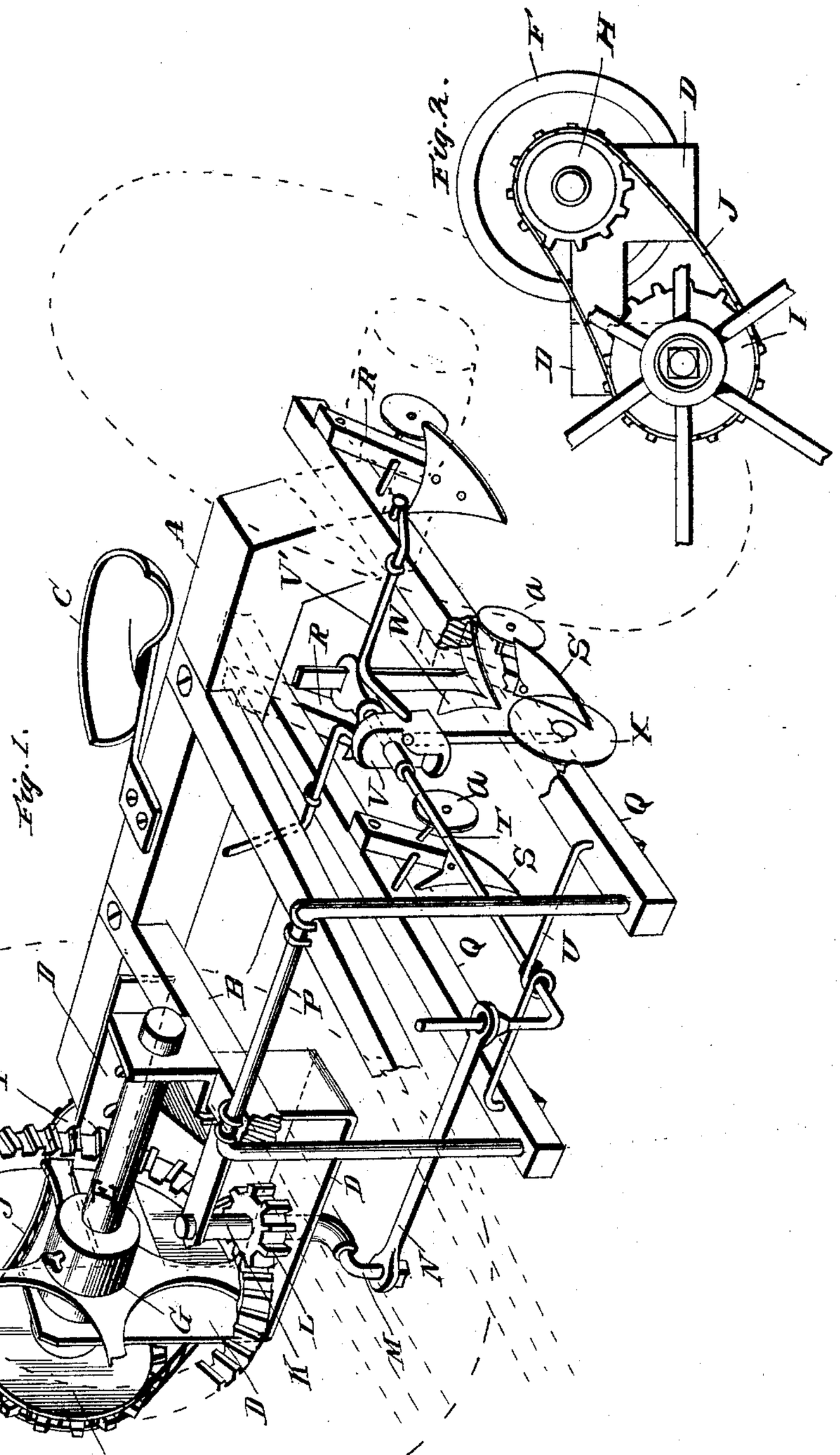
(No Model.)

