

L. Y. LENHART.
Seed Planter.

No. 232,281.

Patented Sept. 14, 1880.

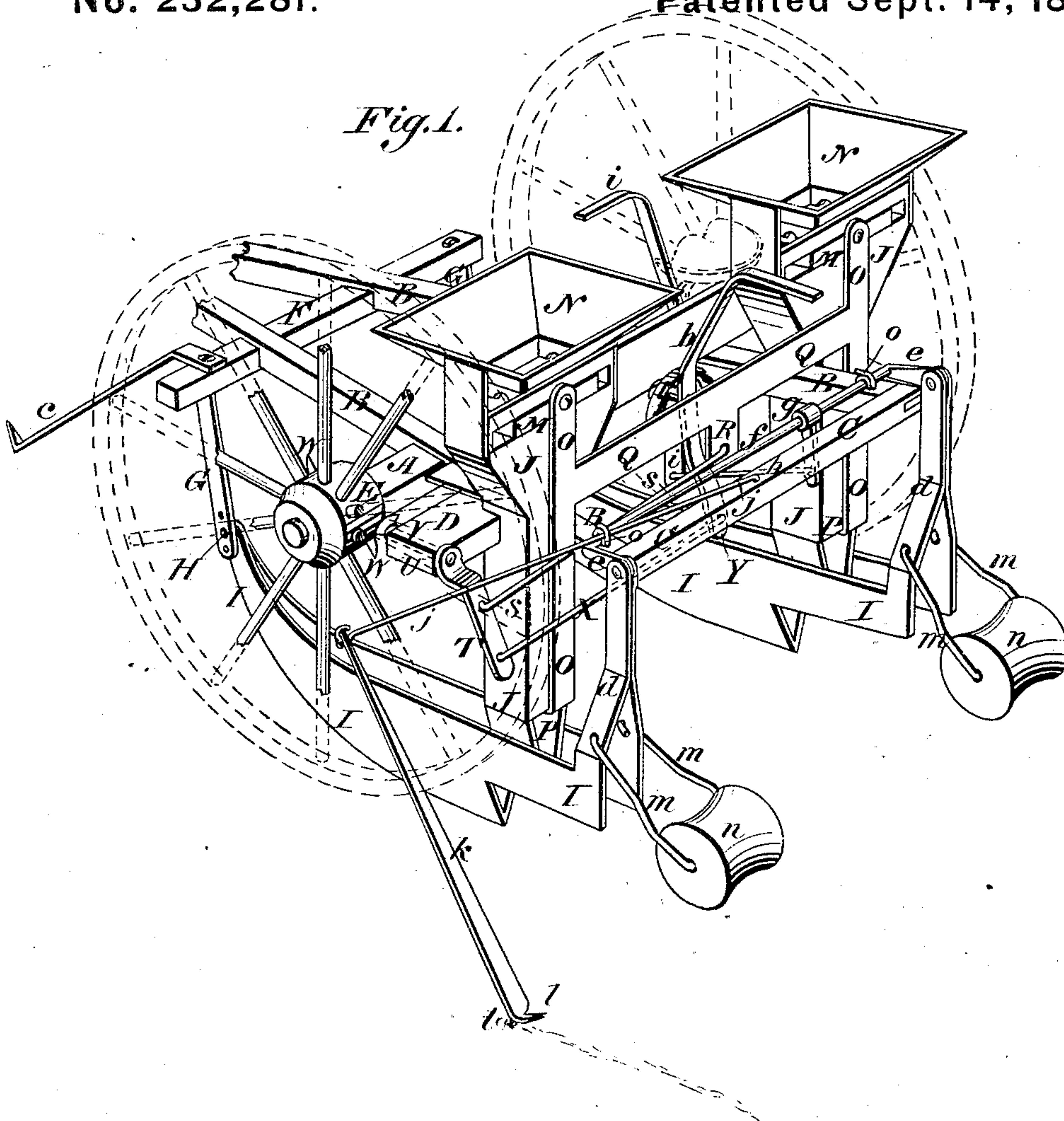


Fig. 2.

