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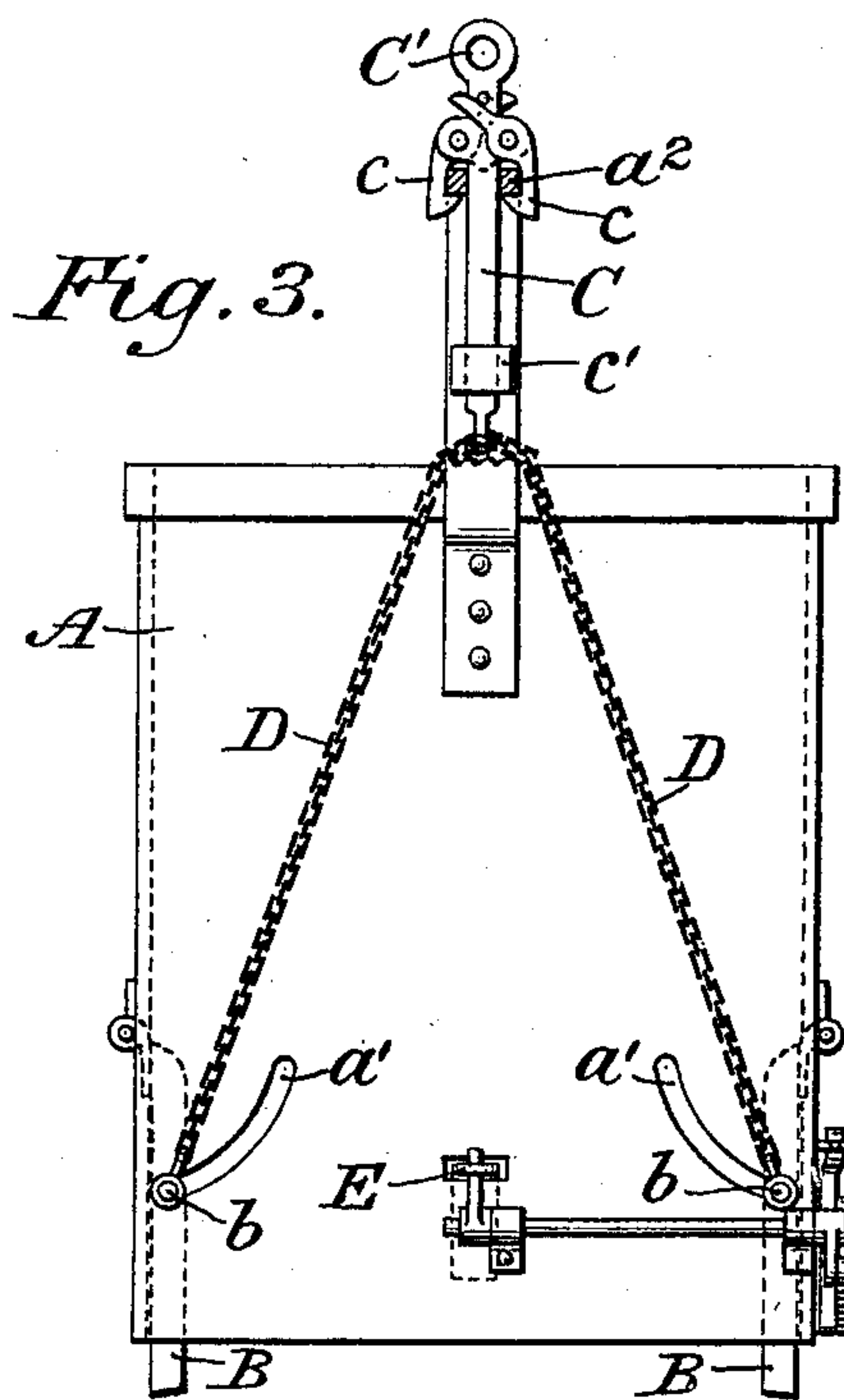
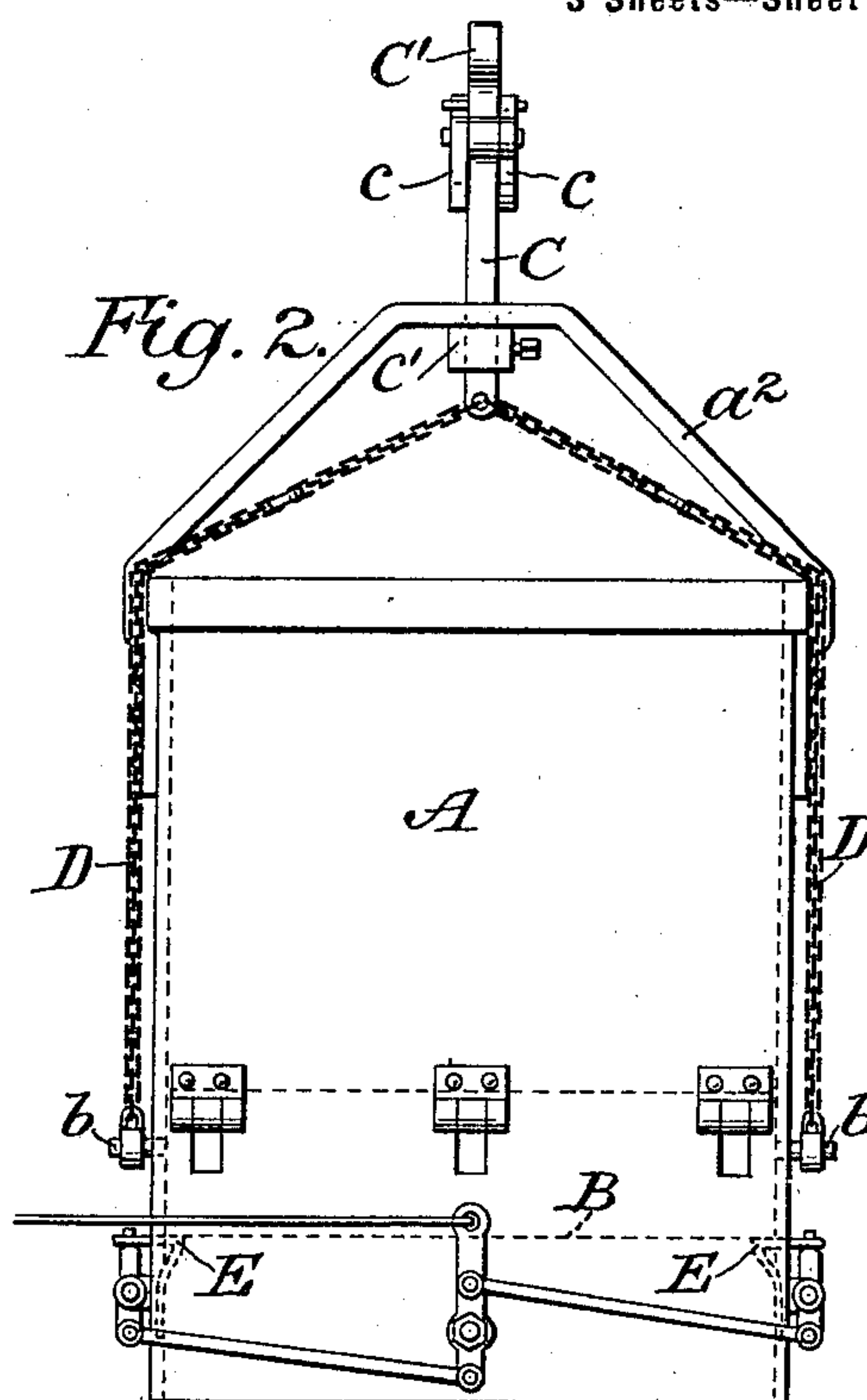
