(No Model.) 3 Sheets—Sheet 1.

G. A. SAGO.

COMBINED COTTON PLANTER, SCRAPER, AND CHOPPER.

No. 596,913. Patented Jan. 4, 1898.

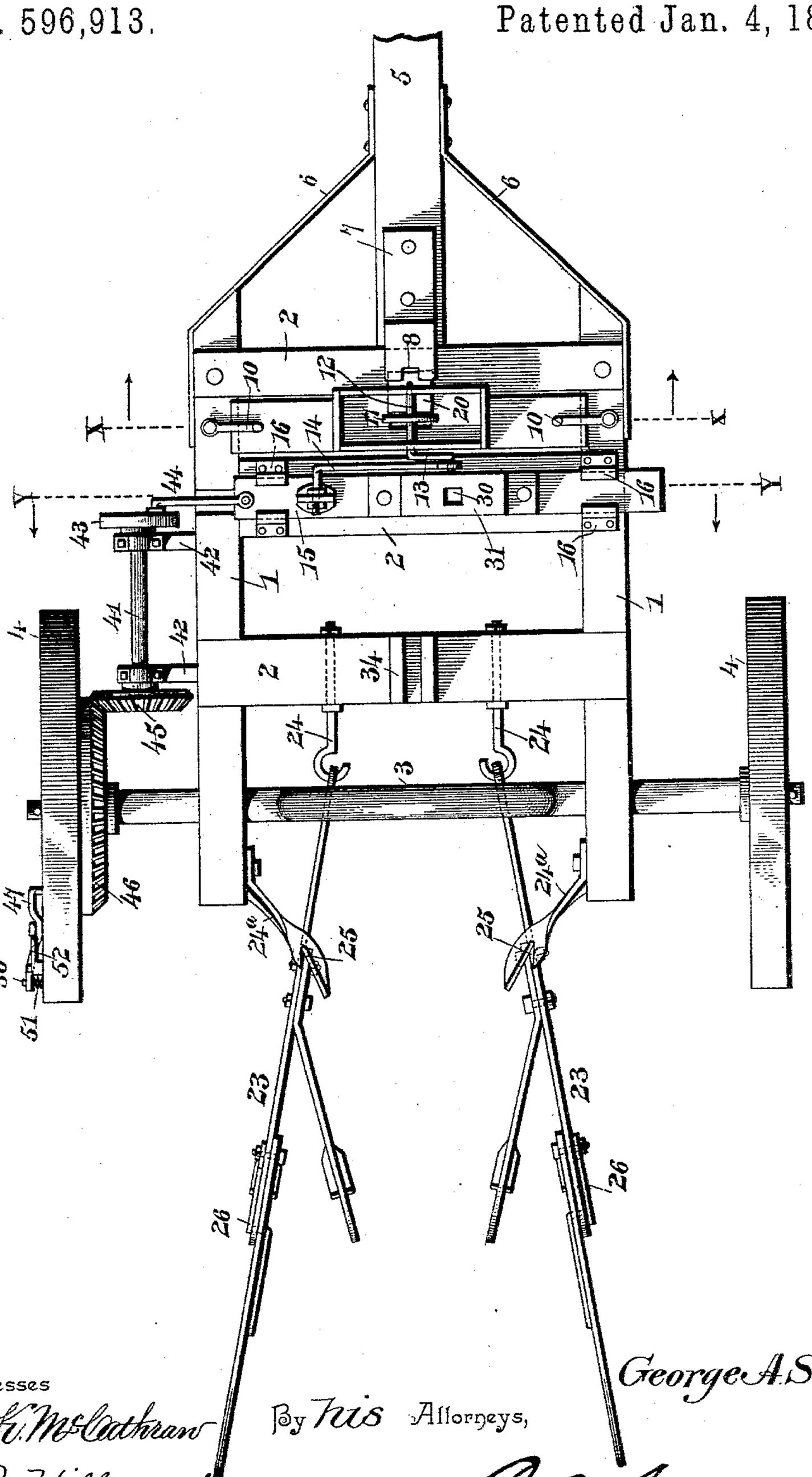

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

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Fig. 6.

