

(No Model.)

3 Sheets—Sheet 1.

A. A. LORIO.
APPARATUS FOR HANDLING CANE.

No. 571,233.

Patented Nov. 10, 1896.

FIG. I.

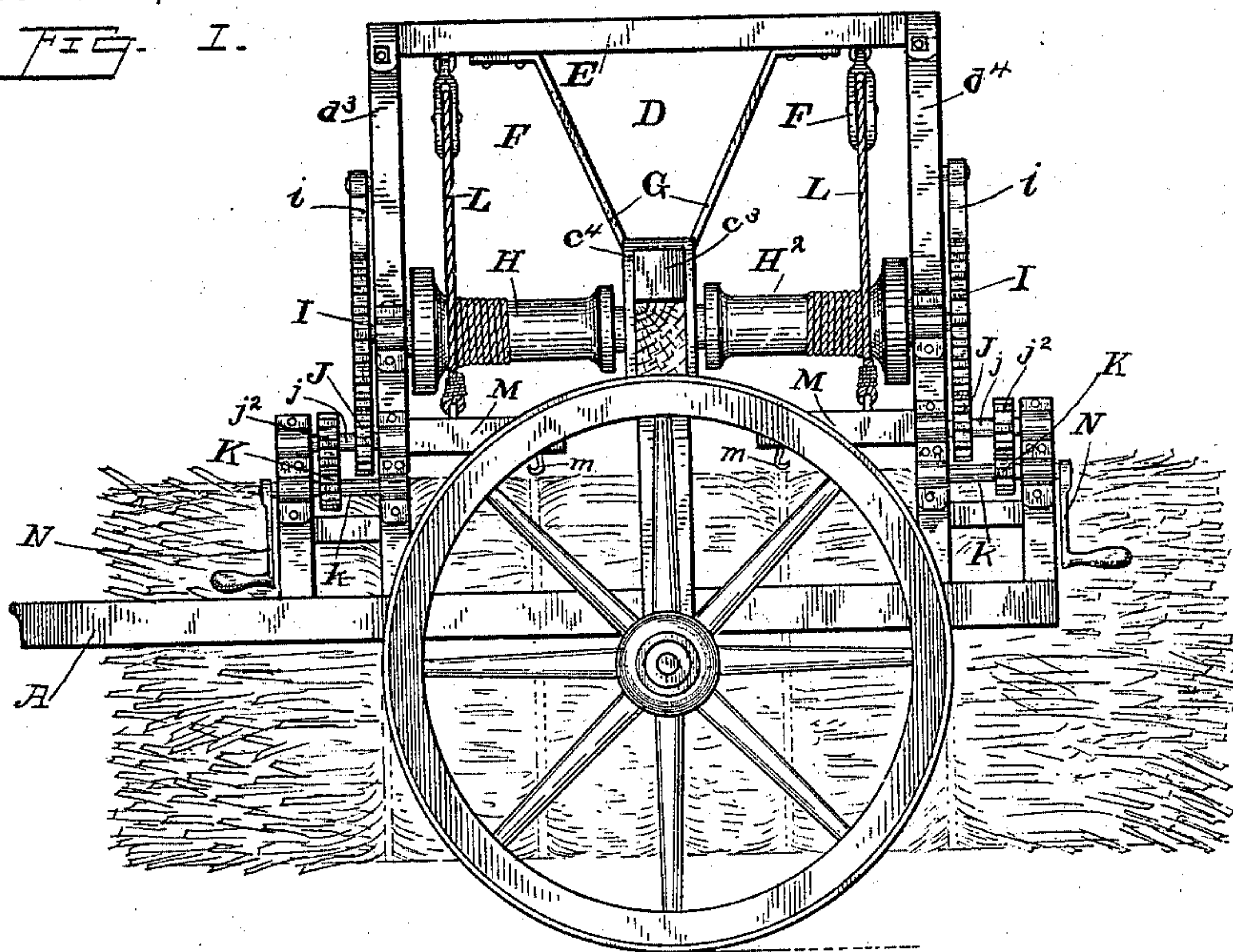
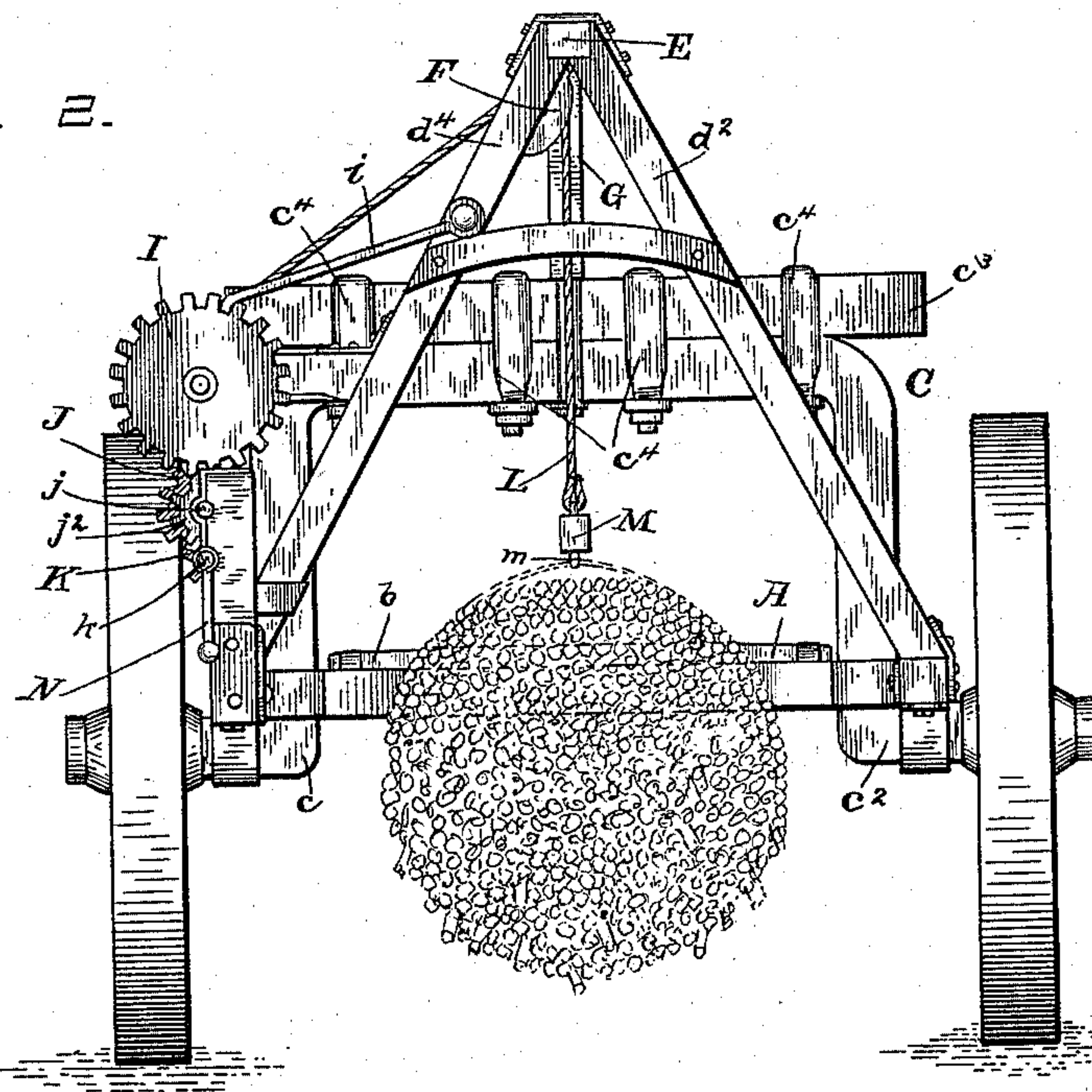


FIG. II.



