

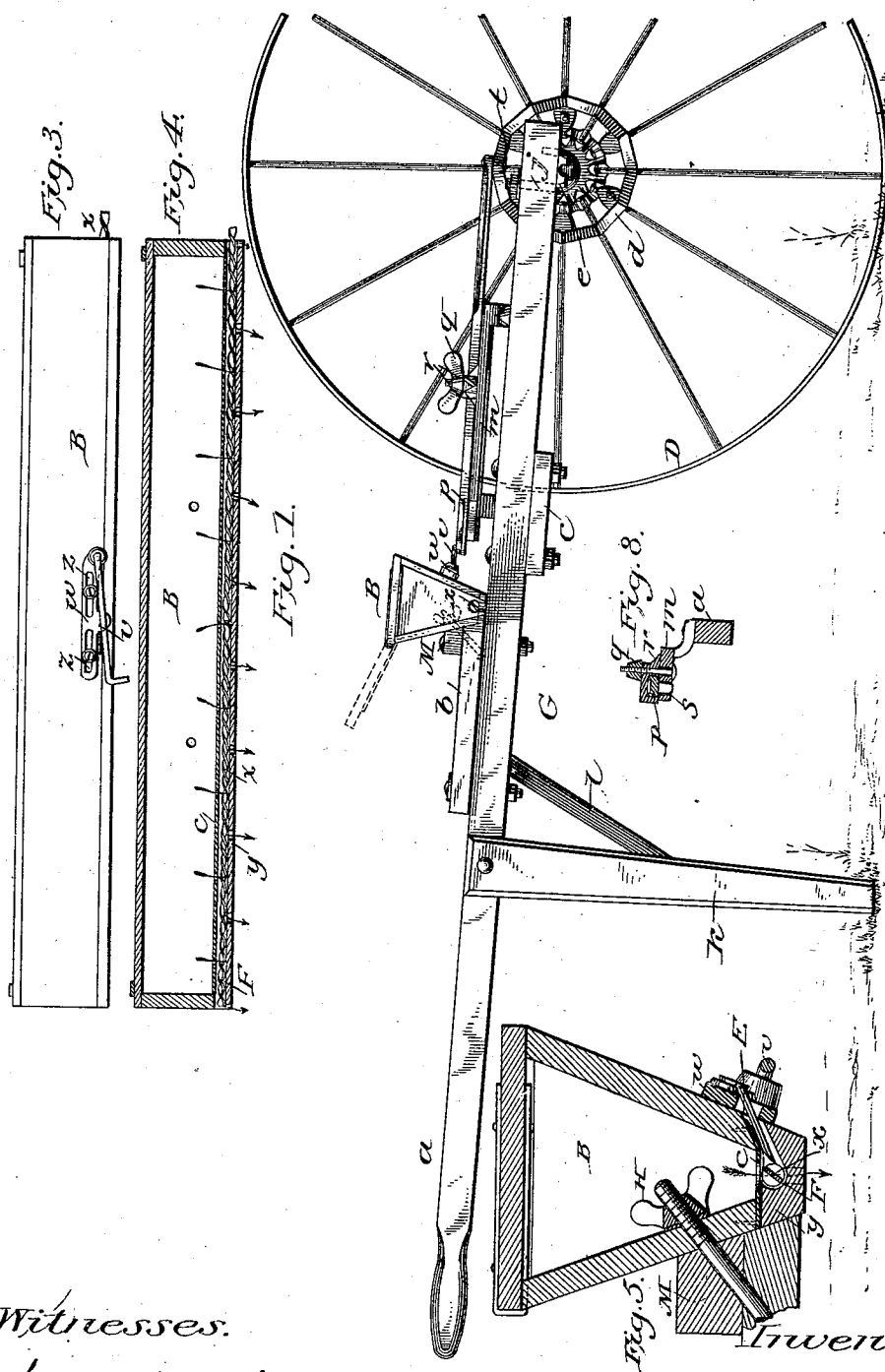
(No Model.)

2 Sheets—Sheet 1.

G. H. PRESTON.
MACHINE FOR SOWING GRASS SEED.

No. 544,005.

Patented Aug. 6, 1895.



