

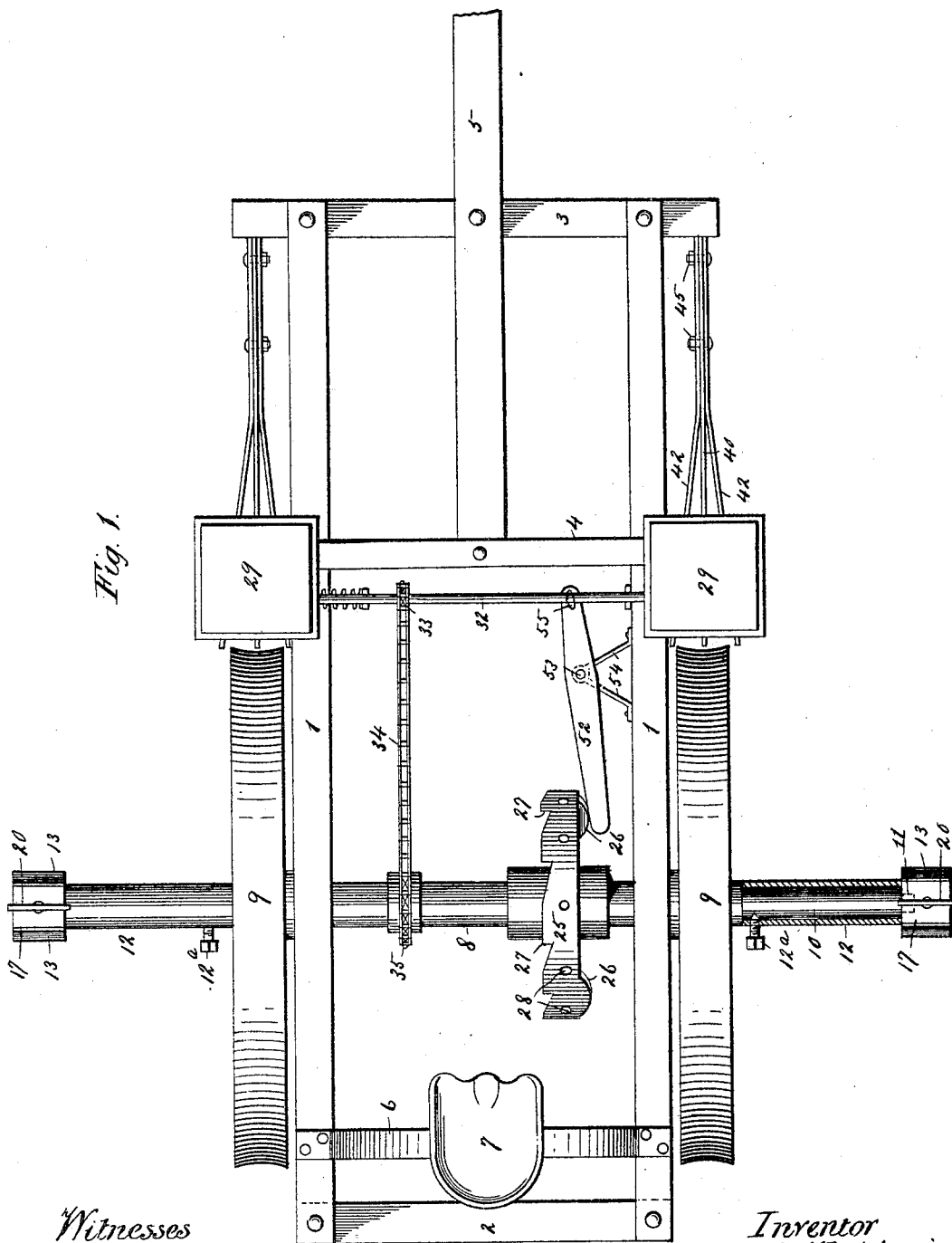
(No Model.)

2 Sheets—Sheet 1.

A. J. WHITE.
CORN PLANTING MACHINE.

No. 581,798.

Patented May 4, 1897.



