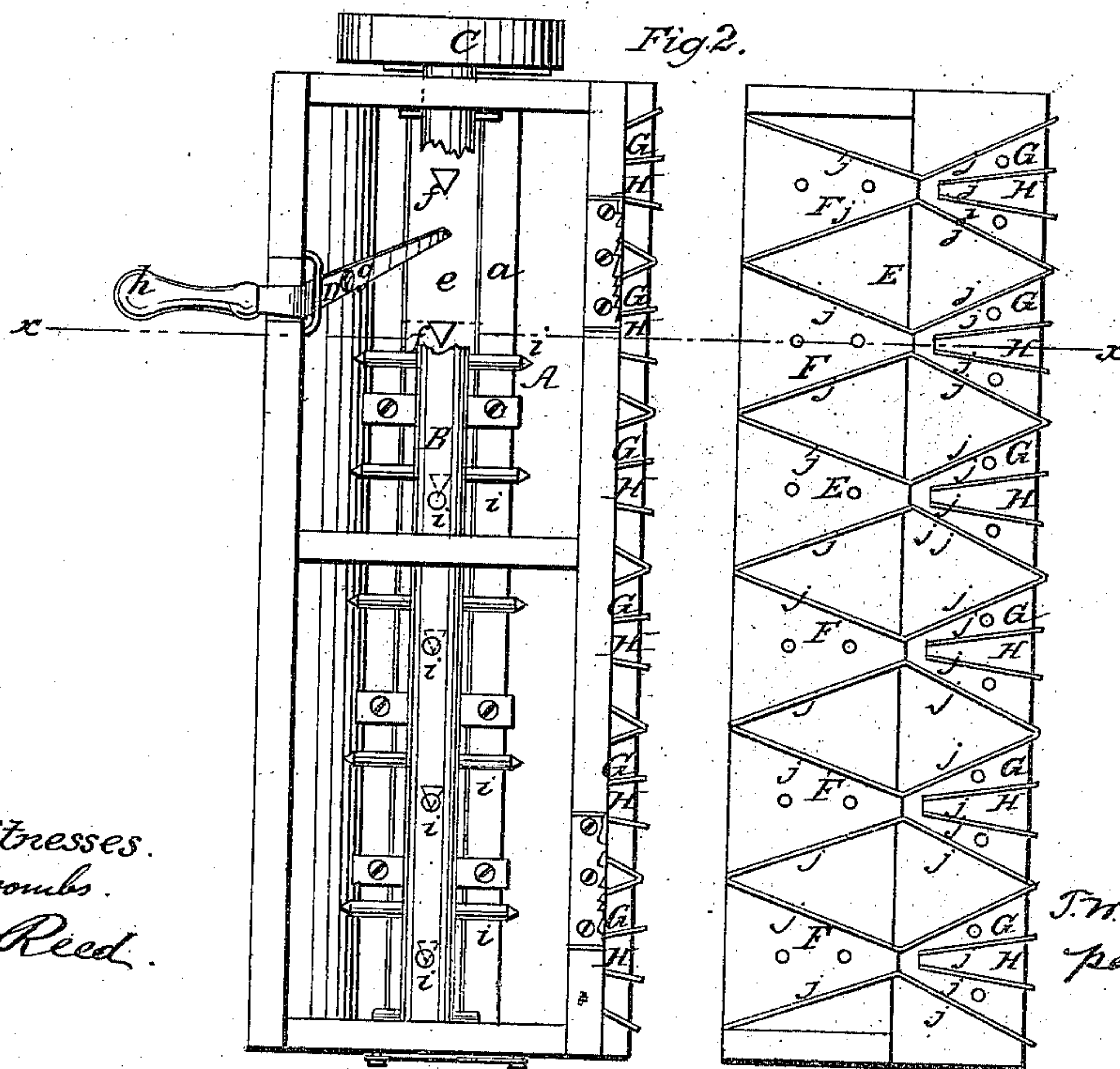
