

No. 652,291.

Patented June 26, 1900.

J. H. PRIESTLEY.
CORN PLANTER.

(Application filed Mar. 8, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

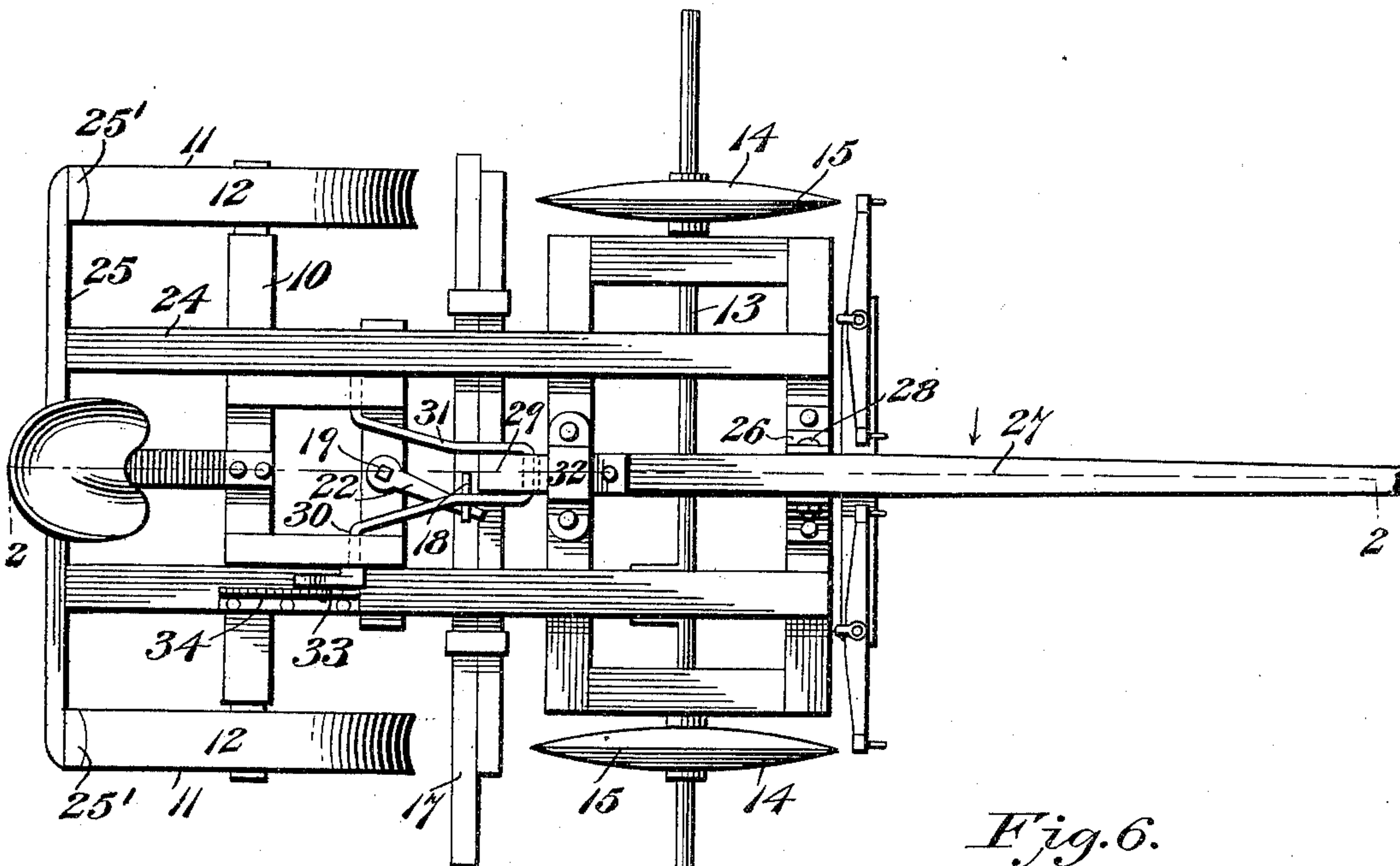
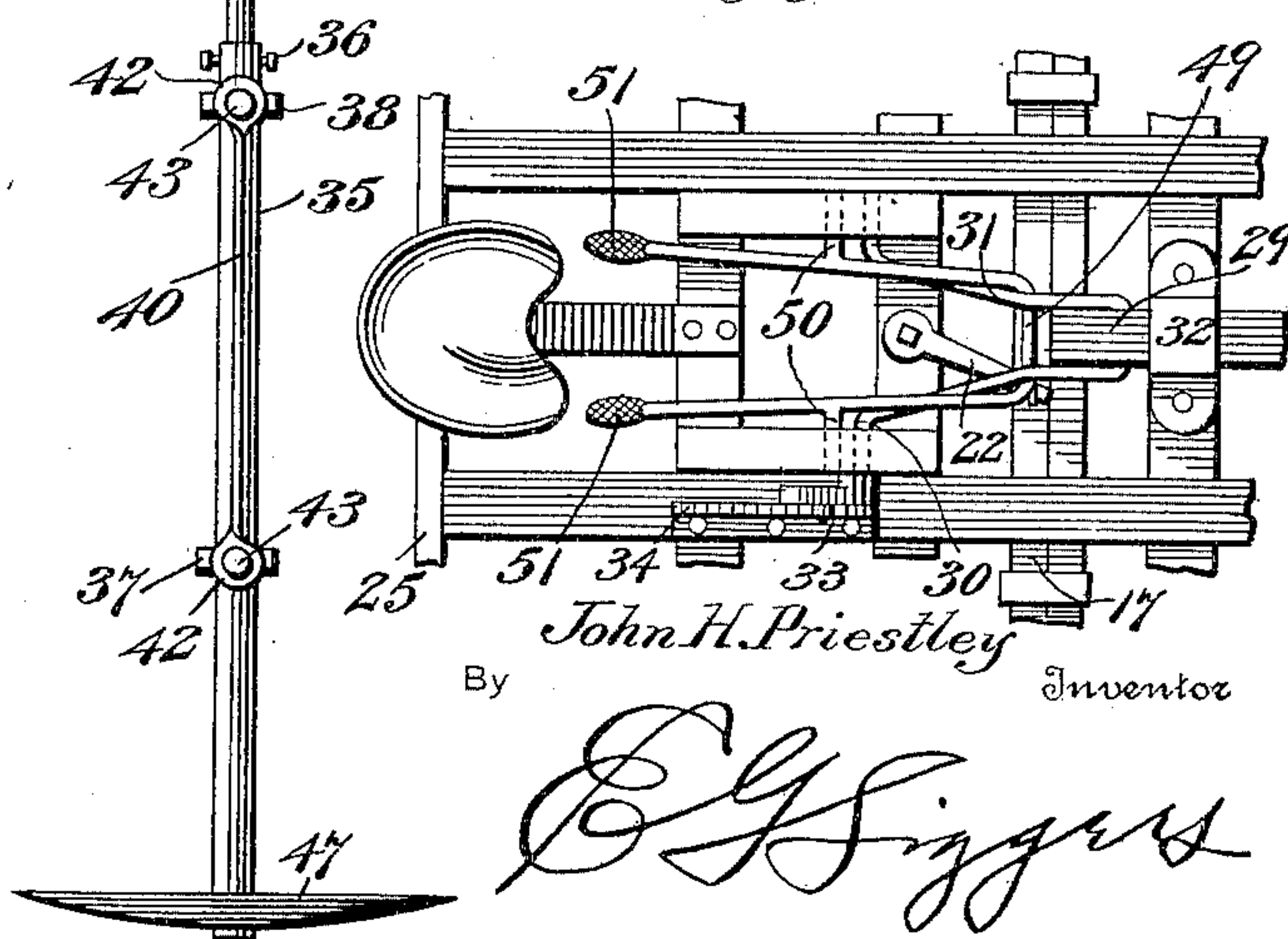


