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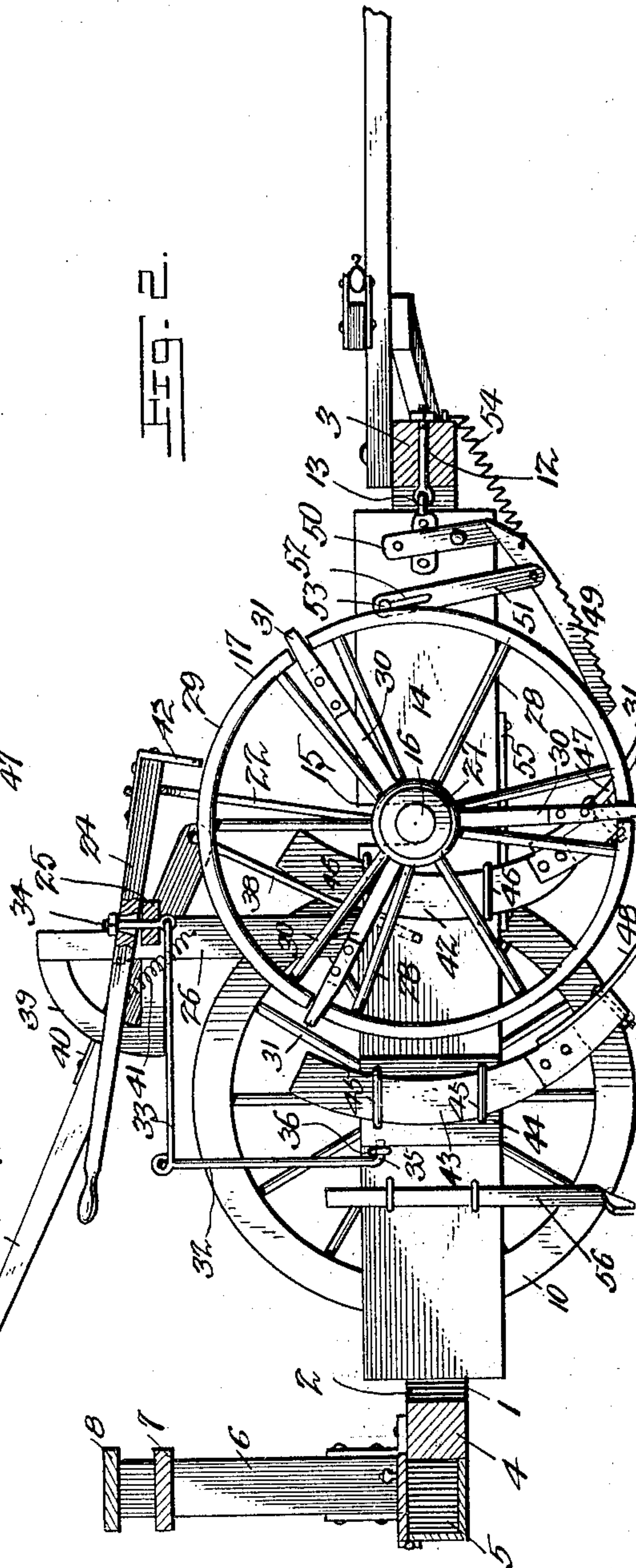
