

A. H. STARK & J. C. MITCHELL

Improvement in Corn Planters.

No. 120,340.

Patented Oct. 24, 1871.

Fig. 1.

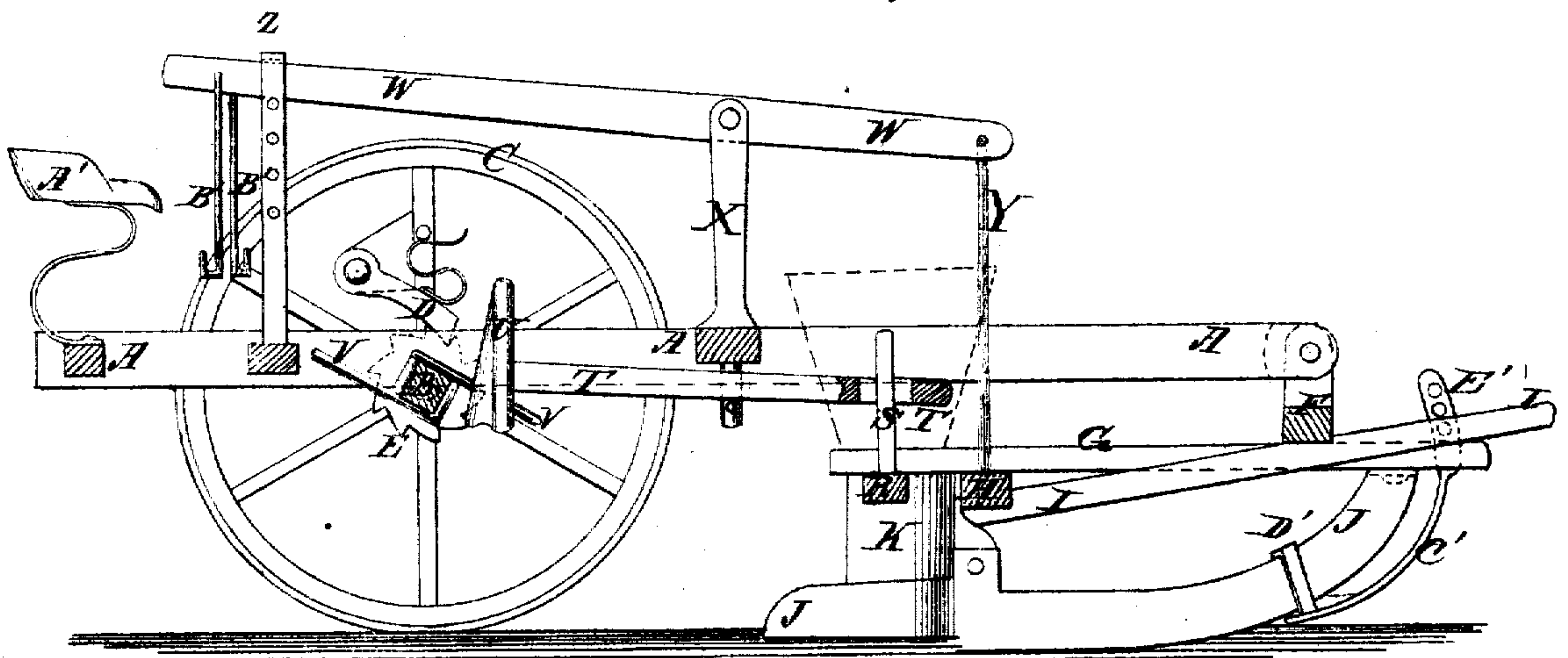


Fig. 2.

