

No. 644,499.

Patented Feb. 27, 1900.

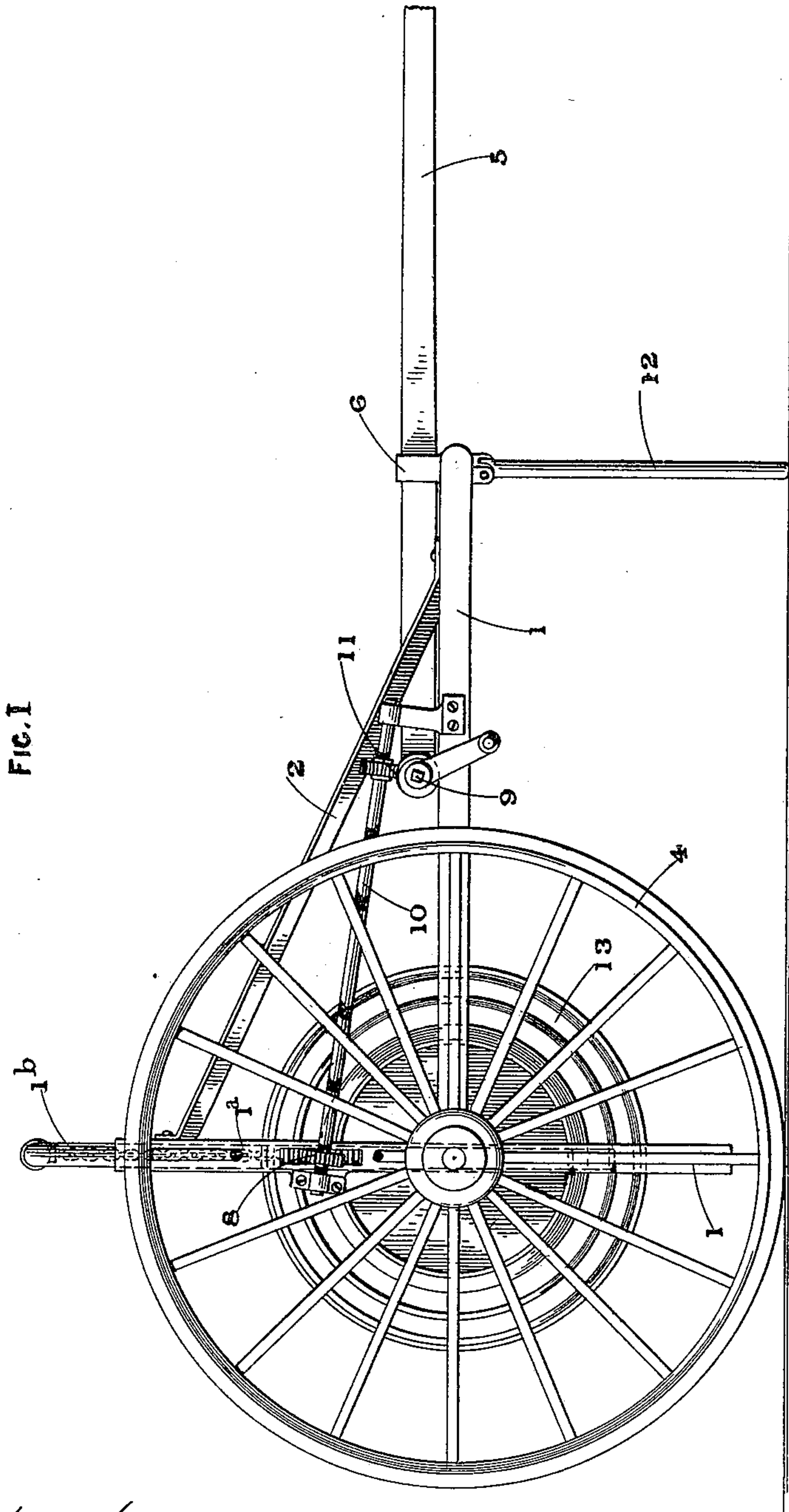
H. O. COOPER.

APPARATUS FOR LIFTING AND TRANSPORTING GOODS.

(Application filed Aug. 5, 1899.)

(No Model.)

5 Sheets—Sheet 1.



Attest
M. J. Donaldson
Clerk

Inventor
Harry Oldfield Cooper
By E. W. Spear
Atty.

No. 644,499.

Patented Feb. 27, 1900.

