

No. 616,287.

Patented Dec. 20, 1898.

J. CAMPBELL.
GRAB OR AUTOMATIC HOISTING BUCKET.

(Application filed Mar. 5, 1898.)

(No Model.)

2 Sheets—Sheet 1.

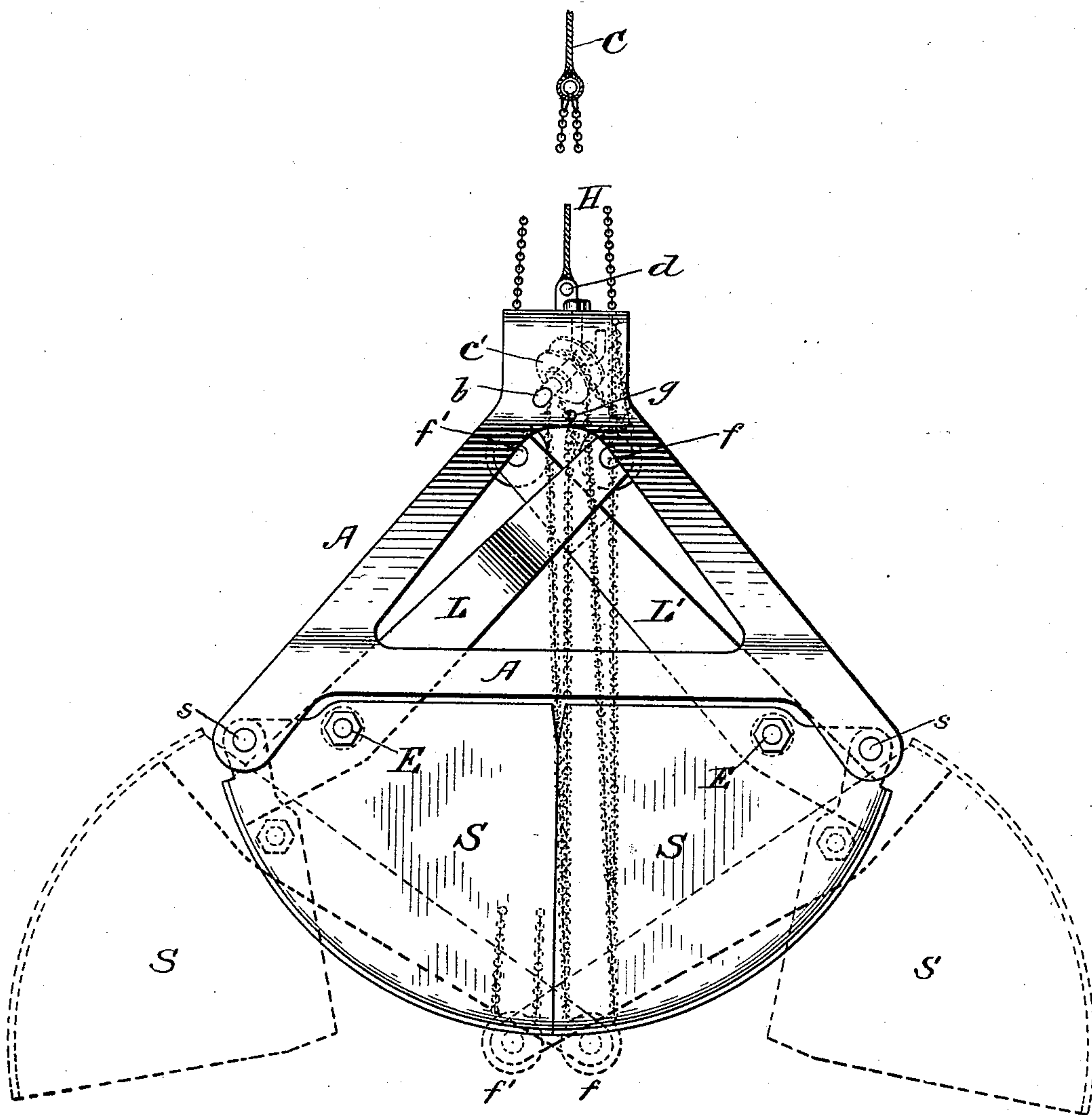


FIG. 1.

WITNESSES:

J. M. Dolan.
Geo. A. Nakh.

INVENTOR:

