

No. 808,678.

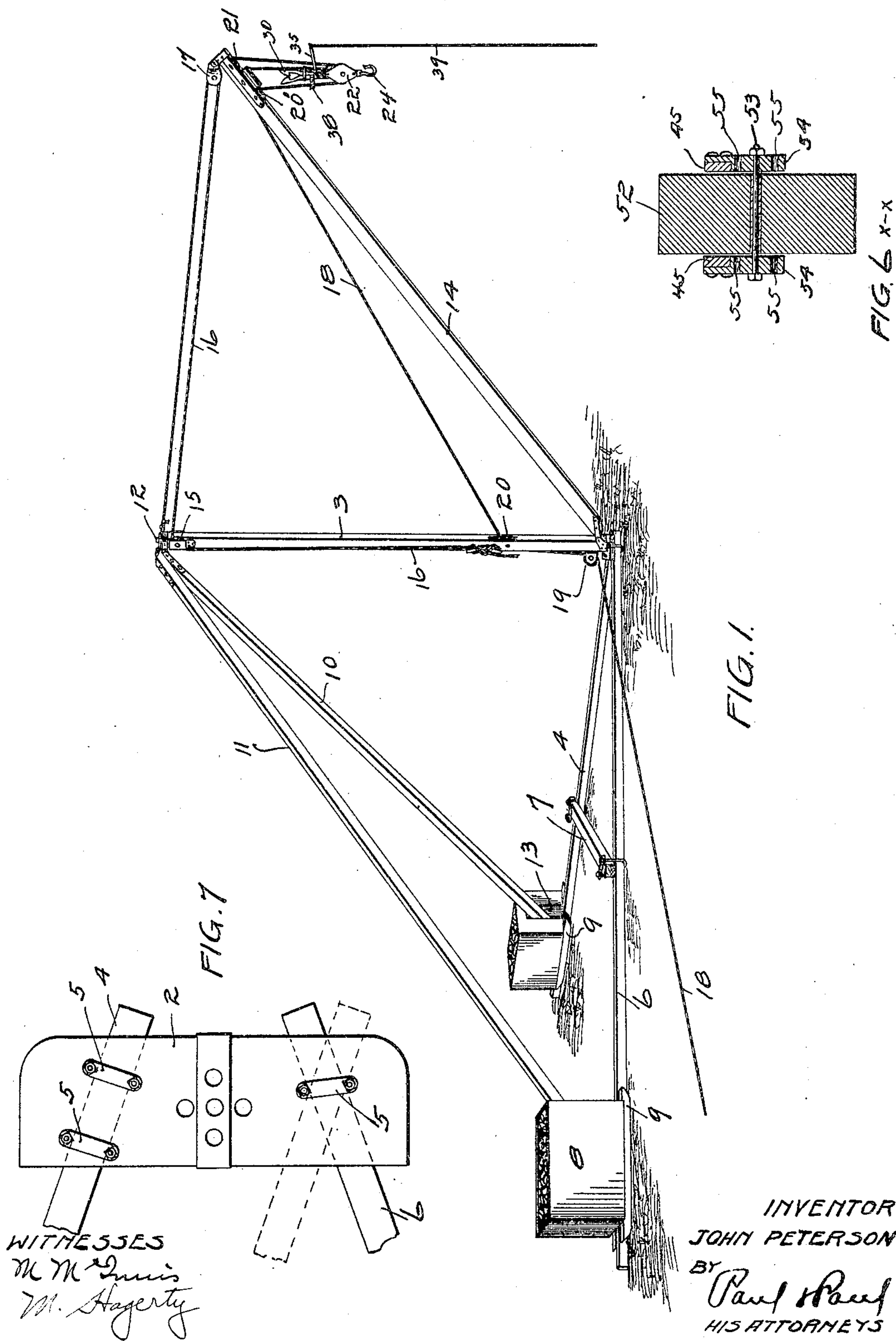
PATENTED JAN. 2, 1906.

J. PETERSON.

HAY AND MANURE GATHERER AND LOADER.

APPLICATION FILED JUNE 13, 1904.

