

No. 753,669.

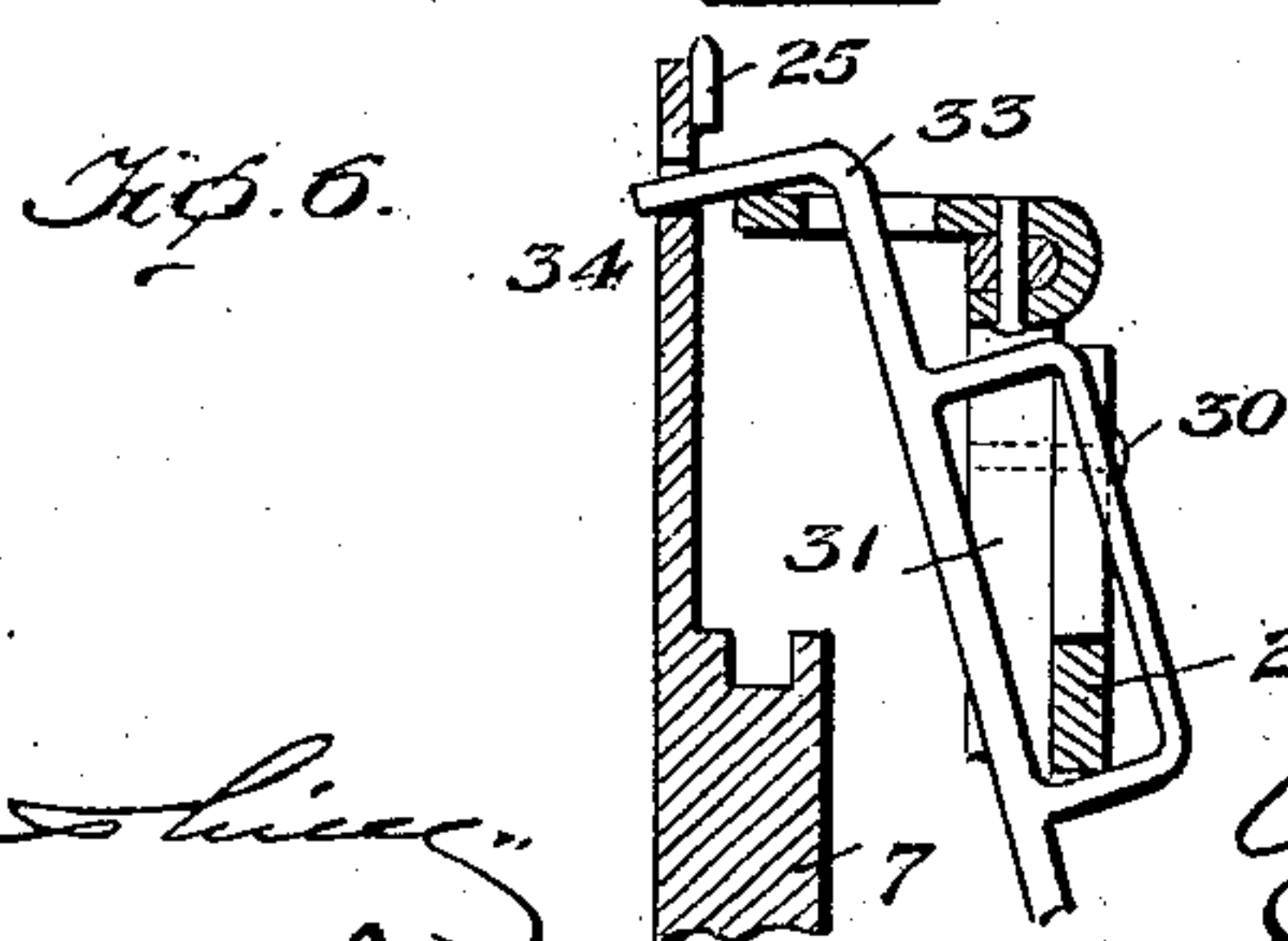
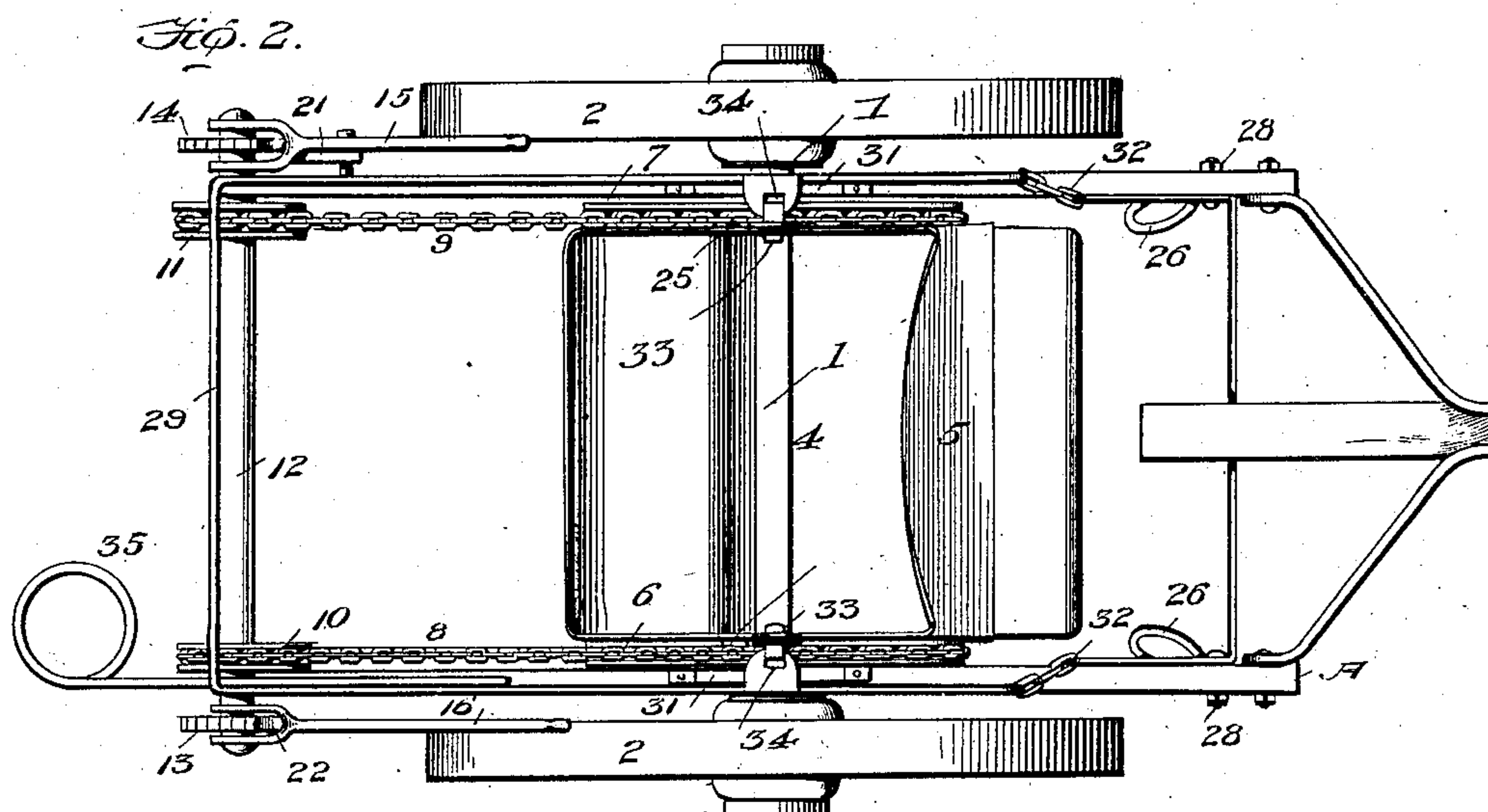