Fig. 6.



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2 Sheets—Sheet 2.

Fig. 2.

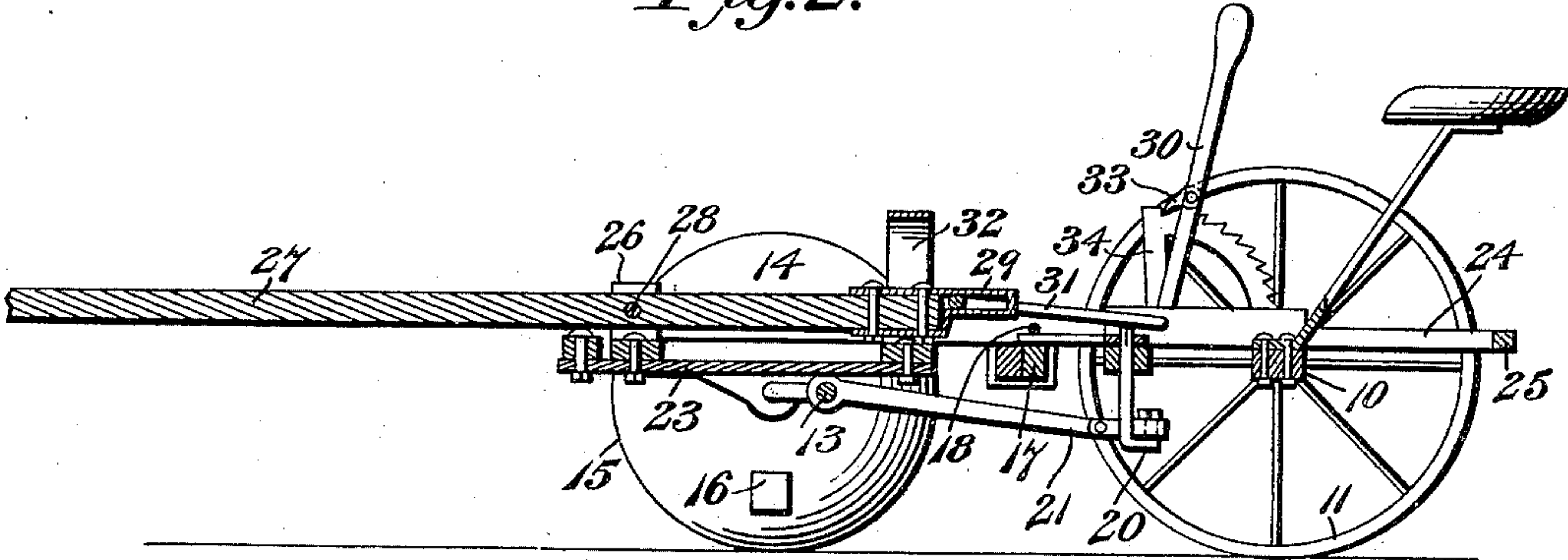


Fig. 3.