3 SHEETS—SHEET 1.



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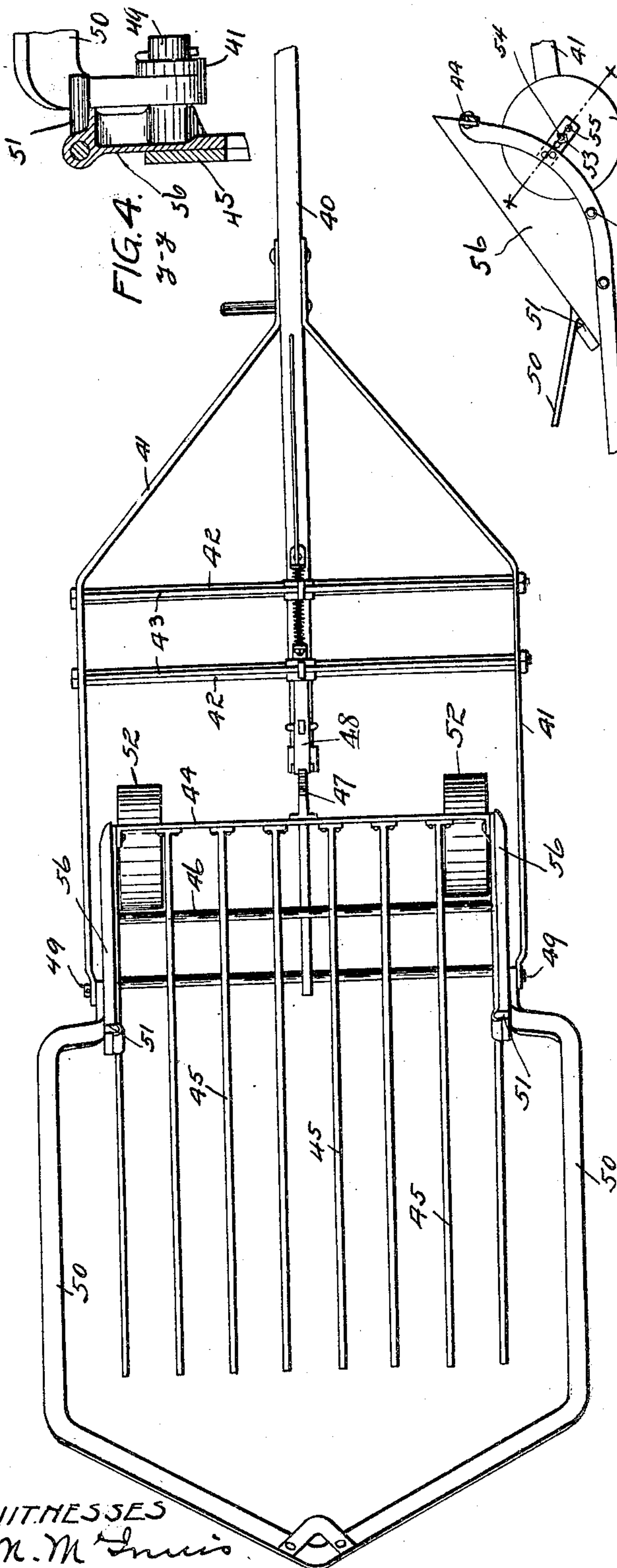


FIG. 2.

