No. 843,162. PATENTED FEB. 5, 1907.

F. H. MORSE.

GROUND MARKER AND TRIP ACTUATOR.

APPLICATION FILED MAR. 28, 1906.

2 SHEETS—SHEET 1.

Fig. 1

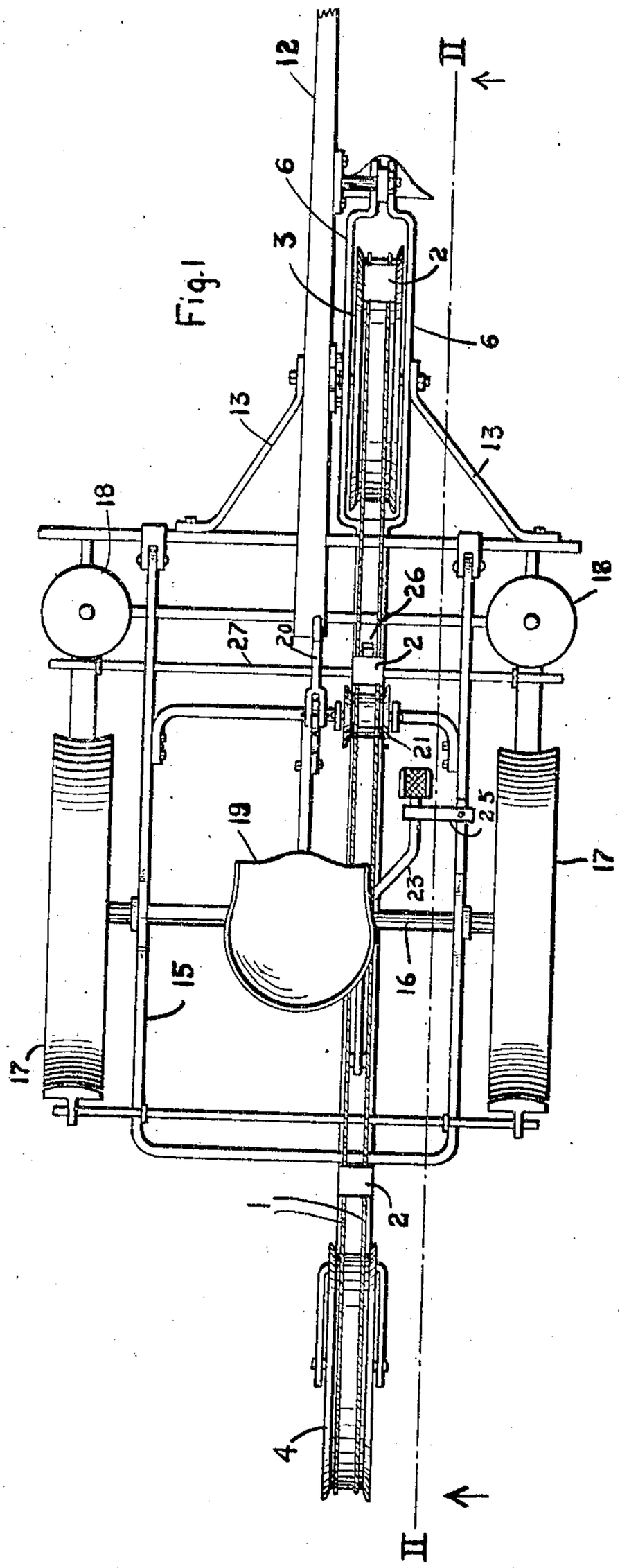
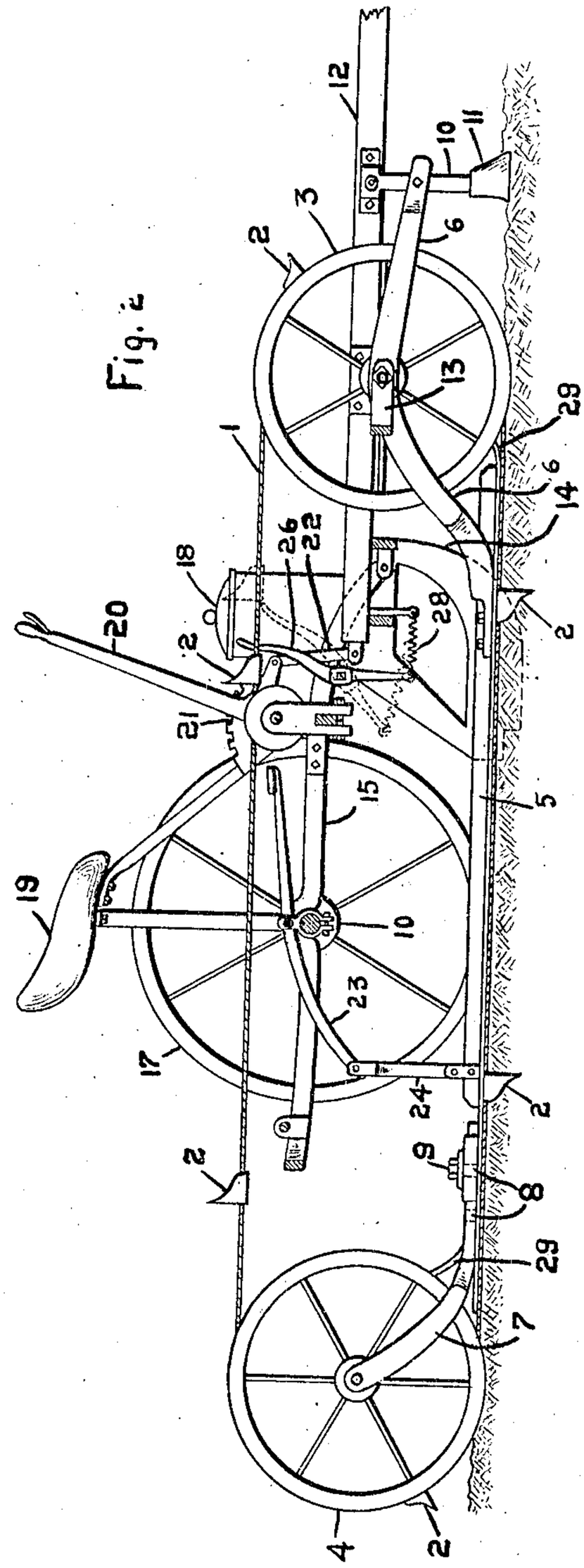