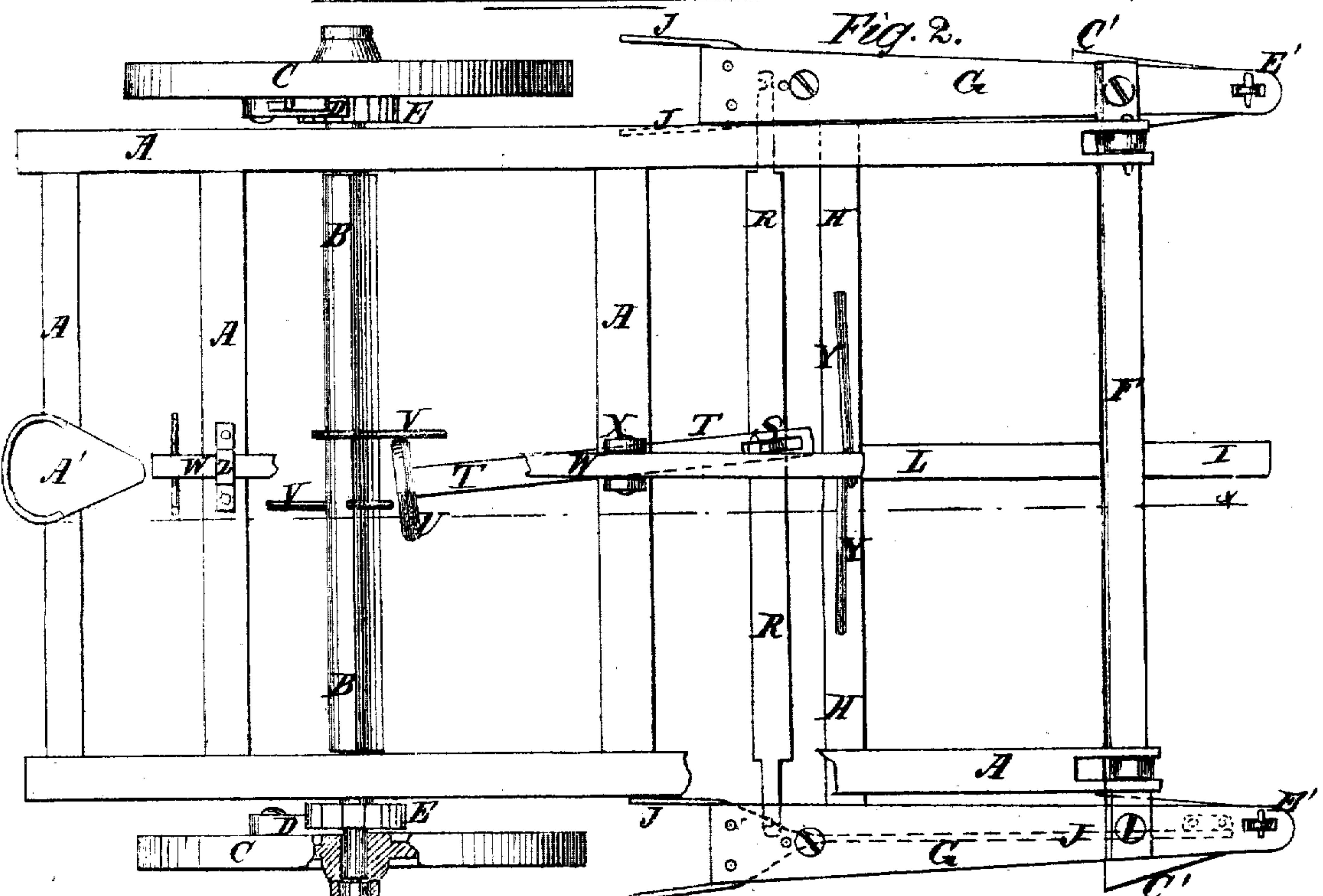


Fig. 3.