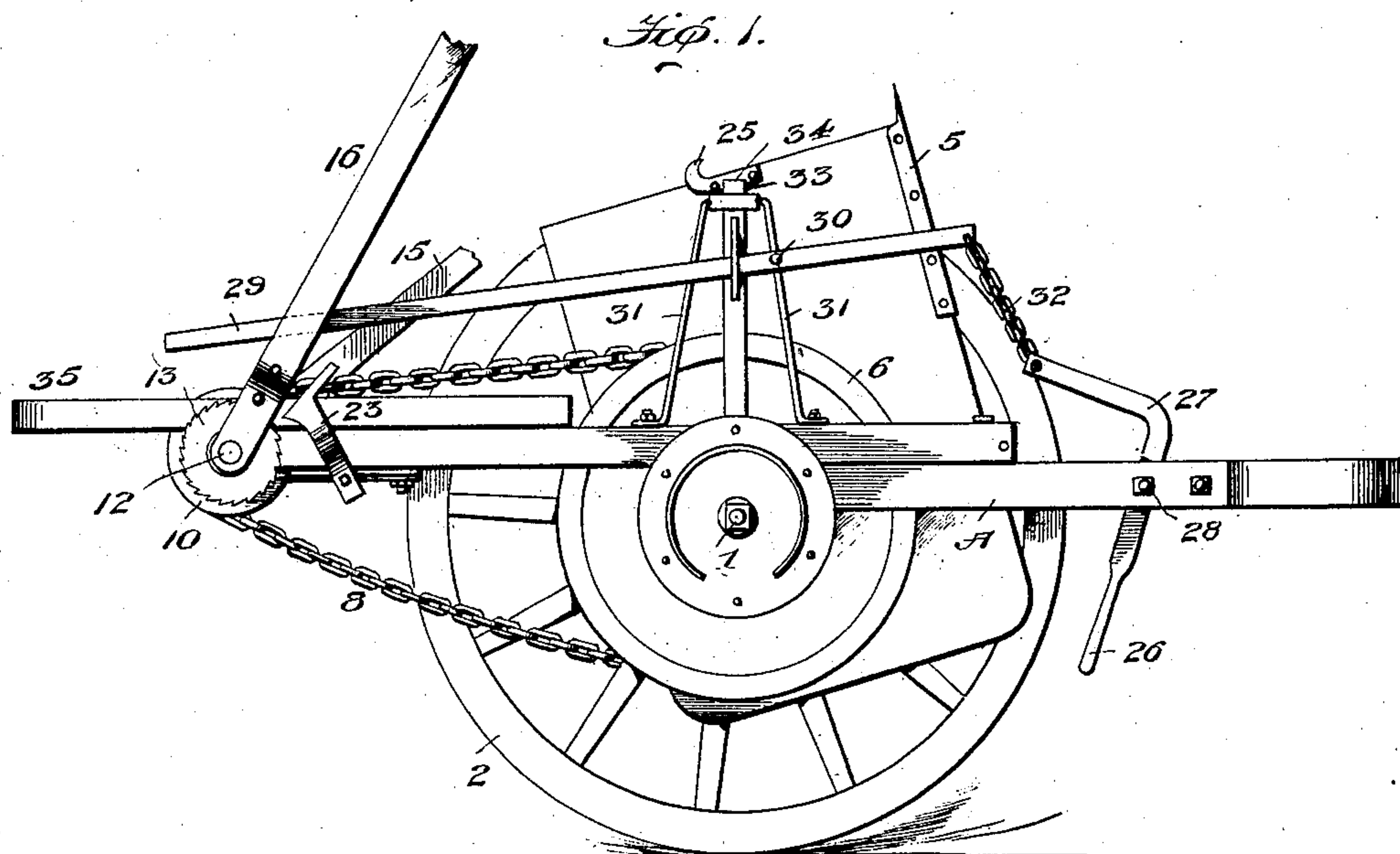
PATENTED MAR. 1, 1904.

