

Towberman & Keys.

Corn Planter.

Nº 96,510.

Patented Nov. 2, 1869.

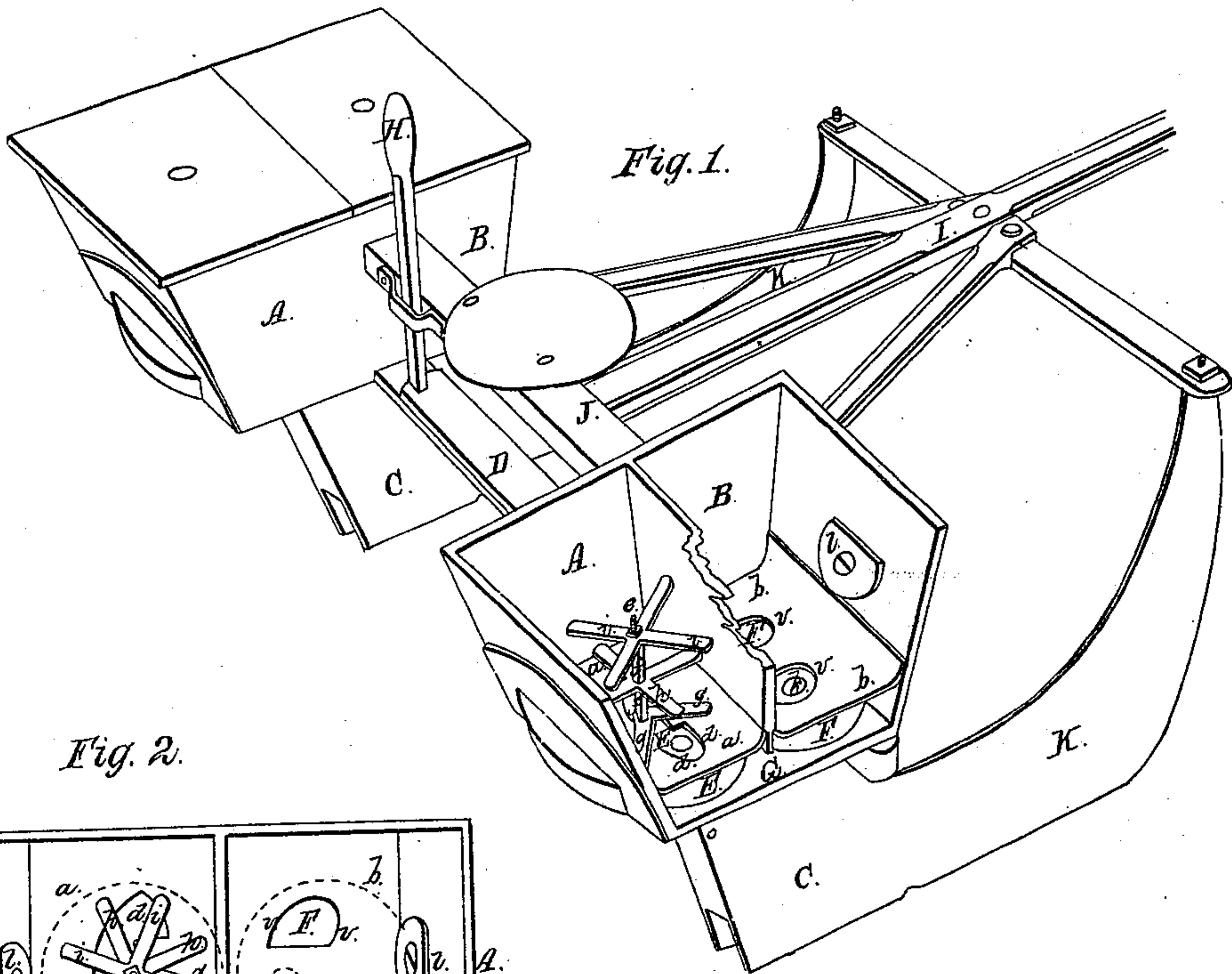


Fig. 2.

