(No Model.)

T. A. CHURCHILL.

BROADCAST SEEDER.

No. 370,120. Patented Sept. 20, 1887.

Fig. 1.

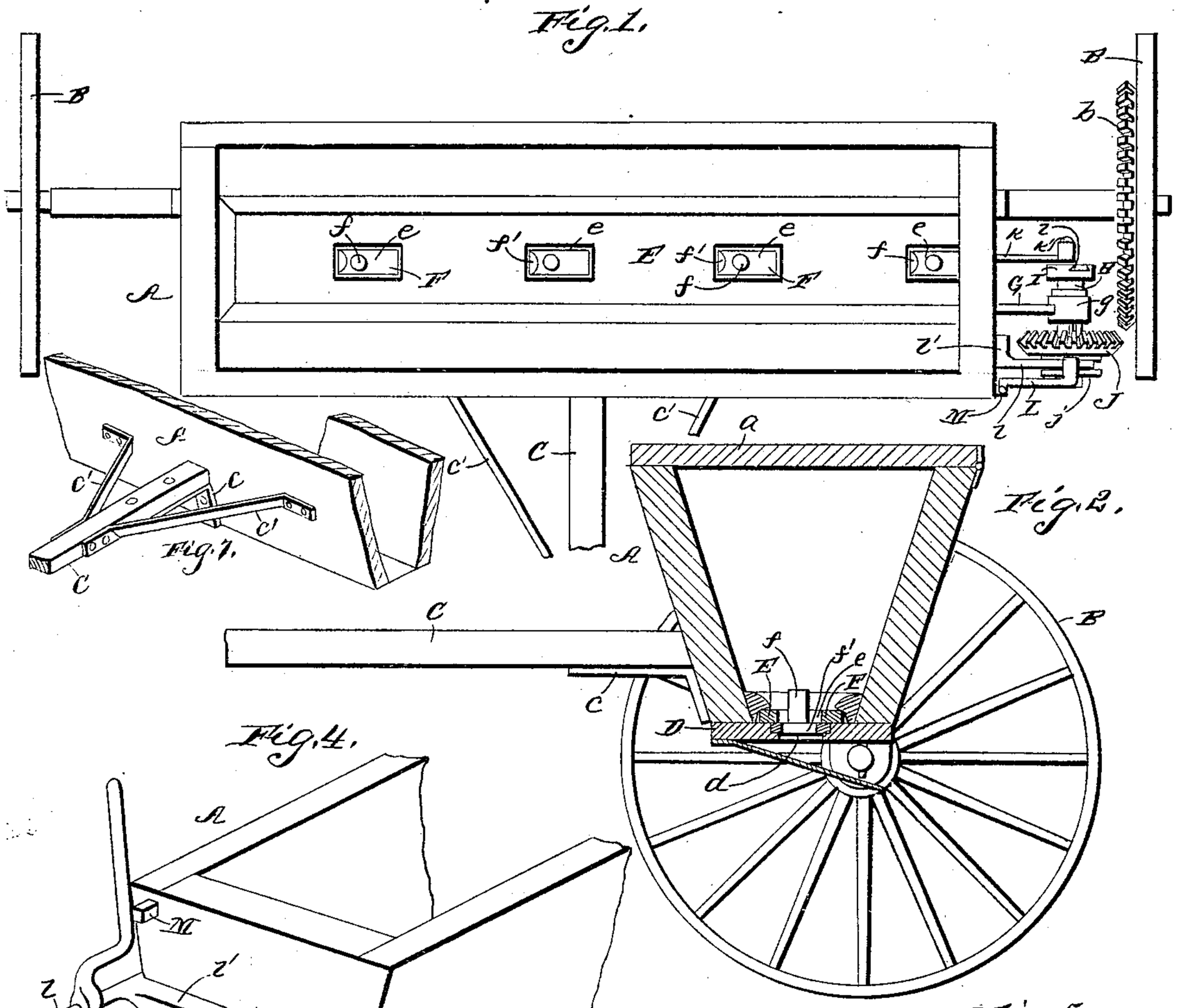

Fig. 2.

Fig. 7.

Fig. 4.

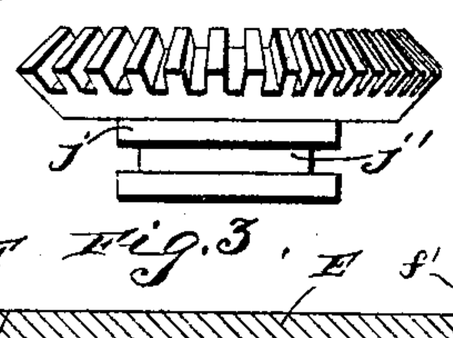

Fig. 8.