Fig. 2



WITNESSES

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2 SHEETS—SHEET 2.

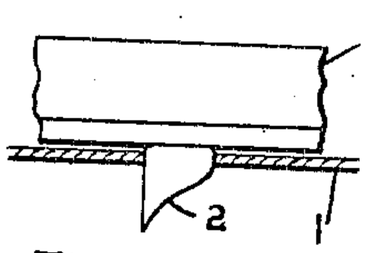


Fig. 4

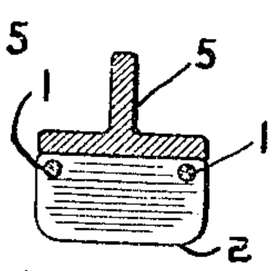


Fig. 5

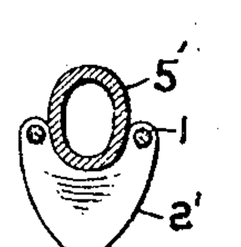


Fig. 6

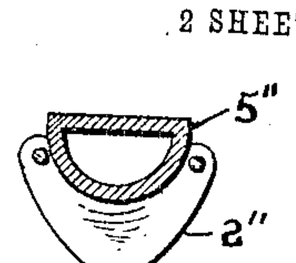


Fig. 7

Fig. 8

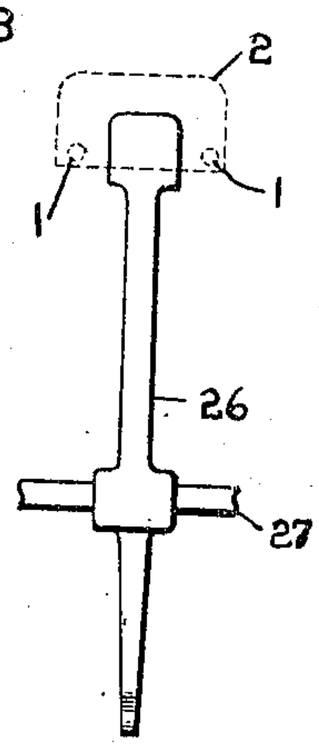


Fig. 9

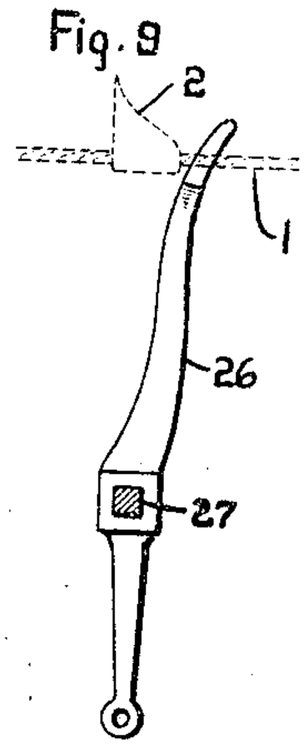


Fig. 10

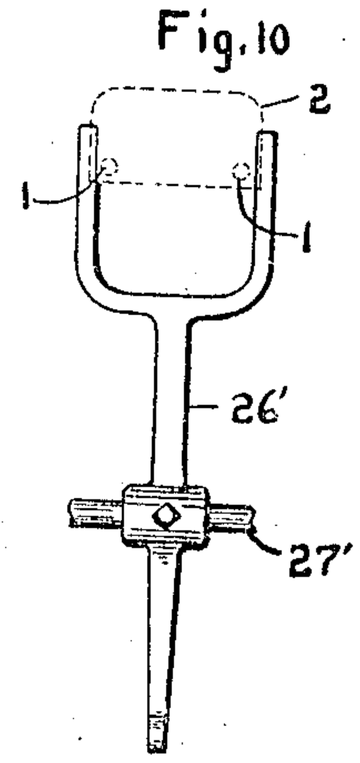


Fig. 11

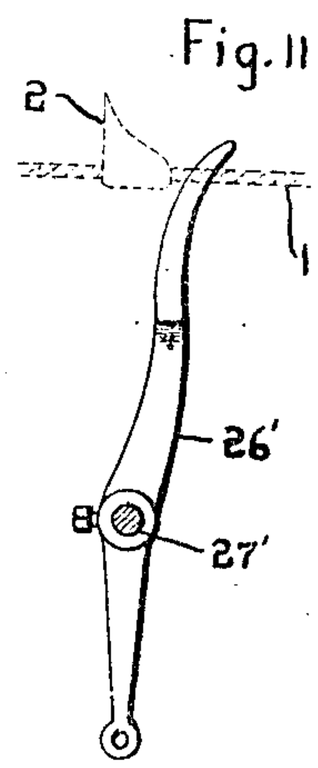
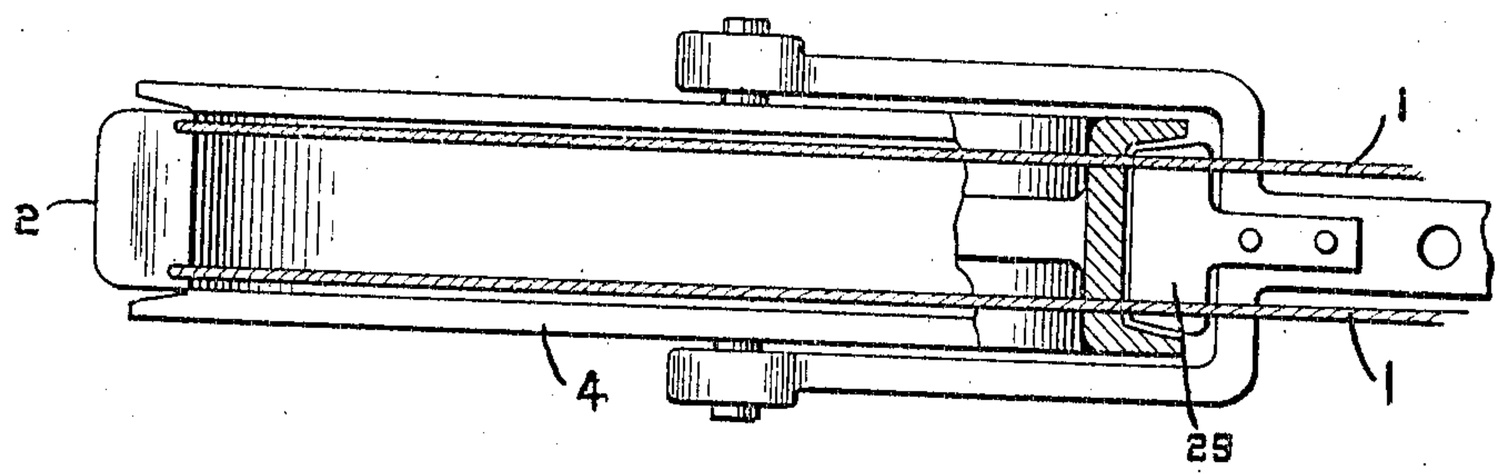