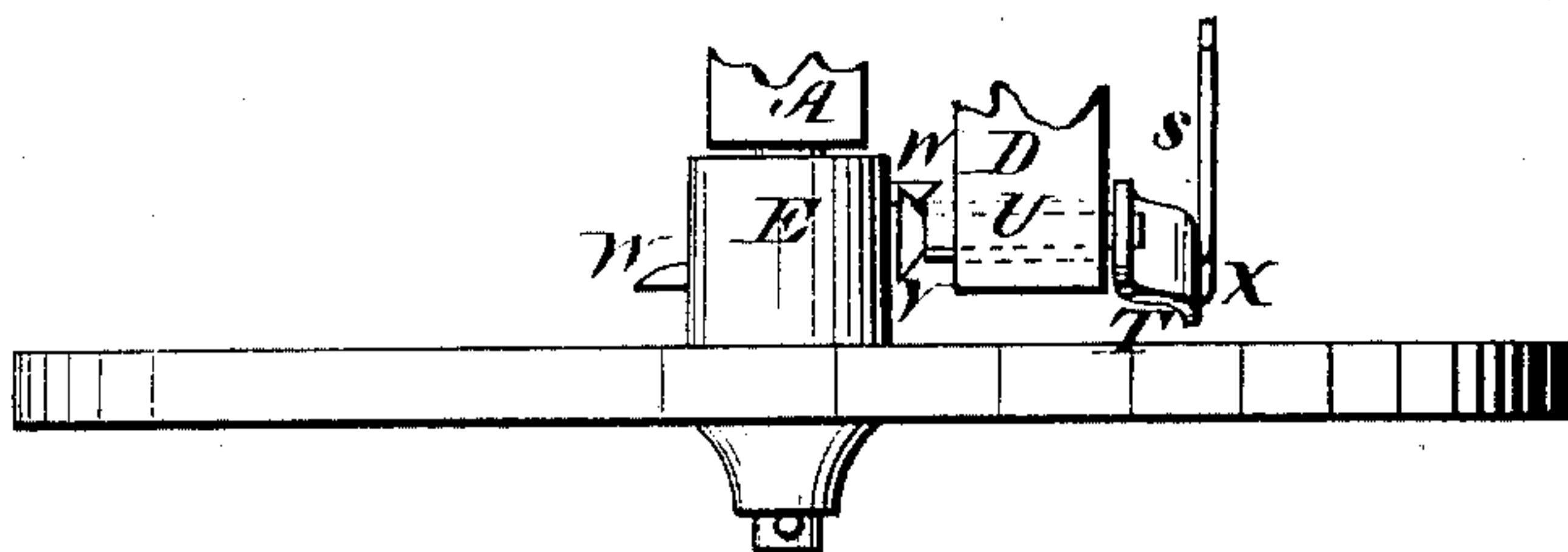
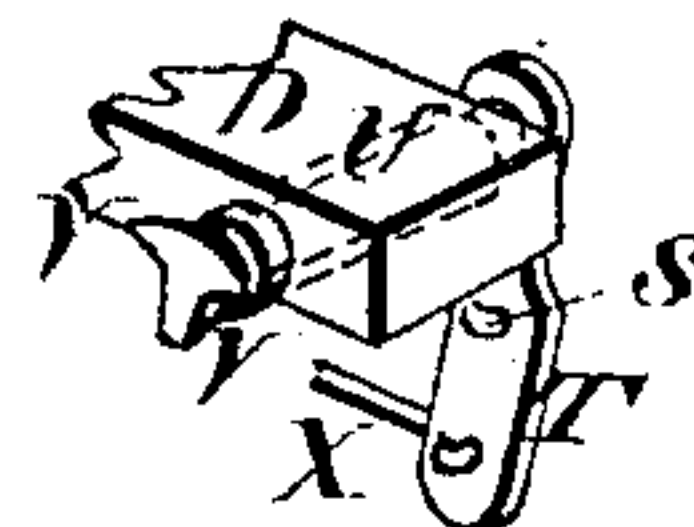


Fig. 3.



WITNESSES:

Donn P. Twitchell
C. Sedgwick

INVENTOR:

L. Y. Lenhart

BY

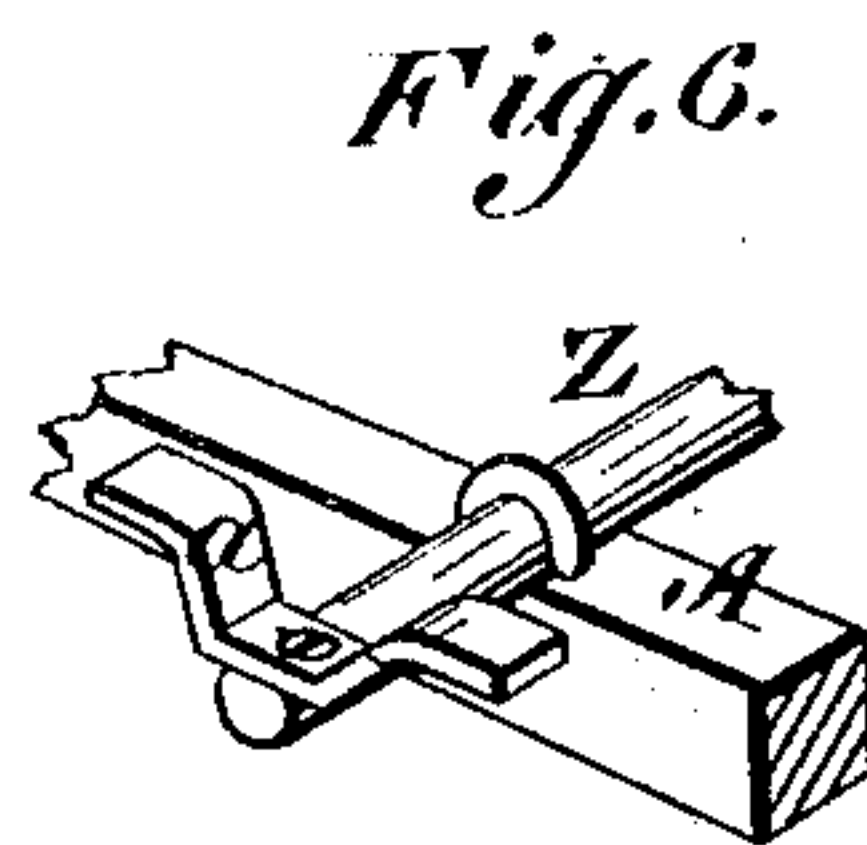
