A. W. MORSE.

Grain-Drill.

No. 22.374 Patented Dec. 21. 1858.

Fig. 2.

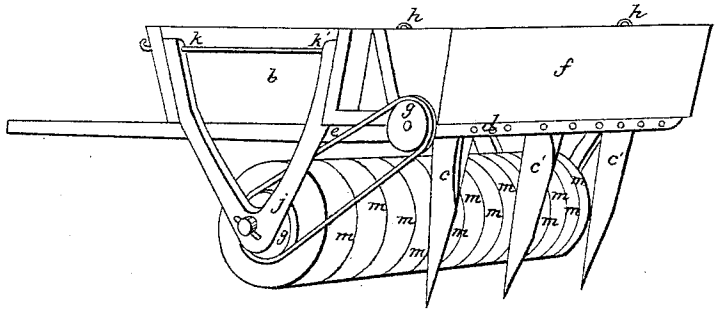


Fig. 4.

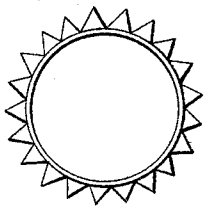


Fig. 1.

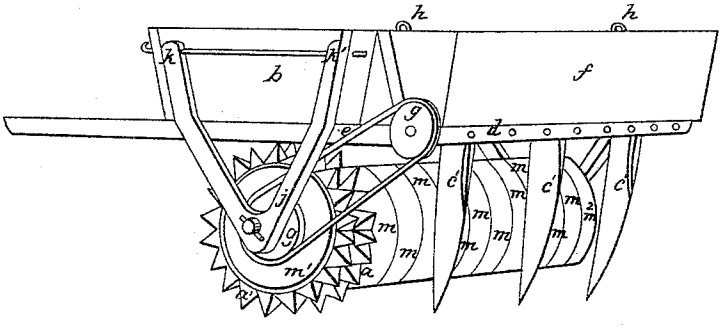
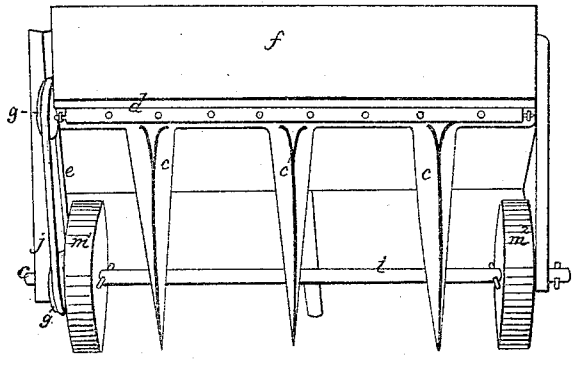


Fig. 3.



Witnesses:

B. Campbell

L. J. Crumb

Inventor:

Albert. W. Morse

AM. PHOTO-LITHO. CO. N. Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

ALBERT W. MORSE, OF EATON, NEW YORK.

IMPROVEMENT IN SEEDING-MACHINES.

Specification forming part of Letters Patent No. **22,374**, dated December 21, 1858.

To all whom it may concern:

Be it known that I, ALBERT W. MORSE, of Eaton, Madison county, State of New York, have invented a new and Improved Combined Clod-Crusher, Roller, and Seed-Sower; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the arrangement of the devices hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction, also the changes and modifications of which my said invention is susceptible.

I construct my said combined clod-crusher, roller, and seed-sower in the form shown in Figure 1, which is in perspective, two of the rings, *a' a'*, remaining on its periphery. A detached ring is also shown in Fig. 4. When used as a clod-crusher the said rings are placed on all of the rollers *m m m m m m m m m m m m' m²*, and are allowed to turn; or they can be bolted thereon, as circumstances may require.

To the rear of box *b* is attached a seeding-box, *f*, with tubes *c c c'*. Motion is communicated to rod *d* by means of band *e*, which runs on grooved pulleys *g g*. The seeding-box *f* is attached to box *b* by hooks *h h*. (Shown in Figs. 1 and 2.) The said box *f* can be removed when the clod-crusher or roller is used as a compressing-roller or for pulverizing the ground when it is not desirable to sow seed. When a seed-sower is wanted without a clod-crusher or roller the intermediate wheels, *m m m m m m m m m m*, are removed and the external wheels, *m'* and *m²*, retained, as shown in Fig. 3, which is a rear elevation view of my said clod-crusher and roller changed to a seed-sower.

To remove the rings from the rollers and the rollers from the axle *i*, Fig. 3, the adjustable hanger *j*, which is pivoted at *k k'*, Figs. 1 and 2, is turned outward and upward, thereby rendering the change from a roller or clod-crusher to a seed-sower simply and quickly made.

My combined clod-crusher, roller, and seed-sower can also be used as a compressing-roller and for sowing broadcast by removing the tubes *c c c'* for the purpose of sowing plaster, lime, or other fertilizers, making a combination of agricultural implements of great value and at less cost than any other combination known to the applicant.

I do not claim a clod-crusher, nor a roller, nor a seed-sower separately.

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

The arrangement of the hopper *f* with the rollers *g g*, belt or strap *e*, rollers *m*, and rings *a*, as described, for the purposes set forth.

ALBERT W. MORSE.

Witnesses:

B. F. CAMPBELL,

L. B. CRUMB.