

No. 694,548.

Patented Mar. 4, 1902.

A. HORNER.
CANE LOADER.

(Application filed Aug. 3, 1901.)

(No Model.)

2 Sheets—Sheet 1.

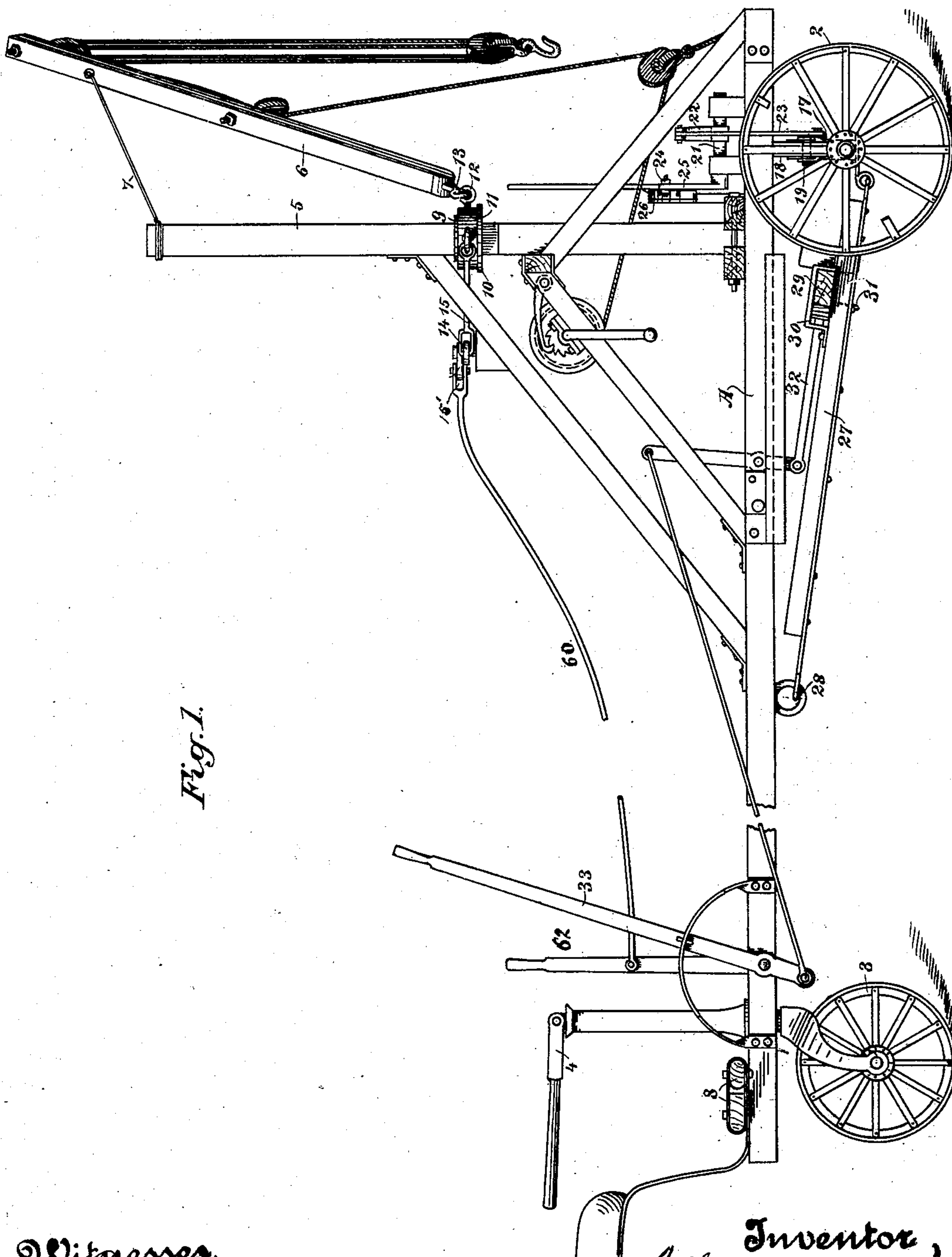


Fig. 1.

