T. R. RICHMOND.

Grain Drill.

No. 21,152. Patented Aug. 10, 1858.

Fig. 1.

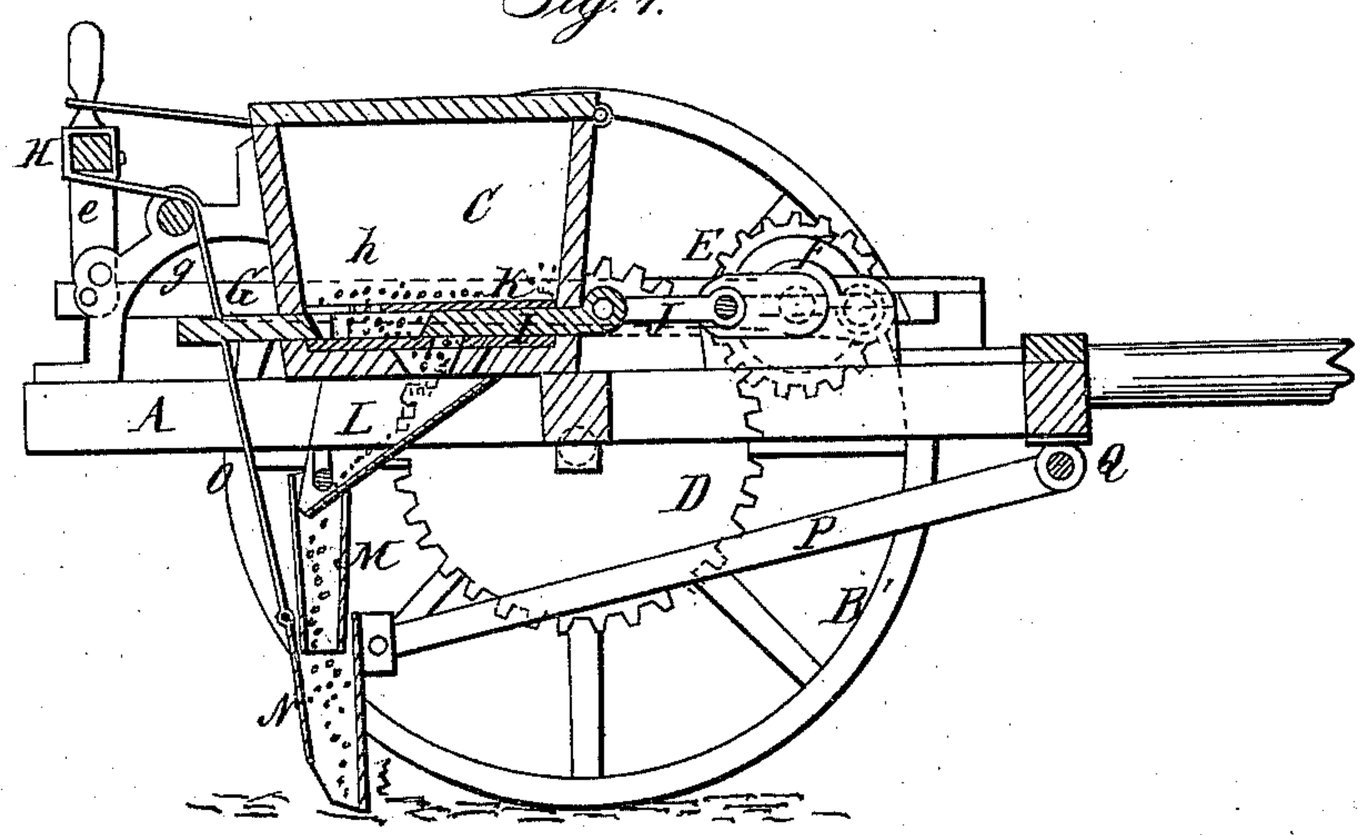