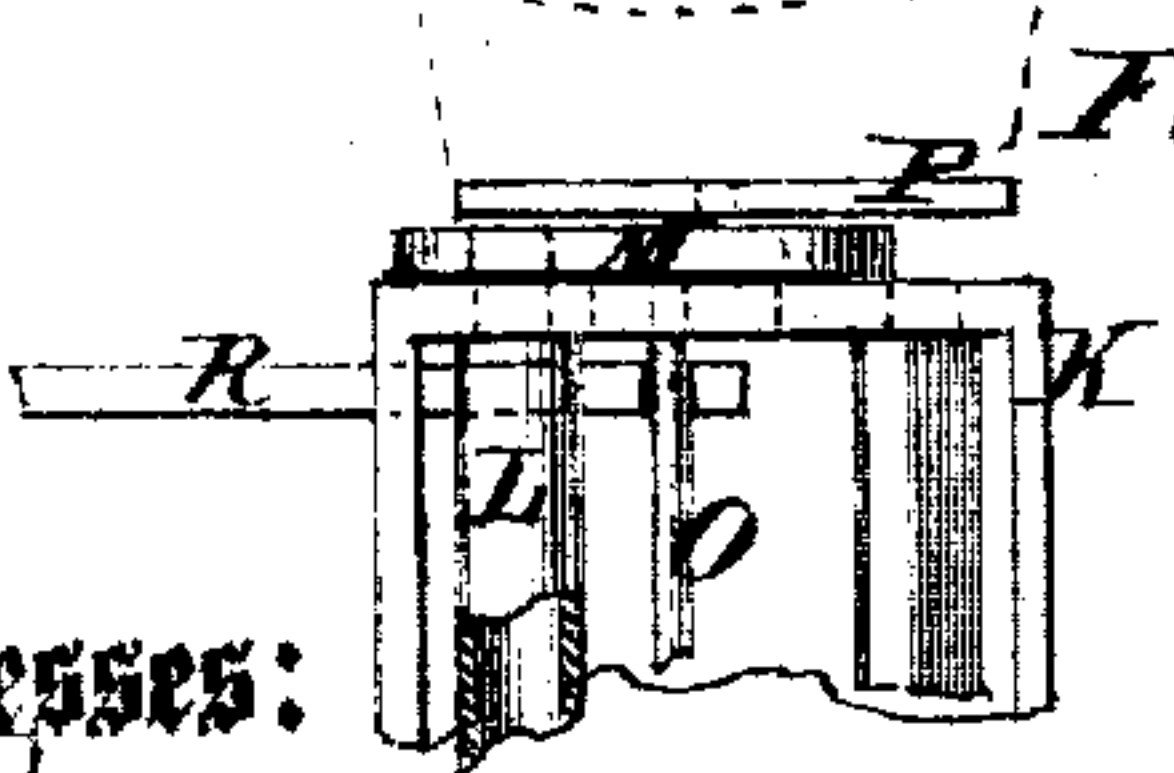
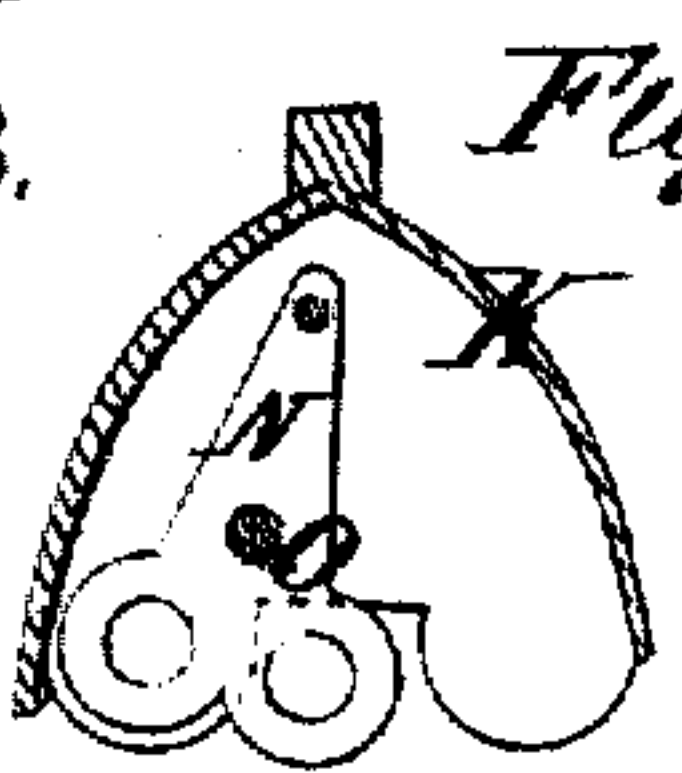
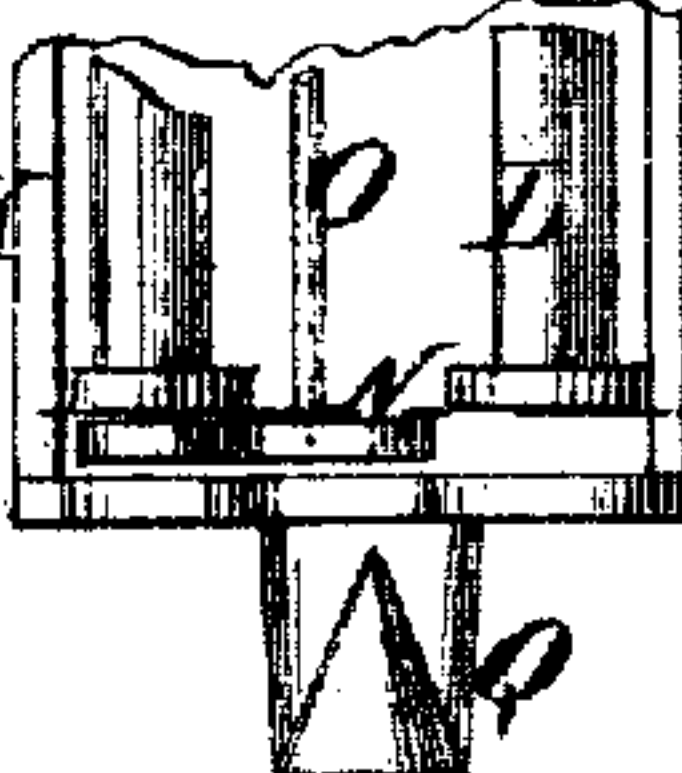


