H. CROFOOT.

Roller and Harrow.

No. 30,871. Patented Dec. 11, 1860.

Fig. 1.

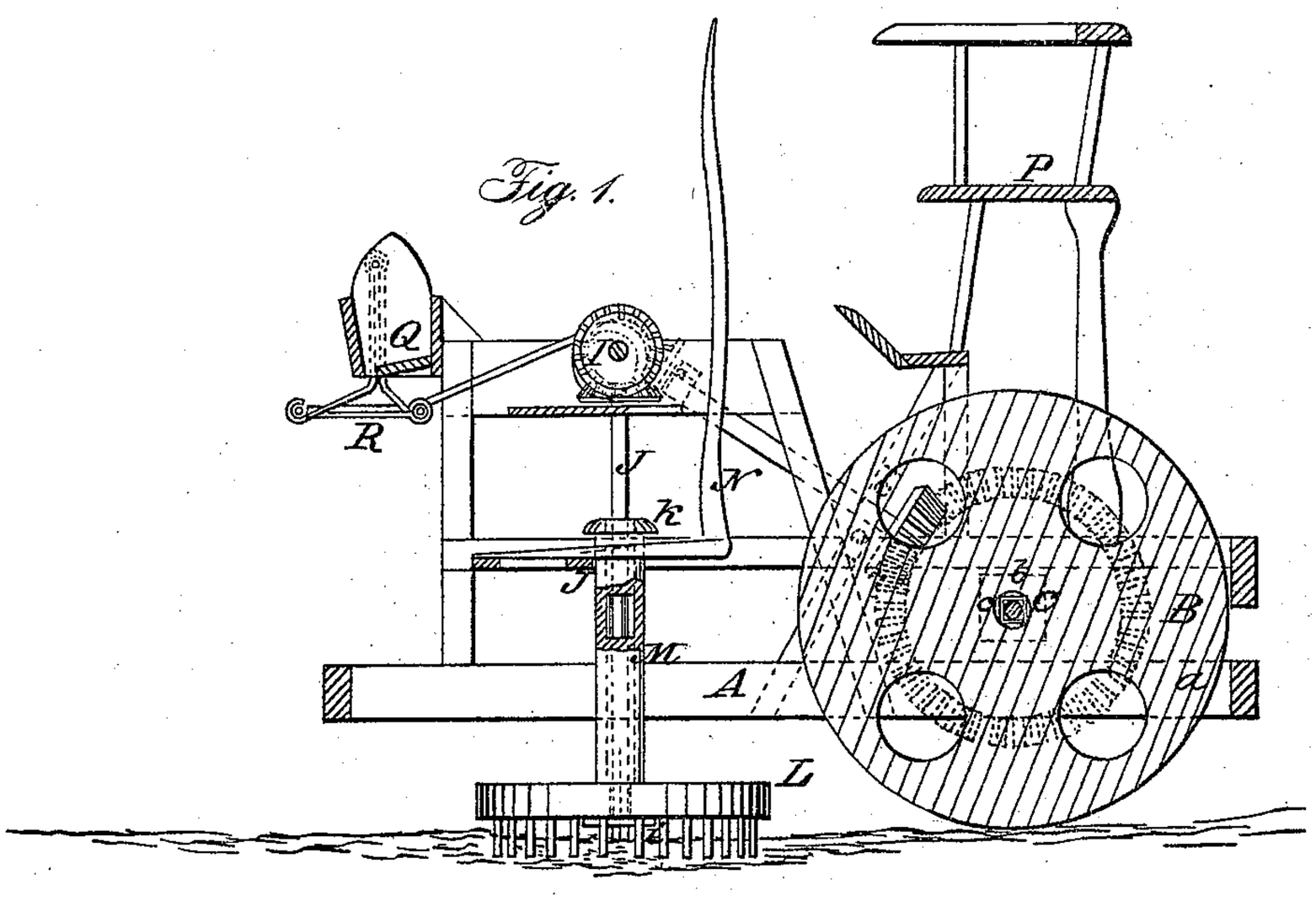
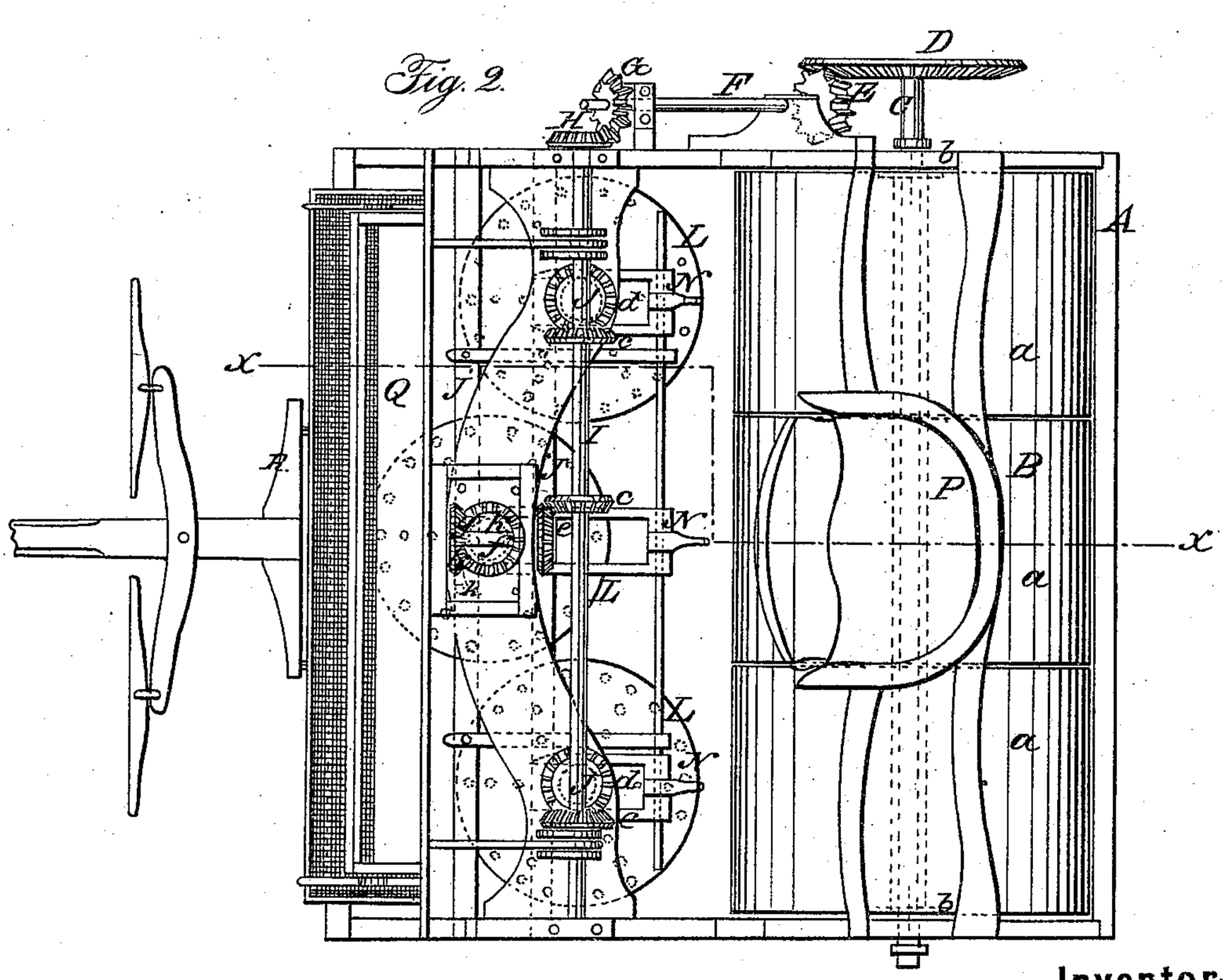



