D. & A. S. MARKHAM & D. ELDRED.

Corn-Planter.

No. 23,183. Patented Mar 8. 1859.

Fig. 1.

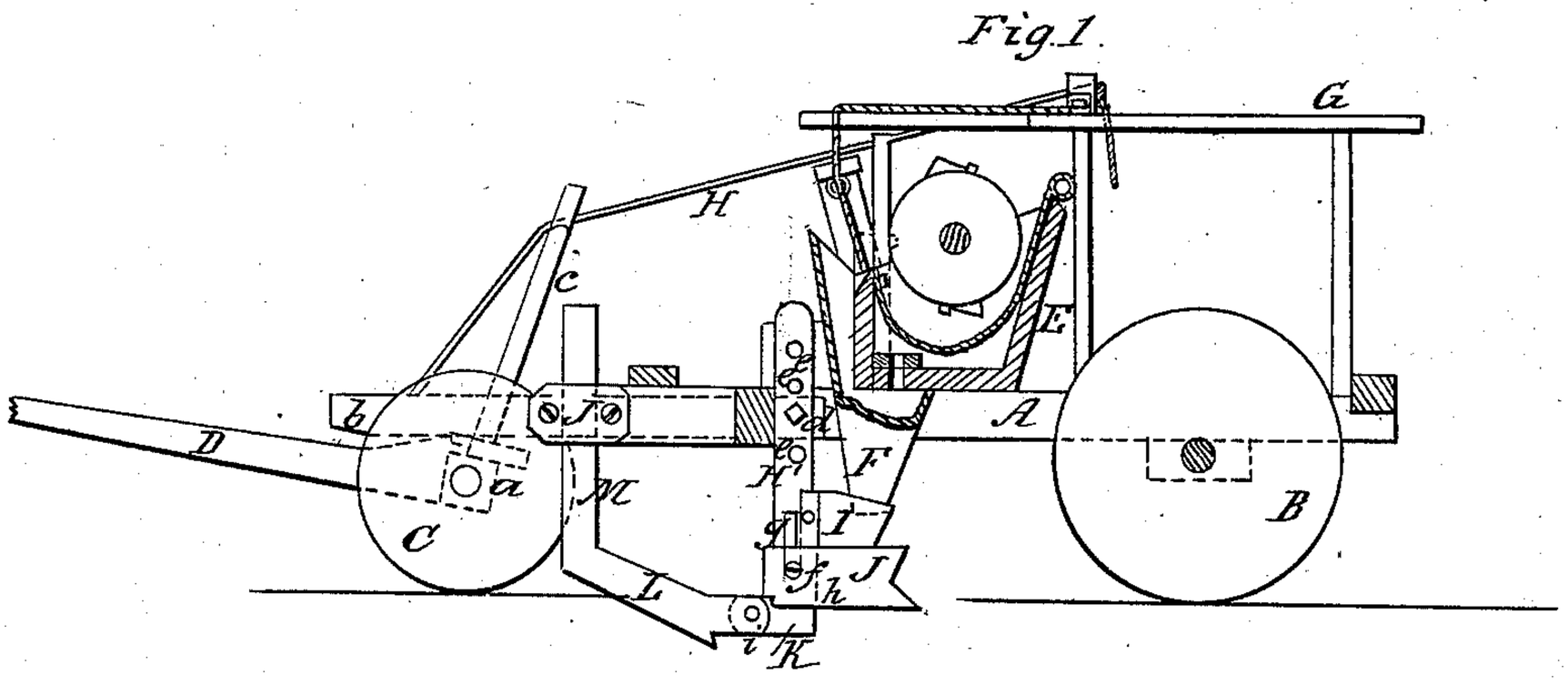
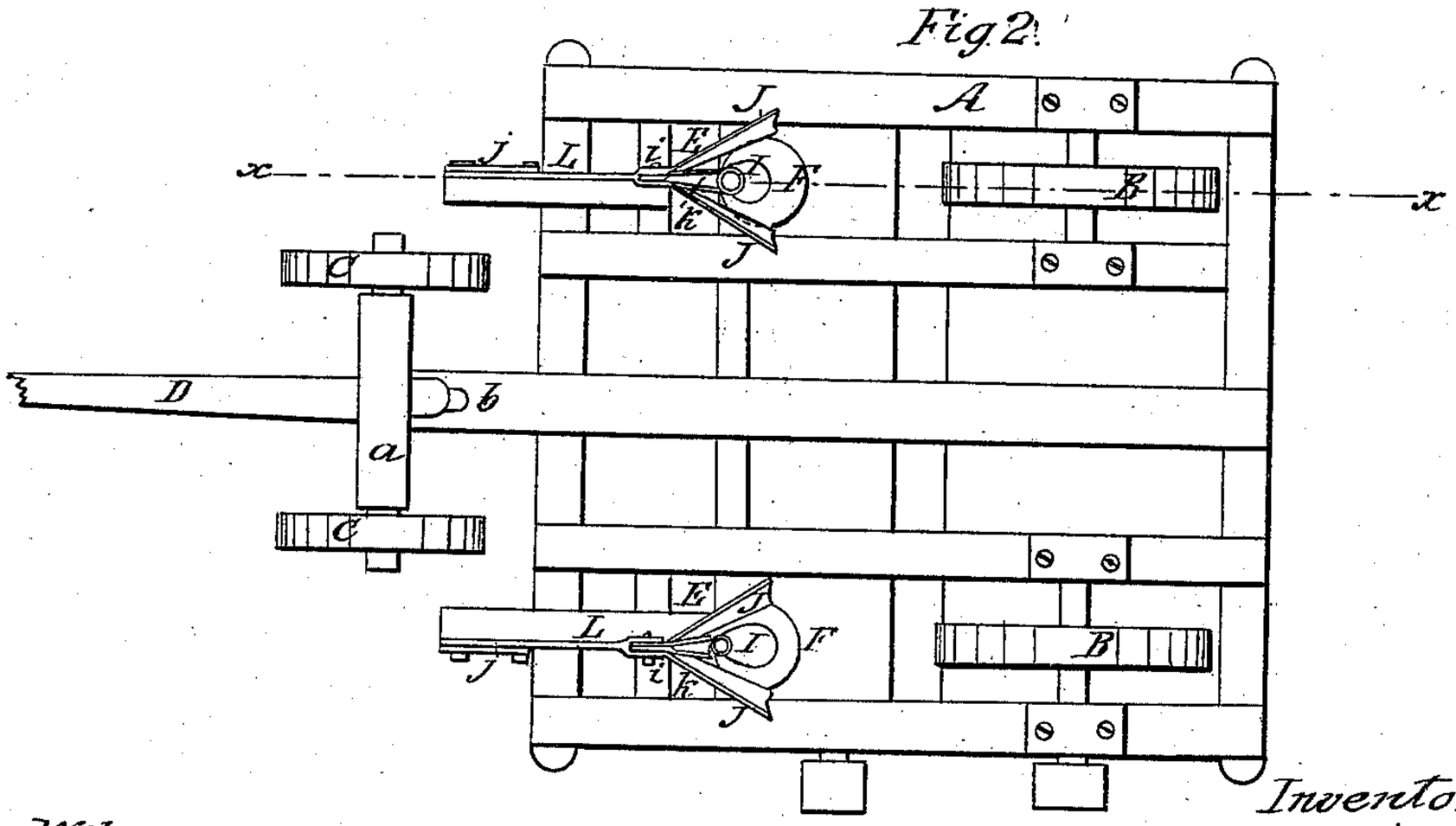