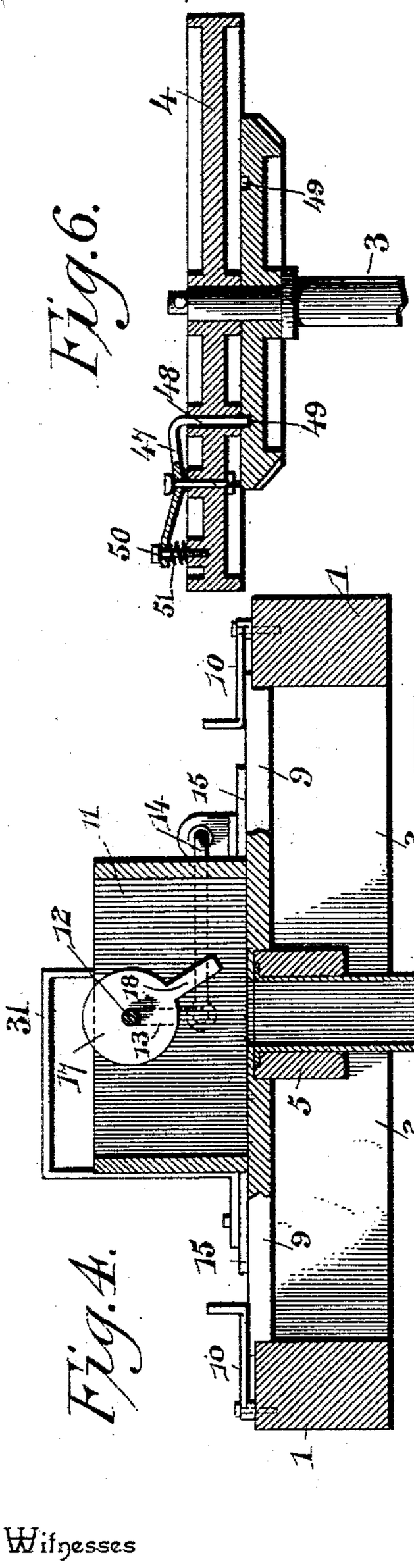

Fig. 7.

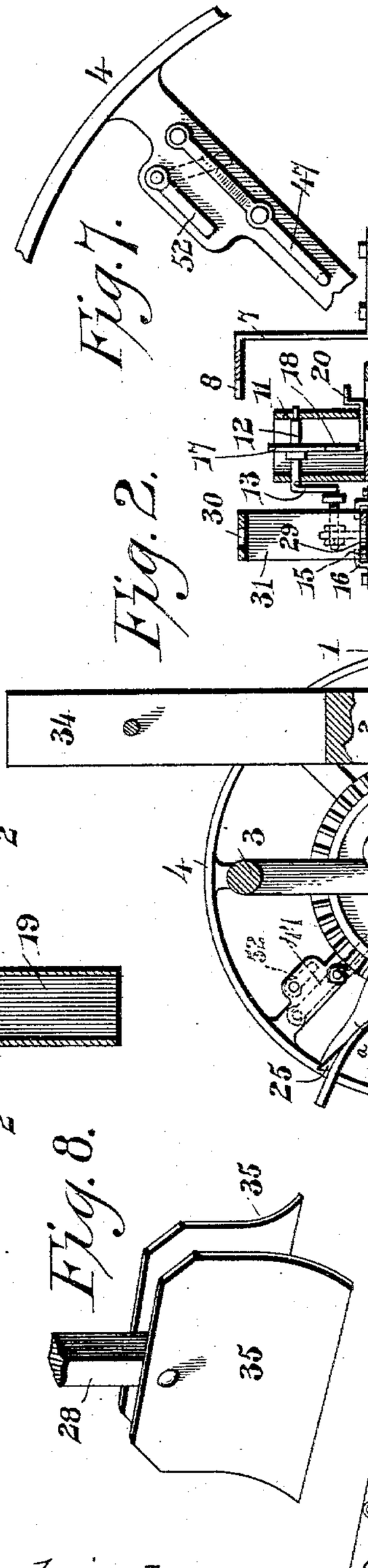

Fig. 2.

Fig. 4.

Fig. 8.

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(No Model.) 3 Sheets—Sheet 3.

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Fig. 5.

