

No. 688,409.

Patented Dec. 10, 1901.

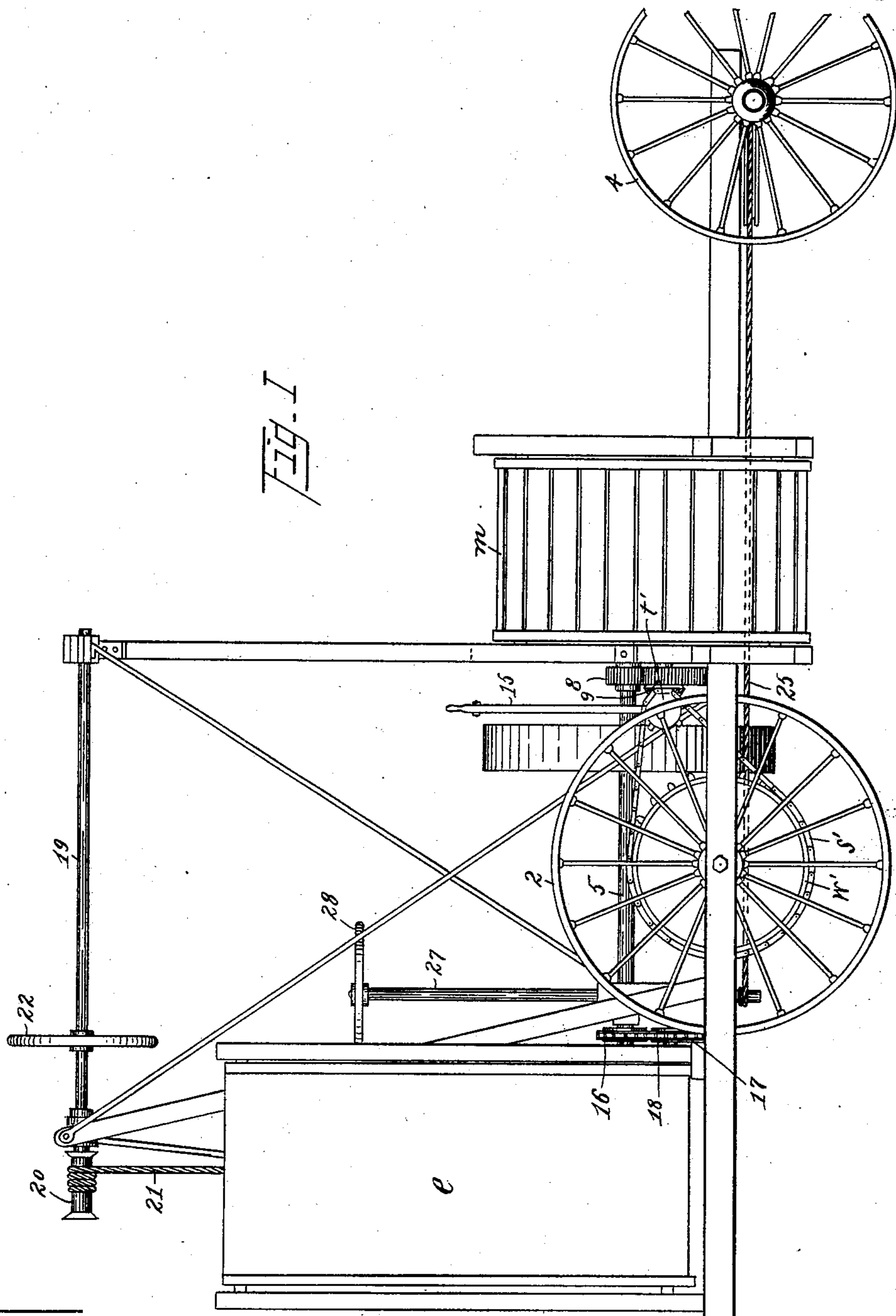
W. C. GREGG & E. E. WOLF.

CANE LOADING MACHINE.

(Application filed Dec. 18, 1900.)

(No Model.)

4 Sheets—Sheet 1.



Witnesses:

Geo. A. Metzger.

George C. Wing

Inventors.

