

S. C. REVELEY.
MANURE SPREADER.

APPLICATION FILED JUNE 10, 1909.

Patented July 5, 1910.

3 SHEETS—SHEET 1.

963,249.

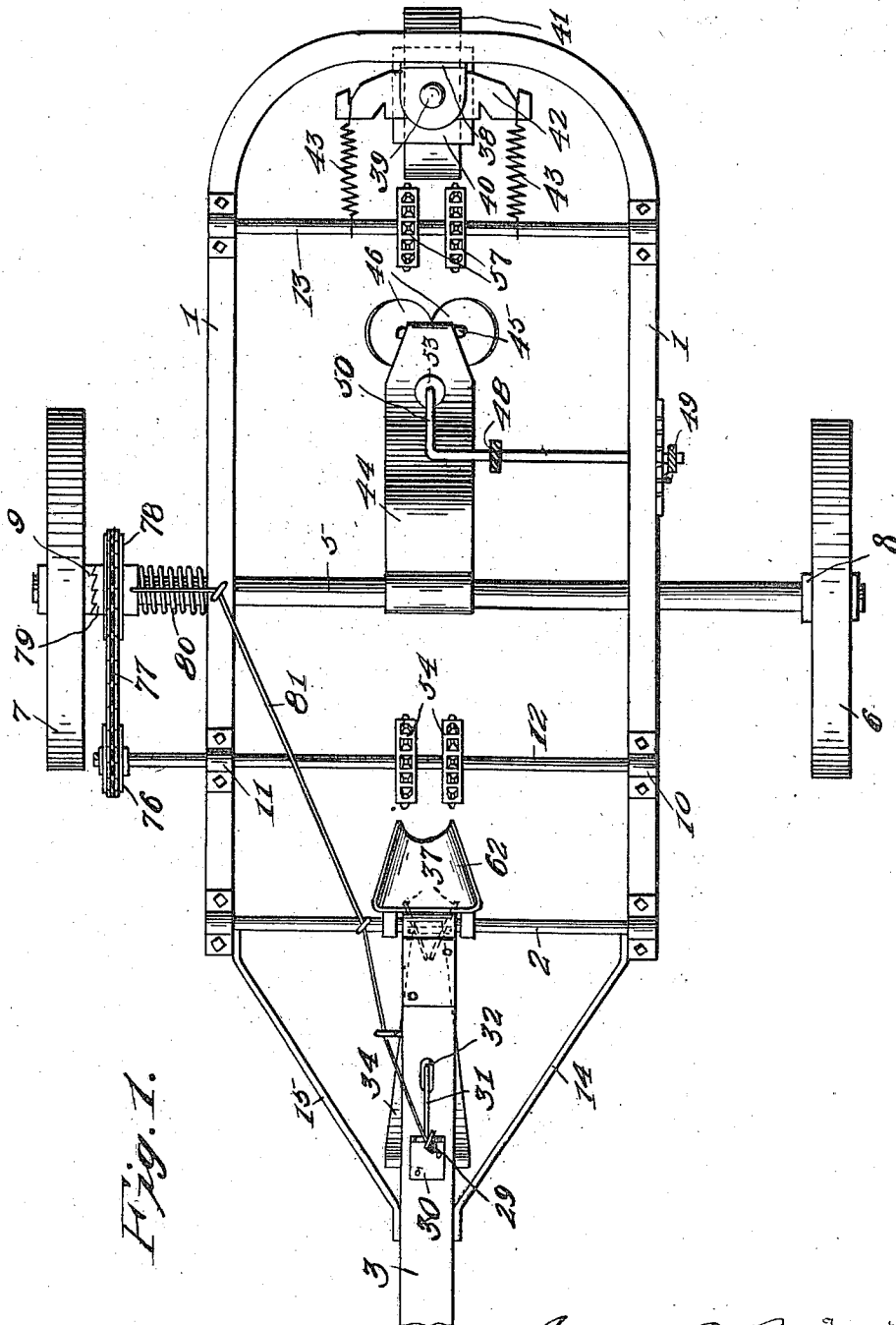


Fig. 1.

Witnesses

James F. Brown
E. M. Ricketts

Sydney C. Reveley Inventor

By Watson E. Coleman

Attorney

963,249.

S. C. REVELEY.
MANURE SPREADER.
APPLICATION FILED JUNE 10, 1909.

Patented July 5, 1910.