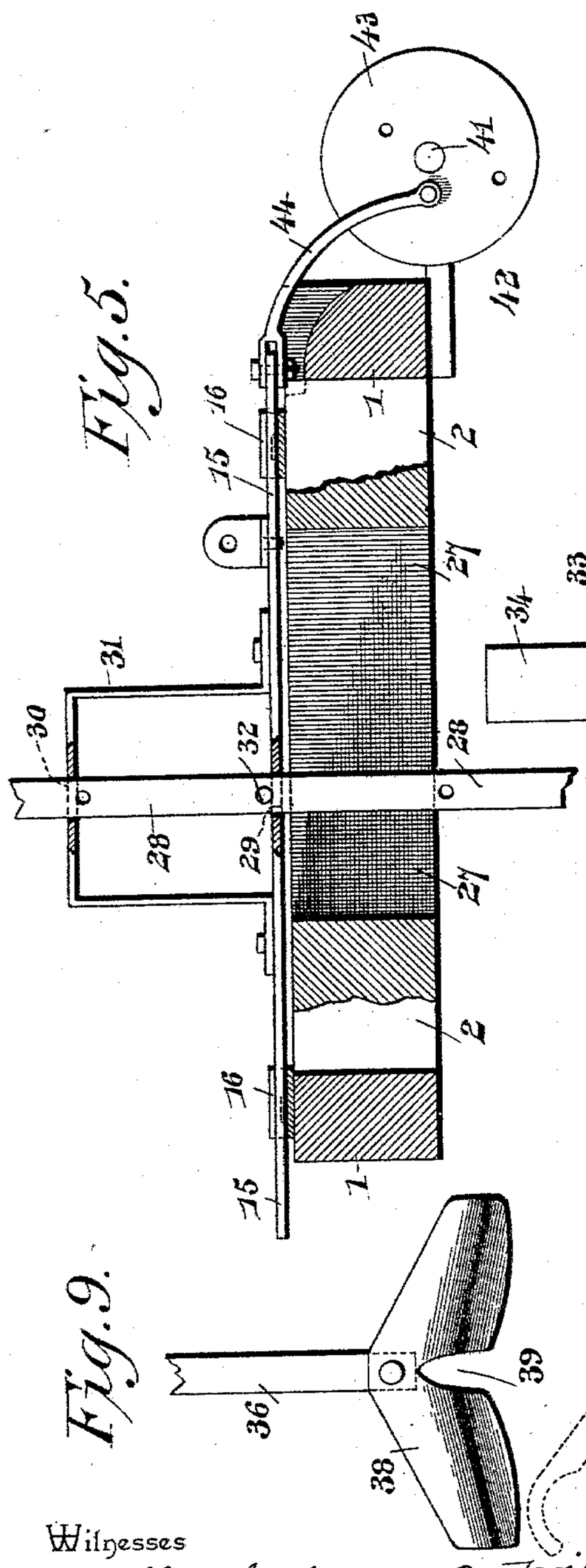

Fig. 3.

