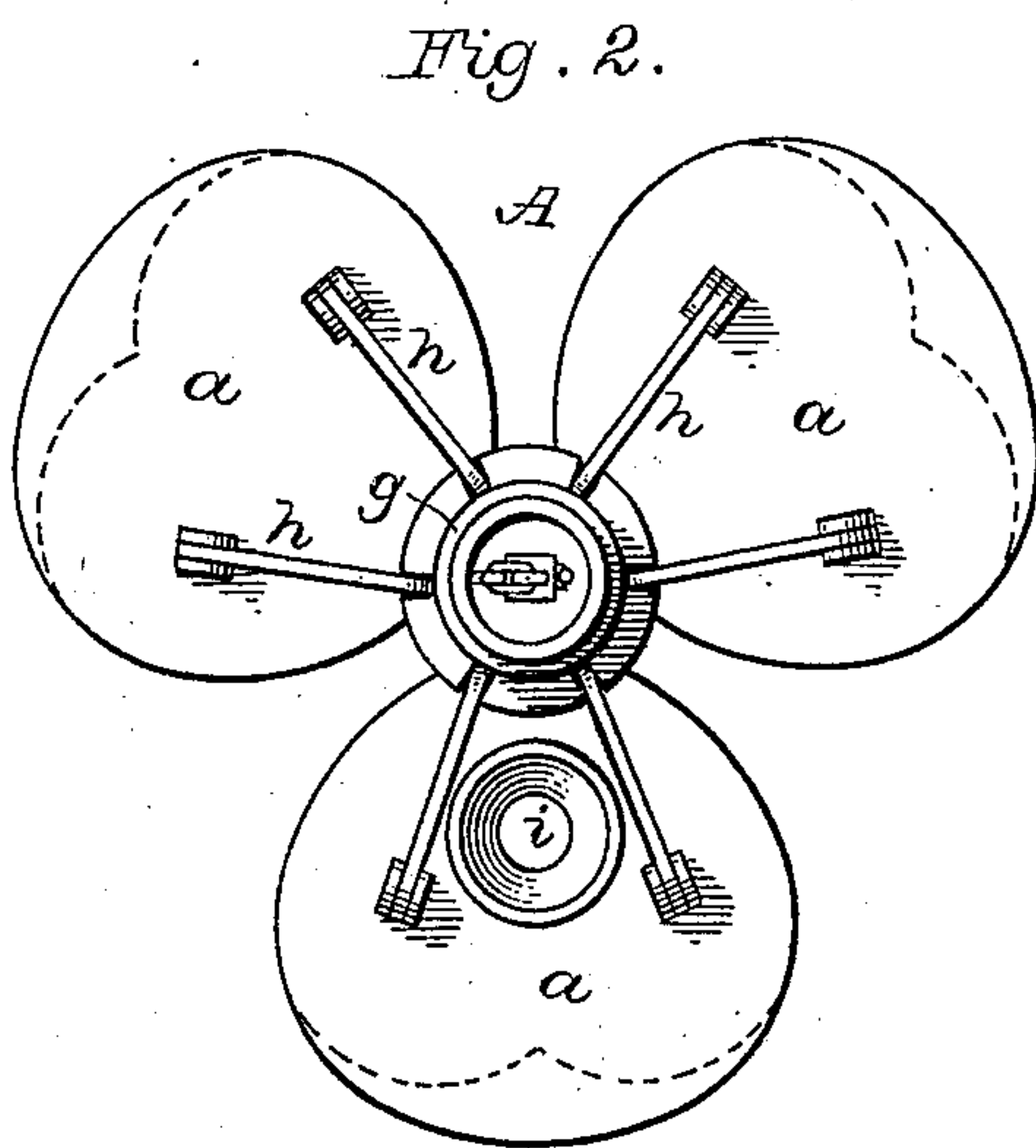