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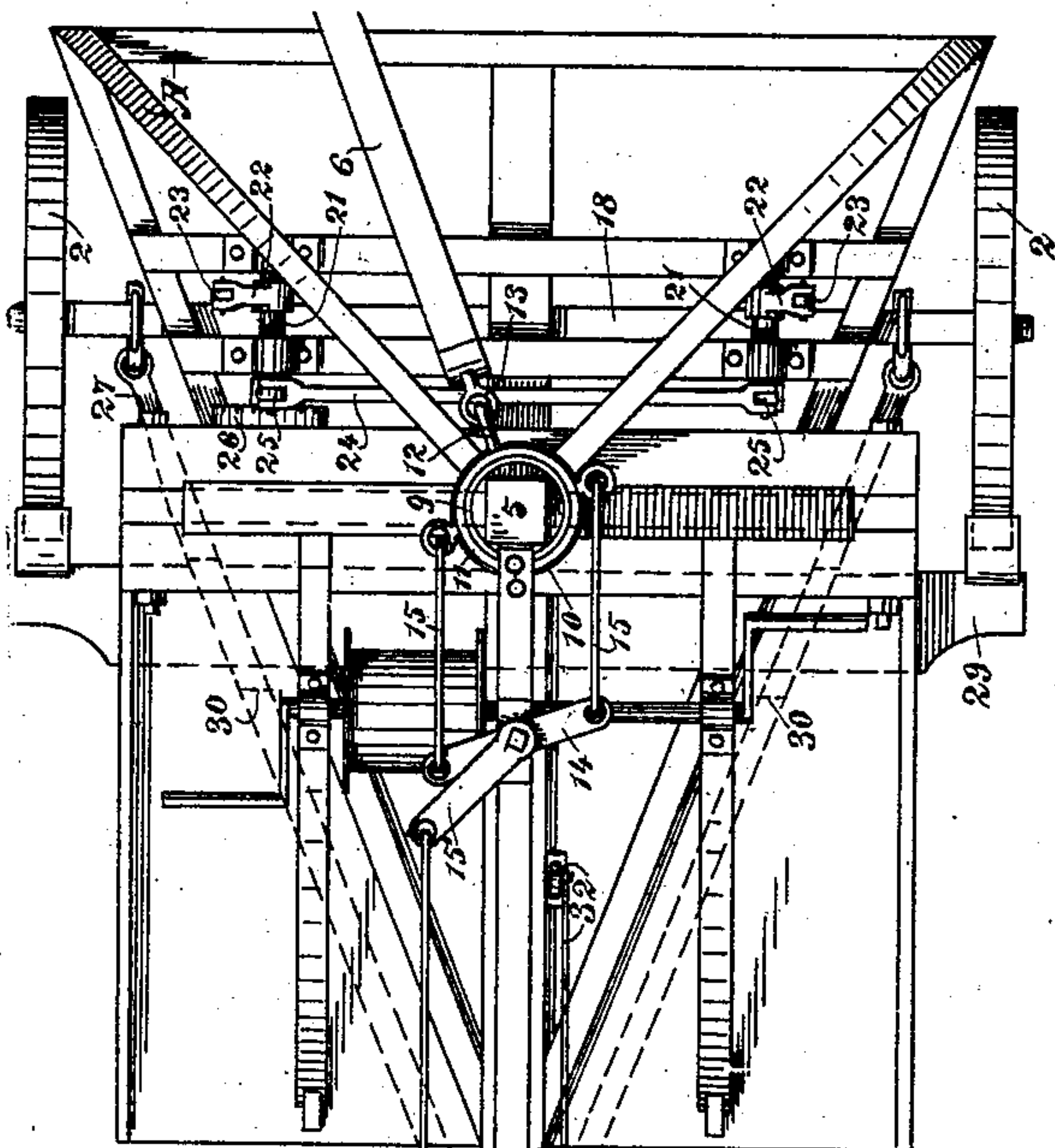


Fig. 2.

