(No Model.)

E. V. & J. V. MITCHELL.

CORN PLANTER AND DRILL.

No. 329,666. Patented Nov. 3, 1885.

Fig. 1.

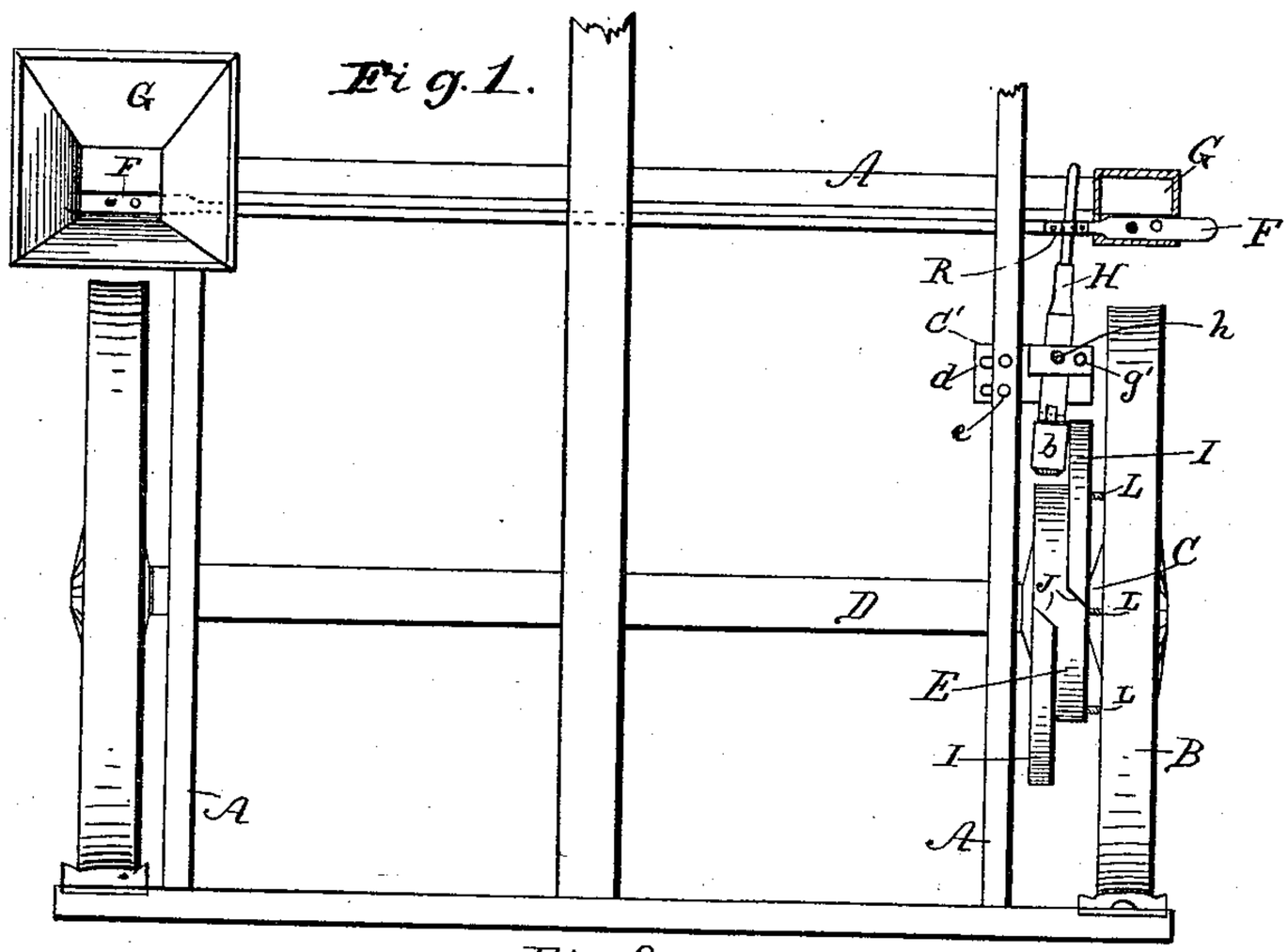


Fig. 2.