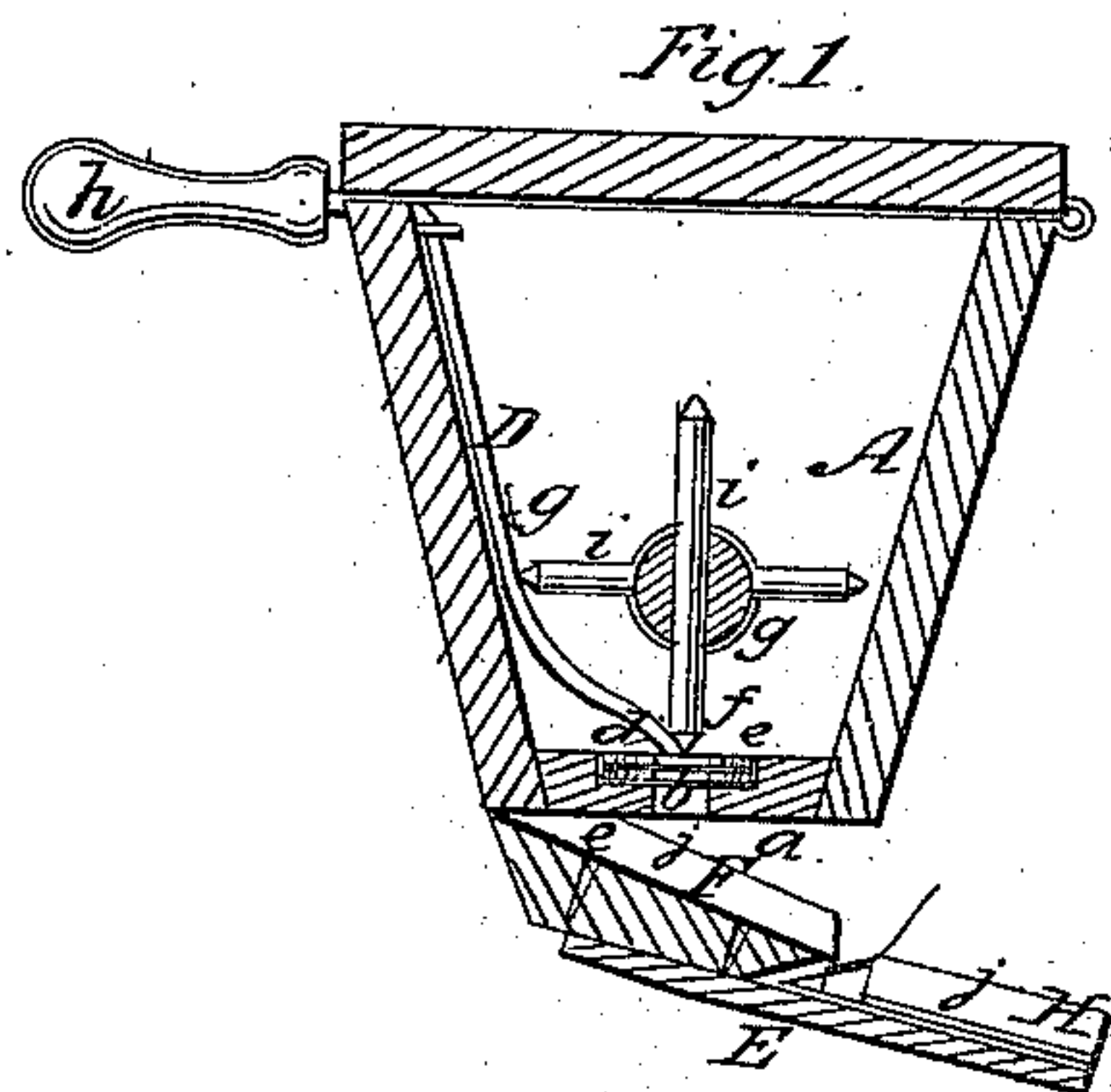


