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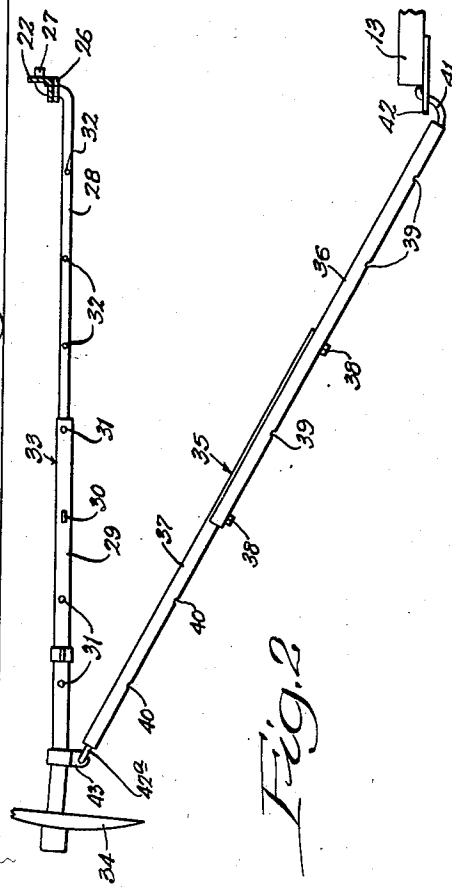
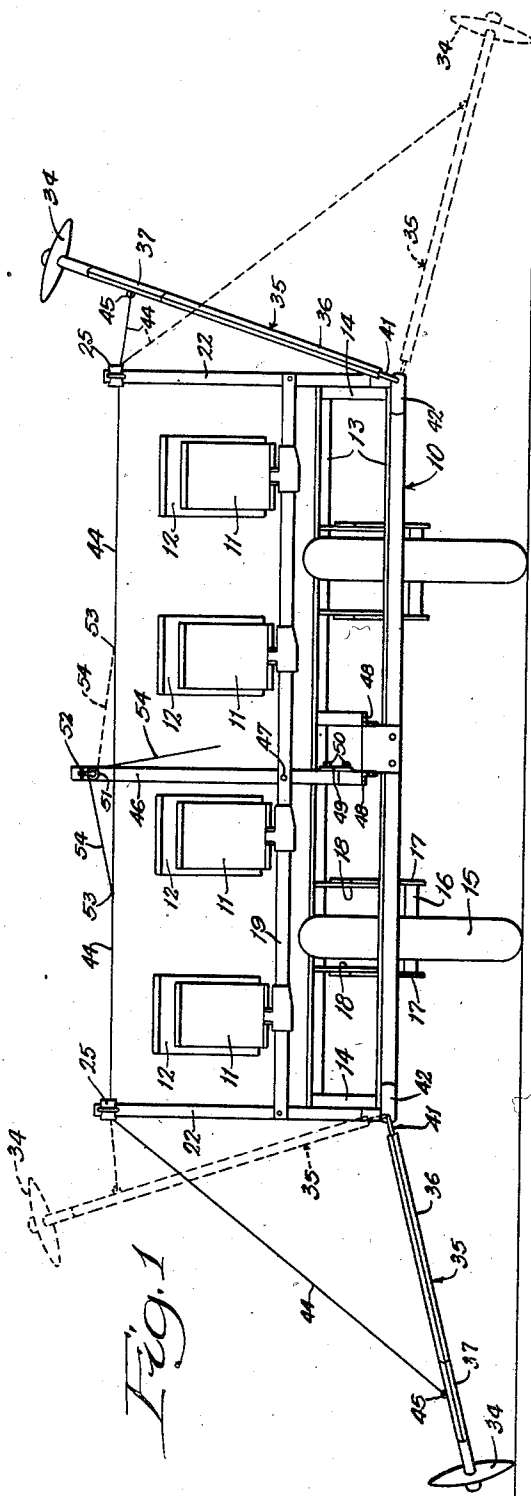
C. C. HAAS

