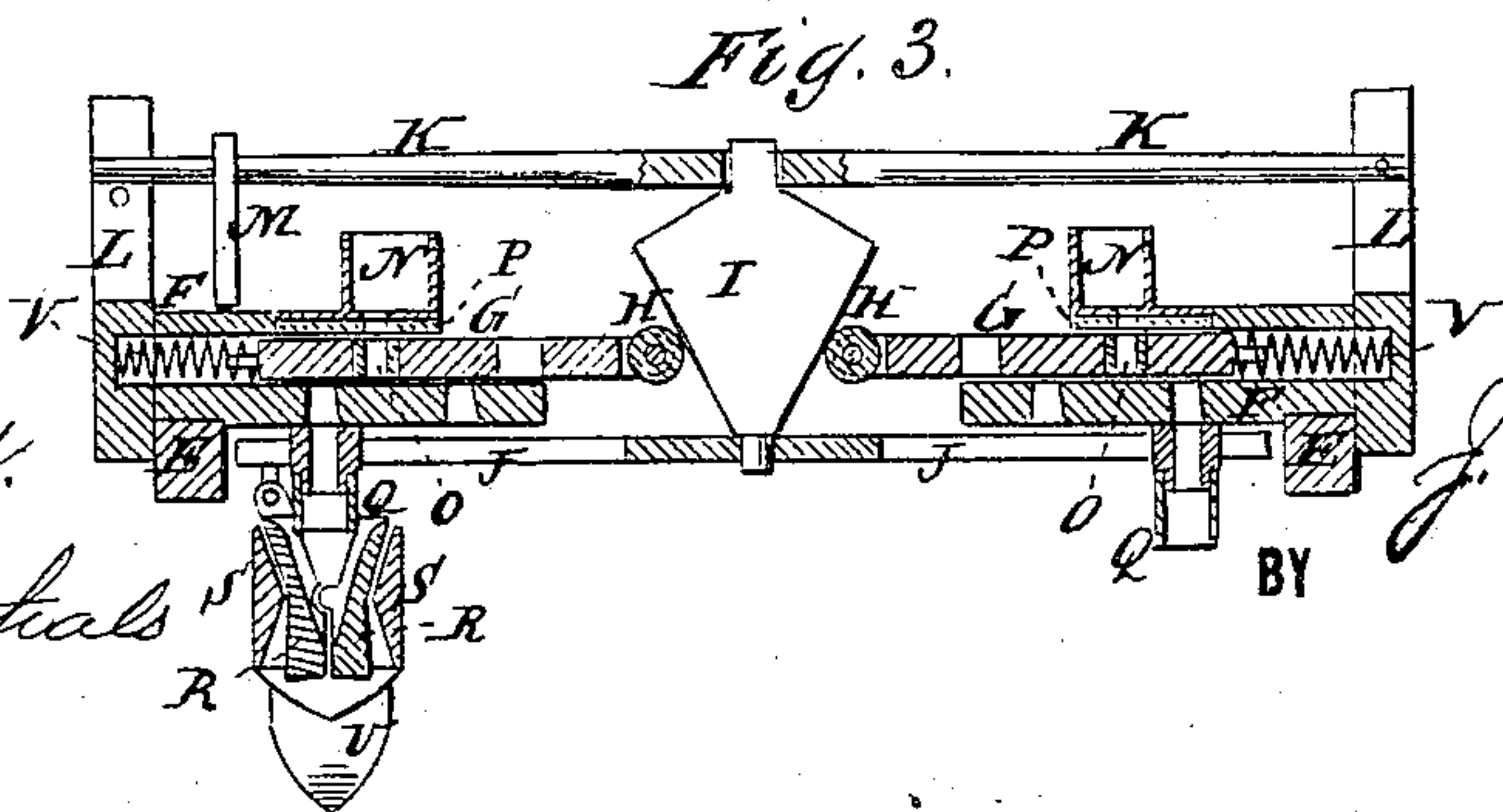