Fig. 3



WITNESSES:
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UNITED STATES PATENT OFFICE.

FREDERICK H. MORSE, OF MILWAUKEE, WISCONSIN.

GROUND-MARKER AND TRIP-ACTUATOR.

No. 843,162. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed March 28, 1906. Serial No. 308,513.

To all whom it may concern:

Be it known that I, FREDERICK H. MORSE, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Ground-Markers and Trip-Actuators, of which the following is a specification.

This invention relates to a marking mechanism and a trip-actuating device, and more particularly to the combination thereof.

This invention has utility when embodied in a traveling machine wherein the recurrence of certain operations at fixed or predetermined distances apart is desirable. This condition arises in seeders and planters.

Referring to the drawings, which are hereby made a part of this specification, Figure 1 shows a plan view of an embodiment of my invention in a corn-planter. Fig. 2 shows a view on the line II II of Fig. 1 looking in the direction of the arrows. Fig. 3 shows an enlarged plan view of one of the marker-embedding wheels of the device, a portion of the wheel being broken away to more clearly show the form of the rim. Fig. 4 shows a portion of the runner and marker. Fig. 5 shows a cross-section of the runner. Figs. 6 and 7 show cross-sectional views of different forms of runners with markers therefor. Fig. 8 shows a front view and Fig. 9 a side view of the trip-lever, and Figs. 10 and 11 are similar views of a different form of trip.

The novel construction proper comprises the endless cables 1, carrying the markers 2, traveling over the wheels 3 and 4, the runner or presser 5 serving, when lowered, to hold the markers firmly in the ground after being embedded by wheel 3, thereby causing the endless marker-carrying member to be ground-actuated as the machine is hauled along. The forward end of the runner 5 is held relative to the wheel 3 by the yoke 6. The rear end of the runner 5 is adjustably held relative to the wheel 4 by the yoke 7. A plurality of holes 8 in the runner 5 permit of adjustment of the wheel 4 relative to the runner 5, which adjustment affords a convenient means for taking up slack in the endless flexible member and permits of ready adjustment to accommodate length of cables when it is desired to change the distance between the markers, this generally rendering necessary a new length for the endless members to make them a multiple of the distance between the markers.

The arms of the yoke 6 extend forward beyond the axle of the wheel 3 to engage the upright or standard 10, carrying the colter or shovel 11, which serves to open a shallow furrow for the wheel 3, and thereby gives a uniform surface into which the wheel 3 may force the marker 2. The markers, as shown, are of such a form as to be easily embedded and firmly held. The curved side is gradually pressed into the soil, while when set the straight side offers a maximum of resistance to pull. Accordingly as the machine moves along the marker remains firmly fixed in the ground, actuates the endless cables, and on withdrawing leaves a clear and distinct impression.

As herein shown the mechanism is attached to a corn-planter frame, the wheel 3 being journaled adjacent to and an upright 10 being attached to the tongue 12 thereof. One of the braces 13 for the tongue is spaced over to permit of centrally placing the marker and trip-actuating mechanism. This results in a neat compact construction simple in arrangement and effective in operation.