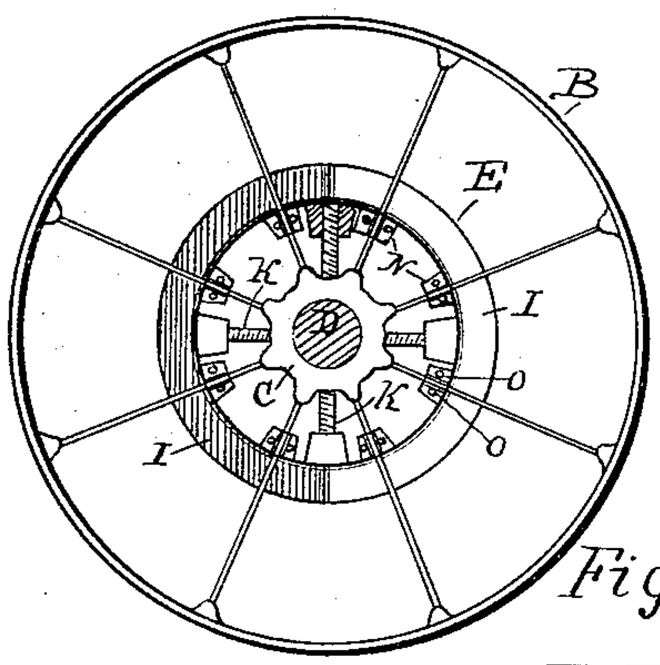


Fig. 3.

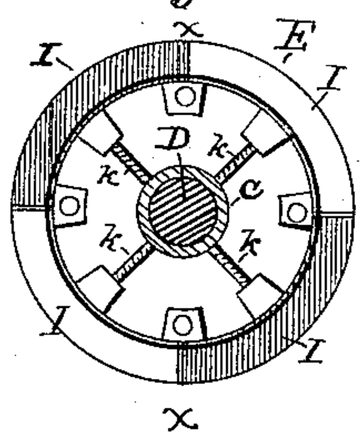


Fig. 4.

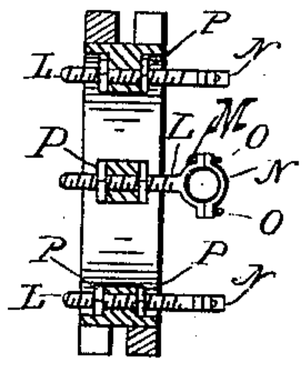


Fig. 5.

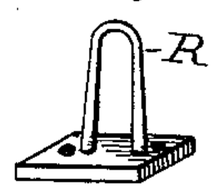


Fig. 6.

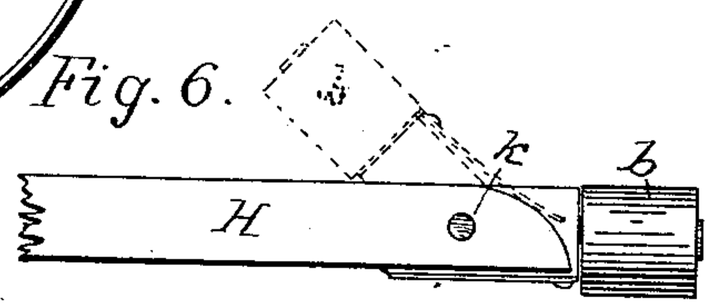


Fig. 7.