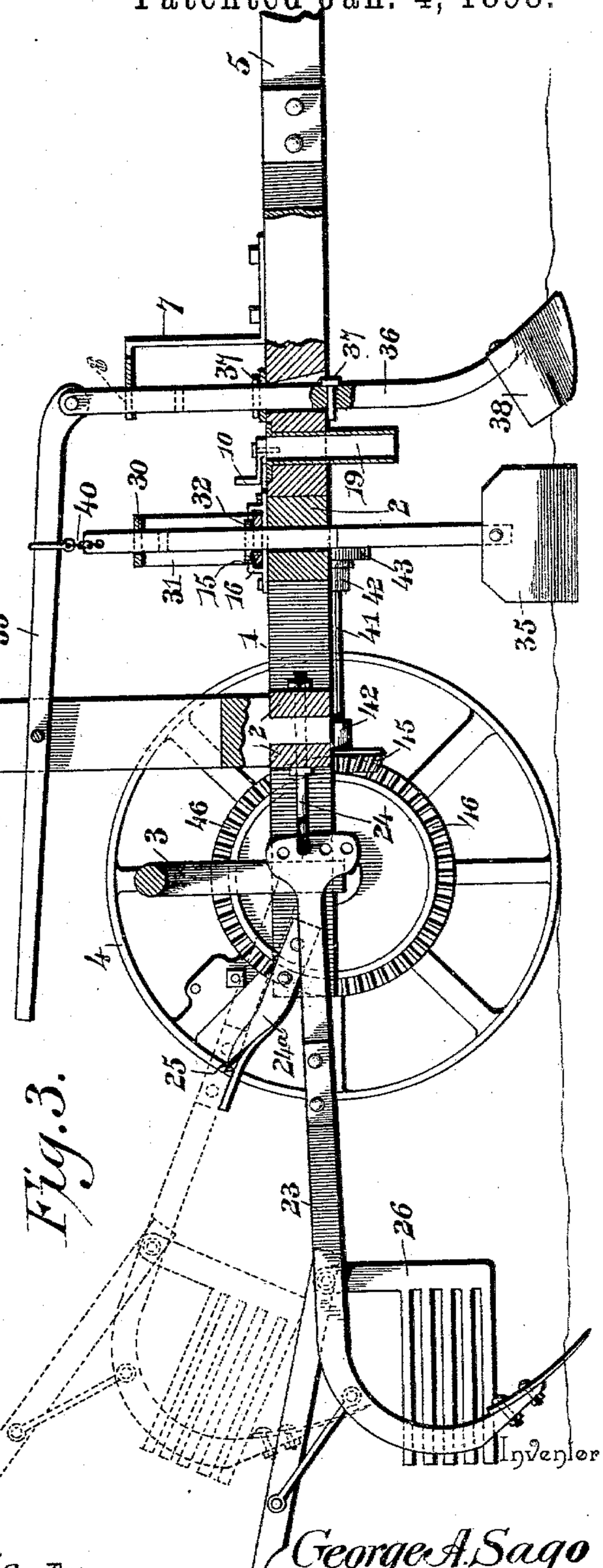

Fig. 9.

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UNITED STATES PATENT OFFICE.

GEORGE AUGUSTUS SAGO, OF BROCKETT, ARKANSAS.

COMBINED COTTON PLANTER, SCRAPER, AND CHOPPER.

SPECIFICATION forming part of Letters Patent No. 596,913, dated January 4, 1898.

Application filed March 6, 1897. Serial No. 626,236. (No model.)

To all whom it may concern:

Be it known that I, GEORGE AUGUSTUS SAGO, a citizen of the United States, residing at Brockett, in the county of Randolph and State of Arkansas, have invented a new and useful Combined Cotton Planter, Scraper, Chopper, &c., of which the following is a specification.

This invention provides in a single machine means for sowing cotton-seed, hoeing and cultivating the plants, and thinning the rows at the required time so as to secure the necessary space to secure healthy and vigorous growth.

The invention resides in the general and particular construction whereby the several parts are rendered detachable, interchangeable, and adjustable, according to the work to be performed and the condition of the ground, and for a full understanding of the details of construction, the novel features, and the peculiar combination of the parts reference is to be had to the attached drawings and the following description.

The improvement is susceptible of various changes in the form, proportion, and the minor details of construction without departing from the principle or sacrificing any of the advantages thereof, and to a full disclosure of the invention an adaption thereof is shown in the accompanying drawings, in which—

Figure 1 is a top plan view of a machine constructed in accordance with this invention and as it will appear when adapted for planting. Fig. 2 is a longitudinal section thereof. Fig. 3 is a view similar to Fig. 2, showing the scraper and chopper in position and indicating by dotted lines the elevated position of the plows when not required for immediate use. Fig. 4 is a transverse section on the line X X of Fig. 1, looking in the direction of the arrow. Fig. 5 is a section on the line Y Y of Fig. 1, looking to the left as designated by the arrow. Fig. 6 is a sectional detail of the drive-wheel, drive-gear, and clutch mechanism. Fig. 7 is a fragmentary view of the drive-wheel, showing the clutch mechanism and the means for holding it out of gear in front elevation. Fig. 8 is a detail view in perspective of the cotton-chopper. Fig. 9 is a front view of the cotton-scraper.

Corresponding and like parts are referred to in the following description and indicated in the several views of the accompanying drawings by the same reference-characters.

The frame of the machine comprises side bars 1 and transverse bars 2 and is supported upon an arched axle 3, provided at its ends with ground-wheels 4, loosely mounted thereon. One of the ground-wheels also acts in the capacity of a drive-wheel for actuating the operating parts of the machine. A pole or tongue 5 is rigidly secured to the frame and is braced by hounds 6 and supports a bracket 7, having a notch 8 in its horizontal portion.