J. F. CLARK.  
SELF LOADING CART.

APPLICATION FILED MAY 12, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

Walter T. Estabrook

Inventor

29 Inventor  
Jabez Francis Clark  
Deputy E. Hodges  
his Attorney.

PATENTED MAR. 1, 1904.

3 SHEETS--SHEET 2.

NO MODEL.

Fig. 3.

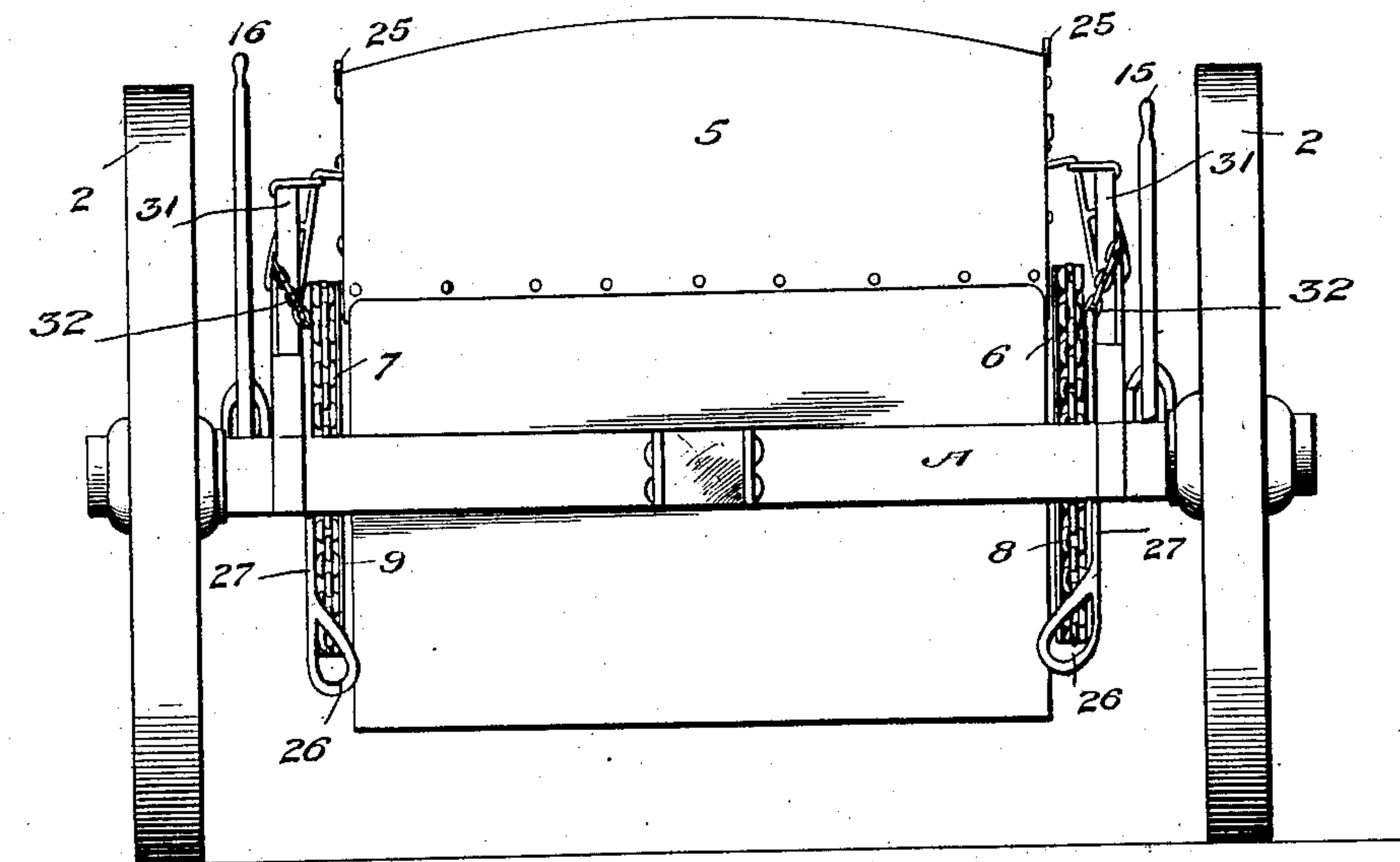
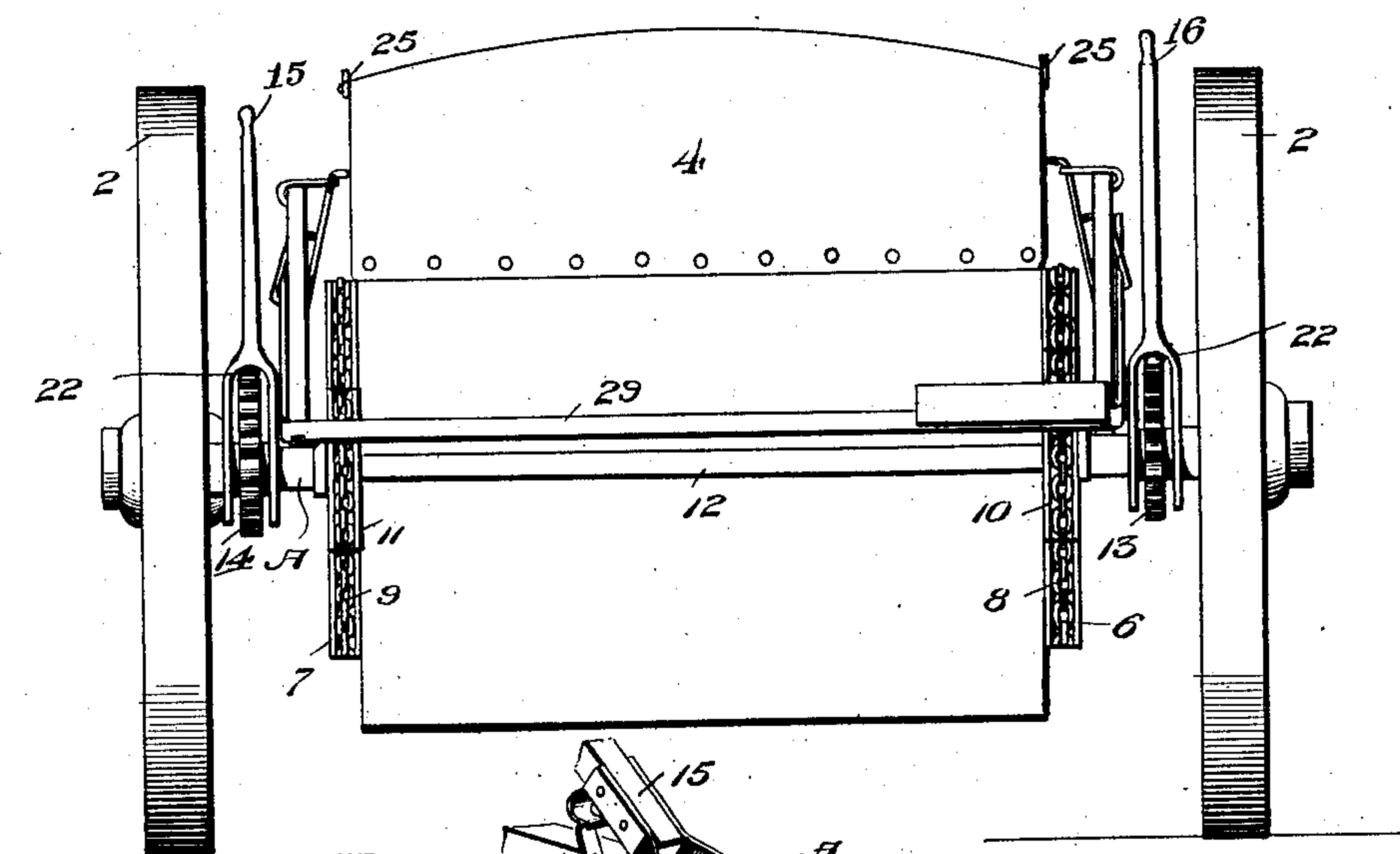


Fig. 4.