William C. Gregg & E. E. Wolf.

by Louis F. Griswold.
their Attorney

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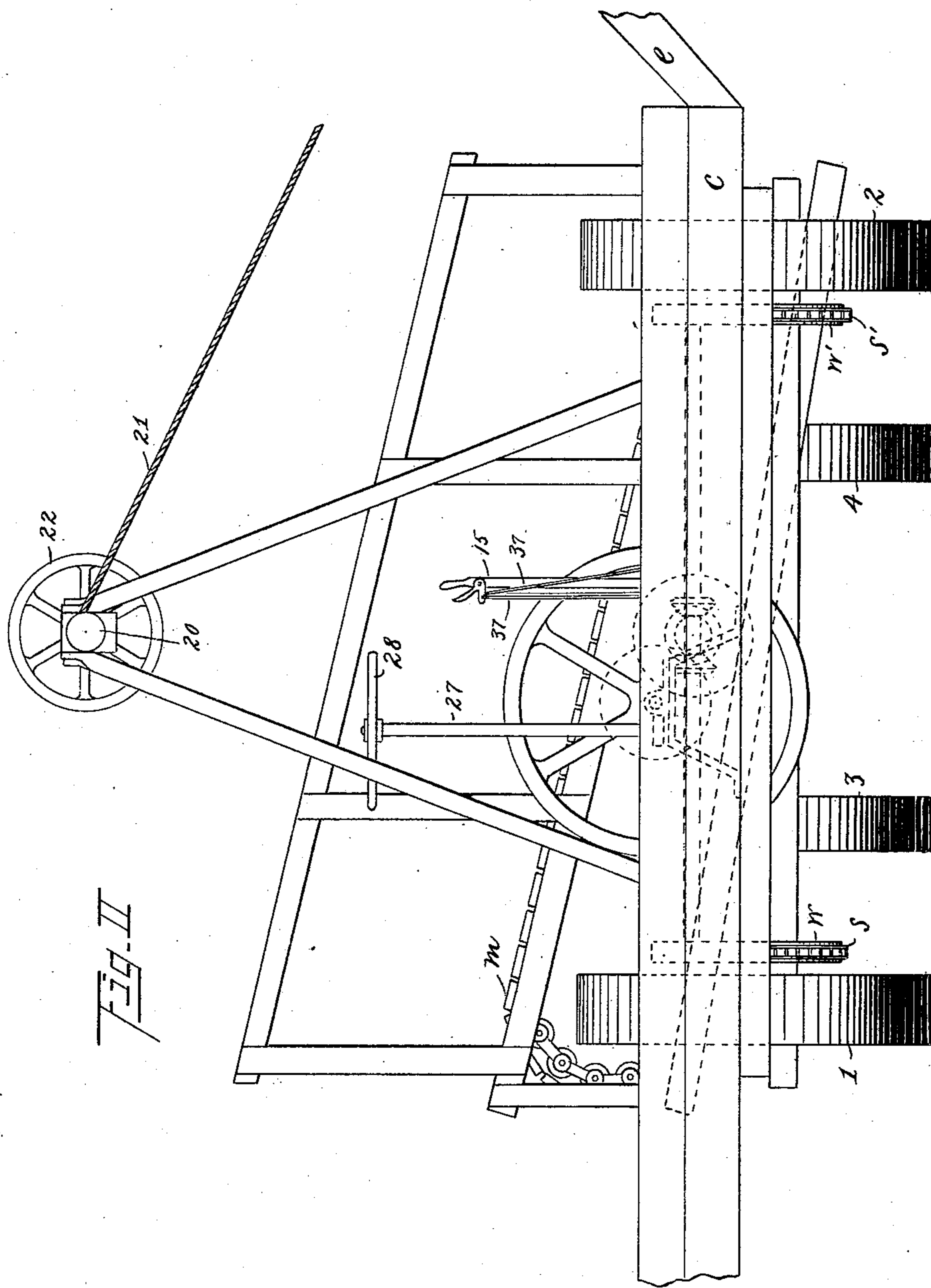
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