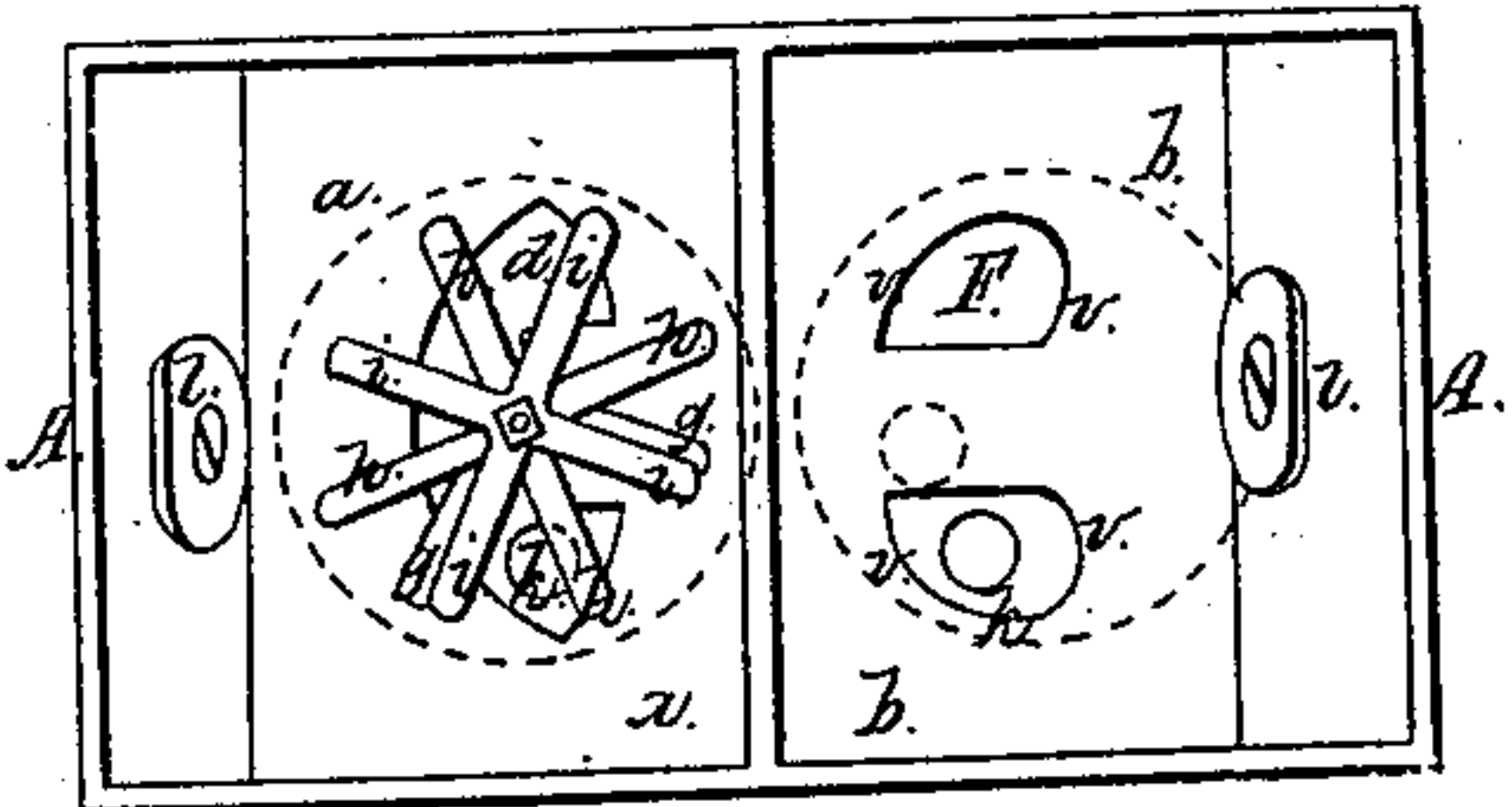


Fig. 3.