*Witnesses*

Walter Estabrook

Fig. 5  
Inventor  
Jabez Francis Clark  
by *Chas. E. Lodge*  
his Attorney

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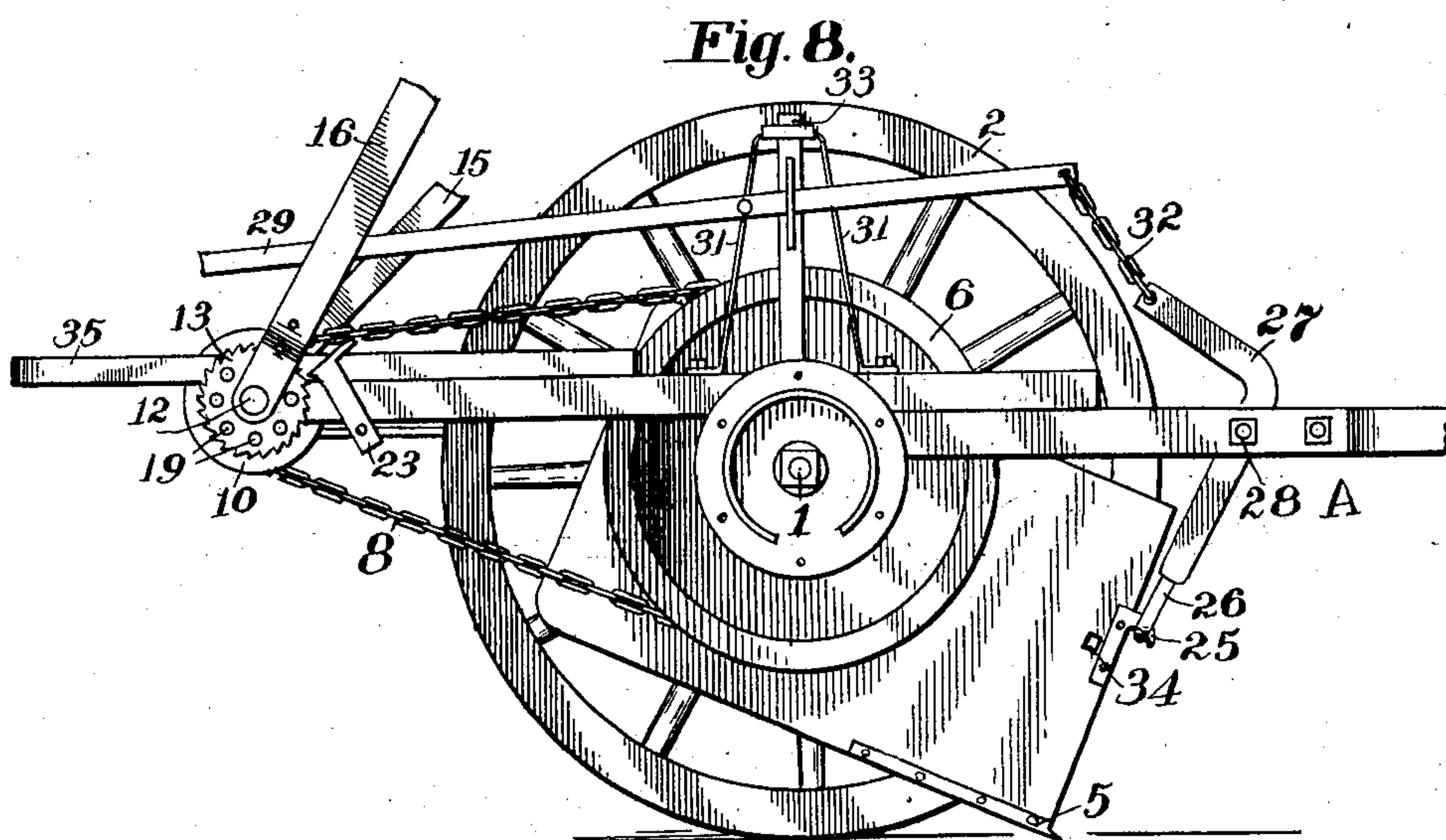
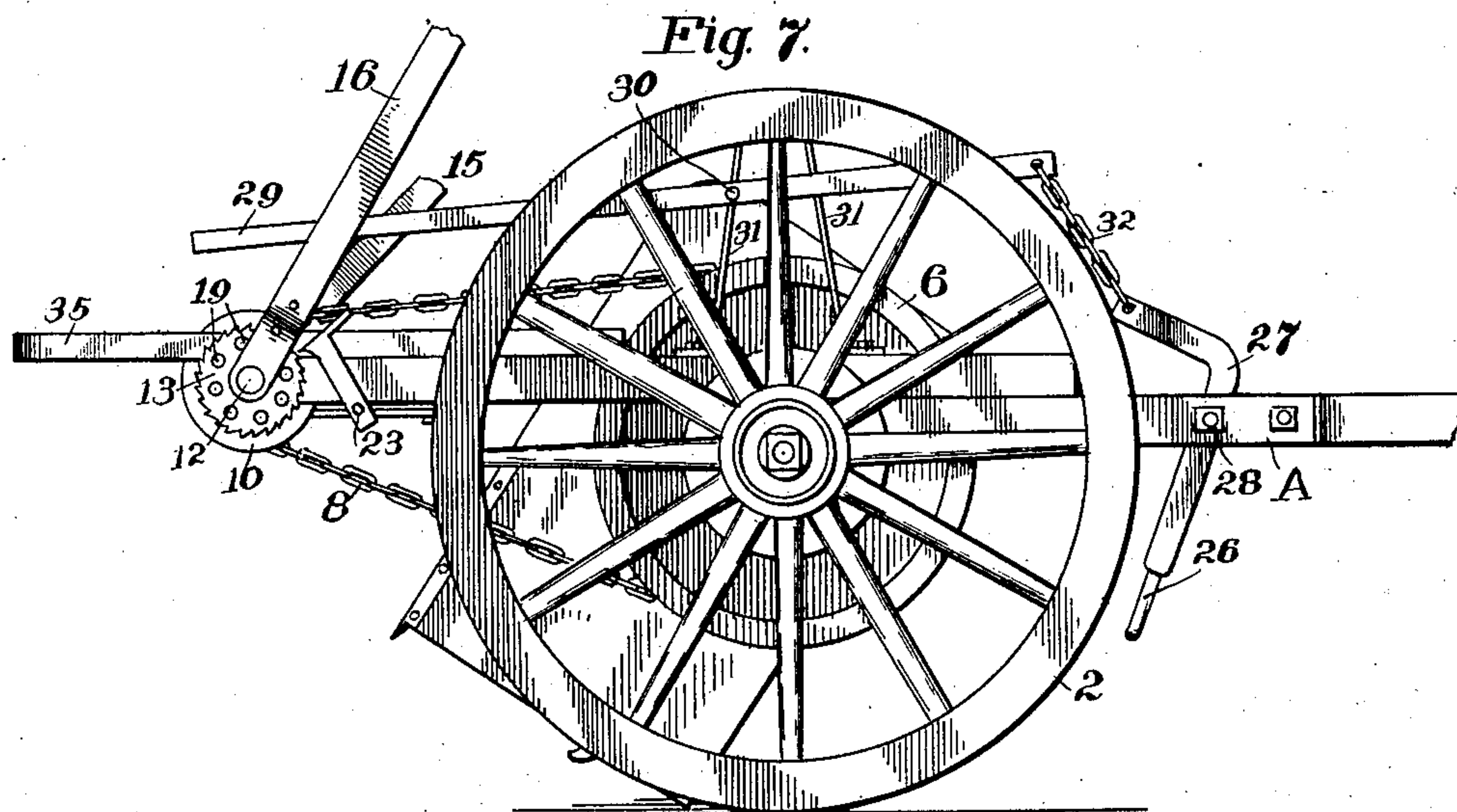
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3 SHEETS—SHEET 3.



