

No. 625,743.

Patented May 30, 1899.

J. W. CLARK.
SEED PLANTER.

(Application filed Apr. 1, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

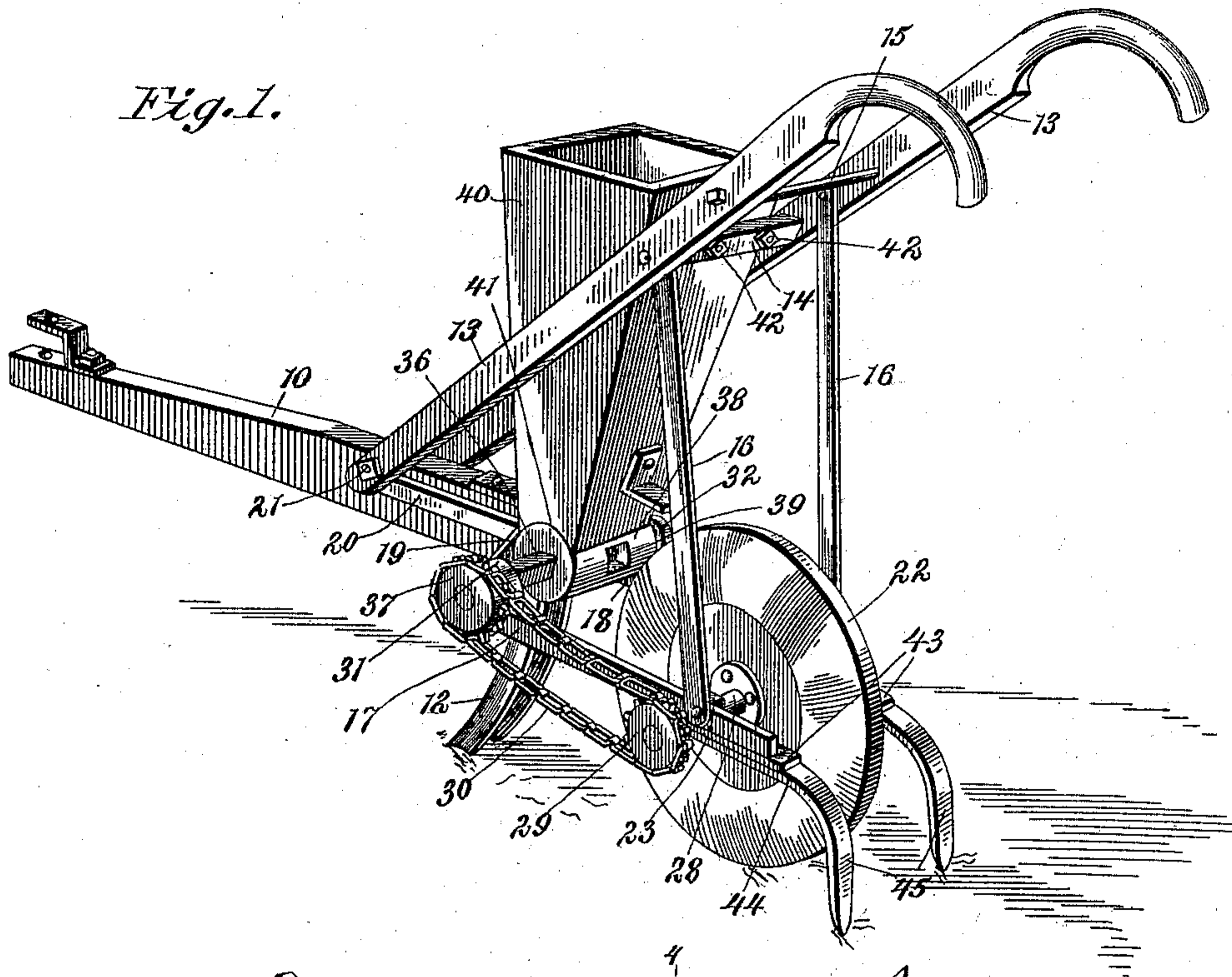
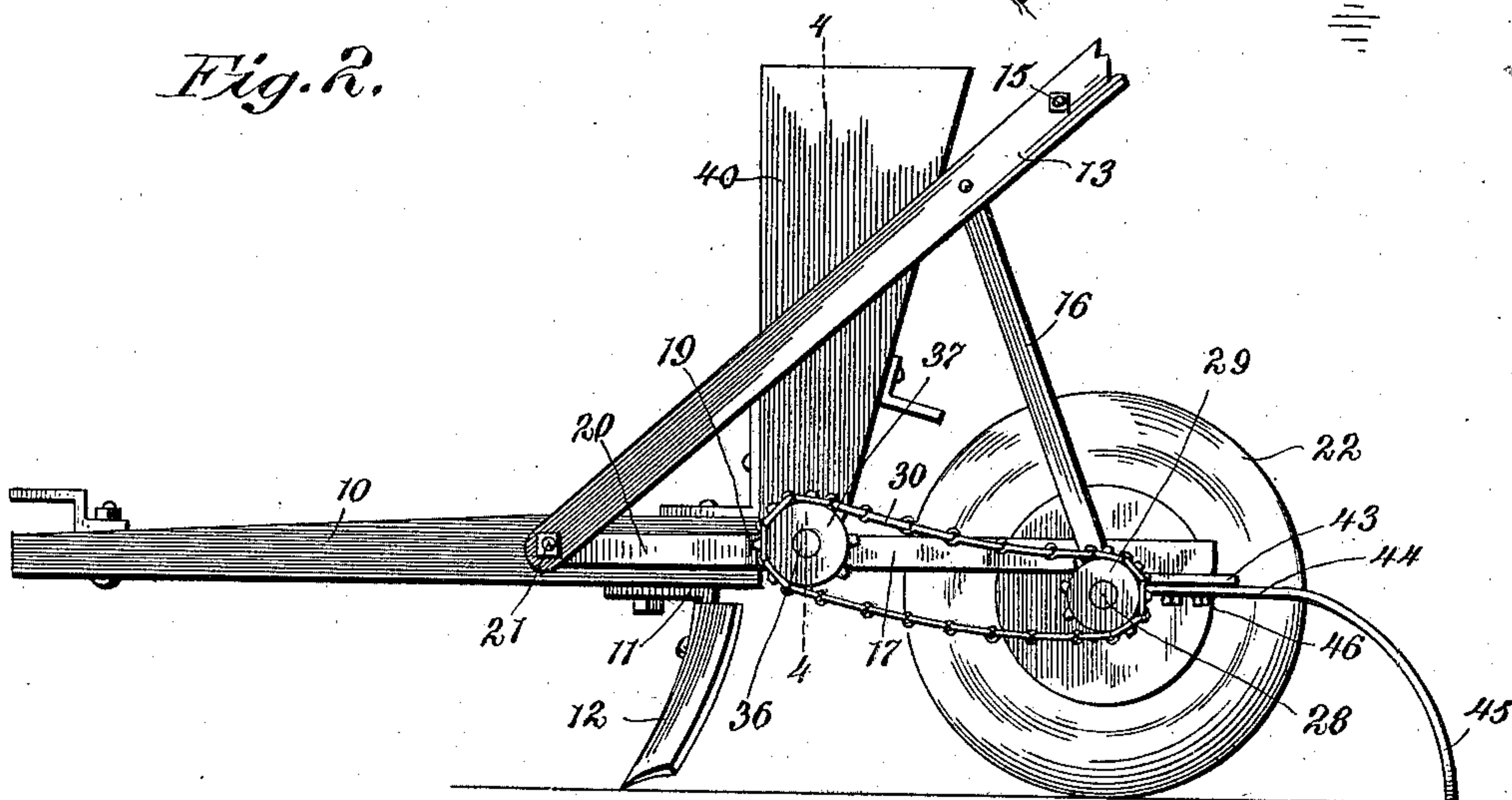