Fig. 2.




Witnesses:

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# UNITED STATES PATENT OFFICE.

HORACE CROFOOT, OF TARBOROUGH, NORTH CAROLINA.

## IMPROVEMENT IN SEEDING-MACHINES.

Specification forming part of Letters Patent No. **30,871**, dated December 11, 1860.

*To all whom it may concern:*

Be it known that I, HORACE CROFOOT, of Tarborough, in the county of Edgecombe and State of North Carolina, have invented a new and Improved Combination of a Harrow and Roller; and I 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 my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of same.

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

This invention consists in a peculiar combination and arrangement of a roller and rotary harrows, as hereinafter described, whereby the whole area of the ground over which the machine passes will be fully acted upon and seed properly covered with pulverized earth and the same rolled and compacted on the seed.

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

A represents a rectangular frame, the back part of which is supported by a roller, B, formed of sections *a* placed side by side on a common shaft, C. In Fig. 2 the roller is shown as being formed of three sections; but more may be employed, if necessary. Each section *a* has a large hole made centrally through it, said holes being considerably larger in diameter than the shaft C, and the outer end of each outer section has a metal plate, *b*, secured over its opening, the plates *b* having square openings *c* through them, in which squares on the shaft C fit. By this mode of constructing and arranging the roller each part or section *a* is allowed a certain degree of play or movement on the shaft C, and consequently is allowed to rise or fall to suit the inequalities of the ground, the play of the sections *a* being equal to the difference between the diameter of the shaft C and the holes in the sections *a*, (see dotted lines in Fig. 1.)

On one end of the shaft C there is placed a toothed wheel, D, which gears into a bevel-wheel, E, at the lower end of an inclined shaft, F, the upper end of which has a bevel-wheel, G, on it, that gears into a similar wheel, H, at the end of a horizontal shaft, I, on the frame A. On the shaft I there are placed pinions *c*, two of which gear into pinions *d d* at the upper ends of vertical shafts J J in the frame A. The other pinion *c* gears into a pinion, *e*, on a shaft, *f*, which has a pinion, *g*, on its front end, that gears into a pinion, *h*, on a vertical shaft, K. The shafts J J K are square at their lower parts, and on each of said shafts a circular harrow, L, is placed, provided with the usual or any other proper shaped teeth. Each harrow L has a hollow cylinder, M, attached vertically to it, and the shafts J J K pass through these cylinders, the lower ends of which have metal plates *i* attached, with square openings, through which the shafts J J K pass. By this arrangement of the harrows L they are allowed a certain degree of play on their shafts J J K in every direction except a forward one, the latter movement being prevented by bars *j j* in the framing. The harrows therefore are allowed to conform to the inequalities of the ground, the cylinders M controlling the degree of play or movement of the harrows. The upper end of each cylinder M has a projection, *k*, and beneath these projections the forked ends of bent levers N are fitted on a rod, O, placed transversely in the framing the levers N, extending up in front of the driver's seat P. By operating the levers N the harrows may be raised, when necessary, on their shafts.

On the front part of the frame A there is placed a hopper, Q, below which there is an oscillating screen, R, operated from the shaft C by eccentrics and shafts S T.

The seed is distributed on the ground by the screen R, the seed falling on the screen from the hopper Q. The harrows are all rotated in the same direction, and consequently their adjoining edges move in reverse directions, and this has a tendency to keep the harrows free from weeds, trash, &c. The whole device is extremely simple and efficient.

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

The arrangement of the roller B with the rotary harrows L L, shaft I, cylinders M M, shafts J I, and lever N, in the manner herein shown, and for the purpose set forth.

HORACE CROFOOT.

Witnesses:

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