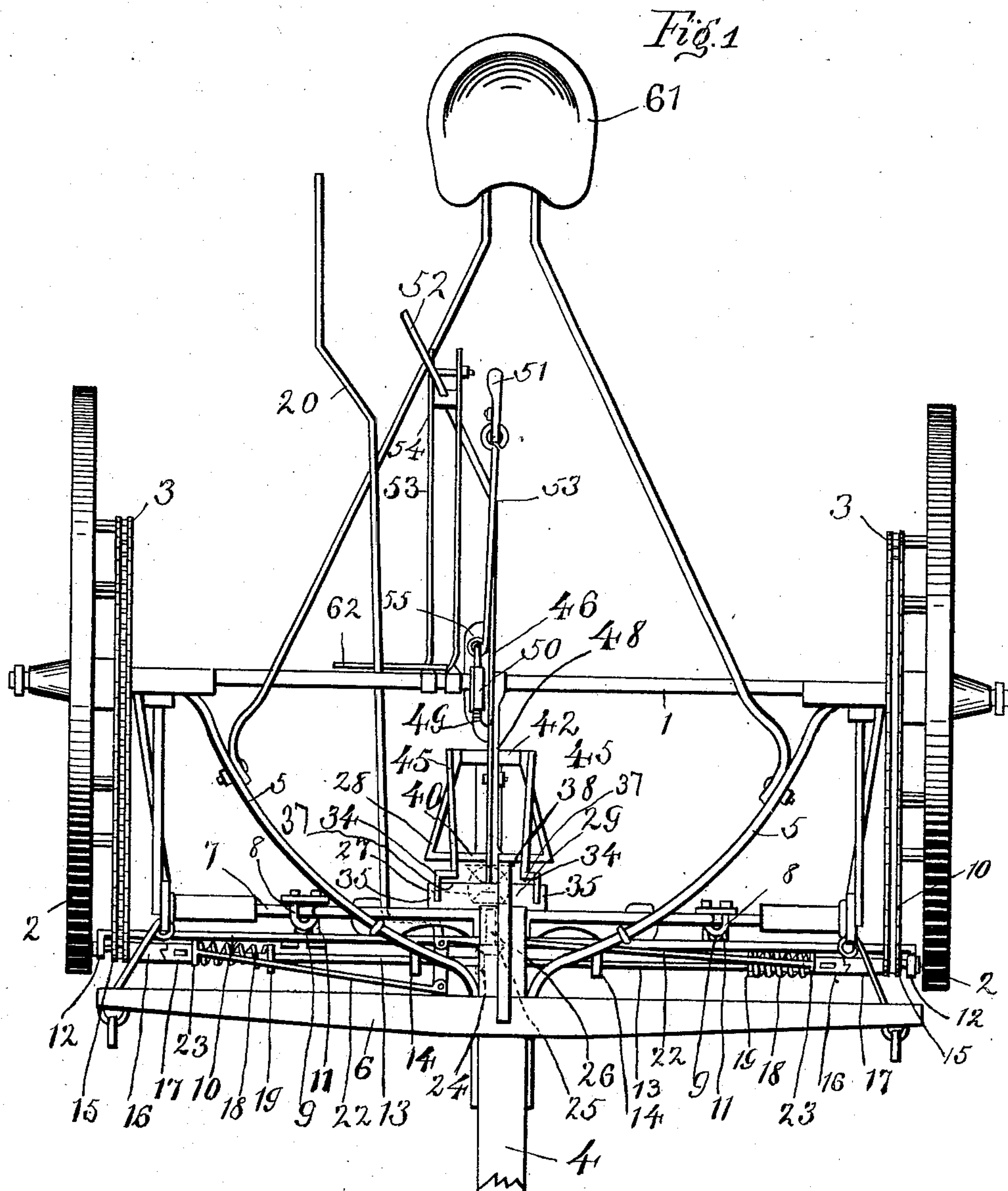


No. 840,439.

PATENTED JAN. 1, 1907.

