R. W. E. HAYES.

MARKER FOR CORN PLANTERS.

APPLICATION FILED SEPT. 11, 1917.

1,255,532.

Patented Feb. 5, 1918.

2 SHEETS—SHEET 1.

Fig. 1

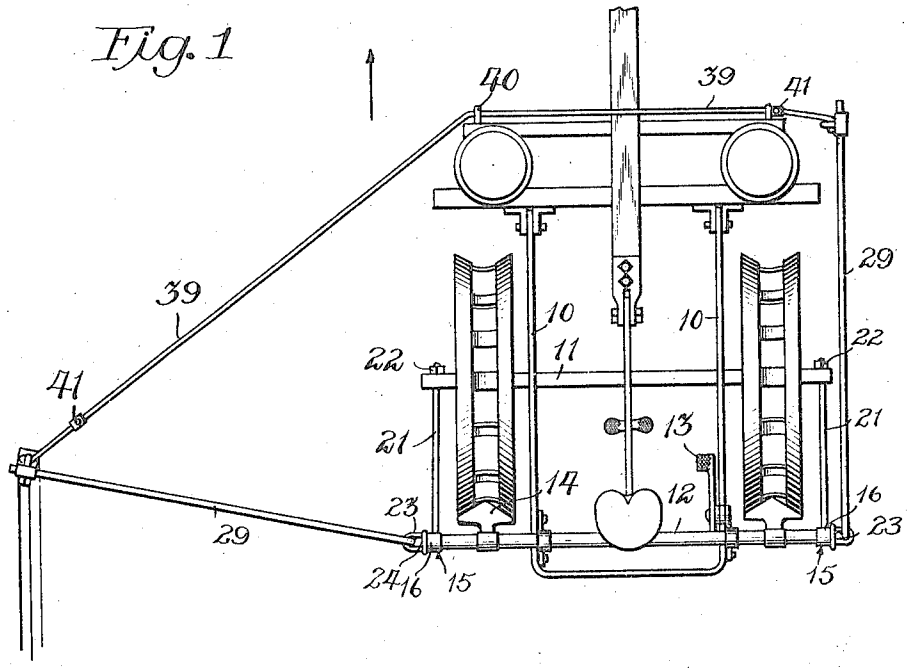
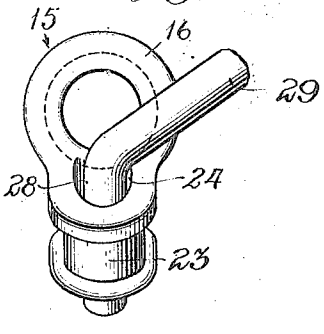


Fig. 4



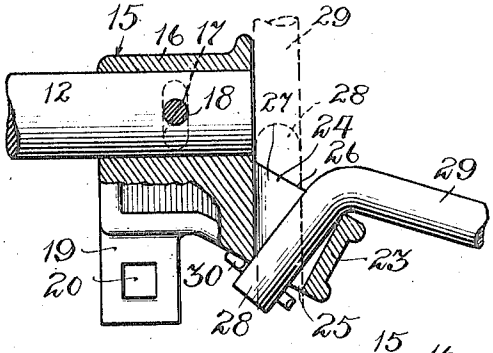


Fig. 3

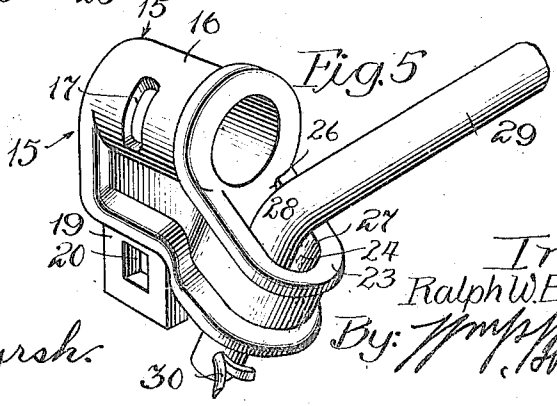


Fig. 5

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2 SHEETS—SHEET 2.