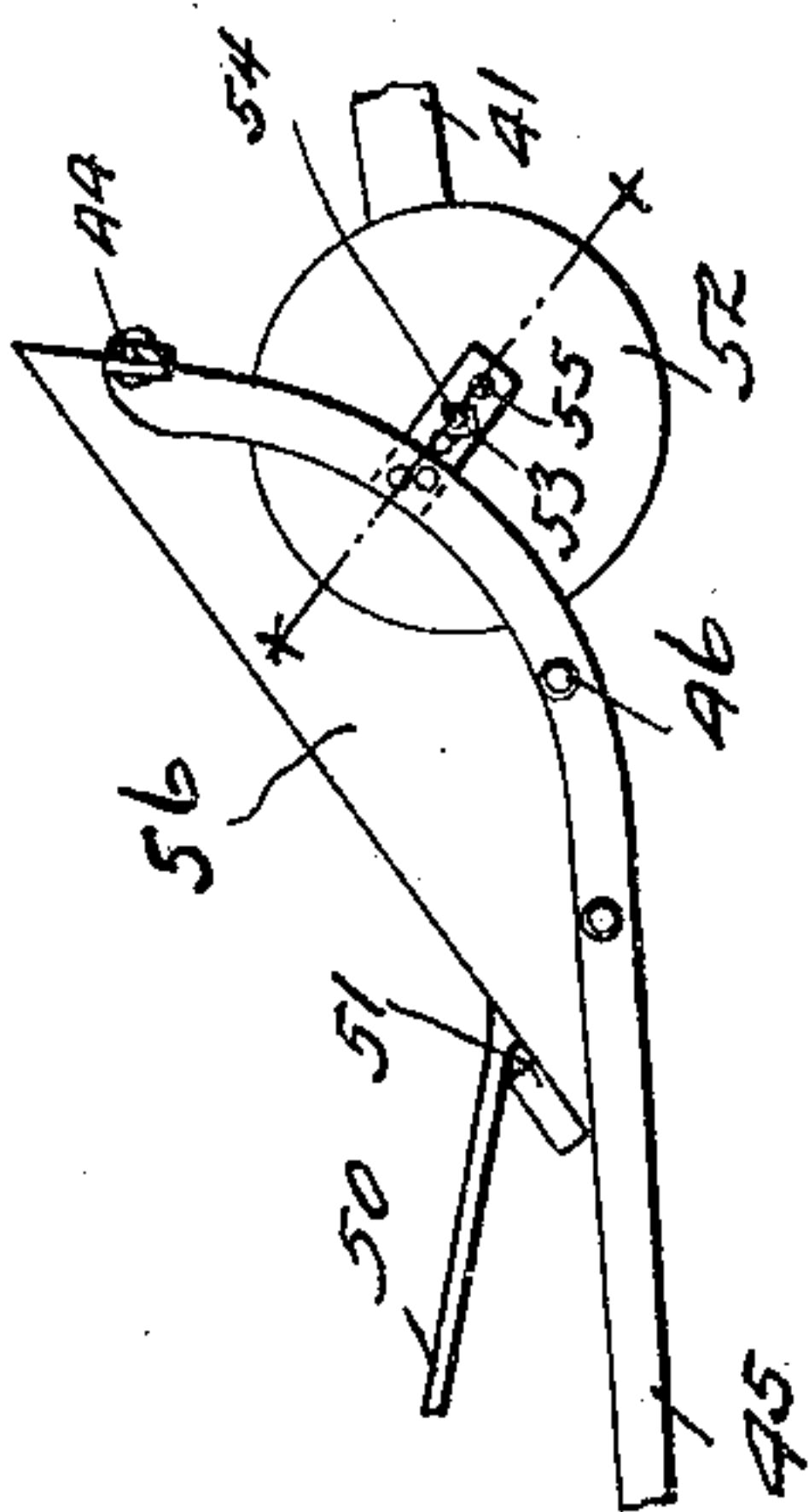


FIG. 4.

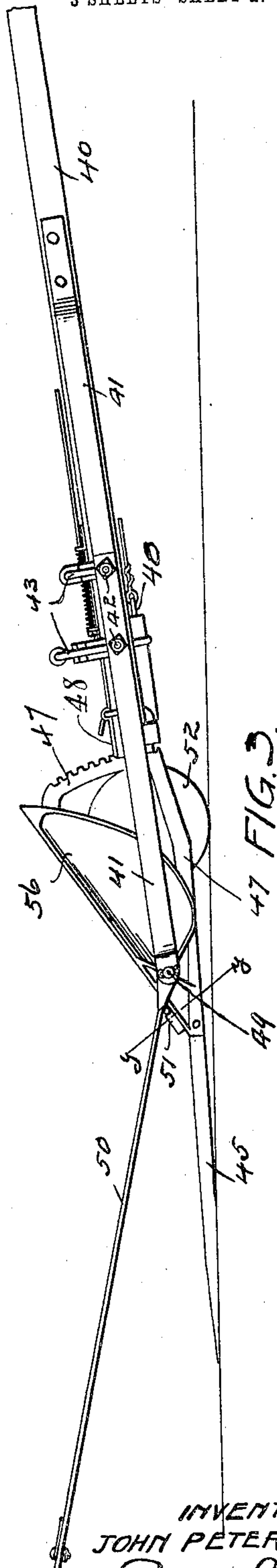


FIG. 5.