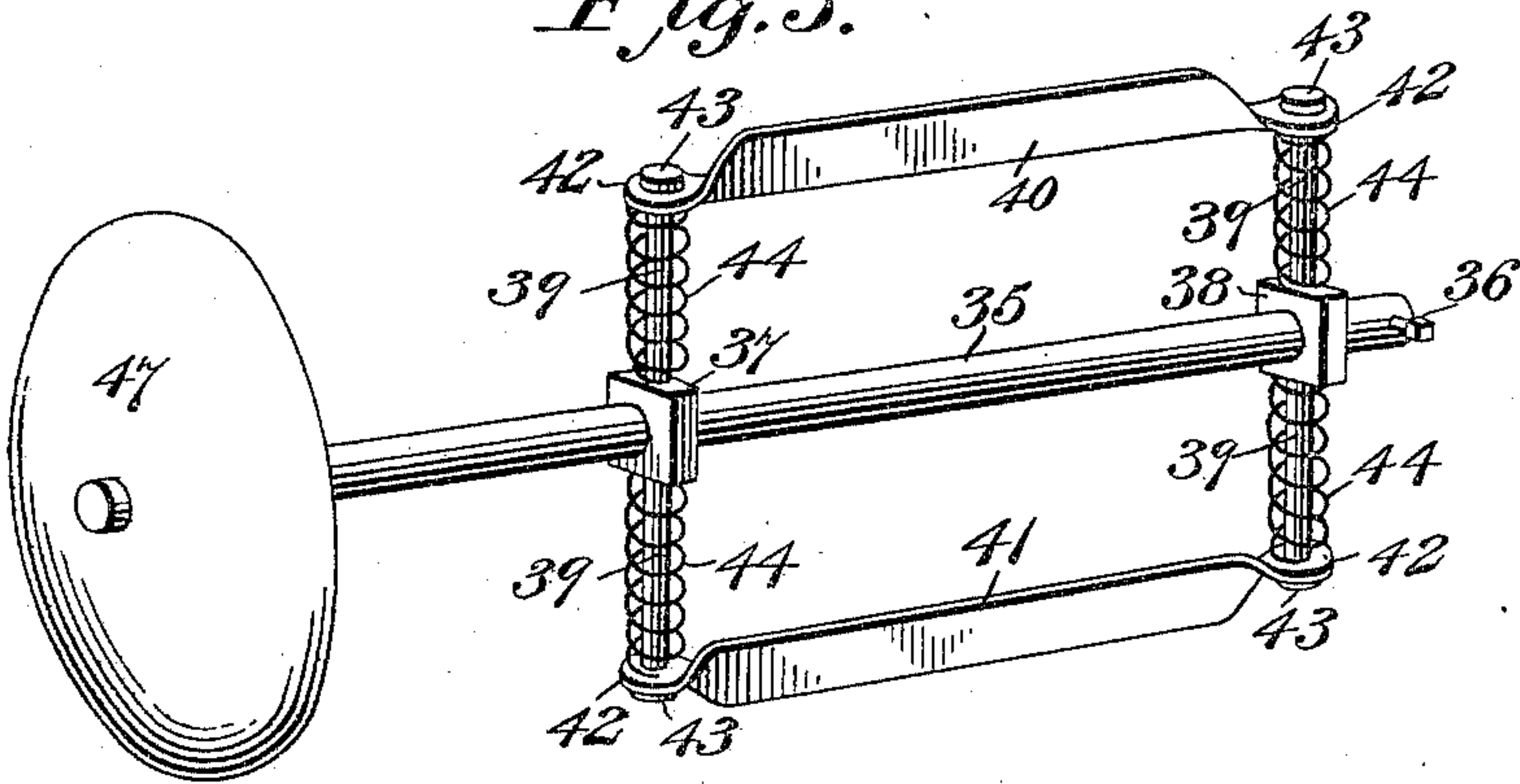


Fig. 4.