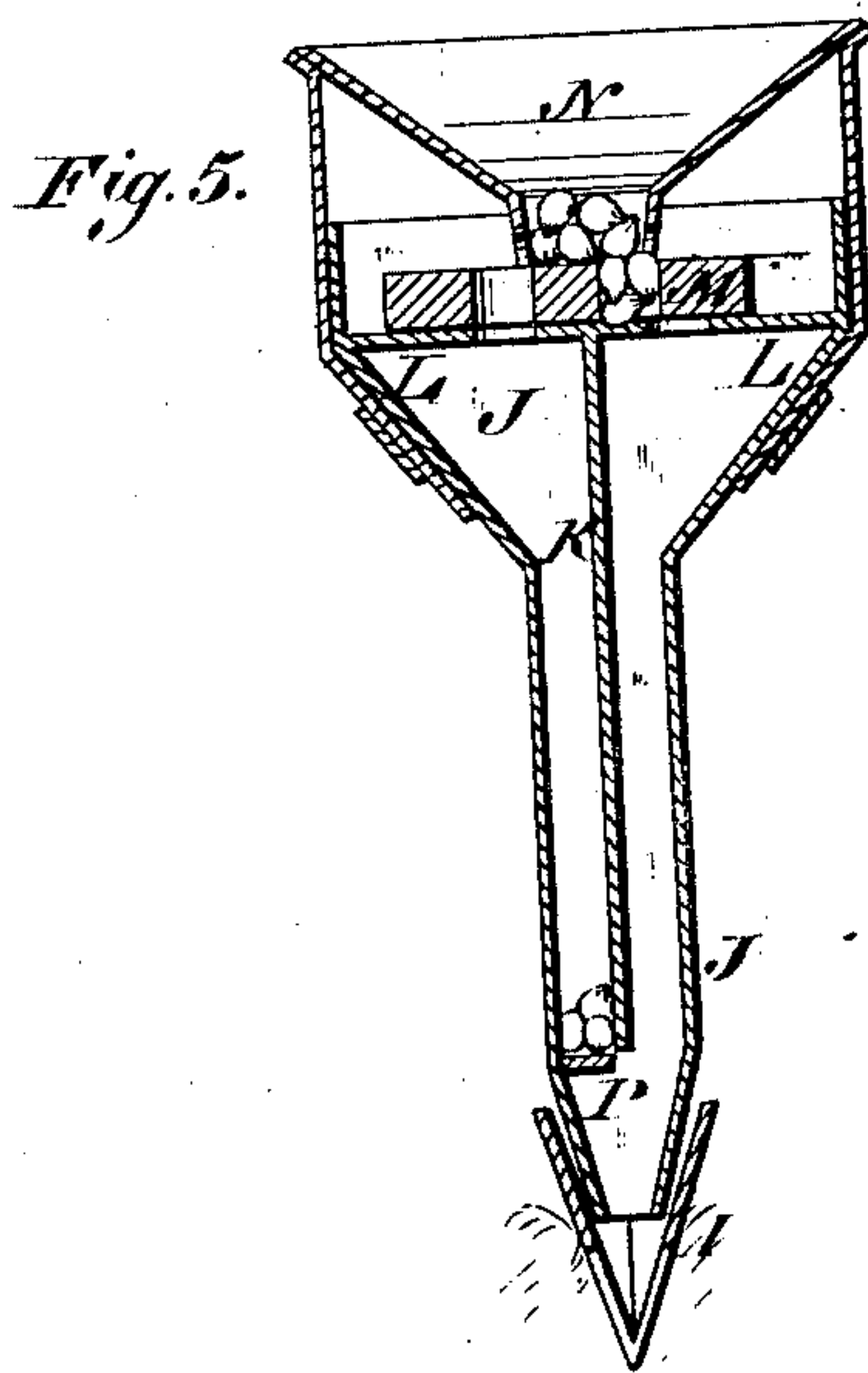
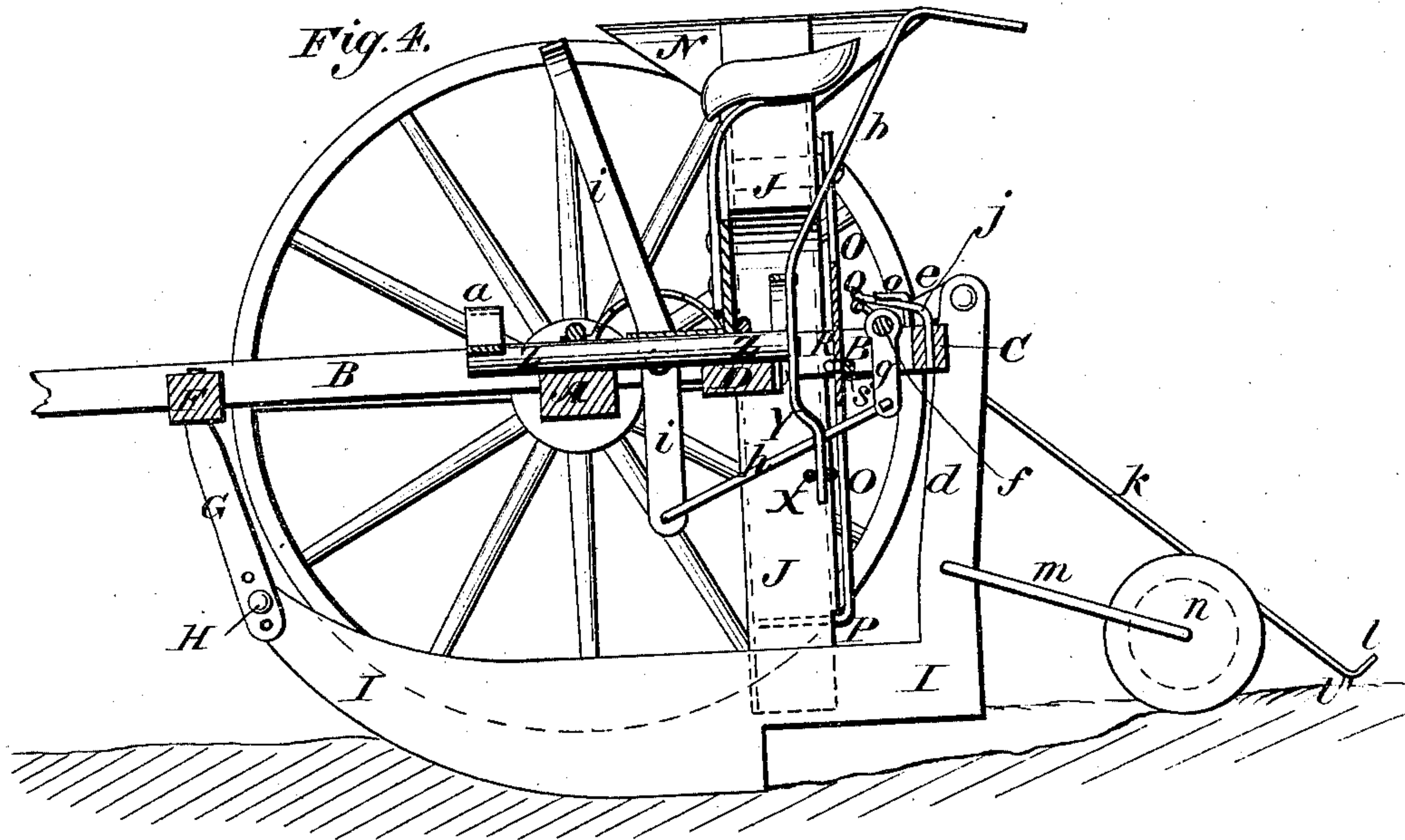
Mum & Co