Fig. 2

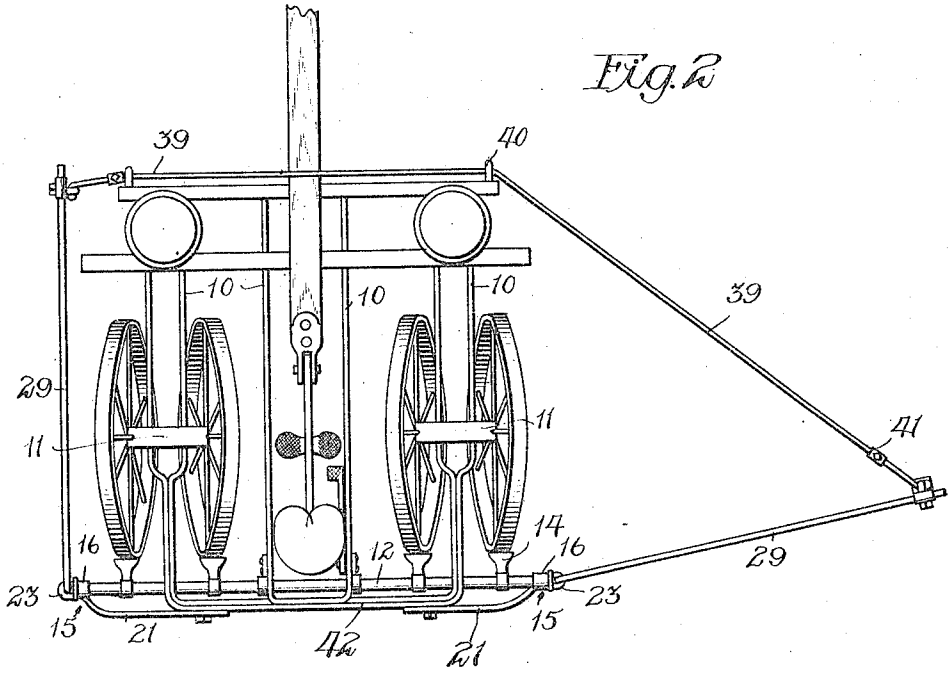


Fig. 6

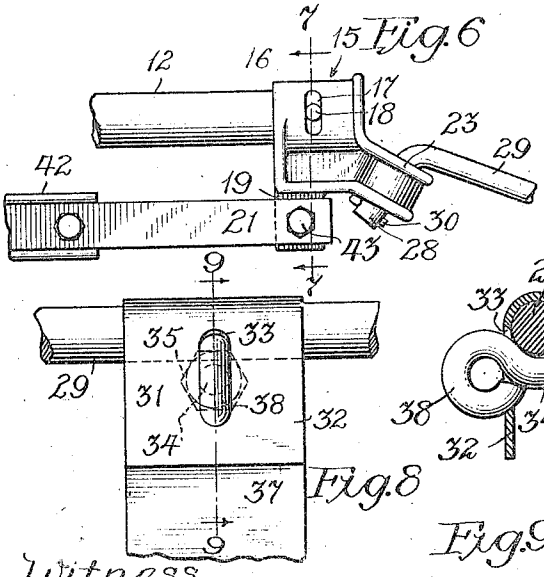


Fig. 8

Fig. 7

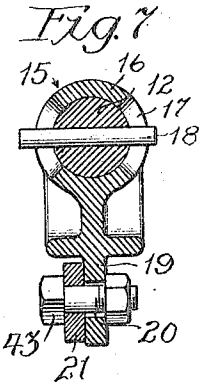


Fig. 9

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UNITED STATES PATENT OFFICE.

