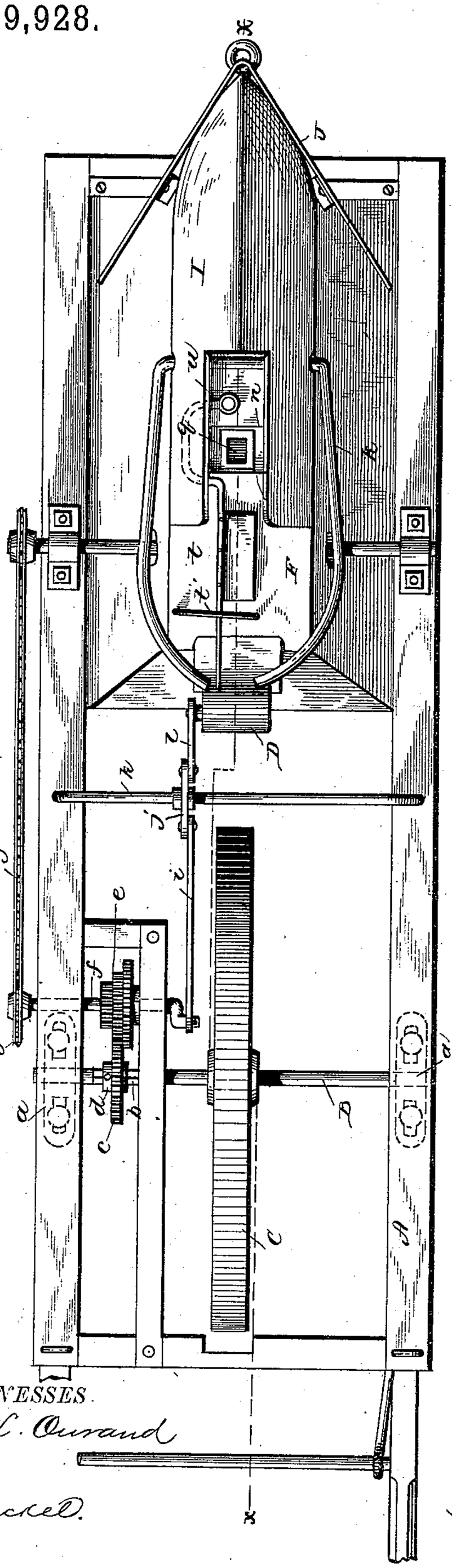
(No Model.)

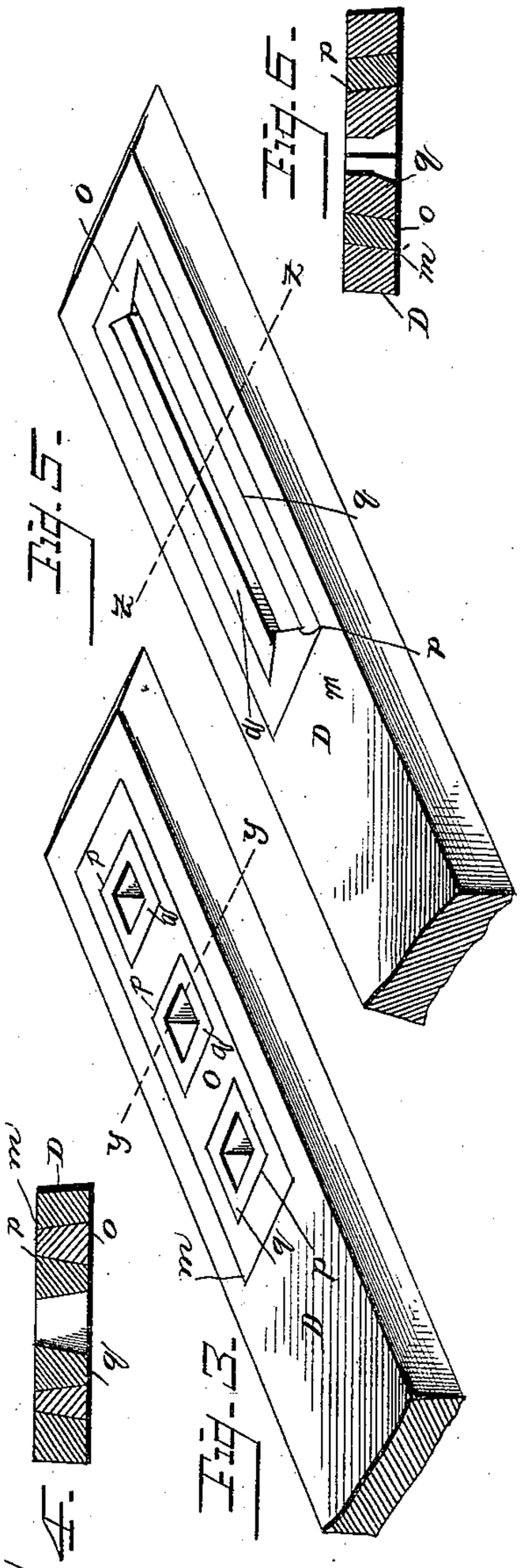
2 Sheets—Sheet 1.