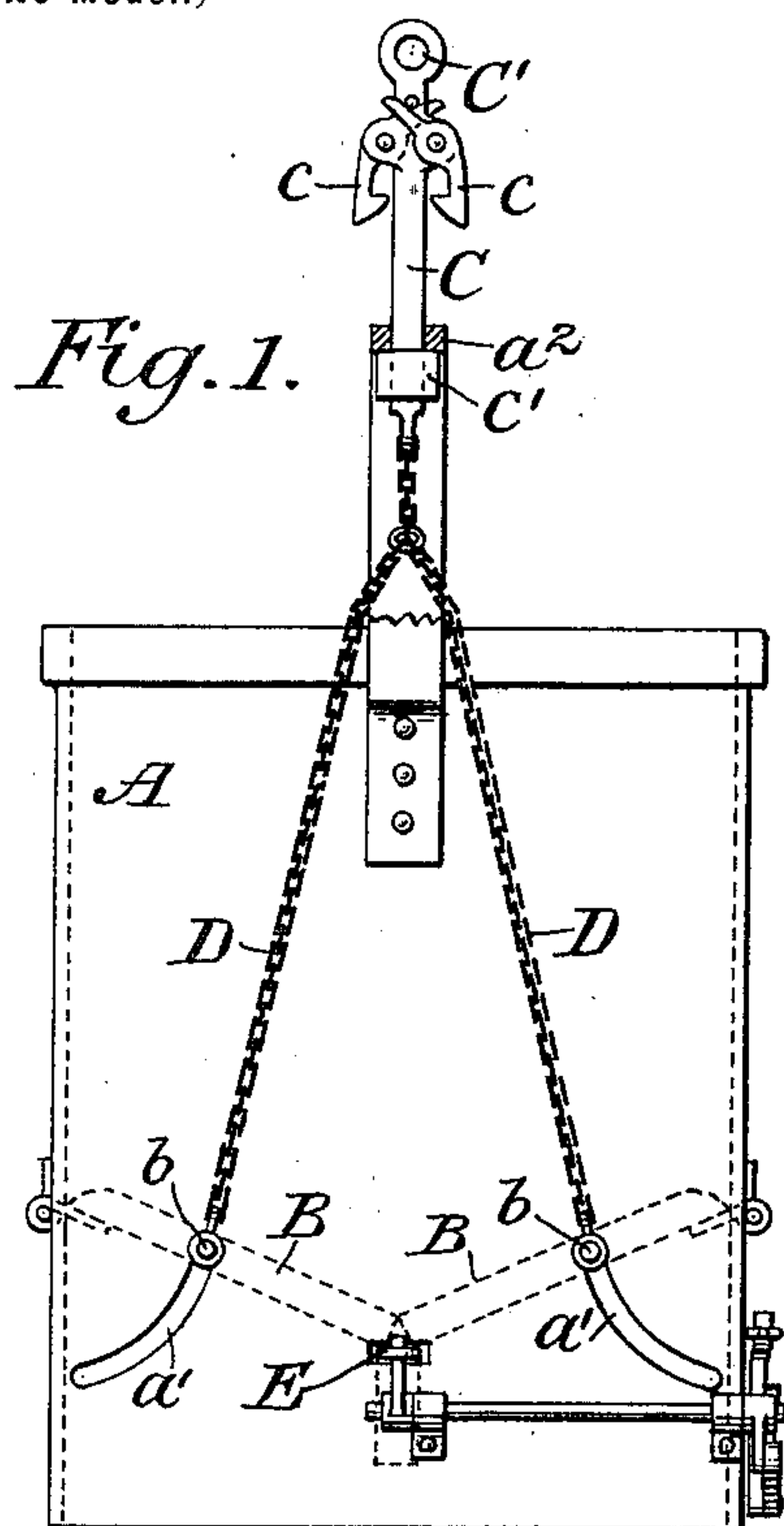
Patented Sept. 5, 1899.