RALPH W. E. HAYES, OF GALVA, ILLINOIS, ASSIGNOR OF ONE-HALF TO HAYES PUMP & PLANTER COMPANY, OF GALVA, ILLINOIS, A CORPORATION OF ILLINOIS.

MARKER FOR CORN-PLANTERS.

BEST AVAILABLE COPY

1,255,532. Specification of Letters Patent. Patented Feb. 5, 1918.

Application filed September 11, 1917. Serial No. 190,728.

To all whom it may concern:

Be it known that I, RALPH W. E. HAYES, a citizen of the United States, residing at Galva, in the county of Henry and State of Illinois, have invented certain new and useful Improvements in Markers for Corn-Planters, of which the following is a specification.

The present invention relates to the construction and arrangement of various portions of a marker attachment which is applied to corn planters, and which is used for the purpose of guiding the operator to properly position the machine when it is turned from the end of one row to begin the planting of another row.

One of the objects of the invention is to utilize a standard portion of the machine, namely, the scraper bar, as a carrying member for the pivotal mountings for the marker arms.

A further object of the invention is to provide means for anchoring said pivotal mountings in position, which anchoring means will be attached to a portion of the frame of the machine, and the term "frame" as used in the specification and claims is intended to include the axles which carry the wheels.

A further object of the invention is to provide a connection between the marker arm mountings and scraper rod, whereby said rod may revolve without revolving said mountings, and to further provide means to prevent said mountings from having a longitudinal movement relative to said rod.

A further object of the invention is to provide a depending lug or member from the mounting which will permit of an anchoring member being attached thereto in a manner to extend either parallel with the scraper rod or at right angles thereto, as may be desired, and further, to attach this anchoring member to the frame of the planter.

A further object of the invention is to provide a simple and efficient means for firmly clamping the marker to the end of the marker rod, and at the same time enable the employment of a rod of small diameter for carrying the marker.

The invention further consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings:

Figure 1 is a plan view of a corn planter of the two-wheeled type, equipped with the devices of the present invention;

Fig. 2, a plan view of a corn planter of the four-wheeled type, equipped with the devices of the present invention;

Fig. 3, a sectional detail of the marker arm mounting, with the bent end of the arm therein, and showing it applied to the end of the scraper rod, said arm being shown in downward position by means of full lines and in upward position by means of dotted lines;

Fig. 4, a detail showing a face view of the arm mounting, with the bent end of the arm in place therein;

Fig. 5, a perspective of said mounting, with the bent end of the arm in place;

Fig. 6, a detail showing the mounting in position upon the scraper rod and the anchoring means of Fig. 2;

Fig. 7, an enlarged detail on line 7—7 of Fig. 6, looking in the direction of the arrows;

Fig. 8, a detail face view of the connection between the marker implement and marker arm; and

Fig. 9, a section on line 9—9 of Fig. 8, looking in the direction of the arrow.

In the art to which the present invention relates, devices are now known under the title of markers which serve to place an indicating line while the planter is moving in one direction, so that when the planter is turned to retraverse the field, a mark is made showing the proper position for the next furrow. In this way the furrows are made at regular intervals across the field.

Referring now to the drawings, and particularly to Fig. 1, the device as there shown is applied to an ordinary corn planter of the two-wheeled type. The planter comprises the carrying and supporting frame consisting of the rails or bars 10 and axles 11, both of these parts being embraced under the one term "frame." Attached to and carried by the frame is a scraper rod 12 of the usual and ordinary construction, and which is rocked back and forth by means of

the lever arrangement 13. As is well understood, when this bar is rocked, the scrapers 14 are brought into engagement with the wheels to scrape off the accumulated mud and dirt. In the present invention, I utilize this scraper rod as the carrying means for the mountings of the marker arms, thus dispensing with the use of any separate carrying means therefor.