Witnesses:
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R. E. Elliott.

Inventor:
Anthony A. Lorio,
by *R. E. Dyrenforth*
his attorney

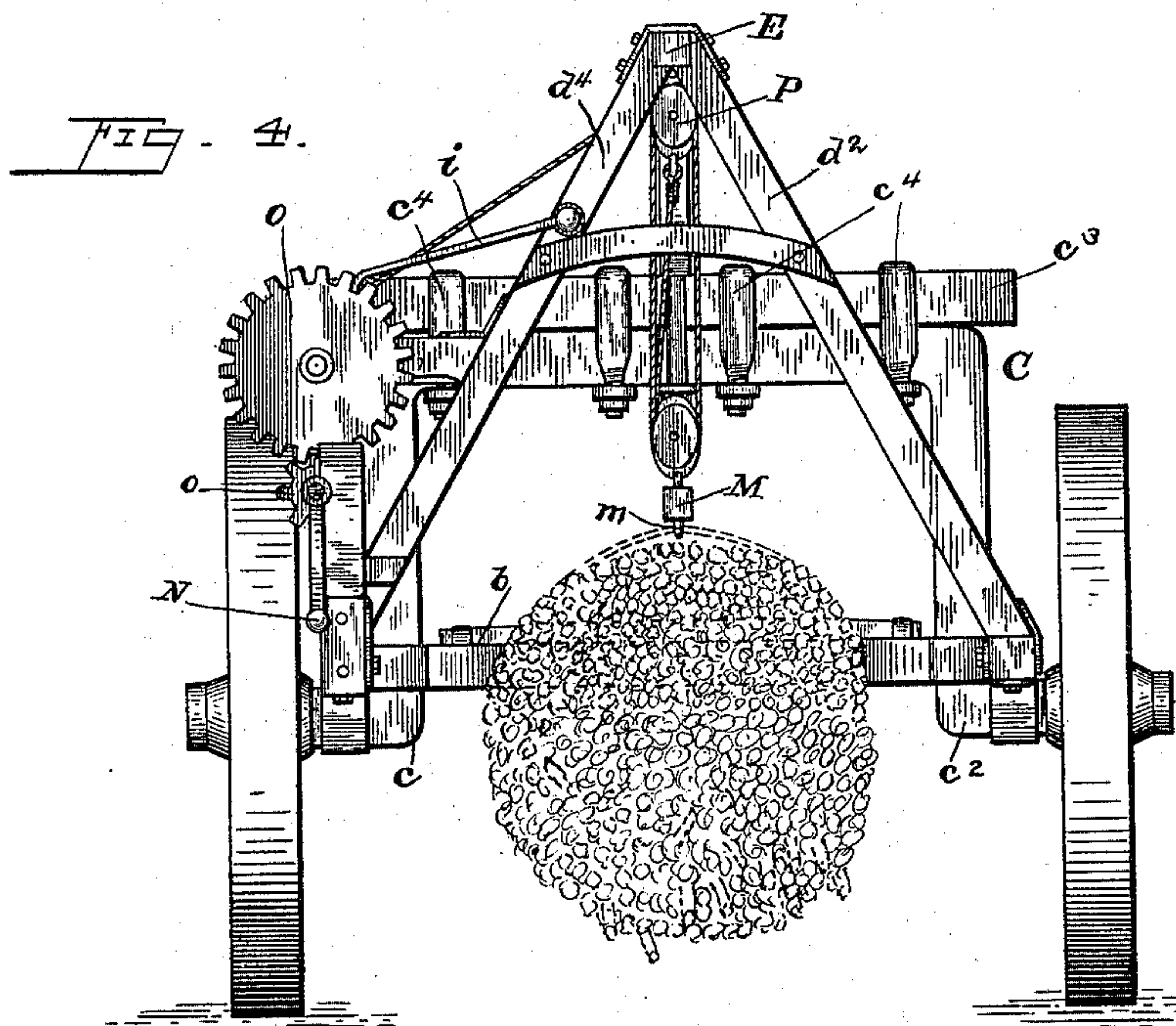
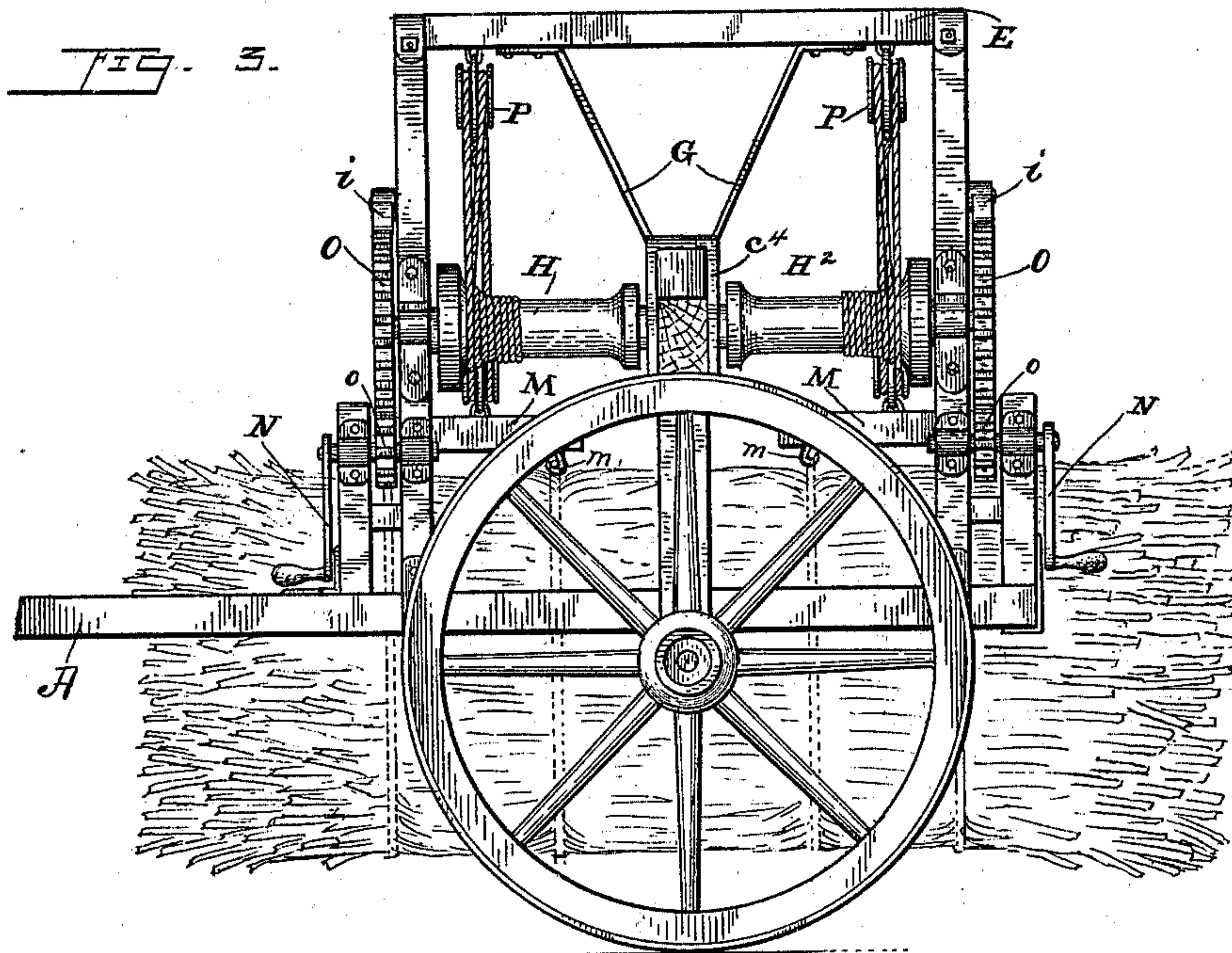
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