

No. 754,787.

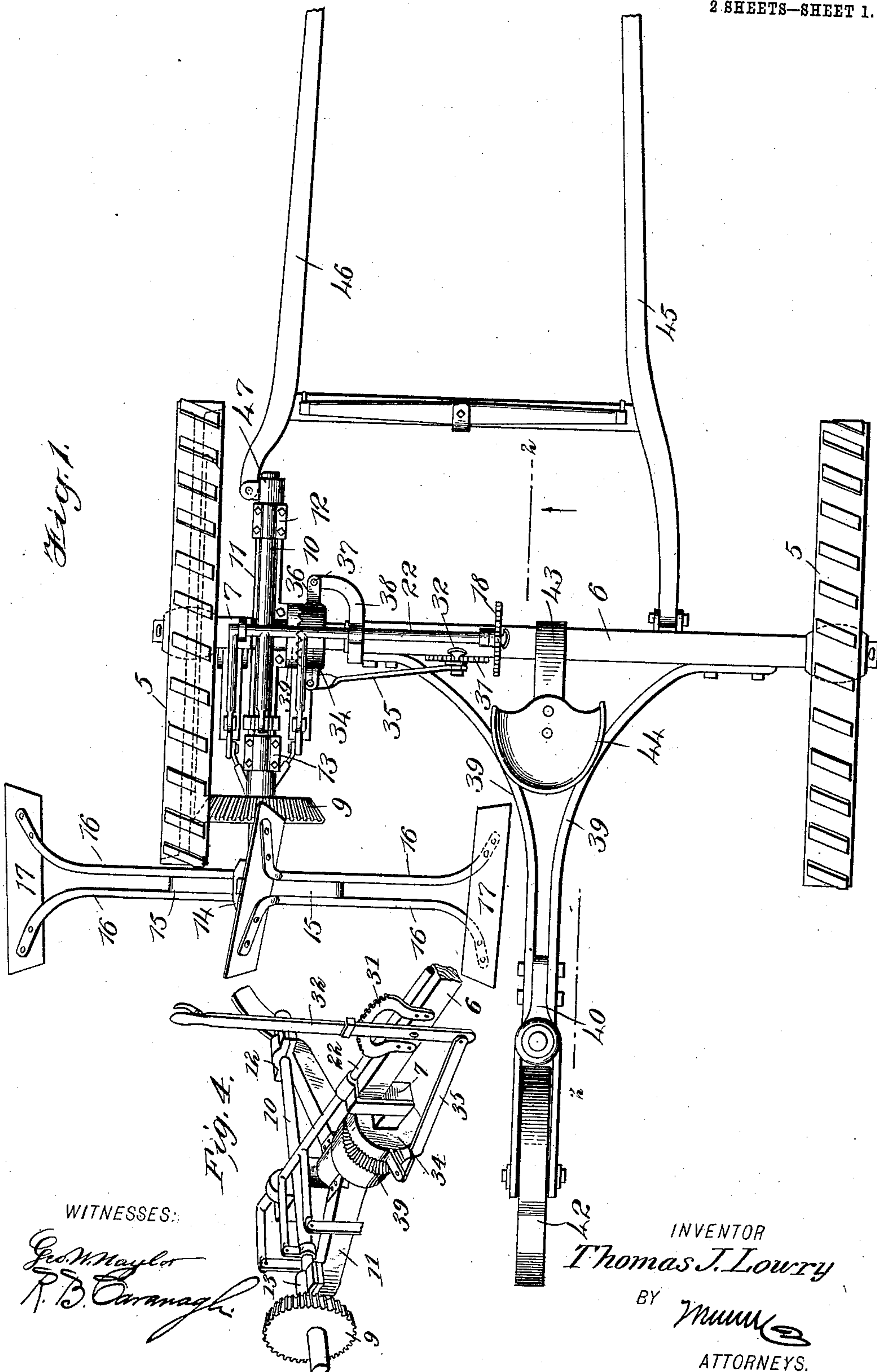
PATENTED MAR. 15, 1904.