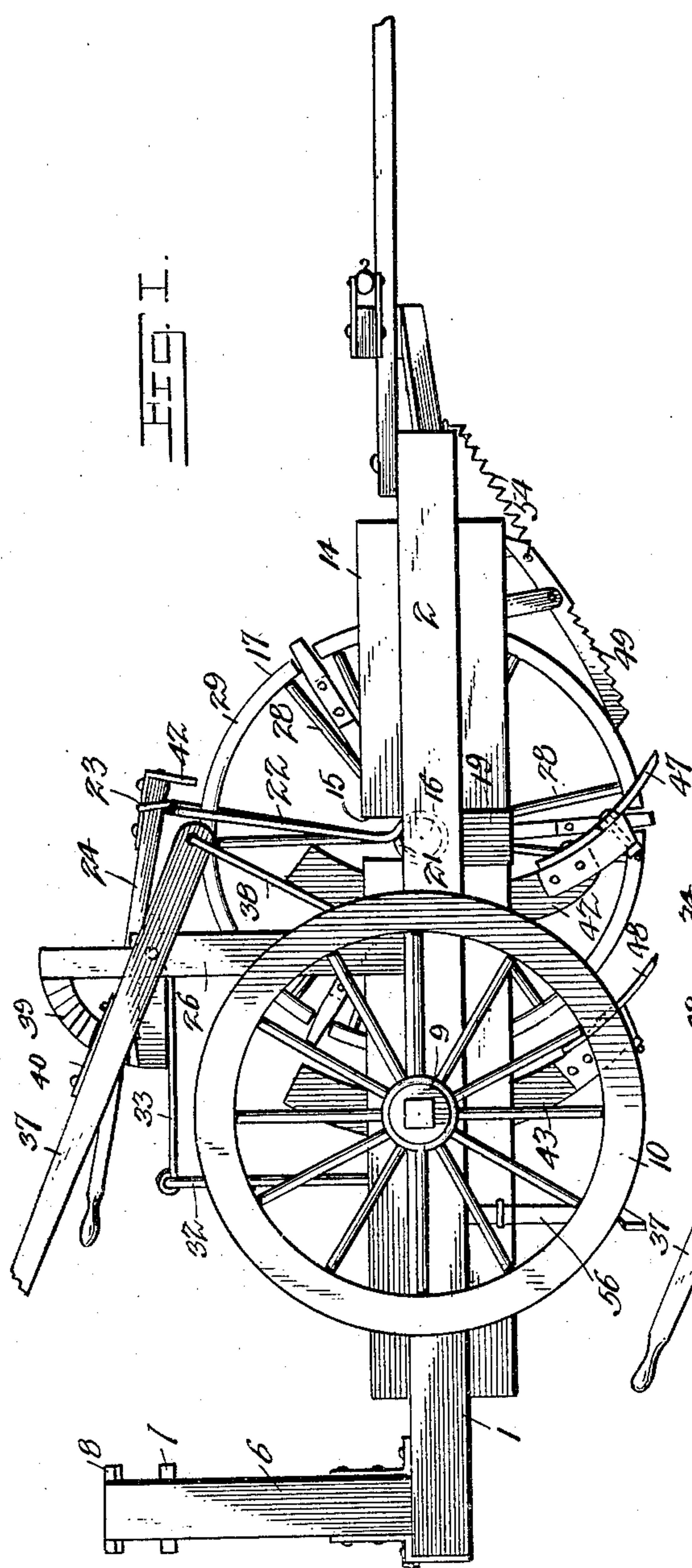
Patented Feb. 4, 1902.