Fig. 4.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. 120,340, dated October 24, 1871.

To all whom it may concern:

Be it known that we, ABRAHAM H. STARK and JOHN C. MITCHELL, of Nevada, in the county of Story and State of Iowa, have invented a new and useful Improvement in Corn-Planter; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a vertical longitudinal section of our improved corn-planter taken through the line *x x*, Fig. 2. Fig. 2 is a top view of the same, parts being broken away to show the construction. Fig. 3 is a rear view of the dropping device enlarged, and part being broken away. Fig. 4 is a detail cross-section of the same taken through the line *y y* of Fig. 3. Fig. 5 is a detail top view of the same.

Similar letters of reference indicate corresponding parts.

Our invention has for its object to furnish an improved self-dropping check-row corn-planter, which shall be simple in construction, reliable and uniform in operation, and easily controlled; and it consists in the construction and combination of various parts of the machine, as hereinafter more fully described.

A is the frame of the machine, in bearings attached to the rear part of the side bars of which revolves the axle B. C are the wheels which revolve upon the journals of the axle B, and have spring-pawls D attached to their inner sides, which take hold of the ratchet-wheels E attached to the axle B, so that the said wheels may carry the said axle with them when they turn forward, but may turn backward without turning said axle, for convenience in turning the machine. To the forward ends of the side bars of the frame A is pivoted a cross-bar, F, by means of lugs or short arms attached to said cross-bar. To the ends of the cross-bar F are attached the forward parts of the raves G, the rear parts of which are connected and held in their proper relative position by a cross-bar, H. I is the tongue, which is securely attached to the cross-bars F H. J are the runners that open the ground to receive the seed. The forward ends of the runners J are securely attached to the forward parts of the raves G. The rear ends of the runners J are made forked, as