T. W. WATTS.
Broadcast Seeder

No. 42,424.

Patented Apr. 19, 1864.



Witnesses.
J. W. Coombs.
C. W. Reed.

Inventor.
T. W. Watts.
per Munn & Co.
attys.

UNITED STATES PATENT OFFICE.

T. W. WATTS, OF RUSHVILLE, ILLINOIS.

IMPROVEMENT IN GRAIN-DRILLS.

Specification forming part of Letters Patent No. 42,424, dated April 19, 1864.

To all whom it may concern:

Be it known that I, T. W. WATTS, of Rushville, in the county of Schuyler and State of Illinois, 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 accompanying drawings, making a part of this specification, in which—

Figure 1 is a transverse vertical section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same, the scattering-board being detached from the seed-box.

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

This invention relates to a new and improved seeding-machine for sowing seed broadcast, and for sowing grass-seed simultaneously with grain.

The invention consists in an improvement in the seed-distributing device, and also in the scattering-board, whereby the desired end is accomplished in a perfect manner.

In sowing grass-seed with grain the great difficulty has been to obtain a means which would admit of the grass-seed being distributed evenly with the grain and at the same time obtain a scattering device which would not admit of the wind acting upon the comparatively light grass-seed so as to separate it from the grain during the passage of both from the seed-distributing device to the earth. These objects, it is believed, are both attained by my invention.

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

A represents a seed-box, which is designed to extend the whole width of the machine, and which has its front and rear sides inclined, as shown in Fig. 1. Within this box A there is fitted longitudinally a shaft, B, one end of which has a pulley, C, upon it at the outer side of the seed-box to receive a belt which rotates the shaft B. The bottom *a* of the seed-box A is perforated at equal distances apart, with triangular-shaped holes *b*, and a metal plate, *c*, is in a groove in the upper surface of the bottom *a*, said plate being fixed and perforated with holes *d*, which are of the same shape and dimensions as the holes *b*, and coincide or register with them. Directly over the metal

plate *c* there is placed a similar plate, *e*, which is also perforated with triangular holes *f* of the same dimensions as the holes *b d* in the bottom *a* of the seed-box and in the plate *c*. This plate *e* is a sliding or adjustable one, and is moved by means of a lever, D, having its fulcrum at *g*, and provided with a handle, *h*, at its upper end, which extends horizontally outward from the upper part of the seed-box. By adjusting the plate *e* through the medium of the lever D the holes *f* may be made to register in a greater or less degree with the holes in the bottom *a* and plate *c*, and the capacity of said holes varied as desired.

The shaft B has a series of rods, *i*, passing transversely through it at right angles to form radial arms, which are arranged in pairs, one arm of each pair being at right angles to that of the other, and as the shaft B rotates working over opposite ends of the holes *f*. These rods or arms *i* insure an equal distribution of the seed and prevent the holes *f b d* from becoming choked or clogged. By having the holes *f b d* of triangular form their capacity may be graduated or varied with great nicety, and the seed freely discharged at all points of the adjustment of plate *e*. Circular holes would not answer a good purpose. They require to be large in diameter, and when out of register form elliptical openings, liable to choke or clog.

E represents a scattering-board, which is suspended by any proper means in an inclined position underneath the seed-box A. This scattering-board has two rows of spouts, F G, attached to its upper surface, one row, F, being at the elevated end of the board directly underneath the seed-box and of V form, the upper ends of the spout F being the widest, as shown clearly in Fig. 2. These spouts F may be constructed of sheet metal, bent upward at their sides to form guards or flanges *j*. The spouts G are precisely of the same form as the spouts F, and are constructed in the same way; but they are placed in a reverse position to the former, and have fitted centrally within them smaller spouts, H, which are wider at their lower than at their upper ends. The upper ends of the spouts H do not extend upward quite as high as the upper ends of the spouts G, and a free space is consequently allowed for the grain and seed to pass from the spouts F into both G and H. The grain and seed as they are discharged from the seed-box A fall into

the upper parts of the spouts F, and are conveyed by the latter into the upper parts of the spouts G H, which divide the quantity of seed discharged from the spouts F into three equal parts and spread the same so that the seed will be discharged from the lower end of the scattering-board in a series of small streams at equal distances apart. The flanges *j* of the spouts prevent the wind from blowing the seed out of the spouts, and the consequent separation of the grass-seed from the grain—a contingency which would be sure to occur in consequence of the grass-seed being lighter than the grain.

The grass-seed and grain, it will be understood, are mixed in proper quantities and sown in a mixed state.

I do not claim novelty in any of the individual parts of my machine, separately considered.

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

The arrangement of the seed-box A, shaft B, arms *i*, plates *c c*, triangular openings *b d f*, spouts F G H, and scattering-board E, all constructed, combined, and operating in the manner and for the purposes specified.

T. W. WATTS.

Witnesses:

WM. A. CROSIER,
JAMES L. ANDERSON.