J. F. O'ROURKE.
DUMPING BUCKET.

(Application filed June 20, 1899.)

(No Model.)

3 Sheets—Sheet 1.



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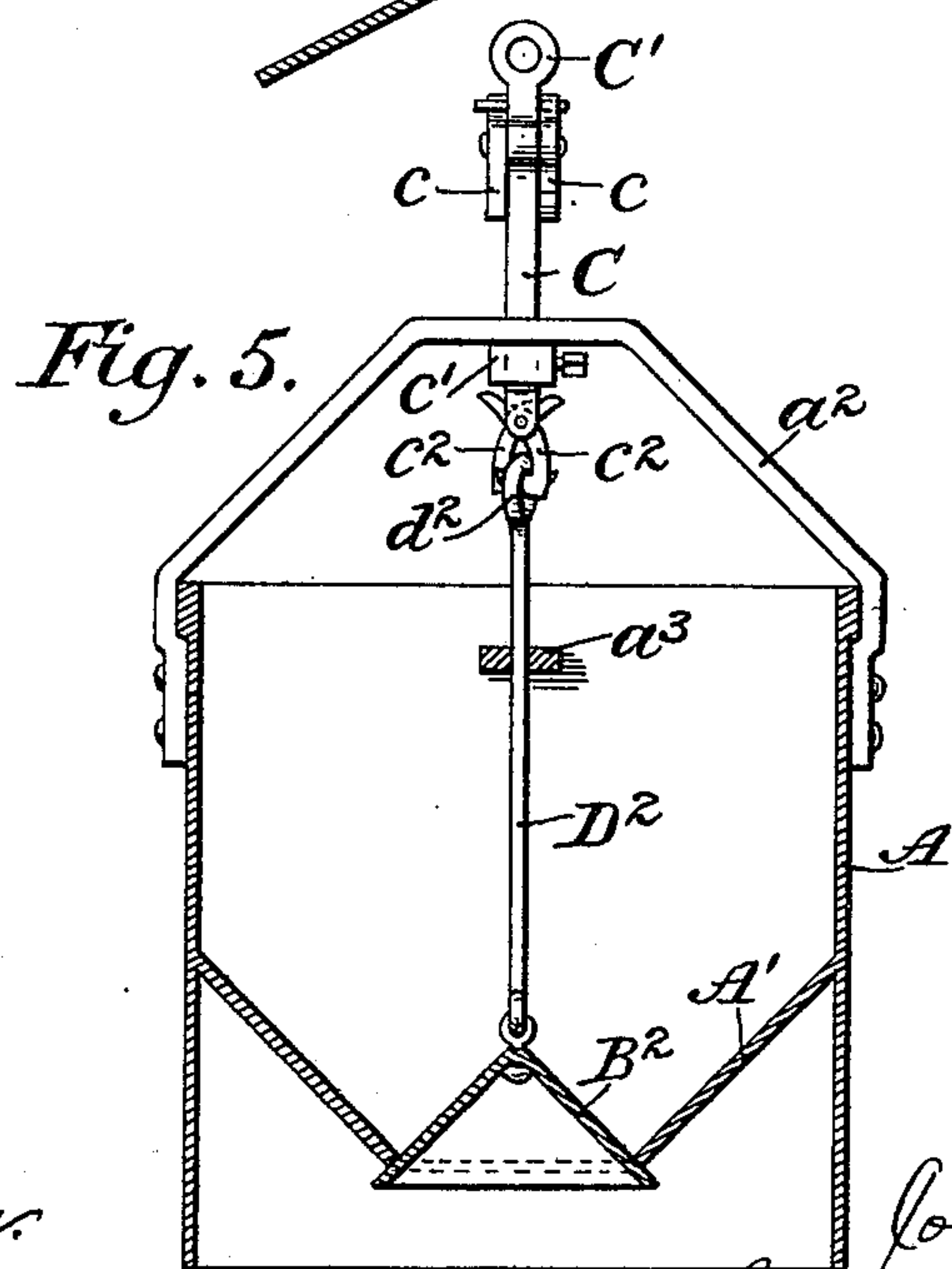
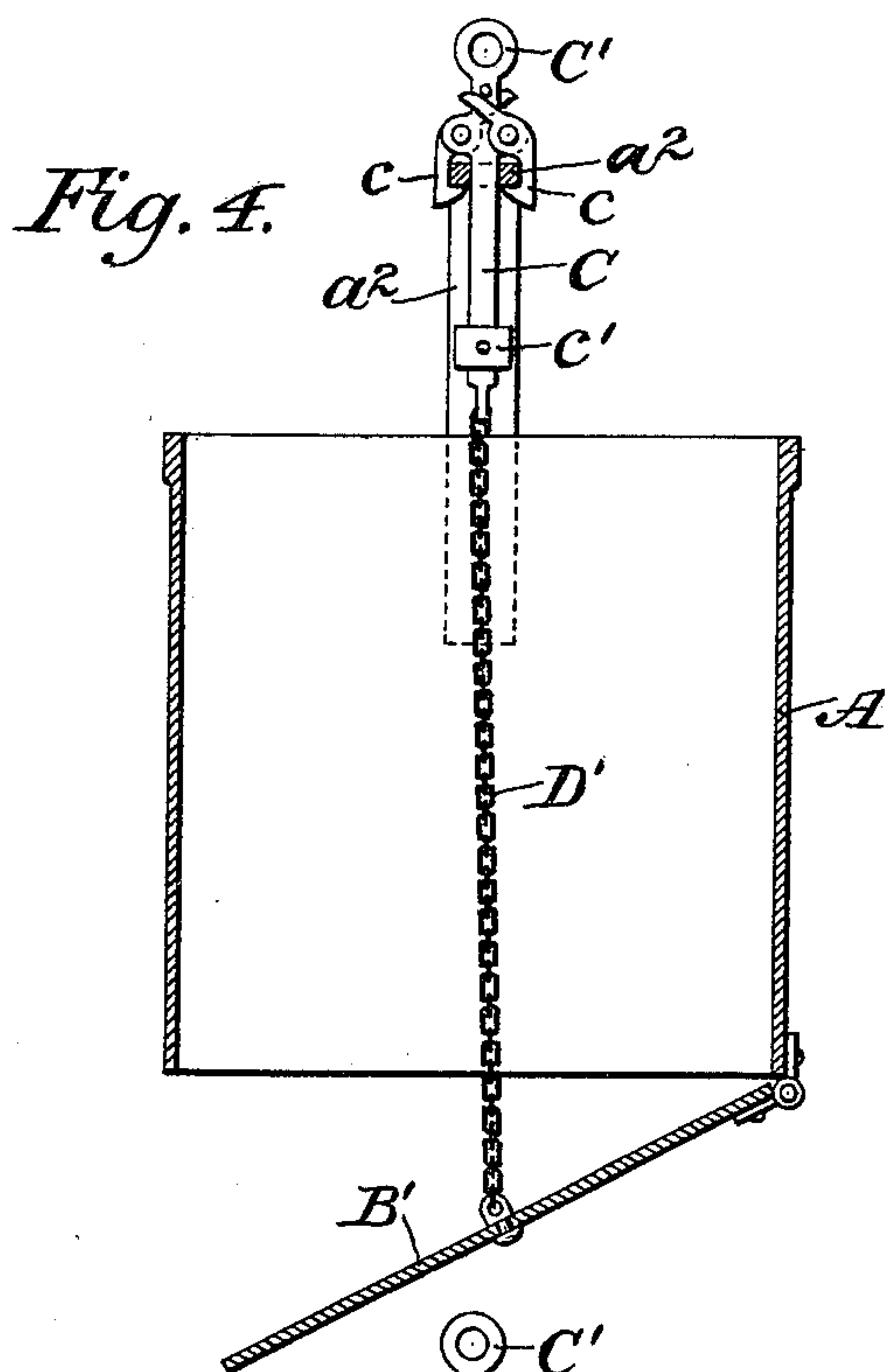
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