Witnesses
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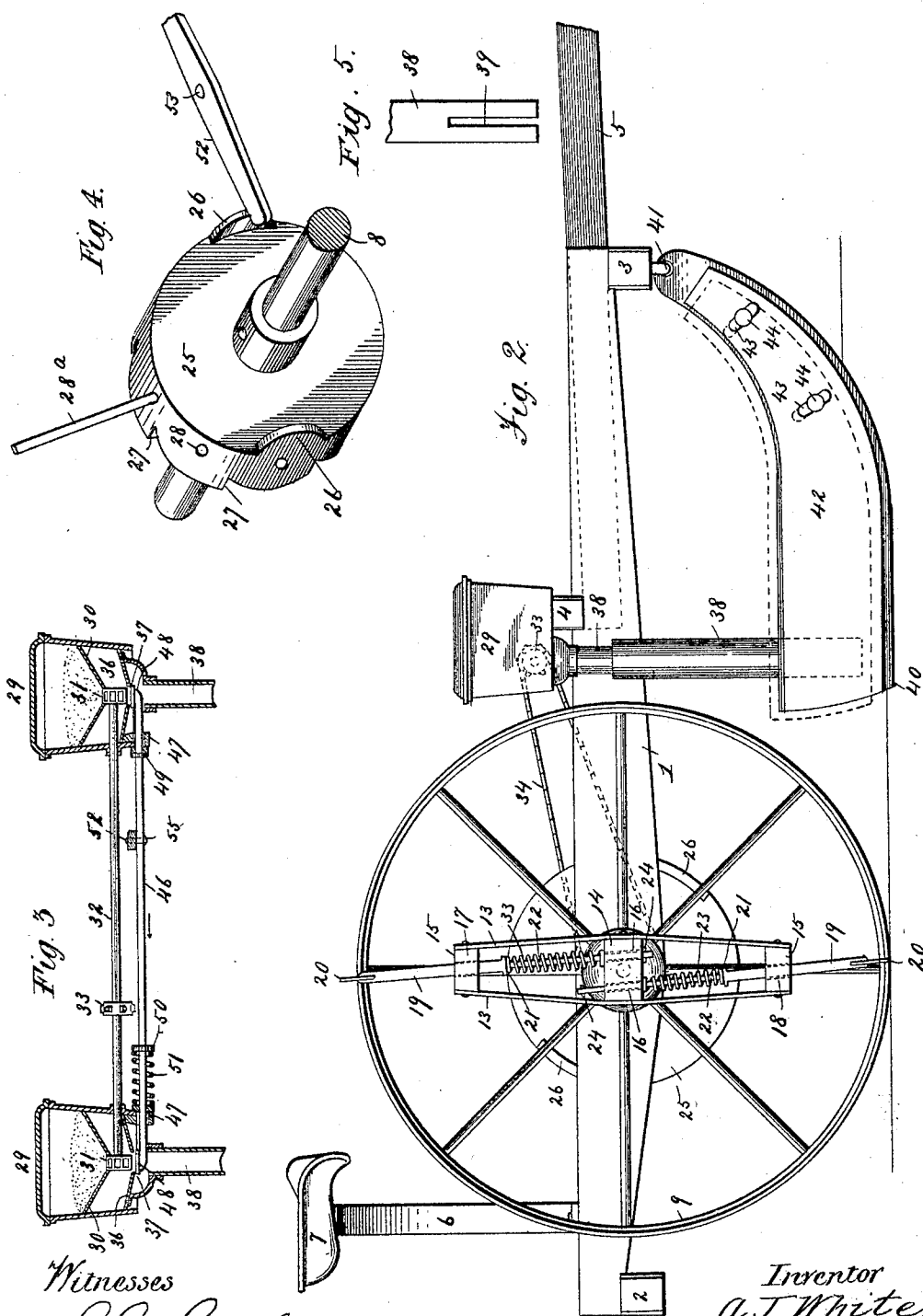
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UNITED STATES PATENT OFFICE.

ALVIN J. WHITE, OF ARKANSAS CITY, KANSAS.

CORN-PLANTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,798, dated May 4, 1897.

Application filed February 26, 1896. Renewed March 15, 1897. Serial No. 627,710. (No model.)

To all whom it may concern:

Be it known that I, ALVIN J. WHITE, of Arkansas City, Cowley county, Kansas, have invented certain new and useful Improvements in Corn-Planting Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to corn-planting machines; and it consists in certain novel and peculiar features of construction and combinations of parts hereinafter described and claimed.

The object of my invention is to produce a machine of this character which is simple, strong, durable, and cheap of manufacture.

Referring to the said drawings, which illustrate the invention, Figure 1 represents a plan view of a corn-planter embodying my invention. Fig. 2 represents a side elevation of the same. Fig. 3 represents a vertical transverse section taken through the corn-hoppers. Fig. 4 represents a perspective view, on an enlarged scale, of the cam for operating the seed-dropping mechanism. Fig. 5 represents a rear view of the lower end of one of the seed-droppers.