J. W. GUYTON.

COTTON CHOPPING MACHINE.

No. 452,783. Patented May 26, 1891.



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UNITED STATES PATENT OFFICE.

JAMES W. GUYTON, OF CRAWFORD, TEXAS.

COTTON-CHOPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 452,783, dated May 26, 1891.

Application filed September 17, 1890. Serial No. 365,310. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. GUYTON, a citizen of the United States, residing at Crawford, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Cotton-Chopping Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in stalk-choppers, and is more particularly adapted for chopping cotton, as will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of the main frame and the operating mechanism of my improved machine, the traveling wheels being represented by dotted lines. Fig. 2 is a detail side elevation of the sprocket-wheel and a portion of one of the traveling wheels, the drive-chain, and the sprocket-wheel fixed on the shaft of the large lateral gear.

Referring by letter to the said drawings, A indicates the main transverse beam of the frame, which has its ends preferably pitched downward, as illustrated, and attached to this beam A is an axle, which may be of any approved construction, upon which the traveling wheels are mounted. Suitably secured to the upper side of this transverse beam A, and extending forwardly therefrom, are two beams B, which converge and are connected together at their forward ends to form the ordinary draft-tongue, to which the draft-animals are attached through the medium of whiffletrees or the like; also secured to the transverse beam A, between the beams B, is a rearwardly-extending seat-bar, which is preferably formed of flat spring metal, and has attached to its rear end a seat C, which may be of any ordinary or approved construction.

D indicates the gear-supporting frame or casting, which is attached to the forward side of the transverse beam A, adjacent to the end thereof, and to one of the converging beams B, as illustrated.

E indicates a transverse shaft which is journaled in the upper portions of the casting or frame D, and fixed on this shaft E, adjacent to its outer bearing, is a lateral gear-wheel F, the teeth of which extend inwardly and are engaged by a horizontal pinion, presently to be described.

Fixed by means of set-screws upon the shaft E are nuts G, which are placed on either side of the lateral gear-wheel F and serve to adjust the same upon the shaft; but I do not desire to confine myself to this means for adjusting the gear, as any suitable means might be employed for the purpose. Fixed on the outer end of the shaft E is a sprocket-wheel H, which may be of any preferable construction and of a suitable proportional diameter to the gear F. This sprocket-wheel H is connected with and adapted to be operated by a suitable sprocket-wheel I, fixed upon the inside of the hub of the adjacent traveling wheel through the medium of a suitable sprocket-chain J, which passes around both sprockets.

Journaled in the lower horizontal bar of the casting or frame D, and in a horizontal bracket extending from the inner vertical branch of said casting, is a vertical shaft K, on which above the lower bar of the casting is fixed a horizontal pinion L, the teeth of which engage those of the gear F, by which said pinion and its shaft are rotated. The lower end of the vertical shaft K is cranked, as at M, and has attached to it a horizontal pitman-rod N, for a purpose presently to be described.

Suitably journaled on the upper side of the beams B is the horizontal portion of a bail P, the vertical branches of which depend on the outside of the said beams, and suitably secured to these depending branches of the bail are two rearwardly-extending beams Q. Attached to these beams Q, and preferably on the outside thereof adjacent to their rear ends, are plow-beams R, which are preferably pitched slightly forward and are provided with blades of suitable construction designed and adapted to loosen or uproot the stalks that have been cut by the chopper-blade, presently to be described.

Secured to the inside of the beams Q in advance of the chopper-blade are two plows, as S, which are designed to loosen the earth about the stalks, and thereby serve to facilitate the work of the chopper and the follower-

plows. Attached by lateral shafts to the beams of these plows S, and extending therefrom so as to rest in a position parallel with the said plows, are vertically-disposed disks *a*, designed to operate in conjunction with the plows to throw the dirt from around the cotton-stalks, so as to leave a ridge about the stalk, whereby the chopping-blade may operate more effectively. The inner end of the pitman-rod N, before described, is pivotally connected to the upper end of the vertical branch of the chopper-shaft T, which is bent and takes rearwardly in a horizontal position through a forward bearing afforded by a transverse bar U and a rear bearing formed in a block, as V, which is supported by the crank portion of a transverse rocking bar V′, which bears in suitable bearings upon the upper side of the beams Q.

