No. 720,211. PATENTED FEB. 10, 1903.

H. P. ADAMS.

CORN PLANTER.

APPLICATION FILED MAY 16, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

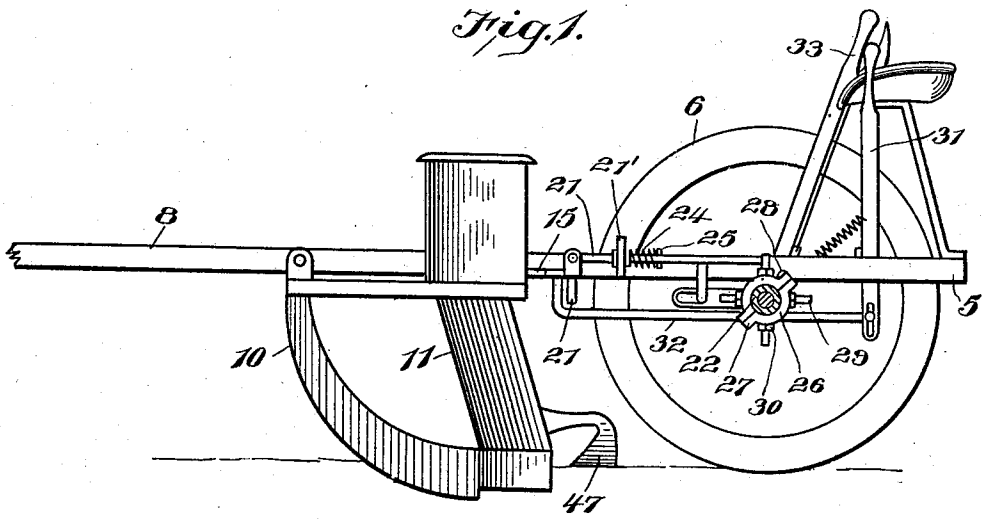


Fig. 5.

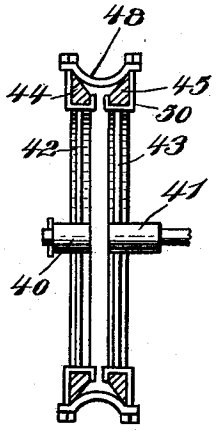


Fig. 7.

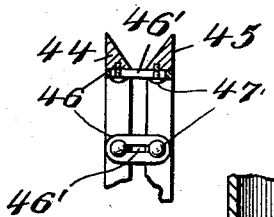
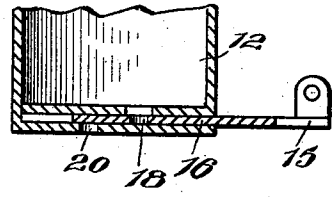


Fig. 6.



Witnesses

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CORN PLANTER.

APPLICATION FILED MAY 16, 1902.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