T. J. LOWRY.  
COTTON CHOPPER.

APPLICATION FILED AUG. 14, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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*R. B. Caramagh*

INVENTOR

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BY

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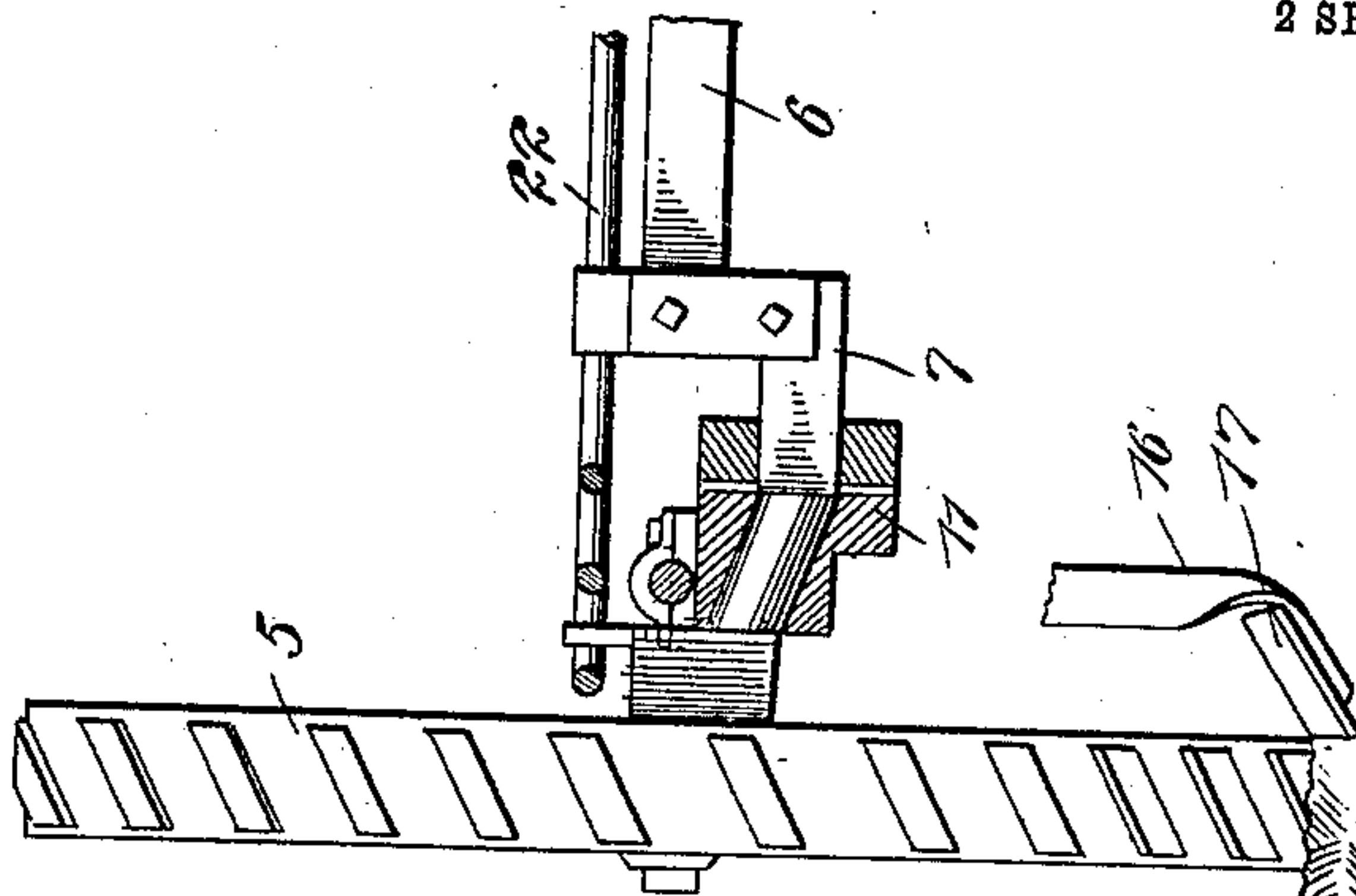
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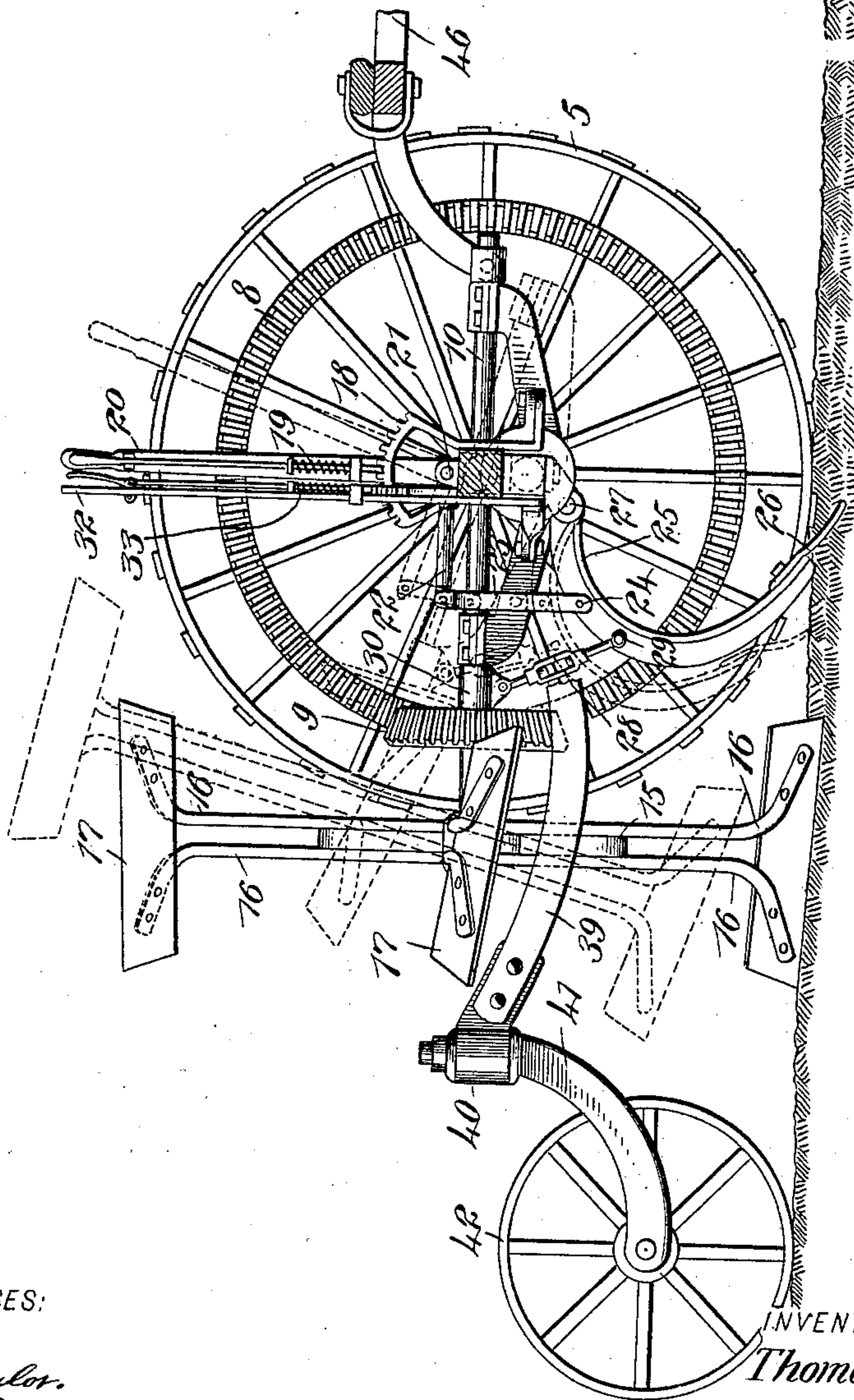
NO MODEL.

