(No Model.)

C. H. PELTON.

GEARING FOR GRAIN DRILLS.

No. 588,239. Patented Aug. 17, 1897.

Fig. 1.

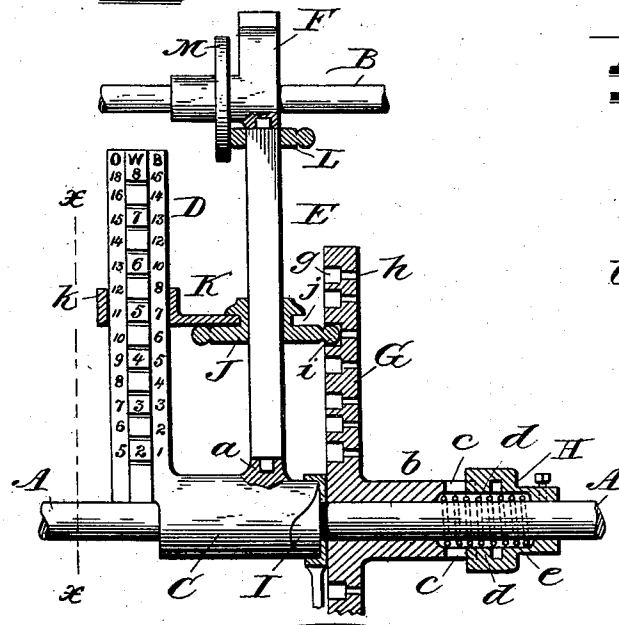


Fig. 2.

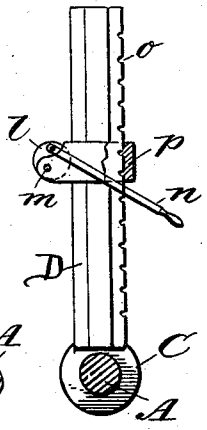


Fig. 3.

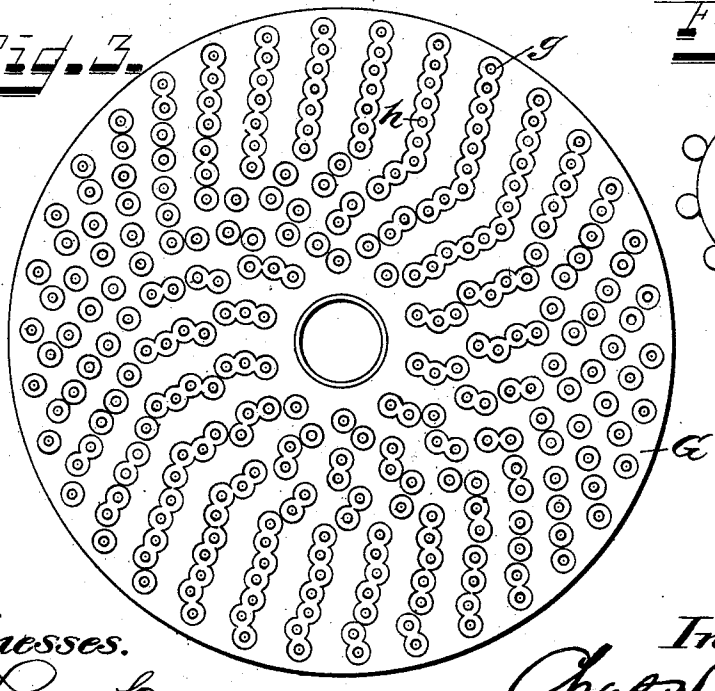
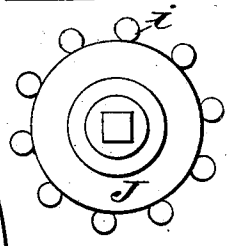


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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GEARING FOR GRAIN-DRILLS.

SPECIFICATION forming part of Letters Patent No. 588,239, dated August 17, 1897.

Application filed February 1, 1895. Serial No. 536,959. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. PELTON, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Gearing for Grain-Drills, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of grain-drills having a feed-shaft under the hopper, on which is mounted a series of feed-wheels, in cases, for feeding the grain from the hopper through the spouts and hoes to the ground; and it has for its object improved mechanism for driving said shaft by the traction of the machine and for varying its speed at will to sow the required amount of grain to the acre.

The novelty of my invention will be hereinafter set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a rear elevation, partly in section, showing so much of the mechanism as is necessary to illustrate my invention. Fig. 2 is a sectional side elevation on the dotted line $x\ x$ of Fig. 1, looking to the right. Fig. 3 is an enlarged elevation of the driving-disk. Fig. 4 is a corresponding view of the pinion actuated by said disk.

The same letters of reference are used to indicate identical parts in all the figures.