F. F. CHERRY.

SEED PLANTER.

No. 309,928. Patented Dec. 30, 1884.





WITNESSES.

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E. A. Finckel.

INVENTOR;

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(No Model.)

2 Sheets—Sheet 2.

F. F. CHERRY.

SEED PLANTER.

No. 309,928. Patented Dec. 30, 1884.

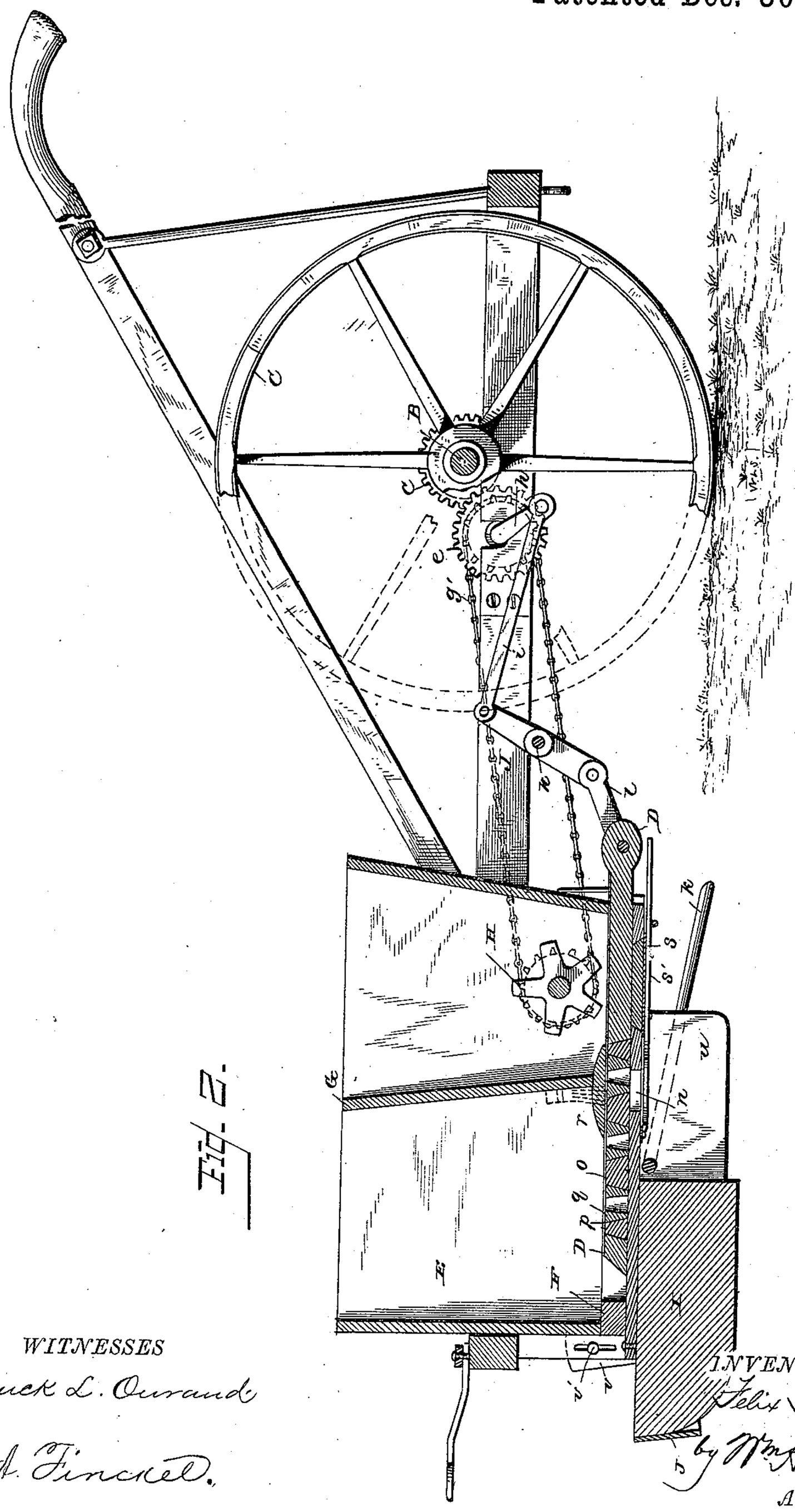

Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

FELIX F. CHERRY, OF STONEWALL, NORTH CAROLINA.

SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 309,928, dated December 30, 1884.

Application filed February 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, FELIX F. CHERRY, a citizen of the United States, residing at Stonewall, in the county of Pamlico and State of North Carolina, have invented certain new and useful Improvements in Seed-Planters, of which the following is a full, clear, and exact description.

The primary object of this invention is to provide an efficient machine for planting rice; but experience has demonstrated the entire practicability and eminent efficiency of the machine in planting cotton-seed, grains of all kinds, and peanuts, both by "dropping" and "drilling," in cases where either method may be resorted to in depositing the seed.

The invention consists in the details of construction and the combinations of mechanism hereinafter particularly set forth and claimed.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a bottom plan view of a machine embodying my improvements. Fig. 2 is a vertical longitudinal section in the plane of line *x x*, Fig. 1. Fig. 3 is a perspective view, on a larger scale, of part of the dropper-feeder detached, and Fig. 4 is a cross-section thereof in the plane of line *y y*. Fig. 5 is a perspective view, on a similar scale, of the drilling-feeder detached, and Fig. 6 a section thereof in the plane of line *z z*.

A is a frame-work, here shown rectangular and of skeleton form, but which may be varied at pleasure without departing from the spirit of my invention.

B is a shaft or axle carrying the supporting and drive wheel C, fast thereon and rotating it. This shaft is secured to the frame-work in adjustable or movable boxes *a a*.

