(Model.)

A. S. BAKER.

SEEDING MACHINE.

No. 245,045. Patented Aug. 2, 1881.

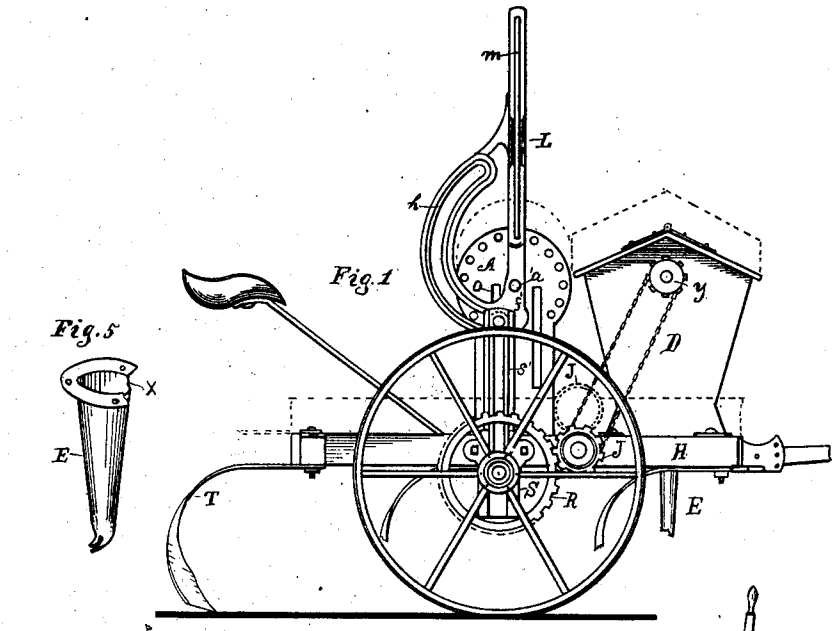

Fig. 1

Fig. 5

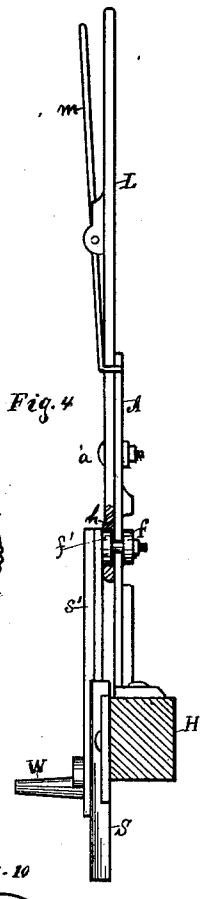

Fig. 4

Fig. 2

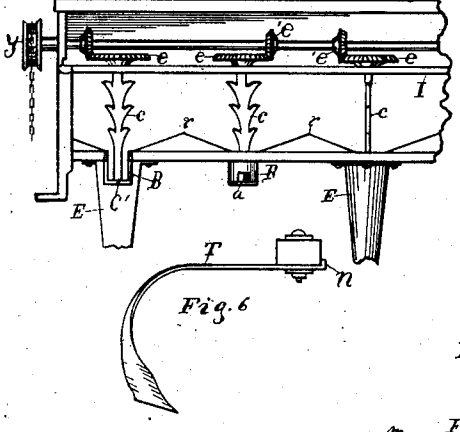

Fig. 3

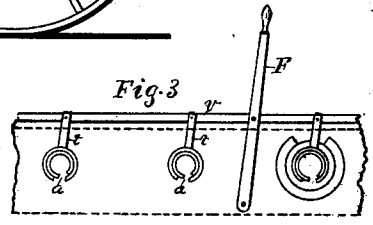

Fig. 6

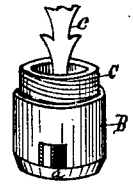

Fig. 7

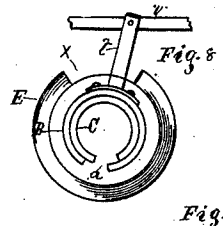

Fig. 8

Fig. 10

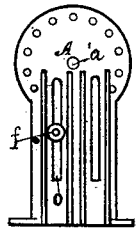

Fig. 9

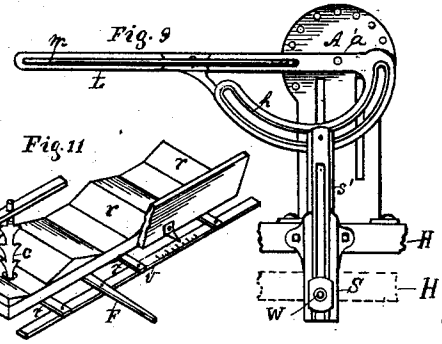

Fig. 11

Witnesses.

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UNITED STATES PATENT OFFICE.

ABNER S. BAKER, OF KALAMAZOO, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO HEMAN M. BROWN AND CHARLES D. SWEETLAND, BOTH OF SAME PLACE.

SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 245,045, dated August 2, 1881.

Application filed January 11, 1881. (Model.)

To all whom it may concern:

Be it known that I, ABNER S. BAKER, of Kalamazoo, Michigan, have invented new and useful Improvements in Seeding-Machines, of which the following is a specification.

My invention relates to the lever and feed devices of wheel-harrows and seeders. It has for its object to provide a leverage device for raising the frame in the use of which the resistance to the leverage-power is the same at all angles of the lever-arm, by the construction hereinafter set forth.

Another object is to construct an improved feed for a seed-box in which the delivery of the grain and the control of the same are greatly facilitated, and all straw and like substances in the grain is sustained above and forced away from the delivery-orifice.

The construction embodying my invention consists in a lever-arm-supporting plate secured to the share-frame, said plate being slotted and having a grooved vertical way formed on its rear face, the slot of said plate being located in the center of said way. To this supporting-plate is fulcrumed a lever-arm having an eccentric grooved way composing a part of its construction. To the side of the share-frame a grooved vertical way is secured, in which is loosely located a shaft adapted to conform to said way, the lower end of which terminates with the axle of the transporting-wheel, and its upper end bears an axle provided with two friction-wheels, one of said wheels in the operation traversing the vertical way of the plate to which the lever-arm is fulcrumed, and the other the eccentric way of said arm.