2,362,693

MARKER CONSTRUCTION

Filed March 31, 1943

2 Sheets--Sheet 1



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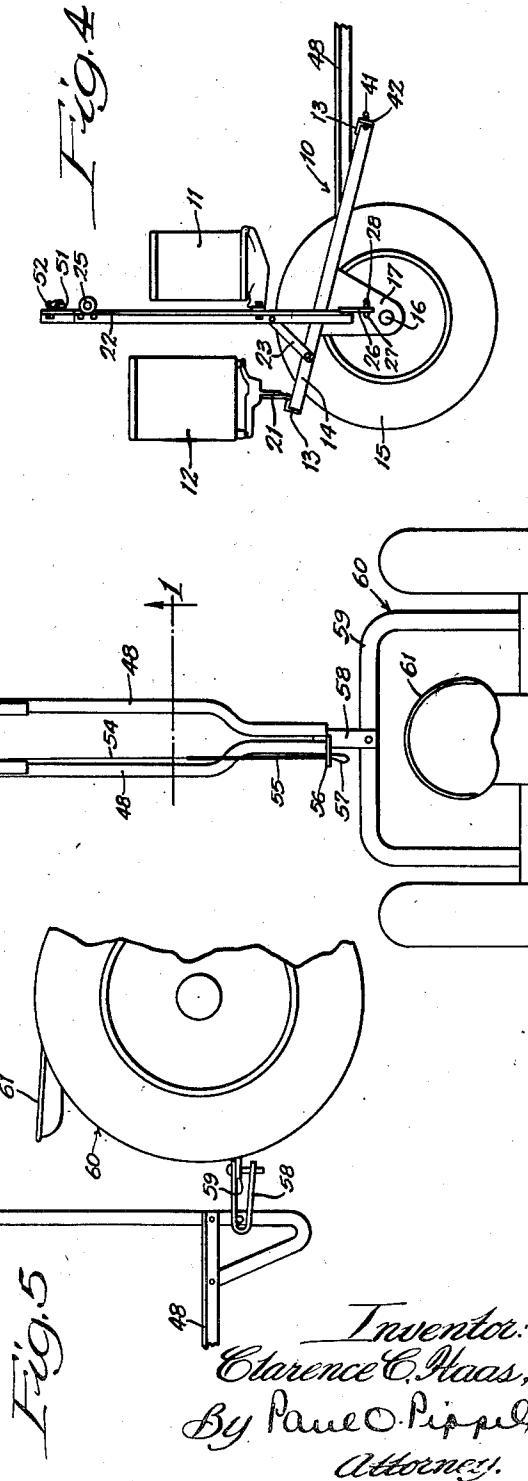
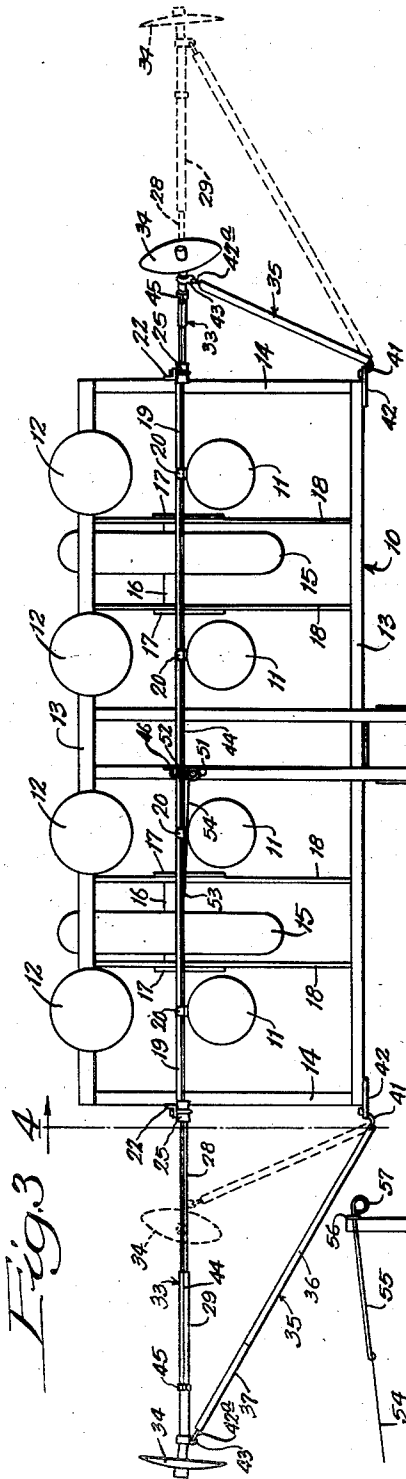
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UNITED STATES PATENT OFFICE

2,362,693

MARKER CONSTRUCTION

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Application March 31, 1943, Serial No. 481,207

11 Claims. (Cl. 97—230)

This invention relates to a marker. More specifically it relates to a control for a marker and to supporting structure for the marker and for the control.