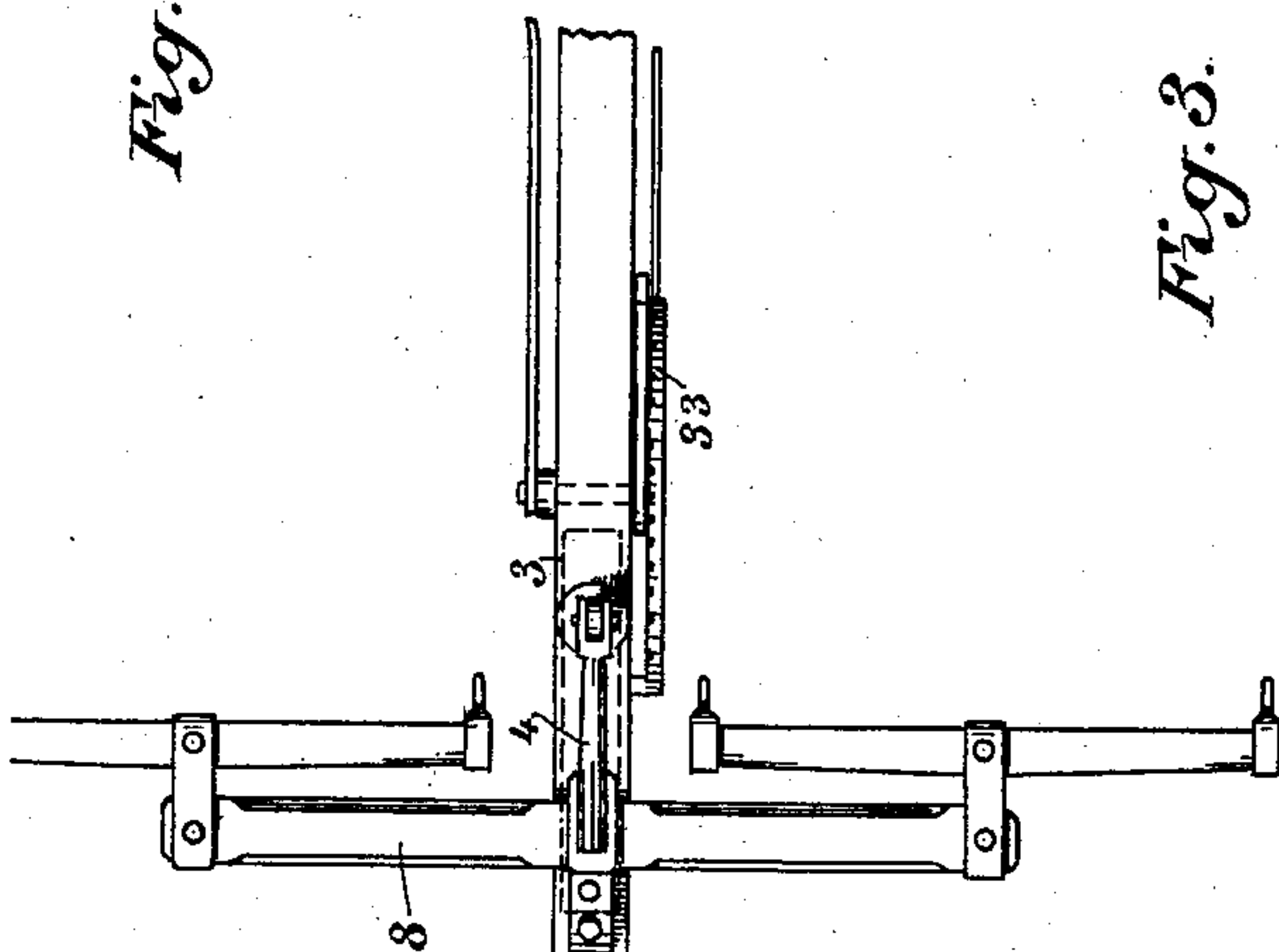


Fig. 3.