Fig. 2.



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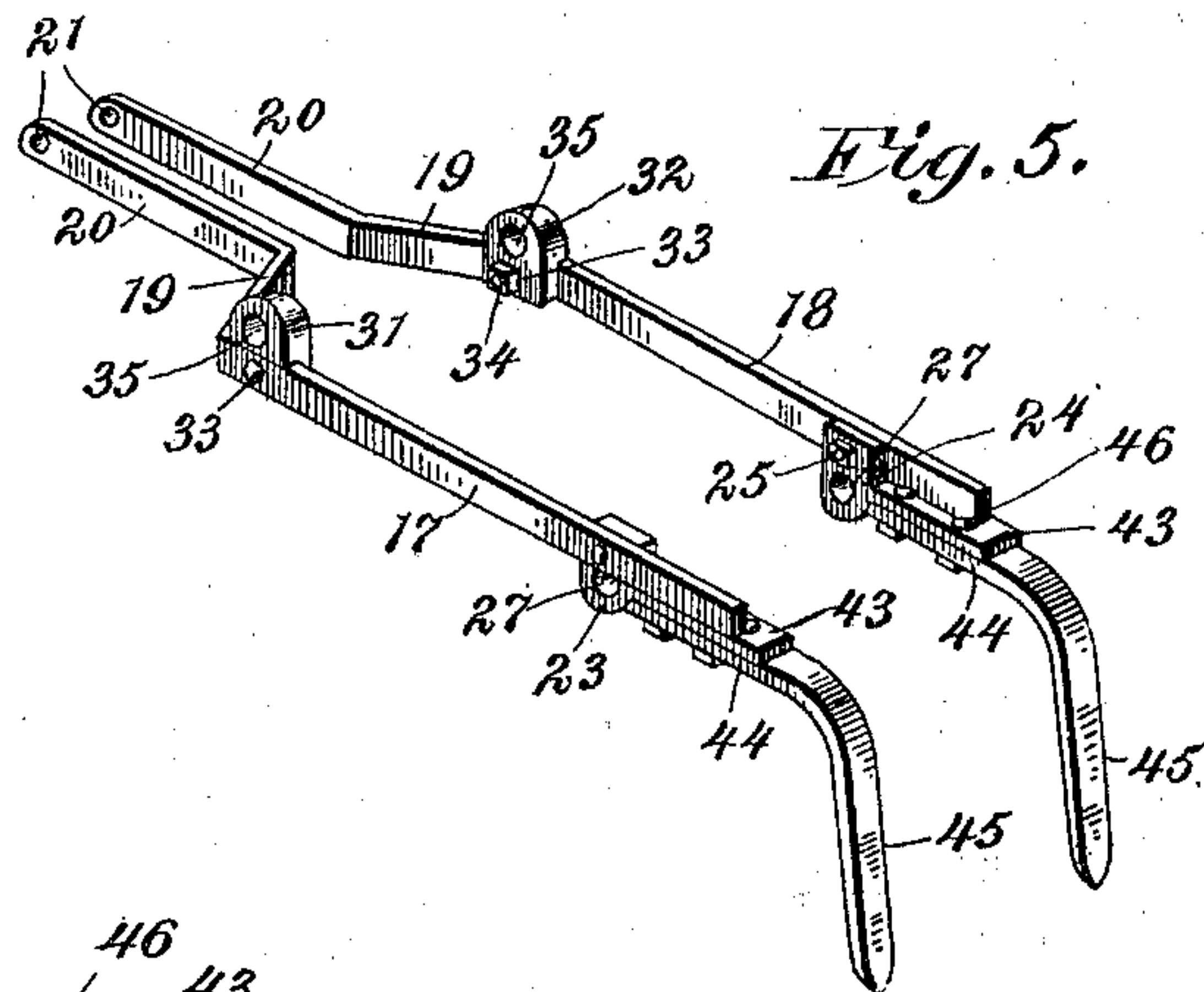
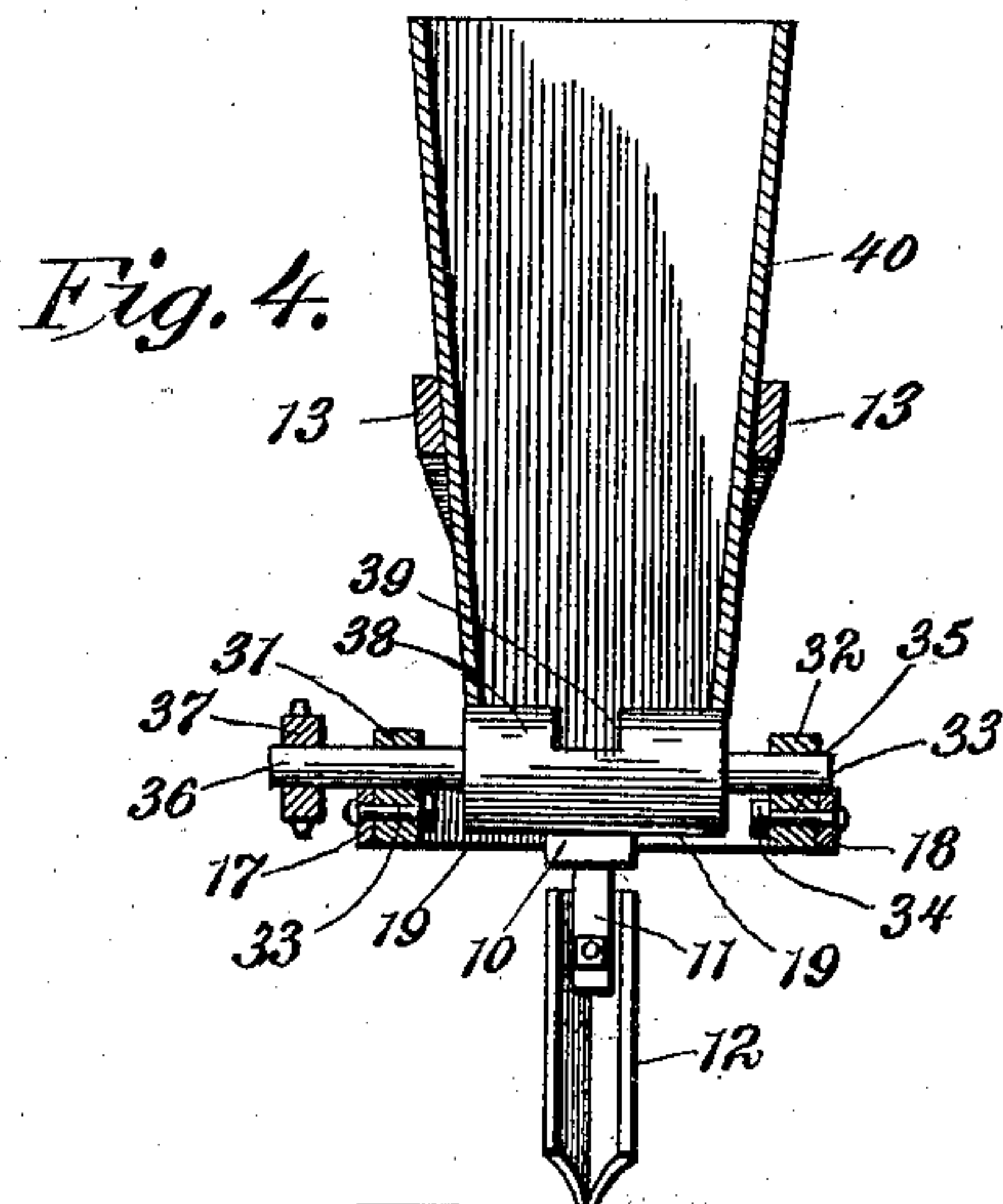