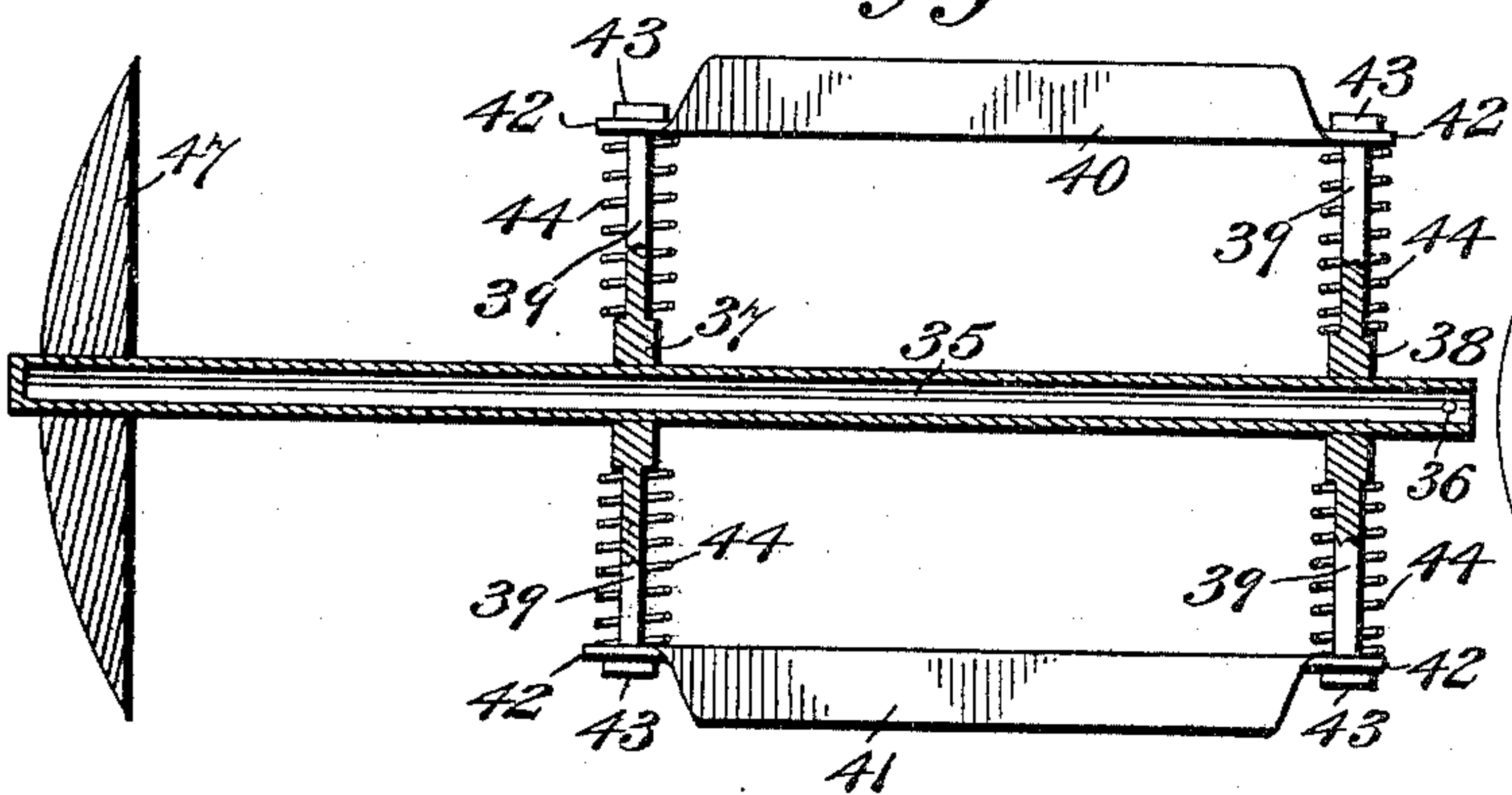
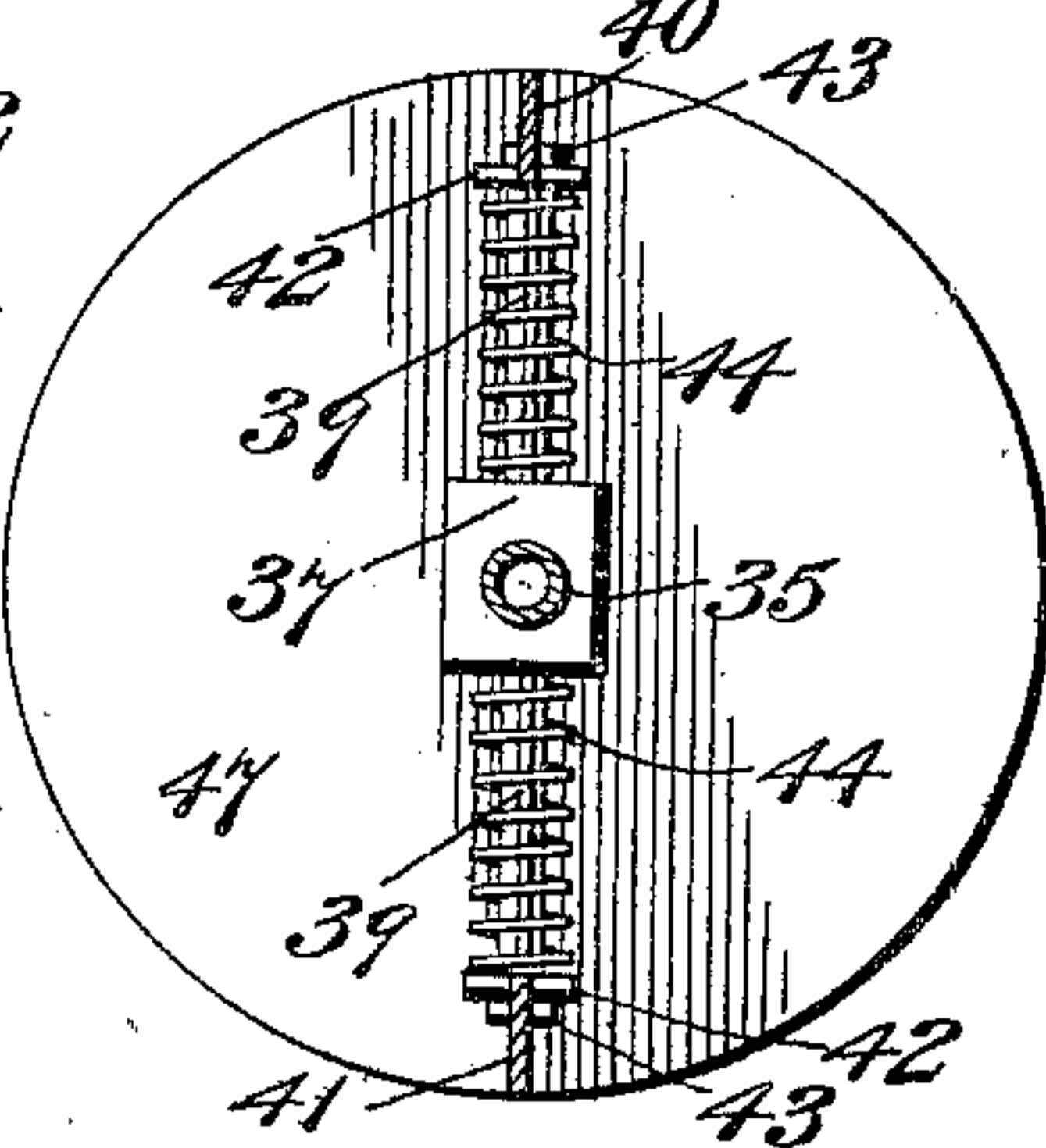