2 SHEETS—SHEET 2.

*Fig. 3.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

THOMAS J. LOWRY, OF MOUNTAIRY, NORTH CAROLINA.

## COTTON-CHOPPER.

SPECIFICATION forming part of Letters Patent No. 754,787, dated March 15, 1904.

Application filed August 14, 1903. Serial No. 169,466. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS J. LOWRY, a citizen of the United States, and a resident of Mountairy, in the county of Surry and State of North Carolina, have invented new and useful Improvements in Cotton-Choppers, of which the following is a full, clear, and exact description.

This invention relates to certain novel and useful improvements in cotton choppers and cultivating devices.

In the present instance I have in contemplation the provision of a machine or a device of the class described in which the chopping mechanism may be raised and lowered to put the same into and out of operation at the will of the operator.

A further object of my invention is to provide means under the ready control of the operator for holding or retaining the cutting mechanism in any desired position of adjustment.

A further object of my invention is to provide a cotton-chopper which shall embody the essential and desired features of simplicity, durability, economy, and inexpensiveness.

With the above-recited objects and others of a similar nature in view the invention consists in the construction, combination, and arrangement of parts, as is described in this specification, delineated in the accompanying drawings, and set forth in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a top plan view of a machine embodying my improvements. Fig. 2 is a side elevation, partly in section, on the line 2 2 of Fig. 1; and Fig. 3 is a view, partly in section, of a portion of the axle of the machine adjacent to one of the ground-wheels thereof. Fig. 4 is a detail perspective view of the rocking frame and the clutch mechanism for locking the same.

Referring now to the accompanying drawings in detail, 5 5 designate the ground or traction wheels of the machine, said wheels being mounted in the ordinary manner upon

the axle 6, which axle is irregularly shaped at one end, as at 7—that is to say, is dropped—for a purpose to be hereinafter described. Secured to one of the ground-wheels is a circular gear wheel or rack 8, designed to revolve with said wheel, said rack normally meshing with a bevel gear-wheel 9, carried by the horizontally-extending shaft 10, mounted transversely of the axle 6, said shaft finding bearing in a metallic frame 11, the bearing comprising a bearing-box 12 at the front of the frame and a second bearing-box 13 at the rear thereof. The frame 11 is in turn supported by and adapted to rock upon the axle 6 at the lower or dropped portion thereof, so as to bring the shaft 10 on a line with the center of the axle, and the bearing of the frame upon the axle is so arranged that such frame may be readily disengaged from said axle. At the rear end of the shaft 10 is secured a hub 14, and arranged circumferentially of said hub are a number of radially-extending spokes or studs 15, each having secured thereto a pair of arms 16 16, each pair of arms carrying at the outer ends thereof a cutter blade or knife 17, the cutting edge of said knife being at an inclination to the longitudinal axis of the shaft 10, thus throwing the forward end of the blades or cutters slightly in advance of the rear ends thereof, so that in striking the land each blade will cut by degrees and will clear itself in the forward motion of the machine.

In order to throw the cutters out of operation by lifting the same from the ground, I have devised the following means for rocking the frame 11 upon the axle 6, said frame in its tilting or rocking movement carrying with it the cutting mechanism and throwing the bevel gear-wheel 9 out of engagement with the circular rack 8: Rigidly secured to the central beam of the machine is a vertically-extending segmental toothed rack 18, the teeth of said rack being designed to be engaged by the spring-actuated locking-pawl 19 of the lever 20, which lever is pivoted at a point 21 on the main axle-frame. A relatively short rod 22 is connected at one end to said lever and at the opposite end is connected with a chain of links 23, certain of said links being bolted to the rocking frame 11 of



the device, while the extreme end links of the chain are pivoted, as at 24, to an arm 25, carrying the cultivating-shovel 26.