A further construction consists in providing the seed-box with grain-agitators, (located vertically,) said agitators being blocked out of sheet metal, or cast with upward-projecting horns or flanges on each edge. These agitators are operated by bevel-gearing connecting with their upper ends, and with the horizontal shaft of the seed-box. The grain-pockets are constructed in the form of cylindrical boxes inclosed at the bottom, which are screwed up through the bottom of the seed-box even with its inner face. Said pockets are provided with a hole in the side at the lower end of their body for the escape of the grain, and have a movable thimble, also provided with a hole corresponding with the hole through the body surrounding said cylindrical body, for closing the orifice when stopping the flow of grain, and also to gage the amount of grain sown. This thimble connects with an arm secured to the indicator-bar, and said bar has a lever-arm connecting with it, whereby all the shut-offs are operated in unison.

A further construction is set forth in connection with a description of the drawings forming a part of this specification, in which—

Figure 1 is a side view of the seeder, showing a front-face view of the lever device; Fig. 2, inside view of seed-box, showing the construction of the agitators and grain-pockets; Fig. 3, top view of seed-box bottom; Fig. 4, edge view of lever device; Fig. 5, grain-tube; Fig. 6, a tooth; Fig. 7, enlarged view of grain-pocket; Fig. 8, top view of grain-tube and pocket; Fig. 9, face view of lever device, with arm at a horizontal angle; Fig. 10, rear view of lever-supporting plate, and Fig. 11, a perspective of grain-box bottom, showing alternate planes and inclines.

H is the share-frame; T, teeth, and D seed-box.

A is the lever-supporting plate, perforated around its top for locking the lever by means of bar *m*.