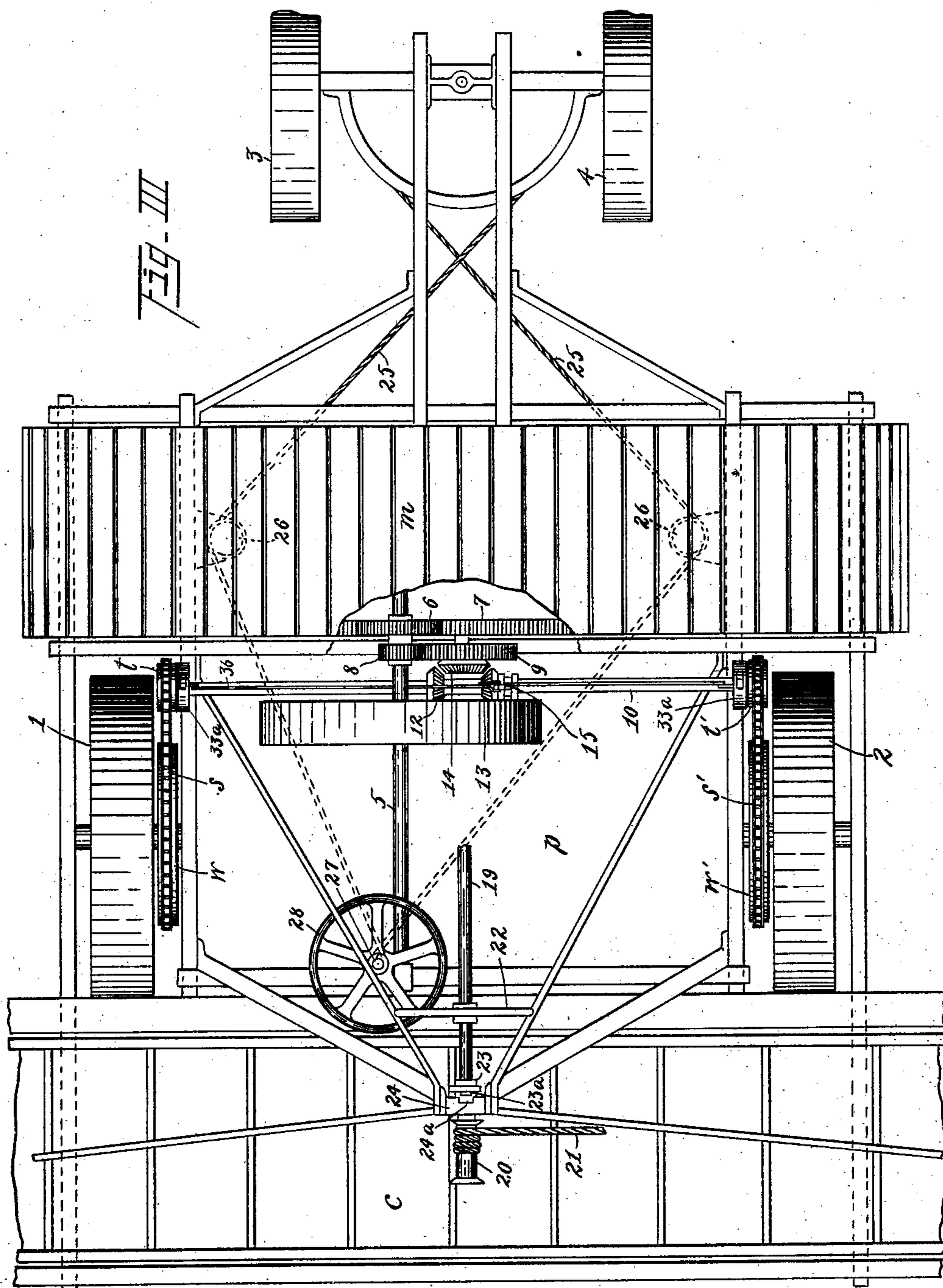
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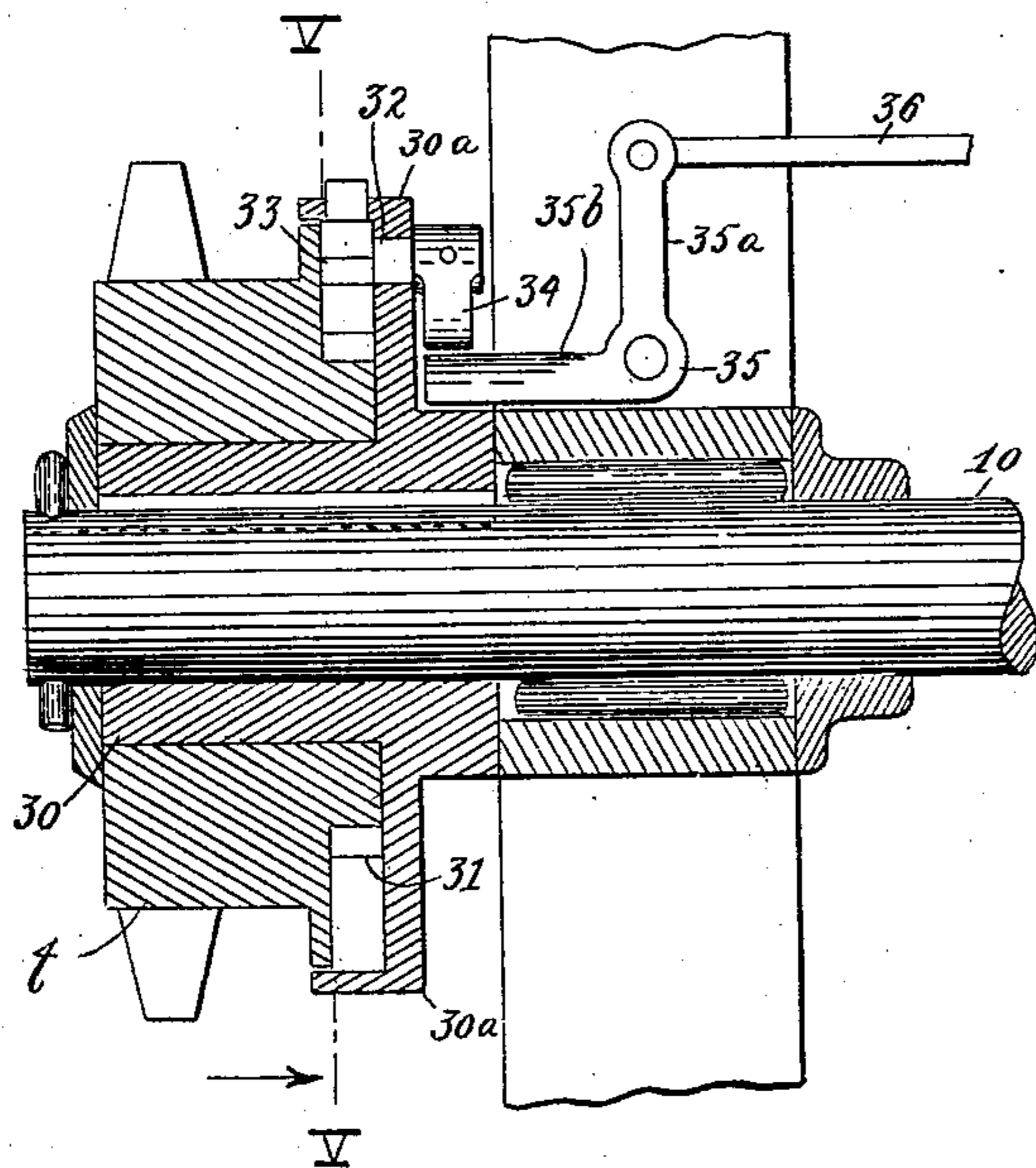


