W. GALLEY.
Corn-Planters.

No. 196,004. Patented Oct. 9, 1877.

Fig. 1.

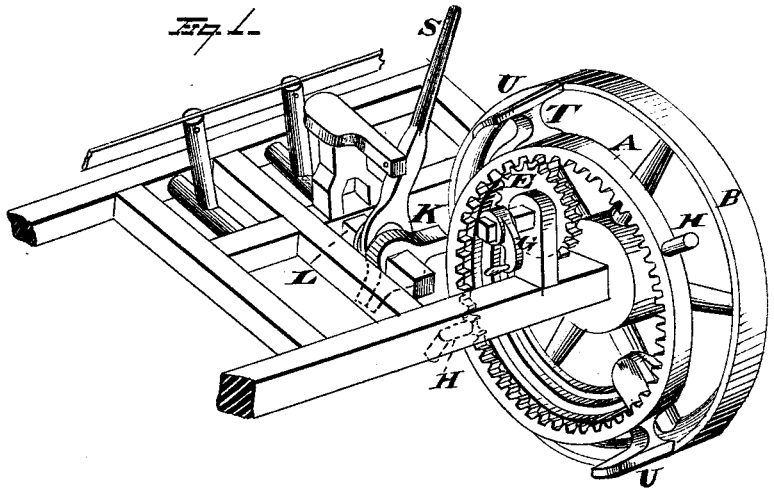


Fig. 2.

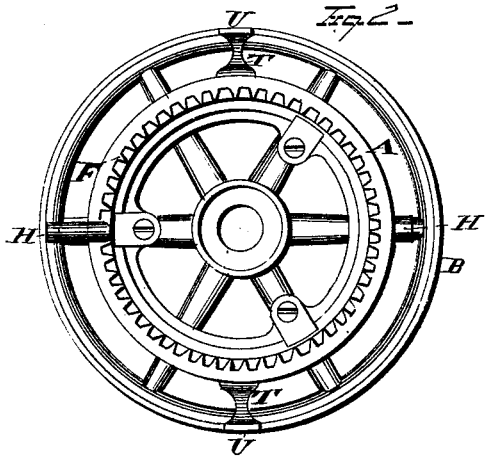
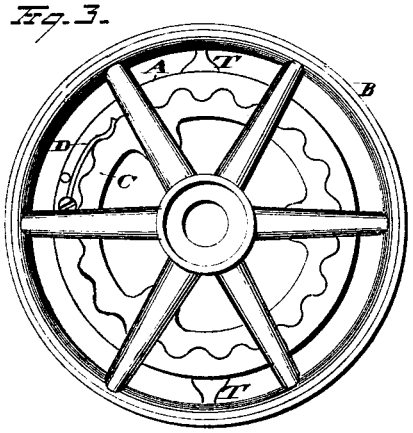


Fig. 3.



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WILLIAM GALLEY, OF TOLEDO, IOWA.

IMPROVEMENT IN CORN-PLANTERS.

Specification forming part of Letters Patent No. **196,004**, dated October 9, 1877; application filed July 2, 1877.

To all whom it may concern:

Be it known that I, WILLIAM GALLEY, of Toledo, in the county of Tama and State of Iowa, have invented certain new and useful Improvements in Corn-Planters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in dropping attachments for corn-planters; and consists in the combination of parts hereinafter described and claimed.

Referring to the drawings, Figure 1 represents my invention applied to the dismantled frame of a planter, only such part of the latter being shown as is necessary to an understanding of the mode of attaching the dropper thereto. Fig. 2 represents, in elevation, the adjustable cam-wheel attachment alone, and Fig. 3 is a view of the opposite side of the same.