S. A. COWART,
COTTON CHOPPER.
APPLICATION FILED SEPT. 1, 1906.

4 SHEETS—SHEET 1.



Witnesses:—

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J. W. Still

Inventor,
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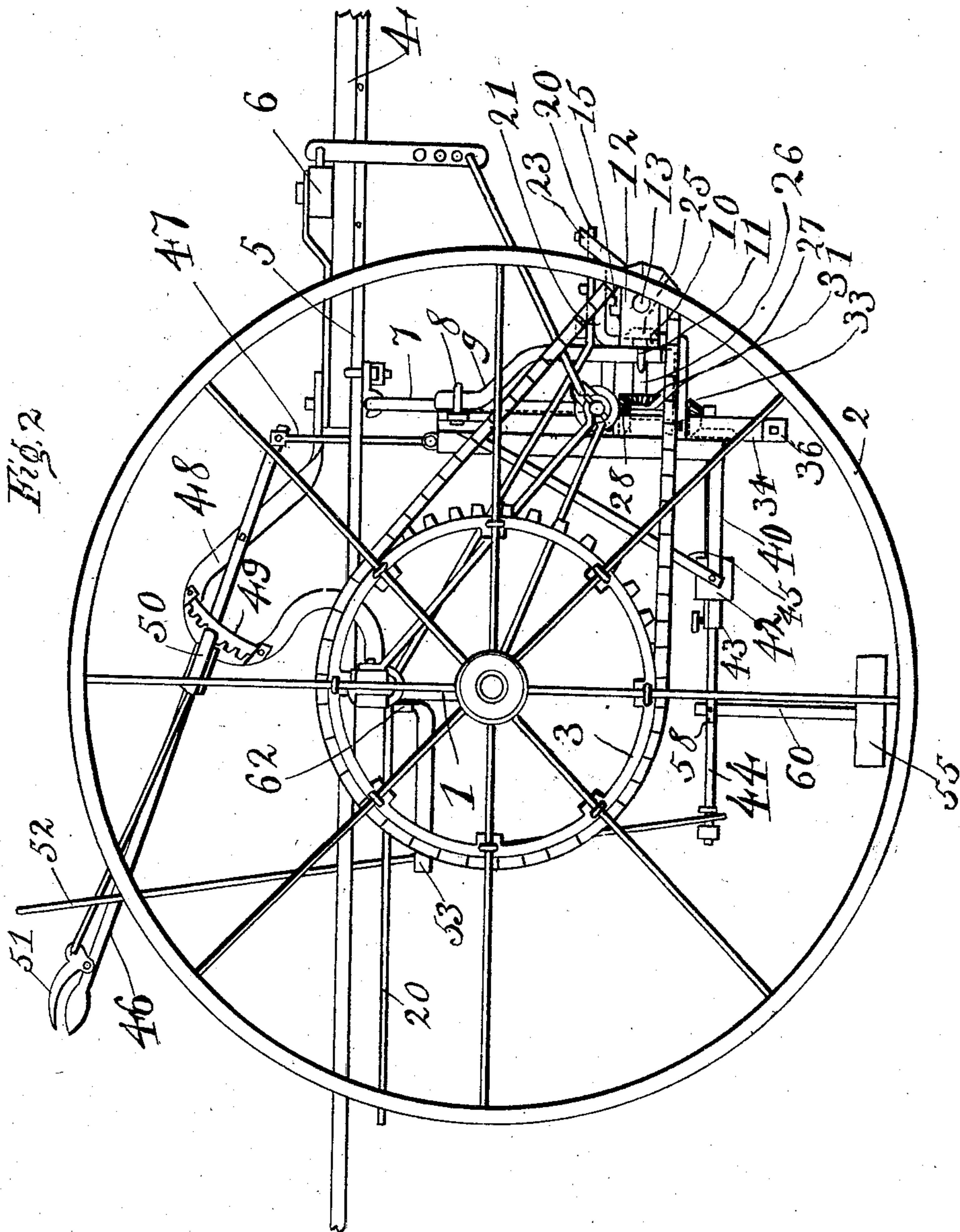
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4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

