Kavanaugh & Gregg,

Corn Planter.

No. 92,837. Patented July 20. 1869.

Fig. 5

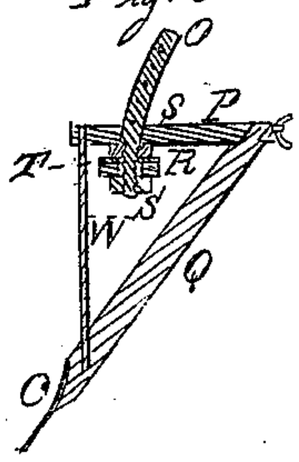

Fig. 3.

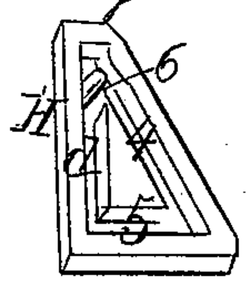

Fig. 4

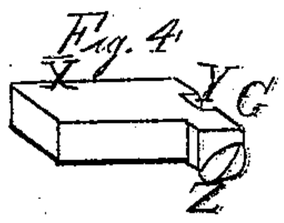

Fig. 1.

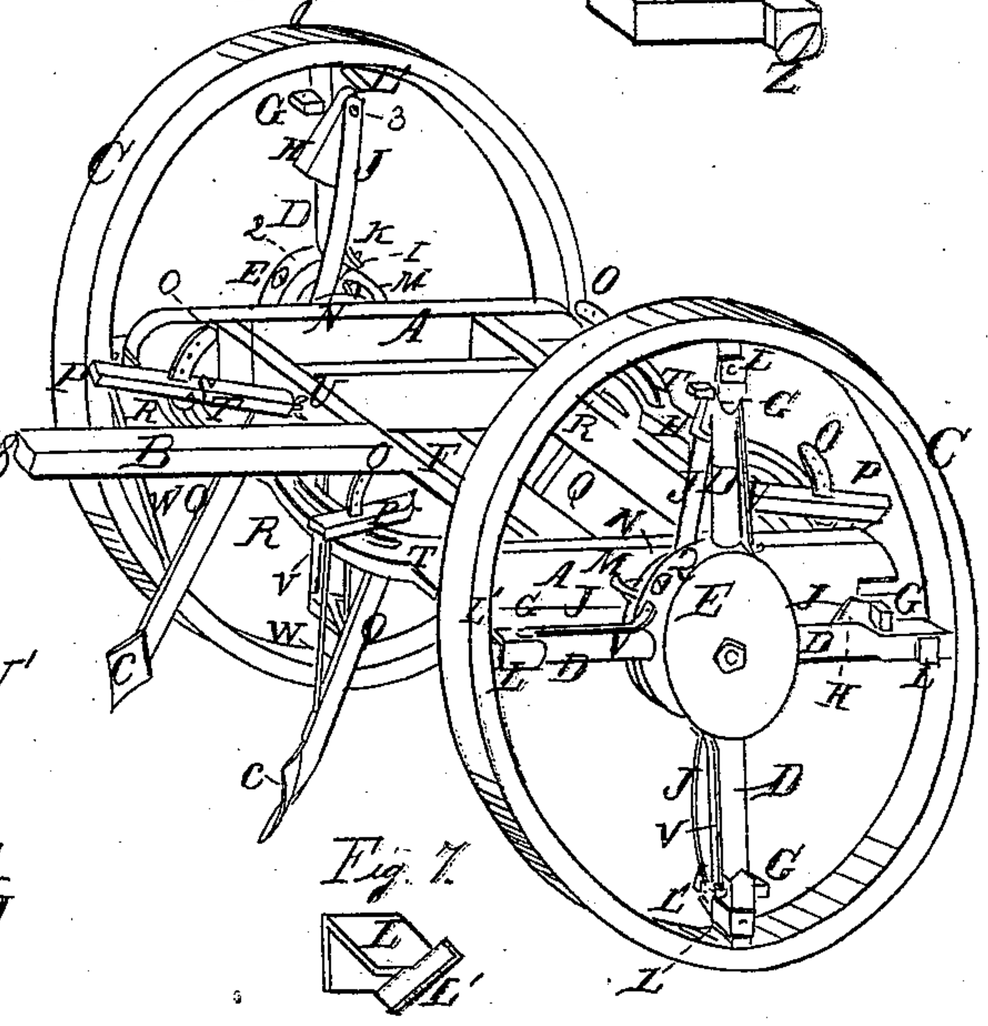

Fig. 6.

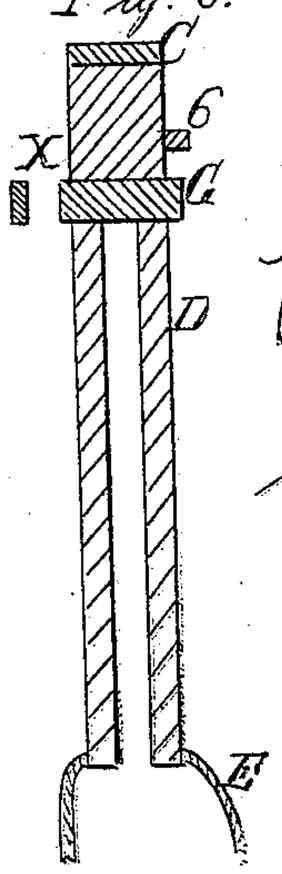

Fig. 2.