Witnesses:

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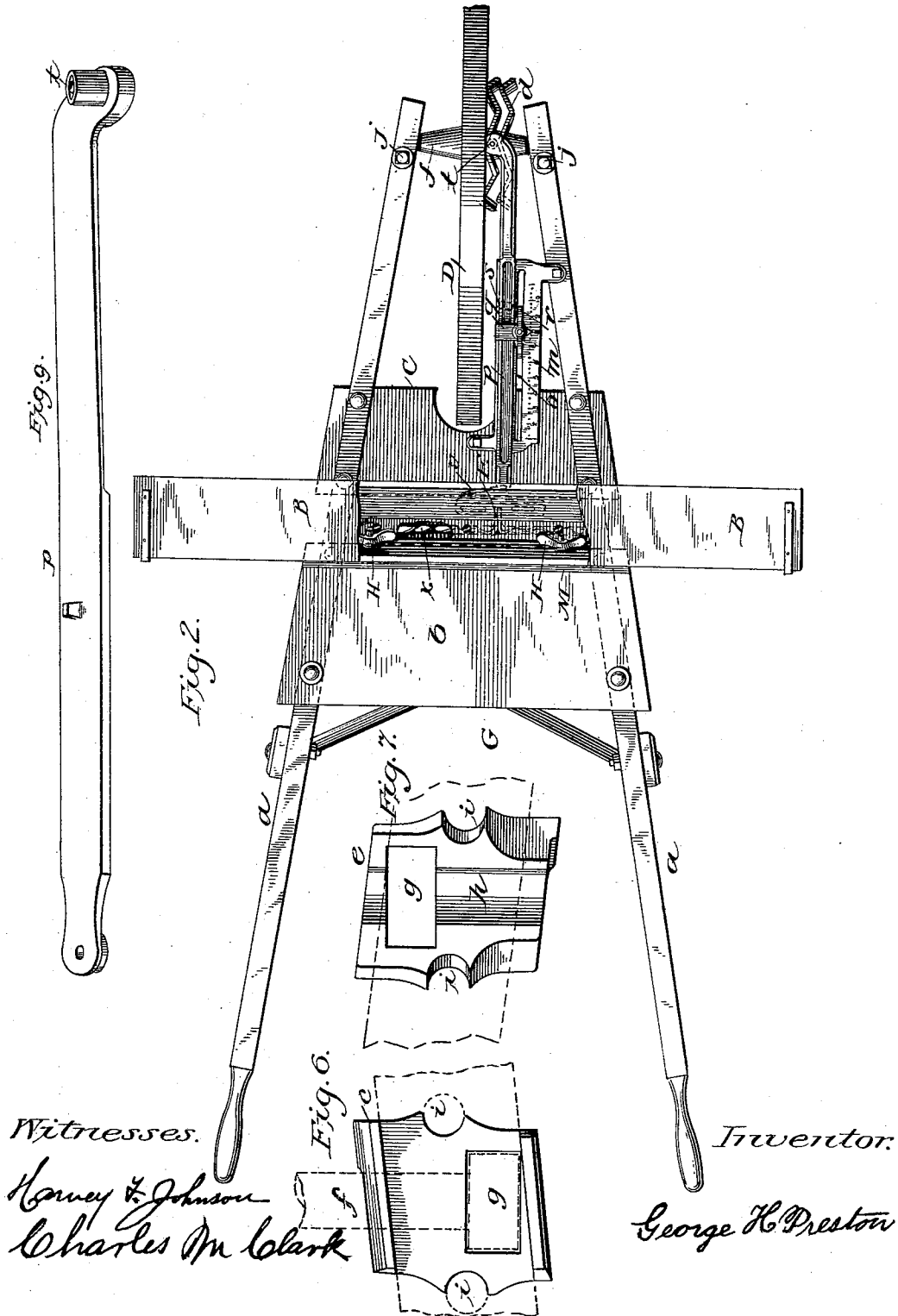
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UNITED STATES PATENT OFFICE

GEORGE H. PRESTON, OF SHORTSVILLE, NEW YORK.

MACHINE FOR SOWING GRASS-SEED.

SPECIFICATION forming part of Letters Patent No. 544,005, dated August 6, 1895.

Application filed November 29, 1892. Serial No. 453,545. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. PRESTON, a citizen of the United States, residing at Shortsville, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Machines for Sowing Grass-Seed and other Seeds of Similar Size, of which the following is a specification.

My invention relates to that class of machines commonly called "wheelbarrow-seeders" and which are propelled like a common wheelbarrow.