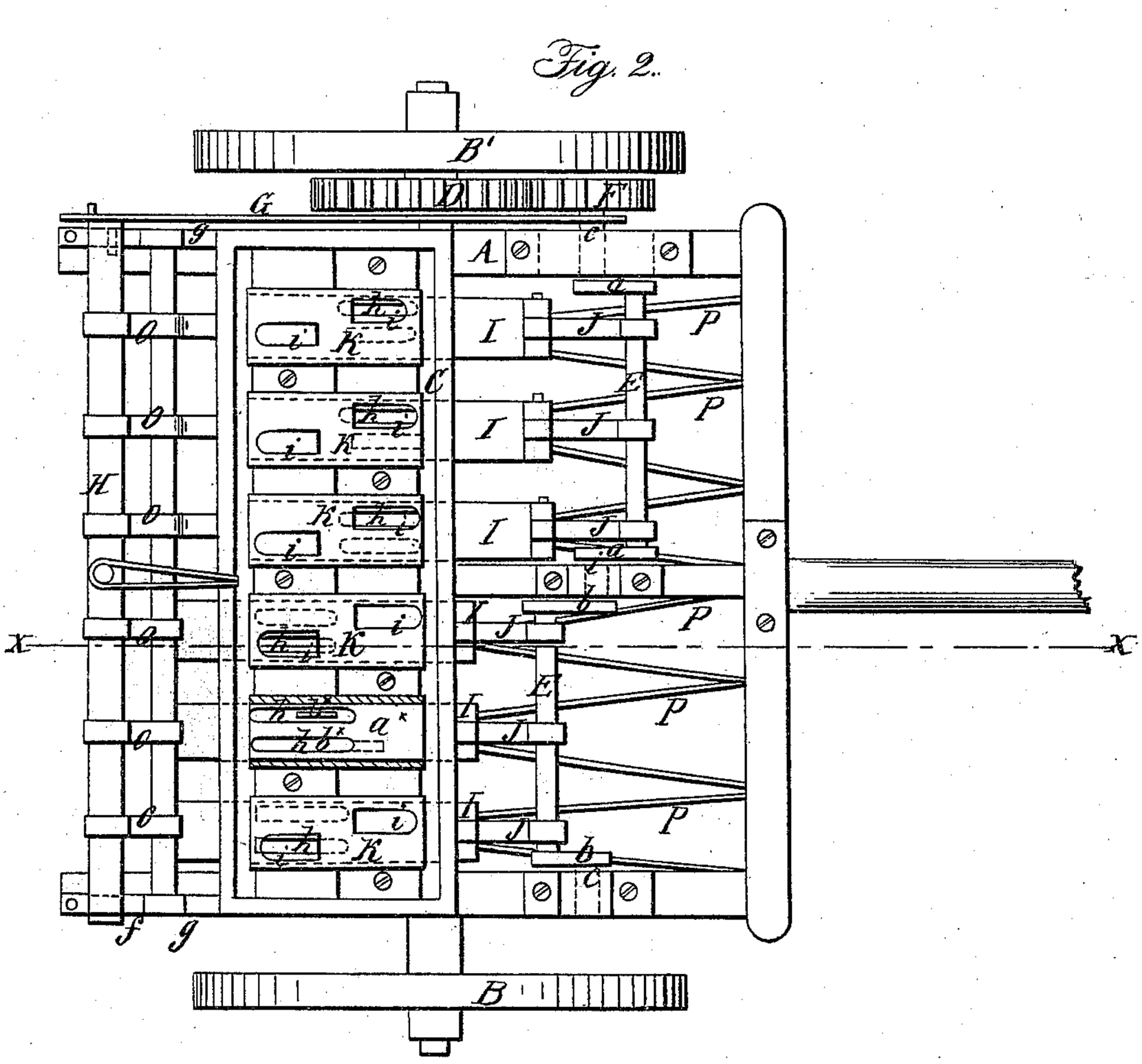


Fig. 2.



UNITED STATES PATENT OFFICE.