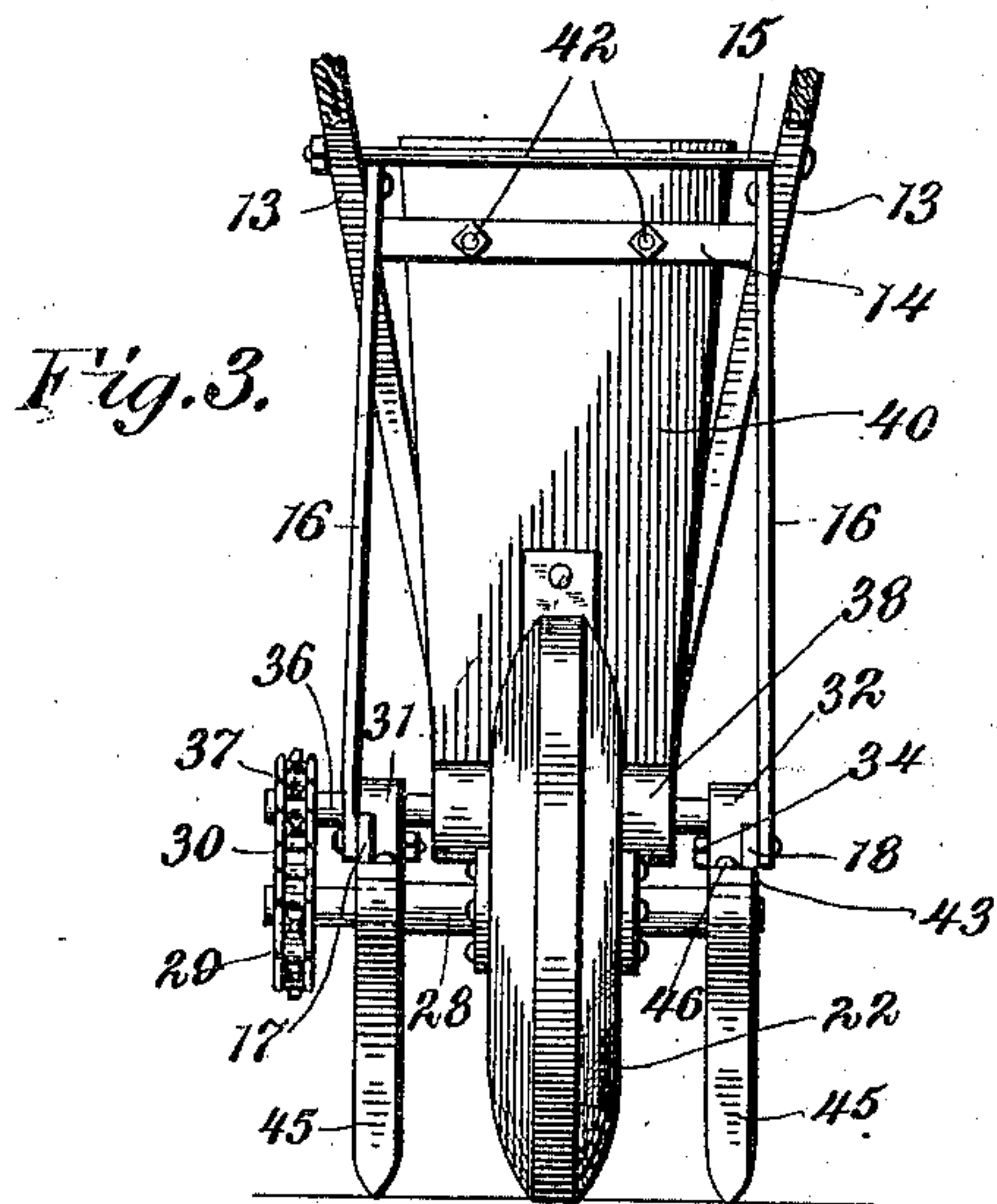