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN H. PRIESTLEY, OF CHEROKEE, IOWA, ASSIGNOR OF ONE-HALF TO
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CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 652,291, dated June 26, 1900.

Application filed March 8, 1900. Serial No. 7,856. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. PRIESTLEY, a citizen of the United States, residing at Cherokee, in the county of Cherokee and State of Iowa, have invented a new and useful Corn-Planter, of which the following is a specification.

My invention relates to improvements in corn-planters in which I have embodied simple and efficient means for operating the drop-per-slide and for raising or lowering the driving mechanism, so as to throw the machine into and out of action.

One object of the invention is to provide a check-row mechanism for indicating the places where the corn is to be planted, said mechanism being yieldable automatically to obstructions in its path, and thereby minimize the tendency to breakage and injury of its parts.

A further object is to combine the check-row mechanism with the driving mechanism in such a way that the check-row devices will on the elevation of the driving devices to an inoperative position automatically assume a proper position to mark the ground on the instant that the machine is brought into use. A gage or side marker is also associated with the check-row mechanism to guide the driver in the trips back and forth across the field, thus dispensing with the employment of a stretched check-wire and the consequent side draft on the machine.

Further objects and advantages of this invention will appear in the course of the subjoined description, and the novelty in the combinations of devices and in the construction and arrangement of parts will be defined by the claims.

In the drawings, Figure 1 is a plan view of a corn-planter embodying the improvements of the present invention. Fig. 2 is a longitudinal sectional elevation taken in the plane of the dotted line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the check-row mechanism removed from the machine. Fig. 4 is a sectional view taken longitudinally through the check-row mechanism. Fig. 5 is a cross-sectional view thereof. Fig. 6 is a detail view of the foot-treadle in operative relation to the rock-shaft that lifts the front

end of the planter-frame, whereby the foot-treadle may assist the hand-lever in the elevation of the frame.

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

The main carrying-axle 10 of the machine is supported by the wheels 11, which are provided with the peripheral gooves 12, so as to make the wheels serve the means for covering the seed after it shall have been deposited. A crank-shaft 13 is arranged in a horizontal position in front of the axle and beneath the frame, said shaft being journaled in suitable pillow-blocks, which are fastened to the under side of the frame. The furrow-opening wheels 14 are made fast with the crank-shaft and arranged in position in line with the covering-wheels 11. Each furrow-opening wheel is provided with reversed convex faces, which meet at the periphery of the wheel, so as to produce a cutting edge 15, and each wheel is furthermore provided with a counterpoise or weight 16, the latter being disposed in an eccentric position on the wheel and the weights of the two wheels being correspondingly arranged thereon, the purpose of which will hereinafter appear. The seed-dropping bar 17 is in the form of a slide working in suitable guides on the frame and disposed in operative relation to the hoppers. (Not shown.) These hoppers may be of any suitable type known to those skilled in the art, or they may be of any preferred construction. The dropper bar or slide is provided with a loop or keeper 18, adapted to be engaged by a finger 22, which is secured to the upper extremity of a vertically-disposed rock-shaft 19, the latter being journaled in a suitable bearing or bearings near the rear part of the frame and preferably between the wheels 11. The lower end of this rock-shaft is bent or otherwise provided with a crank-arm 20, to which is connected the rear end of a pitman 21, that extends forwardly to the crank of the shaft 13, said pitman being loosely connected to the crank. The crank-shaft and the furrow-wheels constitute the means for operating the seed-dropping mechanism and the check-row mechanism, and it will thus be seen that said axle and wheels form the driv-