Seated in an adjustable manner in the rear enlarged end of the lateral rocking shaft T is the beam of the chopping-blade W, which is preferably formed of two blades arranged at angles and meeting at their forward points, as illustrated, although it is obvious that any suitable construction of chopping knife or blade may be employed.

Secured in the bearing-block V and depending therefrom is a vertical beam, which has journaled in a suitable manner at its lower end a wheel X, which serves as a gage-wheel for the cutting blade or knife, whereby the height of the same is regulated.

One of the ends of the rocking crank-bar V′ is cranked, as illustrated, whereby the chopping-blade may be thrown up out of an operative position, and it is obvious that a suitable device, as a segmental rack, may be employed to secure the rocking bar in its adjusted position. Any suitable device, as a lever or adjustable bail, might also be attached to the rear end of the beam Q, whereby the operating mechanism may be raised out of an operative position when desired.

In operation when the team is started the sprocket upon one of the traveling wheels will impart motion to the sprocket H through the medium of the sprocket-chain, which will rotate the gear F and in turn the pinion L and the crank M, which will impart a reciprocatory motion to the pitman N and the horizontal bar T, which will give the cutter-blade a reciprocatory motion. It is obvious that the speed of the reciprocatory chopping-blade might be regulated by the employment of gears H of various sizes.

Having described my invention, what I claim is—

1. In a cotton-chopper, the combination, with the longitudinally-arranged rock-shaft mounted in suitable bearings and carrying the chopper-blade at its rear end and having its forward end bent vertically, of a horizontal pitman connected to said rocking bar, the vertical pinion-shaft having its lower end cranked and pivotally connected with said pitman, the horizontal pinion mounted on said pinion-shaft, the lateral gear-wheel fixed on a horizontal shaft journaled in suitable bearings, and a mechanism, substantially as described, for connecting said lateral gear with the traveling wheel of the machine, whereby motion is imparted from said wheel to the chopper-blade, substantially as and for the purpose described.

2. In a cotton or stalk chopper, the combination, with the longitudinally-arranged rock-shaft mounted in suitable bearings and having its forward end bent vertically, and the chopping-blade suitably connected with the rear end of said bar, of a horizontal pitman-rod pivotally connected to the vertical branch of the rocking bar, the vertical pinion-shaft having its lower end cranked and pivotally connected to the pitman-rod, the horizontal pinion mounted on said vertical shaft, the lateral gear-wheel fixed on a shaft journaled in suitable bearings and engaging the teeth of the horizontal pinion, the sprocket-wheel journaled on the outer end of the gear-shaft, the sprocket-wheel fixed on one of the traveling wheels, and the sprocket-chain connecting the two sprocket-wheels, all adapted to operate substantially as specified.

3. In a cotton-chopper, substantially as described, the combination, with the main transverse beam and the converging beams extending forwardly therefrom, of the bail having its horizontal branch journaled on said converging beams, the longitudinal rearwardly-extending beams having their forward ends secured to the depending branches of the bail, the rear plows attached to said longitudinal beams adjacent to the rear thereof, the forward plows also attached to said beams in advance of the chopping-blade, and vertically disposed disks attached to the beams of the forward plows and adapted to operate in conjunction with said plows, substantially as specified.

4. In a cotton-chopper, the combination, with the longitudinally-arranged rock-shaft mounted in suitable bearings and carrying the chopper-blade and having one end bent vertically, of a horizontal pitman connected to said rock-shaft, the vertical pinion-shaft having its lower end cranked and pivotally connected to said pitman, and a horizontal rotatable shaft carrying a gear-wheel adapted to gear with the pinion-shaft, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES W. GUYTON.

Witnesses:
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