My improvements consist in various parts of the construction whereby greater accuracy of distribution and a perfect adjustment of quantity may be attained, which will be hereinafter shown and explained.

Figure 1 of the accompanying drawings is a side view of the improved seeder. Fig. 2 is a top or plan view. Fig. 3 is a view of the forward side of the seed-hopper. Fig. 4 is a sectional view of the hopper and the spiral seed-discharging slide therein. Fig. 5 is a sectional transverse view of the hopper seed-delivery and the connection of the vibrating mechanism. Fig. 6 is a perspective of the upper side of the axle-plates. Fig. 7 is a perspective of the lower side of the axle-plates. Fig. 8 is a sectional end view of the index-plate, vibrating lever, and pointer, connected by bolt at the point where the bolt is seen in Fig. 1. Fig. 9 is a view of the bottom of the vibrating lever.

Similar letters refer to similar parts throughout the several views.

Referring to the annexed drawings, the construction of this machine will be explained as follows:

The side bars *a a* and the two boards *b* and *C* bolted thereto constitute the frame *G* of the machine. The rear ends of the side bars *a a* are suitably formed as handles for the operator and are a convenient distance apart, while they converge toward the forward ends, being only about six inches apart at that point.

The forward end of the frame *G* is carried by a wheel *D*, having a double cam *d* formed upon its hub, as shown in Figs. 1 and 2.

Upon the under side of the side bars, at their forward ends, are plates of iron *ee*, which are shown in Figs. 6 and 7, each having a mortise *g*, one for the head and the other for the nut of the bolt-axle *f* and each having a seat *h* for

the round body of the bolt-axle *f* and also seats *i i* transversely upon the two edges of the irons *ee*.

The mortises *g g* prevent the bolt *f* and its nut from turning, and thereby the plates *ee* (which form the bearings against which the ends of the wheel-hub turn) are held at any distance apart at which they may be adjusted to correspond with the length of the hub of the wheel *D*, so that the wheel may turn freely, but with very little play.

Hook-bolts *jj* clasp the axle *f* and plates *ee*, holding the axle *f* firmly in the seats *h* of the plates, provided for the same. The hook-bolts also fit into the transverse seats *i i* of the plates, holding them rigidly in proper position to the lower side of the side bars, thereby stiffening the entire frame and preventing any contraction or spreading of the side bars.

Fig. 1 shows the hook-bolt *j* passing through the side bar and held by a nut on the top of the same, while the other end extends upward into the side bar sufficiently to hold it from turning out of its proper position.

The frame *G* of the machine is supported at its rear end when not in operation by a suitable leg *k*, bolted to each side bar with iron braces extending from the legs to the board *b*.

The board *b* is bolted across the top of the side bars *a a* with a narrow strip of wood *M* on the top and front edge of the same, the two forward bolts binding the strip *M* and board *b* firmly to the frame *G*, the edges of the board and strip being beveled to correspond with the form of the hopper *B*.

The board *C* is bolted to the lower side of the side bars *a a*, having a clearance for the wheel *D* in its front edge.

An index-plate *m* (shown in Fig. 2) has one end bolted to the board *C* and its opposite end to the right side bar of the frame, near its forward end. This index-plate has a slot extending nearly its whole length. It also has the figures from "1" to "10," inclusive, placed at equal distances apart the whole length of the slot. Again, the distances between the figures are each divided by points into four equal parts for convenience and accuracy in adjusting the machine to sow the desired quantity of seed.

A vibrating lever *p* rests upon the index-

plate *m* and is secured thereto by means of a pointer *q* and bolt with thumb-nut *r*, the bolt passing through the slot *o*, and also through the pointer, securing the pointer rigidly to the index-plate when the thumb-nut is turned down. The pointer *q* has a projection upon its lower side extending lengthwise of the slot *o*, and fitting into the same for the purpose of holding the pointer in position and at right angles to the slot.

Fig. 9 represents the vibrating lever *p* bottom side up, showing the roller *t* at one end, which when in operation forms a friction-roller between the two sides of the cam *d*, and by means of which the vibrating lever *p* is caused to swing laterally.

Referring to Figs. 2 and 8, the pointer *q* will be seen to clasp the vibrating lever *p*, but with sufficient looseness to allow the swinging motion caused by the rotation of the cam *d*, the pointer thus forming the fulcrum or center of motion of the lever *p*. The rear end of the vibrating lever *p* is connected with the discharging-slide *x* by means of the hook *v* and connecting-slide *w*, as shown in Figs. 1 and 3.

