2 Sheets--Sheet 1.

J. L. LEAS.

Improvement in Corn-Planters.

No. 130,378. Patented Aug. 13, 1872.

Fig. 1.

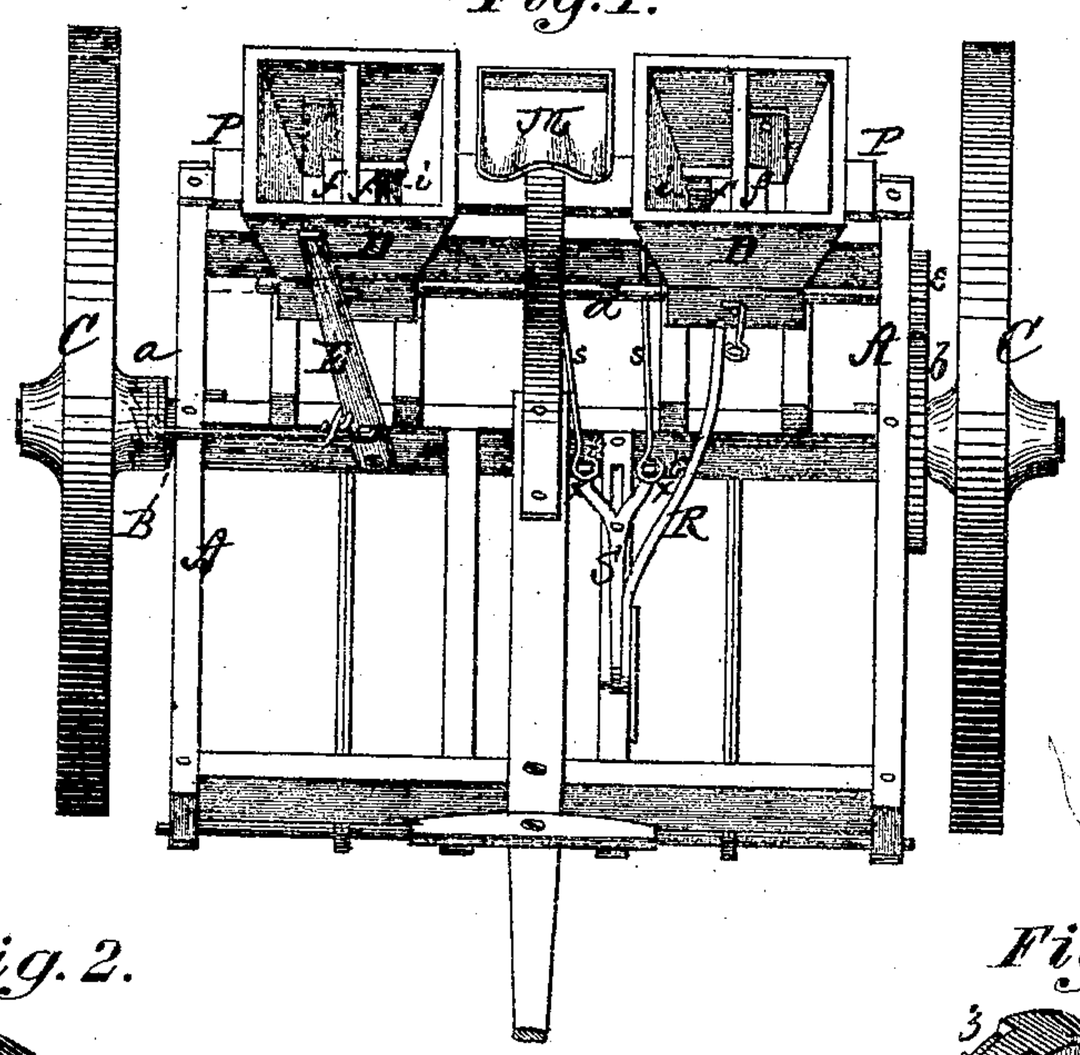


Fig. 2.

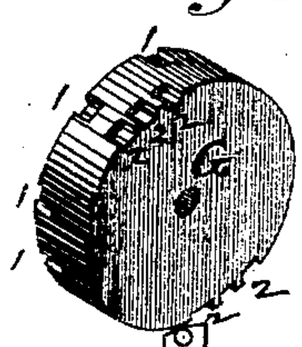


Fig. 3.