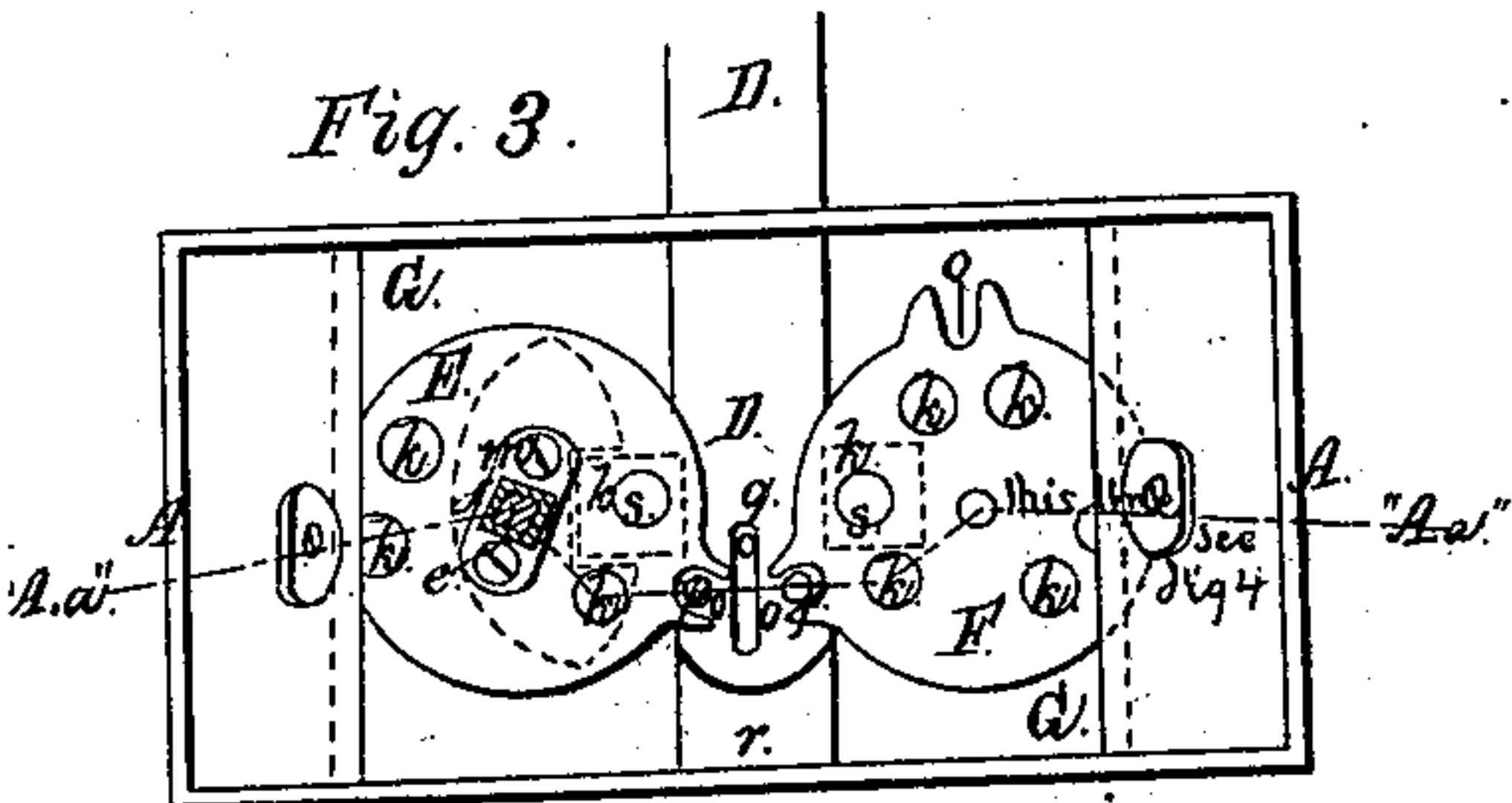


Fig. 5.