The furrow-openers 14 (shown in part in dotted lines in Fig. 2) are located below the rear end of the tongue 12 and are pivotally connected to the frame 15, which frame is carried by the axle 16 of the main wheels 17 of the planter. On the forward end of the frame 15, above the furrow-openers 14, are the seed or grain boxes 18. The frame also carries the seat 19, hand-lever 20, and idler 21. The idler or guide pulley 21 is mounted on the same pivot-pin as the hand-lever 20. The hand-lever 20 may be locked in various positions on the segment, and through the link 22 lift or lower the tongue 12 and furrow-openers 14. This operation of the hand-lever also tilts the forward end of the marker mechanism. Through the foot-lever 23 and link 24 the rear end of the marker mechanism may be lifted or lowered.

The device comprising the frame 5 6 7 and wheels 3 4 for the endless-marker carrying members 1 constitutes a support which has independent tilting means 20 23 for each end thereof.

A toothed catch 25 may be provided under which the foot-lever may be swung to lock it in various positions.

The idler 21 serves to properly guide the cables 1 toward the trip 26, which trip, as herein shown, is mounted on the bar 27, the tilting of which bar by the marker striking

the lever 26 permits regular dropping of grain or seed from the boxes 18. The trip is retracted by the spring 28 and so immediately brought back into position as soon as one marker passes in readiness to be engaged by the next marker.

Between the flanges of the wheels 3 and 4 scrapers 29 act to remove adhering matter and keep the peripheries thereof clean for the cables.

The T-shaped runner of Figs. 4 and 5 is a light, simple, and rigid construction. The runner 5′ of Fig. 6 is a desirable construction, which besides being light and rigid permits of a curved rim to the wheels 3 and 4, and in connection with such rims positively keeps the endless member and markers guided while on the lower side. The markers 2′ are constructed to coact with the runner 5′. The runner 5″ of Fig. 7 has coacting marker 2″. This construction embodies the advantages of the other forms.

The trip may be of various forms. In Figs. 10 and 11 a trip is shown which is forked. This trip 26′ is mounted on a round bar 27′, to which it is keyed by a set-screw. The same result is accomplished by forming the bar 27 angular, as shown in Fig. 9. Dotted lines, Fig. 2, show movement of the trip.

The hand-lever 20 and foot-lever 23 are conveniently placed so that the marker and trip mechanism can be easily operated.

It is desirable that the mechanism be sufficiently long to permit of at least two markers being embedded in the ground at once. When so constructed, the operation will be regular, and if used in planting no hills will be missed, for if an obstruction is in the field and it is necessary to lift first the forward end and then the rear as the machine passes there will always be a marker in engagement with the ground.

In completing a row the mechanism is lifted off the ground by the hand and foot levers. In resetting to start back across the field the position of the mechanism beneath the driver permits him to get directly over the marker and sight across the field. If the marker on the planter is not in proper position, the cables 1 may be grasped by the hand and pulled into the proper position, when the foot and hand levers may be released and the return trip commenced. The foot and hand levers are controllable means for rendering the device inoperative by lifting off the ground.

The showing in the drawings is merely one embodiment of the idea of the invention, and this showing is not to be construed as in any way limiting the claims hereto appended to any greater degree than the terms of the claims demand. In other words, the elements of the claims are to be interpreted broadly, giving me the advantage of equivalents.

What is claimed, and it is desired to secure by Letters Patent, is—

1. A marker-carrying device and independent tilting means for each end thereof.

2. A planter having a seeding device, a trip therefor and a marker, adjustable independently of the seeding device, for actuating the trip.

3. A planter having furrow-openers, a marker-carrying device adjustable independently of the furrow-openers, a marker and a trip actuated by the marker.

4. A planter having furrow-openers, an endless flexible marker-carrying member adjustable independently of the furrow-openers, a marker and a trip actuated by the marker.

5. An endless flexible member, supporting means therefor, member-propelling markers and a marker-actuated trip.

6. A driven member, a trip and a ground-engaging trip-actuating marker to drive the member.

7. A ground-marking device comprising a pair of wheels, an endless carrier, markers thereon, and a runner for holding the wheel-embedded markers in the ground.

8. A trip-actuating device comprising a pair of wheels, an endless carrier, wheel-embedded propellers, and a runner for holding the propellers embedded.

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

FREDERICK H. MORSE.

Witnesses:
M. T. McCosphey.
C. C. Smith.