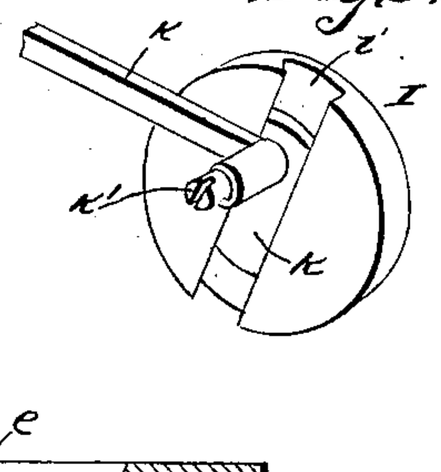

Fig. 5.

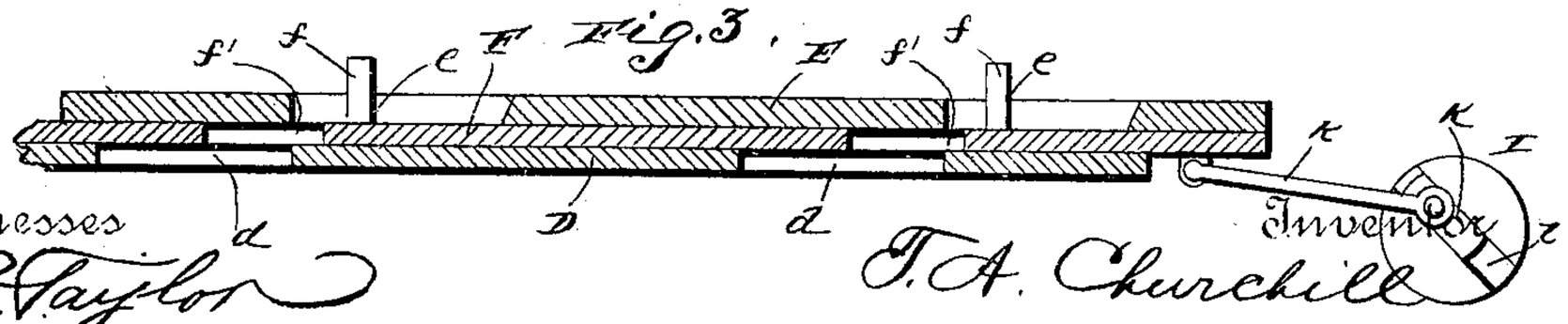

Fig. 3.

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UNITED STATES PATENT OFFICE.

THOMAS A. CHURCHILL, OF GALESVILLE, ILLINOIS.

BROADCAST SEEDER.

SPECIFICATION forming part of Letters Patent No. 370,120, dated September 20, 1887.

Application filed March 15, 1886. Serial No. 195,306. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. CHURCHILL, a resident of Galesville, in the county of Piatt and State of Illinois, have invented a certain new and useful Broadcast Seed-Sower, of which the following is a specification.

My invention relates to improvements in broadcast seed-sowers; and it consists in certain novel features, hereinafter described and claimed.

In the drawings annexed, Figure 1 is a plan view of my improved planter, the lid being removed. Fig. 2 is a vertical transverse section, and Fig. 3 is a longitudinal section, of a portion of the hopper-bottom. Fig. 4 is a detail perspective view of the lever for throwing the pinion which operates the seed-slide into and out of engagement with the driving cog-wheel, and Fig. 5 is a detail view of the disk to which the seed-slide pitman is connected. Figs. 6 and 7 are detail views.

Referring to the drawings by letter, A designates the hopper, having a hinged lid, *a*, and mounted upon supporting and driving wheels B. These wheels B may have a common axle or independent axles, as may be preferred. One of the wheels is provided on its inner side with a concentric gear-wheel, *b*, which may be made integral with said supporting-wheel, or formed separate therefrom and bolted thereto.

C designates the coupling-pole, which is adapted to be secured to the front axle or running-gear of an ordinary farm-wagon. The pole is secured at its rear end to the hopper by means of the angle-iron *c*, secured to the under side of the tongue and the front of the hopper, and the braces *c' c'*. The braces have their forward ends secured to the pole on opposite sides of the same, and have their rear ends secured to the front of the hopper at equal distances from the rear end of the coupling-pole on opposite sides of the same.