In the said drawings, where like numerals designate corresponding parts, a frame consists of the parallel longitudinal beams 1, the rear end beam 2, and the front end beam 3, and 4 designates an intermediate beam or bar which extends parallel with the beams 2 and 3 and is secured, preferably, to the upper side of the longitudinal beams 1, and secured at its rear end and centrally to the under side of said beam 4 and to the upper side and center of beam 3 is the tongue 5, to which the draft-animals are connected in the customary manner. Adjacent to the rear end of the frame and mounted thereon is the arch 6, upon which is secured in any suitable manner the seat 7 for the driver.

8 designates the shaft, which extends transversely of and is journaled in the longitudinal beams 1, and mounted upon said shaft at the outer side of said beams are the carrying-wheels 9. Said wheels are mounted upon said shaft in the customary manner—that is to say, they are provided with a pawl-and-ratchet construction (not shown) which as the ma-

chine is drawn forward causes the rotation of the axle or shaft and when the machine is backed or moved rearwardly permit the wheels to rotate loosely upon the axle or shaft and therefore do not affect its position. Outwardly of said wheels said shaft or axle is diametrically diminished, as shown at 10, and at the outer ends of the said diminished portion 10 it is still further diminished to form the short projections or pivotal pins 11.

Mounted upon the diminished portions 10 are the sleeves 12, and they are secured rigidly by means of set-screws 12^a or in any other suitable manner. The markers, which are mounted upon the opposite ends of said sleeves, comprise the bars 13, which project at equal distance to opposite sides of the shaft, and they are connected at their middle by the central block 14 and at their outer ends by the blocks 15, so as to form a substantial and rigid frame. The blocks 14 are also provided at their inner sides centrally with recesses, into which extend the said pivotal pins 11 of the shaft or axle. At opposite sides of said pins each block 14 is provided with the parallel passages 16, and said passages extend in longitudinal alinement with larger passages 17 in one of the end blocks and 18 in the other, and extending slidably through said passages 17 and 18 are rods 19, which carry marker-plates 20 at their outer ends, said rods being so disposed relatively to each other that said plates are diametrically opposite each other with respect to the axis of the shaft or axle.

Inward of the blocks 15 the rods 19 are diametrically diminished so as to form the shoulders 21 and the smaller extensions 22, which project loosely through the passages 16 of the middle block 14, and mounted spirally upon said extensions and bearing at their opposite ends against the said middle block and said shoulders 21 are the expansion-springs 23, the tendency of which is to hold or advance the markers outwardly at all times. To prevent the said springs causing the accidental disconnection of said extensions from the block 14, the extensions are provided with cross-pins 24, which limit their outward movement.

Mounted upon the shaft at a convenient point within the framework is a wheel 25,

provided at diametrically opposite points with cams or round shoulders 26, and in order that said wheel may be rotated easily and quickly at any time in order to set the markers at the proper points relative to the said dropping mechanism, hereinafter described, said wheel is notched to form the shoulders 27 at the side nearest the seat, and it is also provided peripherally with holes or apertures 28, into which may be fitted a rod or bar 28^a, by which it may be turned by hand in case it be impossible to turn it by pressing the foot against the shoulders 27.

The markers may be so adjusted without affecting the position of the carrying-wheels in the least, as will be readily understood.

Mounted upon the bar 4, in advance of the carrying-wheels 9 in the customary manner, are the corn or seed hoppers 29, and the bottom 30 of said hoppers tapers or inclines downwardly and centrally to a small opening occupied by the seed-dropping wheels 31, mounted upon the opposite ends of the shaft 32, journaled in the sides of said hoppers. Said shaft is provided at a convenient point with a small sprocket-wheel 33, which is connected, by means of sprocket-chain 34, with the drive-sprocket 35, mounted rigidly upon the shaft or axle 8.

Below the bottom 30 the hopper is provided with a second inclined bottom or partition 36, which is provided vertically below the wheels 31 with openings 37, and said openings are vertically above the upper ends of the seed tubes or drills 38. Said seed tubes or drills are bifurcated at their lower ends, as shown at 39, and embrace the opposite sides of the runners 40, arranged longitudinally and centrally with reference to the carrying-wheels 9. The upper ends of said runners are pivotally mounted upon pins 41, depending from the front end bar 3, or are connected at such point in any other suitable manner. Said runners each carry wings or spreaders 42, which at a suitable distance from their front ends diverge or flare rearwardly from the opposite sides of the central runner 40, as illustrated clearly in Fig. 1. In order that they may be adjusted vertically upon the runners, they are provided with inclined slots 43, through which extend bolts 44, carried by the runners, and said bolts are engaged by clamping-nuts 45 to secure said wings or spreaders at the required points of adjustment.