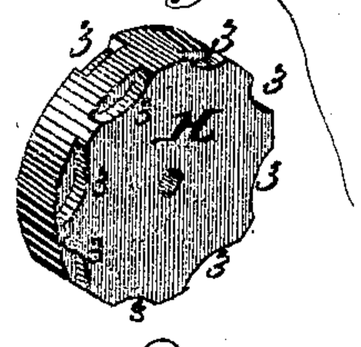
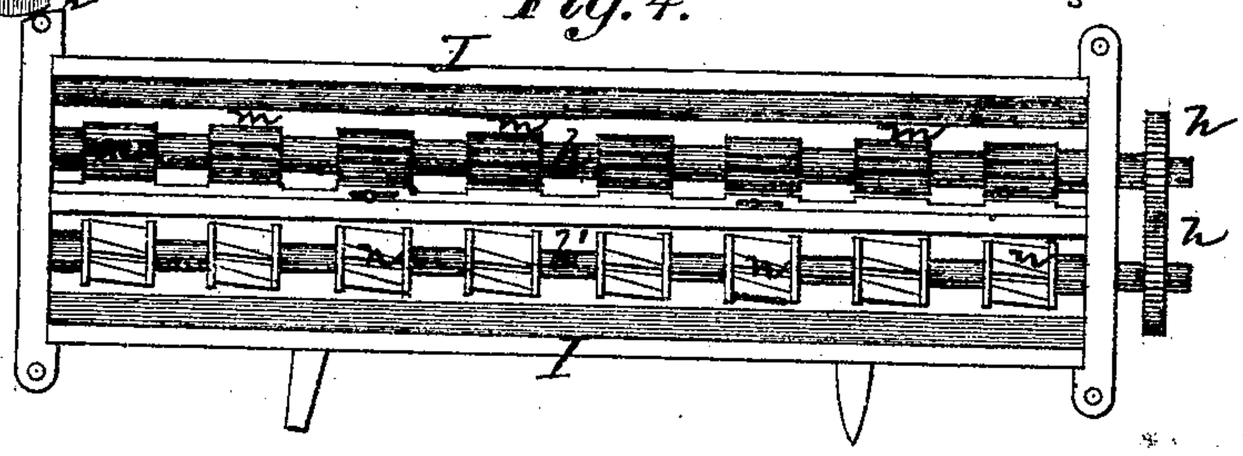


Fig. 4.



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2 Sheets--Sheet 2.

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Fig. 5.