3 SHEETS—SHEET 2.

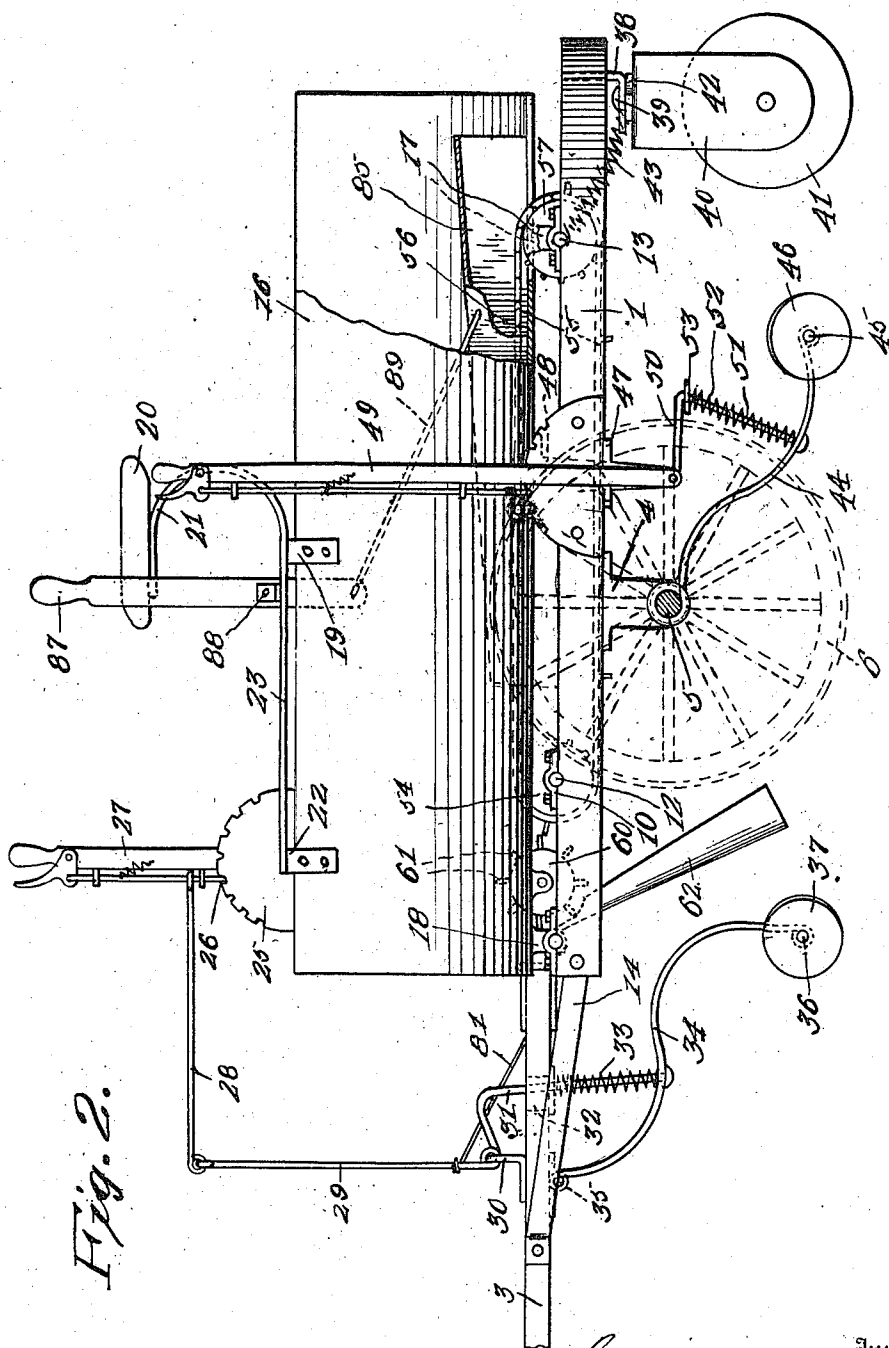


Fig. 2.

Witnesses

James F. Brown
E. M. Eickert

Sydney C. Reveley
Inventor

Watson E. Coleman
Attorney

S. C. REVELEY.
MANURE SPREADER.
APPLICATION FILED JUNE 10, 1909.

963,249.

Patented July 5, 1910.

