(No Model.) 2 Sheets—Sheet 1.

D. W. PILAND.

COTTON CHOPPING, PLANTING, AND CULTIVATING MACHINE.

No. 411,470. Patented Sept. 24, 1889.

Fig. 1.

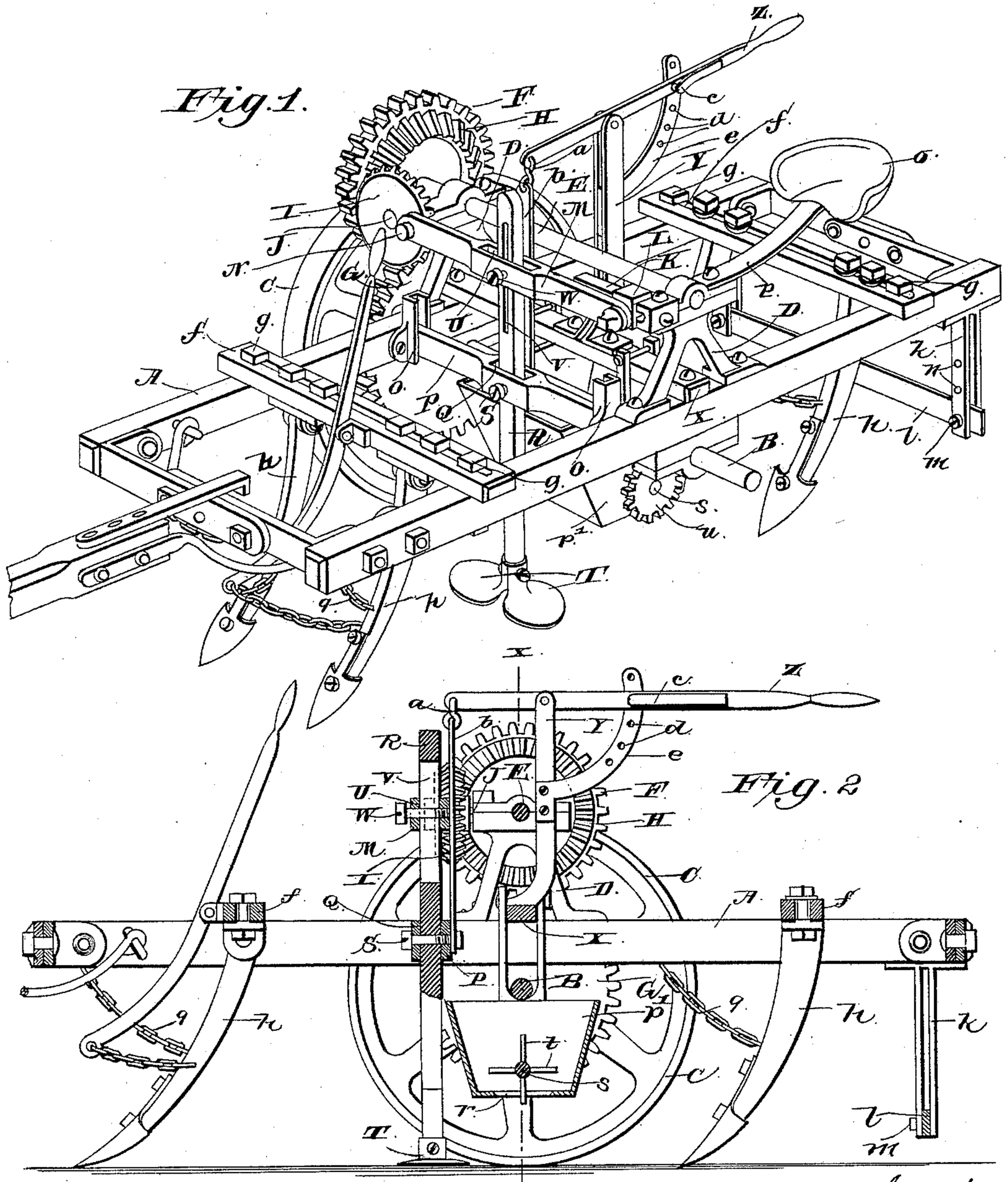

Fig. 2

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Fig. 3.