ing mechanism. In the service of the machine the sharpened peripheral edges 15 of the furrow-wheels cut their way through the ground and obstructing vegetable growths, and at the same time the peculiar form of the wheels press the soil laterally, so as to form and open the furrows in which the seed is deposited from its dropping mechanism. A draft-bar 23 is secured centrally to the frame for its front end to project in advance of the frame, thus making provision for the attachment of a doubletree adapted to be hitched to the horses. Certain of the bars of the frame of the machine, which is indicated by the numeral 24, are extended beyond the rear axle to receive and support a scraper-bar 25, the latter having the shoes 25', adapted to frictionally engage with the carrying-wheels 11 and to scrape the dirt from the peripheral grooves thereof.

Firmly secured to the front end of the frame is an upstanding bracket 26, through which loosely passes the tongue or pole 27, the latter being pivotally mounted in the bracket by a transverse pivotal bolt 28. The rear end of this tongue or pole is slidably confined in a vertically-disposed guide 32, which is made fast to the machine-frame, and a stirrup 29 is fastened rigidly to this rear end of the tongue or pole, so as to project beyond the guide 32. A lever 30 is fulcrumed in a suitable way on the machine-frame at a point in front of the axle, said lever being provided with a crank-arm 31, which is loosely and slidably fitted in the stirrup 29 of the pivoted pole. The lever carries a latch or detent 33, which is adapted to engage with a toothed sector 34, fastened to the frame. By moving the lever in a forward direction the crank-arm is depressed to turn the pole on its pivot 28, and as this pole has its front end supported in a neck-yoke the elevation of the rear end of the pole operates to raise the front end of the machine, so as to lift the wheels 14 above the ground, and thereby throw the driving mechanism out of operative position. It is evident that the lever may be locked by its detent in fixed engagement with the sector to maintain the furrow-wheels in their raised positions, and thus enable the machine to be transported to or from the field; but the reverse adjustment of the lever lowers the front end of the machine for the furrow-wheels to rest upon the ground.

The crank-shaft which drives the seed-dropping mechanism is also adapted for the operation of one or more check-row mechanisms, because the ends of this shaft 13 are extended for proper distances beyond the furrow-wheels 14 to receive said mechanism or mechanisms. It is evident that two of these check-row devices may be mounted on the projecting ends of the crank-shaft, (one on each side of the machine,) so that one or the other of said devices will be in position for operation as the machine is driven back and forth across the field. If, however, a single check-row device is employed, it becomes nec-

essary for the driver on reaching one edge of the field and before starting on the return-trip to detach the check-row device from one end of the crank-shaft and clamp the same to the other end of the crank-shaft. This check-row device (or each of them) includes a hollow or tubular shaft 35, which is provided at one end with a clamp 36, the latter being in the form of one or more binding-screws. It is evident that the inner end of the tubular shaft may be readily slipped over the projecting end of the crank-shaft, and the clamp 36 may then be operated to make the tubular shaft fast with the crank-shaft, whereby the check-row device is held firmly on the crank-shaft to rotate therewith and at the same time provision is made for the easy disengagement of the tubular shaft and the crank-shaft for the purpose of reversing the check-row device from one end of the crank-shaft to the other in case a single check-row device is employed.

The hollow shaft carries two cross-heads 37 38, which are spaced a proper distance apart on said shaft and are secured firmly thereto, and these cross-heads are provided with the stems 39. Each cross-head has two of these stems arranged to project on opposite sides of the shaft, and the stems of one cross-head are parallel to the stems of the other cross-head. A pair of pressure-bars 40 41 is slidably fitted on the stems of the cross-heads, said bars being disposed on opposite sides of the shaft and parallel to the axis thereof, whereby the stems are adapted to support the bars and to limit the same to slidable movement in paths radial to the axis of the shaft. In the detailed construction of each marker-bar shown by the drawings I have shown the same as consisting of a single flat bar having its ends twisted for a quarter-turn to provide the ears 42, which are perforated to receive the stems, the ends of said stems being headed or upset to form the stops 43, that limit the slidable movement of the bars under the pressure of the springs 44. In lieu of heading the ends of the stem suitable stop-pins may be attached to the stems for the purpose of preventing the bars from working off the stems, and these bars may be otherwise constructed than by twisting the ends thereof in order to slidably fit the same on the stems.