ATTORNEYS.

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UNITED STATES PATENT OFFICE.

LEWIS Y. LENHART, OF RED WING, MINNESOTA.

SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 232,281, dated September 14, 1880.

Application filed December 16, 1879.

To all whom it may concern:

Be it known that I, LEWIS YOUNG LENHART, of Red Wing, in the county of Goodhue and State of Minnesota, have invented a new
5 Improvement in Seed-Planters, of which the following is a specification.

Figure 1, Sheet 1, is a perspective view of the improvement. Fig. 2, Sheet 1, is a plan view of the automatic device for operating the
10 seed-dropping mechanism. Fig. 3, Sheet 1, is a perspective view of a part of the device. Fig. 4, Sheet 2, is a sectional side elevation. Fig. 5, Sheet 2, is a sectional elevation of the hopper, valves, conductor-spout, and runner.
15 Fig. 6, Sheet 2, is a perspective view of the foot-lever.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish
20 seed-planters so constructed that they may be operated from the drive-wheel or by hand-power, as the character of the ground may require.

A represents the axle of the carriage. To
25 the axle A are attached the rear parts of two bars, B, which bars are inclined toward each other, and are designed to have the tongue attached to their forward ends. To the rear ends of the bars B is attached a cross-bar, C, and to the said bars B, a little in the rear of
30 the axle A, is attached a cross-bar, D, the ends of which project so as to overlap the inner parts of the hubs E of the drive-wheels. To the forward parts of the bars B is attached a
35 cross-bar, F, which has hangers G attached to its ends. The lower parts of the hangers G have several holes formed in them to receive the bolts H, by means of which the forward ends of the runners I are secured to the said
40 hangers, so that the forward ends of the said runners I may be adjusted higher or lower, as may be desired. The runners I are made V-shaped in their cross-section, and the lower
45 parts of their rear ends are cut away, forming slots to receive the lower ends of the conductor-spouts J; and wings to prevent the sides of the furrows from falling in before the seed has been deposited in the bottom of the said furrows.

50 The spouts J are divided into two compartments or tubes by partitions K, which extend

nearly to the lower ends of the said spouts J. The upper parts of the spouts J are widened laterally, and are closed by horizontal plates L, which form seats for the dropping slides or
55 valves M. In the valve-seats L, upon the opposite sides of and equally distant from the upper ends of the partitions K, are formed holes, through which the seed passes into the cavities of the spouts J. 60

To the walls of the valve-seats L or other suitable support are attached the hoppers N, the lower ends of which are directly over the partitions K and close to the dropping-slides
65 M, so that the holes of the said dropping-slides M may alternately enter the hopper, receive seed, and carry it out to the holes through the valve-seat L.

The lower edges of the sides of the hoppers N extend close to the said dropping-valves M, 70 and have semicircular notches formed in their lower edges, to adapt them to serve as cut-offs to prevent any more seeds from being carried out by the slides or valves M than enough to fill their dropping-holes, and to prevent any of
75 the seeds from being crushed.

The rear edges of the seed-dropping slides M project through slots in the rear side walls of their seats L, so that they may be readily
80 removed and replaced by others with larger or smaller seed-dropping holes, according as more or less seed is required to be dropped for a hill.

To the rear edges of the seed-dropping slides M are attached the upper ends of the bars O, 85 which pass down along the rear sides of the conductor-spouts J and have valves P formed upon or attached to their lower ends. The rear sides of the spouts J are cut off or slotted at the level of the lower end of the partitions K
90 to receive the valves P, so that the said valves P may close the lower ends of the compartments of the conductor-spouts J alternately. With this construction, as the seed-dropping slides or valves M are moved to drop seed into
95 one or the other of the compartments of the spouts J, the lower end of that compartment will be closed by the valve P, so that the said valve P may receive the seed and retain it until it is dropped to the ground at the next
100 movement of the valves M P.

