A. PALMER.

Grain-Drill.

No. 6,536. Patented June 19, 1849.

Fig. 2.

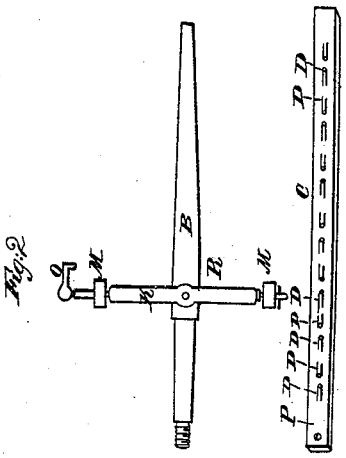


Fig. 5.

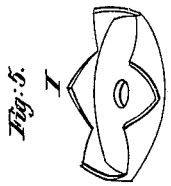


Fig. 4.

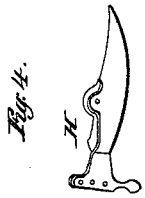


Fig. 1.

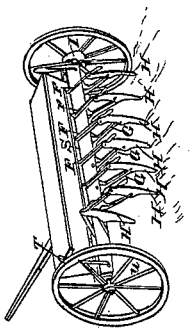
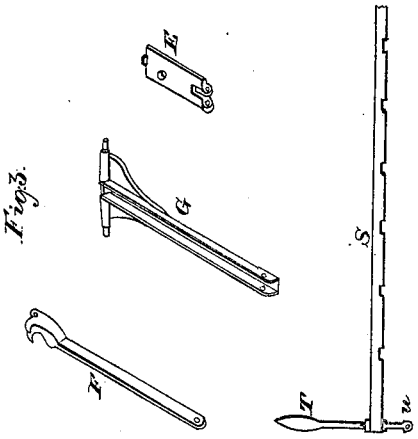


Fig. 3.



UNITED STATES PATENT OFFICE.

AARON PALMER, OF BROCKPORT, NEW YORK.

IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. **6,536**, dated June 19, 1849.

To all whom it may concern:

Be it known that I, AARON PALMER, of Brockport, in the county of Monroe and State of New York, have invented a new and useful Improvement in the machine for sowing or planting wheat, called a "Wheat-Drill;" and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view, and Figs. 2, 3, 4, and 5 are sectional parts.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I make an axle-tree of hard timber six by four inches of the length I desire to have the width of the drill. On each end of this axle I attach a cast-iron arm, letter B, Fig. 2, on which I place wheels three feet four inches in diameter. To this axle I affix a pole or tongue twelve feet long with iron braces. From the center of this axle, on the top to the lower edge of the back side, I bore in a slanting direction as many holes as I intend to have teeth in the drill and at the distance apart that I intend to set the teeth. Immediately over these holes, on the axle, I place a long slide, letter C, Fig. 2, one and three-fourths inch wide and one-half an inch thick. In this slide I bore twice as many holes as I intend to have teeth in the drill. The distance between the first two holes on C, Fig. 2, is one and one-fourth inch; between the next two, seven inches. Cleats are fastened to the axle on each side of this slide of a trifle more than equal thickness with it and wide enough to cover the remainder of the axle. Over this slide, resting on the cleats, I place the hopper. This can be made of any desirable size. Mortises are cut through the bottom of this hopper in such a manner that one hole in the slide is immediately over a hole in the axle. The other is immediately under a hole in the hopper.

In the slide C, Fig. 2, to the right and left of each hole, I cut a groove, D D D D, as wide as the diameter of the hole and as deep as the thickness of the largest kernel of wheat, which prevents the movement of the slide from cutting the wheat and dispenses entirely with the use of bristles. Immediately under the holes in slide C, Fig. 2, I place a short slide, E, Fig. 3, transversely to the main slide, four inches wide, one-fourth inch thick, and seven inches long. It passes through small mortises cut in the cleats that lie parallel with the slide C, Fig. 2. Through this slide E, Fig. 3, is a hole exactly corresponding to the one in the axle. To the end of this slide I attach the lever F, Fig. 3, by a bolt. This lever is so shaped at one end that when it is raised it presses against the hopper and draws out the transverse slide E, Fig. 2, and thus shuts off the grain. This lever is eighteen inches long, one and one-fourth inch wide, and one-half an inch thick. Immediately under this lever, on the axle, I attach another lever, letter G, Fig. 3, by hooks or joints. This lever is eighteen inches long and is grooved out, and forms a channel to conduct the wheat from the axle to the tooth. The other end of these levers are attached by bolts to the drill-tooth H, Fig. 4, so as to be parallel to each other, and also to move freely up and down. The drill-tooth H, Fig. 4, is about eighteen inches long and is hollow, and when fastened to the levers at any given pitch will retain that pitch, whether in a hollow or on a knoll.

On one of the main wheels I attach the cam-wheel I, Fig. 5, which is eight inches in diameter and composed of an uneven number of cams. Suspended on the cast-iron arm is the lever K, on which, four inches from the center each way, are the friction-rollers M M. On the upper end of this lever is the device O, Fig. 2, which is fastened by a joint to the lever K, and hooks into the pole P in slide C, Fig. 2. The fulcrum to the lever K is formed by a bolt passing through its center and the cast-iron arm B, as at R, Fig. 2. When the large wheel revolves the cam, running against the friction-rollers M M, produces a vibratory motion of the lever K, which moves the slide C and feeds the wheat into the hollow lever through the tooth into the ground.

Letter S, Fig. 3, is a plain flat bar of iron one inch wide, one-fourth inch thick, and the length of the hopper. It is fastened to the hopper by clasps, so as to move freely to the right and left. Notches are filed in it corresponding to the ends of lever F, Fig. 3. This

lever F, when raised, catches under this bar, and is held up by it until it is slid along to the notch, when the lever falls.

T, Fig. 3, is a lever to move the bar S, and is fastened at *u*, Fig. 3, to the axle.

What I claim as my invention, and desire to secure by Letters Patent, is—

The manner of connecting the planting-tubes to the axle and seed-box, substantially as herein represented and described, by which the person following after and attending the machine is at all times enabled to witness its operation and see that each tube deposits its proper quantity of grain or seeds in the drills—to wit, making use of pairs of parallel inclined bars connected by hinge-joints to the tubes, and to the axle and seed-box with a groove formed in the lower bar of each pair, for conducting the grain or seeds from the seed-box into the planting-tube to which it is jointed.

AARON PALMER.

Witnesses:

SHERWOOD LAWRENCE,

CHAS. W. PALMER.