L is the lever-arm, and *h* its eccentric grooved way, in which friction-wheel *f* runs. The friction-wheel *f* traverses the grooved vertical way of the plate A, Fig. 10. The axle of the two wheels *f* and *f'* moves up and down in slot *o* when raising or lowering the lever-arm L, which is fulcrumed on a pivot at *a'* to plate A.

s' is the standard or bar, terminating with axle *w*, in the top of which bar the axle of the friction-wheels is secured. The standard *s'* moves vertically in way *s*, secured to beam H.

By this construction of a leverage device it requires no greater degree of power to move lever L in continuing to raise the wheel and axle than is required to start it, the leverage being the same at all points. Less power, also, is required to raise a given weight than with

levers having the point of the weight's connection located in changeable relationship with the fulcrum and at greater distance apart; hence its great utility in harrows, seeders, and devices of like requirements, especially those in which the frame to be raised bears the driver's seat. In all devices requiring a lever for operating a shaft or plunger this device will also be found of great utility.

R is the drive-wheel, and J and *y* the driven wheels, the latter of which is secured to the horizontal shaft which operates the agitators *c c*. *e' e* are the bevel-gear, arranged in this construction to propel alternating agitators in opposite directions. The upper bearing of agitator *c* is in bar I, and the lower in the bottom inclosure of pocket C, (shown in Fig. 2, at *e'*.)

B is the movable thimble constituting the shut-off, constructed to turn on the body of pocket C to close orifice *a*.

To bar *r* arms *t t* are pivoted, said arms being secured to thimbles B. (Illustrated in Figs. 3 and 8.) F is the arm operating said bars, and is pivoted to the bottom of the seed-box and to bar *r*.

Secured to the under side of seed-box D, and surrounding the pockets C, are the grain-tubes E. These tubes are constructed with lips at their lower ends for scattering the grain broadcast, and have a mortise or notch, X, in their upper ends, on rear side, to accommodate the bars *t t*.

Bar *r* is provided with an indicating-scale. The indicating-point is secured to rear side of seed-box D, Fig. 11.

I construct the covering-teeth T, I prefer to use, from a flat strip of metal, twisting the lower end nearly half around, and shouldering the upper end at *n*, to prevent its drawing out of its fastenings.

In operation the agitators *c* keep the grain in great commotion from the bottom of the seed-box to the upper surface of the grain, causing it to readily flow down, keeping the pockets C always filled. It also agitates the grain in the pockets, forcing it evenly through orifice *a*. The projections on the agitators assist in stirring the grain, and all straw and like litter is caught by them and supported above and forced away from the pockets. Lever F moves laterally in closing the orifices *a a*, Fig. 8 showing said orifices partially closed. In the operation of the lever, when arm L is in position shown in Fig. 9, the frame H, seed-box, and driven wheel J will be in position indicated by dotted lines in Fig. 1. This raises the teeth from the soil and throws the feeding device out of gear at the same time as it disengages gear-wheels R and J.

What I claim, and desire to secure, is—

1. The lever-supporting plate having vertical slot *o* and grooved vertical way on its rear face, the operating-arm having the grooved eccentric way *h*, and the axle of the friction-wheels *f' f*, secured to the weight-shaft and located in slot *o*, said friction-wheels *f' f* traversing the ways *o* and *h*, all in combination, substantially as set forth.

2. In a seeding-machine, the vertical grain-agitators having the outward and upward extending projections on the edges of said agitators, substantially as specified and shown.

3. The vertically-located grain-pockets, consisting of the body inclosed at the bottom and surrounded with the movable thimble, said thimble connecting with the operating-lever *t*, and said body and thimble provided with orifice *a*, in combination with a grain-box, all substantially as set forth.

4. In a seeding-machine, the vertically-located grain-pockets, consisting of the body C, inclosed at the bottom, and the movable thimble, and having orifices *a*, said thimble connecting with lever-arm *t*, in combination with a grain-tube having mortise X, to accommodate said lever *t*, all substantially as specified.

ABNER S. BAKER.

Witnesses:

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HEMAN M. BROWN.