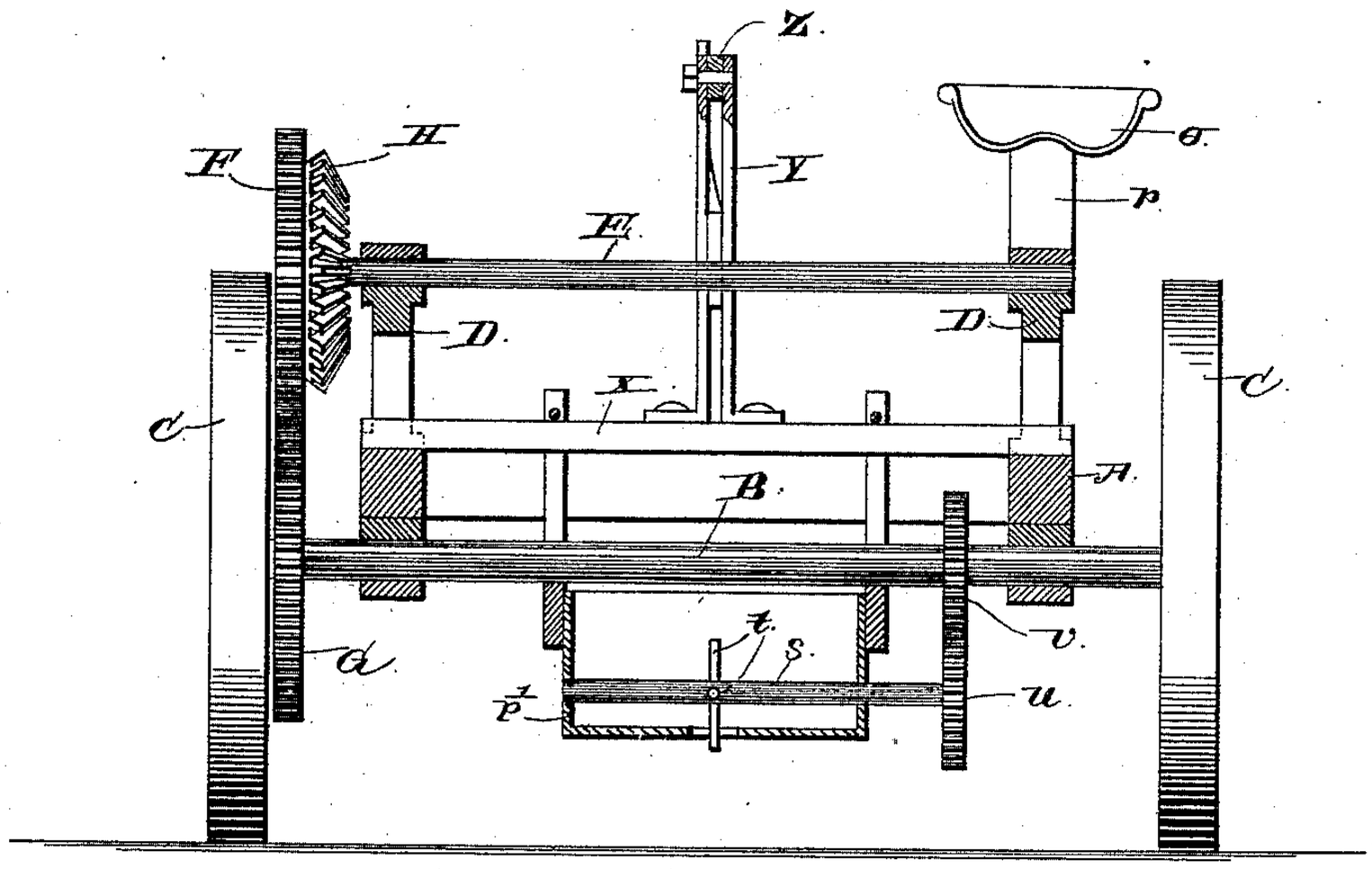
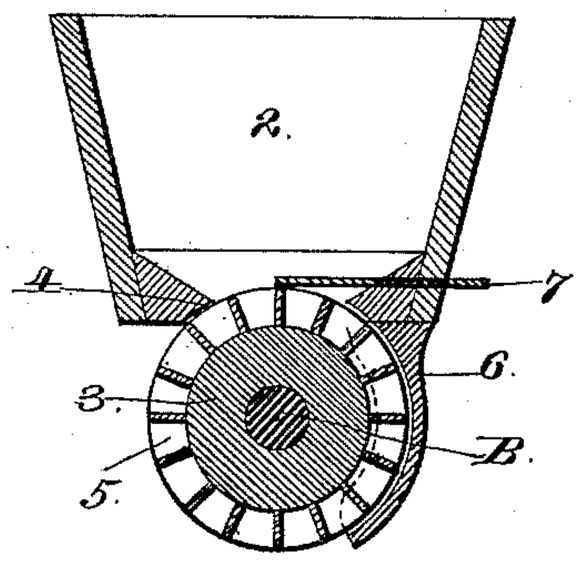


Fig. 4.