J. M. BASS, SR.
COMBINED COTTON CHOPPER AND CULTIVATOR.

(Application filed Sept. 11, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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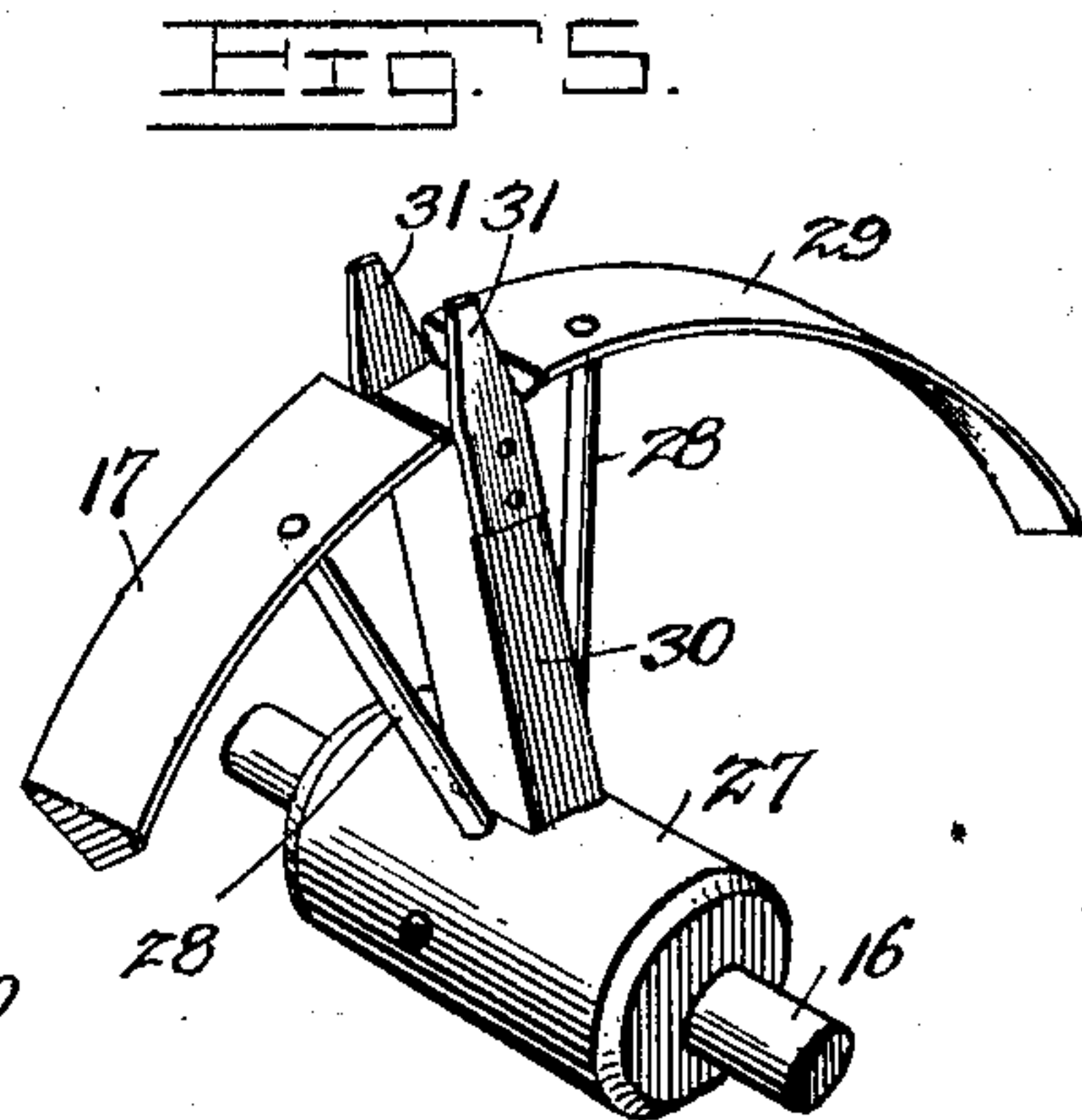
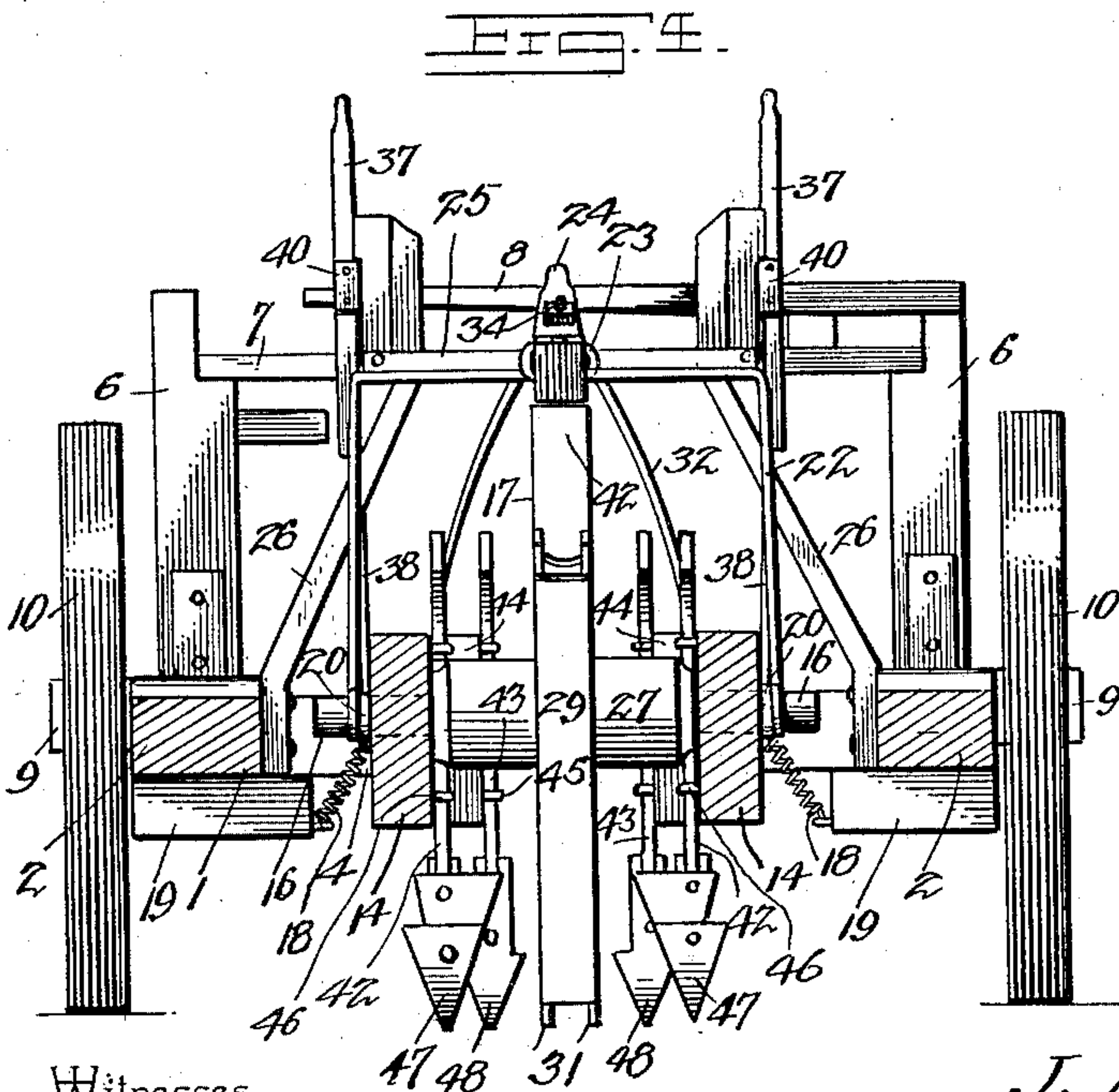
