A. R. ROOT.
Broadcast Seeder.

No. 27,312. Patented Feb. 28, 1860.

Fig 1.

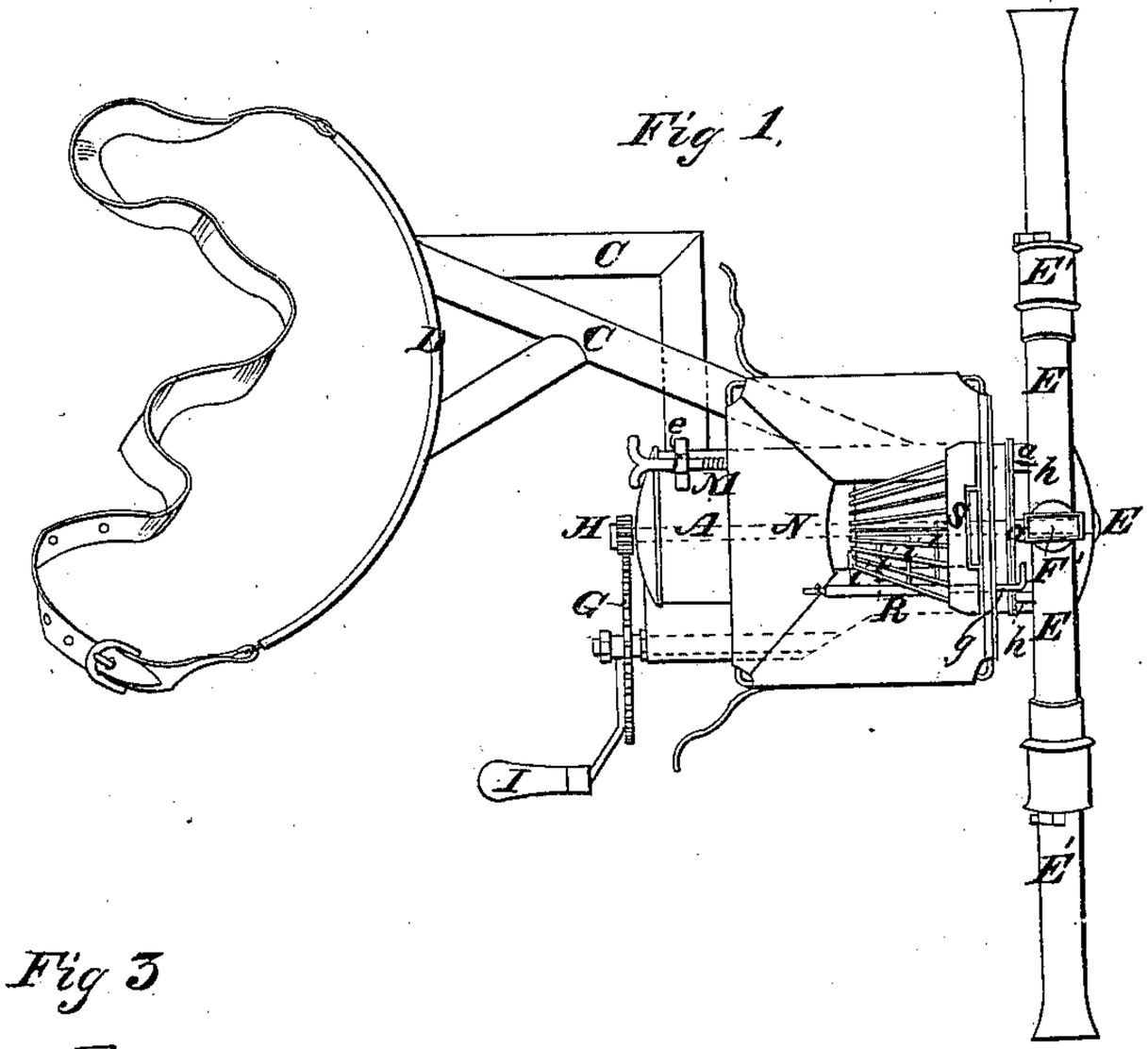


Fig 3

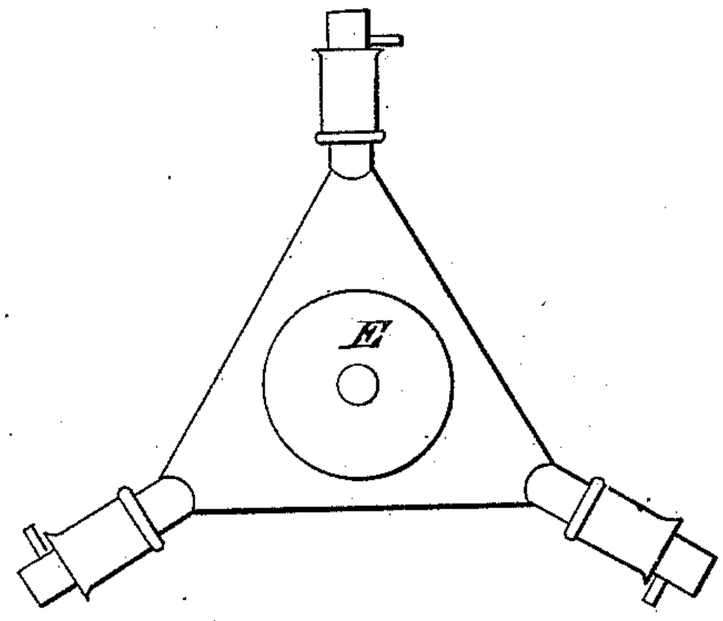


Fig 2.

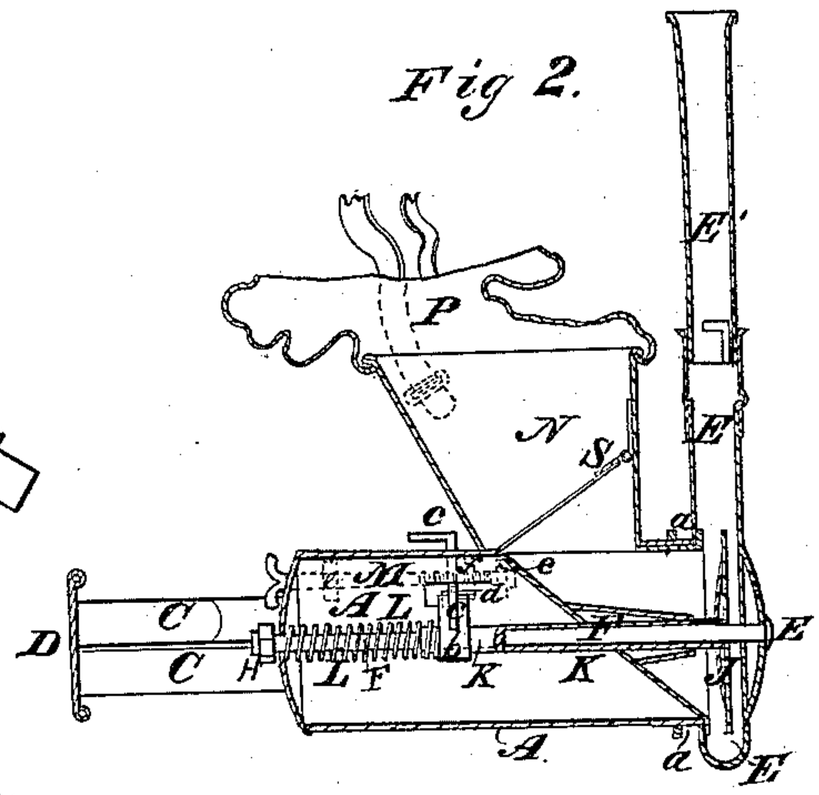
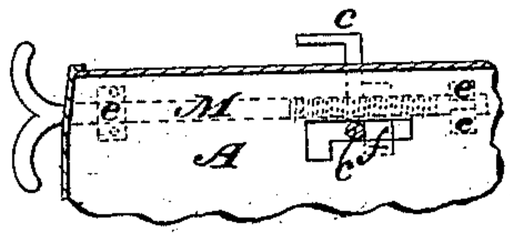


Fig 4



WITNESSES:

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Alonzo R Root

UNITED STATES PATENT OFFICE.

A. R. ROOT, OF CANTON, MISSOURI.

IMPROVEMENT IN SEEDING-MACHINES.

Specification forming part of Letters Patent No. **27,312**, dated February 28, 1860.

To all whom it may concern:

Be it known that I, ALONZO R. ROOT, of Canton, in the county of Lewis and State of Missouri, have invented a new and useful Hand Seeding-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a plan view of my machine with the seed-sack removed from the hopper in order to exhibit the parts more clearly. Fig. 2 is a vertical longitudinal section taken through the cylinder and triangular head. Fig. 3 is a front view of the rotary triangular head. Fig. 4 is a section of the cylinder, showing the set-gage.

