

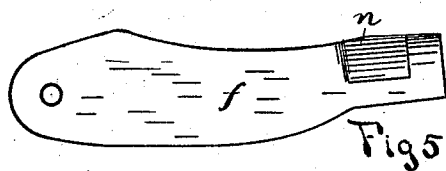
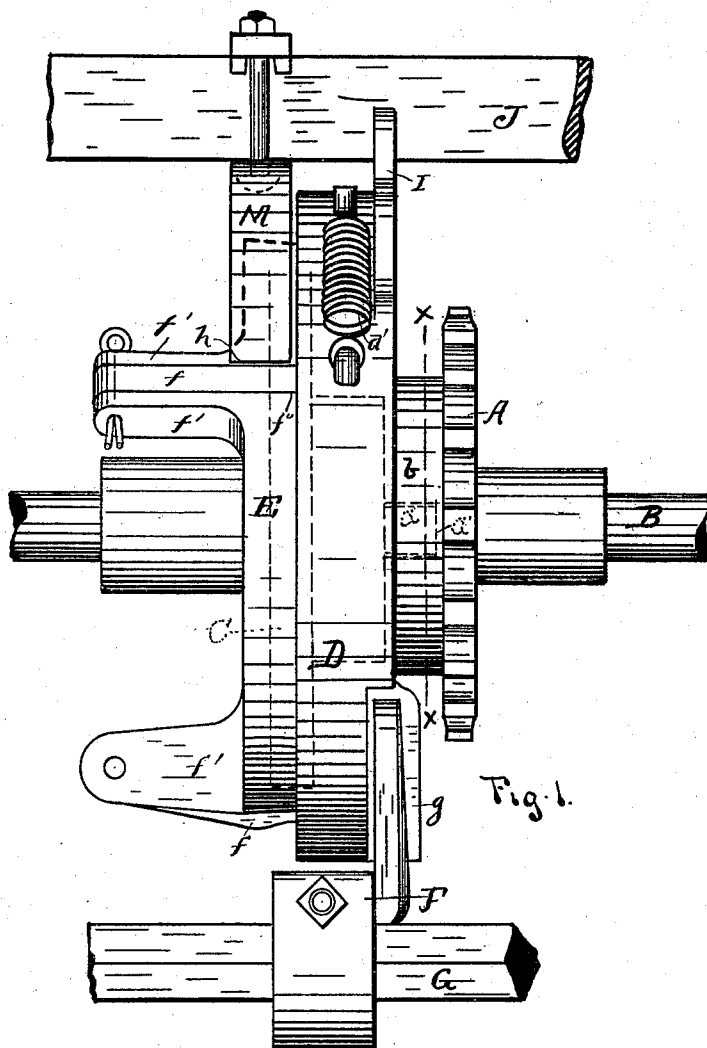
(No Model.)

2 Sheets—Sheet 1.

G. S. GUNDERSEN.
CORN PLANTER CLUTCH.

No. 550,826.

Patented Dec. 3, 1895.



Witnesses
C. J. Longenecker.
W. W. R. Haworth.