Fig. 3

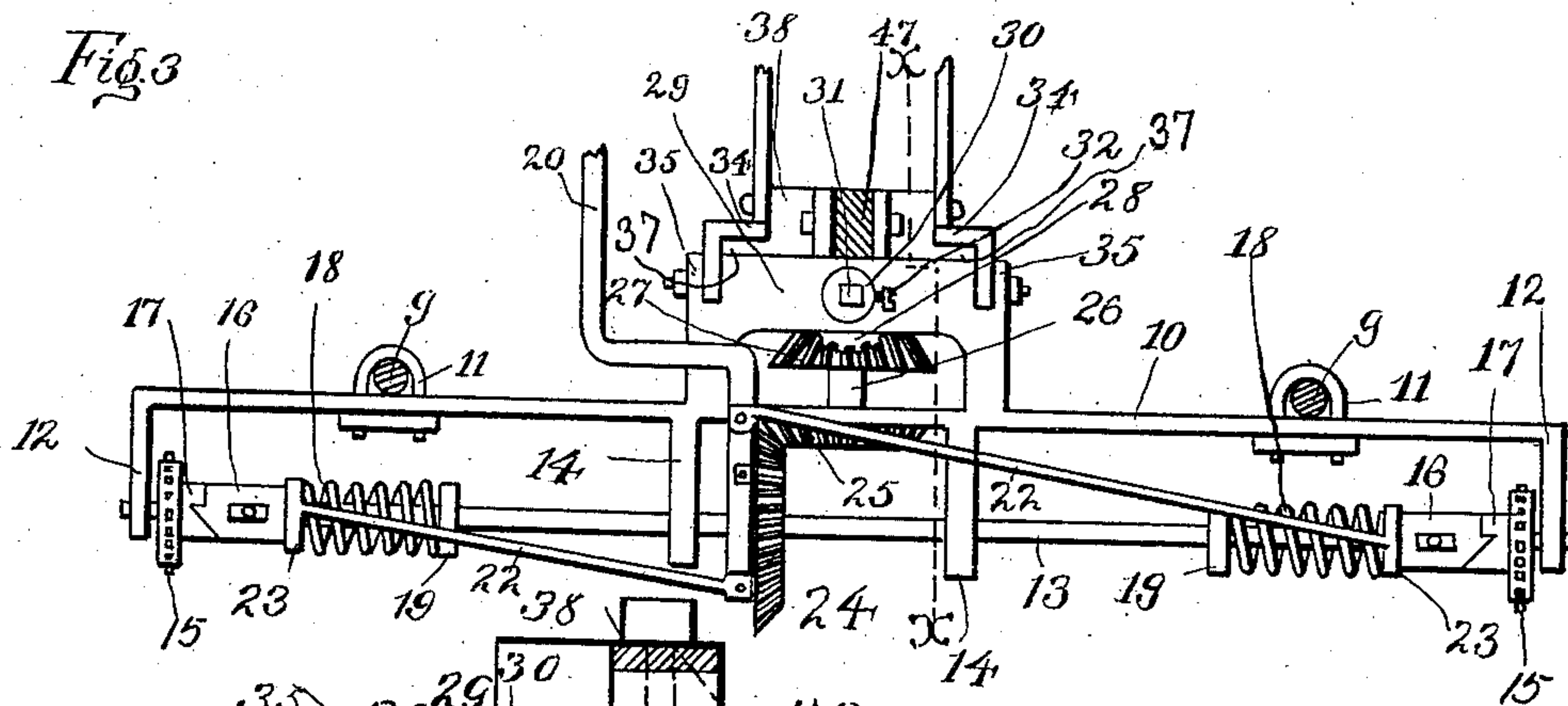