Witnesses:
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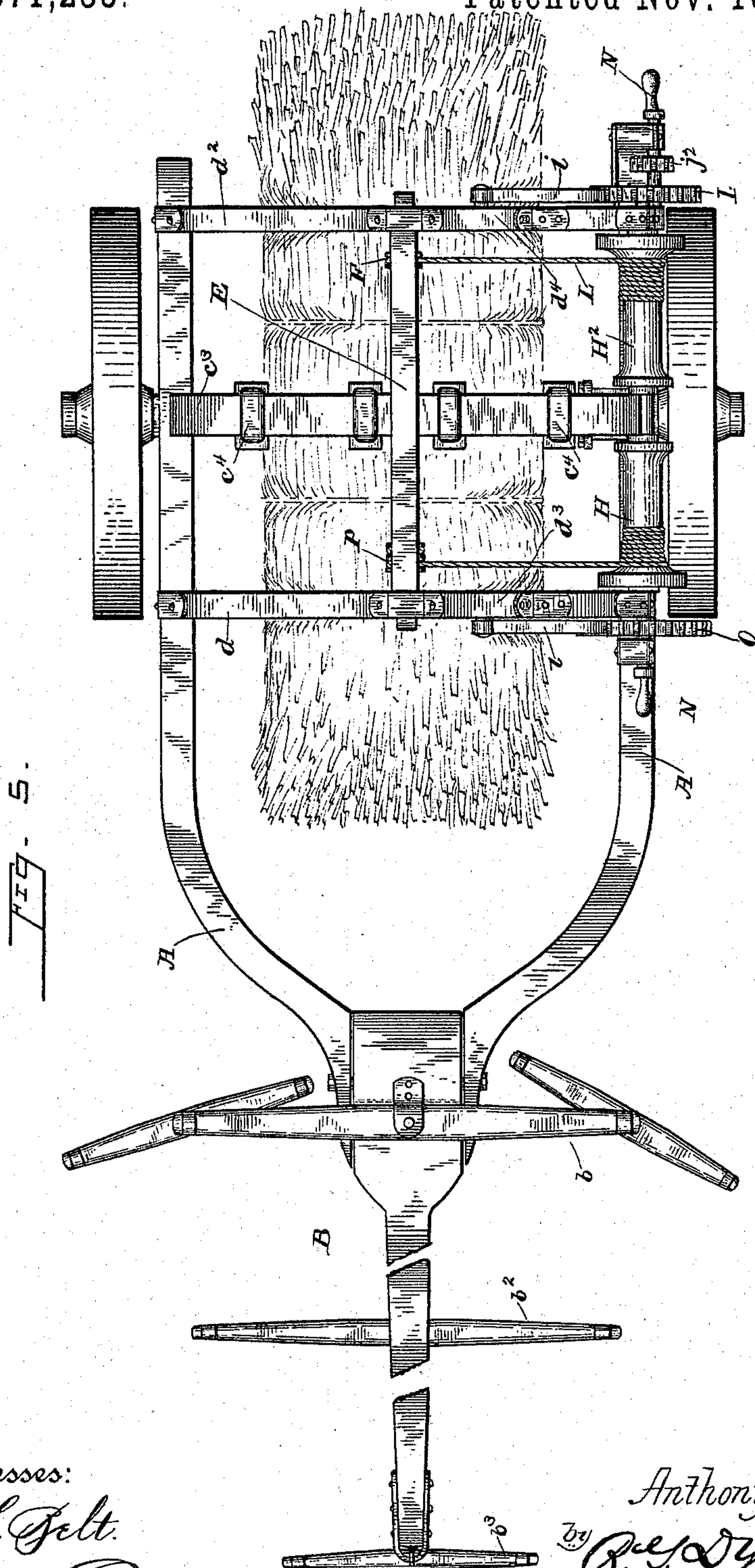
(No Model.)