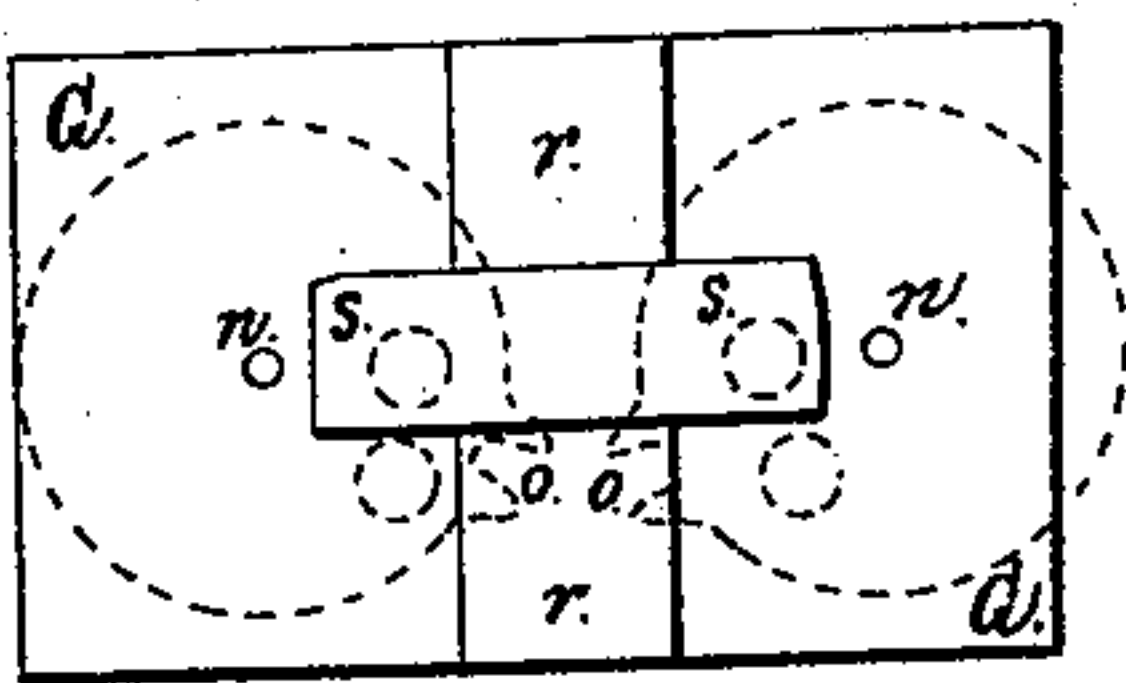
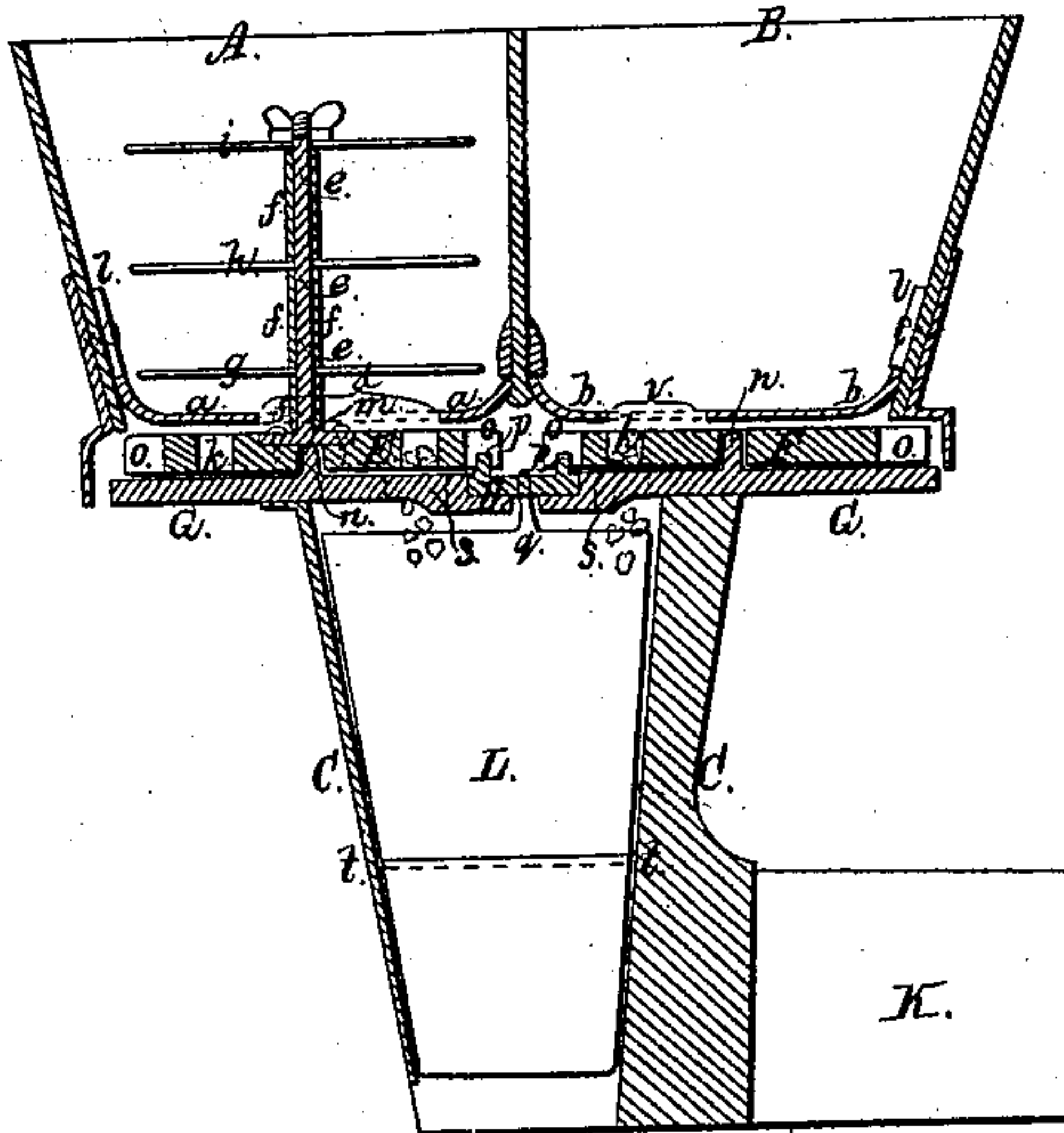