Jimmie Campbell
by his atty
Clarke & Ferguson

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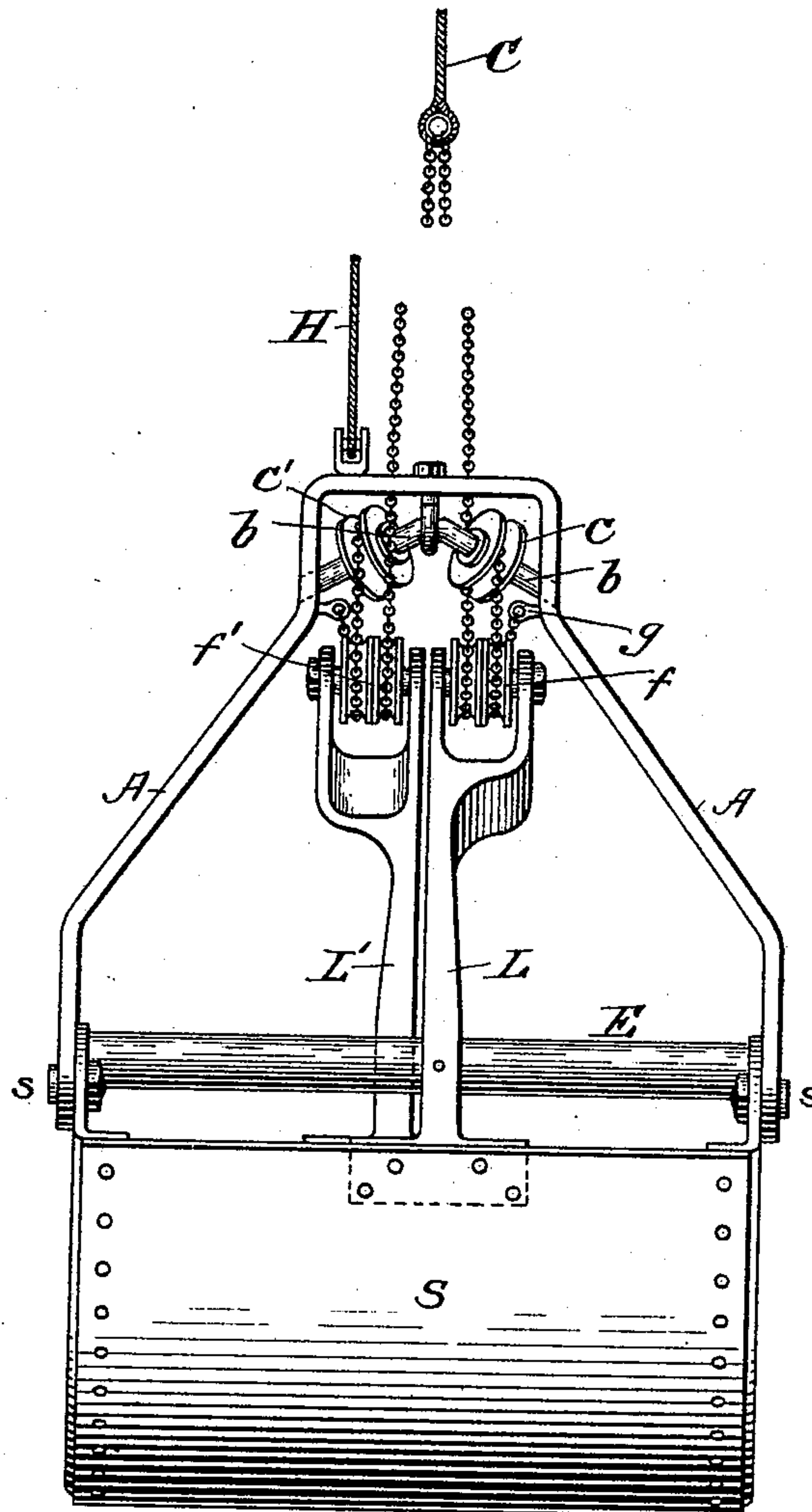


Fig. 2.

WITNESSES:

J. W. Dolan.

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INVENTOR:

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UNITED STATES PATENT OFFICE.

JEREMIAH CAMPBELL, OF CHELSEA, MASSACHUSETTS.

GRAB OR AUTOMATIC HOISTING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 616,287, dated December 20, 1898.

Application filed March 5, 1898. Serial No. 672,764. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH CAMPBELL, a citizen of the United States, residing at Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Grabs or Automatic Hoisting-Buckets, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

My invention relates to improvements in grabs or automatic hoisting-buckets, and pertains to a grab operated by two chains or ropes and a double-drum engine.

The object of the invention is to so construct the grab that it shall have great spread when open and not be high when closed and to provide simple and powerful means for its operation and a rigid frame about which the operative parts work.

In the drawings, Figure 1 is a side elevation of a grab embodying my invention, the dotted line showing it in an open position. Fig. 2 is an end elevation when closed.

Referring to the drawings, A represents the frame, about which the parts operate, containing near its top the shaft *b*, upon which the sheaves *c c'* turn. At its top is an eye *d*, to which the suspending or holding rope or chain H is attached. The shells S S are hinged at *s* to the lower outer ends of the frame A. Connected rigidly to the shells S by means of the rods E E are the levers L L', these levers carrying at their upper ends the sheaves *f f'*.

The closing and hoisting rope C is bifurcated, one part passing through the top of the frame A about one of the sheaves *f* on the lever L, thence over the sheave *c*, and over the other sheave *f* to the eye *g*, where its end is secured. The other part passes in a similar manner about the sheaves *f'* of the other lever L' and the sheave *c'* to the eye *g'*. The shaft *b* is so angled that the rope or chain will lead fairly onto all the sheaves of each tackle.

In order to operate the grab, it is suspended by the rope H, the rope C is slackened, and the levers L L' and their respective shells S S swing into the dotted (open) position, overhauling their respective tackles. The grab is in this position lowered onto the coal or other substance to be gathered by it. The drum which winds the rope H is thus released, and the other drum of the hoisting-engine is operated to wind up the rope C, which exerts a pull on the tackles, and the levers and shells are operated to close and gather in the coal or other substance. The continued winding of the rope C will hoist the grab, and it is opened to discharge its load by holding the rope H and slacking the rope C, as before.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

The grab-bucket herein described, the same having the rigid frame A shaped substantially as represented, the shells S pivoted at *s* to the lower ends of said frame to swing thereon as set forth, the long levers L, L' rigidly attached at their outer ends to said shells, the two sheaves *f* and two sheaves *f'* at the upper or free ends of said levers, the shaft *b* carried by the rigid frame near its top and having the angular relation thereto set forth, the sheaves *c, c'* upon said shaft, the suspending-rope H and bifurcated closing and hoisting rope C one part of which passes through the part of the frame A about one of the sheaves *f* on the lever L, thence over the sheave *c* and over the other sheave *f* to the eye *g*, and the other part of which rope passes in a similar manner about the sheaves *f'* of the lever L', and the sheave *c'* to the said eye *g'*, all as and for the purposes set forth.

JEREMIAH CAMPBELL.

Witnesses:

F. F. RAYMOND, 2d,
J. M. DOLAN.