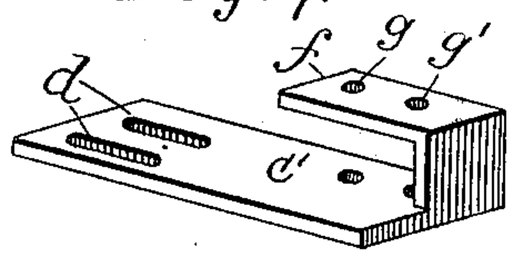
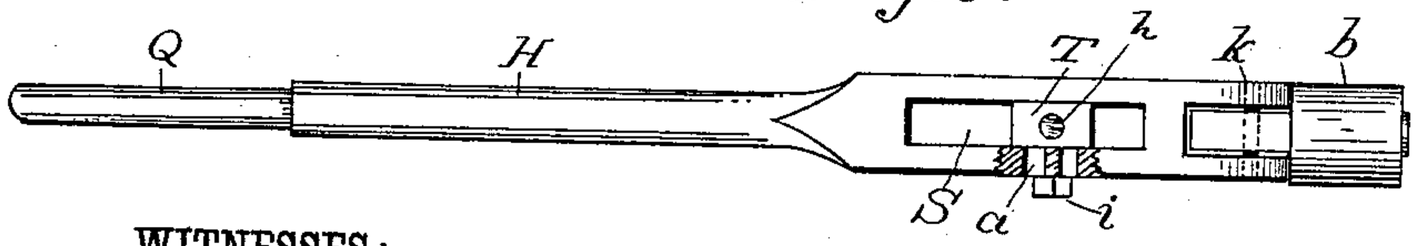


Fig. 8.



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UNITED STATES PATENT OFFICE.

EDGAR V. MITCHELL AND JAMES V. MITCHELL, OF MARTINSVILLE, IND.

CORN PLANTER AND DRILL.

SPECIFICATION forming part of Letters Patent No. 329,666, dated November 3, 1885.

Application filed February 17, 1885. Serial No. 156,133. (No model.)

To all whom it may concern:

Be it known that we, EDGAR V. MITCHELL and JAMES V. MITCHELL, citizens of the United States, and residents of Martinsville, in the county of Morgan and State of Indiana, have invented certain new and useful Improvements in Corn Planters and Drills, of which the following is a description.

Our invention relates to self-dropping wheel corn-planters, and may be used also in connection with drills; and it consists in certain improvements in the construction and arrangement of attachments for regulating the dropping of seed, substantially as hereinafter set forth, reference being had to the accompanying drawings, &c., in which—

Figure 1 is a plan view of an ordinary corn-planter with our improvement attached. Fig. 2 is a face view of a flanged wheel, being part of our attachments. Fig. 3 shows a modification of the same with the four or more flanges. Figs. 4, 5, 6, 7, and 8 are detailed views, which will be described in proper place.