It will be noted that the arm of the cultivating-shovel is hinged at 27, directly beneath the main frame of the axle, and such shovel is adjusted through the medium of a turn-buckle device 28, secured at one end 29 to said arm and at its opposite end to a collar 30, carried by the shaft 10. From this construction it will be seen that when the lever 20 is shifted the frame 11 will be rocked upon the axle and in such rocking movement will of course carry with it the shaft 10, thus elevating the cutter-blades from the ground and throwing the bevel gear-wheel 9 out of engagement with the circular rack. The position which the parts will assume when the lever is lifted to raise the cutter-blades from the ground is clearly shown by the dotted lines in Fig. 2. It is often desirable in many instances to lock the blades in an elevated or in an inclined position, and to accomplish this purpose I have secured to the axle-frame a second segmental rack 31, arranged at right angles to the first-mentioned rack 18, and a lever, as at 32, similar in construction to the lever 20 and carrying a locking-pawl 33, is pivoted adjacent to said rack 31, said locking-pawl being adapted to engage with the notches in said rack as the lever is swung back and forth over the same. Upon the axle is mounted one member of a toothed collar-clutch, said member being indicated at 34, and connecting said clutch member with the lever 32 is a rod or bar 35. At a point on the clutch member opposite the pivot of the bar 35 is formed an ear 36, by which the clutch member is pivotally connected at 37 with an angle-arm 38, rigidly secured to the axle. This clutch member 34, it is to be noted, is slidably mounted upon the axle, and when the lever is swung toward the same it is designed to be thrust into engagement with the adjoining toothed circular clutch member 39, which is formed integral with the rocking frame 11. The above construction will be clearly seen in Fig. 4. It will be evident that when the sliding member is thrust outward and into engagement with the rigid clutch member of the rocking frame said frame will be held against rocking movement upon the axle and the cutting-blades will be held in whatever position of adjustment they may happen to be in at that time. The machine is provided at its rear with a plurality of backwardly-extending converging beams 39 39, forming at their ends a bifurcated support for the collar 40, which collar carries the swiveled arm 41, the latter in turn forming a fork for the small trailing wheel 42. The machine is also provided with a seat-post 43, carrying a seat 44, and with a pair of shafts 45 46, the shaft 45 being connected directly to the axle, while the shaft 46 is secured to a collar 47, bolted upon the shaft 10.

From the above description, taken in connection with the accompanying drawings, the construction and operation of my improved cotton-chopper will be readily apparent. The forward movement of the machine causing the circular cog-rack 8 to revolve with the ground-wheels, to which it is secured, imparts motion to the bevel gear-wheel 9, this in turn causing the rotation of the shaft carrying the cutting device. As each of the cutting-knives passes through the ground it carries with it a portion of the earth and also the cotton-plant, and as the machine travels forward a certain distance a certain amount of the cotton-plant will be left uncut before another knife comes around and the operation of cutting or thinning out the cotton-stalks is completed. Upon the manipulation of the levers 20 and 32 the cutter can be raised and secured in any desired position and thrown out of gear when raised, this adjustment being provided for by the drop in the axle, as heretofore explained.

While I have shown and herein described one particular embodiment of my invention, it is of course to be understood that I do not wish to confine myself to all the precise details of construction set forth, as there may be modifications and variations in some respects without departing from the spirit of the invention or sacrificing any of the advantages thereof. For instance, the cutter-blades can be replaced with others of any suitable length desired to make a longer or shorter cut and may be placed at any desired angle. It will be observed that I have provided an exceedingly simple, complete, and compact machine for chopping cotton-plants and one which will accomplish a great saving of labor.