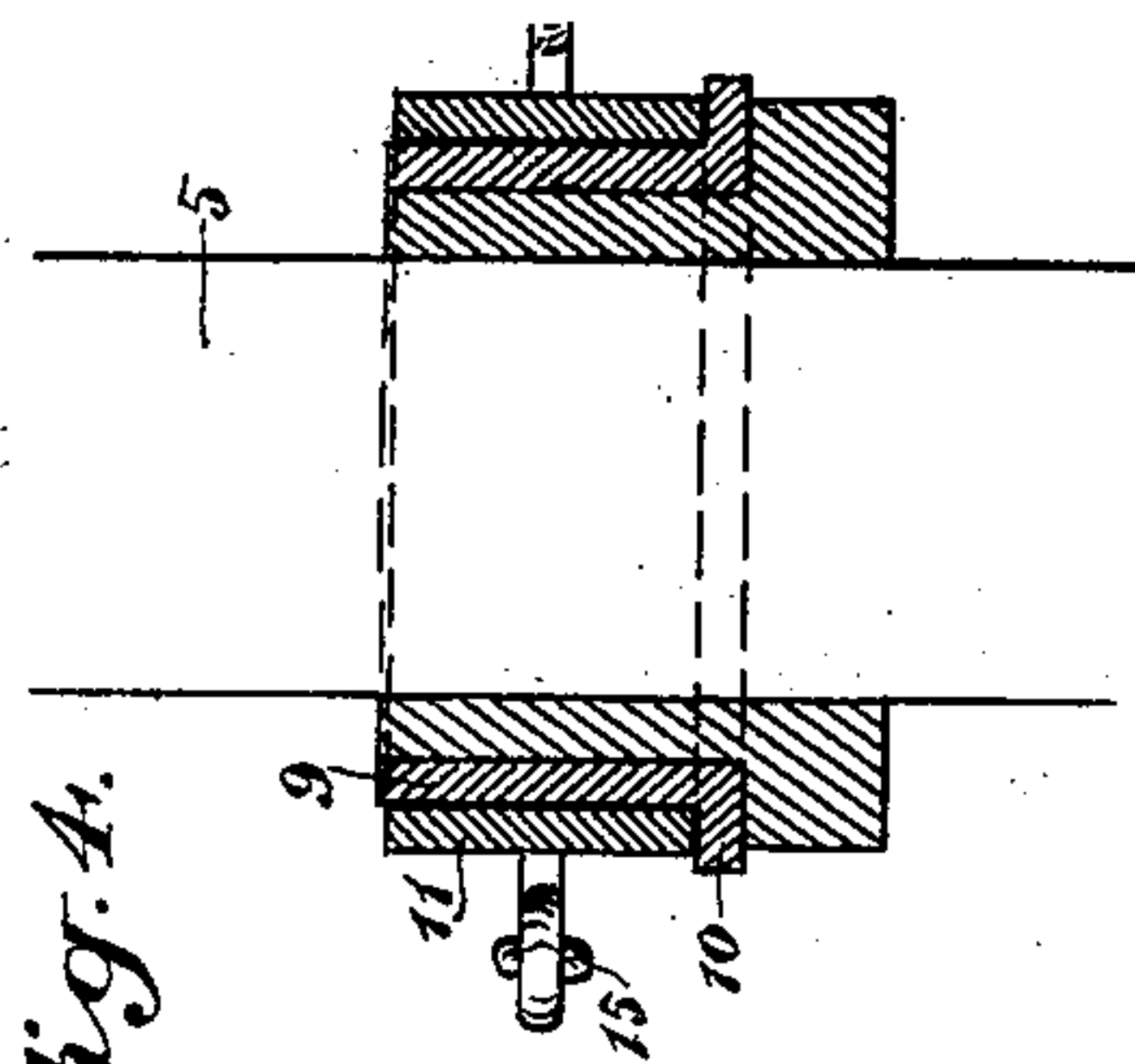