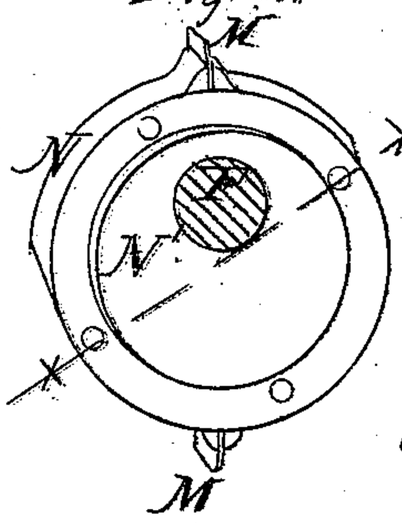

Fig. 8

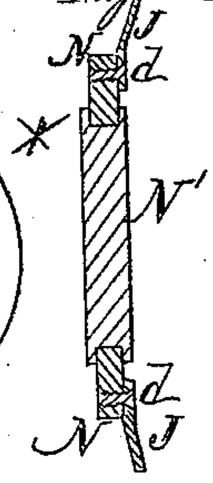

Fig. 7.

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M. J. KAVANAGH, OF JOLIET, AND M. GREGG, OF CHICAGO, ILLINOIS.

Letters Patent No. 92,837, *dated July* 20, 1869.

IMPROVEMENT IN COMBINED CORN-PLANTER AND CULTIVATOR.

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, M. J. KAVANAGH, of Joliet, in the county of Will, and M. GREGG, of Chicago, in the county of Cook, and State of Illinois, have invented an improved Combined Corn-Planter and Cultivator; and we do hereby declare that the following is a full and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings and letters and figures marked thereon, making a part of thisspecification, in which—

Figure 1 is a perspective representation of our improved "corn-planter and cultivator."

Figure 2, one of the eccentrics which operate the dropping-slides.

Figure 3, a perspective view of one of the grooved cams, by means of which the dropping-slides are operated.

Figure 4, a perspective view of one of the dropping-slides.

Figure 5, a sectional elevation of one of the shovel-standards, and its attachment to the frame of the cultivator.

Figure 6, a central section of one of the hollow spokes, half of the hollow hub, and the dropping-slide.

Figure 7, a perspective view of one of the cam-guides, removed from the hollow spoke.

Figure 8, a section through fig. 2, taken on line *x x*.

The present invention relates to an improvement in that class of corn-planters and cultivators which is arranged to convey the seed from a hollow hub to the ground by means of hollow spokes; and

Its nature consists in the novel construction of the parts for dropping the seed, and the manner of adjusting the shovels, either to mark out the ground and cover the seed, or cultivate the crop, as hereinafter fully shown.

F represents the axle-tree, E the hollow hubs of the wheels, and A the frame which supports the shovels and sides upon the said axle F.

D represents hollow spokes, which are placed inside of tires C, of suitable sizes to plant four hills at each revolution of the wheels.

The hollow spokes communicate with hollow hubs E E, which are supplied with seed-corn by means of removable screw-plugs 2, fig. 1, tapped into them, and they are so mortised through, near their outer ends, as to receive dropping-slides G, figs. 1 and 6, which are provided with chambers X, for receiving seed, and carrying it from the hollow spokes, and dropping it on the ground.

These dropping-slides are so operated upon by springs V, attached to the hubs and bearing on the ends of the slides, as to carry the chambers through the hollow spokes, and they are carried back into the spokes by means of the following devices:

Cams H are pivoted at 3, fig. 1, to springs J, attached to eccentrics N, which are fastened to the axle F, and made to rotate with it. These cams are provided with grooves *a* 4 5 in their faces, in which pins 6, figs. 3 and 6, fixed to spokes D, operate; and as the springs J, by means of the eccentrics N, force the cams H outward, while the groove 4, fig. 3, are running on the pins 6, said cams bear against inclined lugs Z, projecting out from the dropping-slides, figs. 1 and 4, and draw said slides into the hollow spokes far enough for the chambers X to fill with corn, the springs J having previously forced the chambers out of the hollow spokes.

As the eccentrics N carry the dropping-slides back toward the hubs E, the pins 6 travel through the grooves 5, and then through grooves *a*, preparatory to another outward movement.

In order to insure this movement of the cams H, inclined lug-plates L L′ are attached to the spokes, and so arranged that the cams will strike against them, and insure such a movement of their tapering ends as will direct the pins from the grooves 4 to grooves *a*.

The cultivating, marking, and covering-devices consist of two horizontal bars P P, which are pivoted to the front and rear end of the frame A, and which support shovel-standards Q Q Q Q, braced by rods W.

These beams are adjusted relative to the rows to be marked, covered, or tilled, by means of curved guides O O O O, fig. 1, which are put through the beams P, and through curved slots formed in guide-plates T T, which are attached to both ends of said frame A, the curved guides O being held in place by means of nuts S S, fitting the upper and lower sides of the guide-plates.

It will be seen from this that the dropping is arranged to operate automatically, and drop the corn in check-rows, and that the shovels are adjusted to the various purposes set forth, by simply loosening the nuts S S, and moving the curved guides O O O O in the slots formed in the plates T T.

Having thus described our invention,

What we claim, and desire to secure by Letters Patent of the United States, is—

1. The combination of the grooved cams H, hollow spokes D, hollow hubs E, dropping-slide G, provided with chambers X, and lugs Z, eccentrics N, and springs J V, as and for the purpose set forth.

2. The combination of the beams P, standards Q, and slotted plates T, as and for the purpose set forth.

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