shown in Figs. 1 and 2, to spread apart the sides of the furrow to receive the seed and also to receive the lower end of the cast-iron case K, to a vertical flange upon the forward side of which the said runners are bolted. The upper end of the case K is securely bolted to the rear part of the raves G. L are two conductor-tubes, which are secured to the case K, the upper ends of the tubes L communicating with two holes in the top plate of the case K or in the rear part of the raves G. The lower ends of the tubes L terminate a little above the bottom plate of said case K. M N are two plates which are pivoted to the top and bottom plates of the cases K, and at a little distance from their pivoting-points are rigidly connected by a rod, O, which passes through a slot in the top plate of the case K, and thus causes the said plates M N to move together. The lower plate N is placed in the space between the lower ends of the tubes L and the bottom plate of the case K, and has two holes formed in it to receive the corn from said tubes L and drop it into the bottom of the furrow through a notch or hole in the middle part of the bottom plate of the said case K. The holes in the plate N are so arranged that when one of said holes is beneath the lower end of one of the tubes L the lower end of the other tube may be covered by a solid part of the plate N, and the other hole in said plate may be directly over the hole or opening in the bottom plate of the case K; the holes in the plate N thus dropping corn alternately. The upper plate M is placed above the rave G or the top plate of the case K, and has its middle part cut away to receive a small detachable plate, *m'*, which has two holes formed through it of such a size as to contain the exact amount of seed required for a hill. It is designed to have several of the plates *m'* with different-sized holes, so that they may be changed, as required, according as the size of the seed or the amount of seed desired for a hill may vary. P represents the bottom of the hopper, which has a hole formed in it in such a position as to be directly over one of the holes in the small plate *m'* when the other of the holes in said plate may be directly over the upper end of one of the tubes L, the holes in the plate *m'* thus receiving seed alternately and dropping it into the tubes L to be dropped to the ground by the plate N. Q is a cone formed upon an arm attached to the bottom of the case K and so ar-

ranged that the cone Q may be directly beneath the discharge-opening in the bottom-plate of the case K, so as to scatter the seed as it drops from said opening, the forks of the runners J keeping the seed from flying out of the furrow. The plates M N are operated by the sliding bar R, the ends of which pass through holes in the inner sides of the cases K and are connected with the rod O, which connects the said plates M N. To the center of the sliding bar R is rigidly attached an upwardly-projecting pin or arm, S, which passes through a slot in the forward end of the lever T, which is pivoted, at or near its center, to a cross-bar of the frame A. To the rear end of the lever T is rigidly attached a V-shaped block, U, with its point upward. To the axle B are attached two arms, V, which project in opposite directions and are so arranged as to strike alternately the opposite inclined sides of the V-shaped block U, and thus oscillate the lever T and sliding bar R to drop the seed. The part of the arms V that come in contact with the sides of the block U should have rollers placed upon them to diminish the friction. W is a lever which is pivoted to a standard, X, attached to the center of a cross-bar of the frame A. The forward end of the lever W is connected with the cross-bar H by two rods, Y, so that by operating the lever W the runners J may be raised from the ground or adjusted to work more or less deeply in the ground as may be desired. Z is a standard attached to a rear cross-bar of the frame A, and which is slotted or has a keeper attached to it to receive the rear part of the lever W. The standard Z has several holes formed in it to receive a pin, which may be placed above the lever W when holding the runners J raised from the ground, and which may be placed below said lever to hold the runners J down to their work and prevent them from being raised by the resistance of the ground. To the rear end of the lever W, which terminates

just in front of the driver's seat A', are attached stirrups B', which serve as supports for the driver's feet and enable him to raise the runners J from the ground with his feet by withdrawing the pin in the standard Z from beneath said lever. C' are gauge-shoes, the rear ends of which are made broad and are connected with the forward parts of the runners J by hooks or clasps D', so that they may be held securely in place and, at the same time, may be moved longitudinally upon the runners, as required. The forward ends of the shoes C' are made narrow and terminate in or have attached to them an arm, E', which passes up through a hole in the forward ends of the raves G, and has several holes formed in it to receive a pin which rests upon the upper side of the said raves and prevents the shoes C' from being drawn back by the friction of the ground. By this construction, by adjusting the gauge-shoes C', the depth to which the runners J enter the ground may be regulated as desired.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In corn-planters, the combination of a hopper having a single hole in its bottom P; a measure, m', of the quantity of grain to be planted; a case, K, arranged thereunder, having two holes and a slot in the top, and having one central discharge-hole in bottom; plates M N, rigidly connected, movable together, and having two holes apiece therein; and the tubes L L extending not quite to the bottom of case, all constructed and arranged as and for the purpose specified.

2. In combination with an adjustable shoe, C, the clasp D' and the arm E', to fasten the said shoe detachably to the frame of the planter and the runner thereof.

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