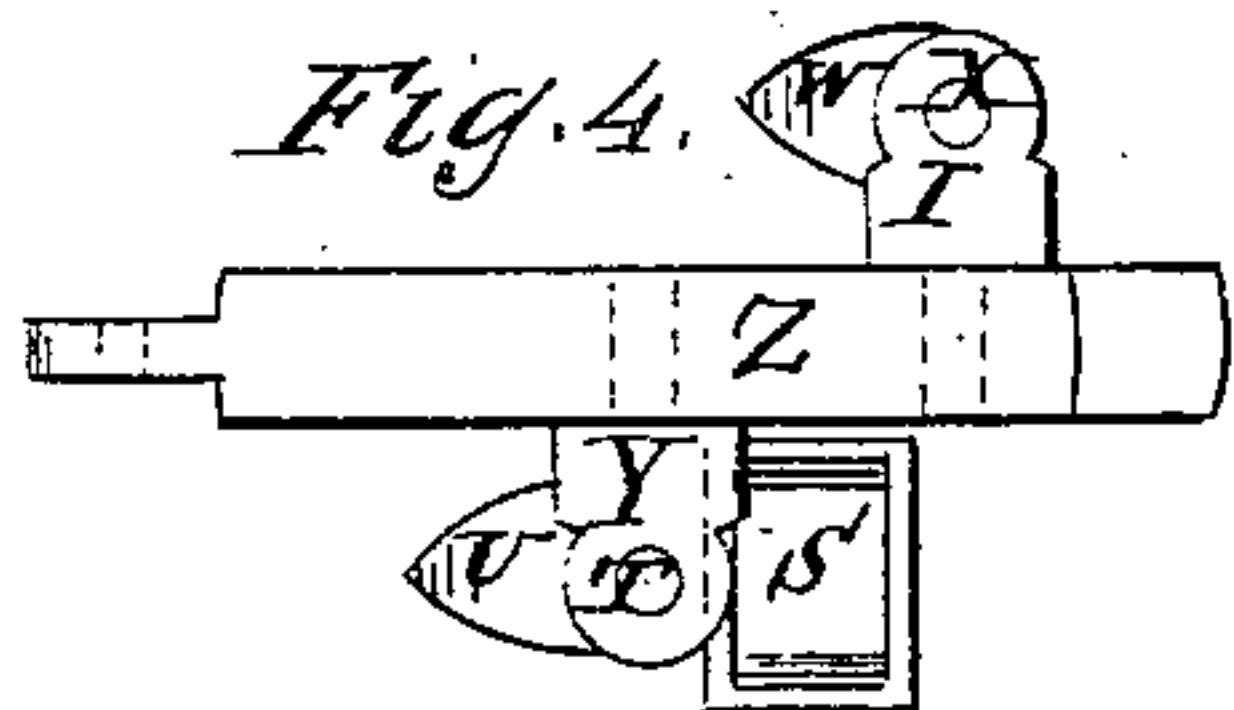
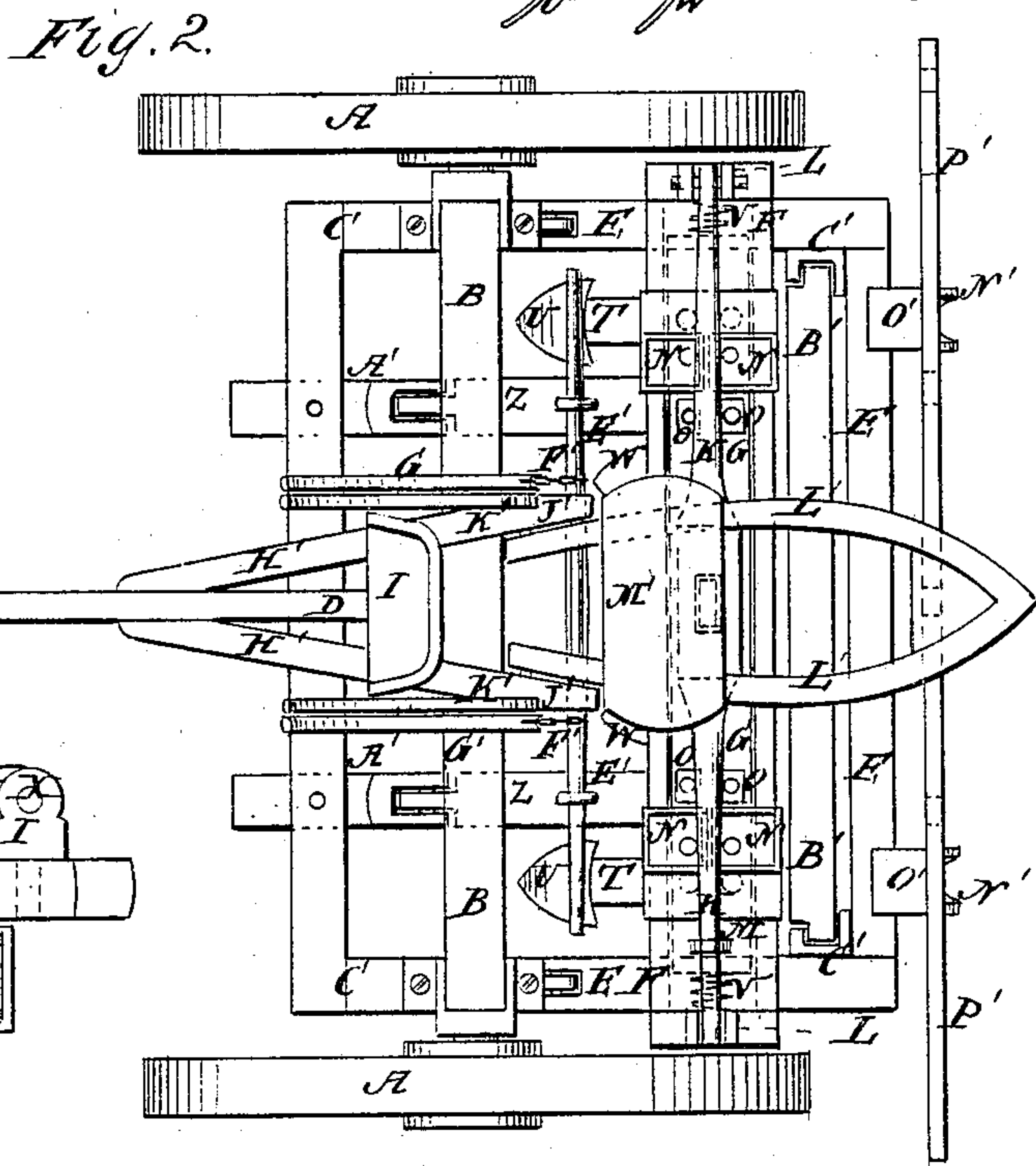