Fig. 4

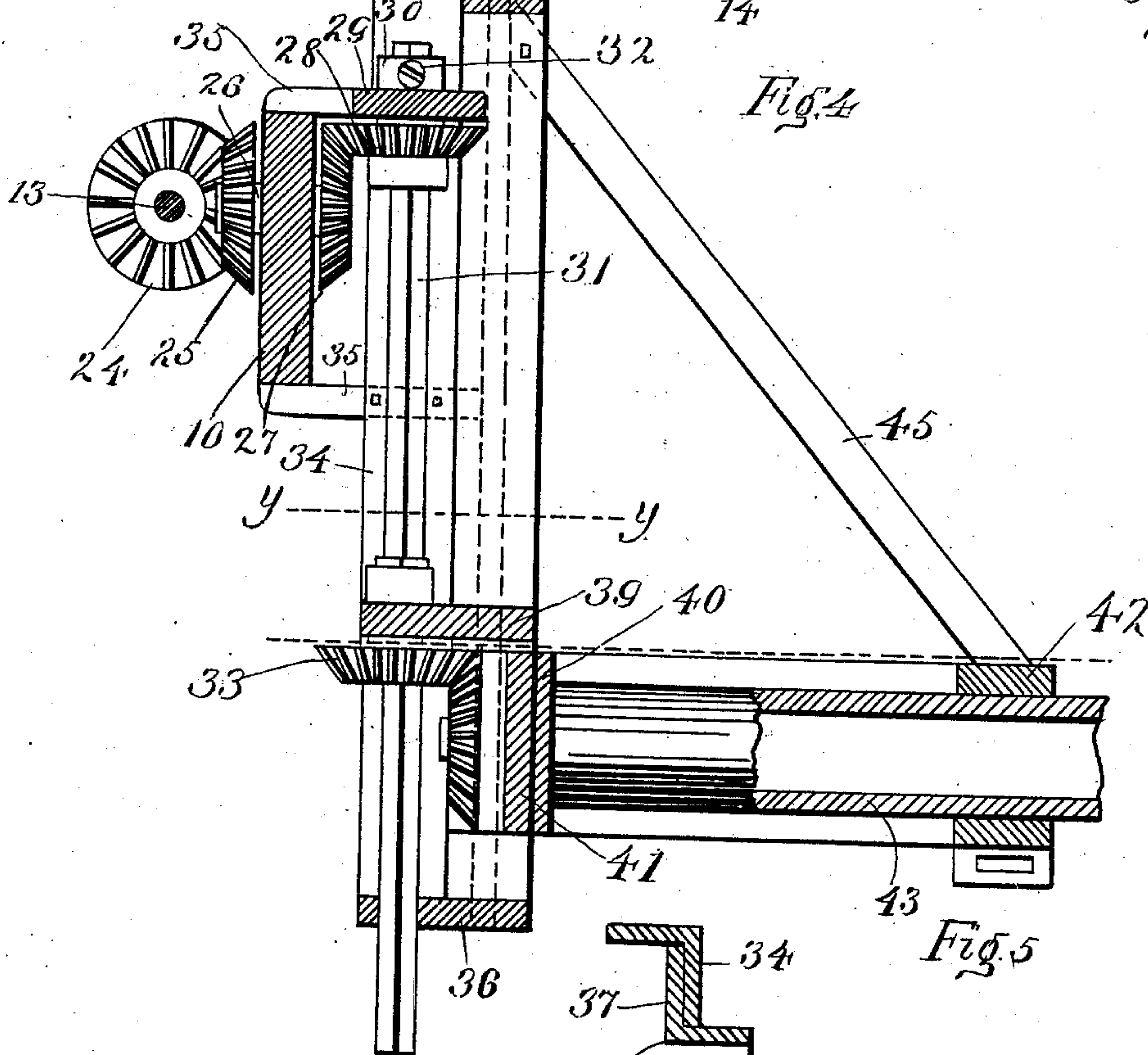