Inventor
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By his Attorney
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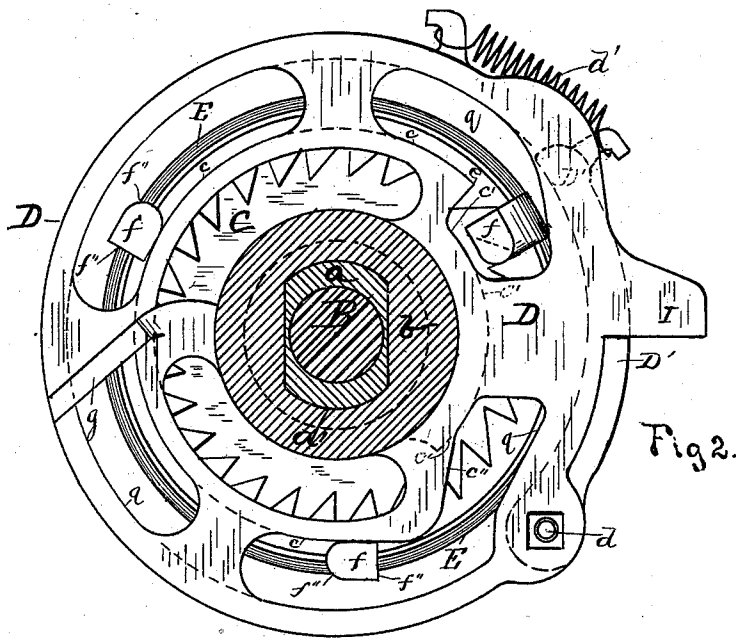
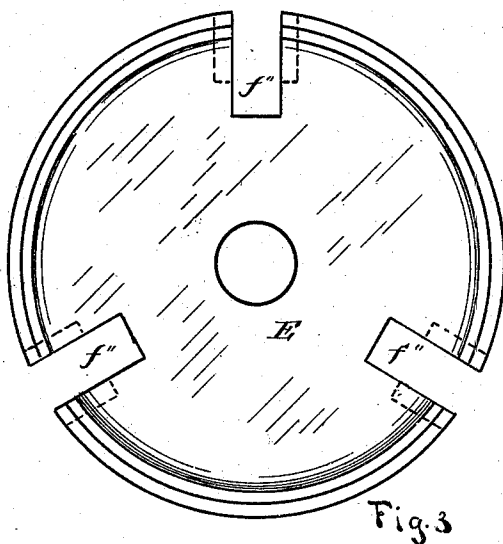
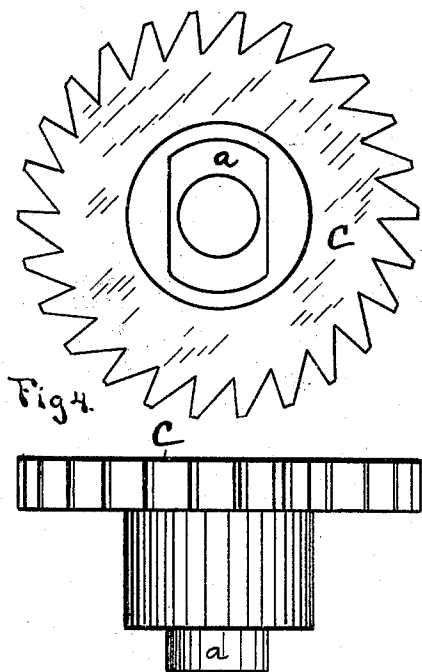
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WITNESSES
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UNITED STATES PATENT OFFICE.

GILBERT S. GUNDERSEN, OF DAYTON, OHIO.

CORN-PLANTER CLUTCH.

SPECIFICATION forming part of Letters Patent No. 550,826, dated December 3, 1895.

Application filed September 12, 1895. Serial No. 562,349. (No model.)

To all whom it may concern:

Be it known that I, GILBERT S. GUNDERSEN, of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement in Corn-Planter Clutches; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in clutches of the class especially adapted to corn-planting implements.

The object of the invention is to provide a clutch that is positive in its action and devoid of complicated mechanism.

To this end said invention consists of parts and their arrangements, as will be hereinafter fully described, taken in connection with the accompanying drawings, of which—

Figure 1 is a top view of my improved clutch. Fig. 2 is a section on the line xx of Fig. 1. Fig. 3 is a detached view of the pawl-bearing plate. Fig. 4 are detached plan and edge views of the ratchet-wheel. Fig. 5 is a detached view of one of the pawls.

Referring more specifically to said invention, the letter A designates a sprocket-wheel loosely mounted on a dropper-shaft B, and with which a chain connects. Said chain is driven from the main axle of the machine (not shown) in a well-known manner.

C designates a ratchet-wheel also loosely mounted on the shaft B and having a clutch projection a extending from the hub thereof and engaging with a similar-shaped opening a' in the hub b of said sprocket-wheel, whereby said ratchet and sprocket wheels are rigidly fixed to each other.

D designates a cam-ring loosely mounted on the hub of the ratchet-wheel and inclosing the latter.

D' is a curved guide-bar pivoted to the ring D at d . The end opposite the pivoted end of said bar is controlled by a helical spring d' , one end of which is secured to the rim of the ring D. The rim of said ring at this point is open to the extent of the length of said bar, so that the latter forms the rim of said ring

at that point. Further reference to this feature will be made hereinafter.

As shown in Fig. 2, the ring D is provided with a cam-surface having two degrees of height, as at c and c' , upon which a series of ratchet-pawls f rest. These pawls project across the ratchet-wheel C and are pivoted between bifurcated arms or projections f' , that are parts of a disk E. f'' designates a series of openings in the rim of said disk, in which the pawls f drop. The part of the pawls which engages with the ratchet-wheel tapers as shown at n in Fig. 5.

The disk E is rigidly mounted on the dropper-shaft B, adjacent to the ratchet-wheel. Said ratchet-wheel and the sprocket-wheel, it will be understood, revolve continuously when the former wheel is not engaged by any one of the pawls f .

