

(No Model.)

3 Sheets—Sheet 1.

B. F. SMITH.
CORN PLANTER.

No. 517,245.

Patented Mar. 27, 1894.

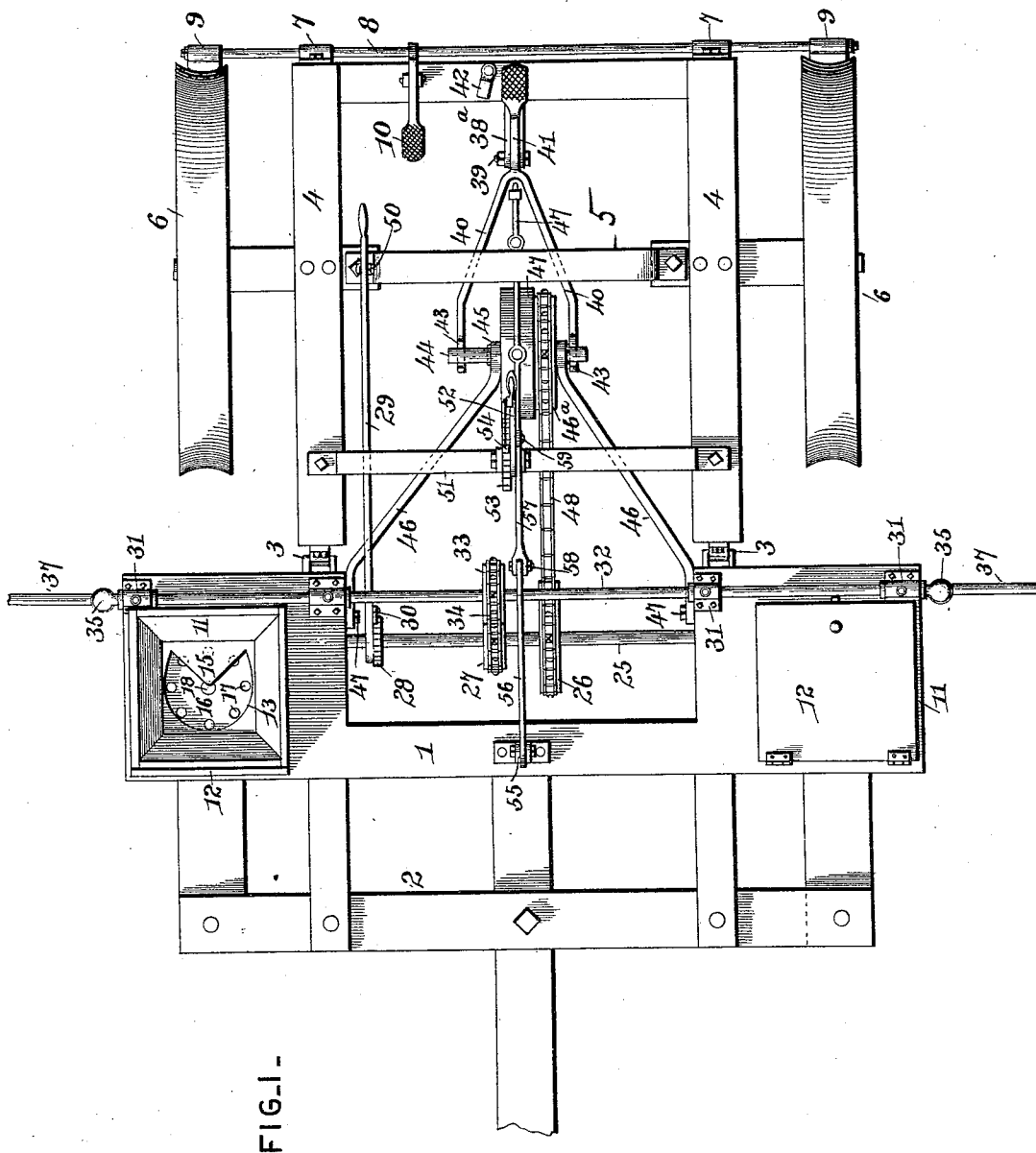


FIG. 1.