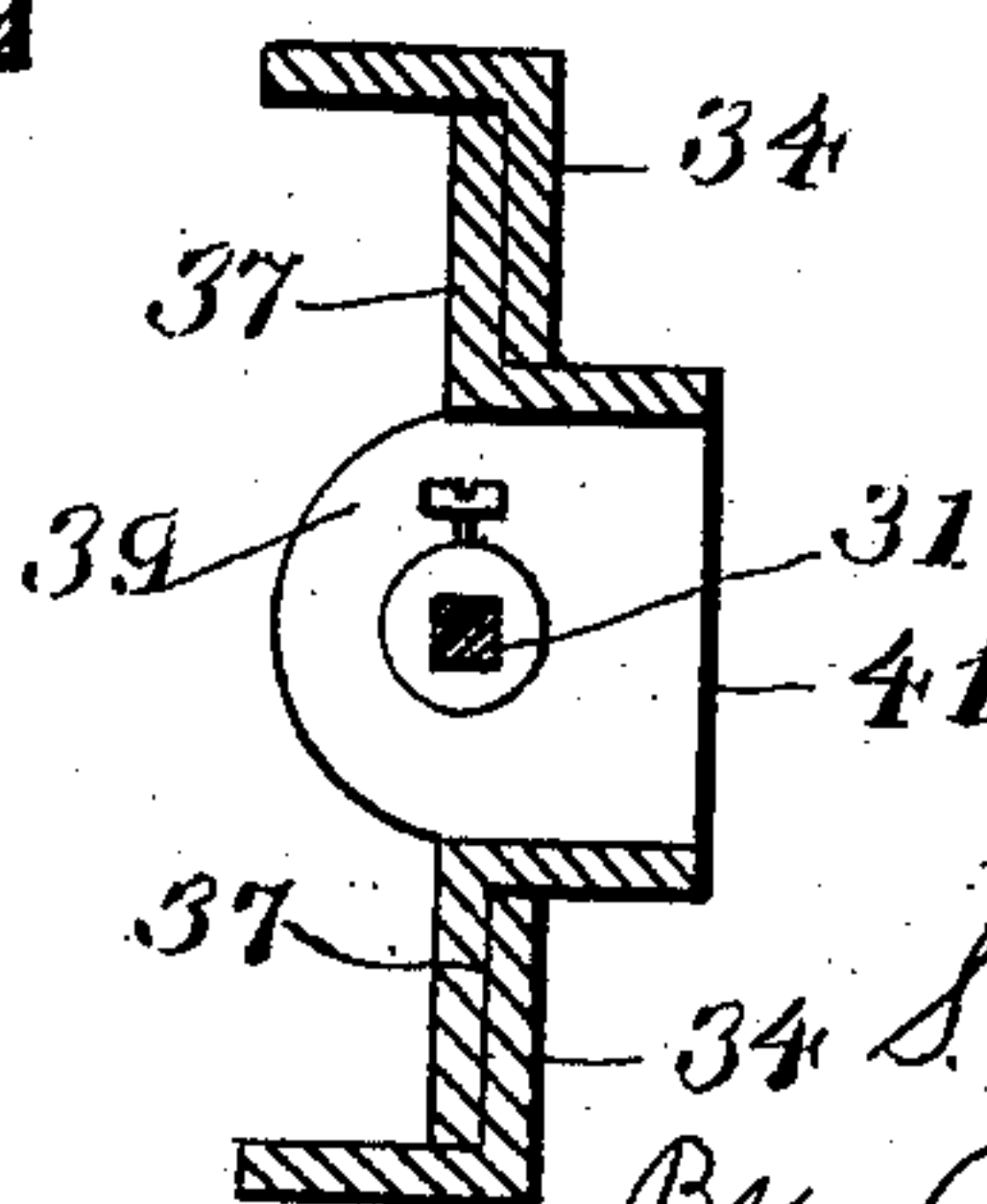