Fig. 4.



Inventors.

Towberman & Keys
per his
Asst. Atty. G. B. Fowler

United States Patent Office.

ADAM TOWBERMAN AND JOHN KEYS, OF WASHINGTON, ILLINOIS.

Letters Patent No. 96,510, dated November 2, 1869.

IMPROVEMENT IN CORN AND FERTILIZER-DROPPERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, ADAM TOWBERMAN and JOHN KEYS, of Washington, in the county of Tazewell, and in the State of Illinois, have invented a new and useful Machine for Dropping Corn and Fertilizing-Material Together; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a perspective view.

Figure 2, plan of the boxes with "covers" removed.

Figure 3, plan, showing "dropper"-wheels, and their operation by means of the "slide," the upper plate having been removed.

Figure 4, vertical section through the boxes, on the line A-A, fig. 3.

Figure 5, plan of lower plate between "droppers" and shank of "runner."

We construct this dropper for fertilizers and corn as follows:

At the rear end of the corn-box or hopper B, in a corn-planter, we place another box, A, for the fertilizer, of a similar size.

The common bottom G of the boxes A and B, which rests on the opening into the shank or boot C of runner K, is perforated with an opening, S, extending on both sides of slide D, which moves "droppers." (See figs. 3 and 5.)

A recess, *r*, in this bottom piece is for the play or motion of slide D. It has also two pins, *n n*, cast on surface, on which the "dropper-wheels" E F oscillate.

The latter are small horizontal wheels, covering bottom of the box, and are perforated with two or more vertical holes, *k*, near their circumference.

A slot, O, is formed on the latter, by projecting lips or jaws, which engage with the pin *p*, on the end of the slide D.