FIG. 3.

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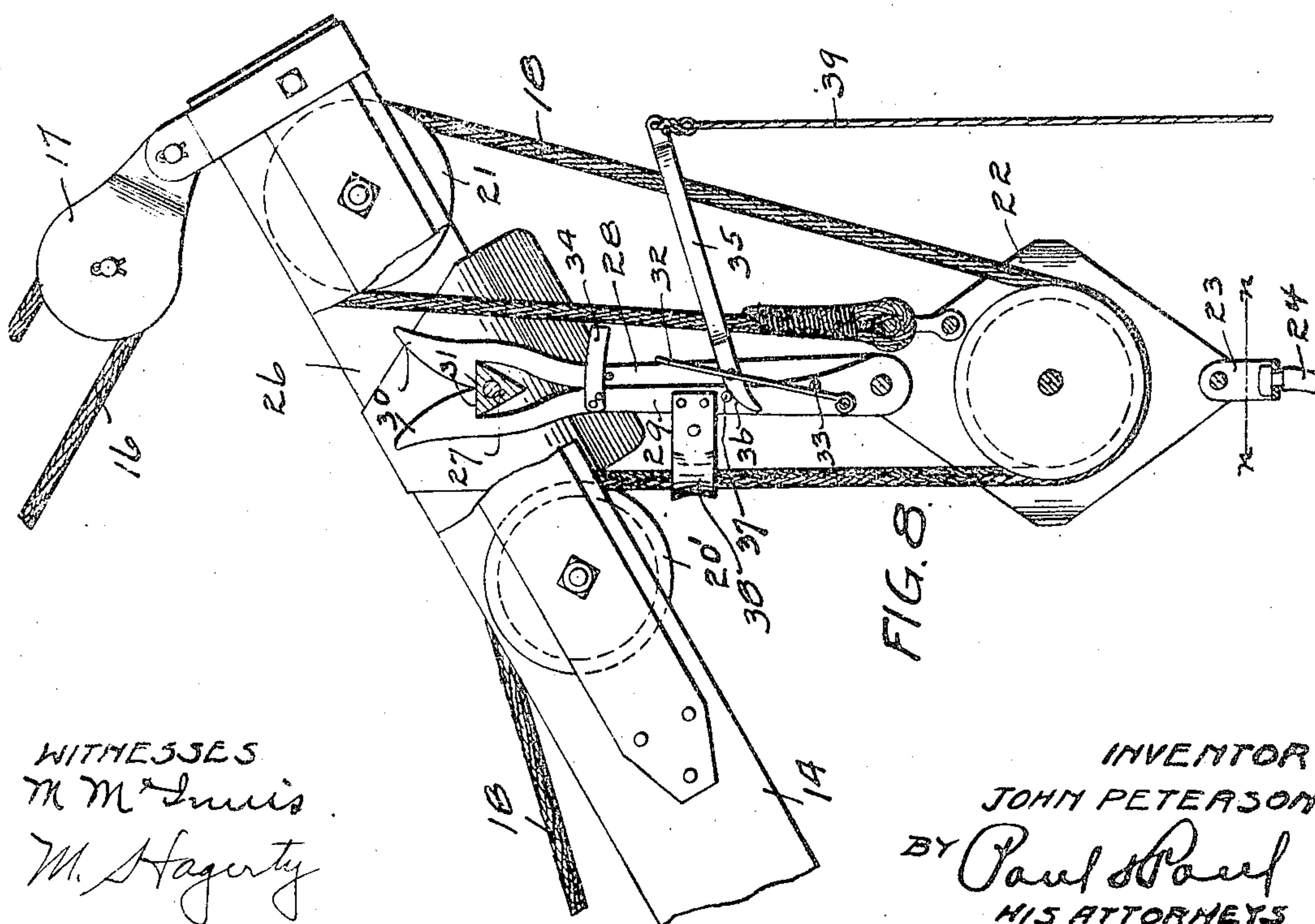
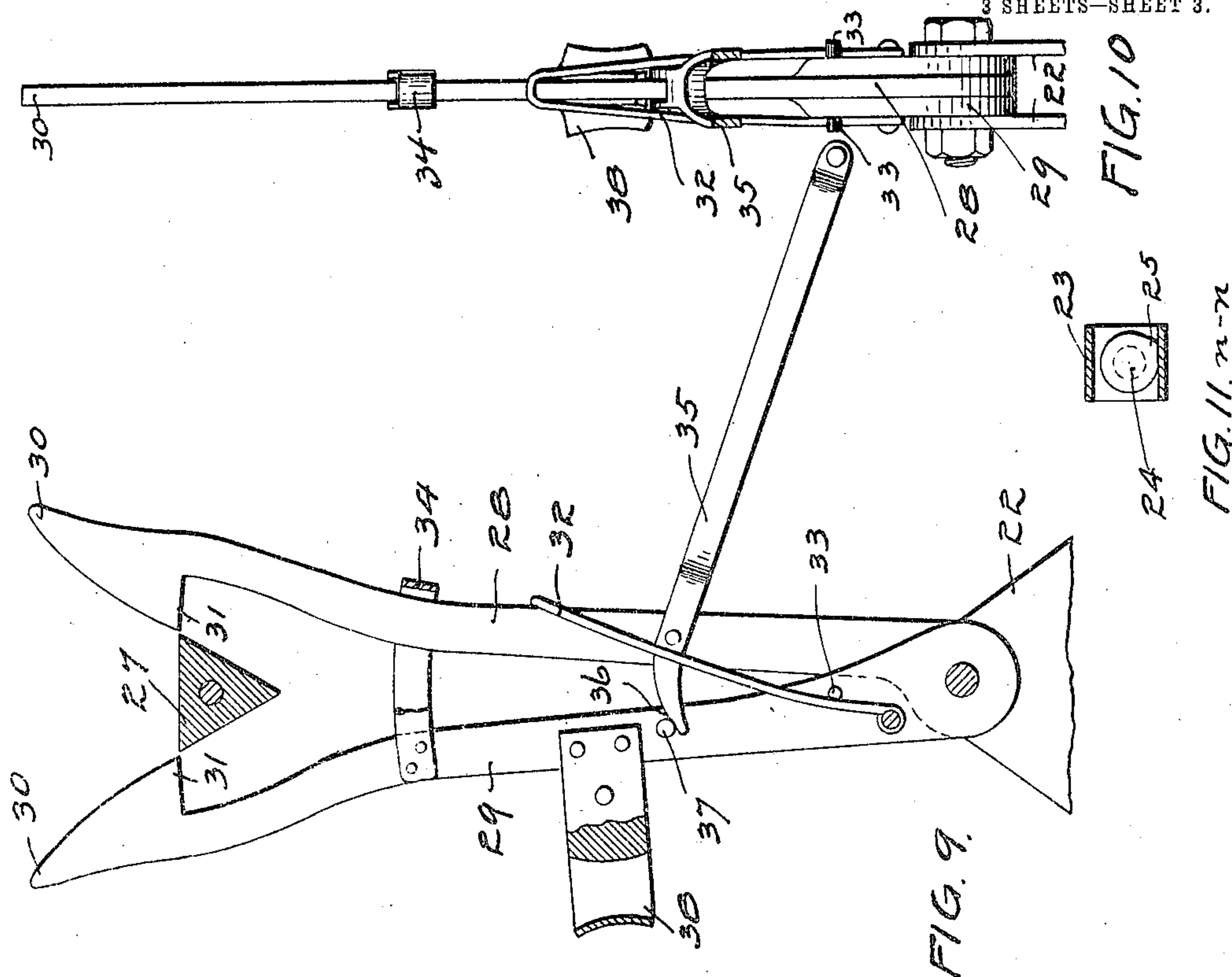
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3 SHEETS—SHEET 3.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN PETERSON, OF ST. PAUL, MINNESOTA.