Fig. 5



Witnesses
B. J. Lorkowski
J. W. Still

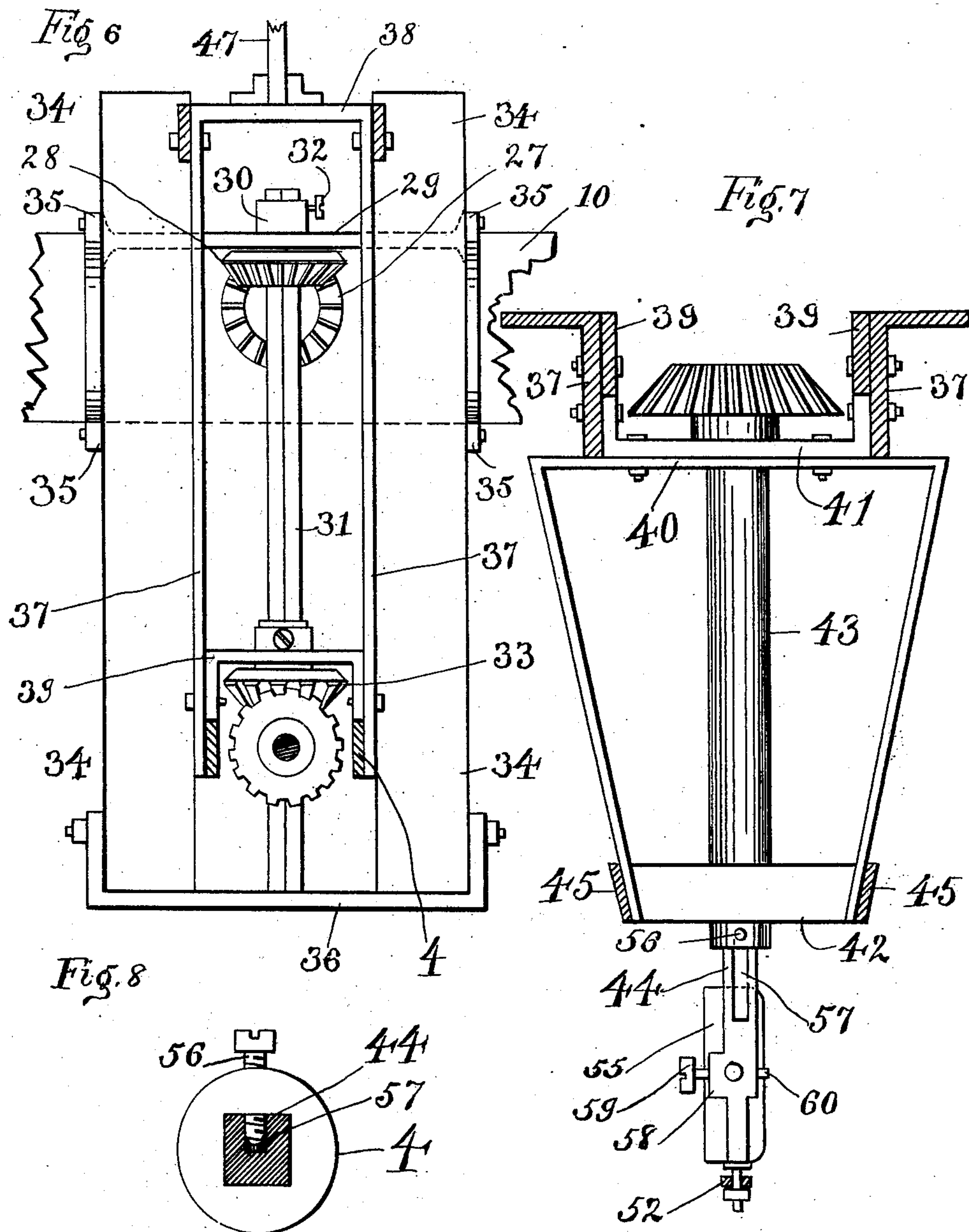
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COTTON CHOPPER.
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4 SHEETS—SHEET 4.



Witnesses:—

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J. W. Stitt.

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UNITED STATES PATENT OFFICE.

STEPHEN A. COWART, OF MIDLOTHIAN, TEXAS.

COTTON-CHOPPER.

No. 840,439.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed September 1, 1906. Serial No. 332,963.

To all whom it may concern:

Be it known that I, STEPHEN A. COWART, a citizen of the United States, residing at Midlothian, Texas, have invented a new and Improved Cotton-Chopper, of which the following is a specification.

My invention relates to a cotton-chopper, and more particularly to devices for chopping cotton which may be mounted on a cultivator-carriage; and the object is to provide simple devices for mounting a revolving hoe on a cultivator frame or carriage, to provide means for revolving the hoe, and to provide means by which the operator seated on the cultivator-carriage may have perfect control of the hoe, and by which the operator may move the hoe instantly either laterally or vertically in order to adjust the same to strike at the proper place in the row of cotton-plants.

Another object is to provide detachable devices by which the cotton-chopping mechanism can be adjusted vertically on the cultivator-carriage or taken from the cultivator-carriage.

Other objects and advantages will be fully explained in the following description, and the invention will be more particularly pointed out in the claims.

Reference is had to the accompanying drawings, which form a part of this application and specification.

Figure 1 is a plan view of a cultivator-carriage with the cotton-chopper mounted thereon. Fig. 2 is a side elevation of the same except that the seat is not shown in this view. Fig. 3 is a plan view of the mechanism for mounting and driving the hoe. Fig. 4 is a detail sectional view taken substantially along the line *xx* of Fig. 3 and being a broken vertical section on an enlarged scale. Fig. 5 is a horizontal section taken along the line *yy* of Fig. 4. Fig. 6 is a broken sectional view, being a front view of the mechanism shown in Fig. 4 with the front braces and the horizontal shaft cut away. Fig. 7 is a plan view of the hoe and its shaft and the immediate driving-gear of the hoe. Fig. 8 is a cross-section of the hoe-shaft, showing also the bearing for the hoe-shaft and the guiding-screw.

Similar characters of reference are used to indicate the same parts throughout the several views.