These mountings, designated by the general numeral 15, comprise a sleeve-like portion 16 adapted to fit over one end of the scraper rod and is journaled or pivoted upon said rod, so that the rod is capable of a free rocking movement within said sleeve portions. The said sleeve portions are provided with elongated slots 17, through which extends a pin 18 that also passes through the scraper rod. This pin provides means for preventing longitudinal movement of the mountings off from the scraper rods, but the elongated slot enables the scraper rod to rock without imparting movement to the sleeve. Extending downwardly from the sleeve portion of the mounting is a lug or boss 19, which, as shown, is of a flat faced construction and has an opening 20 therethrough.

In the construction of Fig. 1, there is an anchoring rod 21, which is placed through the opening 20 and through an opening in the axle 11. This rod is of a light nature and when so positioned is held in place by means of nuts 22, or other suitable locking members fixed to each end thereof. This rod is an anchoring member for the mounting 15, and it insures said mounting being held against any rotative movement with respect to the scraper rod. Since it is possible that owing to friction, etc., the mounting might revolve with the rod even though it is pivotally mounted thereon, the employment of the anchoring member 21 is desired, and by the use of anchoring means any turning movement of the mounting is effectively prevented.

Extending outwardly from the sleeve-like portion 16 is a socket member 23 having an opening 24 therein. This opening is substantially circular at its lower end 25 and elongated at its upper end 26, and is therefore of a tapered nature, although the side walls 27 of said opening are substantially straight up and down, giving a substantially uniform width to the slot. It is to be noted that this socket member is placed at a downwardly inclined angle from the remainder of the mounting, the purpose of which will appear hereinafter.

Inserted within the opening of this socket member is a bent end 28 of a marker arm 29, and as will be seen from Fig. 3, the angle between the bent portion and the remainder of the marker arm is more than ninety degrees. A cotter pin 30, or other member, is employed to prevent the arm from being pulled out from the opening in the socket. It is, of course, desirable to employ a small sized rod for the marker arm. There is substantially no strain upon this rod, and if it can be made of small diameter, it lessens the weight and cheapens the cost of the appliance.

It would be difficult to attach a marker implement to the end of a small sized arm by the use of the ordinary attaching means. In the present invention, I utilize a marker consisting of a sheet of metal 31 properly configured at one end for performing a marking operation on the ground. At its opposite end the metal is bent back upon itself to overlie the arm and form a short, downwardly extending portion 32 and a long, downwardly extending portion 37, this latter having its end configured to perform the marking operation. The end portion 32 is provided with an elongated slot 33, and the portion 37 is provided with a registering opening 36. The fastening member consists of a stem 34 threaded at one end to receive a nut 35, said stem extending through the opening 36 in the elongated portion 37 of the marker.

The opposite end of the stem 34 from which the nut 35 is attached, is, as shown, bent into the form of an eye 38, which forms a head thereon; and the length of the slot 33 is such as to allow this head to partially extend therethrough (see Fig. 9). Accordingly, one portion of the head will be brought into engagement with the periphery of the marker arm 29, and when the nut 35 is tightened, this head is drawn into firm engagement with the rod and with the body of the marker, so that the head and nut cooperate to lock the marker member in firm engagement with the marker arm. Owing to the fact that the head 38 is partially seating within the opening 33, the stem 34 will be held, by engagement with the walls of the slot 33, against a turning movement when the nut is manipulated to move it to tight or loose position, thus making the application and removal of the marker very easy. A cord or cable 39 extends from one marker arm to the other and passes through eyes 40 on the frame of the machine. Knots or other abutments 41 are placed adjacent each end of the cable.

Referring now to Fig. 1, the planter as there shown is assumed to be traveling in the direction of the arrow. When a turn is made to the left, the operator will make the turn substantially upon the pivot of the marker member which is then in the ground. Such turning movement will cause the marker at the left of Fig. 1 to move inwardly, slacking the cable 39; and the marker arm to the right will, through the action of gravity, take up this slack and

move outwardly as the other arm moves inwardly. This makes an automatic operation of the arms during a turning movement and is well understood in the art.