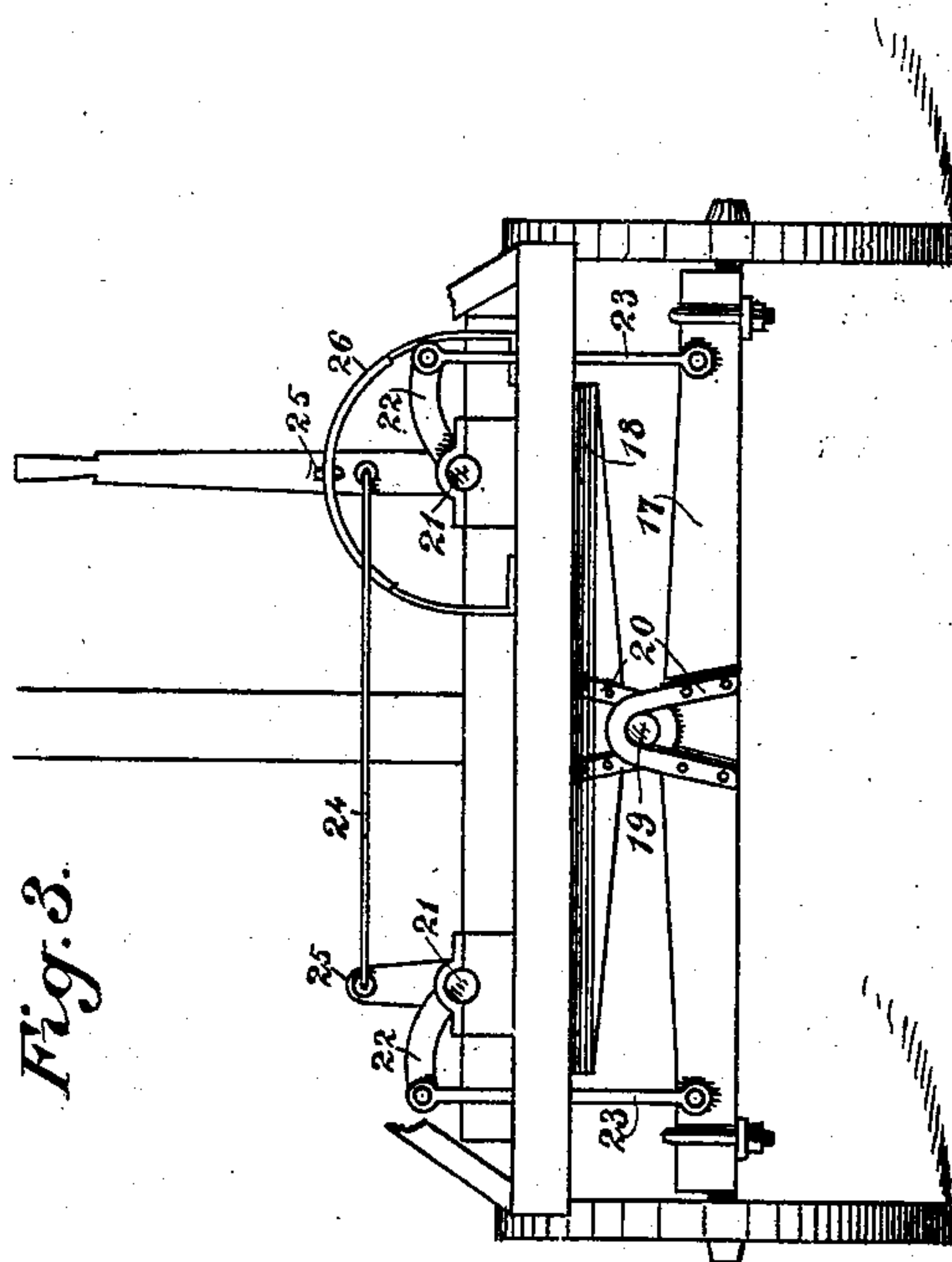