Inventor

Witnesses

Jas. H. McLathran

W. S. Duwall

By *T. W. Smith* Attorneys.

Benjamin F. Smith

C. A. Snow & Co.

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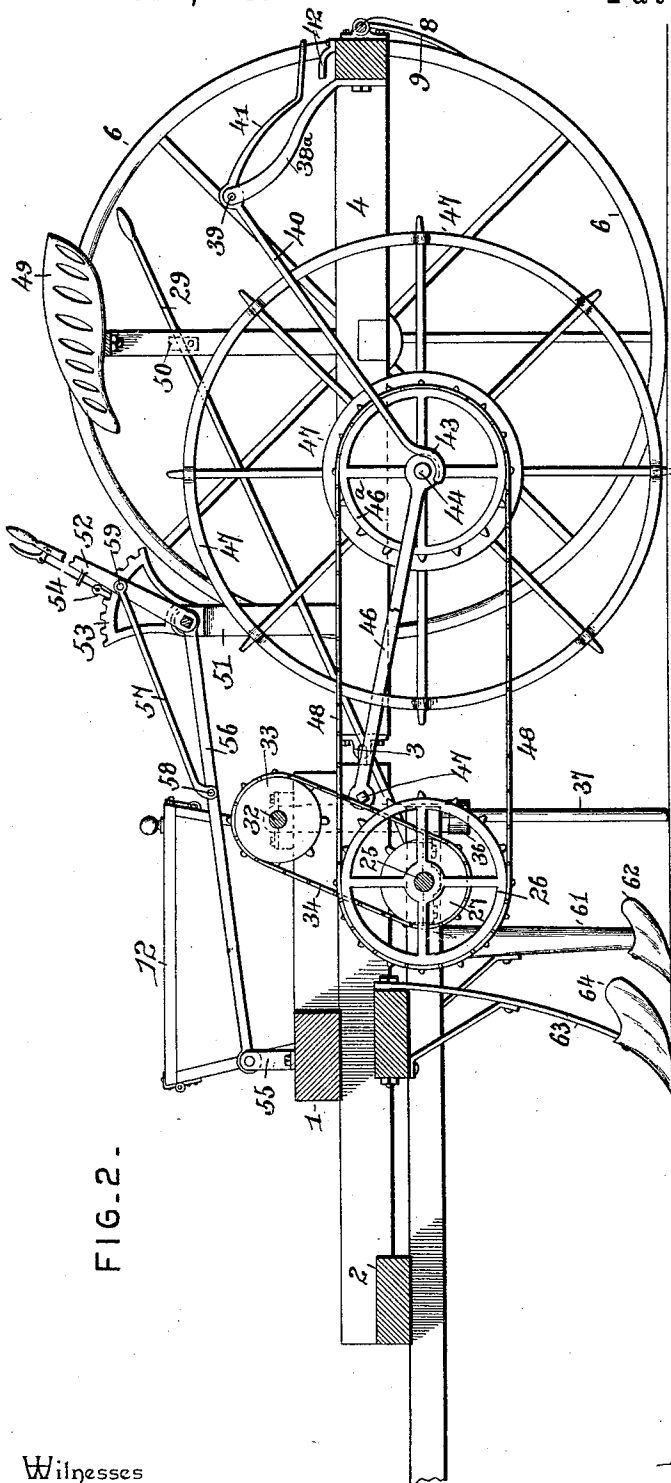


