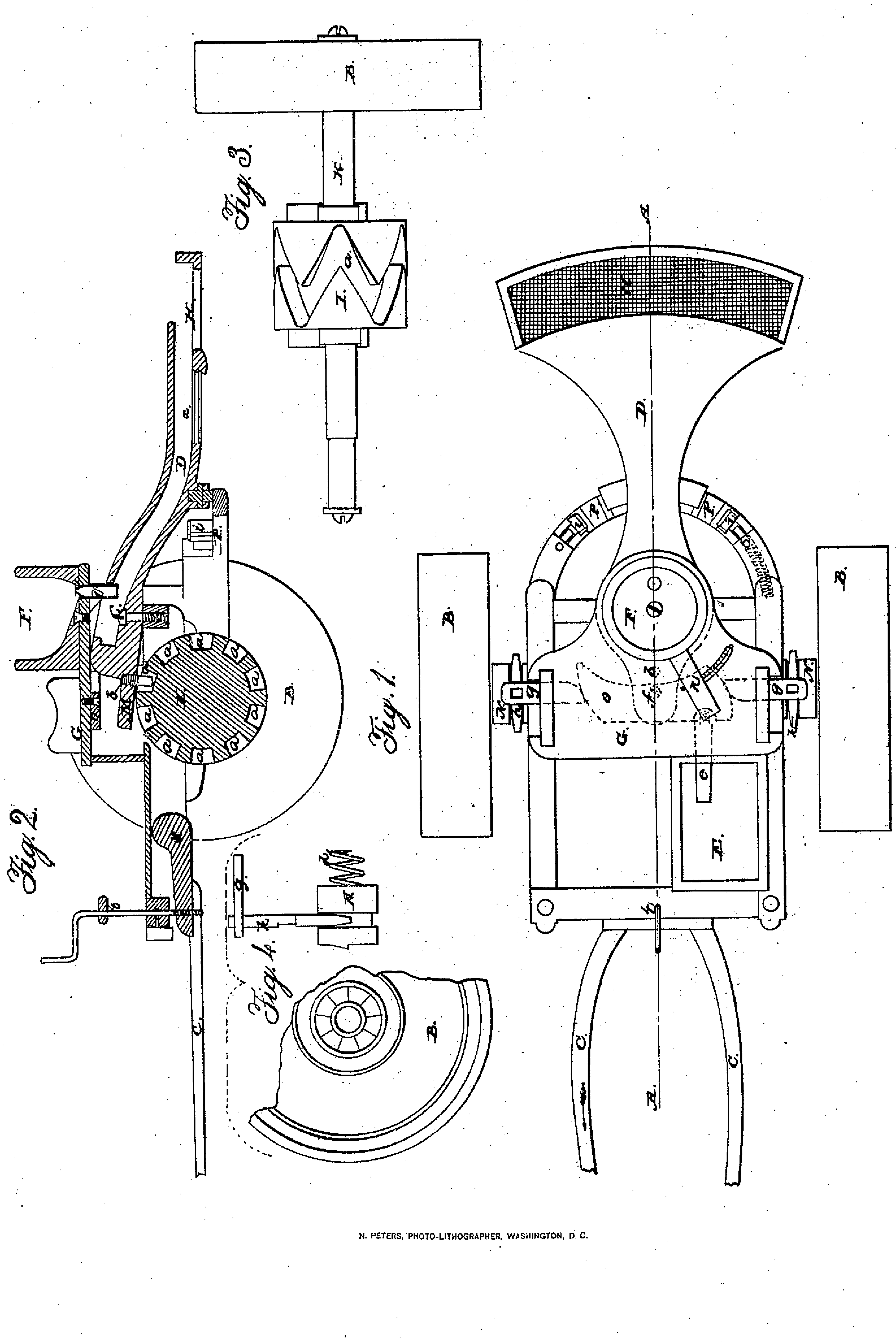
J. ANDREWS.

Broadcast Seeder.

No. 12,084. Patented Dec. 12, 1854.



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UNITED STATES PATENT OFFICE.

JOHN ANDREWS, OF WINCHESTER, MASSACHUSETTS, ASSIGNOR TO JOHN ANDREWS, N. A. RICHARDSON, AND GARDNER SYMMESS.

IMPROVEMENT IN SEED-PLANTERS.

Specification forming part of Letters Patent No. **12,084**, dated December 12, 1854.

To all whom it may concern:

Be it known that I, JOHN ANDREWS, of Winchester, in the county of Middlesex and State of Massachusetts, have invented a new and useful Machine for Sowing Grain and other Seeds Broadcast, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a plan; Fig. 2, a section upon A A of Fig. 1; Fig. 3, a detached view of the axle with the grooved drum which gives motion to the sower; Fig. 4, details which will be referred to hereinafter.