Fig. 2.



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UNITED STATES PATENT OFFICE.

DANL. MARKHAM, A. S. MARKHAM, AND D. ELDRED, OF MONMOUTH, ILL.

IMPROVEMENT IN SEEDING-MACHINES.

Specification forming part of Letters Patent No. **23,183**, dated March 8, 1859.

To all whom it may concern:

Be it known that we, DANIEL MARKHAM, A. S. MARKHAM, and DAVID ELDRED, all of Monmouth, in the county of Warren and State of Illinois, have invented a new and useful Improvement in Seeding-Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of our invention, taken in the line *x x*, Fig. 2. Fig. 2 is an inverted plan of the same.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to an improved means for forming the furrows which receive the seed, as hereinafter fully shown and described, whereby all rubbish—such as roots, weeds, and the remains of previous crops—is prevented from interfering with the proper forming of the furrows, and the ground, when planted, left in proper state for the early use of the cultivator or other implement used in subsequent cultivation.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a rectangular frame, the back part of which is supported by wheels B B and the front part supported by a pair of wheels, C C, on the axle *a* of which a bar, *b*, of the frame A rests. To the axle *a* of the wheels C C the draft-pole D is attached. To the axle *a*, at its center, a vertical rod, *c*, is attached, said rod passing loosely through the bar *b*.

On the frame A seed-boxes E E are placed. These seed-boxes may be provided with any suitable seed-distributing device, and to each seed-box a seed-spout, F, is attached. On the frame A the drivers' seat G is placed, and a rope or chain, H, is attached to the front end of the bar *b* and passes through the upper end of the rod *c* and is secured to the seat G.

In the front part of the frame A there are attached two standards, H′ H′. These standards are secured in the frame by screws *d*, which may pass through either of a series of holes, *e*, made in the standards. By this means the standards H′ H′ may be adjusted higher or lower in the frame A.

To each standard H′ a supplemental seed-tube, I, is attached, and these tubes I fit over the lower ends of the spouts F, and to each standard H′ two wings or mold-boards, J J, are attached in oblique positions, one being at each side of the tubes I, as shown clearly in Fig. 2. The wings or mold-boards J J are connected at their front ends, and they are attached to the standards H′ by bolts *f*, which pass horizontally through the front ends of the mold-boards and through slots *g* in the standards H′. This mode of connecting the wings or mold-boards to the standards admits of a vertical adjustment of the former, as will be clearly understood by referring to Fig. 1.

To the lower end of each standard H′ H′ a V-shaped share or cutter, K, is attached by a pivot, *h*. To the front end of each share or cutter K a knife, L, is attached by a pivot, *i*, and to the outer end of each knife a standard, M, is permanently secured, said standard passing up through guides *j* attached to the frame A.

The operation is as follows: As the machine is drawn along the seed passes down the spouts F into the tubes I and drops into furrows made by the shares or cutters K, and the knives L penetrate the ground and cut all roots, weeds, sticks, and the remains of previous crops that may be on or in the soil and in the paths of the shares K. The knives L therefore facilitate the work of the shares and insure their perfect operation. The wings or mold-boards J J grade the surface of the ground at the edges of the furrows, so that the top and bottom of the furrows will be parallel and the seed covered at a uniform depth.

It will be seen that the depth of the furrows may be regulated, as desired, by adjusting the standards H′ higher or lower, and that the knives L may also be adjusted higher or lower to correspond with the position of the shares or cutters K, the standards M being secured at any point by adjusting the guides *j*. The seed, it will be understood, falls from the tubes I directly behind the shares K.

When the machine is to be turned at the ends of rows the driver on the seat G, by throw

ing himself slightly back and drawing on the rope or chain H, will raise the front of the frame A, and thereby elevate the shares K, wings or mold-boards J J, and knives L above the surface of the ground.

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

The adjustable standards H′ M, knife L, share K, wings or mold-boards J J, with or without the tube I, arranged for joint operation, substantially as and for the purpose set forth.

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