FIG. 2 -

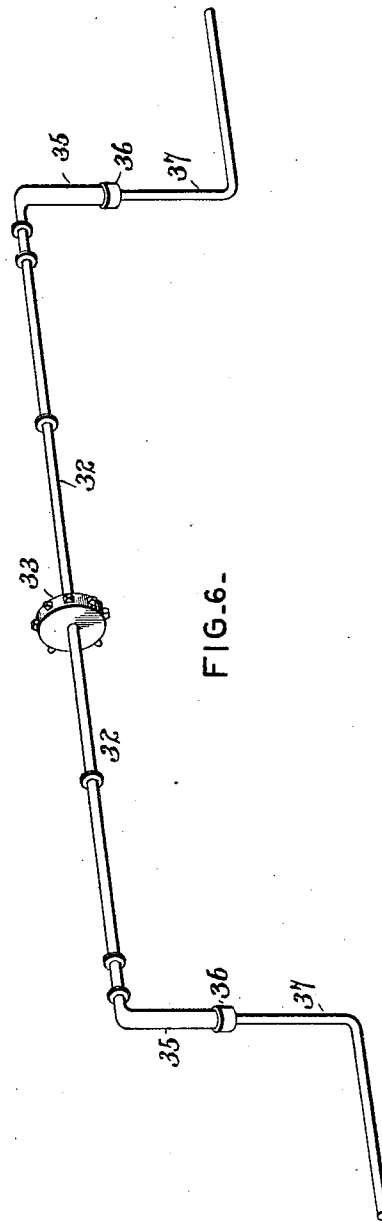


FIG. 6 -

Inventor

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Jas. H. McLaughlin

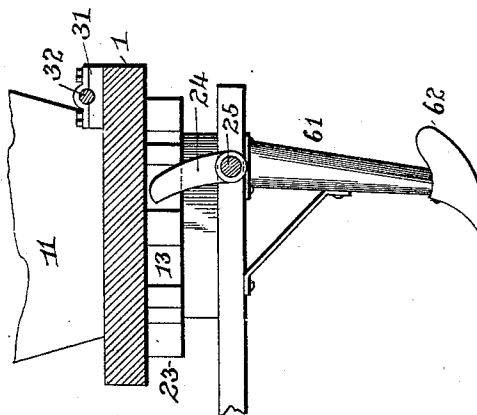
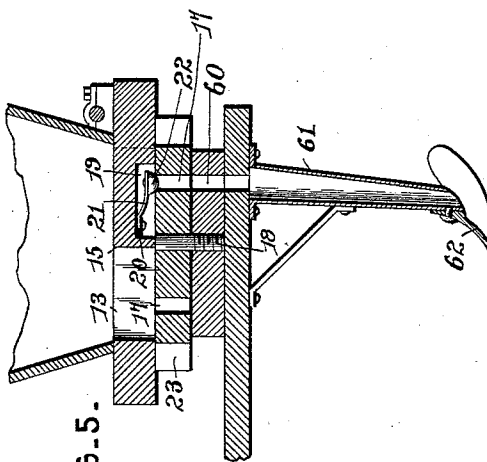
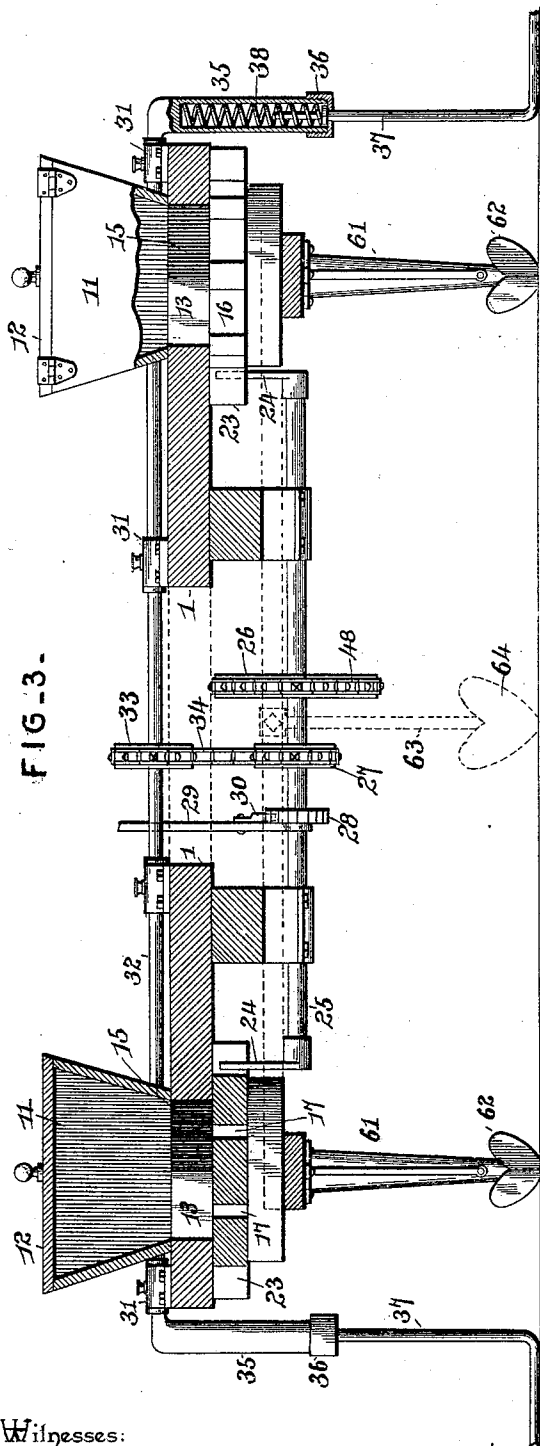
W. S. Duval