As above stated, the coupling-pole is secured to the running-gear of an ordinary farm-wagon. This arrangement prevents the machine twisting as it is drawn over the ground, for should the wheel at one end of the machine strike an obstruction it will be drawn positively over the same, instead of being delayed and allowing the other end to swing forward. The manner of securing the coupling-pole to the hopper serves to give further rigidity to the machine, so that it is drawn along smoothly and evenly.

The bottom of the hopper is formed by a plate, D, having a series of median longitudinal slots, *d*, and above this bottom plate within the hopper I provide the plate E, having a series of longitudinal slots, *e*, similar to the slots *d*. These slots *d* and *e* correspond in number and are so arranged relatively to each other that they are not in vertical alignment, but the right-hand end of the lower slot is in the same vertical plane as the left-hand end of the upper slot. The seed-slide F reciprocates between the plates D E, and is provided with the agitator fingers or stirrers *f*, which work in the slots *e*, and the seed-cells *f'*, corresponding in number to the slots *d e*. These seed-cells are of such a size and are so arranged that when the seed-slide is at the limit of its stroke in one direction they will be entirely over the lower slots, and when the slide is at the limit of its stroke in the opposite direction they will be entirely under the upper slots. By this arrangement it will be seen that the seed cannot fall directly through the slots *d e*, thereby falling to the ground in large quantities. The seed is also prevented from filling up and choking the slots *e* by reason of the agitator fingers or stirrers *f* acting on the seed as the seed-slide is operated.

G is a bracket secured to the bottom of the hopper near one end thereof, and provided with a sleeve or collar, *g*, at its free end, in which is journaled a shaft, H, having a disk, I, at its rear end, and having a sliding gear-pinion, J, keyed upon its forward end, as shown. The disk I is provided with a dovetailed diametrical groove, *i*, across its outer face, and in this groove I secure a dovetailed bar, K. A pitman, *k*, has one end secured to the end of the seed-slide and has its other end secured to this bar K by a set-screw, *k'*, which also secures the bar to the disk. By moving this bar K along the groove *i* the end of the pitman will be moved to or from the center of the disk and its stroke thereby regulated, as will be readily understood. The sliding pinion J is adapted to mesh with gear-wheel *b*, and thereby operate the seed-slide through the shaft H, disk I, and pitman *k*. The hub

j of the pinion J is provided with an annular groove, *j'*, in which the forked end of a lever, L, engages and operates. This lever L is mounted on a pin, *l*, projecting from a corner-iron, *l'*, secured to the hopper. The lever extends downward from the pin *l* in a straight line to the hub *j* of the pinion, and above the pin it is bent inward toward the hopper and then upward to provide a suitable handle for operating it, and M is a stop on the side of the hopper, which holds the lever in its adjusted positions.

From the foregoing description, taken in connection with the accompanying drawings, the operation of my device will be readily understood.

As the machine is hauled over the ground, the motion of the supporting-wheels will be communicated to the disk I, and the disk will reciprocate the seed-slide through the medium of the pitman *k*. The lever L oscillates upon its pivot-pin at right angles to the length of the same, and is used to throw the pinion J into or out of engagement with the gear-wheel *b*, as will be understood.

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

1. In a seeder, the combination of the slide, the driving gear-wheel *b*, the shaft H, having the disk I, and the pitman connecting the said disk to the said slide, the pinion J, feathered on the shaft H, and adapted to slide thereon into and out of engagement with the wheel *b*, said pinion having the annular groove on its hub, and the lever L, having one end bifurcated and engaging the annular groove, substantially as described.

2. In a broadcast seeder, the combination of the hopper, the seed-slide, the driving gear-wheel *b*, the shaft H, having the pinion adapted to be moved into or out of engagement with the gear-wheel, the disk I on the said shaft, and having the transverse dovetailed groove, the slide-plate K, fitting in the said groove, the pitman pivotally connected to the slide, and the screw K', connecting the outer end of the pitman to the slide, and securing the latter in the groove at any desired adjustment, substantially as described.

3. The combination of the hopper, the coupling-pole, the angle-iron *c*, having one arm secured to the under side of the coupling-pole and its other arm secured to the front of the hopper, and the braces *c'*, having their forward ends secured to the opposite sides of the coupling-pole and their rear ends secured to the front side of the hopper, substantially as shown and described.

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Witnesses:
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