A represents a shaft driven by the traction of the machine, preferably the axle of the same, and B represents the shaft journaled under the hopper and on which are secured the feed-wheels, which may be of the usual or any suitable construction. These two shafts are horizontal and parallel to each other, and journaled upon the shaft A is a stationary sleeve C, secured by a bracket-arm to any convenient part of the frame of the machine. The sleeve C has secured or formed integral with it an indicator-post D, projecting vertically above the shaft A, and it also has a bored boss a, into which is stepped and journaled the lower end of a shaft E, whose upper end is journaled in a hanger-bracket F, secured to the under side of the hopper and through which the shaft B is journaled. The shaft E is preferably square or polygonal in cross-section.

Mounted upon the shaft A by the side of the sleeve C is the driving-disk G, having an elongated hub b, counterbored at its outer end and provided with diametrically opposite slots c, into which fit lugs d on a counterbored sleeve H, made fast by a set-screw or other means to the shaft A. A coiled spring e around the shaft A is confined in the counterbores of the hub b and sleeve H and tends to hold the disk G toward or against the sleeve C.

Hung upon the shaft A and interposed between the disk G and sleeve C is a cam sleeve or collar I, engaging a cam-surface on the adjacent end of the sleeve C and provided with any suitable operating-handle f. Upon swinging the handle f the cam I is so turned as to force the disk G away from the sleeve C and put the spring e under tension. The face of the disk G adjacent to the shaft E is provided with concentric rows of circular perforations g, equidistant in each row and extending about half-way through the disk, rounded or countersunk at their inner ends, and provided with dirt-clearing perforations h from their bottoms entirely through the disk. In the present instance, as seen in Fig. 3, I have shown thirteen concentric rows of perforations g extending from near the periphery to near the center of the disk, and it will be observed that as far as possible these perforations communicate with each other in the different rows, thereby affording a still greater opportunity for any collected dirt to escape.

Free to slide upon the shaft E is a pinion J, with equidistant spherical projections i on its periphery, which are at the same distance apart as the perforations g of each row on the face of the disk G, and into which peripheries said projections i successively enter and recede as the disk G is revolved, thereby imparting its revolutions to the pinion J and the shaft E. To support the pinion J at its proper position upon the shaft E to engage any one of the rows of perforations, I provide a horizontal carrier K, with a forked end engaging a circumferential groove j in the hub of the pinion J and whose opposite end is

formed into a collar *k*, extending around the indicator-post D and carrying a clamping-cam *l*, pivoted, as at *m*, to the yoke and provided with an operating-handle *n*, by which it can be turned to clamp or unclamp the yoke and indicator-post.

The rear face of the indicator-post is provided with a figured scale and a series of grooves or notches *o*, into which a rib or ribs *p*, Fig. 2, on the yoke are engaged when the latter is clamped to the post to hold the yoke more securely in its adjusted position.

The upper end of the shaft E has fast upon it a pinion L, which engages with a disk or pinion M, fast upon the shaft B, so that the rotation of the shaft A is communicated to the shaft B and the desired speed given to the latter by adjusting the pinion J up or down, as will be readily understood. In changing the position of pinion J it is necessary to turn the cam I and throw the disk G away from the sleeve C and out of engagement with the pinion J. The latter is then adjusted in connection with the indicator and the disk G is again brought into engagement with the pinion J.

By the above construction of the pinion J with spherical teeth or projections *i* and by the circular form of the engaging recesses therefor in the disk G friction is reduced to a minimum and the projections *i* will enter and leave the perforations *g* with perfect ease and without binding or rubbing, the action being a continuous rolling action, which prevents wear, and by providing the perforations *h* through the disk all foreign matter caught in the peripheries G will be forced through and will not accumulate therein, thereby rendering the disk G self-clearing.

Having thus fully described my invention, I claim—

1. In a speed-varying mechanism of a grain-drill, the combination of the shaft A, the driving-disk G revoluble with said shaft but free to slide thereon, the sleeve C fixed to said shaft, the indicator-post D carried by said sleeve, the yoke-carrier K, a clamp for adjustably securing said yoke-carrier to said post, the shaft E provided with the adjustable pinion J engaged by said yoke-carrier and normally meshing with the said driving-disk G, said shaft having also the fixed pinion L, the feed-shaft B having the gear M meshing with said pinion L, and means for engaging and disengaging said driving-disk and said pinion J.

2. In a speed-varying mechanism of a grain-drill, the combination of the shaft A, the driving-disk G revoluble with said shaft but free to slide thereon, the spring *e* for normally holding said disk G in operating position, the sleeve C fixed to said shaft, the indicator-post D carried by said sleeve, the yoke-carrier K, a clamp for adjustably securing said yoke-carrier to said post, the shaft E provided with the adjustable pinion J engaged by said yoke-carrier and normally meshing with the said driving-disk G, said shaft having also the fixed pinion L, the feed-shaft B having the gear M meshing with said pinion L, and the cam I interposed between said sleeve C and disk G and serving to disengage the latter from said pinion J.

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