J. W. GAMBLE.

SEED AND PLASTER SOWER.

No. 192,328. Patented June 26, 1877

Fig. 1.

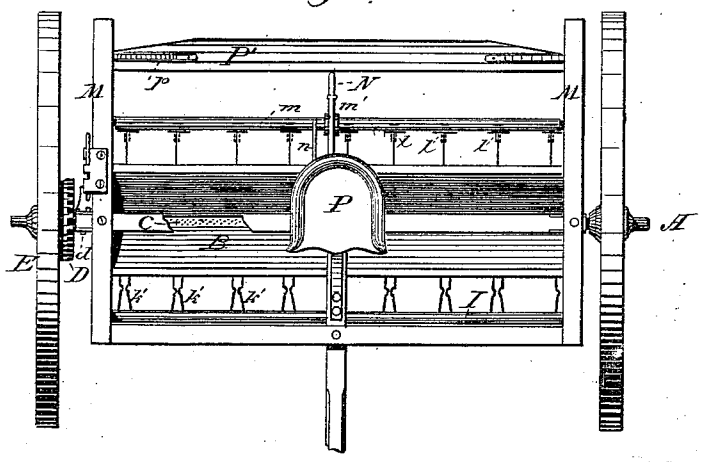


Fig. 2.

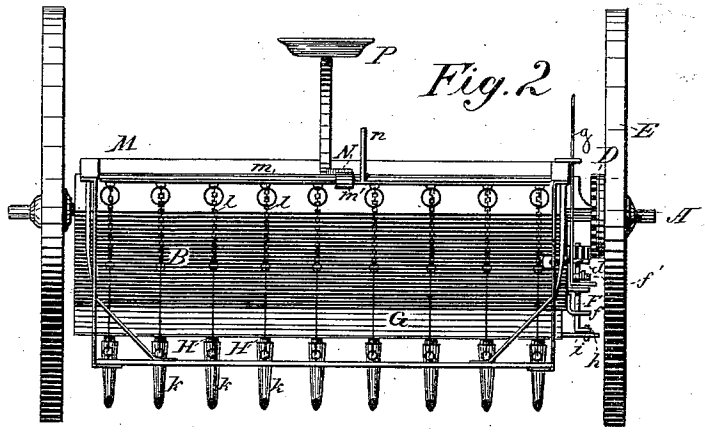


Fig. 4

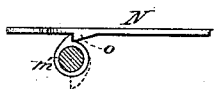
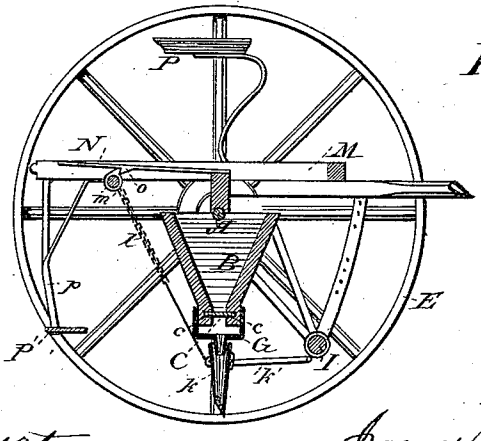


Fig. 3.



Attest:
E. E. Court
H. P. Johnson

Inventor
James W. Gamble
by Louis Bagger & Co.
his attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

JAMES W. GAMBLE, OF AYLMER, PROVINCE OF ONTARIO, CANADA, ASSIGNOR OF ONE-HALF HIS RIGHT TO GEORGE WILLIAM RIFE AND JONATHAN WHITE, OF SAME PLACE.

## IMPROVEMENT IN SEED AND PLASTER SOWERS.

Specification forming part of Letters Patent No. **192,328**, dated June 26, 1877; application filed February 23, 1876.

*To all whom it may concern:*

Be it known that I, JAMES W. GAMBLE, of Aylmer, in the county of Elgin, Ontario, Canada, have invented certain new and useful Improvements in Seed and Plaster Sowers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification, and in which—

Figure 1 is a top plan. Fig. 2 is a rear elevation. Fig. 3 is a sectional view of the feed-box; and Fig. 4 is a detail view of part of my machine.

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

This invention relates to certain improvements in seeding-machines, for sowing various kinds of grain, plaster, &c.; and it consists in the construction and arrangement of parts hereinafter more fully shown and described.

In the drawings, A is the axle, to the under side of which is secured the feed-box B. C is the feed-slide, which operates in grooves *c c*, in the bottom of the seed-box. A reciprocating motion is given to the slide C, by the following means:

D is a bevel-wheel, secured to the inner side of one of the traction-wheels E of the machine. It engages with a pinion, *d*, pivoted on a shaft, F, supported in suitable bearings or brackets, *f'*, which project from the end of the seed-box. The shaft F has a clutch-collar, *f*, which, by a lever, *g*, may be made to engage with pinion *d*, thus causing the revolution of shaft F. The lower end of shaft F has a crank, *h*, which, by a pitman, *i*, is connected with slide C, thus giving to the latter a reciprocating motion when the machine is operated.

The slide C is so arranged, that by detaching it from the crank *h* and pitman *i*, it may be easily withdrawn from the seed-box, and replaced by another of a different grade, thus adapting my machine, to be used for sowing various kinds of grain, plaster, &c., by simply changing the slide C.

Although my machine may be used for sowing broad-cast, it is sometimes preferable to use it with drills. When this is the case, I attach to the under side of the seed-box, below slide C, a box, G, having a series of fixed tubes, H. I is a bar, attached to the seed-box, in front of the same, by metallic brackets. The drill-tubes *k* are hinged to bar I, by brackets *k'*, in any suitable well-known manner.

To the rear side of the drill-tubes *k* are secured chains *l*, the other ends of which are attached to a roller, *m*, pivoted in a frame, M, which is secured to the axle of the machine, as shown. The drill-tubes are thus, so to speak, suspended between the rod I and roller *m*. The roller *m* has an eccentric clutch-collar, *m'*, and a lever, *n*, by which it may be turned. N is a lever, movable laterally, which projects backward from frame M, to which it is pivoted. It has a downward-projecting lug, *o*, which may be made to engage with clutch-collar *m'* of roller *m*, when this is turned by the lever or handle *n*. When roller *m* is released from the lever N, the drill-tubes sink down, by their own weight, thus placing them in position for operation. When they are to be raised from the ground, this is done by simply turning roller *m*, by lever *n*, thus winding the chains *l* upon it, and elevating all the drill-tubes simultaneously. P is the driver's seat, and P' is a platform or shelf, suspended from frame M by brackets *p*. This is a convenient stand for the operator, when the drill-tubes are to be frequently raised or lowered.

The advantages of my improved seeding-machine will be readily understood from the foregoing description. By changing slide C, it may be readily adapted to sow various varieties of seed, plaster, &c., and, the drills being detachable, it may be used as a broad-cast seeder at the option of the operator.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination of the seed-box B, having detachable slide C, with the drill attachment, consisting of box G having fixed tubes H, hinged drag-bars $k'$, and drill-tubes $k$, substantially as and for the purpose herein shown and specified.

JAMES WARREN GAMBLE.

Witnesses:
HENRY BEECH,
PHILIP J. EDMUND.