HAY AND MANURE GATHERER AND LOADER.

No. 808,678.

Specification of Letters Patent.

Patented Jan. 2, 1906.

Application filed June 13, 1904. Serial No. 212,317.

To all whom it may concern:

Be it known that I, JOHN PETERSON, of St. Paul, Ramsey county, Minnesota, have invented certain new and useful Improvements in Hay and Manure Gatherers and Loaders, of which the following is a specification.

My invention relates to that class of farm implements shown and described in Letters Patent of the United States issued to me September 13, 1898, numbered 610,609; November 12, 1901, numbered 686,532, and a certain pending application filed June 22, 1903, serially numbered 162,513.

The object of my invention, primarily, is to provide means for locking a loaded fork or gatherer in a raised position to dispense with the necessity of holding it in such position while it is being swung from the point where it is loaded to the dumping-place.

A further object is to provide an improved fork which can be easily and quickly manipulated to gather and discharge its load.

Other objects of the invention will appear from the following detailed description.

The invention consists generally in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a gathering and loading apparatus embodying my invention. Fig. 2 is a plan view of an improved form of a gathering-fork. Fig. 3 is a side view of the same. Fig. 4 is a detail view on the line *y y* of Fig. 3. Fig. 5 is a detail view showing the manner of supporting the carrying wheels or truck of the fork. Fig. 6 is a sectional view on the line *x x* of Fig. 5. Fig. 7 is a detail view showing the manner of connecting the horizontal base-timbers to the upright mast. Fig. 8 is a detail view of the mechanism for automatically locking the gathering-fork in its raised position. Fig. 9 is a similar view showing the locking device partially unlocked. Fig. 10 is a vertical sectional view of the locking device, showing the fork in the trip-lever. Fig. 11 is a sectional view on the line *n n* of Fig. 8.

In the drawings, 2 represents a suitable base-plate, whereon an upright mast 3 is arranged. A horizontal or base timber 4 is secured to the plate 2 at one end by any suitable means, as by clevises 5, and a similar timber 6 is secured on said base-plate on the other side of the mast in a corresponding manner, except that

I prefer to provide only one clevis for the timber 6 to allow it to be swung back and forth toward and from the other timber to allow the apparatus to be moved through a doorway or gate. A cross-timber 7 connects the timbers 4 and 6 and is adjustably secured thereto at its ends. The opposite ends of the timbers 4 and 6 from the base-plate are held in place by means of weighted boxes 8, that rest upon the ends of the timbers and are held in place thereon by bars 9, that are secured to the bottoms of the boxes.

The top of the mast 3 is connected with the outer ends of the timbers 4 and 6 by brace-beams 10 and 11, that are attached to a pin 12 in the top of the mast and have their opposite ends inserted into recesses 13 in the box 8 and bearing upon the contiguous ends of the base-timbers. A boom 14 is pivoted on the mast 3, near the lower end thereof, and a block 15 is provided at the top of the boom, and a rope 16, secured at one end of the lower portion of the boom, passes through said block and around a pulley 17 at the outer end of the boom and from thence to the top of the boom, where the end of the rope is secured. By means of this rope the operator can adjust the boom at any desired angle with respect to the mast.

A hoisting-cable 18 passes under a pulley 19 at the base of the boom and over an idle pulley 20 near the base and from thence over pulleys 20' and 21 in the outer end of the boom to a block 22, where the end of the cable is secured. This block is provided at its lower end with a loop 23, wherein the shank of a hook 24 is swiveled. The head of the shank within the loop is provided with a lug or projection 25 on one side that engages the sides of the loop and limits the rotary movement of the hook therein. This construction is shown clearly in Fig. 11, where it will be seen that the hook may make nearly a complete revolution sufficient to allow the fork to be swung easily to the desired working point, but will prevent any unnecessary rotary movement of the fork that would tend to twist the rope.