3 SHEETS—SHEET 3.

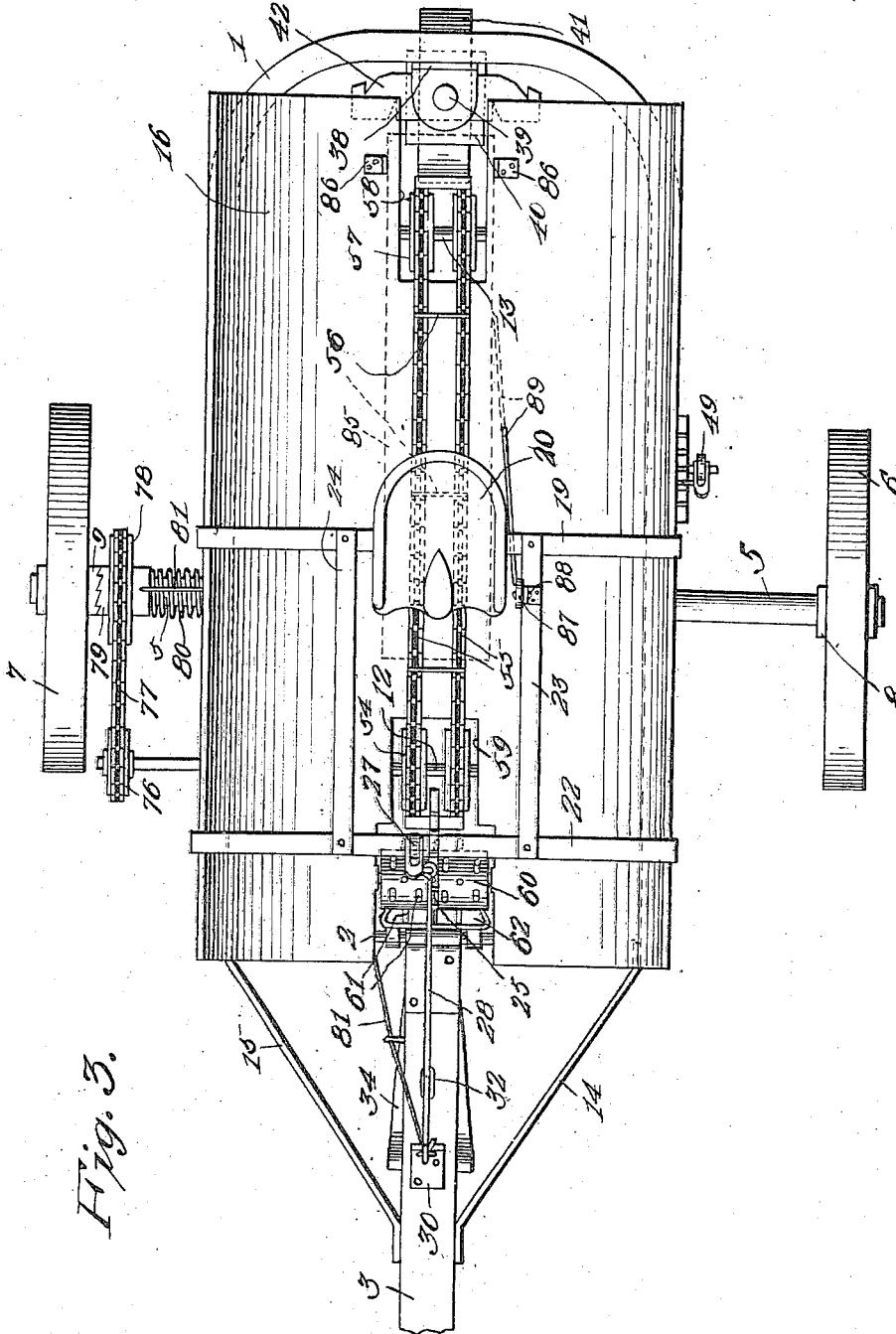


Fig. 3.

WITNESSES

James F. Brown
E. M. Pickett

INVENTOR

Sydney C. Reveley
By Watson E. Coleman Attorney

UNITED STATES PATENT OFFICE.

SYDNEY C. REVELEY, OF GARDNER, KANSAS.

MANURE-SPREADER.

963,249.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed June 10, 1909. Serial No. 501,389.

To all whom it may concern:

Be it known that I, SYDNEY C. REVELEY, a citizen of the United States, residing at Gardner, in the county of Johnson and State of Kansas, have invented certain new and useful Improvements in Manure-Spreaders, of which the following is a specification, reference being had to the accompanying drawings.