To, say, a squared portion, *b*, of the shaft B is secured a toothed wheel, *c*, adjustable and held in any adjustment thereon by a set-screw, *d*, in its hub. A series of toothed wheels, *e*, are fast to a shaft, *f*, placed in the frame parallel with the shaft B, and the wheel *c* is made to engage one or another of these wheels *e* by appropriate adjustment on the shaft B, and the proper movement of the shaft to or from them by means of its adjusting-boxes *a a*. The wheels *c* and *e* constitute change-gearing for varying the rapidity of sowing; but there are other obvious and well-known means for effecting this which need not be here detailed, and which are within the scope of my invention. The gearing may be boxed in to protect it from dirt, &c.

On one end of the shaft *f*, outside the frame, is a sprocket-wheel, *g*, and at the other is a crank-arm, (or eccentric and wrist-pin,) *h*, to which is connected the pitman *i*, the latter being jointed to one arm of a rock-lever, *j*, on a bar, *k*, of the frame, and to the other arm of the lever *j* is connected the link *l*, which in turn is secured by a joint to the feeder D. The rotary motion given to the shaft B by the revolution of the wheel C is thus converted into a reciprocating motion of the feeder.

The feeder D is a flat plate, shaped with beveled sides or otherwise to slide freely in ways in the bottom of the hopper E and over its bottom board, F. This feeder has an oblong longitudinal opening, *m*, in its end, covering the port or discharge-throat *n* of the hopper-bottom. The opening *m* has its sides converging toward the face of the feeder, and there is inserted in it from beneath a beveled-edge block, *o*, having a number of cells, *p*, the sides of which flare upward, and these cells receive correspondingly-shaped seed-dies *q* from above. The openings in these dies are widest or flare outward and downward at their mouths or discharge ends, to give clearance to the seed and prevent choking, and the shape of the opening will be adapted to the kind of seed to be sown or planted. A clearer, *r*, which may be a board or a brush, is arranged over the feeder, to limit the quantity of seed falling into the dies, and this clearer is placed over the discharge-port *n*, to prevent the unrestricted outflow of the seed. As the feeder is reciprocated beneath this clearer its dies will take the seed from both sides; hence there will be sowing or planting at both the forward and return strokes of said feeder. The clearer will be attached to the side walls of the hopper. The provision of the block *o*, with its dies, admits of the discharge of a greater or less quantity of seed irrespective of the rapidity of movement of the feeder, so that the hills may be made more or less distant, according to the number of dies used, without changing the speed of the feeder.