T. R. RICHMOND, OF MASSILLON, OHIO.

IMPROVEMENT IN SEEDING-MACHINES.

Specification forming part of Letters Patent No. **21,152**, dated August 10, 1858.

To all whom it may concern:

Be it known that I, T. R. RICHMOND, of Massillon, in the county of Stark and State of Ohio, have invented a new and Improved Seeding-Machine; 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 vertical section of my invention, taken in the line *x x*, Fig. 2. Fig. 2 is a plan or top view of the same.

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

This invention relates to that class of seeding-machines which are designed for sowing seed broadcast; and it consists in a novel distributing device, whereby the seed is dropped or discharged from the seed-box in a continuous stream and by a very simple arrangement of means.

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

A represents a horizontal frame, which is mounted on two wheels, B B′; and C is a seed-box, which is placed on the frame A, the seed-box extending the whole width of the frame, as shown clearly in Fig. 2.

To the wheel B′ a toothed wheel, D, is attached concentrically, and on the front part of the frame A two crank-shafts, E E, are placed, said shafts being attached respectively to cranks *a b*, which project from their journals *c* at opposite sides, as shown clearly in Fig. 2. The shafts E E are driven from the wheel D by means of a pinion, F, which is placed on one of the shafts E, the outer journal, *c′*, of which is allowed to slide in its bearing, so that the pinion F may be thrown in and out of gear with wheel D by means of a rod, G, one end of which is attached to said shaft and the opposite end to a lever, *e*, which forms one of the side bars of a beam, H, at the back of the seed-box C. The opposite end of beam H has a side bar, *f*, attached to it, and the lower ends of the bar F and lever *e* are fitted in curved bars *g g*, attached to the back parts of the frame A and seed-box C.

To each crank-shaft E E a series of slides, I, are attached by links J. These slides are each provided with two longitudinal slots, *h h*, placed side by side, as shown at $a^{\times}$, Fig. 2, one of the caps being removed for such purpose. Each slide I works in a cap, K, and these caps are secured to the bottom of the hopper, the slides passing entirely through the hopper. The slides I work over metal plates I′, which are secured to the bottom of the hopper, and have each two holes or openings, $b^{\times}$, made in them adjoining the center of vibration of the slides, an opening, $b^{\times}$, being in line with each slot *h* of the slide I above it. Each cap K is perforated at two points, a hole, *i*, being at each end and one hole over each slot *h* in the slide I, which works within. This will be clearly understood by referring to Fig. 2. The slots *h h* of the several slides I communicate with spouts L, which are attached to the under side of the seed-box C, and each spout L communicates with a tube, M, on which adjustable or sliding tubes N are placed, the tubes N being attached by straps O to the beam H. The tubes N are attached to bars P, the front ends of which are fitted on a rod, Q, at the front end of frame A.

The operation is as follows: As the machine is drawn along the crank-shafts E E are rotated through the medium of the gearing D F, and a reciprocating motion is given the slides I, the pinion being thrown in and out of gear with wheel D by actuating beam H. The seed in the box C is fed down into the spouts L by the slots *h h* in the slides I, the slots of each slide discharging the seed alternately, one discharging while the other is filling, and the seed will consequently be discharged from the box C in continuous streams.

By having two crank-shafts E placed at opposite sides of their journals the shafts are balanced, and the working parts run easier and with less friction and wear and tear than if only one shaft were employed.

I am aware that perforated seed-slides are an old device, and have been used in various ways; but I am not aware that a series of slides have been used in connection with perforated caps and plates so arranged as to discharge continuous streams of seed. I do not claim separately, therefore, the employment or use of perforated seed-slides; but

I do claim as new and desire to secure by Letters Patent—

The reciprocating slides I, operated as shown, in combination with the caps K and plates I′, the above parts being perforated and arranged substantially as and for the purpose set forth.

T. R. RICHMOND.

Witnesses:

JOHN TERRY,

JOSEPH HECKMAN.