Fig. IV

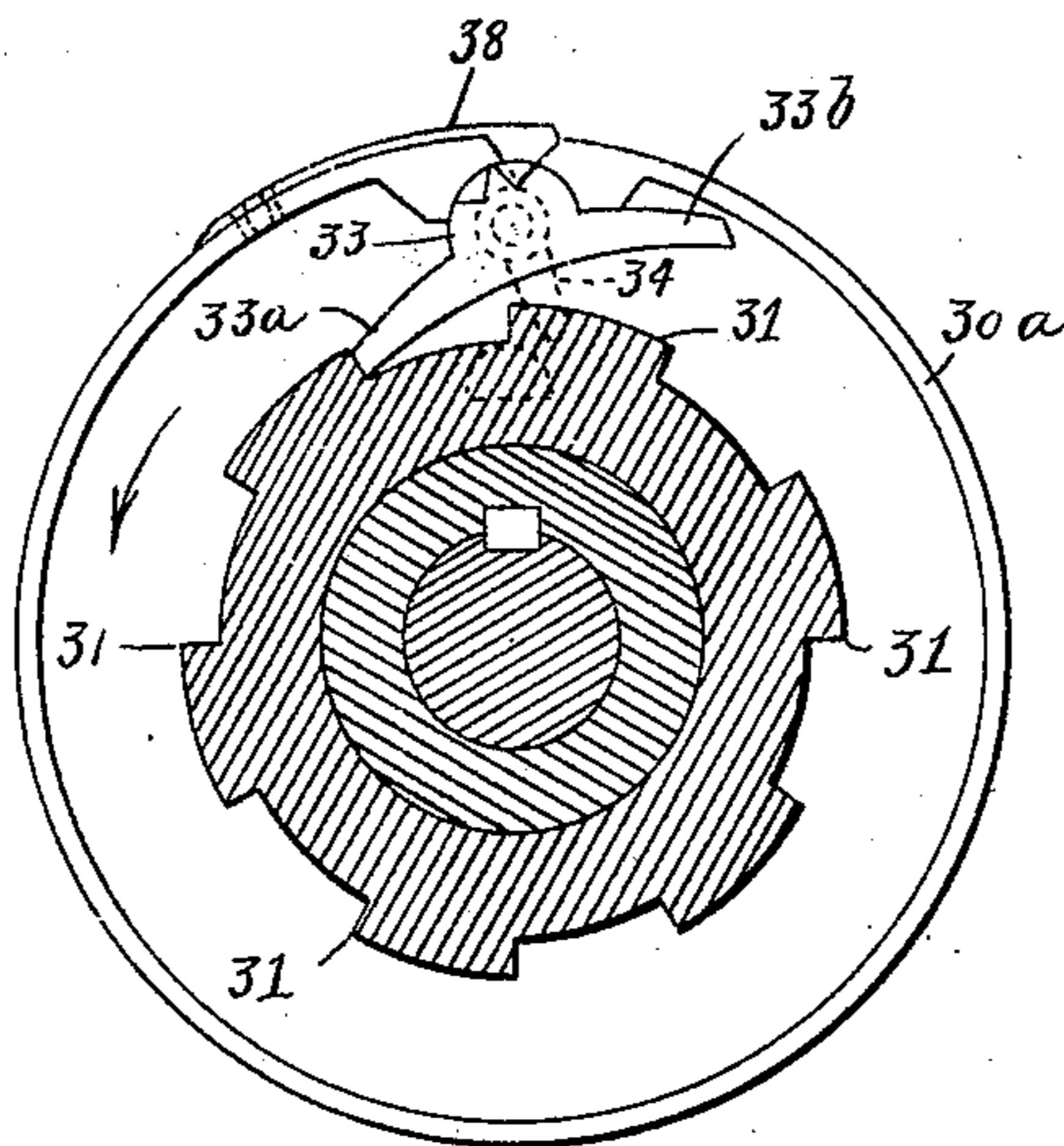


Fig. V

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UNITED STATES PATENT OFFICE.

WILLIAM C. GREGG, OF HONOLULU, TERRITORY OF HAWAII, AND ELMER E. WOLF, OF SPRINGFIELD, OHIO, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO WM. C. GREGG & CO., A CORPORATION OF MINNESOTA.

CANE-LOADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 688,409, dated December 10, 1901

Application filed December 18, 1900. Serial No. 40,326. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM C. GREGG, residing at Honolulu, Island of Oahu, Territory of Hawaii, and ELMER E. WOLF, residing at Springfield, in the county of Clark, State of Ohio, citizens of the United States, have invented certain new and useful Improvements in Cane-Loading Machines, of which the following is a full, clear, and exact specification.