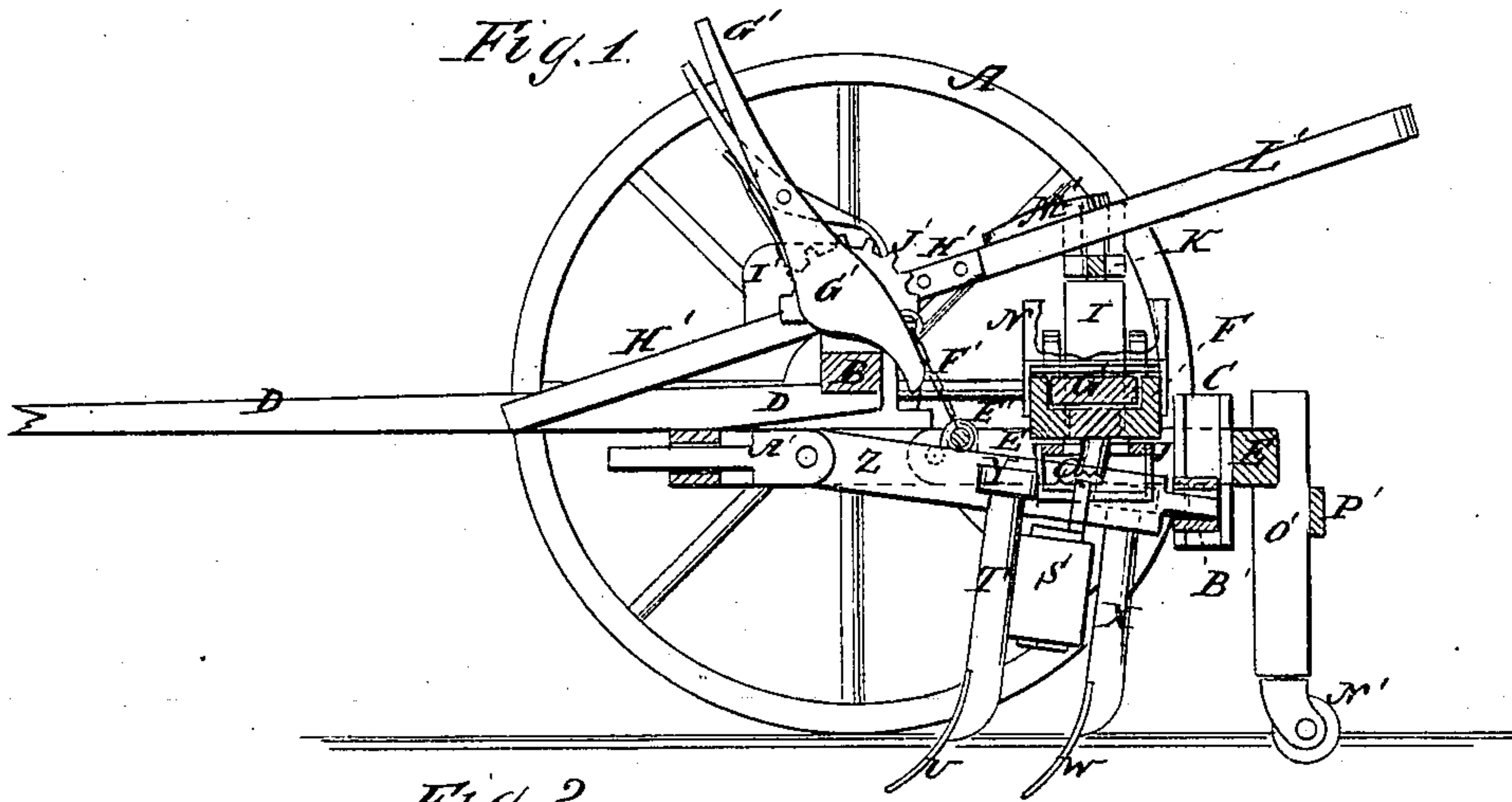