To the bars O are rigidly attached, just

above the bars B, the ends of the cross-bar Q, so that the two bars O, and with them the valves M P of the two hoppers N, may move together.

5 To the middle part of the cross-bar Q is rigidly attached a downwardly-projecting arm, R, to which is pivoted the inner end of a connecting-rod, S. The outer end of the connecting-rod S is pivoted to the middle part of the
10 downwardly-projecting arm T, rigidly attached to the rear end of a short shaft, U, which works in bearings in the end of the cross-bar D. The forward end of the shaft U projects, and upon its opposite sides are formed spurs
15 V, as shown in Fig. 3, with which engage alternately the spurs W, attached to the opposite sides of the inner end of the hub E of the drive-wheel, so that the shaft U will be turned
20 once to operate the seed-dropping valves M, and drop the seed at each half-revolution of the drive-wheel.

The drive-wheel should be made of a circumference equal to twice the required distance apart of the hills.

25 To the lower part of the downwardly-projecting arm T is pivoted the outer end of a connecting-rod, X, the inner end of which is pivoted to the lower end of the arm Y. The arm Y is rigidly attached to the rear end of a
30 short shaft, Z, which works in bearings attached to the cross-bar D and axle A.

To the forward end of the shaft Z is attached a cross-bar or foot-lever, a, so that the driver can rock the shaft Z with his feet to
35 vibrate the dropping-valves M, and drop the seed.

To the rear end of the shaft Z is attached a hand-lever, b, so that the dropping device can be operated by a boy sitting upon the rear part
40 of the machine.

Upon level ground the seed-dropping device will be operated with accuracy from the driving-wheel; but upon uneven land it is necessary to work the seed-dropping device by
45 foot or hand power to secure a uniform distance apart of the hills.

The machine is designed to be used upon land marked in one direction and to be driven across the marks.

50 To one end of the forward cross-bar, F, is attached an arm or pointer, c, which projects forward, and is made of such a length that its forward end may be at a distance from the seed-dropping device equal to once or twice
55 the distance apart of the rows, so that the driver, by observing when the forward end of the pointer c comes over a cross-mark, can know when to drop the seed without turning to watch when the seed-dropping device comes
60 over a cross-mark, and will thus always be in position to see the horses and guide them properly.

To the rear ends or heels of the runners I are attached the lower ends of the bars d, to the upper ends of which are pivoted cranks e, 65 attached to or formed upon the ends of a shaft, f, which works in bearings attached to the rear parts of the bars B.

To the crank-shaft ef is rigidly attached a downwardly-projecting arm, g, to the lower 70 end of which is pivoted the rear end of a rod, h. The forward end of the rod h is pivoted to the lower end of a lever, i, which is pivoted to one of the bars B, and its forward end projects into such a position that it can be con- 75 veniently reached and operated by the driver from his seat.

With this construction, by operating the lever i the rear ends of the runners I will be raised and lowered as desired. The lever i 80 should be provided with a pawl and ratchet to hold the runners I securely in any position into which they may be adjusted.

To the center of the rear cross-bar, C, is hinged or pivoted the end of a rod, j, in such 85 a way that it may be swung around to either side of the machine.

To the outer end of the rod j is hinged the end of a rod, k, to the free end of which is attached or upon it is formed two points or hoes, 90 l, projecting in opposite directions, so that one of the said hoes will be in position to mark the ground to whichever side of the machine the rod j may be turned.

The rod j should be of such a length that 95 the mark made by the hoe l will be at a distance from the outer row being planted equal to the distance apart of the rows, so that the said mark may be a guide to the driver when crossing the field the next time. 100

To the lower parts of the bars d are rigidly attached, or to them are pivoted, the forward ends of the rods or bars m, to the rear ends of which are pivoted short rollers n, the faces of which are concaved, so as to press the soil 105 down into the furrow and cover the seed, leaving the top of the row rounded off.

The rod j is held against the draft-strain by hooks o, attached to the end parts of the rear cross-bar, C, and against which the said rod j 110 rests.

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

The combination, with the frame O Q, of the 115 rigid arms R T Y, the pivoted rods S X, the shaft U, having spurs V, the hub E, having spurs W, shaft Z, axle A, and foot-lever a, as and for the purpose specified.

LEWIS YOUNG LENHART.

Witnesses:

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JOHN L. MCKINSTRY.