F designates a dog rigidly connected to a rocker-shaft G and adapted to come in contact with a projection or lug g , that projects laterally from the face of the ring D, when the said rocker-shaft is tripped by the check-wire to operate the dropping-plates to deliver grain from the runners. This mechanism being of a well-known character, it does not call for a more extended reference herein. The downward movement of the dog F rotates the cam-ring D in the direction of the rocker-shaft, and thereby brings the highest point c of the cam away from the next engaging-pawl f and permits said pawl to drop and be guided by the lowest part c' of said cam into the teeth of the ratchet-wheel, as shown in Fig. 2. At this juncture the entire clutch mechanism revolves and thus imparts a movement to the dropping-shaft B until a projection I on the rim of the ring D comes in contact with the cross-rail J. This cross-rail J is a common feature in corn-planters. This contact of the projection I stops the ring D and the engaged pawl continues in the teeth of the ratchet-wheel until it reaches the incline c'' of the cam, which lifts it to the highest point c of the cam, at which time it is moved out of gear. The guide-bar D maintains the pawl in engagement with the ratchet-wheel until the highest point of the cam-surface c is reached by said pawl. This guide D', by virtue of its spring attachment, is permitted to yield sufficiently to prevent a breakage of

said bar in the event the engaging pawl should ride upon the points of the ratchet-teeth for any length of time before engaging with said teeth.

5 M designates a guide and stop rigidly mounted on the cross-rail J. This stop is curved concentric to the ring D and is mounted to project over a portion of the rim thereof. The over-projecting end *h* of said stop should
10 be in alignment with the point *e* of the cam. During the period in which the projection I on said ring is resting upon the cross-rail J this guide M forms a stop to come in contact with a pawl. When the rocker-shaft G is
15 tripped, the dog F actuates forwardly the ring D, and, as hereinbefore stated, the point *e* of the cam being on a line with the end *h* of the guide M the pawl so engaged by said guide drops to the lowest point *e'* of the cam,
20 engages with the ratchet-wheel, and passes under said guide M and is held by the latter in contact with the ratchet-wheel until said pawl moves under the curved guide D'. The ring D has the annular flange, as shown in
25 Fig. 1, that incloses the ratchet-wheel and inner ends of the pawls. From Fig. 2 it will be seen that said ring is constructed with several openings *q*, through which the ratchet-wheel is visible. These openings are merely
30 to reduce the weight of the metal.

Having fully described my invention, I claim—

1. In a clutch, the combination with a dropper shaft, interlocking sprocket and ratchet
35 wheels loosely mounted on said shaft, of a ring loosely mounted on the hub of said ratchet wheel, and provided with internal cam surfaces —*c*— and —*c'*—, a disk rigidly mounted
40 on said shaft, and provided with bifurcated arms and slots in its periphery, a series of pawls mounted in said arms and over said slots, the said arms projecting across the ratchet wheel and having their inner ends
45 substantially as herein shown and described.

2. In a clutch for corn planters, the combination with interlocking sprocket and ratchet wheels loosely mounted on a dropper shaft, of a ring —D— provided with an internal compound cam ring, a pivoted spring-controlled
50 guide bar —D'— mounted on said ring —D— concentric to the axis and forming a part of the rim thereof, a disk —E— rigidly mounted on said dropper shaft, said disk being provided with arms —*f'*—, a series of pawls —*f*—
55 pivoted to said arms, projecting over the periphery of said ratchet wheel and resting upon the periphery of said cam ring, and means for engaging with the pawls while each of said
60 pawls is on the highest part of said cam to hold the disk —E— stationary, and for tripping the ring —D— to permit said pawl to descend to the lowest part of said cam to become engaged with the ratchet wheel, substantially as described.
65

3. In a clutch for corn planters, the combination with the dropper shaft of a corn planter, a parallel cross rail and rocker shaft, a tripping dog —F— on said rocker shaft, and a
70 guide and stop —M— on said rail, of a disk —E— rigidly mounted on said dropper shaft and provided with pawls lying at right angles to its periphery, interlocking sprocket and ratchet wheels loosely mounted on said shaft, a ring —D— inclosing said ratchet wheel,
75 said ring being provided with internal compound cam surface, upon which said pawl normally rests, a projection —I— on the periphery of said ring, adapted to engage with the parallel cross rail, and a lateral projection
80 —*g*— adapted to engage with said tripping dog —F— substantially as and for the purposes specified.

In testimony whereof I have hereunto set my hand this 4th day of September, 1895.

GILBERT S. GUNDERSEN.

Witnesses:

R. J. MCCARTY,
C. W. DUSTIN.