My invention is in the nature of an agricultural implement in which are combined for joint coöperation, means for opening a furrow, means for depositing manure in the open furrow, means for covering the manure in the furrow, means for pressing the earth down upon the furrow, means for feeding the manure to the delivery trough and means for assisting this feeding operation. Combined also with the means broadly stated, are other means for adjusting the height of the disks which open and cover the furrows, means for automatically disconnecting the manure feed when the furrow-opening disks are raised above the ground.

The invention also comprises means for automatically maintaining the covering roller in direct line with the central forward and rearward line of the machine.

The object of the invention is to combine in a single machine, all of the means and mechanisms hereinbefore mentioned, thus greatly economizing in time, labor, and expense.

With this object in view the invention consists in the improved construction, arrangement and combination of parts of a combined machine of the character described, such as will be hereinafter fully described and afterward specifically claimed.

In order that the construction and operation of my combined machine may be readily understood, I will now proceed to describe the same, having reference to the accompanying drawings, in which—

Figure 1 is a top plan view of a combined machine constructed in accordance with my invention, with the box or body removed. Fig. 2 is a view in side elevation, looking at the left hand side of the machine, with parts in section and the body broken away in part, the left hand driving wheel being shown in dotted lines. Fig. 3 is a top plan view of the machine with the hood shown in dotted lines.

Like characters of reference mark the

same parts in all the figures of the drawings.

Referring specifically to the drawings, 1 indicates the main frame of the machine which may be of any suitable form and material. At the front of this main frame 1 is secured a cross rod 2 to which is connected the tongue 3 in a manner to permit the tongue to swing in a vertical plane. About midway of the frame are brackets 4 to which is secured an axle 5 upon the ends of which are journaled two supporting or driving wheels 6—7, one of which is provided with an inwardly projecting hub 9, constructed with teeth to form one member of a clutch, the purpose of which will be hereinafter described. Near the front end of the frame are secured bearings 10 and 11, in which is journaled a cross shaft 12 and near the rear end of the frame is secured rigidly a cross shaft 13. At the front end of the frame extending diagonally from the cross bar 2, to the tongue 3, are braces 14 and 15 which are pivotally connected at their rear ends to permit them to move vertically with the tongue.

16 indicates the box or body of the machine which is rigidly mounted upon brackets 17 and 18 secured respectively on the cross shaft 13 and the cross bar 2. Said body or box being preferably substantially semi-cylindrical in form and having secured across its top, a bar 19 upon which a seat 20 is supported by means of a curved spring bar 21. A second cross bar 22 is secured across the top of the body, which bar is connected with the cross bar 19 by means of braces 23 and 24. On the bar 22 is rigidly secured a semi-cylindrical rack 25 in which to engage a spring tooth 26 of a lever 27 pivotally secured upon said rod 22, the upper end of which lever is within easy reach of the occupant of the seat 20. Extending forwardly from the lever 27 is a rod 28 which is jointed at its forward end to the upper end of a lever 29 pivotally mounted in a bracket 30 secured to the tongue, an arm 31 of said lever extending vertically downward through a slot 32 in the tongue 3 and carrying, below the tongue, a spring 33 which normally bears downward upon a curved bar 34 to which said arm of the lever is connected. The curved bar 34 is pivotally secured at one end, as at 35, to the under side of the tongue 3 and

projects from its pivot downward, rearward and again downward, its rearward end carrying pivotal supports 36 for two disks 37, loosely journaled on said pivots, and, by reason of the angular position of their pivots, adapted to rotate in planes converging from each other rearwardly from the front peripheries of said disk.

Secured to the rear end of the frame 1 is a bracket 38 to the under side of which is pivotally connected, by means of a vertical pin 39, a depending bracket 40 in the lower ends of which is journaled a covering roller 41. Projecting laterally from the bracket 40 are arms 42 which are connected by means of springs 43 to the cross rod 13.

At about the center of the shaft 5 is attached a curved metal bar 44 in a manner to permit of its vertical oscillation upon said axle, which bar carries at its rear end pivots 45 for disks 46, said pivots being at such angle to each other as to cause the disks to rotate in different planes inclined toward each other and diverging from the bottoms of the disks upward, said disks being therefore much wider apart at their upper edges than at their lower edges.