The cam-wheel A is fitted upon the axle of the planter, and between it and the usual driving-wheel B is placed the ratchet-wheel C. These parts are so arranged that the cam-wheel is turned while the machine is going forward; but upon backing the driving-wheel it is freed from engagement with the cam-wheel, so as not to turn it, and thereby the dropping-slide is prevented from such irregular operation. This engagement is also such that the cam-wheel can revolve in the line of direction taken when the machine is going forward without interference with the driving-wheel. Thus, without stopping the machine, and with driver still retaining his seat, the cam-wheel can be turned to revolve faster than the driving-wheel, and all lost motion be readily taken up. The ratchet-wheel C, placed between the cam and the driving wheels, is fastened to the drive-wheel in any suitable manner. The spring-pawl D, secured to the cam-wheel, serves to connect this wheel to the ratchet, and hence it operates to carry the cam-wheel with the forward revolution of the driving-wheel; but at the same time, on account of the described connection of the three wheels—namely, the cam, ratchet, and driving wheels—the cam-wheel can be turned faster than the other two by means of the spur-pinion E meshing with the internal cogged gear F of the cam-wheel formed on its inner side. This pinion is journaled in a frame on the upper face of the axle of the planter, and is operated by the crank-arm G, or by any other suitable means. Its object is, by the driver turning it faster than it would otherwise be turned by the driving-wheel and intermediate pawl-and-ratchet mechanism, to take up all lost motion, and without disturbing the motion of the driving-machine readily adjust the marking mechanism to operate accurately. To opposite diametrical points on the periphery of this cam-wheel are the cam-projections H proper, which alternately engage the double tripping-lever K of the rock-shaft L. These two cams operate in alternate succession the said tripping-lever at equal time-intervals, and upon the corresponding rotation of the shaft L suitable connecting mechanism operates the grain-slide in dropping the corn. The cam-wheel A is formed with the arms T on opposite diametrical points of its periphery, each being located intermediate of the two cams H, and with equal distances intervening between the same. Their lengths are such as to bring their outer extremities even with the horizontal plane of the tread of the drive-wheel of the planter. The indicators U are secured to these outer extremities, and consist essentially of a plate of suitable size, preferably oblong in form, and adapted to press or stamp upon the ground as the cam-wheel turns under the revolution of the cog-wheel loosely secured to the drive-wheel.

As the planter is in operation, the ratchet-wheel is carried round, and in turn revolves the cam-wheel, which latter operates the double tripping-lever K, and the rock-shaft rotates alternately to the right and left, thus causing the seed-slide to have an end movement to and fro, which drops the corn on each side in the appropriate hills. The indicators U are at the same time revolved, and striking the ground each successively, along the row of hills opposite, an impress is made. Thus each hill is marked, and the driver is thereby enabled to preserve his rows in straight line by simply adjusting the cam-wheel, which operation regulates the action of the indicators so

that the latter strike the ground at the correct time, and accurately mark the hills. To accomplish this the planter is not stopped, and the driver, while still retaining his seat, may easily turn the crank G, and thus cause the pinion E to operate the cam-wheel A, and, as the latter is loosely connected with the drive-wheel, the said cam-wheel must rotate and assume the proper position in order to cause the indicators to accurately mark the hills. Thus all motion lost by the drive-wheel is compensated for or taken up by the adjustment of this cam-wheel, and all necessity of previously marking the ground at right angles to the direction in which it is planted is obviated.

In order to throw the dropping attachment out of operation, the double tripping-lever is made movable by a lever, S, also adapted to be operated by the driver in his seat, and thus be caused to slide out of the reach of the cams H.

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

1. In a corn-planter, the adjusting mechanism for taking up lost motion of the combined corn-dropping and hill-indicating attachment, the same consisting essentially in a ratchet-wheel secured to the driving-wheel of the machine, a cam-wheel having pawl engagement therewith, and formed with an internal-cogged gear on its opposite or inner side, and a pinion meshing with the latter and journaled in a frame-work secured to the machine-axle, substantially as described.

2. The combination, with the ratchet-wheel secured to the planter driving-wheel, the cam-wheel having pawl engagement therewith, and formed on its opposite side with an internal gear, of the pinion meshing with the latter, and mounted upon a shaft journaled on the axis of the planter, the said pinion-shaft being provided with a suitable crank or lever arm adapted to be operated by the driver in his seat, substantially as described.

3. The combination, with the internally-cogged gear-wheel having pawl-and-ratchet engagement with the planter driving-wheel, the pinion and lever mechanism for adjusting the same in its rotary movement, and the cams formed on said internally-cogged wheel, of the double tripping-lever mounted on a rock-shaft, and adapted to operate the grain-slide by suitable connecting mechanism, substantially as described.

4. The combination, with the ratchet-wheel fixed to the inner side of a planter driving-wheel, and the adjustable wheel engaged therewith by spring-pressed pawl-connection, of the cams and hill-indicating devices formed in alternate pairs on the periphery of the said adjustable wheel, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of June, 1877.

WILLIAM GALLEY.

Witnesses:
WILLIAM RIECKHOFF,
ROBERT MELIES.