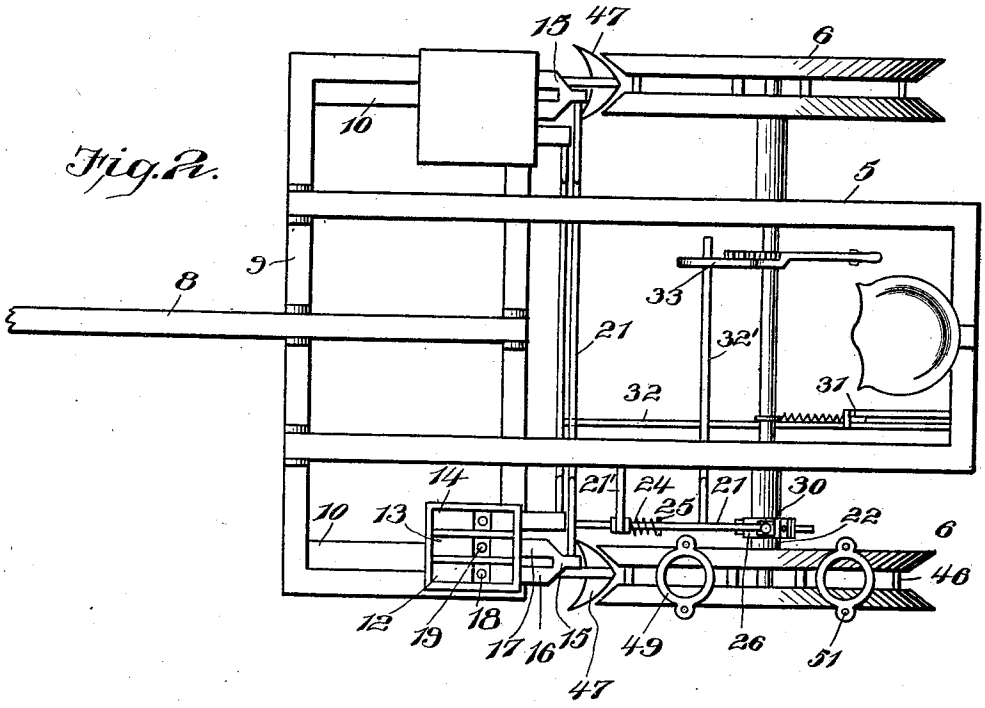


Fig. 3.

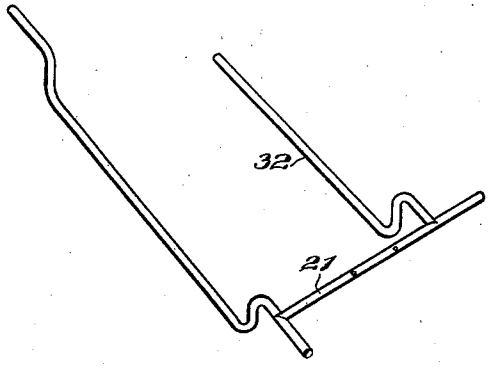
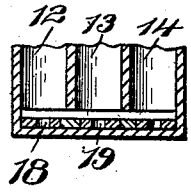


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY P. ADAMS, OF KIPTON, OHIO.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 720,211, dated February 10, 1903.

Application filed May 16, 1902. Serial No. 107,559. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. ADAMS, a citizen of the United States, residing at Kipton, in the county of Lorain, State of Ohio, 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 appertains to make and use the same.

This invention relates to corn-planters in general and more particularly to the class of check-row planters; and it has for its object to provide a construction in which the common knotted chain will be substituted by a mechanism operated from one of the wheels of the planter, this construction being such as may be used in converting a chain-operated planter, as well as in the building of an entirely new implement.

A further object of the invention is to provide a construction which will be simple and efficient in operation and which may be easily applied and removed.

An additional object of the invention is to provide a manually-operable marker for marking those hills which cannot be marked by the wheels of the planter.

Other objects and advantages of the invention will be understood from the following description.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation showing a planter embodying the present invention. Fig. 2 is a top plan view of the planter. Fig. 3 is a detail view of the operating-rod. Fig. 4 is a sectional view through the bottoms of the seedbox, the fertilizer-box, and the marking-box. Fig. 5 is a vertical section through one of the marking-wheels, the hub being in elevation, as also a cleat and its attaching-clips. Fig. 6 is a section through the lower portion of a seed-hopper. Fig. 7 is a sectional view of a portion of one of the wheels and showing an adjustable plate for holding the felly-sections in mutual contact or spaced apart.

Referring now to the drawings, there is shown a planter comprising a main frame 5, having supporting-wheels 6, and at the front end of the frame is the tongue 8. Connected transversely of the tongue is the beam 9, to which are connected the forward ends of furrow-openers 10, arranged one at each side of the tongue, these furrow-openers being of usual construction and having boots 11 at their rear ends, which in connection with the forward portions of the furrow-openers sustain the framework which supports the hoppers. Through each boot is a passage leading through the rear end of the furrow-opener and through which the seeds from the hoppers pass to the furrows. Each hopper includes three compartments 12, 13, and 14, the first of which receives the seed, the second fertilizer, and the third powdered lime for marking. The triplicate hoppers have each a double bottom in which is disposed a bifurcated slide 15, having two legs 16 and 17, disposed beneath the seedbox and fertilizer-box, respectively, and in each of which legs are two holes 18 and 19, respectively. The guideways in which the legs are received open into the boxes, so that when the slide is in one position the seeds and fertilizer may fall into the proper openings in the legs and may be carried by the slide under the upper layer of the bottom of the hopper. In the lower layer of the bottom of the hopper are openings 20, leading to the boot, and when the slide is moved, as above described, the openings in the legs of the slide are brought to register with the openings 20, through which latter the seeds and fertilizer may then pass into the boot. To reciprocate the slide, a shift-rod 21 is employed and is connected pivotally at its forward end with the slide, this rod being slidably engaged with the slot of a bracket 21′, secured to the frame of the implement and in which the rod may have a limited vertical movement upon its pivotal connection with the slide. The free end of the rod 21 lies adjacent to the hub 22 of a wheel 6, and to hold the shift-rod yieldably at the limit of its movement in the direction of the wheel-hub and to return it to such position when displaced a helical spring 24 is disposed upon the rod and bears at one end against the bracket 21′ and at its opposite end against a stop-pin 25.