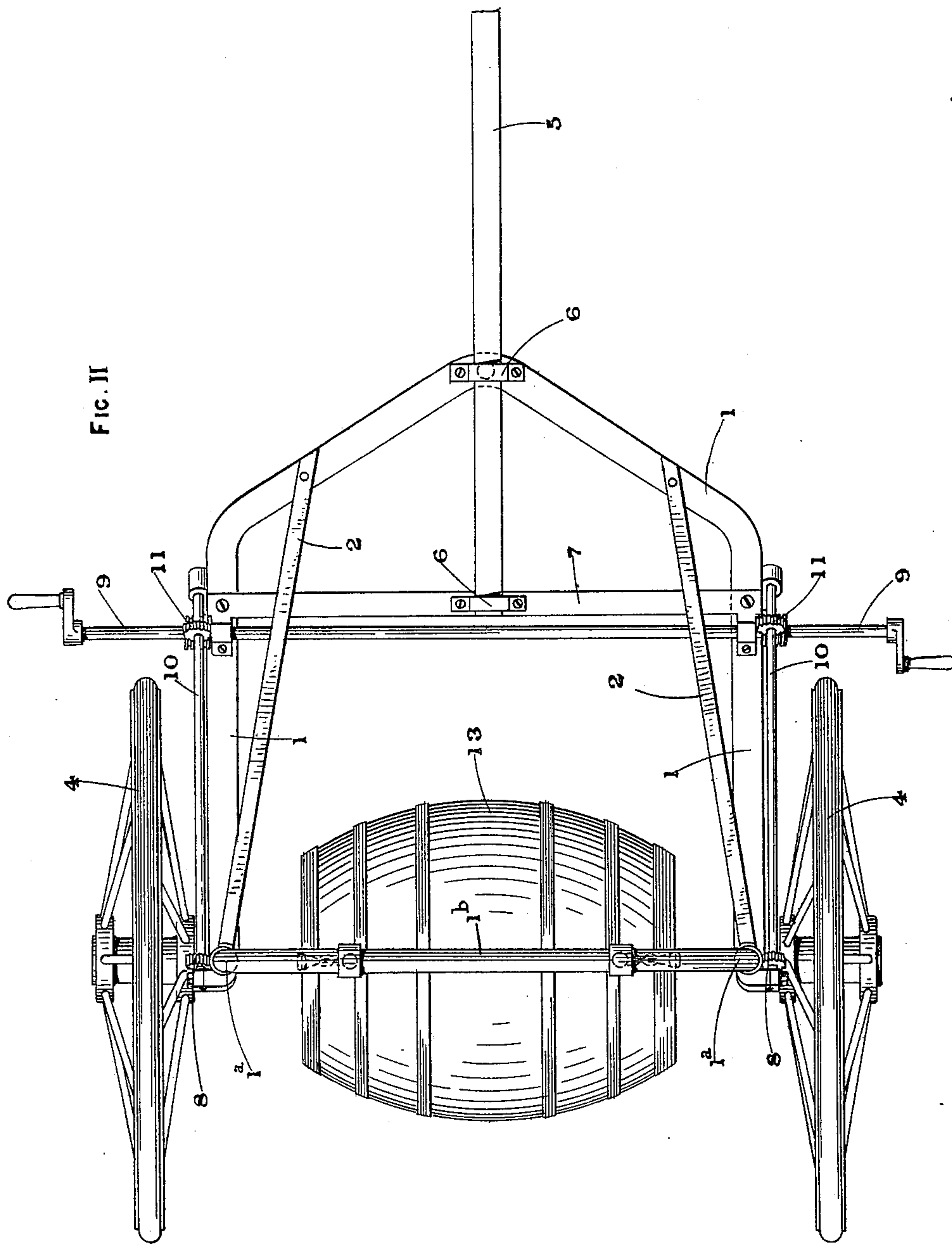
H. O. COOPER.

APPARATUS FOR LIFTING AND TRANSPORTING GOODS.

(Application filed Aug. 5, 1899.)

(No Model.)

5 Sheets—Sheet 2.



Attest
Walter Donaldson
Attorney

Inventor
Harry Oldfield Cooper
by E. M. Spray
Atty

No. 644,499.

Patented Feb. 27, 1900.