Our invention relates to machines to be used on sugar plantations for loading the cane after it has been cut onto cars or other vehicles in which it is transported to the mill. Heretofore it has been a common practice after the cane has been cut to gather it up by hand and carry it in bundles by laborers up planks provided with cleats to the cars. It will be readily understood that this is a slow and very unsatisfactory method of handling the cane.

The objects of our invention are to provide a machine of simple and durable construction and a self-contained machine—that is, a machine in which the power used for operating the carrier and elevator is also utilized for propelling the machine.

With these objects in view the invention consists of the construction and combination of the parts hereinafter described, and pointed out definitely in the claims, reference being had to the accompanying drawings, forming a part of the specification.

Figure I is a side elevation of our improved machine. Fig. II is a front elevation. Fig. III is a plan view, and Figs. IV and V are detailed views, of a clutch used in connection with the propelling mechanism.

Like characters of reference designate like parts in the specification and drawings.

The frame of the machine is preferably built of structural steel or iron and is provided with two traction-wheels 1 and 2, one on each side of the machine, mounted on suitable axles attached to the frame, and a steering-truck, carrying the wheels 3 and 4, is pivotally connected with the frame at the rear of the machine.

c is a carrier attached to the front of the machine transversely thereof and connected at one end with an adjustable elevator *e*.

m is a motive power, which in the machine illustrated in the drawings is a horse-power motor of the ordinary style in common use, except that it is preferably provided with roller-bearings throughout.

p is a platform provided for the operator and located between the motor and the carrier.

The main driving-shaft 5 is mounted in suitable housing and carries a spur-gear 6, which is in mesh with a rack 7 on the horse-power *m*. On the shaft 5 is also a pinion 8, which is in mesh with a spur-gear 9, keyed to a suitably-mounted stud-shaft.

The hubs of the traction-wheels 1 and 2 are provided with sprocket-wheels *w w'* and sprocket-chains *s s'*, connecting said sprocket-wheels with smaller sprocket-wheels *t t'* on the outer ends of the propelling-shaft 10. The shaft 10 is provided with beveled gears 12 and 13. These beveled gears are on a sleeve which slides on feather-keys and is adapted to be thrown into and out of mesh with the beveled gear 14, which is either integral with the spur-gear 9 or rigidly keyed to the stud-shaft on which the gear 9 is keyed. The beveled gears 12 and 13 are shifted by means of the lever 15.

The carrier and elevator are driven from the main shaft 5 through the medium of the sprocket-wheel 16, keyed to the shaft 5, the sprocket-chain 17, and the sprocket-wheel 18 on the carrier-shaft. Means for raising and lowering the elevator are provided for as follows: A shaft 19 is mounted on suitable supports built up from the frame. The shaft 19 is provided with a drum 20, to which is attached one end of a cable 21, the other end of said cable being made fast to the elevator, and a hand-wheel 22 is keyed to the shaft 19 at a point within reach of the operator on the platform *p*. It will readily be seen that by turning the shaft the elevator can be raised or lowered by the winding or unwinding of the cable on the drum 20. The shaft

19 is adapted to slide in its bearing and has a fixed sleeve 23 thereon in proximity to the bearing 24. The sleeve 23 has projecting tongues 23^a, which can be made to enter
 5 corresponding grooves 24^a in the bearing 24 by sliding the shaft forward, thus locking the elevator at any desired height. This form of locking device is shown, as it is simple and effective.

10 Attached to the steering-truck on each side near the wheels 3 and 4 are chains and cables 25 25, which pass through pulleys 26 26 on the frame and back to the steering-rod 27, which is provided with a hand-wheel 28, convenient to the operator.