At 47 is a depending bracket secured to the frame 1 and at 48 is similarly secured a bracket depending from the body or box 16. In these brackets is journaled a lever 49 which projects upward to within easy reach of the left hand of the operator and is provided with a downwardly projecting arm 50 which is bent forward at 51 and attached at its lower end to the curved bar 44. The forward projecting arm 51 carries a spring 52 between the curved bar 44 and a shoulder or obstruction 53 whereby said spring normally presses downward against said curved bar 44 and tends to force the disks 46 downward.

On the shaft 12 are rigidly secured, so as to rotate therewith, a pair of sprocket wheels 54 held a suitable distance apart and adapted to receive drag chains 55 composed of suitably connected links, a number of which are provided with teeth 56 which project upwardly therefrom. These chains 55 pass rearwardly from said sprocket wheels 54 below the body 16 and around similar sprocket wheels 57 loosely mounted on the cross bar 13. After passing around these sprocket wheels, the chains pass through a rear opening 58 and forward inside of the box or body 16, to and again around the sprocket wheel 54, the teeth 56 projecting upward from that part of the chains within the body. The sprocket wheels 54 project through a forward opening 59 in the body 16 in which opening is loosely journaled a roller 60 having teeth 61 projecting from its periphery. Depending from the forward portion of the opening 59 is a semi-spout or trough 62 which in the operation

of the machine follows immediately in the rear of the forward disks before described.

On the shaft 12, which supports the sprocket wheel 54, is secured a sprocket wheel 76 which is connected by means of a chain 77 with a sprocket wheel 78 loosely mounted on the axle 5 and provided with a hub 79 having teeth whereby it forms the second member of a clutch, the first being the hub 9 of the driving wheel 7. The sprocket wheel 78, with its hub 79, is normally pressed outward on the axle 5, by means of a spring 80 whereby the driving wheel 7 normally drives the sprocket wheel 78 and by means of its connections the shaft 12 and the manure feeding chain 55. A cord, chain or cable 81 secured to the hub of the sprocket wheel 78, passes through suitable guides and is connected at its opposite end to the lever 29, whereby when said lever is thrown forward, and raises the furrow opening disks 37 above the ground, the members of the clutch connecting the sprocket 78 and driving wheel 7, are disconnected so that the feed chain will be inoperative and no manure will be fed forward thereby, to be dropped through the spout upon the ground when no furrow is being opened.

From the foregoing it will be perceived that when the machine is drawn forward over the ground with its parts in normal position, the disks 37 will enter the soil and open up a furrow. The chain 55 will feed the manure forward in the body and drop it through the forward opening and the delivering spout into the open furrow, this operation being assisted by the revolving toothed drum which serves to break up and properly distribute the manure. The rear disks now coming into operation, owing to their inclination, will throw the dirt from the sides of the furrow over the manure previously dropped and thus cover the same while the earth will be properly packed by means of the presser roller which follows said disks in operation.

When the operator raises the forward disks, and consequently stops the opening of the furrow, the manure dropping mechanism will be disconnected as before described. When the operator raises the rear furrow closing disks the corn dropping mechanism will be disconnected as before described. When both the front and rear disks are elevated the movement of the machine will be without effect.

If desired, I may arrange over the feed chains 55 a channeled hood or casing which will prevent said chains from clogging and from feeding the manure too rapidly. Said hood 85 is slidably mounted between angular brackets 86 provided on the bottom of the box or body 16 so that it may be moved rearwardly in the latter to gradually uncover the feed chains as the contents

of said box or body are gradually discharged. Said hood 85 has its top inclined downwardly and forwardly so that it may be readily moved rearwardly in the manure or other contents of the box or body 16. Said hood is adapted to be shifted rearwardly by the operator by means of a hand lever 87 suitably fulcrumed as shown at 88 and connected by link 89 to said hood.

10 While I have particularly described the construction of the various parts composing my combined machine, it will be obvious to those skilled in the art that variations may be made in such constructions, without departing from the spirit and scope of the invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

20 1. In a machine of the character described, the combination of a frame, supporting and drive wheels therefor, a body upon said frame and having front and rear openings, manure feeding chains passing through said openings and having their upper stretches arranged above the bottom of said body, a driving mechanism for said chains including a sprocket wheel loosely mounted on the axle of the drive wheel for rotary and sliding movement, a spring for sliding said sprocket wheel on the axle, co-acting clutch members on the drive wheel and said sprocket wheel, a vertically swinging bar arranged beneath the forward portion of the machine, furrow opening disks carried by said bar, an angular lever having one end operatively connected to said bar, a hand lever having an operative connection with the other end of said angular lever, a locking means for said hand lever, guides, and a cord passed through said guides and having one end connected to said angular lever and its other end operatively connected to said sprocket wheel.