H. O. COOPER.

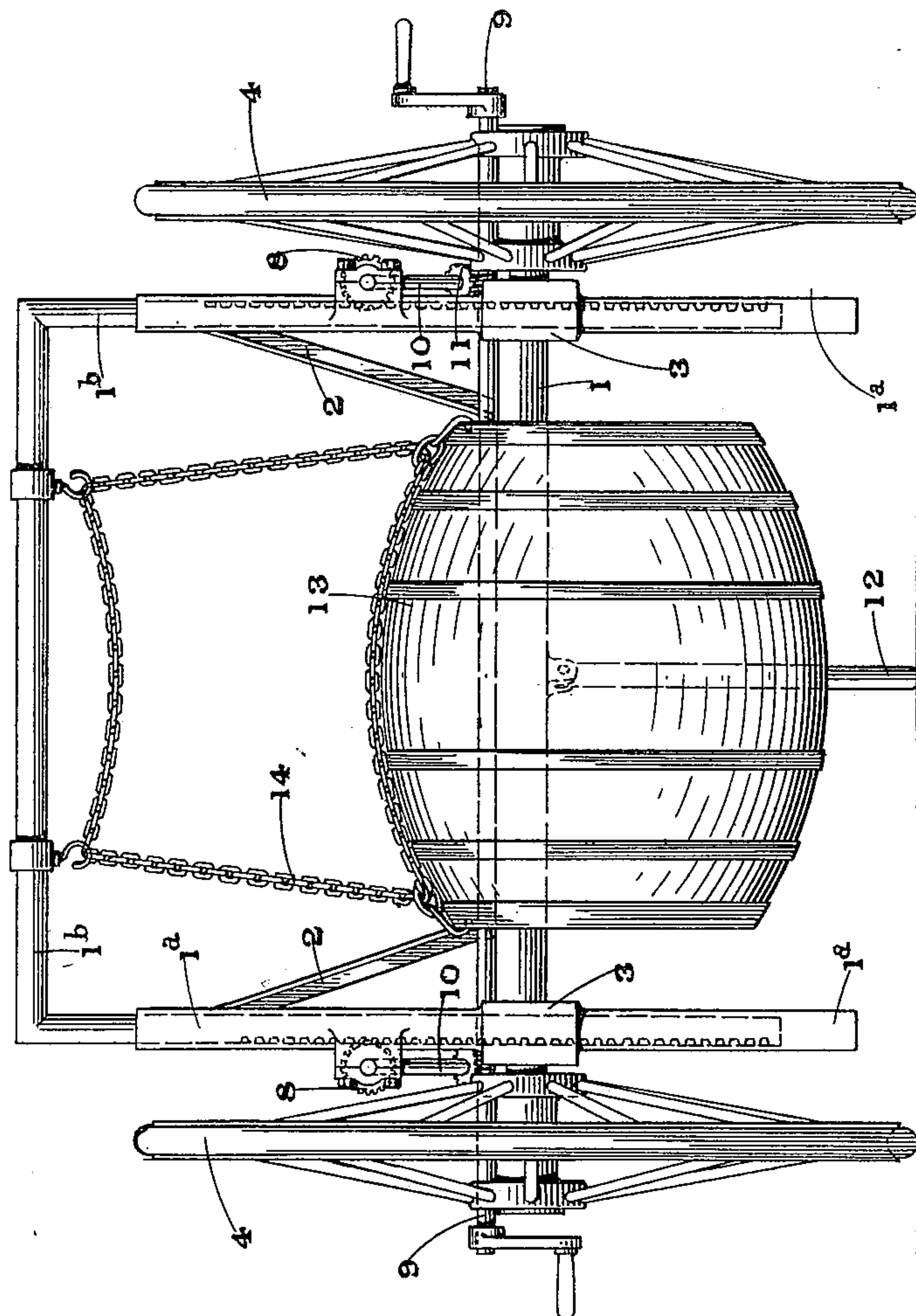
APPARATUS FOR LIFTING AND TRANSPORTING GOODS.

(Application filed Aug. 5, 1899.)

(No Model.)

5 Sheets—Sheet 3.

FIG III



Attest
O. H. D. D. D. D. D.
D. H. D. D. D. D. D.

Inventor
Harry Oldfield Cooper
by Wm. L. Spru
Atty.

No. 644,499.

Patented Feb. 27, 1900.