The motor having been started, if it is desired to propel the machine forward the operator by means of the lever 15 throws the beveled gear 12 into mesh with the beveled gear 14, which is integral with the spur-gear 9. The power is then transmitted from the main shaft through the pinion 8, the spur-gear 9, beveled gears 14 and 12, the shaft 10, the sprocket-wheels *t t'*, sprocket-chains *s s'*,
 25 and sprocket-wheels *w w'* to the traction-wheels 1 and 2, and thus drive the machine forward. If it is desired to propel the machine backward, the beveled gear 13 is thrown in mesh with the beveled gear 14 and the
 30 above-described operation results in backing the machine. After the machine has been located at the desired point for loading the car the propelling mechanism is thrown out of action by freeing the bevel-gears from engagement. The elevator is then adjusted to the proper height. The motive power being connected with the carrier and elevator, as hereinbefore described, the cane after being placed on the apron of the carrier is carried
 40 up the elevator onto the car. As the height of the load on the car increases the pitch of the elevator is increased by the operator on the platform of the machine.

The machines may be worked in gangs,
 45 two or more machines being placed side by side in a field and followed up by laborers, who place the cane on the aprons of the several machines. The elevator of one machine overlapping the carrier of the next machine
 50 the cane is carried from one machine to another until it is finally deposited on the car. The carrying capacity of the carriers may be made sufficient to handle the cane as fast as it can be placed on the aprons of the several
 55 machines.

In the machine herein described and shown the motive power is furnished by the old and well-known horse-power motor. This power is preferably used, as it is considered less liable to get out of order and needs less skilled
 60 attention than other known motors, which are important considerations on most sugar plantations. It will, however, be understood that other motive power may be used without departing from the nature of our invention—as, for example, a steam or gas engine or a stor-

age-battery motor. Other minor details of construction may be employed without departing from the general principles of the invention.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A machine for loading cane consisting of a machine mounted on suitable traction-wheels and a steering-truck, and provided with a platform for the operator and having a carrier and elevator attached to the front end of said platform, suitable motive power mounted on said machine, means for connecting and
 75 disconnecting said motive power with the traction-wheels, means for connecting said motive power with the carrier and elevator, means for raising and lowering the elevator, and means for operating the steering-truck from
 85 the operator's platform substantially as described.

2. In a machine for loading cane a motor mounted on a vehicle, in combination with a carrier and elevator, means for transmitting
 90 power from the motor to the carrier and elevator, propelling mechanism consisting of a transverse shaft provided with sprocket-wheels and sprocket-chains connecting said sprocket-wheels with sprocket-wheels on the
 95 hubs of the traction-wheels of the vehicle, means for transmitting power from the motor to said propelling mechanism, means for reversing the propelling mechanism, and suitable clutch mechanism for connecting and
 100 disconnecting one or both of the sprocket-wheels with the transverse shaft substantially as described.

3. In a machine for loading cane a motor mounted on a vehicle, in combination with a
 105 spur-gear in mesh with a pinion on the motor-shaft, and beveled gears integral with said spur-gear, or rigidly attached to the same shaft, a propelling-shaft, a sleeve carrying two beveled gears mounted on a feather-key
 110 on said propelling-shaft, and a lever for shifting said sleeve so that one or the other of the last-named beveled gears will be in mesh with the first-named beveled gear, or both of them
 115 out of mesh, sprocket-wheels on the propelling-shaft, sprocket-wheels on the hubs of the traction-wheels, and sprocket-chains connecting the first and last named sprocket-wheels substantially as described.

4. In a machine for loading cane a motor
 120 mounted on a vehicle, in combination with the propelling-shaft, means for transmitting power from the motor to the propelling-shaft, means for transmitting power from the propelling-shaft to the traction-wheels, consisting
 125 of sprocket-wheels on the hubs of the traction-wheels and sprocket-chains connecting said sprocket-wheels with sprocket-wheels on the propelling-shaft, sleeves on which the sprocket-wheels are loosely mounted attached
 130 to the propelling-shaft, annular flanges on said sleeves which form casings around the interior

hubs of the sprocket-wheels, lugs on the hubs
of the sprocket-wheels, within the said casing,
a dog pivoted to the interior of the casing and
means for throwing said dog into and out of
5 engagement with the lugs on the sprocket-
wheels for the purpose of locking said
sprocket-wheels to the sleeves substantially
as described.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

WILLIAM C. GREGG.
ELMER E. WOLF.

Witnesses:

E. O. HAGAN,
J. T. KITCHEN.