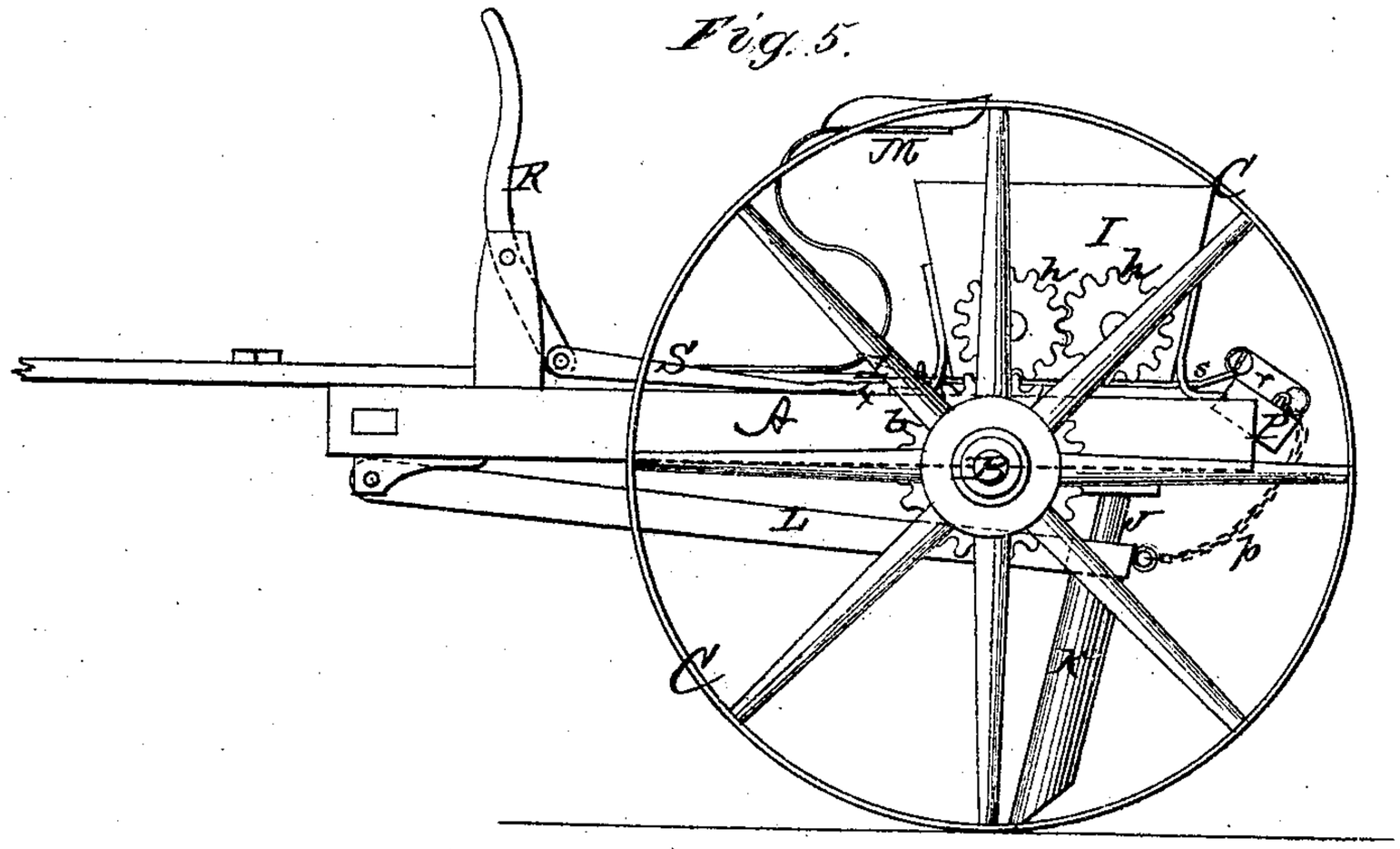
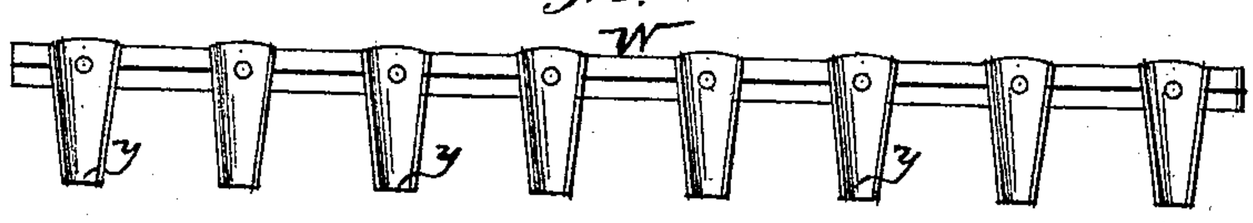


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN L. LEAS, OF HAMPTON, PENNSYLVANIA.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **130,378**, dated August 13, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JOHN L. LEAS, of Hampton, in the county of Adams and State of Pennsylvania, have invented certain new and useful Improvements in Combined Grain-Drill, Corn-Planter, and Fertilizer; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a combined corn-planter, grain-drill, and fertilizer, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a perspective view of my machine when used as a corn-planter. Figs. 2 and 3 are similar views of the corn and fertilizer-wheels, respectively. Fig. 4 is a plan view of the grain-box. Fig. 5 is a side view of my machine when used as a grain-drill, and Fig. 6 shows a device used in broad-cast sowing.