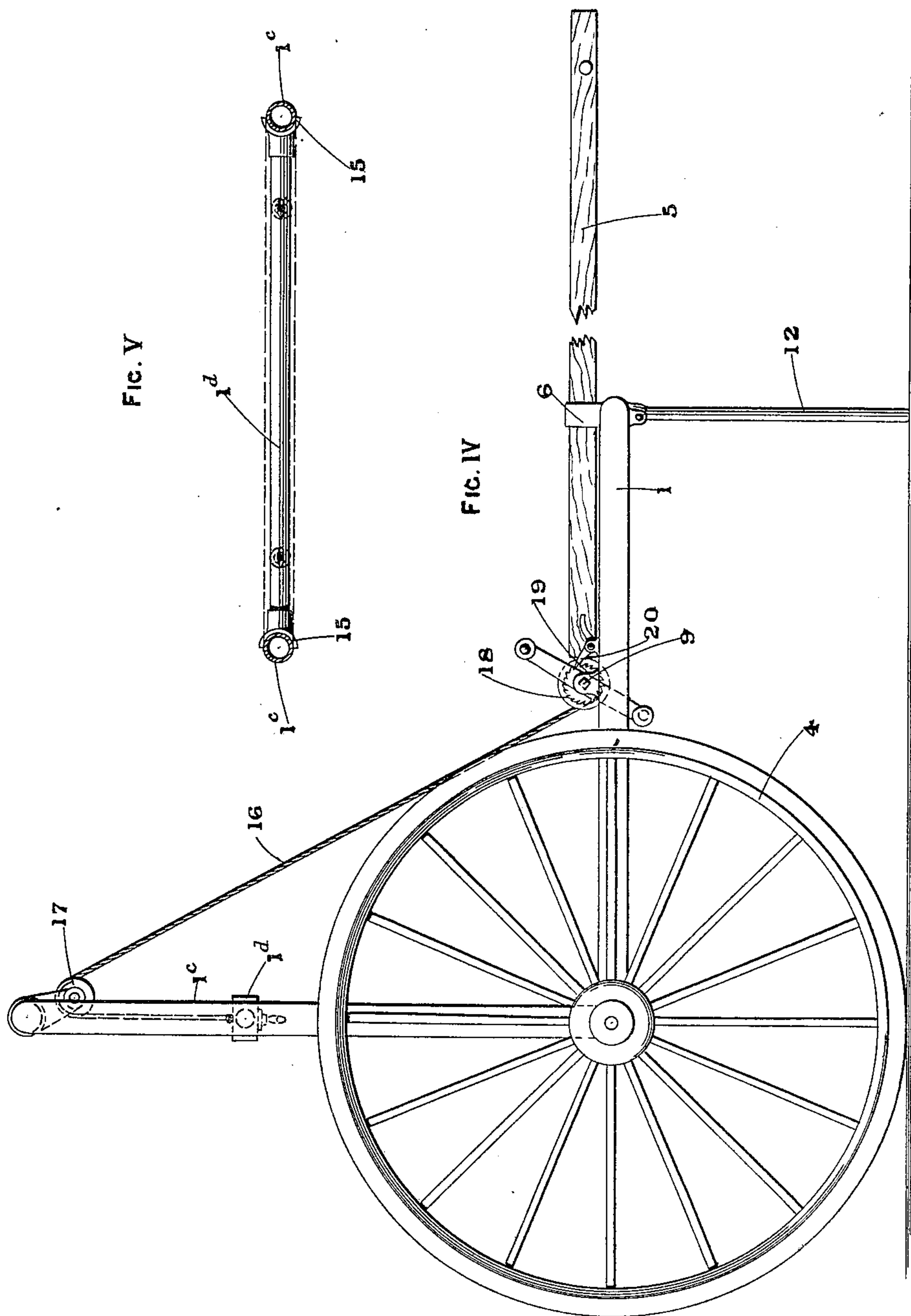
H. O. COOPER.

APPARATUS FOR LIFTING AND TRANSPORTING GOODS.

(Application filed Aug. 5, 1899.)

(No Model.)

5 Sheets—Sheet 4.



Attest
Walter Donaldson
Comptroller

Inventor
Harry Oldfield Cooper
by His Spouse
A.H.C.

No. 644,499.

Patented Feb. 27, 1900.