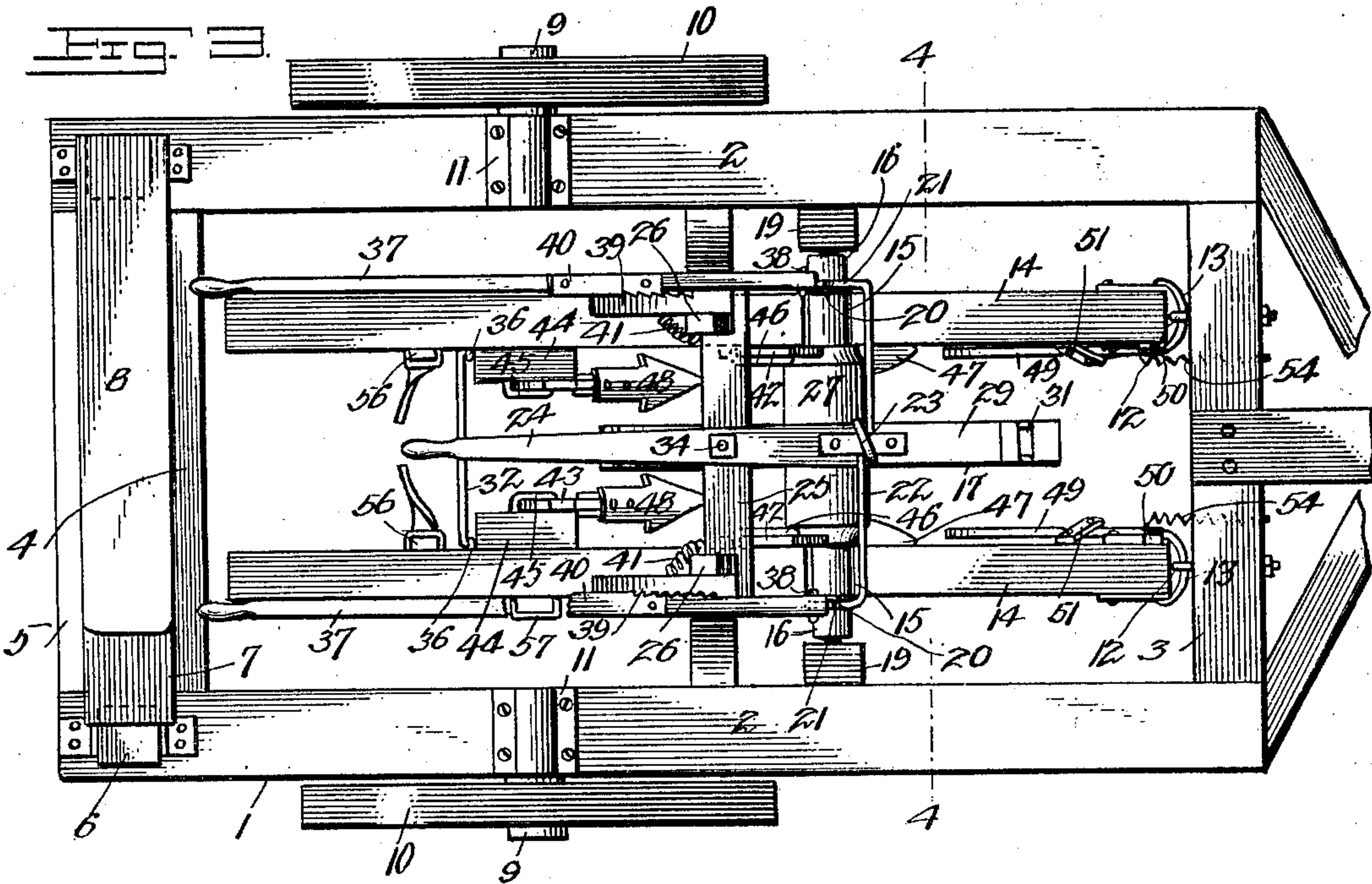
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UNITED STATES PATENT OFFICE.