Witnesses  
Milton Gencor.

Watts T. Estabrook

Inventor  
Jabez Francis Clark  
by *Amos C. Hodges*  
his Attorney.



# UNITED STATES PATENT OFFICE.

JABEZ FRANCIS CLARK, OF DENVER, COLORADO.

## SELF-LOADING CART.

SPECIFICATION forming part of Letters Patent No. 753,669, dated March 1, 1904.

Application filed May 12, 1903. Serial No. 156,764. (No model.)

*To all whom it may concern:*

Be it known that I, JABEZ FRANCIS CLARK, a citizen of the United States, and a resident of Denver, in the county of Denver and State of Colorado, have invented a new and useful Improvement in Self-Loading Carts, of which the following is a specification.

My invention relates to an improvement in self-loading carts, an object being to provide means for facilitating the turning and dumping as well as the control generally of the scraper-scoop.

Another object is to provide means for causing the scraper to dump backward or forward, according to the requirements of the operator.

Other objects are to insure against the contents of the scraper spilling along the way as the load is being hauled to the dump; also, to afford means for retaining the scoop rigidly in place during the operation of scraping and of carrying.

Still further objects are to provide a strong compactly-arranged machine for the purposes designated which is easily controlled by either one or two operators, as occasion may demand.

With the foregoing and other objects in view my invention consists of a pan or scoop mounted on the axle of the machine, so that it may be swung with perfect freedom either forward or rearward or into an intermediate erect position in connection with suitable levers, gearing, and locking mechanism for controlling the movement and securing the scoop in a predetermined position.

The invention further consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view taken from the right-hand side of the machine with parts broken away to show the gearing. Fig. 2 is a plan view. Fig. 3 is a front view. Fig. 4 is a rear view, and Figs. 5 and 6 are details. Fig. 7 illustrates the machine in the rearward dumping position, and Fig. 8 shows it in the loading position.

In this machine as illustrated a suitable frame A is sustained upon axle 1, mounted in the hubs of wheels 2 2, which support and

carry the machine. A scraper 3 is supported within the frame upon the axle, whereon it is capable of turning. This scraper scoop or pan is preferably made of sheet metal and is closed at the sides, ends, and bottom and provided with a single opening 4, through which it is filled and emptied, and one edge of this opening 4 is provided with a removable blade 5, which has a sharpened cutting edge to facilitate cutting and scraping the soil in the operation of filling or loading the scraper. As illustrated in the drawings, the point of support of the pan or scoop on the axle is more or less out of the center by preference, being nearer the bottom and one side than it is to the opening, in which way the weight is distributed for the best results both in scooping and in turning and carrying.

Large-size sprocket-wheels 6 and 7 are secured at opposite sides of the scoop or pan as a means for controlling the position of the latter, the chains 8 and 9 extending rearwardly from these large sprocket-wheels to smaller sprocket-wheels 10 and 11 on the counter-shaft 12, which latter is journaled at its ends in the rear ends of the frame A of the machine. On opposite ends of this counter-shaft oppositely-arranged ratchet-toothed wheels 13 and 14 are secured, and operating in connection with these ratchet-toothed wheels are the hand-levers 15 and 16, the former of which at the left of the machine is constructed and arranged to swing the scoop or pan forward, whereas the right-hand lever 16 is intended to reverse this movement or turn the scoop or scraper backward. Referring now more particularly to lever 15, although the two are substantially alike, its lower end is forked to straddle the ratchet-toothed wheel while being loosely mounted on the counter-shaft 12. Thick rubber washers 17 17 retain the lever 15 in its proper position with respect to the ratchet-toothed wheel 13, admitting of its yielding, however, to lateral pressure. The ratchet-toothed wheel 13 has a series of holes 19 19 formed therein, and a projection 20, extending into the fork of the lever, is adapted to enter one of these holes when the lever 15 is pressed inwardly or to the right, whereby to lock the lever to the ratchet-



toothed wheel when it is desired to turn the counter-shaft in a direction to turn the pan or scoop forward. Immediately on being released the elasticity of the rubber washers  
 5 causes the lever to center itself and the pin 20 to be removed from the hole in the ratchet-toothed wheel 13, thus disconnecting the two, so that the operator may swing the lever back to take a new hold or leaving the counter-shaft  
 10 free to be turned in the opposite direction by the hand-lever 16. A spring-dog 21 is secured to the frame A just forward of this lever 15 in position to engage the teeth of wheel 13 normally when not removed by hand  
 15 or the contact of the lever 15 against it. This spring-dog 21 locks the ratchet-toothed wheel when in engagement with it against backward movement. Hand-lever 16 may be similarly arranged and constructed, if desired, although  
 20 I have simply shown a pivoted pawl 22 for engaging the teeth as the lever is swung backward to swing the scoop or pan backward and a dog 23, which drops by gravity or spring-pressure to prevent reverse movement. By  
 25 manipulating these levers the scoop or pan may be swung forward to a scraping position, to a forward or rearward dumping position, or to an intermediate carrying position, accordingly as desired.  
 30 When shifted to its scraping position, the pan or scoop is held in place by the hooks 25 25, which enter the loops 26 26 on the L-shaped levers 27 27, which latter are pivoted to the frame A by means of pins or bolts 28 28. An  
 35 operating-lever in the form of a bail 29 embraces the pan or scoop and is pivoted, as at 30, to the forward sides of the standards 31 31, the forward ends of this operating-lever being connected with the L-shaped levers 27 27  
 40 by short chains 32 32. The sides of the bail also have sliding connection with spring-catches 33 33, which latter normally enter holes or recesses 34 34 in the pan or scoop to hold the latter in its upright position. Thus  
 45 an upward movement of the bail-shaped operating-lever forces the spring-catches outward to release the pan or scoop as well as the loops which hold the pan in position while scraping, the heavier upper ends of the L-shaped levers counterbalancing the weight of  
 50 the loops and throwing the latter forward away from the hooks when the upward pull of the chains thereon is slackened. A reverse or downward movement of the bail-shaped  
 55 operating-lever releases the catches, allowing them to take position in the holes or recesses of the pan or scoop when the latter are in position to register with them and causing the loops on the L-shaped levers to assume a position to  
 60 receive the hooks on the forward edge of the pan or scoop when the latter reach them whereby to sustain the pan or scoop during the scraping operation.