In our construction, A is the frame, or part of it, of a corn-planter as in common use; B, the right driving-wheel; C, a hub on the said wheel; D, the axle; E, a flanged wheel secured to said hub and to wheel B; F, a seed-slide sliding in a seed-box, G, connected with the frame A. H is a vibrating lever operated by wheel E, and regulates the dropping of seeds in planting. The wheel E is constructed with the flanges I, one on each side, and made, respectively, to extend half-way around the side of the wheel. The flanges have the beveled ends J. This wheel is fastened to the hub by means of four set-screws, K, (more or less,) or it may be secured otherwise. It is also made fast to the spokes of the wheel B by means of forked bolts L. The forks M on the outer ends are made to inclose the spoke, and outside of the spoke is a collar, N, and nuts O, to secure the forked end of the bolt to the spoke. The opposite end of the bolt is screw-threaded and provided with nuts P, one for each side of the wheel E, adapted to adjust this wheel to its best relative position on the hub, the said bolts passing through smooth holes in the wheel. After the position of the wheel is fixed, the set-screws are turned in, making the wheel fast to the hub. This wheel may be cast onto the hub as an integral part of it, thus dispensing with the set-screws and bolts; but that is usually not desirable, because if so made the machine would not be used for a drill, and vice versa. The difference between this wheel for a drill is that for the latter use there are four or more alternating flanges with beveled ends, as above, each extending one-fourth around the side of the wheel, (see Fig. 3,) instead of two, as above stated. Both forms are embraced in our invention. The wheel may be cast without flanges. The flanges may be cast as separate pieces of proper size for planter or drill, so that if the planter-flanges have been used they may be removed, being fastened to the wheel by means of screws or bolts, and the drill-flanges placed and bolted at proper places in their stead for drilling purposes, thus requiring but one instead of two flange-wheels. The driving-wheel is usually thirty inches in diameter, allowing the planting to be done on each half-revolution of the wheel, and the drilling on each one-fourth revolution. The vibrating lever H is provided with the round end Q, to work in the loop R. It has also the slot S, to receive the sliding block T, adapted to regulate the length of the stroke of the lever at the end entering the loop L. In the side of the lever is a slot, *a*, and in this slot is a screw or bolt, *i*, turning in the block T to hold it in its proper position in slot S. The lever is also provided with a roller, *b*, to prevent friction when it comes in contact with the beveled ends J of the flanges on the wheel E, and also to prevent the downward-straining pressure on this end of the shaft. Between the roller on the rear end of the lever and the slots the shaft has a knuckle-joint, *k*, which allows the roller end to raise upward and forward, thus throwing the lever out of gear in backing the machine without removing the pin in the chair or loop. (See Fig. 5.) This joint may be used as permanent in and out of gear contrivance. This lever is hung to the frame A by means of chair or rest C′, having the slots *d* and bolts *e*, allowing the bearing of the shaft to be properly adjusted for use in any given work. The chair is also provided with a bridle or loop, *f*, having two holes, *g g′*, through one of which, *g*, and through a corresponding hole in the lower portion the pin *h* is put, going through the block T, thus pivot-

ing the lever H to this chair and loop at this point when the machine is in gear. To throw it out of gear, remove the pin and move the lever to the right and put the pin through the hole *g'*. This can only be done when the beveled end of the flange I is against roller *b*, or turn the knuckle-joint having the roller on the rear end of the lever upward, when it will remain held in position by a small spring underneath the joint, or by some other device. The loop R is vertical and fixed on the upper side of the seed-slide between the frame A and seed-box G, and in some five or six inches high, thus allowing the front end, Q, of the lever to play up and down in the loop unaffected by the rocking motion, or the raising or lowering of the front of the machine of that class of machines that are not rigidly constructed. The stroke of the lever is very sudden and accurate. In its present position, as seen in Fig. 1, it has just drawn the seed-slide F to the right and dropped the grain from both the boxes. When wheel E revolves half around, the other bevel falls upon the left side of the roller *b*, and the seed-slide will be instantly driven to the left, when the grain will again drop from both boxes. And thus it will be seen that the revolution of the wheel, by means of the beveled flanges, carries the seed-slide to the left and right, dropping the grain twice in the revolution of the wheel, and in the matter of a drill there are four or more changes, instead of two. The driving-wheel will be set in place by proper guides, thus enabling the operator to properly set the machine before commencing to plant.

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

1. In a seeder and planter, the combination, with the cam-wheel, of the dropping-slide operating or actuating lever, having its cam-engaging roll or end connected to itself by a knuckle-joint and retained in position by a spring, substantially as and for the purpose set forth.

2. In a seeder and planter, the combination, with the cam-wheel, of the dropping-slide-actuating lever, and the chair with its upper plate provided with a pivot-receiving hole, said lever having an adjustable pivot-receiving block or slide, substantially as and for the purpose set forth.

3. In a planter and seeder, the combination, with the cam-wheel and the dropping-slide, of the slide-actuating lever and the chair with its longer plate or arm adjustably connected to the planter or seeder frame, and its shorter plate or arm having a pivot-aperture, said lever having an adjustable pivot-receiving block or slide, substantially as and for the purpose set forth.

4. In a planter and seeder, the combination, with the dropping-slide-actuating lever, of the cam-wheel, said wheel being connected by set or adjusting screws to the hub of the driving or motor wheel, substantially as and for the purpose specified.

EDGAR V. MITCHELL.
JAMES V. MITCHELL.

Witnesses:
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JAMES F. COX.