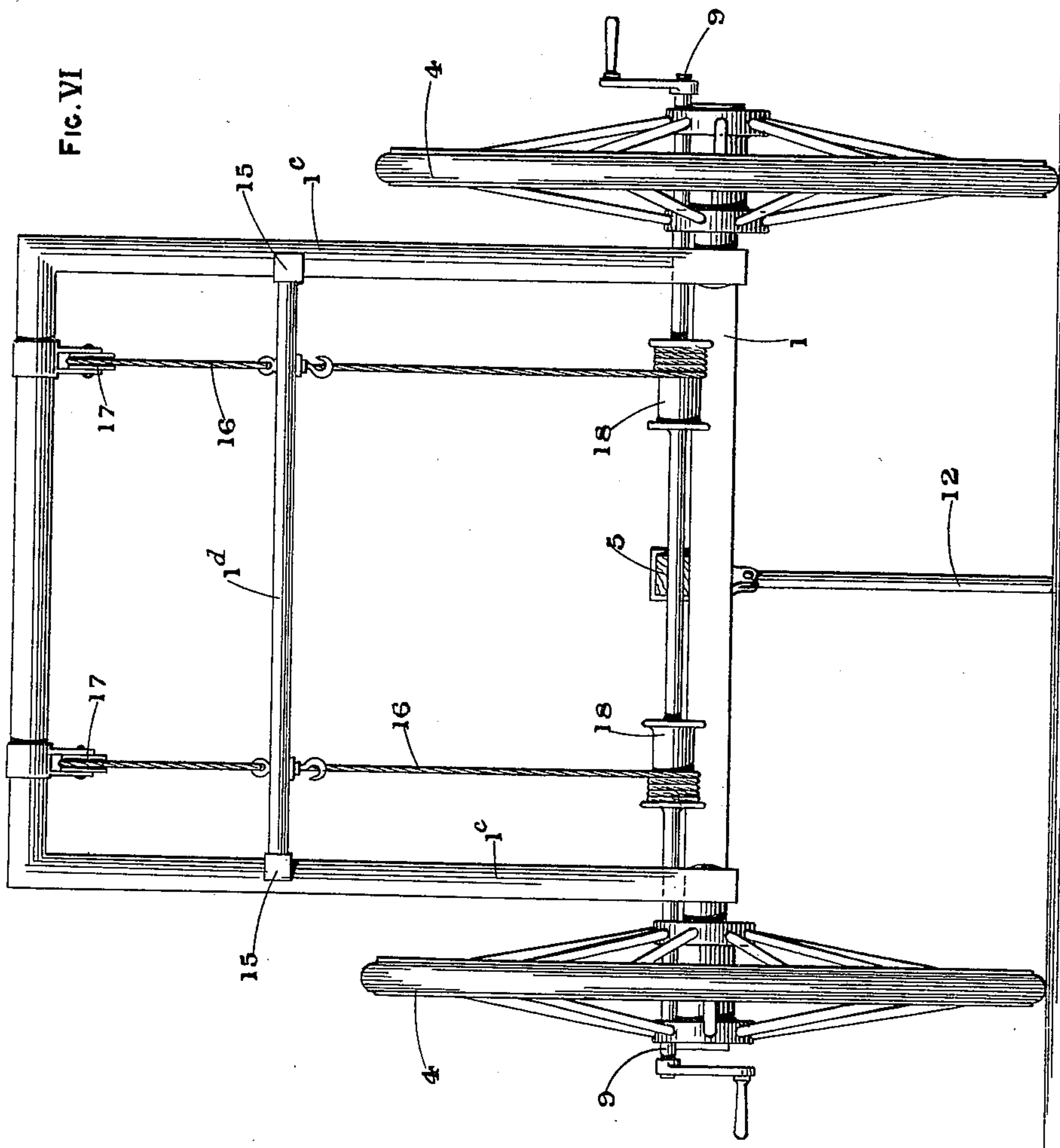
H. O. COOPER.

APPARATUS FOR LIFTING AND TRANSPORTING GOODS.

(Application filed Aug. 5, 1899.)

(No Model.)

5 Sheets—Sheet 5.



Attest
Therese Donaldson
Clerk

Inventor
Harry Oldfield Cooper
by Eric Spar
Atty.

UNITED STATES PATENT OFFICE.

HARRY OLDFIELD COOPER, OF LIVERPOOL, ENGLAND.

APPARATUS FOR LIFTING AND TRANSPORTING GOODS.

SPECIFICATION forming part of Letters Patent No. 644,499, dated February 27, 1900.

Application filed August 5, 1899. Serial No. 726,288. (No model.)

To all whom it may concern:

Be it known that I, HARRY OLDFIELD COOPER, a subject of the Queen of Great Britain, residing in Liverpool, in the county of Lancaster, England, have invented certain new and useful Improvements in Apparatus for Lifting and Transporting Goods, of which the following is a specification.