A split collar 26 is provided and has ears 27 at its ends, through which is engaged a

bolt 28 for clamping the collar upon the end of the wheel-hub, and in this collar are threaded perforations for engagement by screws 29, having jam-nuts 30 at their inner ends, which are adapted to impinge against the inner face of the collar and hold the screws against movement. The outer ends of the screws form strikers which as the wheel rotates successively engage the shift-rod 21 to move it against the action of the helical spring. Thus as the implement is drawn through a field the shift-rod will be operated and seeds will be dropped as many times for each rotation of the wheel as there are strikers in the collar, so that by varying the number of striker-screws the distance apart of the hills may be changed and at the same time fertilizer will be also deposited.

Each of the wheels of the implement is formed double—that is, there are two hub-sections to each wheel, each section having spokes and a felly. The two hub-sections are shown at 40 and 41, the two sets of spokes at 42 and 43, and the two fellies at 44 and 45. Both hub-sections are rotatably mounted upon the axle, and the sections are connected by adjustable clamping-plates 46, by means of which the sections may be held with their fellies either in touch or spaced. When the fellies are spaced, they follow along at opposite sides of the ridge formed by the covering-shovels 47 of the planter, and when the fellies are together they run upon and press down the ridge. The plates 46 are disposed at suitable intervals against the inner faces of the felly-sections. Each plate has a longitudinal slot 46′, through which are passed clamping-screws 47′, engaged with corresponding felly-sections. When the screws are loosened, the sections may be adjusted toward and away from each other and may be held in adjusted positions by again tightening the screws.

At times it is desirable to press the earth tight down over the seeds, while at others it should not be done, depending upon the character and condition of the soil well known to farmers. To provide for marking the hills under both conditions mentioned and when the fellies of the wheels are in spaced relation, two sets of cleats 48 and 49 are provided. The cleats 48 are dished and are provided with clips 50 for engagement with the fellies to hold the cleats in position to take over and press upon the hills, and thus pack the earth close around the seeds. When the hills are to be marked without thus pressing or packing the earth, a second set of cleats is used, each of which is in the form of a ring having also clips 51 for attachment to the fellies. When the rings are in place, they are pressed into the earth around the hills, thus marking the hills without packing the earth over the seeds.

Under some conditions, as when close to a fence at the end of a row, the wheels cannot mark a hill, and to mark such hills the lime box or compartment 14 is provided in each hopper, said lime-box having a separate slide having openings for registration with the opening in the upper layer of the box-bottom and the opening in the lower layer alternately, so that when the slide is reciprocated lime will be dropped. This slide is operated by a hand-lever 31, connected with the slide by means of the rod 32′.

To prevent operation of the dropping mechanism at times, such as when the machine is being turned or transported, shift-rods are connected by a bar 32, which has connection with one member of an angular lever 33, so that when said lever is rocked the bar 21 will be raised to lift the free end of the shift-rod out of the path of movement of the strikers.

The distance apart of the hills is determined by the size of the wheels employed upon the implement—that is, if the hills are to be far apart a large wheel is employed, and if the hills are to be close together a small wheel is employed.

In practice modifications of the specific construction shown may be made and any suitable materials and proportions may be used without departing from the spirit of the invention.

What is claimed is—

1. A wheeled planter comprising a furrow-opener, a seedbox having a valve mechanism, a striker carried by a wheel of the planter, a shift-rod pivotally connected at one end with the valve mechanism for movement of its opposite end vertically into and out of the path of movement of the strikers, a guide for the shift-rod, and means for raising and lowering the shift-rod in its guide.

2. In a planter, the combination with the seedbox having valve mechanism for depositing seed therefrom, and wheels having cleats for marking the points of deposit of the seeds, of a lime-box having valve mechanism for depositing lime therefrom at the points of deposit of the seed, said mechanism including a manually-operable lever.

3. A wheel for planters comprising spaced fellies of equal diameters adjustable toward and away from each other, and cleats removably connected with the fellies and bridging the interspace therebetween.

4. In a planter, a marking-wheel comprising spaced fellies, marking-cleats, and clips engaged through the cleats and around the fellies for holding the parts together.

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

HENRY P. ADAMS.

Witnesses:
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CHAS. D. BAYLESS.