J. K. KELLY.

COMBINED PLANTER, CULTIVATOR AND MARKER.

No. 181,686.

Patented Aug. 29, 1876.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH K. KELLY, OF ALGONQUIN, ILLINOIS.

IMPROVEMENT IN COMBINED PLANTER, CULTIVATOR, AND MARKER.

Specification forming part of Letters Patent No. **181,686**, dated August 29, 1876; application filed March 21, 1876.

To all whom it may concern:

Be it known that I, JOSEPH K. KELLY, of Algonquin, in the county of McHenry and State of Illinois, have invented a new and useful Improvement in Combined Planter, Cultivator, and Marker, of which the following is a specification:

Figure 1 is a vertical section of my improved machine. Fig. 2 is a top view of the same. Fig. 3 is a detail vertical section of the same, taken through the dropping device. Fig. 4 is a detail view of one of the plow-beams, showing its furrowing and its covering plows attached.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved machine which shall be so constructed that it may be readily adjusted for use for marking-off land for planting the seed, and for cultivating the plants, and which shall be simple in construction, convenient in use, and effective in operation in either capacity.

The invention consists in the combination of the wedge, the rollers, and the lever, with the dropping-slides, the box, and the slotted standards; in the combination of the perforated rubber blocks, and the perforated rubber plates, with the dropping-slides and the bottoms of the hoppers; in the combination of the valve-blocks, the valve-boxes, and the cross-bar, with the plow-standards, and with the wedge that operates the dropping-slides; in the combination of the bar with the roller-standards, to receive the couplings of the plow-standards.

A are the wheels, which revolve upon the journals of the axle B. To the axle B is rigidly attached the side bars of the frame C, which projects forward, and to which and to the axle B is attached the tongue D. To the rear ends of the side bars of the frame C, and close to the rear side of the axle B, are hinged the forward ends of the side bars of the rear frame E. To the rear part of the side bars of the hinged frame E is attached a box, F, in the end parts of which are placed the dropping-slides G.

To the inner ends of the dropping-slides G are pivoted cross-rollers H, which rest against the inclined sides of the wedge or cam I, which