A plate 9, bearing the seeding mechanism, is detachably fitted to the frame of the machine and is held in place by turn-buttons 10, having pivotal connection with the side bars 1 and adapted to be moved so as to extend over the terminal portions of the plate 9, as clearly indicated in Figs. 1 and 4. A hopper 11 is secured to the plate 9, and a shaft 12 is journaled in the sides thereof and has a crank-arm 13 at its rear end, which is connected by means of a link 14 with a slide 15, movable upon a transverse bar 2 and guided in its movements by keepers 16. A plate or disk 17 is fixed upon the shaft 12 and has an extension or finger 18, forming an agitator to prevent the banking of the cotton-seed in the hopper and stir the same sufficiently to effect a discharge through the opening provided in the bottom of the hopper and in register with the grain-spout 19, supported by the inner end of the pole or tongue 5.

In the operation of the machine the shaft 12 receives an oscillatory movement which results in vibrating the finger or extension 18, thereby stirring the seed in the hopper so as to insure a depositing thereof as the machine advances. A cut-off 20, consisting of a plate, operates through a slot or opening in a side of the hopper and regulates the discharge-opening, thereby enabling the escape of the seed to be controlled. When the machine is to be used for cultivating, plowing, or chopping, the plate 9, bearing the seeding mechanism, is removed and the link 14 detached from the slide 15, thereby reducing the weight of the machine and lessening the draft by reducing the operating parts.

The opener for preparing the furrow to receive the seed is located in advance of the

grain-spout 19 and consists of a standard 21, bearing a shovel, and strengthened by means of a brace 22, and is detachably fitted to the pole or tongue, so as to admit of its substitution by a scraper or other device, according to the nature of the work. This opener is only used in connection with the planting mechanism, but, if required, may be used as a cultivator-shovel or plow for preparing the ground, or for any desired purpose.

Plows or cultivators 23 are attached to hooks 24, applied to the rear cross-bar 2, and serve to cover the seed when planting and for cultivating the plants after the latter have attained a suitable growth. Brackets 24ª are applied to the rear end of the side bars 1 and incline rearwardly and toward one another and have notches 25 at their upper rear ends to receive the plow-beams 23 and hold the latter up out of the way when not required for immediate use, as indicated by the dotted lines in Fig. 3. The brackets 24ª consist of short lengths of bar-metal, which are rigidly secured at their front ends to the bars 1 and which have a partial twist intermediate of their ends to form a proper support for the beams 23. Fenders 26 are applied to the rear ends of the plow-beams and prevent injury to the young plants when cultivating and consist of a front bar and a series of parallel strips spaced apart and extending horizontally, the front bar being attached at its upper end to the outer beam.

The intermediate transverse bar 2, immediately below the slide 15, has a longitudinal slot 27 for the shank 28 of the cotton-chopper to operate in, the upper portion of the shank 28 passing through an opening 29 in the slide 15 and through an opening 30 in an arch 31, secured to the said slide, the openings 29 and 30 being in vertical alinement. The shank 28 is provided with a series of openings to receive a pin 32, by means of which it is held in an adjusted position, and has connection at its upper end with an operating-lever 33, fulcrumed intermediate of its ends to a standard 34, rising from the rear transverse bar 2. By removing the pin 32 and manipulating the lever 33 the shank 28, and the chopping-blades carried thereby, can be adjusted vertically, and after the required adjustment has been secured the chopper is fixed by inserting the pin 32 in the proper opening. The chopping-blades 35 are secured to opposite sides of the shank 28, leaving a space between them, and their lower portions curve outwardly in opposite directions, as most clearly indicated in Fig. 8, whereby their lower or cutting edges are best adapted for removing the plants desired to be destroyed when effecting a thinning of the rows. The blades 35 are disposed lengthwise or longitudinally of the machine and are of suitable length, and are reciprocated transversely with the slide 15 through the instrumentalities presently to be described.

A standard 36 is vertically adjustable in an opening provided in the pole or tongue 5, and has connection at its upper end with the lever 33, and is braced by entering the notch 8 of the bracket 7, and, like the shank 28, is provided with a series of openings through which pins 37 pass to hold it in an adjusted position. This standard is provided at its lower end with a scraper 38, consisting of a double blade having an intermediate notch 39, and having the side portions sloping rearwardly and its lower edge portions curving forwardly, so that as the machine advances over the ground weeds, grass, and other growths exterior to the rows of plants are cut down, whereas the plants remain intact by reason of the notch or opening 39, as will be readily understood. It will be seen that the lever 33 is utilized for simultaneously adjusting the scraper and chopper, and inasmuch as the position of the chopper is fixed when once adjusted and in order to provide for the laterally-reciprocating motion of the chopper the connection 40 between the shank 28 and the lever 33 is a chain of a flexible character.