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3 Sheets—Sheet 3.

No. 517,245.

Patented Mar. 27, 1894.



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W. S. Lurall.

UNITED STATES PATENT OFFICE.

BENJAMIN F. SMITH, OF VALPARAISO, NEBRASKA, ASSIGNOR OF ONE-HALF
TO HARRY BLEAKLEY, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 517,245, dated March 27, 1894.

Application filed October 27, 1893. Serial No. 489,298. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. SMITH, a citizen of the United States, residing at Valparaiso, in the county of Saunders and State of Nebraska, have invented a new and useful Corn-Planter, of which the following is a specification.

My invention relates to improvements in corn-planters, the objects in view being to provide a simply and economically constructed machine adapted to evenly plant corn in drills and to simultaneously therewith mark or gage the next drill.

Various other objects and advantages of the invention will appear in the following description and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a top plan view of a machine embodying my invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a transverse vertical sectional view through the platform. Fig. 4 is a vertical sectional view at one side of the hoppers. Fig. 5 is a sectional view through one of the hoppers. Fig. 6 is a detail in perspective of the marker.

Like numerals of reference indicate like parts in all the figures of the drawings.

In practicing my invention I employ a transverse platform 1, the same being mounted upon a suitable runner frame 2 and having hinged or pivoted to its rear edge as at 3 the frame-bars or beams of the wheel frame 4, the latter being provided at suitable points with bearings for the reception of the transverse axle 5, which beyond its bearings accommodates the ground-wheels 6. Bearing-eyes 7 are located at the rear end of the wheel frame 4 and accommodate a transverse rock-shaft 8, which carries at its ends scrapers 9. A foot-lever 10 extends from the rock-shaft 8 to a convenient point for operation by the driver, and is designed to be depressed for throwing the scraper-blades 9 against the periphery of the ground-wheels 6 for the purpose of cleaning the same.

Arranged upon the platform at the opposite ends thereof are the hoppers 11 which are preferably provided with the usual hinged covers 12 and are located over openings 13 formed in the platforms. Each opening 13 is provided

with a horizontally disposed V-shaped cut-off 15, which covers a portion of the opening and below the same I locate the seed-disks 16. Each seed-disk is provided with an annular series of seed-cups or openings 17 which move successively under the cut-off and are centrally pivoted as at 18. The cut-offs are recessed upon their under sides, as at 19 (see Fig. 5) and have secured thereto as at 20 spring-arms 21 which terminate at their free ends in tappets 22 arranged in the path of the annular series of seed-cups. It will be obvious that as the seed-disks revolve the cups are brought successively under the cut-offs and into alignment with the tappets 22, the latter acting to force the corn or knock the same from the cups to the discharges hereinafter described.