3 Sheets—Sheet 3.

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No. 571,233.

Patented Nov. 10, 1896.



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UNITED STATES PATENT OFFICE.

ANTHONY A. LORIO, OF LAKE LAND, LOUISIANA.

APPARATUS FOR HANDLING CANE.

SPECIFICATION forming part of Letters Patent No. 571,233, dated November 10, 1896.

Application filed June 1, 1896. Serial No. 593,898. (No model.)

To all whom it may concern:

Be it known that I, ANTHONY A. LORIO, a citizen of the United States, residing at Lake-land, in the parish of Pointe Coupée and State
5 of Louisiana, have invented certain new and useful Improvements in Apparatus for Hand-ling Cane; and I do hereby declare the follow-
ing to be a full, clear, and exact description of the invention, such as will enable others
10 skilled in the art to which it appertains to make and use the same.

This invention relates to apparatus for handling cane or the like.

The object is to provide an apparatus that
15 may be operated with readiness and ease to lift a bundle of cane or the like free from the ground and hold it suspended while being transported to a place of discharge or of stor-
age; furthermore, to simplify the construc-
20 tion of the supporting-frame, so as to reduce the parts thereof to a minimum; furthermore, to provide simple and effective mechanism for lifting the bundle of cane, and, finally, to provide an apparatus of the character
25 specified which shall be highly efficient and durable in use and comparatively inexpensive of production.

With these objects in view, the invention consists in the novel construction and combi-
30 nation of parts of an apparatus for handling cane, as will be hereinafter fully described and claimed.

In an apparatus characterized by my inven-
tion I provide a supporting-frame, whereof
35 the side pieces, of which there are two in num-ber, constitute an extension of the tongue-hounds, or, in other words, the side pieces by being bent or formed to the proper shape form the said hounds. This supporting-frame
40 is secured in any suitable manner to the axle, which, for the purpose of providing ample space to admit of the bundle of cane being lifted free of the ground, is substantially rectangular in elevation, and may be made, if
45 desired, laterally adjustable, so as to increase or diminish the carrying capacity of the appa-ratus. Supported upon the frame or side pieces
is a framework extending above the axle and
50 or beam, constituting an overhead support, from which depend blocks, through which pass the ropes for lifting and supporting the

cane, these ropes, of which there are in this instance but two, being wound upon inde-
pendently-operating drums. The mechan- 55
ism for operating these drums and for lifting the load may consist each of a single pair of
gears and double blocks, or double gearing and
single blocks, or of a single pair of gears and
single blocks, the particular kind of gearing 60
and blocks employed being governed by the work the apparatus is to perform—that is to
say, whether it is to lift heavy or light loads.
In this connection it may be stated that the
peculiar construction of the frame and the 65
axle and the disposition of the drums, ropes, blocks, and gearing with relation thereto ren-
der the apparatus adaptable for the trans-
portation of logs or heavy timbers. Further
and more specific details of construction will 70
appear farther on.

In the accompanying drawings, forming a part of this specification, and in which like letters of reference indicate corresponding
75 parts, I have illustrated two forms of embodi-ment of my invention, although it is to be un-
derstood that other forms of embodiment thereof may be employed without departing
from the spirit of the same, and in these
80 drawings—

Figure 1 is a view in side elevation, looking
at the apparatus on that side which carries
the mechanism for actuating the drums and
lifting the load, which mechanism, in this em-
bodiment of my invention, comprises double 85
gearing and single blocks. Fig. 2 is a view in
end elevation, displaying more clearly the ar-
rangement of the framework for supporting
the blocks through which pass the lifting-
ropes and also the drum-actuating gearing. 90
Figs. 3 and 4 are views similar to Figs. 1 and
2, but showing the apparatus provided with
single gearing and double blocks. Fig. 5 is a
view in plan showing more particularly the
95 peculiar construction of the supporting-frame and also the two forms of gearing on a
single apparatus, this for the mere purpose
of exhibiting the adaptation of either form
of gearing to the apparatus.