passes down between them, and through an opening in the bottom of the box F, and its lower end or point is attached to a cross-bar, J, placed upon the bottom of the said box F. Upon the top of the wedge or cam I is formed a lug or stem, which enters a hole in a lever, K, placed above and parallel with the box F, and the ends of which enter guide-slots in the standards L attached to the ends of the box F. One end of the lever K is pivoted to its guide-standard L and its other end is free. The downward movement of the free end of the lever K is limited by a hanger, M, attached to it adjustably, and which strikes against the top of the box F, so that the downward movement of the said lever may be regulated by adjusting the position upon it of the said hanger M. To the top of the end parts of the box F are attached the hoppers N, which are arranged in pairs, so that different kinds of seed may be dropped into the same hill. The same kind of seed may be placed in the two hoppers, if desired. The parts of the dropping-slides G, that pass in beneath the hoppers N, have square holes formed in them, in which are inserted rubber blocks O, which have holes formed through them of sufficient size to contain the amount of seed to be dropped at a time. To the under sides of the bottoms of the hoppers N are attached rubber plates P, which have holes formed through them beneath the discharge-holes in the bottom of the hoppers, to allow the seed to pass to the blocks O. By this construction the rubbers O P prevent the kernels from being injured by the movements of the dropping-slides G.

The inner sides of the boxes S are made V-shaped, and the valve-blocks R are made slightly V-shaped, and are pivoted to each other at their middle parts by lugs and notches, as shown in Fig. 3. The upper end of one of the blocks R of each pair is connected with the cross-bar J. By this construction, as the lever K is forced down to force the dropping-slides G outward to receive the seed, the valve-blocks R will be forced downward by the downward movement of the cross-bar J. The downward movement of the valve-blocks R causes their lower ends to open, dropping the seed. As the valve-blocks R move upward

their upper ends are opened to receive the seed for the next hill from the dropping-slides G as they move inward. The dropping-slides G are forced inward, as the wedge or cam I rises, by the springs V interposed between them and the standards L. The seed is covered by the plows W, which are attached to the lower ends of the standards X. The upper ends of the standards T and X pass up through, and are secured in, holes in the coupling-blocks Y. The inner ends of the coupling-blocks Y have stems formed upon them, which enter and are secured in holes in the plow-beams Z. The forward ends of the plow-beams Z are hinged to the rear ends of the coupling-blocks A', the forward ends of which have long tenons formed upon them, which enter and are pivoted in longitudinal slots in the front cross-bar of the frame C. Upon the rear ends of the plow-beams Z are formed long tenons, which enter longitudinal slots in the cross-bar B', the ends of which enter and slide up and down in grooves in the blocks C' attached to the rear parts of the side bars of the hinged frame E. In keepers D', attached to the beams Z, is placed a cross-rod, E', upon which are hooked chains F'. The other ends of the chains F' are attached to the cam-levers G', which are pivoted to the seat-frame H', and which may be reversed or changed from one side of the frame to the other, when desired. The frame H is attached to the tongue D and axle B, and to it is attached the driver's seat I. The seat I' is adjustable, so that the driver's weight may be brought over any desired part of the machine. To the seat-frame H' are attached ratchet segments J', to receive pawls K' attached to the levers G', to hold said levers securely in any position into which they may be adjusted. To the rear end of the seat-frame H' is secured by two rods or pins a frame, L', to receive a seat, M', for the person who operates the seed-dropping device. The frame L', by withdrawing one of its pins, may be left free, or its rear part A may be supported from the frame of the machine by a bar or standard to throw the weight upon

the rollers N', by which the rear part of the hinged frame E is supported, and which are concaved to press the soil down upon the seeds. The standards O' of the rollers N' are attached to the rear cross-bar of said frame E. To the standards O' of the rollers N' is attached a bar, P', which is made longer than the width of the frame, and in the ends and center of which are formed holes to receive the couplings Y of the plow-standards T X, to mark the land, three rows at a time. With this construction the machine may be used as a planter and as a cultivator, without change; and the only change necessary to adjust it for use as a marker is to detach three of the couplings Y and their standards and attach them to the cross-bar P'.

Two sets of holes are formed in the dropping-slides G, so that the hoppers N and the dropping devices can be adjusted to plant the rows at different distances apart.

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

1. The combination of the wedge I, the rollers H, and the lever K, with the dropping-slides G, the box F, and the slotted standards L, substantially as herein shown and described.

2. The combination of the perforated rubber blocks O, and the perforated rubber plates P, with the dropping-slides G, and the bottoms of the hoppers N, substantially as herein shown and described.

3. The combination of the valve-blocks R, the valve-box S, and the cross-bar J, with the plow-standards T, and with the wedge I that operates the dropping-slides, substantially as herein shown and described.

4. The combination of the bar P' with the roller-standards O', to receive the couplings Y of the plow-standards T X, substantially as herein shown and described.

JOSEPH K. KELLY.

Witnesses:

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