The cotton-chopping mechanism is adapted to be attached to an ordinary cultivator-

carriage. A plan view and a side of such carriage are shown in the drawings. For clearness the cultivators and the beams for the cultivators or plows and other elements are left off. The carriage consists of the axle 1, wheels 2, sprocket-wheels 3, tongue 4, hounds 5, draft-beam 6, and arch-bar 7, with its braces.

The cotton-chopping devices are hung on the arch-bar by U-bolts 8 and hangers 9. It is apparent that the hangers 9 are adjustable vertically on the arch-bar. The top of the hangers are made concave, so that considerable bearing will be formed between the hangers and the arch-bar 7. A main supporting-bar 10 is hung on the hangers 9 by U-bolts 11. The ends of the supporting-beam are bent to form journals 12 for a shaft 13. Bearing lugs or arms 14 are formed integral with the bar 10 to support the shaft 13 about the central part of said shaft. Sprocket-wheels 15 are mounted on the shaft 13, and sprocket-chains 16 are mounted on the sprocket-wheels 3 and 15 for driving the shaft 13. The hubs of the wheels 15 have clutches formed therein. Spring-actuated clutches 16 are formed and mounted on the shaft 13 to cooperate with the clutches 17. Springs 18 normally hold these clutches in mesh. These springs rest or are seated against stationary collars 19.

A lever 20 is used to throw the clutches out of mesh. This may be done at any time when it may be desirable to stop the revolving of the hoe. The lever 20 is fulcrumed on a lug 21, which is formed integral with the main supporting-bar and bent forward of said bar. Link-bars 22 are pivotally connected to the lever 20 and are formed into yokes 23 at their outer ends to engage the clutches 16. The hoe-driving gear is all operated from the shaft 13. A bevel cog-wheel 24 is mounted on shaft 13. Cog-wheel 24 drives a cog-wheel 25, and cog-wheel 25 drives a shaft 26, and shaft 26 drives the bevel cog-wheel 27. Shaft 26 is journaled in supporting-bar 10. Gear-wheel 27 drives a bevel cog-wheel 28. Cog-wheel 28 is journaled in a bearing 29. The wheel 28 is held adjacent to the bearing 29 by a washer or sleeve 30, which is made rigid on the shaft 31. Shaft 31 is square in cross-section and vertically arranged and may be raised or lowered and the washer 30 fixed at different positions on the shaft by a set-screw 32. The bearing 29 is formed integral with the sup-

porting-bar 10. The shafts 13, 26, and 44 are all horizontally arranged relative to the shaft 31, which is vertically arranged. The shaft 31 drives a bevel cog-wheel 33, which is mounted and movable thereon. The cog-wheel 33 is carried in a frame which is movable vertically. Guides for this vertically-movable frame are provided. These guides consist of two angular pieces 34 and are vertically disposed and held rigidly in place by lugs or arms 35, which are preferably formed integral with the supporting-bar 10. The guides 34 are connected at the bottoms by a tie 36, which is bolted thereto. The vertically-movable frame has two angular slidable hangers 37, which are connected at the top parts by an integral cross-piece 38. A bearing 39 is attached to the hangers 37. The bearing 39 is slidable on the shaft 31. The vertically-sliding frame is held in position by the angular portions of the guides 34 and the shaft 31. The hangers 37 are attached to a horizontal frame-piece 40 by a tie-bar 41. The horizontal frame is composed of the frame-piece 40 and the cross-bar 42, which constitutes a support for the bearing 43. The bearing 43 is the bearing or bearing-guide for the hoe-shaft 44. The horizontal frame is further connected to the hangers 37 by braces 45. The horizontal frame carries the hoe, and this frame together with the hangers 37 are movable vertically by means of a lever 46, which is pivotally connected to a link-rod 47, which is pivotally connected to a cross-piece 38 of the vertically-movable frame. The lever 46 is fulcrumed on a curved bar 48, which is rigidly connected to the tongue 4 and to the axle 1. A rack 49 is attached to the curved bar 48 and ordinary spring-actuated detent 50 is mounted on the lever 46 to hold the lever at various adjustments on said rack. A hand-lever 51 is provided for actuating the detent 50. By means of the lever 46 and the rack 49 the vertically-movable frame, which carries the hoe and its driving-gear, may be raised or lowered to the desired position and held at such position. The hoe-shaft 44 is square in cross-section and has longitudinal motion in the bearing 43. A lever 52 is loosely connected with the shaft 44 and is provided with a fulcrum, which consists of two bars 53, which are hung on the axle 1. The lever 52 runs through a block 54, which is pivotally mounted in the bars 53. The hoe 55 can be given longitudinal motion with the lever 52. The shaft 44 has a groove 57 therein, and a set-screw 56 projects down in this groove. The screw and the groove constitute a guide for the hoe in its longitudinal motion. The shaft 44 has a bearing in the lower end of the lever 52. By means of the moving of the cog-wheel 33 on the shaft 31, as the frame which carries the cog-wheel 33 moves, the hoe-shaft will continue to be revolved at what-