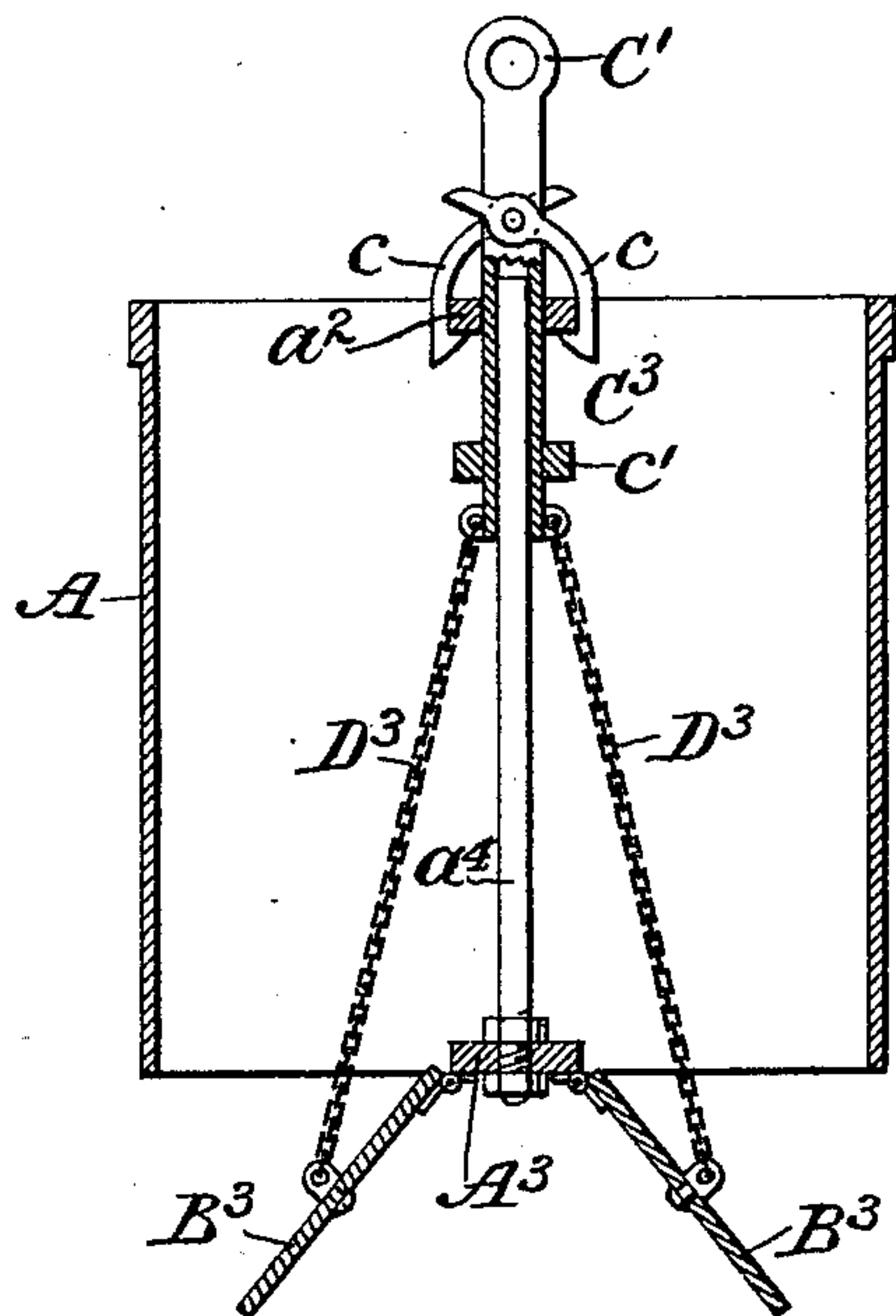
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3 Sheets—Sheet 3.

Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN F. O'ROURKE, OF NEW YORK, N. Y.

DUMPING-BUCKET.

SPECIFICATION forming part of Letters Patent No. 632,323, dated September 5, 1899.

Application filed June 20, 1899. Serial No. 721,204. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. O'ROURKE, a citizen of the United States, residing in the borough of Manhattan, city of New York, State of New York, have invented certain new and useful Improvements in Dumping-Buckets, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

10 This invention relates to dumping-buckets of the character of that shown and described in my application for Letters Patent of the United States, Serial No. 713,094, filed April 15, 1899, and in which the bail of the bucket—that
15 is to say, that part to which the hoisting-rope is connected and which serves as the means of connection between the hoisting-rope and the bucket—has a limited movement with respect to the bucket, while a connection is provided
20 between the door of the bucket and such bail; whereby with a single hoisting-rope the body of the bucket can be lifted, leaving the door free to open and discharge the load, or, in another position of engagement, the door is
25 closed when strain is put upon the hoisting-rope and the bucket is lifted with its load. In the present case some modifications of this general form are intended to be covered, the bail or engaging part connected to the hoist-
30 ing-rope being relatively smaller and adapted to engage a band or bar fixed to and forming a part of the body of the bucket, and at the same time constituting a guide to facilitate the engagement of the bail or connecting part
35 therewith.

Other features of the present improvement or modification will be more particularly described hereinafter, with reference to the accompanying drawings, and it will be observed
40 that the novel mode of operation which characterized the form shown in the application above referred to is common to the forms herein shown and described.

In the drawings, Figure 1 is a side elevation
45 of one form of improved bucket with the guide or lifting bar or strap partly broken off and in section, the parts being represented as occupying the positions in which they stand when the bucket-door is closed by the strain
50 on the hoisting-rope. Fig. 2 is an elevation of the same viewed from a position at right angles to that of Fig. 1. Fig. 3 is a view

similar to Fig. 1, but with parts in the relative positions in which they stand when the door is allowed to open. Fig. 4 is a vertical
55 section of a bucket of different form from that shown in Figs. 1, 2, and 3 and with the connection to the door made through the body of the bucket. Figs. 5 and 6 are views similar
60 to Fig. 4, but showing other forms of the bucket and slight modifications in the connections to the door.

The body A of the bucket may be of any suitable shape or size, according to the nature of the work in which it is employed. In Figs.
65 1, 2, and 3 it is shown as provided with a door formed of two leaves B B, hinged to opposite walls and constituting the bottom of the bucket, while the walls of the body are extended below the doors to form an apron.
70 The bail or relatively movable engaging part C, to which the hoisting-rope is connected by means of the eye C' and through which connection between the hoisting-rope and the
75 body of the bucket is effected in different relative positions, so as to hoist the bucket with the door open or closed, is provided with one or more dogs or latches or grapples c, which
80 are adapted to engage a rigid lifting and guiding bar or strap a^2 , which is secured to and forms a part of the body of the bucket. As
shown in the several figures of the drawings, the part C is a straight sliding part, which
85 slides through the guiding and lifting bar or strap a^2 and has secured to its lower end below said bar or strip the chains or other loose
connections D between the slide C and the door. In Figs. 1, 2, and 3 the chains D are
90 shown as connected to pins d , which extend from the leaves of the door outwardly through the curved slots a' in the apron of the bucket. A stop c' is formed on or secured to the slide
C below the guiding and lifting bar or strap
95 a^2 to engage the same when the slide is in its highest relative position, so that the door shall then sustain only so much of the load as rests
thereon, while the weight of the bucket and of the remainder of the load is sustained through
this engagement between the slide and the
100 bucket. It will nevertheless be understood that when the dogs or grapples c are released from the lifting-bar a^2 the first effect of hoisting away will be to close the door and thereafter to hold it closed, the purpose of the

above-described engagement being merely to relieve the door of a portion of the strain thereon. If desired, a latch or detent E may be provided to retain the leaves of the door in their closed positions, and operating means may be provided to release such latch, as represented in Figs. 1, 2, and 3.