By referring to Fig. 2 it will be seen that moving the pointer *q* forward or backward will proportionately lengthen or shorten the stroke of the rear end of the lever *p*, and it being a fact that the longer the stroke the more seed will be sown by a given number of strokes, therefore the quantity of seed represented by any figure or point upon the index-plate *m* may be discharged by setting the pointer at the said figure or point; and there is no quantity between the two extremes that cannot be sown. This is a great improvement over other machines which are changed by changing a bolt from one hole of a series to another, and which are not capable of sowing the intermediate quantities.

It will be understood that the pointer will not prevent a longitudinal movement of the vibrating lever *p*, and for that reason a short transverse slot *s* is made in the index-plate *m* (shown in Figs. 2 and 8) and a corresponding projection upon the lower side of the lever *p*, Fig. 9, the projection being shorter than the length of the slot, so as to admit of the swinging motion of the vibrating lever, and at the same time prevent a longitudinal movement.

The seeding device consists of a V-shaped hopper *B*, usually about fourteen or sixteen feet long, mounted across the frame *G* in front of the board *b*, and attached to it by means of two bolts with thumb-nuts *H*, one of which is seen in Figs. 1 and 5, and both in Fig. 2.

The hopper *B* has an inside bottom *c* of thin metal, with holes at suitable intervals for the passage of the seed into a groove *F*, Figs. 4 and 5, formed in a strip of wood *y* beneath, which contains the discharging-slide *x*. This grooved strip *y* is secured to the bottom of the hopper, thus protecting the metal bottom *c*, which has discharge-holes through

the bottom, alternating with the holes in the metal bottom *c* above. The discharging-slide *x* is made of a flat steel (or other metal) bar, preferably about one-fourth of an inch wide, wrung or twisted, by means of which it conforms to the shape of a common boring bit or auger having a little more than ten twists or revolutions to one foot in length. I find by experience that too much importance cannot be attached to the proper construction of this groove *F* and discharging-slide *x*.

Round wires twisted together are used in some machines, ropes in others, and corrugated flat iron in others, but all are alike simple agitators, and upon rough ground will invariably sow more than upon smooth ground; but with my spiral-shaped flat-steel slide (the edges being square) the seed is controlled perfectly, so that the condition of the ground makes no difference in the quantity.

At or near the mid-length of the hopper *B* and in its forward side a slot *E*, Fig. 5, is cut, partly in the grooved strip *y* and partly in the side board of the hopper, extending upward on an incline forward, the forward side or edge of the slot reaching the surface of the hopper at the upper corner of the grooved strip *y*.

The discharging-slide *x* is in two parts of equal length, having their inner ends, without twist, bent edgewise at right angles to the longitudinal line of the hopper and projecting through the slot *E*, so that their flat sides coincide.

An iron slide *w* is made to receive the two ends of the discharging-slide, thus projecting through the slot *E*, which is loosely secured to the side of the hopper by means of a screw in each of two slots *z z* through the slide *w*, the screws thus forming ways upon which the slide vibrates, carrying the discharging-slide with it.

A hook *v* is pivoted to this iron slide *w*, by which it is connected to the vibrating lever *p*, and by means of which the machine may be thrown into or out of gear at the will of the operator.

Having thus described my invention, what I claim is—

1. In a wheelbarrow seeder the combination with the two side bars, of an axle, a head on one end of the axle, a nut on the opposite end, a wheel on the axle, two plates applied to the side bars and formed with grooves to receive the axle and with mortises to receive the head and nut, and fastening devices for holding the plates firmly in place on the side bars.

2. In a seeding machine the combination with a seed hopper, provided in its bottom with a longitudinally extending groove of a flat spirally twisted discharge slide fitting snugly in said groove and exposed at intervals throughout its length to the overlying seed in the hopper, and means for reciprocating said slide bodily within the hopper to discharge the seed.

3. In a seeding machine the combination with the hopper of the reciprocating seed discharging device located therein, a horizontally slotted plate applied to the outside of the hopper, screws or equivalent fastening devices extending through the slots in the plate and serving to hold the same in place and permit its movement, suitable connections between the plate and the seed discharging device and means for reciprocating the plate.

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Witnesses:

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