45 2. In a machine of the character described, the combination with a frame, and a box body mounted thereon, having front and rear openings, of a cross rod at the forward end of the frame, a tongue pivoted on the cross rod to swing vertically, furrow opening disks pivotally mounted under the tongue, a manure delivery spout leading downward, a feed chain moved forward in the box body and passing downward through said forward opening, and a toothed roll loosely journaled in said forward opening in front of the feed chain.

60 3. In a machine of the character described, the combination with a frame and a box body having front and rear openings, of a cross bar at the forward end of the frame, a tongue pivoted on said cross bar, furrow opening disks pivoted under the tongue, a delivery spout leading downward from the forward end of the box body, a

sprocket wheel mounted to turn in the rear portion of the front opening of the box body, an axle secured to the same, furrow covering disks pivoted to the axle, a cross bar near the rear end of the frame, a sprocket wheel on the cross bar projecting into the rear opening of the body, a feed chain passing around the sprocket wheels, one side thereof passing through the opening of the body and moving therein, and connections whereby the sprocket wheels and feed chains are moved from the driving wheels.

4. In a machine of the character described, the combination of a frame, a horizontally disposed body thereon and provided in its bottom adjacent one end with an outlet opening, an endless feed member having its upper stretch traveling longitudinally through the bottom portion of the body and through said outlet opening, an inverted channeled hood arranged for longitudinal sliding movement on the bottom of the body and adapted to cover a portion of the upper stretch of said endless feed member, and means whereby said hood may be shifted to uncover portions of said endless feed member.

5. In a machine of the character described, the combination of a frame, supporting and drive wheels therefor, a body arranged on the frame and having an outlet opening adjacent one end, guides upon the bottom of said body, an endless feed member having its upper stretch arranged above the bottom of the body and adapted to pass through said outlet opening, means for actuating said member from said drive wheel, an inverted channeled hood mounted for longitudinal sliding movement on the bottom of the body and between said guides, a lever and an operative connection between the latter and said hood, whereby said hood may be shifted longitudinally to uncover portions of said endless feed member.

6. In a machine of the character described, the combination of a frame, supporting and drive wheels therefor, a body upon the frame and having an outlet opening at one end of its bottom, an endless feed member having its upper stretch traveling over the bottom of said body and passing through said outlet opening, means for driving said member from said drive wheel, a toothed roller loosely journaled in the outlet opening of the body and disposed opposite the forward discharge end of said endless feed member, a shiftable hood mounted for longitudinal sliding movement in the bottom of the body and disposed over the upper stretch of said endless feed member, means for shifting said hood longitudinally to uncover portions of said member and furrow opening means arranged at the forward

ward portion of the machine, furrow closing means arranged adjacent the rear portion of the machine and a packing roller carried by the rear portion of the machine.

5 7. In a machine of the character described, the combination of a frame, a body supported thereon and having front and rear openings, transverse shafts upon said frame, sprocket wheels on said shafts, endless feed chains engaged with said sprocket
10 wheels and having their upper stretches passing longitudinally over the bottom of the body and through said openings, a shift-able hood arranged in the body to cover
15 said chains, supporting and drive wheels for said frame, means for driving one of said shafts from the drive wheel of the frame, a toothed feeding roller arranged adjacent to the discharge end of the feed-
20 ing chains, a spout arranged adjacent said roller, furrow opening means to travel in advance of said spout, and furrow closing means to travel in rear of said spout.

8. In a machine of the character de-

scribed, the combination of a frame, a body 25 supported thereon and having front and rear openings, transverse shafts upon said frame, sprocket wheels on said shafts, endless feed chains engaged with said sprocket wheels and having their upper stretches 30 passing longitudinally over the bottom of the body and through said openings, a shift-able hood arranged in the body to cover said chains, supporting and drive wheels for said frame, means for actuating one of said 35 shafts from the driving wheel of the frame, vertically adjustable supports carrying furrow opening means, and means for simultaneously raising said support and disconnecting the driving wheel of the frame from the 40 drive shaft of the feed chains.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

SYDNEY C. REVELEY.

Witnesses:

A. H. SHEELEY,
JOHN C. McINTOSH.