In the form shown in Fig. 4 the door B' is represented as hinged at one side to the wall of the bucket and as connected by a single chain D', which passes through the bucket to the slide C. This arrangement can be used to advantage in handling coal and other like materials, where it is not essential to keep the interior of the bucket free from obstructions, as is the case in handling concrete.

In the construction shown in Fig. 5 the bucket is provided with a hopper-bottom A', and the opening therein is closed by a conical or pyramidal door B², which is connected by a rod D² with the slide C. In order to provide for the independent movement of the door, dogs or grapples c² are carried by the slide C and are adapted to engage an eye d², formed at the upper end of said rod. This construction can be used either with dogs or grapples c, adapted to engage the lifting and guiding bar a², as in the other constructions shown, in which case the dogs or grapples c² will not ordinarily be disengaged from the eye d², or it can be used without the dogs or grapples c, in which case the dogs or grapples c² will be disengaged from the eye d² when it is desired to raise the bucket with the door open. A guide a³ is provided for the rod D².

In Fig. 6 is represented a construction in which the two leaves B³ of the door are hinged to a cross-bar A³ and are connected by chains D³ to a sliding sleeve C³, which slides on a rod a⁴, secured to the cross-bar a³, and through the lifting and guiding bar a², and is provided at its upper end with an eye C' for engagement with the hoisting-rope. Dogs or grapples c are carried by the slide C³ to engage the lifting-bar a² when the slide is in its lowest position, and a shoulder c' is formed on the slide to engage said bar when the slide is in its highest position to relieve the door of the weight of the bucket.

The operation of the bucket will be readily understood. Assuming that the bucket, whether of one or another of the forms shown, is loaded and has been carried by the hoisting-rope to the place of discharge, the bucket is lowered away until its bottom or the apron around the same rests upon the ground or deck or platform, as the case may be. As the hoisting-rope is slackened away, the slide C

drops until its dogs or grapples c engage the guiding and lifting bar a². In the forms shown in Figs. 1, 2, 3, and 5 this action of itself releases the doors and permits the discharge of the load, while in the other constructions, (shown in Figs. 4 and 6,) in which there is no apron for the bucket, it is necessary to hoist away again, which action will lift the bucket and permit the door to open. When the bucket has been deposited in place to receive a new load, the dogs or grapples c are disengaged from the lifting-bar a², and upon hoisting away again the doors will be closed and held closed.

Various other forms will readily suggest themselves in view of what has been shown and described herein, and it will be evident that the details of construction and arrangement may be varied without departing from the spirit of the invention.

I claim as my invention—

1. The combination with the body of a bucket, a door forming the bottom thereof, and a lifting bar or strap secured to the body, of a slide movable with respect to said bar and adapted for connection to the hoisting-rope, a connection from said slide to said door, and a dog or grapple carried by said slide to engage said bar when the slide is in its lowest position.

2. The combination with the body of a bucket, a door forming the bottom thereof, and a lifting bar or strap secured to the body, of a slide movable with respect to said bar and adapted for connection to the hoisting-rope and to engage said bar in its highest position, a connection from said slide to said door, and a dog or grapple carried by said slide to engage said bar when the slide is in its lowest position.

3. The combination with the body of a bucket, a door forming the bottom thereof, and a lifting bar or strap secured to the body, of a slide movable with respect to said bar and through the same and adapted for connection to the hoisting-rope, said slide having a shoulder below said bar to engage the same when the slide is in its highest position, and having a dog or grapple to engage said bar when the slide is in its lowest position, and a connection from said slide to said door.

This specification signed and witnessed this 19th day of June, A. D. 1899.

JOHN F. O'ROURKE.

In presence of—

ANTHONY N. JESBERA,
L. R. MOORE.