Between the pulleys 20 and 21 in the outer end of the boom is a socket or recess 26, wherein a block 27, triangular in cross-section, is mounted on a pivot-pin that is fixed with respect to the boom. The triangular shape of the block 27 will cause it when struck by the jaws to assume a proper position to pass between them. The shape of this block may be varied, if preferred. On the upper end of the block 22 jaws 28 and 29 are pivoted. These

jaws have tapered upper ends 30 and notches 31, that are adapted to receive the triangular block 27 and support the block 22 and its load in a raised position. A U-shaped spring 32 is
 5 mounted on the jaw 29 and incloses the other jaw and is held under tension against the same by a pin 33. A loop 34 limits the separation of the jaws, and a forked lever 35, mounted on the jaw 28, has curved surfaces 36, that en-
 10 gage pins 37 in the sides of the jaw 29 and tend to press the said jaws apart when the lever 35 is drawn downward. A suitable rope-guide 38 is preferably provided on the jaw 29. The outer end of the lever 25 is attached to a
 15 cord 39, by means of which the operator can separate the jaws and allow the load to drop. I have found where power is employed to operate the gathering-fork or loader that a device of this kind is very desirable. As soon
 20 as the fork is loaded it is raised sufficiently for the locking device to perform its functions and then the power may be released from the fork and the boom swung around to the desired dumping position. Without this
 25 locking device it would be necessary to keep the power on the fork during the time that it is being swung to the point where the load is discharged.

The fork which I prefer to employ in connection with this apparatus is shown in Figs. 2 and 3; but I may use the locking device in connection with the fork designed particularly for handling hay or straw, as shown in my pending application above referred to. In
 30 Fig. 2 of the drawings, 40 represents the fork-handle having bars 41 secured thereto at one end and projecting beyond the end of the handle and connected by cross-bars 42, having suitable truss-rods 43. The fork proper
 35 is arranged between the ends of the bars 41 and consists of an end bar 44, where to a series of tines 45 are secured. These tines are curved in substantially the manner shown in Fig. 5 and in my prior patents and are con-
 40 nected by cross-rods 46. A rack-bar 47 is secured to the bars 44 and 46 at the middle of the fork, and the teeth of said bar are engaged by a latch 48, carried by the handle 40. The fork is provided with studs 49,
 45 whereon the ends of the bars 41 are pivoted, and a bail 50 is also pivoted on said studs, preferably between the fork and the bars 41. I prefer to provide pivoted stops 51 on the fork that are adapted to swing out into the
 50 path of the bail and hold it in an inclined position, as indicated in Fig. 3, to prevent it from dropping down upon the ground and digging into the straw or dirt when the fork is drawn backward. To render the fork more
 55 easy of manipulation, I prefer to provide trucks 52, arranged between the outer tines of the series and supported on pins 53, that pass through straps 54, secured on said tines. I prefer to provide a series of holes 55 in said
 60 strap to allow the adjustment of the trucks

therein and vary the height of the tines from the ground, according to the character of the work. On each side of the fork I prefer to provide guard-plates 56, which serve to prevent the material from working out at the
 70 sides.

The operation of my improved gatherer and loader is as follows: The apparatus having been set up in the desired position, the operator will lower the fork to the ground and
 75 starting the horses or other power will gather up the load. The power being still applied to the hoisting-cable after the fork is loaded it will be raised from the ground and by the operation of the locking device secured in its
 80 raised position. The hoisting-cable can then be slackened and the boom swung around until the fork is over the dumping-place. The operator will then trip the lever 35, release the fork, and perform the dumping operation.
 85 The operation described may then be repeated.

It will be noted in connection with this device that there is no necessity of driving anchoring or guy rope stakes into the ground, the entire apparatus being supported in a
 90 working position by means of the bracing-beams and the weighted boxes. The apparatus can therefore be set up much more readily and can be moved from place to place with very little labor and in a short space of
 95 time.

I claim as my invention—

1. The combination, with the base-plate, of an upright mast supported thereon, a boom for said mast, base-timbers connected to said
 100 base-plate upon each side of said boom, the connection of one of said timbers allowing it to be swung back and forth toward and from the other timber, bracing-beams connecting the
 105 outer ends of said base-timbers and the top of said boom, and a cross-bar connecting said base-timbers intermediate to their ends, for the purpose specified.