The peripheries of the seed-disks are toothed as at 23, and are engaged by cam-arms 24 which are located upon and revolve with a transverse seed-disk operating-shaft 25, that is journaled in bearings upon the under side of the platform 1. The shaft 25 is in the present instance provided with sprocket-wheels 26 and 27, and furthermore may be provided with a ratchet-wheel 28 at the side of which is loosely mounted a hand-lever 29 that carries a pawl 30 so that by operating the hand-lever the pawl will engage the ratchet-wheel and thus rotate the shaft 25, the cam-arms of the shaft operating successively in the teeth of the seed-disks and hence serving to operate the same.

In bearings 31 located at suitable points upon the platform 1 in rear of the hoppers is a transverse marker-shaft 32, the same being provided at its center with a sprocket-wheel 33 which receives its motion through the medium of a sprocket-chain 34 that passes over the sprocket wheel 27 of the shaft 25. As best shown in Fig. 6 this marker-shaft 32 is provided at its ends with depending sockets 35, the lower ends of which have fitted thereover screw-caps 36, the said caps being perforated and receiving the upper ends of L-shaped marker-rods 37. Coiled springs 38 are interposed between the upper ends of the sockets and the rods and tend to depress the same in a yielding manner into the soil so that in case the marker-rod should meet with

an obstruction, as a stone, or a heavy clod of earth, the spring would yield and prevent breakage of the parts.

A bracket 38^a is bolted to the rear cross-bar of the wheel frame and fulcrumed in the bracket as at 39 is a bell-crank lever 40. In rear of its fulcrum the bell-crank lever is provided with an arm 41 which may be depressed and engaged under a turn-button 42 for the purpose of retaining the same. The front end of the bell-crank lever is forked or bifurcated and curved to form a rest 43 which engages under a bearing-eye in which rests a short transverse shaft 44. This shaft 44 between the bifurcations of the bell-crank lever 40 is journaled in eyes 45 which are formed at the rear ends of two converged brace-arms or rods 46 whose front ends are pivotally bolted as at 47 to the runner frame of the machine. Between the bearing-eyes 45 I mount fixedly upon the transverse shaft 44 a sprocket-wheel 46^a and a walking-wheel 47. A chain 48 connects the sprocket-wheel 46^a with the sprocket-wheel 26 of the seed-disk operating-shaft, and through the medium of this chain the seed-disk operating shaft is rotated and gives motion to the seed-disks in the manner heretofore described.

The axle 5 is arched, preferably, and accommodates a seat 49 for the driver, who operates the various parts of the machine. The axle is further provided at one side with a keeper 50 which receives the hand-lever 29, which may be employed for operating the ratchet-wheel 28, and through the medium of the same the seed-mechanism as heretofore described.

An arched standard 51 connects the two side bars of the wheel frame 4 and at its center has fulcrumed thereon a hand lever 52, at one side of which is arranged a segmental locking-standard 53. The teeth of this standard are engaged by means of a spring-pressed locking-pawl 54. A short standard 55 rises from the platform, and a connecting-bar 56 extends from the short standard to the lever 52 at its fulcrum point. A link 57 is pivoted at 58 to an intermediate point of the rod 56 and at 59 to the lever 52 above its fulcrum, so that by swinging the lever 52 back and forth the frame may be raised and lowered and locked at any point of its adjustment.

In the timbers of the runner-frame a seed-passage 60 is formed with which are successively aligned the seed-cups of the disk, and below this seed-passage and secured to the timbers of the runner frame is a seed-or drill-tube 61 whose lower end terminates in the usual drill-shoe or plow 62. Each of the planting mechanisms is provided with a drill-tube, as described, so that as the furrow is formed the seed is dropped through the tube in rear of the shovel where it is covered.