Fig. 6.

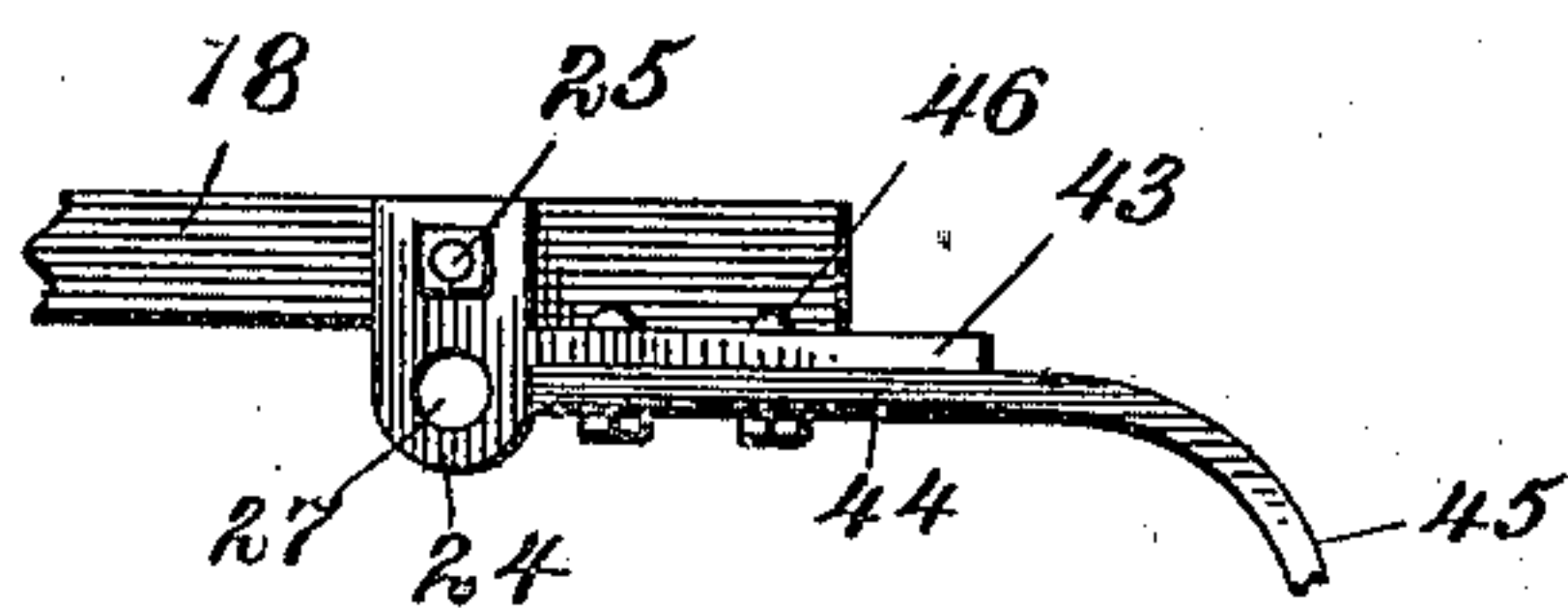
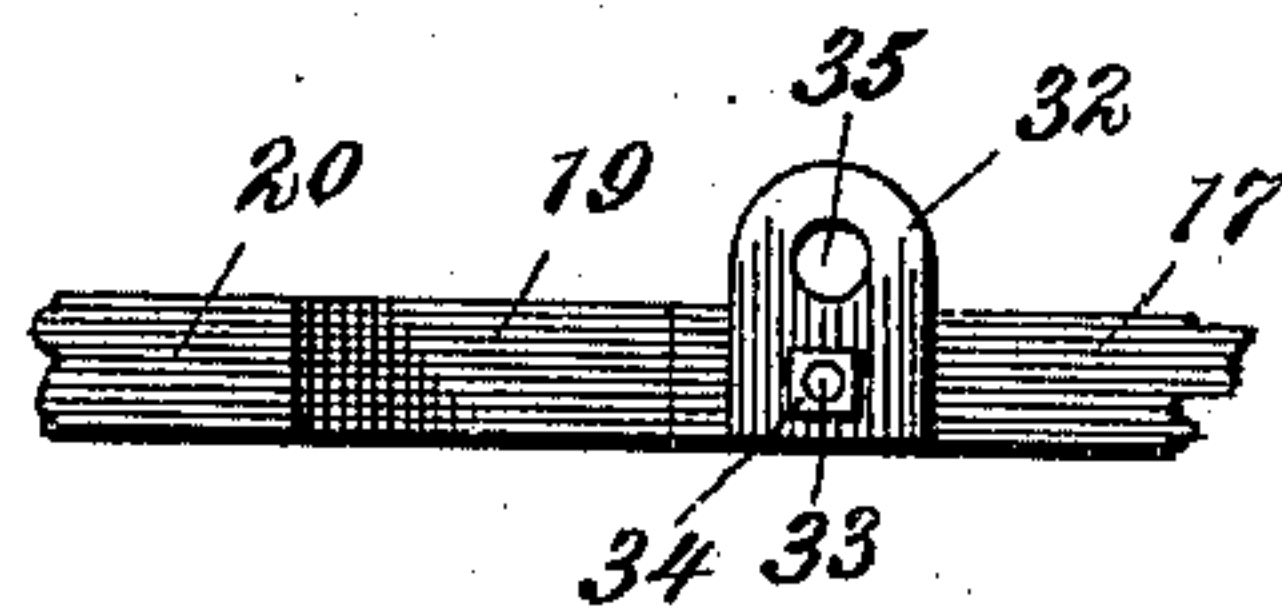