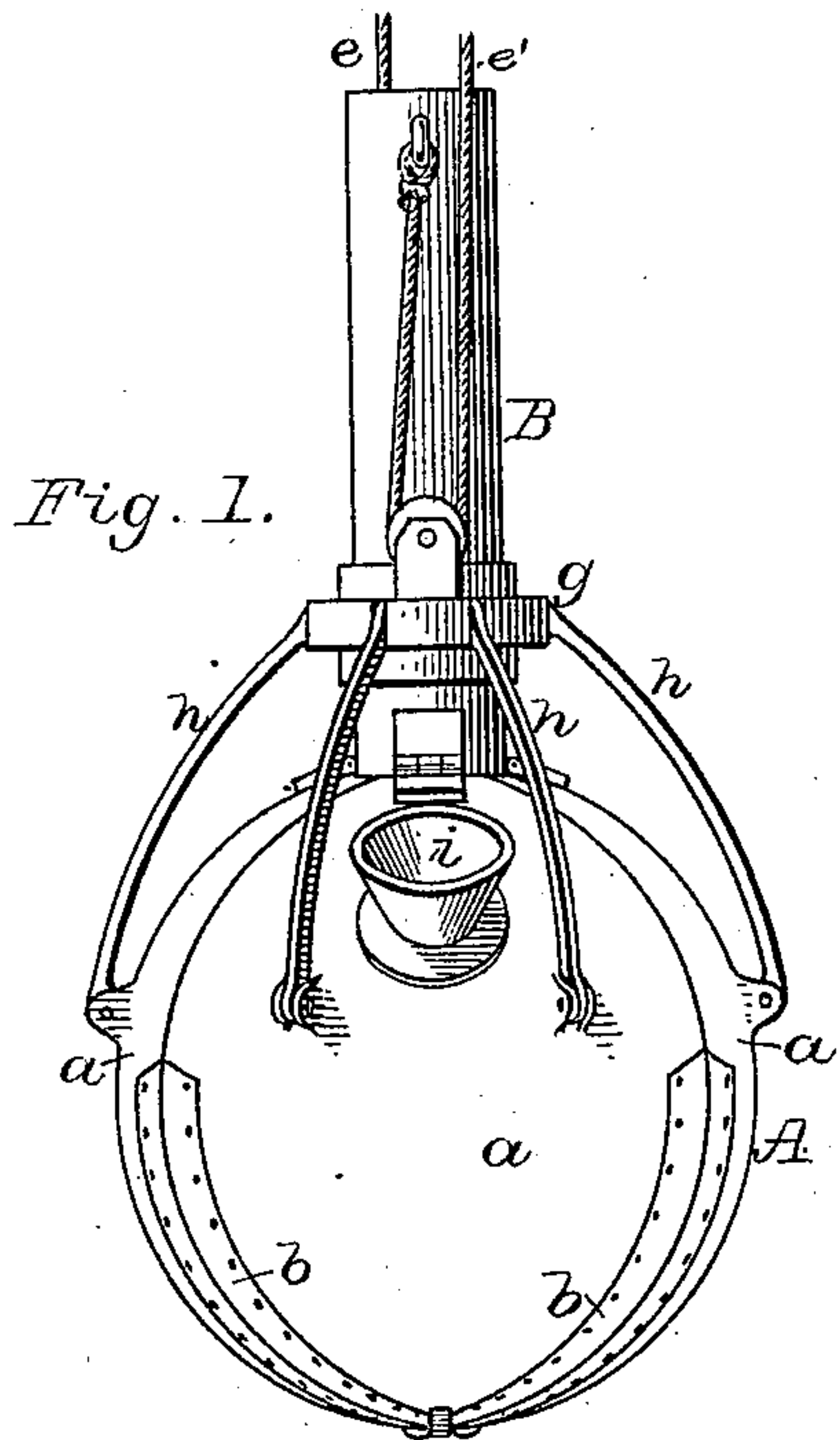