Suitably secured to the under side of the platform 1 at the center of the machine is a depending standard 63, and the same is provided at its lower end with a furrow-forming

shovel 64 which is located directly in advance of and in the path traveled by the walking-wheel, said shovel being designed to form a furrow in which the spokes or arms of the wheels may travel without impediment.

This completes the construction of the invention, and the operation thereof will be readily understood, but may be briefly stated as follows:—The driver being mounted upon the seat 49 employed for his accommodation will be within easy reach of the various levers for operating the various parts, and as the machine moves along the shovels 62 form the furrows in which the corn is dropped successively in the manner heretofore described. At the same time the marker-shaft is revolving and at each dropping of the seed, which is accomplished at every rotation of the seed-disk operating-shaft, the marking-arms impress the soil indicating the position of the hills. The tappets 22, as before stated, serve to eject positively the seed from the disk, and hence prevent missing any of the hills. If it be desired to operate the machine by hand the lever 41 is depressed and locked by the turn-button 42, so that the walking-wheel is elevated above its operative position. The lever 29 is then operated by hand, being raised and lowered, and its pawl engages with the ratchet-wheel rotating the latter, and hence the seed-disk operating-shaft.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may make such variations therein as may suggest themselves from time to time without departing from the spirit of my invention or sacrificing any of the advantages thereof.

Having described my invention, what I claim is—

1. In a planter, the combination with the runner frame, and a rear hinged wheel frame, its axle, and ground-wheels, of an arched standard arranged over the latter frame, a short standard connected to the runner frame, the connecting-rod pivoted to the two standards, the lever fulcrumed on the rear pivot of the connecting-rod, and a link pivotally connected to the connecting-rod and to the lever, substantially as specified.

2. In a planter, the combination with the runner and wheel frames loosely connected, the bell-crank-lever bifurcated and fulcrumed on the wheel frame, and means for depressing and locking the same, of a pair of brace-arms pivoted to the runner frame and terminating at their rear ends in converging eyes, a transverse shaft arranged in the eyes and engaged in the bifurcations of the bell-crank lever, a sprocket-wheel arranged on the transverse shaft, a walking-wheel also arranged on said shaft, a seed-disk operating shaft, a sprocket-wheel thereon, and a sprocket-chain leading from the sprocket-wheel of the transverse shaft to the wheel of that of the seed-disk operating shaft, substantially as specified.

3. In a corn planter, the combination with the framework, the opposite hoppers, the seed-disks rotatably mounted therein and provided with peripheral teeth, the intermediate
5 revoluble transverse shaft, arms carried by the shaft and extending at angles therefrom for successively engaging the teeth, and a sprocket-wheel arranged upon the shaft, of a rear shaft, a walking-wheel mounted thereon,
10 supports for said rear shaft, a sprocket-wheel carried by the latter shaft, and a sprocket-chain leading from the wheel of the seed-disk operating shaft to that of the rear shaft, substantially as specified.
- 15 4. In a corn planter, the combination with the framework, a transverse shaft, means for communicating motion to the shaft, a seed mechanism, and means for communicating motion from the shaft to the seed-mechanism
20 of a marker shaft terminating at its ends in marker-arms, sprocket-wheels arranged upon the seed operating shaft, and the marker-

shaft and the intermediate sprocket-chain connecting the wheels, substantially as specified.

- 25 5. In a planter, the combination with the framework, bearings arranged therein, a transverse marker-shaft journaled in the bearings and terminating at its outer ends in depending sockets, screw-caps arranged upon
30 the sockets and having perforations, L-shaped marking-arms having near their upper ends stops and mounted in the perforations in the caps, coiled springs interposed between the stops of the arms and upper ends of the sock-
35 ets, and means for rotating said shaft, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

BENJAMIN F. SMITH.

Witnesses:

W. S. DUVALL,
J. H. SIGGERS.