The slots on either wheel are opposed, each engaging with one of the two pins *p p*, on either side of the slot, in the end of the slide D.

We make the perforations, both for the dropping of the corn and fertilizer, of different sizes, in order that the wheels may be adjusted at the pleasure of the operator, all that is necessary to do this being to adjust the slot on the wheel nearest the chosen holes.

The valve L, in the boot C C, is supported by two pins, *t t*, in the shank, and retains the corn and fertilizer between the bottom edge of valve and the sides of the boot or shank C until the next motion. It is oscillated for this purpose by means of the slot in the slide D, between the pins *p p*; and the top edge of this valve, as well as the boot or shank C C, is made much longer than those of other machines, in order

to embrace the discharge from the holes in each box A B, and to discharge both the corn and the fertilizer in the soil at one spot.

The dropping-wheel E of fertilizer-box A is covered by the horizontal plate *a a a a*, the side of which is bent up, and enters a recess in the central division between the box. The opposite side is also bent, and lies flush with the inner slope of box, and is secured by the bottom *l*.

This plate has an opening, *d d*, so shaped and arranged that but one hole in the dropper E beneath is fed at one time, being an oval opening, with a divisional tongue.

The other or corn-box B has a dropper-wheel of a similar form, F, and operated precisely in the same manner, the holes in plate *b b* being, however, two in number.

The fertilizer-box A is provided with the strong device seen best in the perspective view. It consists of a vertical shaft, *e*, with a base-piece, *m*, which is countersunk in the centre of the dropper-wheel E, over the central pin *p*. This carries one or more cross-arms, *g h i*, for dividing the mass of fertilizing-material.

The lower cross-arm *g* is retained at a short distance above the plate *a a* by means of a hollow cylinder or tube, *f*, fitted on over the shaft. The other arms are held, at rather larger distances, above this in a similar manner; the whole secured on the top of the shaft with a nut.

The operation of this machine is as follows:

The corn and fertilizer being both placed in their respective boxes, and the machine started forward, I being the tongue, K, the runners, A and B, the set of boxes on one side, and A and B, a similar set at the other side of machine, united by the bar J, and another one not seen in drawings, the slide D terminating at either end, in either box, by the handle H, held in the slot on the bar J, near the seat, by reference to the plan, figs. 2 and 3, it will be seen that the two droppers E and F are simultaneously moved by means of the pins *p p*, bringing alternately one of the pair of holes *k k* to the openings *d d* and *v v*, in the plates *a a* and *b b*, in the bottom of each box, the fertilizer and corn entering their respective holes in each wheel E and F, and there retained on the plate G G, until the reverse or return motion of slide carries the wheel and its hole, filled with fertilizer on the one hand, and corn in the other box, over the openings S S, in the bottom plate G, over the shank of runner C, where it is discharged on to the valve L, at the bottom of which it is retained, until the next motion of the slide, at which time it is discharged to the ground at the same spot.

This valve is operated by means of the slot at the end of slide D, which engages with the pin *q* at the upper edge of the valve.

The stirring-device, attached to the centre of fer-

tilizer E, receives a turn at each motion of the "dropper," and cuts and loosens the manure.

Having thus fully described our invention,

What we claim therein as new, and desire to secure by Letters Patent, is—

1. The dropper-wheels E and F, with holes *k k k k*, of different sizes, and slots O O O, in combination with pins *p p*, constructed and arranged substantially as described.

2. The slide D, with pins *p p*, in combination with the slots O O O, of dropper-wheels E and F, and valves, constructed and operating substantially as described.

3. In a corn and fertilizer-dropping machine, the wheels E and F, boxes A and B, and shanks C, of runners K K, so constructed as to require only one box

for discharging the corn and fertilizer, the box having a simple division in the centre thereof, substantially as described.

4. The combination of the stirrers in boxes A A with the dropper-wheels E and F, constructed substantially as described.

In testimony that we claim the foregoing machine, we have hereunto set our hands, this 22d day of May, 1869

ADAM TOWBERMAN.
JOHN KEYS.

Witnesses:

EDMD. THURLOW,
A. H. SHAW.