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UNITED STATES PATENT OFFICE.

DAVID WINFIELD PILAND, OF WAELDER, TEXAS.

COTTON CHOPPING, PLANTING, AND CULTIVATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 411,470, dated September 24, 1889.

Application filed April 16, 1889. Serial No. 307,409. (No model.)

To all whom it may concern:

Be it known that I, DAVID WINFIELD PILAND, a citizen of the United States, residing at Waelder, in the county of Gonzales and State of Texas, have invented a new and useful Combined Cotton Chopping, Planting, and Cultivating Machine, of which the following is a specification.

This invention relates to combined cotton chopping, planting, and cultivating machines; and it has for its object to provide a machine of this class which shall be simple in construction, inexpensive, durable, and easily operated.

With these ends in view the invention consists in the construction and arrangement of parts, that will be more fully hereinafter described, and particularly pointed out in the claims.

My present invention is an improvement on the device for which Letters Patent of the United States No. 383,146 were granted to me of the 22d day of May, 1888; and it consists, mainly, in an improved mechanism whereby the cotton-chopping device may be lowered or raised, so as to throw it into or out of operation.

My present invention further consists in an improved method of attaching the plows or furrow openers and coverers, as well as the cultivating-blades, to the frame of the machine, and in an improved corn-planting attachment, as I shall now proceed more fully to describe with reference to the drawings, in which—

Figure 1 is a perspective view of a machine embodying my improvements. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a vertical transverse section taken on the line *x x* in Fig. 2. Fig. 4 is a detail view of the corn-planting attachment.

The same letters refer to the same parts in all the figures.

A designates the rectangular frame of the machine.

B is the axle, which is journaled in suitable boxes or bearings on the sides of the frame, and which carries the supporting-wheels C C, one of which may be loose upon the axle, if so desired.

D D are brackets rising vertically from the sides of the frame above the axle, and provided at their upper ends with bearings for a transverse shaft E, one end of which carries a gear-wheel F, meshing with a spur-wheel G, which is suitably secured upon said axle B. The inner side of the gear-wheel F is provided with beveled spur-teeth H, meshing with a beveled gear I, which is secured upon the front end of a shaft J, journaled longitudinally in suitable bearings upon the upper side of one of the brackets D. The opposite bracket D is provided at its upper end with a guideway K, on which slides a cross-head L, to which is pivotally connected a pitman M, the outer end of which is connected with a wrist-pin N upon the face of the beveled gear I.

The inner sides of the side beams of the frame are provided in front of the axle with vertical flanges or guides O O, between which is arranged a cross-beam P, arranged to slide vertically between the said guides or flanges. Said beam has a central transverse slot Q, in which is mounted a vertical lever R, mounted upon a pin S, which passes through the slotted portion of the beam and through the said lever. The lower end of the lever R carries the chopping-hoes T, and its upper end, which extends through a slot U in the pitman M, is provided with a vertical slot V, working on a pin W, which passes through the slotted portion of the pitman M, as shown.

X is a cross-bar connecting the sides of the frame above the axle, and upon the said cross-bar is mounted a standard Y, at the upper end of which is pivoted the lever Z, the front end of which is connected by a link *a* with an arm *b*, extending upwardly from the vertically-movable cross-bar P. The rear end of the lever Z, which forms an operating-handle, is provided with a spring-catch *c*, adapted to engage any one of a series of perforations *d* in a segmental arm or bracket *e*, extending rearwardly from the standard Y, thereby causing the said lever with its attachments to be retained securely at any desired adjustment.