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALBERT HORNER, OF PAAUILO, HAWAII TERRITORY.

CANE-LOADER.

SPECIFICATION forming part of Letters Patent No. 694,548, dated March 4, 1902.

Application filed August 3, 1901. Serial No. 70,720. (No model.)

To all whom it may concern:

Be it known that I, ALBERT HORNER, a citizen of the United States, residing at Paauiilo, Island of Hawaii, Territory of Hawaii, have
5 invented an Improvement in Cane-Loaders; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in machines for loading cane upon wagons, railroad-cars, or other conveyers in the fields.

It consists, in combination with a derrick mounted on a wheeled platform, of means by which the mast of the derrick may be maintained in an essentially vertical position irrespective of the nature of the ground traveled
15 over, an adjustable seat for the inner end of the boom, whereby said boom, with its load, may be automatically moved to discharge said load at any desired point, and of details
20 more fully to be hereinafter set forth.

In the accompanying drawings, Figure 1 is a side elevation of the loader. Fig. 2 is a plan view of the same. Fig. 3 is a front end view showing the leveling device. Fig. 4 is a vertical section through the device for girding
25 the boom.

Having reference to the accompanying drawings, A represents a suitable framework or platform mounted at its forward end on the wheels 2 and having its rear portion supported upon the wheel 3. The steering is effected by means of this latter wheel through the tiller 4. Secured upon the frame and preferably rearward of the axle is the derrick
30 mechanism, consisting of the mast 5 and the boom 6. This boom may be secured at any desired angle in relation to the mast, as by a supporting-rod 7, and the usual pulleys, cables, and drum are employed to lift the load. By means of horses attached to the whiffletrees 8 the derrick is moved to any desired point in the field and the ground is cleaned of the previously-bundled cane within the radial sweep of the boom.

In the derricks of ordinary construction the load is lifted, as here, vertically by means of the cables and drum; but in order to swing the boom around to and over the wagon or spot upon which it is desired to deposit the
35 load it is necessary to attach a cable to the load or the end of the boom or by equivalent means exert a force in the direction of said

place of deposit. Such a method not only requires the use of a special operator, but is slow and tedious and particularly arduous
55 when the ground is rolling or hilly.

The important features of my invention are, first, the means I employ to move this boom automatically in a horizontal direction, and, secondly, in order that this means may
60 always be effective irrespective of the slope of the ground as to the manner in which I have mounted the platform upon the forward axle, so that said platform may be maintained in a horizontal plane and the mast accordingly kept vertical.

Upon the mast is fixed a sleeve 9, having an annular base-flange 10. Movable upon this sleeve is the ring 11, having an eye 12. The inner end of the boom is provided with
65 a similar eye 13, and these are so connected as to form a pivotal bearing for the boom.

Assuming that the mast is vertical, it is apparent that if the ring 11, carrying the boom, is turned about the mast so as to throw the
70 point 12 out of the plane of the mast and of the outer end of the boom said outer end will move by gravitation in a direction away from that in which the said ring was turned. Thus when a load has been picked up on one
75 side of the derrick it is swung to the opposite side, where the wagon to receive the load is, by simply turning the ring in the proper direction. This turning of the ring is effected by a lever 14, centrally pivoted, which is connected by links 15 with opposite sides of the
80 ring. The lever is oscillated by means of a lever 15', from which a rod 60 extends to a lever 62 within convenient reach of an operator.

In order to set the mast in a vertical position when it is desired to load cane where the ground is rolling or hilly, I have devised the following means by which the platform may be tilted in relation to the axle. The
85 upper portion of the axle is formed with the upwardly-inclined and centrally-converging edges 17 and the bolster of the frame has its lower edges 18 correspondingly inclined. The apices of the angles thus formed serve as a bearing for the frame upon the axle. The parts are held together by means of the rod
90 19 and the straps 20.