This invention relates to apparatus for lifting and transporting goods—such as casks, bales, bags, and the like; and the object is to provide an extremely-portable and easily-worked apparatus adapted when the goods have merely to be transported to lift each package just sufficiently clear of the ground to enable it to be carried on the wheels and also adapted when in addition to being transported the package has, say, to be placed on or taken off a wagon to expeditiously raise or lower it, as may be required.

I have illustrated my invention in the accompanying drawings, in which—

Figure I is an elevation, Fig. II a plan, and Fig. III an end view, of one form of hand-truck constructed according to my invention and in which Figs. IV, V, and VI are views illustrating a modification, Figs. IV and VI being views analogous to Figs. I and III; and Fig. V a detail view.

The truck consists of a main frame 1, having vertical tubular portions 1^a rigidly attached thereto, and a cross-bar 1^b, guided so that it may rise and fall relatively to the main frame. The tubular portions are stayed by stays 2 to the main frame, and from bosses 3, attached to the tubular portions 1^a, the wheels 4 are carried on suitable axles. A shaft or center pole 5 is carried from suitable brackets 6, attached to the main frame and to a stretcher 7.

The vertical depending portions of the cross-bar 1^b slide in the tubular portions 1^a, and the cross-bar is in the construction shown in Figs. I to III raised and lowered by means of the screw-gear shown, which comprises two pinions 8, gearing with skew-racks cut in the vertical portions of 1^b. These pinions are rotated simultaneously by means of the winch-shaft 9 through the instrumental-ity of the intermediate shafts 10 and gears 11.

The truck is provided with a leg or prop

12, adapted to hinge out of the way when not in use.

Assuming now that a number of barrels 13 require to be transported from one part of the ground to another, the height of the cross-bar is so adjusted that when the tubular portions are approximately vertical the barrel is held just clear of the ground by suitable hooks carried from the chain 14, which is attached to the cross-bar in any suitable manner. To engage the hooks with the barrel-chime, the pole 5 is tilted, and as the cross-bar rotates about the axles it is lowered sufficiently to get hold of the barrel. When the pole is lowered, the barrel is raised by a lever-like action about the axle as a fulcrum. It can then be transported with ease on the wheels and of course lowered by again raising the pole. If at the end of the journey it should be necessary to lift the barrel onto, say, a wagon, the cross-bar is raised by rotating the winch-handle till it is high enough to swing the barrel onto the wagon.

It will be noticed that with the lifting-gear described the article raised may be left in the raised position when the tubular portions are vertical, as the frictional resistance is sufficient to prevent the gear being operated in the reverse direction.

In the modification illustrated in Figs. IV to VI the main frame, wheels, shaft, &c., are the same as before, except that the vertical tubular portions 1^a are united across the top by a horizontal tie, which may, as shown, be integral with the vertical portions. The cross-bar 1^b in this modification is, as before, guided by the vertical tubular portions but by the outside surfaces thereof, suitable saddle-pieces 15 being provided, and it is raised, in the modified form shown, by ropes 16, which pass over pulleys 17 to the winch-barrels 18 on the winch-shaft, a ratchet 19 and pawl 20 being provided to maintain the article lifted in position.

When the apparatus is used to raise bags, &c., a suitable cage, whose floor normally rests on the ground, is slung from the cross-bar, which cage may have collapsible sides.

The form last described, and illustrated in Figs. IV to VI, is best adapted to those cases where the weights to be raised are light and

where therefore the work has to be done more
more expeditiously.

What I claim is—

1. The combination with a two-wheel truck,
5 of standards extending vertically from the
same near each wheel, a frame guided verti-
cally by said standards, means for raising
said frame, and suspending means secured to
said frame.
- 10 2. The combination with a two-wheel truck,
vertical tubular standards secured to the ends
of the truck-frame, axles extending from said
standards on which said wheels are jour-
naled, a frame guided in said standards, sus-
15 pending devices depending from said frame,

a rack on each end of said frame, a pinion
engaging each rack, spindles carrying the
same, a shaft extending across the truck-
frame having a handle at each end and gear-
ing interposed between said shaft and pinion 20
for driving the latter, substantially as de-
scribed.

In testimony whereof I have hereunto set
my hand in the presence of two subscribing
witnesses.

HARRY OLDFIELD COOPER.

Witnesses:

J. E. LLOYD BARNES,
WILLIAM HENRY NORRIS.