Markers are known that involve a pair of markers interconnected by a flexible element so that the placing of one marker in lowered ground-engaging position brings about the placing of the other marker in raised inoperative position. It is desirable to have a simplified control for such a marker construction, so that the shifting of the markers between operative and inoperative positions may be effected as easily as possible. Quite frequently this is accomplished by applying force directly to the markers themselves to shift them from one position to another, and, in some instances, there is a separate control for each marker. The present application has to do with a simplified control for shifting the markers and with supporting means for the marker and for the control.

An object of the present invention is to provide an improved marker.

A further object is the provision of an improvement in a marker construction involving a pair of interconnected markers arranged so that the placing of one marker in lowered ground-engaging position brings about the placing of the other marker in raised inoperative position.

A further object is to provide an improved control for a marker.

A still further object is the provision of a control for interconnected markers arranged as described above.

Still another object is the provision of an improved mounting structure for a marker.

Another object is to provide an improved mounting for a control means for a marker.

Other objects will appear from the disclosure.

According to the present invention, markers mounted at opposite sides of a frame structure of a planter or other implement are interconnected by a flexible element which assures that the placing of one marker in ground-engaging position will effect the placing of the other marker in raised inoperative position. A control element is connected with a mid-point of the flexible element interconnecting the markers and extends along the flexible element and then forwardly to the front of hitch structure connecting the planter or like implement to a tractor. A forward pull upon the control element exerted at its forward end adjacent the tractor serves to raise one marker and lower the other marker, and another similar forward pull serves to lower

the one marker and raise the other marker. The flexible element interconnecting the markers passes upwardly and over the frame structure, and is supported in guides on the upper end of uprights secured to the frame structure. The marker arms are pivotally connected to the lower end of the uprights.

In the drawings—

Figure 1 is a front view, partially in section, of a planter and the novel marker arrangement of the present invention, the section being taken along line 1 of Figure 3;

Figure 2 is a detail view in plan, showing a marker and a brace therefor;

Figure 3 is a plan view of the planter and the novel marker structure thereon;

Figure 4 is a side view, partially in section, of the planter and the novel marker arrangement, the section being taken on the line 4 of Figure 3; and

Figure 5 is a side view of a front portion of the planter and a rear portion of the tractor.

The reference character 10 designates a planter which comprises a plurality of planting units 11 and a plurality of fertilizer units 12. The planter also includes a frame structure comprising a pair of long, transverse members 13 and a pair of short, longitudinal members 14. The frame structure is supported upon wheels 15 by means of axles 16, depending brackets 17, and short, longitudinal members 18 secured to the transverse members 13. Positioned above the frame structure, made up of the transverse members 13 and longitudinal members 14, is a long, transverse beam 19, upon which is mounted by brackets 20 the planting units 11. The fertilizer units 12 are mounted upon the rear, transverse member 13 by means of brackets 21. The transverse beam 19 is held in spaced relation above the framework by means of a pair of uprights 22 secured to the short, longitudinal members 14 at opposite ends of the frame structure, braced by pieces 23. The uprights 22 extend a considerable distance above the frame structure and carry at their upper ends guides 25. The uprights 22 depend somewhat below the frame structure and carry at their lower ends pieces 26. In pivotal relation through each piece 26 there extends a bent end 27 of a rod 28 adjustably telescoping within a tube 29. The tube 29 may be fixed in a plurality of positions with respect to the rod 28 by a pin 30 extending through any one of a plurality of holes 31 in the tube 29 and in any one of a plurality of holes 32 in the rod 28. The rod 28 and tube 29 constitute a marker arm 33, at

the outer end of which on the tube 29 is carried a marking element 34. The spacing of marking element 34 from the side of the frame structure is determined by the combined length of the tube 29 and the rod 28 extending into it. The marker arm 33 is braced by a structure 35 composed of a pair of overlapping angle members 36 and 37. The angle members 36 and 37 are secured to one another by bolts 38, and the extent of overlap of the angle members determines the length of the brace 35. There is in the angle member 36 a plurality of openings 39 and, in the angle member 37, a plurality of openings 40, through which the bolts 38 may extend. Secured to the angle member 36 is a bent part 41 which extends in pivotal relation through a piece 42 secured to the front transverse member 13, and serves pivotally to connect the brace 35 to the frame structure. A bent piece 42^a secured to the angle member 37 and a bracket 43, through which the bent piece 42 extends and which is secured to the tube 29, serve to connect pivotally the marker arm 33 and the brace 35.