As the hollow shaft is clamped fast with the crank-shaft the entire check-row attachment is adapted to rotate with the crank-shaft when the machine is in motion, and the marker-bars are thus presented in positions to indent or press a line upon the soil. These bars indent the ground twice in every complete revolution of the shaft and the furrow-wheels, so as to indicate the places where the corn is planted in the furrows. The bars being slidably fitted on the stems are held in their operative positions by the pressure of the springs, each of which is fitted loosely on one stem, so as to have one end of said stem seated against the cross-head and the other

end in active relation to the bar. In case the bar encounters a stone or other obstruction in its path said bar is free to slide on the stems, and thereby compress the springs to overcome injury to the check-row device; but when the bar clears this obstruction the springs operate to return the bar to its working position.

The shaft 35, which carries the check-row device, is extended beyond the outer cross-head for the reception of a marker-wheel 47, the same being properly mounted on the shaft so as to form a crease or line in the ground, which assists the operator in driving the machine in a straight line across the field on the return trip.

The purpose of the counterpoise-weights 16 on the furrow-wheels is to move the crank-shaft automatically into a position for the check-row device to assume a perpendicular position when turning the machine at the end of the furrow, whereby the marker and check-row devices are adjusted when starting back across the field to indicate the proper places for planting corn.

Changes may be made in the form and proportion of some of the parts falling within the scope of the appended claims, while their essential features are retained and the spirit of the invention is embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Under some circumstances I have found it desirable to employ a foot-treadle to assist the hand-lever and the rock-shaft in the elevation of the front part of the frame which carries the planting mechanisms, and in Fig. 6 of the drawings I have shown one embodiment of means for attaining this object. The treadle 48 is in the form of an elongated bail having a looped end 49, arranged to fit under the crank 31 of the rock-shaft. This treadle is fulcrumed at points intermediate of its length on the short arms 50, which are suitably supported on or fastened to a part of the planter-frame. At the rear end of the looped treadle-lever are provided the foot-rests 51, on which the operator may place one or both of his feet for the purpose of depressing one end of the lever and raising the other end of said lever, so as to assist in lifting the crank of the rock-shaft for the elevation of the planter-frame.

Having thus described the invention, what I claim is—

1. A check-row attachment for planters comprising a shaft, a marking-wheel supporting its outer end, and a series of radially-yielding, longitudinally-disposed marker-bars carried by the shaft.

2. A check-row attachment for planters comprising a shaft, a marker-wheel support-

ing its outer end, a series of longitudinally-disposed radially-yielding marker-bars carried by the shaft, and means for detachably connecting said shaft to the shaft of the planter.

3. In a corn-planter, the combination with a driving-shaft, of a check-row device comprising a shaft clamped to the driving-shaft, at one end, a marking-wheel supporting the outer end of the check-row shaft, cross-heads having the guide-stems, and spring-repressed bars slidably fitted on the guide-stems, substantially as described.

4. In a corn-planter, a check-row device comprising a shaft, means at one end of the shaft for effecting its attachment to the driving-shaft of the corn-planter, a marking-wheel supporting the opposite end of the check-row shaft, cross-heads fast with the shaft and in spaced relation to each other, guide-stems projecting from the cross-heads, bars slidably fitted on the stems, and springs seated against the cross-heads and the bars, substantially as described.

5. In a corn-planter, the combination with a driving-shaft, of a shaft clamped thereto and extending outwardly therefrom, a check-row device carried by said extended shaft and having automatically-yieldable bars, and a marker carried by the extended shaft beyond the check-row device, substantially as described.

6. In a planter, the combination with a frame and shaft, of counterpoised furrow-opening wheels carried by the shaft, a check-row shaft detachably connected to the planter-shaft, a marker-wheel carried at the outer end of the check-row shaft, and a series of radially-yielding marker-bars carried by the check-row shaft intermediate of the marker-wheel and the planter-shaft.

7. In a corn-planter, the combination with a main axle, of a frame provided with an up-standing bracket and a guide, a tongue fulcrumed in the bracket and extended loosely through the guide, a stirrup secured to the tongue at its rear extremity, a lever fulcrumed on the frame and having a crank loosely connected with the stirrup, and a treadle having the form of an elongated bail fitting under the crank and designed to be employed alternately with the lever or simultaneously therewith for elevating and depressing the tongue.

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

JOHN H. PRIESTLEY.

Witnesses:

G. C. ALLISON,
J. E. ALLISON.