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN WASHINGTON CLARK, OF CULVERTON, GEORGIA.

SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 625,743, dated May 30, 1899.

Application filed April 1, 1899. Serial No. 711,325. (No model.)

To all whom it may concern:

Be it known that I, JOHN WASHINGTON CLARK, a citizen of the United States, residing at Culverton, in the county of Hancock and State of Georgia, have invented a new and useful Seed-Planter, of which the following is a specification.

My invention relates to improvements in seed-planters especially constructed for dropping peas; and the object in view is to provide a simple construction for positively driving the dropping-disk from a driving-wheel adapted to be rotated by frictional contact with the ground on the advancement of the machine across the field.

A further object of the invention is to provide a construction adapted for use in connection with an ordinary cultivator and to make one machine serve by a few changes in the structure the purposes of a seed-planter or cultivator implement, thus saving the farmer the expense of different machines for the performance of the necessary work on a farm.

With these ends in view the invention consists in the novel combination of elements and in the construction and arrangement of parts, which will be hereinafter fully described and claimed.

To enable others to understand the invention, I have illustrated the same in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view of a seed-planter constructed in accordance with my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a rear elevation. Fig. 4 is a vertical transverse section through the hopper and the dropping-drum on the plane indicated by the dotted line 44 of Fig. 2. Fig. 5 is a detail perspective view of the supporting-bars which constitute the frame for the planter mechanism and which is provided with shaft or axle boxes to sustain the shaft of the dropping-drum and the axle of the driving-wheel. Figs. 6 and 7 are detail views of the bearings for the driving-wheel axle and the dropping-drum shaft, respectively.

The same numerals of reference are used to indicate like and corresponding parts in each of the several figures of the drawings.

I have represented my improved seed-

planter mechanism in connection with an ordinary cultivator, in which the beam is indicated by the numeral 10, the foot or stock by 11, and the handle-bars by 13. All of these parts may be of the ordinary construction well known to the art; but the implement is equipped with certain accessories, such as the shovel 12, the tie-bar 14, the brace-rod 15, and the vertical braces 16. The shovel 12 is attached to the lower end of the stock 11 by a bolt or other suitable contrivance. The handle-bars 13 are united and braced by the tie-bar 14 and the brace-rod 16, and this tie-bar serves also as the means for supporting the seed-hopper in proper relation to the dropping-drum, as will presently appear.

The frame by which the planting mechanism is supported consists of a pair of bars 17 18, that carry the shaft-boxes for the dropping-drum and the driving-wheel, and this frame is constructed for ready and firm application to the beam 10, so that the planting mechanism may be removed bodily from the cultivator implement whenever it is desired to use said implement without the planting mechanism. Each bar 17 or 18 is bent inwardly near its front end, as at 19, and the bars are arranged in reverse positions and in substantially the same horizontal plane. By bending the bars, as at 19, they are formed with shanks 20, which are adapted to be applied against opposite sides of the beam 10 near the rear end thereof, and the shanks of the two bars are fastened firmly to the beam by the bolts 21, which pass through the bars and the beam. The rear portions of the bars are straight and parallel, and they are spread laterally by having the bars bent at 19, so that the spaced rear ends of the bars will accommodate between themselves the driving-wheel 22. The straight rear portions of the bars 17 18, forming the supporting-frame, are provided with bearings or boxes 23 24, which are arranged in the same horizontal plane and in alinement with each other transversely across the axis of the implement. Each bearing 23 or 24 is provided near its upper end with transverse bolt-holes 25, and the bearing is adapted to be applied laterally against one face of one of the bars, whereby the bolts may be passed through the bar and the bear-

ing applied thereto for the purpose of holding the bearing and supporting-bar firmly together. The bearings 23 24 have the transverse axle-openings 27, which receive or accommodate the axle 28 of the ground-wheel 22, that is disposed between the bearings and the bars. One end of this ground-wheel axle is extended to receive a sprocket-pinion 29, that is engaged by an endless sprocket-chain 30, the latter being arranged to drive the shaft of the dropping-drum, as will presently appear.

31 32 designate the shaft-bearings for the dropping-drum. Said shaft-bearings are attached firmly to the supporting-bars 17 18 of the planter-frame, and the bearings extend upwardly from the planter-frame at points in rear of the beam 10. Each bearing 31 or 32 is provided at its lower end with transverse bolt-holes 33, and the perforated end of the bearing is fitted laterally against one face of one supporting-bar for the reception of bolts 34, adapted to pass through the supporting-bar and the holes 33 in the bearing, thus providing for the rigid application of the bearing to the supporting-bar. The bearings project upwardly from the pair of bars and are provided with shaft-openings 35, which are arranged transversely to the implement and receive the drum-shaft 36. One end of this drum-shaft is extended beyond its bearing to receive a sprocket-gear 37, which is in alinement with the sprocket-gear 29 on the axle of the driving-wheel 22, and the two sprocket-gears are thus arranged to be connected by the endless chain 30, which transmits the motion of the ground-wheel axle to the shaft of the dropping-drum 38. This dropping-drum is secured firmly to the shaft 36 at a point between the bearings 31 32 thereof, and said drum is provided with a seed-pocket 39, adapted to receive the seed from the hopper 40. This hopper is of elongated tapering construction and is fashioned to fit snugly between the handle-bars 13 and against the tie-bar 14, and said hopper is fastened to the tie-bar by bolts 42, that pass transversely through the rear wall of the hopper and the tie-bar, whereby the cultivator-frame serves in a measure to support the seed-hopper. The lower edge of the seed-hopper is cut away on curved lines to form a seat 41, and this hopper is arranged to rest snugly upon the dropping-drum 38, whereby the hopper and drum may be assembled into close relation to prevent the escape of seed between the meeting edges of the hopper and the face of the dropping-drum.