ever height the hoe may be elevated. The hoe does not stop revolving while being moved vertically. The shaft 44 has a boss 58, whereby a set-screw 59 may be used to clamp the hoe-handle 60 at whatever height the hoe may be set. The hoe is adjustable vertically relative to its shaft, and the hoe, together with its shaft, is adjustable vertically and longitudinally, and these movements are under the immediate control of the operator, who occupies the seat 61 and can use lever 46 and 52, respectively, for these purposes. The operator can stop the hoe from revolving by means of the lever 20. A rest 62 is attached to the axle 1 to prevent the sagging of the lever 20.

Various changes may be made in the parts composing this cotton-chopper without departing from my invention.

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

1. A cotton-chopping machine comprising a wheeled truck carrying an arch-bar, a main supporting-bar carried by said arch-bar, a shaft mounted in said supporting-bar, hangers attaching said main supporting-bar to said arch-bar at different vertical adjustments, means for driving said shaft, a revolving hoe, a vertical shaft for driving said hoe, and gearing for transmitting the power of said driving-shaft to said vertical shaft.

2. A cotton-chopping machine comprising a wheeled truck carrying an arch-bar, a main supporting-bar carried by said arch-bar and carrying bearings, means for vertical adjustment of said supporting-bar on said arch-bar, a driving-shaft journaled in said bearings, means for driving said shaft, a revolving hoe, a vertical shaft provided with gearing for driving said hoe and means for transmitting the power of said driving-shaft to said vertical shaft.

3. A cotton-chopping machine having a revolving hoe, a vertical shaft, a frame vertically adjustable on said vertical shaft and carrying said hoe and gearing for driving said hoe at different points of adjustment, means for driving said vertical shaft, and means for elevating said frame and holding the same at any desirable adjustment.

4. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying said hoe and gearing for driving said hoe, a vertical shaft for driving said gearing, said adjustable frame remaining horizontally arranged relative to said vertical shaft at different planes of adjustment, means for vertically adjusting said frame and holding the same at any desirable adjustment, and means for guiding said frame in its vertical adjustments.

5. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying a hoe-shaft and gearing for driving

5 said hoe-shaft, means for adjusting said hoe forward or backward relative to said hoe-shaft, a vertical shaft for driving said gearing, and means for elevating said frame and holding same at any desirable vertical adjustment.

10 6. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying a hoe-shaft and gearing for driving said hoe-shaft, means for adjusting said hoe longitudinally relative to said hoe-shaft, a vertical shaft for driving said gearing, and means for vertically adjusting said frame and holding the same at any desirable adjustment, said vertical shaft driving said gearing at any adjustment.

20 7. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying a hoe-shaft and gearing for driving said hoe-shaft, means for vertically adjusting said frame and holding the same at any desirable adjustment, a vertical shaft for driving said gearing at any desirable adjustment, and vertical guides for said frame.

25 8. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame

carrying said hoe and gearing for driving said hoe, a vertical shaft for driving said gearing and guiding said frame, means for elevating or lowering said frame and holding the same at any desirable adjustment, and a lever for varying the position of said hoe relative to said adjustable frame. 30

9. A cotton-chopping machine comprising a wheeled truck, a driving-shaft journaled on said truck, gearing for transmitting power from the wheels of said truck to said driving-shaft normally held in operative position, means for disconnecting said gearing, a revolving hoe, a vertical shaft, a frame vertically adjustable on said vertical shaft and carrying said hoe and carrying gearing for driving said hoe, and gearing for transmitting the power of said driving-shaft to said vertical shaft. 40 45

In testimony whereof I set my hand, in the presence of two witnesses, this 31st day of July, 1906.

STEPHEN A. COWART.

Witnesses:

E. LAMSON,

W. L. MURPHREE.