Upon the frame are the rock-shafts 21,

having lever-arms 22. The ends of these arms are connected with the axle by means of the rods or links 23. The rock-shafts are joined by the rod 24, secured to arms 25, and
 5 by means of a rack-lever mechanism 26 the shafts are rotated in unison and the platform tilted and held in any required plane.

Another feature of my invention is the manner in which the brake is operated in re-
 10 lation to the tilting of the frame, as above described. It is necessary that the brake should be strong, quick, and positive in its action, so the loader can be stopped on any particular spot, and is so arranged that it
 15 can be operated by the driver seated at the tiller. Secured to the axle are the timbers 27 whose forward ends converge are joined by a suitable flexible connection 28 to the frame A. The brake-beam 29 is laid
 20 upon the bars 27 and is slidable in the guides 30, and chains 31 prevent any transverse displacement of the beam. Thus no matter what angle the frame may tilt in relation to the axle the brake-beam remains always in the
 25 same plane with the axle and the shoes act with uniform directness upon the wheels. The brake is operated by means of the rods 32 and lever 33. The bars or brace-rods 27 further serve to keep the proper alinement
 30 of the wheels in relation to the platform A and relieve the strain on the pivot 19.

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

35 1. The combination in a cane-loader of a platform, a derrick mounted thereon, said derrick consisting of a mast and a boom inclined with relation thereto, and means including a device freely turnable about the
 40 mast as an axis and having the inner end of the boom connected to it, and a mechanism for turning said device whereby the inner end of the boom is thrown out of the plane in which the outer end of the boom and said mast lie.

45 2. The combination in a cane-loader of a portable platform mounted on wheels, a mast mounted thereon, a boom swiveled on said mast, and means including rock-shafts at the sides of the platform and connections between
 50 said shafts and the wheel-axle whereby said mast may be maintained in a vertical position irrespective of the slope of the ground upon which said platform may rest.

3. The combination in a cane-loader of a
 55 platform, a mast mounted near the front portion thereof, a flanged sleeve fixed to the mast, and a support upon and axially turnable about the sleeve, and a boom inclined with relation to the mast and having its lower end loosely

connected to the axially-turnable support 60 whereby said end may be moved out of the plane of the mast and the outer end of the boom.

4. The combination in a cane-loader, of a platform, a mast mounted thereon, a sleeve 65 on said mast, said sleeve having a base-flange, a ring turnable upon said sleeve, a boom having its inner end pivotally seated upon said ring, a lever centrally pivoted and connections of this lever and the ring whereby said
 70 ring is rotated about the mast by the oscillation of the lever.

5. The combination in a cane-loader of a platform mounted on wheels, a derrick on said platform, pivotal connections of said platform 75 and wheel-support upon which said platform may be tilted transversely, rock-shafts upon said platform, arm on said rock-shafts, connections of said arms and wheel-axle and a lever mechanism whereby said shafts are ro-
 80 tated in unison.

6. The combination in a cane-loader, of a platform having its forward and rear ends supported upon wheels, a derrick on said platform, pivotal connections of the forward 85 end of said platform and its axle-support whereby a transverse tilting of the platform is permitted, and means by which this tilting is effected, brace-rods secured to the forward axle, pivotal connections of said rods and the
 90 platform, and a brake-beam slidable upon said rods.

7. A cane-loader consisting in combination of a platform having its forward and rear ends mounted on wheels, a mast secured to 95 the forward end of said platform and rearward of the front axle, a sleeve upon said mast, a ring turnable about said sleeve, a boom having its inner end pivotally connected to said ring, a lever mechanism by which 100 said ring is rotated, pivotal connections of said platform and the forward axle whereby a transverse tilting of the platform is permitted, means including rock-shafts upon the platform whereby this tilting movement is 105 regulated, brace-rods having one end secured to the axle, and their other end pivotally attached to the platform, and a brake-beam slidable upon said rods, said beam remaining constantly in the same plane with the axle 110 irrespective of the tilt of the platform.

In witness whereof I have hereunto set my hand.

ALBERT HORNER.

Witnesses:

F. B. WEEKS,
 A. J. CAMPBELL.