The blocks may have one, two, or more cells, and each cell a die; or, if the block have many cells and it is desired to use only one or two, and so plant slowly or drop the seeds far apart, the other cells may be closed by a solid or imperforate die. The blocks may be removed by disconnecting the feeder from its link and drawing it from the hopper endwise, to give access to said block from its back. The dies may be removed or replaced while the block and feeder are in the hopper. With some seeds it may be found advantageous to omit the dies entirely and feed with the cellular block only.

The hopper may have a removable partition, G, to divide it into two compartments, for use in sowing fertilizer and seed at the same time, or for facilitating the planting of cotton-seed, peanuts, and the like large seeds; and a stirrer, H, such as a rotary rimless wheel, may be arranged in one end, which is conveniently driven by an endless chain, g', on the sprocket-wheel g of shaft f and the sprocket-wheel g^2 of the stirrer-shaft. For such seeds or for drilling I provide an oblong discharge-port, s, in the hopper-bottom board. This port, when not in use, is closed by a stopper, s', held in place by a latch, t, pivoted to the bottom board, and held in place by a guide-rail, t', on said board.

For drilling I use a feeder having an oblong opening, (see Figs. 5 and 6,) the width of which may be diminished by dies or die-strips q to govern the quantity sown, and these strips may or may not flare downward and outward. I set the hopper low down in the frame, so as to diminish the fall of the seed and its consequent liability to scatter; and to further guard against scattering by the wind or trash, I employ beneath the hopper and longitudinally thereof an opener, I, the leading end of which is prow-like and the near end hollow, having walls u coming down to the earth and forming a laterally and forwardly-inclosed well surrounding the opened furrow and the falling seed, and thus insuring it against the wind, trash, and scattering.

The gage for the depth of furrow consists of a triangular plate, J, adjustably arranged in advance of the opener, slotted arms v and set-screw v' being employed to adjustably attach such gage to the framing.

The coverer K consists of two arms, which may be more or less rigid, pivoted to the opener to rise and fall with the machine, and serving to drag the earth from opposite sides of the furrow into it to cover the seed.

I wish it understood that the mechanism herein shown and described, arranged as set forth, is a single example of my invention; but I do not hereby limit the invention to this single form, it admitting of change. However, I may here state I am well aware that planters have heretofore been made in which the hopper is divided into compartments, and the seed-slide made to discharge all the compartments; that seed-slides have been made with removable cups or dies; that the opener has been made sharp and provided with wings at the rear; that it is old to discharge the grain between said wings, which thereby protect it more or less; that coverers are commonly applied to such machines, and that, generally speaking, a combination of these several elements in one machine is not radically new; but the injection into such combination of the special form of welled opener and cellular feeder by me shown enables me to plant rice and cotton, and even peanuts, in a manner and with a success not heretofore obtained, and it is this I desire to claim as my combination.

What I claim is—

1. The feeder or feed-slide for seeding-machines, having a removable block set therein, and provided with openings or cells variable as to size to adapt the feeder to seeds of various kinds, substantially as described.

2. The combination, with the feeder or feed-slide having an opening therein, of a cellular block removably secured in it, and seed-dies arranged in the cells of said block, substantially as described.

3. The combination, substantially as shown and described, of a hopper provided with ways in its lower portion and a discharge-throat, the flat plate feed-slide D, arranged in said ways, means, as set forth, to reciprocate said slide in its said ways, the beveled-edge cellular block o, fitted from below in the beveled opening m, made in said feed-slide, and the beveled-edge seed-dies q, fitted from above in the cellular block o, to vary the size of the discharge-opening to adapt the machine for seeds of various kinds, as set forth.

4. The combination, substantially as shown and described, of the hopper E, provided with the partition G, to divide it into two compartments, and having the discharge-openings n and s, the latter provided with a gate, s', the cellular feed-slide D, having changeable seed-dies to discharge through each of the discharge-openings, means to reciprocate said slide, the prow-like furrow-opener having the well, as shown, for covering in the discharge-openings, and a coverer, all and severally as and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 18th day of February, A. D. 1884.

FELIX F. CHERRY.

Witnesses:
J. H. MILLER,
J. ALEX. MILLER.