JAMES MILTON BASS, SR., OF HOUSTON, TEXAS.

COMBINED COTTON CHOPPER AND CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 692,227, dated February 4, 1902.

Application filed September 11, 1901. Serial No. 75,061. (No model.)

To all whom it may concern:

Be it known that I, JAMES MILTON BASS, Sr., a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented a new and useful Combined Cotton Chopper and Cultivator, of which the following is a specification.

This invention relates to combined cotton choppers and cultivators.

The object of the invention is to present a simply-constructed, thoroughly-efficient, durable, and easily-operable machine of the character specified in which the thinning of the cotton and the covering over of the crushed plants may be readily effected and in which the saving of such plants as are to constitute a stand may be accomplished in a thoroughly practical manner.

A further object is so to mount or support the chopping-wheel that it may be raised from the ground without interfering with the operation of the plows and coverers.

A further object is to present a machine having a supporting-frame and a chopping-wheel and cultivating mechanism of such construction that either of the pairs of plows may be raised or lowered to the exclusion of the other and in which lateral shifting of the frame may be accomplished by the tender or operator with his feet, thereby leaving his hands free to manage the team.

A further object is to provide a novel form of cutting mechanism for cutting tie-vines and stalks arranged in the path of travel of the machine and that would be liable to choke the plows.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a combined cotton chopper and cultivator, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated a form of the embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage

without departing from the scope of the invention, and in the drawings—

Figure 1 is a view in side elevation of the machine characterizing this invention. Fig. 2 is a similar view, partly in section, showing the manner of arrangement and connection of certain parts not clearly seen in Fig. 1. Fig. 3 is a view in top plan. Fig. 4 is a view in transverse section taken on the line 4 4 of Fig. 3 and looking in the direction of the arrow thereon. Fig. 5 is a fragmentary detail view in perspective of a portion of the chopping-wheel, showing more particularly the arrangement of the fenders for protecting plants that are to be saved for a stand.

Referring to the drawings, 1 designates the supporting-frame of the machine, comprising side beams 2, and end beams 3 and 4. To the front beam 3 is secured the usual tongue carrying the single and double trees and breast-yoke, and as these form no part of the present invention detailed illustration or description is deemed unnecessary. The rear end beam 4 has connected with it a tool-box 5, as usual, and supports two standards 6, connected near their upper ends by a cross-piece 7, and to one of the standards is secured the driver's seat 8, the same being of the ordinary spring-board type, and therefore needs no description. To the side beams are secured the axles 9 of the supporting-wheels 10, the axles being held associated with the side beams in any preferred manner, as by castings 11. (Clearly shown in Figs. 3 and 4.)

To the front beam 3 is secured two eyebolts 12, which are engaged by yokes 13, carried by the outer ends of two beams 14, by which connection the said beams are permitted to have lateral and vertical movement for purposes that will presently appear. Each of these beams is provided with a bearing 15, (clearly shown in Figs. 1, 2, and 3,) the bearings being open-ended and are engaged by the axle ends of a shaft 16, carrying the chopping-wheel 17, the object for having the bearings open-ended or elongated being to permit of the chopping-wheel being raised from the ground when desired without interfering with the operation of the plow, as will presently appear. The ends of the axle 16 are held normally in engagement with the

bases of the bearings 15 by coiled springs 18, one end of each of which is secured to an offset 19, carried by the side beam 2, and the other end to a collar or ring 20, carried by each axle end, as shown in Fig. 4. Mounted upon the axle ends outside of the rings 20 are the looped ends 21 of a yoke 22, the same extending vertically upward and being provided intermediate of the ends of the horizontal portion with an eye 23, through which projects the outer end of a lever 24, fulcrumed on a cross-bar 25, carried by the upper portion of two standards 26, the lower ends of which are rigidly secured to the inner portions of the side beams, as clearly shown in Fig. 4. By bearing down upon the rear end of the lever 24 the chopping-wheel will be raised against the stress of the springs 18 without imparting motion to the beams 14, which latter constitute the supporting-frame for the chopping-wheel, plows, and coverers. The object for lifting the chopping-wheel from the ground is to enable the operator to turn the same to bring the fenders carried thereby to position to cover the plants he desires to save for a stand, and when thus turned and upon the release of the lever 24 the springs 18 will effect automatic downward projection of the wheel to its normal position. The chopping-wheel comprises a hub 27, spokes 28, of any preferred construction, and a rim 29, having flat sides and an inclined or wedge-shaped inner periphery, the rim in this instance being composed of three sections, as shown in Fig. 2. Between the opposed ends of each of these sections and in alignment therewith is arranged a spoke 30, preferably of wood, and carried by these spokes are the fenders 31, each consisting of a pair of pointed or tapered plates of iron, bolted or otherwise secured to the spokes 30 and of a length to straddle a plant, and thus prevent the same from being covered up by the soil thrown up by the plows.