A shaft 41, extending longitudinally of the machine, is journaled in bearings provided on projecting parts 42 and has a crank 43 at its front end, which is connected by means of a pitman 44 with the slide 15. This pitman 44 is curved in its length, thereby admitting of the shaft 41 being lower than the slide 15, and has adjustable connection at its outer end with the crank 43, whereby provision is had for varying the stroke of the slide 15, as may be required to vary the space formed between the standing plants when thinning the rows. A bevel-gear 45 at the rear end of the shaft 41 meshes with a bevel-gear 46, loosely mounted upon the axle 3 adjacent to the drive-wheel, and a suitable clutch mechanism is provided to effect engagement between the drive-wheel and drive-gear 46 to throw the operating parts into or out of gear, as required. A lever 47 is fulcrumed between its ends to the drive-wheel, and its bent end 48 operates through an opening in the drive-wheel and is adapted to enter one of a series of openings 49, provided in the face of the drive-gear adjacent to the drive-wheel. The outer end of the lever 47 receives a pin or bolt 50, and is held outward by means of a spring 51, mounted upon the said pin or bolt 50 and confined between the outer end of the lever and the drive-wheel. A turn-button 52 has pivotal connection at one end with the drive-wheel and is adapted to be moved to engage with the outer end of the lever 47, as indicated by the dotted lines in Fig. 7, so as to hold said end depressed and its inner end out of engagement with the drive-gear, thereby holding the machine out of gear. It is only necessary to throw the drive-gear 46 out of gear when cultivating or preparing the ground for seeding; but when planting or thinning the rows the said gear 46 is clutched to the drive-wheel, whereby a reciprocating

movement is imparted to the slide 15 and the parts connected therewith.

Having thus described the invention, what is claimed as new is—

1. In a combined agricultural implement, the combination of a frame comprising a transverse and longitudinal bars, a slide mounted upon the transverse bar, keepers applied to the transverse bar for guiding the slide in its movements, a shaft at one side of the frame and in gear with the adjacent drive-wheel, and provided with a crank, a pitman connecting the crank with the said slide, and a link having detachable connection with the slide, substantially as and for the purpose set forth.

2. In an agricultural implement, the combination with the frame, of a standard bearing a cotton-scraper and vertically adjustable in an opening of the frame, means for securing the standard in an adjusted position, and a bracket rising vertically from the frame and having a notch in its horizontal portion to receive the upper part of the standard, substantially as specified.

3. A cotton-scraper comprising a double blade having an intermediate notch or opening, and having the blade portions upon opposite sides of the notch or opening inclining rearwardly in opposite directions, and having their lower portions curving outwardly, substantially as set forth.

4. In combination, a laterally-reciprocating slide, a shank carried thereby, and blades secured to the lower end of the shank upon opposite sides thereof, substantially as specified.

5. In combination, a laterally-reciprocating slide, a shank carried thereby, and longitudinal blades spaced apart and attached to the lower end of the shank upon opposite sides, and having their lower portions curving outwardly in opposite directions, substantially as set forth.

6. In combination, a shaft bearing a crank, a slide, a link for connecting the slide with the crank at different distances from the shaft, whereby the throw of the slide is varied, and a shank applied to the slide and bearing a chopping-blade, substantially as set forth.

7. In combination, a standard bearing a cotton-scraper, a shank having a chopping-blade, and an operating-lever having connection with the standard and shank for simultaneously operating them, substantially in the manner set forth for the purpose described.

8. In combination, a standard bearing a cotton-scraper, a shank provided with a chopping-blade, means for reciprocating the shank laterally, an operating-lever having positive connection with the aforesaid standard, and a flexible connection between the shank and the said operating-lever, the parts being disposed to admit of a simultaneous adjustment of the standard and shank without interfering with the lateral movement of the chopping-blade, substantially as specified.

9. The combination with a drive-gear and a drive-wheel loosely mounted upon an axle, of a lever fulcrumed between its ends to the drive-wheel and having a laterally-extending portion operating through the drive-wheel to engage with the drive-gear, a spring for moving the outer end of the lever to maintain its inner end in engagement with the drive-gear, and a turn-button to be engaged with the outer end of the lever to overcome the tendency of the spring and hold the lever out of engagement with the drive-gear, substantially as set forth for the purpose described.

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

GEORGE AUGUSTUS SAGO.

Witnesses:
W. M. HOGAN,
D. R. ROBERTS.