It is desirable, however, in moving these arms that the arm moving inwardly shall also move upwardly, so as to clear from the ground, and the arm moving outwardly shall also move downwardly, so as to enter the ground; and such movement of the arms is brought about by the configuration of the opening 24 in the socket member 23 in conjunction with the manner in which the end 28 of the marker arm 29 is bent.

It will be recalled that this bend is such as to place an angle more than ninety degrees between said end and the remainder of the arm. As an arm turns, the bent end will turn within the opening 24; but owing to the fact that said end is lying at an angle to the remainder of the arm, it cannot turn with a true pivotal movement about the center of the bent portion, but as it turns upward, the said bent portion will be forced from the inclined position shown by the full lines in Fig. 3 to the vertical position shown by the dotted lines in Fig. 3, and this will, of course, cause an upward movement of the arm as it is swung inward.

When the arm swings downward, directly the converse takes place, and it is given an outward and downward movement by the bent end moving from the dotted vertical position of Fig. 3 to the angular full line position of said figure. By sloping the socket member as shown with respect to the sleeve portion 16, the arm when lowered extends in the correct diagonal position to bring the marker to the ground line, since owing to the position of the marker upon the scraper rod, said mounting is necessarily held away a relatively substantial distance from the ground, and the marker arm must therefore extend downward when in outward position in order to bring the marker member into proper position to contact the ground.

Referring now to Fig. 2, the description of the parts shown in Fig. 1 is applicable thereto, except that in the case of Fig. 2, a four-wheeled planter is illustrated, and in such construction, it is deemed more desirable to extend the anchoring rod or bar 21 to the rear bar 42 of the frame instead of to the axles. Owing to the flat faced construction of the lug 19, the bar can be placed in this position just as readily as in the position of Fig. 1, the difference being that in the case of Fig. 1, the anchored rod 21 extends through the opening 20 and a nut or other fastening means is placed upon the end of the rod. In the case of Fig. 2, the anchoring member 21 is placed with its face against the face of the lug 19 and a locking bolt 43 inserted through an opening in the anchoring member 21 and the opening 20 in the lug. In all other respects, the construction and arrangement of the parts of Figs. 1 and 2 are identical. In Fig. 1 the anchoring rod extends in a direction crosswise of the scraper bar; and in Fig. 2, it extends in a direction parallel to the scraper bar.

All parts of the device are interchangeable—that is, they can be used upon either side of the machine—and the appliance is extremely cheap and simple of construction and will be found durable under the usual and ordinary conditions of operation. Although the invention has been described with considerable particularity, it is not deemed to limit the scope of the invention in any manner than may be by the terms of the appended claims.

I claim:

1. In a marker attachment for planters, the combination with a planter frame and a scraper bar rotatably mounted on said frame, of marker arms arranged at each side of the frame, a member associated with each of said arms to provide a pivotal mounting for one end thereof, one of said mountings being journaled upon each end of the scraper bar, whereby said bar may rotate without rotating the mounting, means for preventing longitudinal movement of said mountings with respect to the scraper bar, and a marker member on each of said marker arms, substantially as described.

2. In a marker attachment for planters, the combination with a planter frame and a scraper bar rotatably mounted on said frame, of marker arms arranged at each side of the frame, a member associated with each of said arms to provide a pivotal mounting for one end thereof, one of said mountings being journaled upon each end of the scraper bar, whereby said bar may rotate without rotating the mounting, means for preventing longitudinal movement of said mountings with respect to the scraper bar, a marker member on each of said marker arms, and an anchoring member connected to each of said mountings and to a portion of the frame, substantially as described.