Referring to the drawings, and to Figs. 1 100
and 2 thereof, A designates the side pieces of
the supporting-frame of the apparatus, each
of which is constructed of a piece of wood
straight for a portion of its length and then

curved inward to constitute the hounds for the tongue B, which latter is provided with the usual singletree b and singletrees b^2 b^3 . The side pieces A may, as before stated, be
 5 constructed of a single piece of wood; but, if preferred, two or more pieces suitably secured together may be employed, clamped or otherwise held assembled.

C designates the supporting-axle, which, as
 10 shown in Figs. 2 and 4, is approximately rectangular in elevation and is composed of three parts or sections, the two axle-bearing sections c c^2 and a clamping-bar c^3 , the three sections being held assembled by means of clips
 15 c^4 . The construction of this axle is such as to permit of its being adjusted laterally before the supporting-frame is secured in position, so as to increase or to diminish the carrying capacity of the apparatus, according as the
 20 requirements of the case may demand.

Mounted upon the side pieces A, and secured thereto by suitable clips or straps, is a supporting-frame D, comprising four up-
 25 rights d , d^2 , d^3 , and d^4 , which incline inward and are secured to a longitudinally-disposed beam or brace E, constituting an overhead support for the blocks F. This beam E is
 30 secured to the axle by means of a brace G, the latter serving the double function of strengthening the beam and of bracing the bend of the axle against rocking motion.

H H^2 designate two independently-operating drums or windlasses, the ends of the shafts of which are journaled in suitable bearings
 35 on the supporting-frame, and as these drums, their actuating mechanism, and attachments are the same a description of one will answer for both. The shaft of each drum carries a gear-wheel I, which meshes with a pinion J
 40 on a shaft j , and on this shaft is secured a pinion j^2 , which meshes with a pinion K on a crank-driven shaft k , this arrangement of gears and pinions being employed for the purpose of gaining power. To hold the gears
 45 locked against turning, a pawl i is employed, which is, by preference, of the gravity type, so as to permit of its being readily thrown into and out of operative position with relation to the gear with which it meshes. Upon
 50 the drum is wound a rope L, which passes through the block F and carries at its lower end a bar M, carrying hooks m , designed to engage with the binder at one end of the bundle of cane or the like.

The parts of this apparatus are to be constructed of any suitable material that will withstand the strain to which the same may be subjected when in use, the proportions of the different parts being governed by the work to be done.

The operation of this form of apparatus is as follows: The cane having been bound into a bundle, the apparatus is driven over it and the hooks m are hooked into the binders of the bundle. The cranks N are now operated to
 65 revolve the windlasses and wind the ropes thereon, thereby lifting the bundle free from the ground, and the apparatus is then driven to the place of deposit or of storage.

The apparatus shown in Figs. 3 and 4 is the same in all respects as the apparatus just described, with the exception that a train of gearing composed of a gear-wheel O and a pinion o is employed instead of the double
 75 train of gearing and double blocks P are employed in lieu of the single blocks F. By this arrangement I gain the same power and dispense with the employment of the double gearing. The operation is the same as above.

In Fig. 5 I have shown the two forms of gearing on a single apparatus, this being merely for the purpose of exhibiting the adaptation of either form of gearing to the apparatus.

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

1. An apparatus for handling cane or the like, comprising an arched axle, side pieces secured thereto and constituting the tongue-hounds, an overhead support mounted on
 90 the side pieces, and hoisting mechanism actuated by suitable gearing, substantially as described.

2. An apparatus for handling cane, comprising a wheeled frame, an overhead support
 95 mounted thereon and carrying blocks, independently-operating drums supported on the frame, ropes wound upon the drums and passing through the blocks, and hook-bearing bars carried by the ropes, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANTHONY A. LORIO.

Witnesses:

T. R. LORIO,
 R. E. HEWES.