A represents the frame of my machine. B is the axle, and C C the wheels. Upon one end of the axle B is a common clutch, *a*, operated by a lever, E, to throw the axle in and out of gear with the wheel at this end. On the other end of the axle is a gear-wheel, *b*, communicating motion to a shaft, *d*, by means of a pinion, *e*, on said shaft. The shaft *d* passes through the lower ends of two hopper-shaped corn-boxes, D D, each of which is, by a vertical partition, divided into two compartments—one for corn and the other for fertilizer. In the corn-compartment works a wheel, G, and in the fertilizer-compartment a wheel, H. The wheel G is, around its circumference, provided with cups 1 1 on one side, at equal distance, while on the other side are cups 2 2, arranged in groups, as shown in Fig. 2. The wheel H is in like manner provided on one side around its circumference with a smaller, and on the other side with a larger, number of cups, 3 3, the object in both cases being to deposit more or less of the corn and fertilizer, as desired. The change is effected by means of a bar, *f*, used in each compartment to cover either half of the wheel, and allow only the other half to be used—that is, the half in thickness or width. The wheels G G and H H are, of course, firmly secured to the shaft *d*, so as to revolve with it. In the corn-compartment of each box D is a brush, *i*, to prevent more than the desired amount of corn to be dropped. The corn and fertilizer pass through the usual conductor, and plow into the furrow made by said plow, and are covered by two covering-plows, all of said plows (to each box D) being connected to one beam, pivoted at the front end of the frame.

When the machine is to be used for grain-drill the boxes D D, shaft *d* with its wheels, and the beams and plows are removed, and in place thereof the following substituted: I represents the seed-box, extending the whole width of the frame, and divided by a longitudinal and vertical partition into two compartments. In these compartments are placed the two rollers *h h'*, connected at one end by gear-wheels or pinions *k k*, one of which gears with the wheel *b* on the axle, and thus contributes motion to the rollers. On the roller *h*, which is in the seed-compartment, are, at regular intervals, enlargements *m m*, which are grooved or corrugated longitudinally, and as the roller revolves the seed is carried by said grooves and dropped through apertures in the bottom of the box.

In like manner the roller *h'* in the fertilizer-compartment is provided with corresponding enlargements *n n*, which are grooved spirally to carry the fertilizer out through similar apertures in the bottom of the box. Under the bottom of the box, corresponding with each of the enlargements *m*, is a spring, operating in the grooves on the same, to clean the seed out of the same. Under that part of said bottom corresponding with the fertilizer-compartment are two perforated slides to regulate the size of the apertures through which the fertilizer is to pass.

The seed and fertilizer from each corresponding couple of enlargements *m* and *n*, pass through one conductor, J, and hoe K, into the ground. This hoe or plow is attached to a beam, L, which is hinged at the front end of the frame A.

All the hoes may be raised up from the

ground at once, or one-half of them only, from the center to either end by the following means: At the rear end of the frame A are hinged or pivoted two bars, P, extending from the center of the frame to the ends, and to these bars the rear ends of the beams L L are connected by chains *p p*. Near the inner end of each bar P, to an ear at the lower edge, is pivoted an arm, *r*, from the outer end of which a spring rod, *s*, extends forward and passes through suitable guide-loops on the frame. The front ends of these rods form rings *t t*, located at such a point that the driver from his seat at M can readily put his foot on either or both of them. To a standard or post near the front end of the frame is pivoted a lever, R, the lower end of which is attached to a slide, S, arranged on one of the bars of the frame. The rear end of this slide is forked, and each prong forms a hook, *x*, which hooks, when the lever R is pushed forward, will be directly under the rings *t t*. Now, if the driver desires to raise the hoes or plows on either side of the machine he puts his foot on the corresponding ring *t*, or if all are to be raised, on both rings, so that by pulling back on the lever either or both of the hooks, as the case may be, will catch on the ring or rings depressed, and thereby turn either or both of the bars P, raising the hoes.

In like manner either or both of the corn-plows may be raised at will.

In sowing broad-cast the conductors, hoes, and beams are removed, and in their place is substituted a bar, W, with a series of scoops or half funnels, *y y*, attached to it in such a manner as to correspond with the apertures in the bottom of the box I. The seed and fertilizer falling on said scoops or half-funnels are scattered in all directions.

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

1. The combination with the hopper D, blocks *f f*, and cylinders H, the parts being constructed and arranged substantially as and for the purpose set forth.

2. The combination of the lever R, forked slide S with hooks *x x*, and the spring-rods *s s* provided with rings *t t*, and connected by arms *r r* with the pivoted bars P P, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in the presence of witnesses.

JOHN L. LEAS.

Witnesses:

C. N. WATSON,

S. N. GOODALE,

GEO. B. SHEFFER.