(No Model.)

R. B. LITTLE.
ELEVATOR BUCKET.

No. 287,139.

Patented Oct. 23, 1883.



Attest:
Philip F. Larnier,
Notary Public

Inventor:
Robert B. Little.
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UNITED STATES PATENT OFFICE.

ROBERT B. LITTLE, OF PROVIDENCE, RHODE ISLAND.

ELEVATOR-BUCKET.

SPECIFICATION forming part of Letters Patent No. 287,139, dated October 23, 1883.

Application filed August 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, ROBERT B. LITTLE, of the city and county of Providence, in the State of Rhode Island, have invented certain
5 new and useful Improvements in Elevator-Buckets; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and com-
10 plete description of my invention.

My invention has special reference to buckets designed for employment in connection with the unloading of coal from vessels, and said buckets are, in accordance with my in-
15 vention, so constructed as to permit the elevation of coal therein, and its subsequent conveyance from place to place, without the liability of dropping any of the coal, either during the operations of hoisting or conveyance.
20 To this end I have produced a bucket of a novel construction, in that it is composed of three or more half-circular sections hinged at one end, and which, when brought together at their free or lower ends, cause the bucket to
25 assume a complete spherical or globular form.

To more particularly describe my invention, I will refer to the accompanying drawings, in which—

Figure 1 represents in side view my im-
30 proved bucket when closed. Fig. 2 is a top view thereof when opened; Fig. 3, a side view open, and Fig. 4 a partial central vertical section of the bucket.

It is to be understood that my improved
35 bucket is designed with special reference to its employment with proper hoisting and conveying trucks, desirable forms of which are shown and described in a certain application for Letters Patent filed by me on the 19th day
40 of April, 1883.

As clearly shown in the drawings, my bucket A is composed of three half-circular sections, *a*, each of which is one-third of a globular shell, and each is hinged at its upper end di-
45 rectly to a tube or neck, B. These sections are composed, mainly, of boiler-iron; but their lower edges are re-enforced, somewhat after the manner of clam-shell dredging-buckets as heretofore constructed, by sharp-edged
50 steel knife-plates *b*, to provide against undue wear, and as said plates are bolted to the sec-

tions they can readily be removed and new plates substituted when required. As a rule, should a piece of coal be caught between the edges, said knife-plates will crush their way
55 through it and enable a proper closure at the joint. In order to prevent the lower ends or points of the sections from tearing into the planking of a vessel, they may, as heretofore in other forms of bucket, be each provided with
60 a small roller or friction-wheel, *c*, which at its periphery slightly projects beyond the point; but said wheels do not interfere with the proper closure of the sections, and their plowing capacity in entering a mass of coal is but little,
65 if any, impaired.

It will be obvious that the globular feature is not dependent upon the friction-wheels; but it is to be understood that I make no claim to said globular feature in a bucket composed of
70 less than three sections, because I am well aware that clam-shell buckets composed of two sections and affording an inclosed interior have heretofore been used for dredging; but it is obvious that for working on coal successfully
75 the sections must have angular edges, or be sufficiently pointed at their lower ends to be enabled to readily plow or force their way into a pile of coal, and such points cannot be practically provided for in a globular bucket, ex-
80 cept it have three or more sections.

The tube or neck B is substantially as has heretofore been employed with semi-globular sectional buckets, and it contains suitable blocks or sheaves. To the lower sheave, at *d'*,
85 the several wire cords or chains *d*² are connected, each being attached to the interior of a section of the bucket, as clearly shown. Each chain *d*² passes over an idle-pulley at the lower end of said tube, and said end is pro-
90 vided with a guard-plate or shield for preventing coal from entering the tube. The hoisting-line *e* is rigged through the sheaves within the tubular neck, and is secured therein at one end, near the top of said neck, substan-
95 tially as heretofore. The bucket-sections *a* are moved on their hinges and opened and closed by the discharging-line *e'*, attached to the opposite sides of a "runner" or ring, *g*, which slides on the tubular neck B, and is
100 connected by pivots and links *h* to all of the bucket-sections. Owing to the fact that each

section constitutes one-third of the globular shell, two links $\frac{1}{2}$ are connected to each section; but if the bucket be divided into four or more sections, one link to each section will be sufficient. The connection of the discharging-line to the runner g is effected by means of two outside sheaves and a branch line, as clearly indicated; but with light buckets good results will be obtained by the use of a simple bail or yoke extending from the runner above the neck and directly connected with the discharging-line.

In order that the bucket may be filled by hand, like any ordinary bucket, as would be necessary whenever a pile of coal was too far reduced in size for the bucket to operate automatically thereon, I provide one or more sections near their upper ends, with an opening and a funnel, i , into which coal can be shoveled when the bucket-sections are in their closed position.

In a bucket constructed in accordance with my invention it is possible not only to hoist and transfer coal without liability of dropping, as before stated, but the contents of each bucket can be carefully deposited at the proper point without breakage.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The globe-shaped coal-bucket embodying a tubular neck, and three or more half-circular sections hinged at their upper ends to said tubular neck, substantially as described, whereby the contents of said bucket may be wholly inclosed, as set forth.

ROBERT B. LITTLE.

Witnesses:

OSCAR LAPHAM,
JOHN T. BLODGETT.