In the seed-sowers heretofore contrived the grain has been delivered from a vibrating tail-board, from which it was suffered to drop upon the land as the machine advanced. With these machines a very narrow strip only was sown at a time, and their operation was consequently slow and defective. To obviate this inconvenience and to produce a machine that shall imitate as far as possible the motion of the hand in sowing grain is the object of my invention, which consists in delivering the grain in the requisite quantity to a hollow trough or scatterer, which is caused to swing back and forth round a fixed center, by which means the grain is thrown to a considerable distance upon each side of the path traveled over, and the sowing is performed much more rapidly than the machines heretofore contrived have been capable of.

To enable others skilled in the art to understand my invention, I will proceed to describe the method which I have adopted of carrying it out.

The machine travels upon wheels B, and is drawn in the direction of the arrow upon the shafts C. The grain or other seed is contained within the box E, from which it is transferred as required to the hopper F by the driver of the machine, who is seated upon the box G, the grain in the hopper F passing through the hole *p* and pipe *q* through the expanding trough or scatterer D, upon the extreme end of which is the sieve H, through which it is allowed to pass.

In order that the grain may be distributed over a space much wider than the length of the sieve H, the latter receives a swinging motion around a fixed point, by which means the seed is thrown to a considerable distance upon each side. This swinging motion is communicated to the scatterer in the following manner.

I is a drum securely attached to the axle K, and having a zigzag groove, *a*, in which plays a pin, *b*, projecting downward from the arm M, secured to the scatterer. The latter is pivoted to the frame of the machine at *c*, and thus as the drum I revolves the scatterer is vibrated from side to side, and the seed is scattered over a much wider space than would otherwise be the case. In addition to this swinging motion from side to side, the scatterer has also a rapid vertical vibratory motion, produced in the following manner: P is a curved way or support, upon which the rear portion of the scatterer rests. This way is corrugated or channeled, as seen at Fig. 1. Q is a roller upon the underneath side of the scatterer, which travels upon the corrugated way P, and thus as the scatterer is vibrated around its center of motion it is also rapidly vibrated in a vertical direction, and the descent of the grain along the trough is facilitated.

In order that the axle and drum may be turned by the motion of the wheels, the latter are connected with the axle by means of the toothed clutches N, which embrace the axle and are forced up to the wheel by the springs *d*. That the scatterer may be made to vibrate only when the machine is advancing, and not when it is backing, the teeth of the clutches are inclined upon one side, so that when the machine is backed the wheels revolve without turning the axle; and when it is desired to disconnect the wheels entirely from the axle this may be done by pressing in the handle *e* of the lever O. (Seen in red in Fig. 1.) This lever is pivoted at *f*, and bears, when pressed in, upon the ends of two arms, *g*, which actuate the clutch-levers *h* and release the clutches from contact with the wheels.

To relieve the machine from strain, the scatterer is allowed, as it swings to each side, to strike upon the spring-stops *i*, which yield as they are pressed in, and gradually overcome its momentum.

In order to adjust the quantity of grain sown, the hopper is pivoted at a point, *m*, around which it may be moved by the lever *n*. By this means the hole *p* may be more or less enlarged, or it may be closed entirely. The

lever plays over a graduated arc for the purpose of graduating the hopper to sow any desired quantity per acre.

It often happens that grain and other seeds to be sown are filled with the seeds of weeds. To remove these and prevent them from being sown with the grain, I employ the following device: A portion of the bottom of the seed-trough is cut out and replaced by a sieve, *x*, of a fineness that shall admit the seeds of weeds to pass through, but not the grain. Beneath this sieve is a box, *r*, in which such seeds are collected, to be afterward disposed of.

In windy weather the scatterer must be operated much nearer to the ground than it need be upon a calm day. In such case the grain will not be thrown to so great a distance upon each side, and the feed of the hopper will require to be diminished in a corresponding degree. To effect this depression I adopt the following means: The shafts are pivoted to the body of the machine at *s*. Around this pivot the shafts and the machine are adjusted to each other by means of the screw *t*, and thus the extreme end of the scatterer is raised more or less from the surface of the ground, as required.

It is evident that other means may be adopted for the purpose of swinging or vibrating the scatterer; but the method described above I have found sufficient, and is the one which I prefer.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The swinging scatterer or seed-sower D, operating in the manner substantially as described.

2. The box *r* and sieve *x* as applied to the scatterer, for the purpose of separating the seeds of weeds from the grain, as set forth.

3. The method herein set forth of raising and lowering the scatterer by means of the screw *t*, or its equivalent, for the purpose set forth.

JOHN ANDREWS.

Witnesses:
SAM. COOPER,
JOHN S. CLOW.