2. The combination, with a gathering-fork, of a pulley-block connected therewith, jaws
 110 pivoted on said block and having notched upper ends, a spring yieldingly holding said jaws together, a hoisting-boom, a block carried by said hoisting-boom and arranged to enter the notches in said jaws and support
 115 said pulley-block, means for separating said jaws, and a hoisting-cable.

3. The combination, with a gathering-fork, of a pulley-block thereon, jaws pivoted on
 120 said block and having notched upper ends, a hoisting-boom, means carried by said boom and adapted to enter said notches and support said pulley-block in its raised position, means for separating said jaws to disengage them
 125 from said supporting means, and a hoisting-cable.

4. The combination, with a hoisting-boom, of a jaw-support thereon, a hoisting-cable, a pulley-block carried thereby, jaws pivoted at
 130 their lower ends on said pulley-block and hav-

ing ends provided with notches adapted to receive said support and lock said pulley-block in its raised position, means for yieldingly holding said jaws together, and a trip-lever 5 for separating them.

5. The combination, with a hoisting-boom, of a locking-block 27, thereon, a hoisting-block 22 having a cable 18, jaws pivoted on said hoisting-block and engaging said block 10 27, a spring 32 normally holding said jaws together, and a trip-lever.

6. The combination, with a hoisting-boom, of a hoisting-block and its cable, a support having a fixed pivot on said boom, jaws pivoted on said hoisting-block and having notched 15 upper ends to engage said support and automatically lock said hoisting-block in its raised position, means for yieldingly holding said jaws together, and means for separating them.

20 7. The combination, with a suitable handle, of the bars secured thereon, a fork pivoted between said bars and comprising cross-bars 44 and 46, a suitable bail for said fork, and trucks pivoted between the tines of said fork 25 on each side thereof, for the purpose specified.

8. The combination, with the fork-tines, of depending straps secured thereon and provided with a series of holes, trucks provided between said straps, and pins passing through 30 said holes and said trucks and said pins being adapted to fit either of the holes in said straps to allow the adjustment of the trucks between them, for the purpose specified.

9. The combination, with the cross-bars 44 35 and 46 and the tines 45 secured thereto and provided with upwardly-curved inner ends, and the guard-plates 56 secured to the curved ends of the outer tines upon each side of said fork.

40 10. The combination, with the bars 41 and the fork pivoted between, of a bail 50 also pivoted between said bars, and stops 51 pivoted on said fork and adapted to be swung out

into the path of said bail, for the purpose specified. 45

11. The combination, with a fork having a series of gathering-tines and a suitable bail, of carrying-trucks adjustably secured on said fork and arranged to be raised or lowered to vary the height of said tines from the ground, 50 for the purpose specified.

12. The combination, with a hoisting-boom, of a pulley-block, a hoisting-cable therefor, a locking device interposed between said pulley-block and said boom and comprising a catch 55 or stop that is fixed with respect to said boom, and spring-pressed arms arranged to be operated automatically to engage said stop and lock said pulley-block when it has been raised to a certain predetermined point, and mechanism 60 for tripping said jaws to release said block.

13. The combination, with a fork having a series of gathering-tines, of carrying-trucks mounted on said fork and capable of vertical adjustment to vary the height of said tines 65 from the ground, substantially as described.

14. The combination, with a hoisting-boom, of a hoisting block and cable, a support, jaws pivoted on said hoisting-block and having notches or recesses extending partially 70 through their contiguous faces and adapted to engage said support when said block is raised, and means for separating said jaws to release said block.

15. The combination, with a hoisting-boom, 75 of a jaw-support thereon, a block having a cable and locking-jaws to engage said support, and a trip-lever mounted on one of said jaws and arranged to actuate the other jaw to separate them, substantially as described. 80

In witness whereof I have hereunto set my hand this 9th day of June, 1904.

JOHN PETERSON.

In presence of—

RICHARD PAUL,
M. HAGERTY.