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

To enable others skilled in the art to understand and use my invention, I will proceed to describe its construction and operation.

In the drawings, A represents a cylinder, which is the body of the machine, and serves to support the several parts hereinafter described. This cylinder has suitable arms, C, projecting from its rear end, which are securely attached to a curved plate, D, which is strapped to the person by straps, (shown in the drawings,) so that he will have a free use of his right hand for operating the broadcast-distributer.

On the front end of cylinder A is arranged a hollow and triangular-shaped head, E, with its angles terminating in tubes E′, which may be taken off and replaced at pleasure. This head E is attached to the end of the cylinder, so as to be swiftly revolved by a shaft, F, as hereinafter described, by an annular flange, *a*, which fits over the end of the cylinder, as clearly shown by the drawings, so that the seed is prevented from getting between the cylinder and head. This angular head is operated with a swift rotary motion by means of shaft F, to which it is fixed. The shaft F passes entirely through the center of the cylinder A and receives a pinion spur-wheel, H, on its rear end, which engages with a large spur-wheel, G, which latter has its bearings on a small shaft projecting from an enlargement on the right side of the cylinder, and is furnished with a handle, I, for operating the shaft and angular head E.

J is what I denominate a "double-headed gage." It is a circular plate slightly larger in diameter than the cylinder A, with its inner surface convex, as shown in the drawings. This circular plate is fixed on the end of a hollow shaft, K, through which the shaft F passes, which extends to a point just in rear of the seed-hopper N, where it has fixed to its end a piece, *b*, which carries a handle, *c*, which passes through a slot, *d*, in the side of the cylinder.

L is a helical spring, coiled around the rear part of the shaft F and acting upon the end of the hollow shaft K, and has a tendency to press the circular plate J out from the cylinder, so as to increase the space between said cylinder and plate through which the seed flows. This space is then closed by drawing the handle *c* back and placing it in a slot at right angles to slot *d*. The plate J is then tight against the end of the cylinder, and the seed is prevented from escaping from the hopper.

M is a gage-screw, running horizontally with the cylinder, which is free to turn in the bearing-pieces *e e*, and *f* is a sliding block operated by the screw M, so as to be moved back and forth. This block passes over the slot *d* and serves as a shoulder, against which the handle or stem *c* presses when it is in the slot *d*. This sliding block has a movement equal to that of the circular plate J. Now, it will be clearly perceived that by turning the screw M the plate J can be set to or from the end of the cylinder A, and that the flow of seed from the hopper can be readily determined by this adjustment, and the parts can be so nicely set as to regulate the quantity to be sown per acre, which advantage is a great saving to the farmers.

The hopper N has secured to its top a sack, P, for carrying a large quantity of seed, which may have a draw-string in its top for confining the seed and preventing them from wasting in the operation of scattering. This sack augments the capacity of the hopper very much; at the same time it is light and not cumbersome, and in the throat of this hopper is an agitator, R, with teeth *i i i*, which prevents clogging when sowing oats. This agitator is fixed to a wire running through the side of the hopper, one end of which is bent down, as represented by *g*, Fig. 1, and put in motion by studs or cogs *h*, projecting from the flange *a* of the head E.

A wire screen, S, is hinged to the inside of the hopper, and used only when sowing grass-seed, for separating the straw from the seed, and preventing it from passing into the throat of the hopper.

In using this hand seeding-machine it is strapped to the body and the adjustable plate J set so as to scatter the desirable quantity of seed per acre, as above described. The sower having filled the hopper and sack attached to it, he walks over the land and keeps the triangular head E constantly rotating, which scatters the seed broadcast and with great regularity. The agitator in the throat of the hopper prevents clogging up of the same when oats are sown, and the wire screen serves to prevent straw, sticks, &c., getting inside of the machine and stopping the plate J from being shut closely.

This machine will sow any kind of grain or seeds, from the smallest to the largest size, and scatter them regularly and evenly over the land.

What I claim as my invention and improvement in hand seeding-machines, and desire to secure by Letters Patent, is—

1. The employment of the hinged screen S within the hopper, in combination with the agitator R, as and for the purpose shown and described.

2. The arrangement of the feed-regulating screw M, sliding block *f*, stem *c*, block *b*, and hollow shaft K, as and for the purpose herein shown and described.

ALONZO R. ROOT.

Witnesses:

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