A seat 35 may be provided at the rear for  
 65 the driver or operator.

From the foregoing it will be seen that the machine not only serves the purpose of scraping or scooping the dirt, but also affords a means of carrying the load without spilling or sifting its contents along the way in transit. 70

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but, 75

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

1. In a scraper the combination with an axle 80 and wheels in which the latter is supported, of a rotary scoop capable of dumping forward or rearward.

2. A scraper constructed and adapted to be carried in an upright position and provided 85 with means for swinging it in either direction so as to dump in front or in rear of its support.

3. The combination with a rotatably-supported scoop, of a shaft, gearing extending 90 therefrom to the scoop, and means for turning the shaft whereby to control the position of the scoop.

4. The combination with a rotatably-supported scoop, of a rotary shaft, means for communicating motion from one to the other, 95 ratchet-toothed wheel on the shaft, a lever having a dog which operates in connection with the ratchet-toothed wheel, whereby the shaft is turned. 100

5. The combination with a rotatably-supported scoop, and a shaft intergeared together, of a pair of levers loosely mounted on the shaft, and carrying dogs, and a pair of reversely-arranged ratchet-toothed wheels with which 105 these dogs cooperate whereby one lever may be used to turn the scoop in one direction, and the other lever to turn it in the opposite direction.

6. The combination with a rotatable scoop, 110 a shaft having means thereon for communicating motion to the scoop, a ratchet-toothed wheel and pawl, of a lever having a dog in position to engage the ratchet-toothed wheel.

7. The combination with a suitable frame, 115 axle and rotatable scoop, of means for controlling the position of the scoop, said means consisting of a wheel having recesses or holes therein, and a lever having yielding lateral support and provided with means adapted to 120 engage the recesses or holes in the wheel when moved laterally.

8. The combination with a suitable frame, axle and rotatable scoop, of means for controlling the position of the scoop, said means 125 consisting of a ratchet-toothed wheel having recesses or holes therein, and a lever having yielding lateral support and provided with means adapted to engage the recesses or holes in the wheel when moved laterally, and a dog 130



for engaging the teeth of the ratchet-toothed wheel, and locking the latter against movement in one direction.

5 9. The combination with a frame, a rotatable shaft, a counter-shaft, and gearing for communicating motion from one to the other, of a wheel secured to said shaft, a lever, yielding washer between the lever and wheel to permit the lever to be moved laterally, said  
10 lever having means thereon to engage said wheel when the lever is moved laterally whereby to lock the lever to the wheel.

10 10. The combination with a frame, a scoop or pan pivoted in position, a counter-shaft  
15 and gearing for communicating from one to the other, of a pair of ratchet-toothed wheels secured on the shaft with their teeth extending in opposite directions, and operating-levers mounted on the shaft adjacent to these  
20 wheels and means for locking the levers to the shaft, and locking the shaft at predetermined periods.

25 11. The combination with a suitable frame, and a pivotally-mounted scoop having hooks thereon, of pivotally-supported loops for receiving the hooks and supporting it when the scoop is in the scraping position, spring-catches for locking the scoop in its upright position and means for controlling these  
30 catches and loops.

35 12. The combination with a suitable frame, and a scoop rotatably mounted and provided with hooks, of L-shaped levers having loops on their lower ends to receive said hooks, and an operating bail-shaped lever loosely connected with the L-shaped levers and pivotally sustained by the frame of the machine.

13. The combination with a frame, and a

scoop mounted to turn with respect thereto, of spring-catches for holding the scoop in its upright position and a bail-shaped operating-lever pivoted to uprights on the frame in position to release said catches from the scoop. 40

14. The combination with a suitable frame, and a scoop pivotally mounted and having 45 hooks thereon, with recessed sides, of L-shaped levers pivoted to the frame and provided with loops adapted to receive the hooks on the scoop, spring-catches in position to enter the recesses in the scoop and a bail-shaped 50 operating-lever pivoted to standards on the frame in position to release the catches from the sides of the scoop and loosely connected with the L-shaped levers.

15. The combination with a suitable frame, 55 and a scoop pivotally mounted, of counter-balance-levers pivoted to the frame and provided with means to receive the hook and sustain the forward end of the scoop, and means for operating and controlling said counter- 60 balance-levers.

16. The combination with a scoop capable of being swung on its support whereby to dump in either direction, of a catch for locking the scoop in its upright position and 65 means for locking it in operative position, and means for controlling and operating said catch and means whereby to release them when desired.

In testimony whereof I have signed this 70 specification in the presence of two subscribing witnesses.

JABEZ FRANCIS CLARK.

Witnesses:

A. F. HAFLEY,  
LOGAN RUSSELL.