The marker structure just described is the same upon both sides of the planter 10. As seen in Figure 1, the arrangement is such that, when the one marker arm 33 is down and the marking element 34 mounted thereon is in ground-engaging position, the other marker arm 33 is up and the marking element 34 carried thereon is well away from the ground. The marker structures are interconnected by a flexible element 44 connected to brackets 45 secured to the tubes 29 of the marker arms 33. The flexible element 44, as viewed in Figure 1, extends at an angle to the vertical upwardly and transversely of the frame structure to and through the guide 25 on the left-hand upright 22, then horizontally and transversely to and through the guide 25 on the right-hand upright 22, and then to the right-hand marker structure. Positioned at the middle of the frame structure is an upright 46 secured at a point somewhat below its mid-point by a bolt 47 to the transverse beam 19. The lower end of the upright 46 is secured to one of a pair of centrally located draft members 48 by means of a plate 49 and bolts 50. A pulley 51 is pivotally carried on a U-shaped part 52 secured to the upper end of the upright 46. The upright 46 serves incidentally to support the middle of the transverse beam 19. Connected to a mid-point 53 of the flexible element 44 is a flexible element 54 extending transversely of the planter 10 and generally along the flexible element 44 to and around the pulley 51, and then forwardly above the draft members 48 which extend considerably forwardly of the planter 10, and in particular its frame structure. The forward end of the flexible element 54 is connected to a stiff wire element 55 which extends through the upper end of an upright 56 carried on the forward end of the draft members 48 and terminates in a loop 57, as shown in Figure 5. A hitch member 58 secured to the forward ends of the draft members 48 is connected to a draw-bar 59 of a tractor 60 having an operator's seat 61.

The loop 57 may be engaged by an operator on the operator's seat 61 of the tractor 60, and a forward pull may be exerted thereon. This forward pull will be transmitted through the wire member 55 of the flexible element 54 to the mid-point 53 of the flexible element 44. Since the portion of the flexible element 54 immediately adjacent the point of connection 53 of the flexible element 44 extends transversely, the pull or jerk

upon the loop 57 is effective to move the point of the connection 53 transversely toward the guide pulley 51. This causes the left-hand marker structure of Figure 1 to move upwardly from the full line position toward the dotted line position and the right-hand marker structure to move from full line position toward the dotted line position. If the pull or jerk is sufficient, the point of connection 53 will move beyond the guide pulley 51 to the dotted line position of this point shown in Figure 1. Thus, the left-hand marker structure will have, in effect, changed positions with the right-hand marker structure and so the marker which was originally up will be down, and the marker structure which was originally down will be up. When it is desired to return the marker structures to the full line position of Figure 1, a similar forward pull or jerk upon the loop 57 of the wire rod 55 causes the point of connection 53 to move toward the left to the guide pulley 51 and beyond to its original position, and the markers will have been returned to their original positions.

From the foregoing description it will be evident that there have been provided a new and novel control for a marker structure and a new and novel mounting for the marker structure and for the control thereof. In so far as control of the marker structure is concerned, it is believed to be new to provide a control means which operates by one jerk or pull to shift the markers from one set of extreme positions to another set of extreme positions and a second similar pull or jerk returns the markers to their original set of positions. This takes place, because a portion of the control means extends laterally and transversely from a guide generally along the flexible element interconnecting the markers. As far as the mounting of the marker structure and the control means therefor is concerned, it is believed to be new to provide uprights which carry at their upper ends guides for the marker interconnecting element and at their lower ends, pivots for the marker arms. It is believed to be new to provide in a centrally positioned upright carrying a guide for the control means and an upright positioned on the forward end of a draft means for a planter and serving as a guide for the forward end of the control means adjacent the tractor pulling the planter. The frame structure and the carrying of the planting elements upon a transverse beam spaced above the frame structure are believed to be new, but this is claimed and shown more fully in the applicant's co-pending application Serial No. 481,208, filed March 31, 1943.

The intention is to limit the invention only within the scope of the appended claims.

What is claimed is:

1. In combination, a frame, a pair of markers movably mounted thereon for movement between an operative ground-engaging position and an inoperative raised position, means interconnecting the markers so as to cause placing of each marker in ground-engaging position to effect placing of the other marker in raised position, and a control element connected with a mid-point of the interconnecting means and arranged so as to cause an actuation of the control element in a certain direction to place one marker in ground-engaging position and the other marker in raised position and another actuation in the same direction to place the said other marker in ground-engaging position and the said one marker in raised position.