The operation of this part of my invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. Rotary motion is communicated from the axle of the machine through the gear-wheels F and G to

the wheel I, reciprocating the pitman M, which in turn imparts an oscillating motion to the chopping-lever R. By means of the lever Z the cross-bar P, carrying the said chopping-lever, may be readily raised or lowered and retained at any desired adjustment, thus throwing it out of or into operation, as the case may require.

f f are cross-bars, secured by means of bolts *g* to the side beams of the frame, near the front and rear ends of the latter, respectively. These cross-bars are provided with slots, in which the upper ends of the standards *h*, carrying, respectively, the furrow-openers and the coverers of the cultivator-blades, are laterally movable to any desired adjustment. The front ends of the standards are connected with the frame by means of chains 9, in lieu of the ordinary brace-rods. I prefer to so construct the said standards that their lower ends may be raised out of the ground when desired by means of suitable lever mechanism, and any desired mechanism whereby this result may be effected may be used in connection with my invention.

The rear end of the frame is provided with downwardly-extending arms *k k*, which said arms are bifurcated, as shown, for the admission of a vertically-adjustable scraper-blade *l*, which may be secured in position at any desired height by means of pins *m*, passing through aligned openings *n* in the vertical members of said bifurcated arms.

A seat *o* for the driver is mounted upon a spring-bar *p*, extending rearwardly from one of the brackets D at one side of the machine.

From the foregoing description, taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. The plows or furrow openers and coverers, as well as the scraper-blade, may be conveniently moved to any desired adjustment, the advantages of which need not be enlarged upon.

The cotton-planting attachment, which is sometimes used in connection with my invention, comprises a hopper *p'*, attached to a cross-bar X, secured transversely upon the the frame above the axle. The bottom of said hopper has a longitudinal slot *r*, and its sides are provided with bearings for a transverse shaft *s*, provided with agitating-fingers *t*, and having at its outer end a spur-wheel *u*, meshing with a gear-wheel *v* upon the axle of the machine. Rotary motion being thus communicated to the transverse shaft of the seed-hopper, the fingers upon the said shaft will force the seed out through the slots in the bottom of said hopper in any desired quantity.

The corn-planting attachment, which, when desired, may be substituted for the cotton-planting device, comprises a hopper 2, suitably attached to a cross-bar of the frame. 3 is a seed-wheel, which may be mounted upon the axle of the machine, and which rotates in a slot 4 in the bottom of the hopper 2. The periphery of said seed-wheel is provided with a series of recesses or pockets 5 of suitable size to contain the desired quantity of seeds, and a spout 6 is suitably attached to the hopper for the purpose of conveying the seeds to the ground. A suitable cut-off or valve 7 is arranged in the hopper to remove any superfluous quantity of seeds from the pockets or recesses in the seed-wheel.

The operation of the cotton and corn planting attachments used in connection with my invention will be readily understood. It is obvious that when either of said attachments is to be used the cotton-chopping attachment is to be removed from the frame, which may be readily done by removing the cross-bar P, carrying the chopping-lever, and the pitman, by which the latter is operated. The corn or cotton planting attachment may then be readily secured in position, and operated in the manner described. It is obvious that plows or furrow-openers, as well as cultivators, are to be used interchangeably, according to the use for which the machine is required.

Having thus described my invention, I claim—

1. The combination of the rectangular frame, the vertical guides or flanges upo the inner sides of the side beams thereof, a transverse beam sliding vertically in said guides and carrying an oscillating chopping-lever, an upright mounted upon the frame, an adjusting-lever pivoted to said upright, and a link connecting said adjusting-lever with the vertically-sliding beam carrying the chopping-lever, substantially as and for the purpose set forth.

2. The combination, with the frame, the side beams of which are provided on their inner sides with vertical guides or flanges, of the transverse cross-bar sliding between said flanges, the chopping-lever mounted pivotally in said cross-bar, a pitman connected pivotally at one end to a sliding cross-head and having its other end connected with a wrist-pin upon the face of a wheel, to which rotary motion is imparted from the axle of the machine, a pin connecting said pitman with a vertical slot in the upper end of the chopping-lever, and an adjusting-lever, one end of which is connected by a link with an arm extending upwardly from the vertically-adjustable cross-bar carrying the chopping-lever, and the other end of which is provided with a spring-catch adapted to engage any one of a series of perforations in a segmental bracket, substantially as and for the purpose set forth.

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

DAVID WINFIELD PILAND.

Witnesses:
J. B. HILL,
E. W. WALKER.