3. In a marker attachment for planters, the combination with a planter frame and a scraper bar rotatably mounted thereon, of marker arms arranged upon each side of said frame, a sleeve journaled upon each end of the scraper bar, whereby said bar may revolve without revolving said sleeves, a socket portion extending from each of said sleeves, each socket portion forming a pivotal mounting for one end of a marker arm, means for holding said sleeves against longitudinal movement on the scraper rod, and marker members on each of said marker arms, substantially as described.

4. In a marker attachment for planters, the combination with a planter frame and

a scraper bar rotatably mounted thereon, of marker arms arranged upon each side of said frame, a sleeve journaled upon each end of the scraper bar, whereby said bar may revolve without revolving said sleeves, a socket portion extending from each of said sleeves, each socket portion forming a pivotal mounting for one end of a marker arm, means for holding said sleeves against longitudinal movement on the scraper rod, marker members on each of said marker arms, and an anchoring member connected to each of said mountings and to a portion of the frame, substantially as described.

5. The combination with the frame of a corn planter and a scraper bar rotatably mounted on said frame, of a marker attachment comprising marker arms arranged upon each side of said frame, a sleeve journaled upon each end of said bar, said sleeve being formed with opposite elongated slots, a pin extending through said slots and through said scraper bar, a socket portion extending from each of said sleeves, each socket portion forming a pivotal mounting for an end of a marker arm, and a marker member on the end of each marker arm, substantially as described.

6. The combination with the frame of a corn planter and a scraper bar rotatably mounted on said frame, of a marker attachment comprising marker arms arranged upon each side of said frame, a sleeve journaled upon each end of the scraper bar, a downwardly inclined socket portion extending from each of said sleeves, each socket portion forming a pivotal mounting for an end of a marker arm, means for holding said sleeves against longitudinal movement on the scraper rod, and marker members on the end of each of said marker arms, substantially as described.

7. In a marker attachment for planters, the combination with a planter frame and a scraper bar rotatably mounted on said frame, of marker arms arranged at each side of the frame, a member associated with each of said arms to provide a pivotal mounting for one end thereof, one of said mountings being journaled upon each end of the scraper bar, whereby said bar may rotate without rotating the mounting, means for preventing longitudinal movement of said mountings with respect to the scraper bar, a marker member on each of said marker arms, a lug extending from each of said mountings, and an anchoring member connected to each of said lugs and to a portion of said frame, substantially as described.

8. In a marker attachment for planters, the combination with a planter frame and a scraper bar rotatably mounted on said frame, of marker arms arranged at each side of the frame, a member associated with each of said arms to provide a pivotal mounting for one end thereof, one of said mountings being journaled upon each end of the scraper bar, whereby said bar may rotate without rotating the mounting, means for preventing longitudinal movement of said mountings with respect to the scraper bar, a marker member on each of said marker arms, a lug extending from each of said mountings, an anchoring member connected to said lugs and to a portion of said frame, and said lugs being arranged to receive an anchoring member extending crosswise of the scraper bar or an anchoring member extending longitudinally of said bar, substantially as described.

9. In a marker attachment for corn planters, the combination with a planter frame and a scraper bar revolubly mounted on said frame, of marker arms arranged upon each side of said frame, a sleeve at each end of the scraper bar journalel thereon, a socket portion on each of said sleeves forming a pivotal mounting for an end of a marker arm, oppositely-disposed elongated slots in said sleeve, a pin extending through said slots and through the scraper bar, a lug depending from said sleeve, an anchoring member connected to said lug and to a portion of the frame, and a marker member on each of said arms, substantially as described.

10. In a marker attachment for corn planters, the combination with a planter frame and a scraper rod revolubly mounted on said frame, of marker arms arranged upon each side of said frame, a sleeve at each end of the scraper bar journaled thereon, a lug extending from said sleeve, an anchoring member connected to said lug and to a part of the frame, a downwardly inclined socket portion associated with each sleeve, each of said sockets serving as a pivotal mounting for an end of a marker arm, and marker members on each of said arms, substantially as described.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."