The braces 16 extend from the handle-bars to the supporting-bars forming the frame 17 and 18, and this frame is thus braced or stayed by connections to the cultivator implement. The shaft-bearings 23 24, which accommodate the axle of the ground-wheel 22, are provided with rearwardly-extending arms 43, that project in rear of the bearings, and against the lower faces of said arms are

fitted the shanks 44 of the covering-shovels 45. Each covering-shovel has its upper forward end fashioned to provide a shank adapted for firm application to the arm of the shaft-bearings, and said shank is formed with vertical openings to permit the bolt 46 to pass through the shank and the arm 43 of said shaft-bearing, whereby the covering-shovel is fastened firmly in place. The covering-shovels extend rearwardly beyond the driving and ground wheel 22, and they are fashioned to throw the dirt or soil inwardly upon the seed which is dropped on the ground by the action of the dropping mechanism of the planter.

In the practical service of the machine the dropping-drum is arranged to deposit the seed in the path of the driving or ground wheel 22.

To convert an ordinary cultivator into a seed-planter, as contemplated by my invention, the bars 17 18, forming the planter-frame, are fitted against opposite sides of the beam 10, and the bolts 21 are passed through the front ends of the bars and the beam to firmly unite the parts together, after which the braces 16 are attached to set the planter-frame in its proper relation to the implement. The planter-frame carries the driving or ground wheel, the dropping-drum, and the carrying-shovels, and the axle for the ground-wheel and the shaft of the dropping-drum are connected operatively by the endless sprocket-chain engaging with sprocket-gears. The hopper is inserted between the handle-bars of the cultivator, and it is supported in place by having its curved seat 41 rest upon the dropping-drum and by passing the bolts 42 through the hopper and the tie-bar.

As the machine is drawn across the field the furrow is opened by the shovel on the foot or stock, and the ground-wheel is rotated by frictional contact with the ground, and the covering-shovels scrape or throw the dirt inwardly toward the furrow opened by the shovel. The rotation of the ground-wheel propels the sprocket-chain, which in turn rotates the shaft of the dropping-drum, and the pocket 39 of this drum is arranged to carry the seed from the hopper and to drop the seed into the furrow opened by the shovel. It will thus be seen that the dropping mechanism is operated automatically by the movement of the machine and that the seed is deposited in the furrow and covered with soil by the action of the shovels 45.

To convert the implement from a planter to an ordinary cultivator, it is only necessary to remove the braces 16, detach the supporting-bars of the frame from the beam by removing the bolts 21, and finally the hopper is unbolted from the tie-bar and lifted out of the space between the handle-bars.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacri-

ficing any of the advantages of this invention.

What I claim is—

1. In a seed-planter, the combination with
5 a beam, and the handle-bars thereof, of a planter-frame secured removably to said beam and provided with journal-bearings, a driving-wheel mounted in the bearings near the rear end of said planter-frame, a dropping-drum having its shaft mounted in bearings
10 near the front end of said planter-frame, and a hopper situated on the dropping-drum and held in place by the handle-bars, substantially as described.

15 2. In a seed-planter, the combination with a beam, and the handle-bars, of a planter-frame provided with shaft-bearings near its front end, a dropping-drum having its shaft journaled in said bearings, a hopper fitted between the handle-bars and provided with a
20 curved seat at its lower edge to fit snugly to the dropping-drum, bolts for fastening the hopper to the handle-bars, and a ground-wheel mounted in the planter-frame and hav-

ing gear connections with the shaft of the
25 dropping-drum, substantially as described.

3. In a seed-planter, the combination with a beam and the handle-bars, of a planter-frame consisting of bars fastened removably
30 to the beam and provided with pairs of shaft boxes or bearings near the front and rear ends thereof, a dropping-drum having its shaft mounted in the bearings near the front end of said frame, a driving-wheel with its axle
35 journaled in bearings near the rear end of said frame, gearing between the axle and said shaft, braces between the handle-bars and the planter-frame, and covering-shovels fastened to the planter-frame on opposite sides
40 of the ground-wheel, substantially as described.

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

JOHN WASHINGTON CLARK.

Witnesses:

M. D. DUGGAN,

HENRY W. WEATHERS.