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

1. In a cotton-chopping machine, the combination of ground-wheels and an axle connecting the same, of a rocking frame mounted upon said axle, a shaft journaled in said rocking frame, cutting devices carried by said shaft, means for imparting motion to the shaft from the ground-wheels, whereby the cutting devices will be actuated, means for rocking the frame to raise and lower the cutting devices, and means including a clutch mechanism for holding the rocking frame against movement in any position in which it may be adjusted, whereby the cutting-blades will be held against movement, higher or lower relative to the ground, substantially as set forth.

2. A device of the class described, including ground-wheels and an axle connecting the same, a cog-rack carried by one of said wheels, a rotatable shaft supported transversely of the axle and between the ground-wheels, and a gear-wheel carried by said shaft and meshing with the cog-rack, the construction being such that a rotary motion will be imparted to the shaft and the cutting device carried by said shaft and means including a clutch mechanism



for holding the cutting devices in a position of adjustment, substantially as set forth.

3. A device of the class described, including ground - wheels and an axle connecting the same, of a rotatable shaft supported at a point between said ground-wheels, a cutting device carried by said shaft, a cultivating device mounted beneath the shaft, means for raising and lowering the cutting device and the cultivating device relative to the ground, and means including a two-part clutch mechanism for holding the cutting device and the cultivating device in various positions of adjustment relative to the ground, substantially as set forth.

4. A device of the class described, including ground - wheels and an axle connecting the same, a rocking frame mounted on said axle, a rotatable shaft supported upon the frame, means for imparting a rotary motion from one of the ground-wheels to the shaft, a cutting device carried by said shaft, and means, including a toothed rack, a pivoted locking-lever, and a connection between the lever and the shaft for raising and lowering the shaft and the cutting device, substantially as set forth.

5. In a device of the class described, the combination with the ground-wheels and an axle connecting the same, of a rocking frame carried by said axle, means for rocking the frame upon the axle, and means including a two-part clutch mechanism one part of said clutch being rotatable for holding the frame in any position to which it has been moved or rocked upon the axle, substantially as set forth.

6. In a device of the class described, the combination of the ground - wheels and an axle connecting the same, such axle having a downwardly-inclined or dropped portion, a rocking frame mounted upon the axle at such downwardly-inclined portion, a shaft journaled in said frame, a bevel gear-wheel carried by said shaft and designed to mesh with a cog-rack carried by one of the ground-wheels, a cutting device carried by said shaft, and means

for rocking the frame upon the axle, the construction being such that the cutting device may be raised and lowered relative to the ground, and the bevel gear-wheel thrown out of engagement with the cog-rack, substantially as set forth.

7. In a device of the class described, the combination with the ground-wheels and an axle connecting the same, of a rocking frame carried by said axle, a shaft journaled in said frame, a cutting device carried by said shaft, means including a toothed segment, a locking-lever, and a connection between the lever and the frame for raising and lowering the frame with the shaft and the cutting device, and means, including a locking-lever and a two-part clutch member, one part of the clutch being rigid to the axle, and the other part slidable thereon, for locking frame in an adjusted position, substantially as set forth.

8. A device of the class described, comprising a sulky - machine, including a pair of ground - wheels, one of said wheels having a circular toothed rack secured thereto, a rocking frame mounted intermediate the ground-wheels, a rotatable shaft carried by said frame, a bevel gear-wheel carried by said shaft and intermeshing with the rack, a cultivating device adjustably mounted beneath the shaft, a cutting device carried by said shaft, means, including a toothed segment, a locking-lever, and a connection between the lever and the cultivating device, for raising and lowering the cultivating device and the cutting device relative to the ground, and means for locking the cultivating device and cutting device in their raised non-active position, substantially as set forth.

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

THOMAS J. LOWRY.

Witnesses:

THOS. B. ASHBY,  
GEO. W. SPENGER.