The beams 14 are connected near their rear ends by a yoke 32, the crest of which is curved and is engaged by one end of a rod 33, which is rigidly secured thereto, the other end of the rod being secured in the ring of an eyebolt 34, that serves to hold the lever 24 in operative position with relation to the cross-bar 25, as clearly shown in Fig. 2. The lower ends of the members of the yoke 32 are bent to form toes 35, that lie parallel with the inner sides of the beams 14 and are held associated therewith by keepers 36, as shown in Fig. 2, by which arrangement either of the beams 14 can be elevated or depressed to the exclusion of the other, the toes 35 forming fulcrums upon which the said beams will rock. The means for raising and lowering the beams 14 comprises two independent levers 37, pivoted upon blocks 37^a, secured to the standards 26 and having their forward ends connected by rods 38 with the outer sides of said beams, as shown in Fig. 2. Each of the standards 26 bears a segmental rack-plate 39 to be engaged

by a plate 40, carried by each of the levers 37, the levers acting in the ordinary manner to effect raising and lowering of the beams, as will be readily understood by reference to the drawings, and to keep the plates 40 in locked engagement with the teeth of the rack-plates 39 coiled springs 41 are employed, the terminals of which are connected, respectively, to the levers and to the standards, as best shown in Fig. 2. The rear ends of the levers 37 extend backward and within convenient reach of the operator, as does also the rear end of the lever 24, the forward end of the latter lever being provided with a downturned arm or projection 42 to engage with the outer face of the rim of the chopping-wheel, whereby to clear the same from soil that accumulates therein and that would tend to prevent proper operation of the wheel.

Secured to the inner side of each of the beams 14 are two plow-standards 42 and 43, the lower ends of the standards 42 terminating approximately in line with the axle of the chopping-wheel and those of the standard 43 approximately in line with the rim of the said wheel. The plow-standards 43 are disposed closer to the rim of the chopping-wheel than the standards 42 in order to bring plows carried thereby nearer to the said rim, and to effect this blocks 44 are interposed between the plow-standards 43 and the beams 14 and are held in position thereagainst by the U-bolts 45, that serve to clamp the standards against the beam, similar bolts 46 being employed for clamping standards 42 into position. While this form of fastening device will be found efficient for the purpose designed, it is to be understood that the invention is not to be limited to the same, as other means may be employed for the same purpose, as will be readily apparent. Carried by the standards 42 are the front plows 47, which are provided with moldboards next to the tire of the chopping-wheel that operates to pitch the loose soil over said tire, the fenders 31 serving to prevent the soil thrown over by these plows from covering the plants that are left for a stand. The standards 43 carry smaller plows 48, which are designed to fill up the furrow that the chopping-wheel may leave on top of the plants in the row in the event that the said wheel does not let enough loose soil drop back over the crushed plants and weeds to effect the purpose designed.

It will be seen that by the employment of the levers 24 and 37 the chopping-wheel may be lifted independently of the plow when a particular plant is to be saved and that the chopping-wheel and plow-supporting frame may be lifted together, if necessary, when turning the machine around at the end of the rows or in doubling trees or stumps. The plows are connected with the standards by the usual form of break-pin, so that should the plows contact with an obstruction, such as a rock or a stump, these pins will break, and thus save the plow-points from damage.