Arranged vertically below the shaft 32 is a transverse slide-bar 46, which is supported in bearings 47 at the under sides of the hoppers. They are provided at their opposite ends and upper sides with dropping-plates 48, which alternately close and open the openings 37. Said slide-bar is provided near one end with a collar 49, which limits its movements in one direction, and near its opposite end is provided with a collar 50. The spiral expansion-spring 51 encircles said rod and is placed between said collar 50 and the adja-

cent bearing of the slide-bar, as illustrated clearly in Fig. 3. The object of this spring will presently be explained.

52 designates a lever which is pivotally mounted at 53 upon a bracket 54, secured to the framework. At its front end it is pivotally connected, as at 55, to the slide-bar 46 and at its opposite end is arranged in the path of the cams 26 of wheel 25, so that with each revolution of said wheel said lever will be twice operated in the same direction and will therefore cause two complete reciprocations of the slide 46, to correspond with the two marks made in the same interval of time by the markers 20. After each operation of said lever or said cams the spring 51 returns the slide to its original position positively and reliably, as will be understood.

By reason of the peculiar construction of the markers it is obvious when the machine is in operation that should they come into contact with any abrupt rise or obstruction in the ground they will not consequently be injured or broken owing to the fact that the springs will yield under the positive pressure applied and will permit the markers to move readily inward toward the axle, and immediately the obstruction is passed the springs will again expand and force the markers outward. Thus it will be seen that said markers are always in a position to respond to the inequalities in the surface of the ground—that is, they will move outwardly when unresisted, so as to come in contact and mark the bottom of any cavity or depression upon which the carrying-wheels may roll and will likewise, as above stated, make the desired impression upon the hillocks or obstruction above the general plane of the field. By reason of the rearwardly flaring or spreading wings the earth turned up by the drill is pushed aside, so that the seed may be dropped into the bottom of the hills, where it will be covered in the customary manner by the carrying-wheels 9.

From the above description it will be seen that I have produced a corn-planter which will be found extremely serviceable and reliable, whether the surface generally be level or uneven, and it is also obvious that I have produced a corn-planter which combines simplicity, strength, durability, and cheapness of manufacture in a high degree.

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

1. A corn-planter comprising a rotatable shaft, carrying-wheels mounted thereon, a framework mounted upon said shaft, marker-frames mounted at the opposite ends of said shaft, comprising a central block, end blocks, and bars connecting said blocks, rods extending slidably through said blocks and projecting at opposite sides of the shaft and provided at their upper ends with marker-plates, springs mounted upon said rods and bearing

at their ends against the same and said middle block in order to advance or move outwardly the markers at all times when not in contact with the ground or other obstruction, substantially as described.

2. A corn-planter, comprising a rotatable axle, wheels mounted thereon, sleeves set rigidly upon said axle, marker-frames carried by said sleeves and centrally upon the ends of the axle, and comprising a middle block two end blocks and bars connecting said blocks, and spring-actuated marker-bars extending slidingly through said blocks, substantially as described.

3. In a corn-planter, the combination with a rotatable axle, wheels mounted thereon, a seat-carrying frame also mounted thereon, hoppers also mounted upon the frame, a shaft geared to the axle and provided with dropping-wheels communicating with the seed within the hoppers, spring-actuated slide-bars arranged below said shaft and provided with drop-plates below said wheels and above said tubes or drills, a lever carried by the frame and pivotally connected to said slide-bar and a cam-wheel mounted rigidly upon the shaft to operate said lever, in combination with marker-frames mounted upon the outer ends of the axle, and spring-actuated

markers slidingly mounted in said frames, 30 substantially as described.

4. In a corn-planter, the combination with a rotatable axle having wheels mounted thereon, a seat-carrying frame also mounted thereon, hoppers also mounted upon the 35 frame, a shaft geared to the axle and provided with dropping-wheels communicating with the seed within the hoppers, spring-actuated sliding bars arranged below said shaft and provided with drop-plates carried by the 40 frame and pivotally connected to said slide-bar, marker-frames mounted upon the outer ends of the shaft, spring-actuated marker-bars projecting slidingly from said frame at opposite sides of the shaft, and a cam-wheel 45 mounted rigidly upon the axle to operate the said dropping mechanism, and provided with shoulders and holes whereby it may be rotated to adjust the markers relative to the said dropping mechanism, substantially as 50 described.

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

ALVIN J. WHITE.

Witnesses:

ROSS STRATTON,
GEO. E. HOPPER.