In order to clear the soil of vines and stalks that would tend to choke the plows, and thus prevent their proper operation, two saws or cutters 49 are employed, each consisting of a toothed blade disposed in alinement with the points of the plows 47 and having their teeth pitched toward the rear of the machine, and a shank 50 pivoted to the inside of the beam 14. Connected with each of these saws, near the shank thereof, is a supporting-link 51, the upper end of which is slotted at 52, and is held in position against the beam 14 by a pin 53 passing through the slot, and by this arrangement the saws will be permitted to have a limited vertical movement and will be held in proper alinement with the plows 47. To hold the saws in engagement with the ground and at the same time to permit them to yield should an obstruction be met, a coiled spring 54 is associated with each saw, one terminal of the spring being connected therewith adjacent to the shank and the other end to the front beam 3, as shown in Figs. 1, 2, and 3. In the operation of the machine the saws will operate to cut tie-vines, stalks, or other trash lying in the path of the plows, thereby assuring proper operation of the machine.

In order to strengthen the beams 14 at the points where the bearings 15 are provided, stay-plates 55 are employed, these being secured to the under side of each of the said beams, as shown in Fig. 2.

Secured to the inner side of the beams 14, in rear of the plows, are two coverers 56, which are designed to push or drag extra soil over the crushed plants should the plows fail to furnish enough thoroughly to cover them or in the event of the chopping-wheel removing part of the soil as it frees itself therefrom.

The rear outer portion of each of the beams 14 carries staples 57, which are designed to constitute fastening means for plow-feet when the machine is used with a cultivator. When thus employed, the moldboards are to be reversed, so that they will throw the dirt to each plant-row, the chopping-wheel being removed and a temporary doubletree substituted therefor of sufficient length to permit each horse to walk in a separate furrow while the machine is operating in the middle of the furrow to be plowed out.

Where the machine is used in light sandy soil, the cleaner 42 of the chopping-wheel will not be necessary; but where the soil is of a sticky nature its employment will be required.

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

1. In a combined cotton chopper and cultivator, a plow-supporting frame, in combination with a chopping-wheel disposed in parallel relation with the frame and adapted for upward movement independently of the said frame.

2. In a combined cotton chopper and cultivator, a plow-supporting frame, in combination with a chopping-wheel supported there-

by, means for elevating the wheel independently of the frame, and means operating automatically to return the wheel to its normal position upon release of the elevating means.

3. In a combined cotton chopper and cultivator, the combination of a plow-supporting frame, a chopping-wheel supported thereby, and yielding means operating normally to hold the wheel in contact with the ground.

4. In a combined cotton chopper and cultivator, a supporting-frame, a chopping-wheel carried thereby and adapted for upward movement independently thereof, and cutting means arranged in front of said wheel.

5. In a combined cotton chopper and cultivator, a supporting-frame, a chopping-wheel carried thereby and adapted for movement independently thereof, in an upward direction, and yielding cutting means arranged in front of the said wheel.

6. In a combined cotton chopper and cultivator, a main frame, a supplemental frame connected therewith for lateral and vertical movement, a chopping-wheel carried by the latter frame and adapted for upward movement independently thereof, plows and coverers supported in rear of the said wheel, and yielding cutting means arranged in front of the wheel and in alinement with the forward plows.

7. In a combined cotton chopper and cultivator, a wheeled supporting-frame, a two-membered supplemental frame connected therewith for lateral and vertical movement, means for adjusting the members of the latter frame in unison, or independently of each other, a chopping-wheel carried by the supplemental frame and adapted for vertical movement independently thereof, plows and coverers supported in rear of the said wheel, and yielding cutting means arranged in front of the wheel.

8. In a combined cotton chopper and cultivator, a plow-supporting frame, a chopping-wheel carried thereby, springs connecting with the axle of the wheel to cause it normally to engage with the ground, and lifting means associated with the axle of the wheel to lift the same above the ground independently of the supporting-frame.

9. In a combined cotton chopper and cultivator, a chopping-wheel having a sectional rim and fenders disposed to bridge the gaps between the terminals of the sections.

10. In a combined cotton chopper and cultivator, a chopping-wheel carrying fenders and having a sectional rim in combination with a wheel-lifting lever carrying means to keep the rim free from accumulated soil.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES MILTON BASS, SR.

Witnesses:

G. M. CUNNINGHAM,
R. C. BASS.