2. In combination, a frame, a pair of markers movably mounted thereon for movement between an operative ground-engaging position and an inoperative raised position, means interconnecting the markers so as to cause placing of each marker in ground-engaging position to effect placing of the other marker in raised position, a guide adjacent the interconnecting means, a control element extending from a point of connection with the interconnecting means to the guide and thence at a substantial angle to the interconnecting means, the point of connection of the control element with the interconnecting means being spaced from the guide to one side thereof with one marker in ground-engaging position, whereby a jerk upon the portion of the control element extending from the guide at a substantial angle to the interconnecting means is operative to move the point of connection to the guide and beyond it to a position spaced from the other side of the guide and thereby to bring the said one marker to raised position and the other marker to ground-engaging position and whereby a similar jerk of the portion of the control element extending at a substantial angle to the interconnecting means is operative to move the point of connection with the interconnecting means back toward the guide and beyond it to its original position and thereby to lower the said one marker to ground-engaging position.

3. In combination, a frame, a pair of uprights secured to opposite ends thereof and extending upwardly therefrom, guides on the upper end of the uprights, a pair of markers pivotally connected to opposite ends of the frame, a flexible element engaging the guides and connecting the markers so as to cause the placing of one marker in operative ground-engaging position to bring the other marker to raised inoperative position, and a control element connected with a mid-point of the flexible element and arranged so as to cause an actuation of the control element in a certain direction to place one marker in ground-engaging position and the other marker in raised position and another actuation in the same direction to place the said other marker in ground-engaging position and the said one marker in raised position.

4. In combination, a frame, a pair of uprights secured to opposite ends thereof and extending upwardly therefrom, guides on the upper end of the uprights, a pair of markers pivotally connected to opposite ends of the frame, a flexible element engaging the guides and connecting the markers so as to cause the placing of one marker in operative ground-engaging position to bring the other marker to raised inoperative position, a guide adjacent the middle of the frame and the flexible element, a control element extending from a point of connection with the flexible element to the guide and thence at a substantial angle to the flexible element, the point of connection of the control element with the flexible element being spaced from the guide to one side thereof with one marker in ground-engaging position, whereby a jerk upon the portion of the control element extending from the guide at a substantial angle to the flexible element is operative to move the point of connection to the guide and beyond it to a position spaced from the other side of the guide and thereby to bring the said one marker to raised position and the other marker to ground-engaging position and whereby a similar jerk of the portion of the control element extending at a substantial angle

to the flexible element is operative to move the point of connection with the flexible element back toward the guide and beyond it to its original position and thereby to lower the said one marker to ground-engaging position.

5. In combination, a frame, a pair of uprights secured to opposite ends thereof and extending upwardly therefrom, guides on the upper end of the uprights, a pair of markers pivotally connected to opposite ends of the frame, a flexible element engaging the guides and connecting the markers so as to cause the placing of one marker in operative ground-engaging position to bring the other marker to raised inoperative position, a middle upright secured to a mid-point of the frame and extending upwardly therefrom, a guide on the top of the middle upright, a control element extending from a point of connection with the flexible element to the guide on the middle upright and thence at a substantial angle to the flexible element, the point of connection of the control element with the flexible element being spaced from the guide on the middle upright to one side thereof with one marker in ground-engaging position, whereby a jerk upon the portion of the control element extending from the guide at a substantial angle to the flexible element is operative to move the point of connection to the guide and beyond it to a position spaced from the other side of the guide and thereby to bring the said one marker to raised position and the other marker to ground-engaging position and whereby a similar jerk of the portion of the control element extending at a substantial angle to the flexible element is operative to move the point of connection with the flexible element back toward the guide on the middle upright and beyond it to its original position and thereby to lower the said one marker to ground-engaging position.

6. In combination, a mobile frame, draft means secured thereto and extending forwardly therefrom, an upright secured to the forward end of the draft means and extending upwardly therefrom, a guide on the top of the upright, a pair of markers movably mounted on the mobile frame for movement between an operative ground-engaging position and an inoperative raised position, means interconnecting the markers so as to cause placing of each marker in ground-engaging position to effect placing of the other marker in raised position, and a control element connected with a mid-point of the interconnecting means and terminating in a handle portion supported by the guide and arranged so as to cause an actuation upon the handle portion in a certain direction to place one marker in raised position and the other marker in ground-engaging position and another actuation upon the handle portion in the same direction to place the said other marker in raised position and the said one marker in ground engaging position.

7. In combination, a mobile frame, draft means secured thereto and extending forwardly therefrom, an upright secured to the forward end of the draft means and extending upwardly therefrom, a guide on the top of the upright, a pair of markers movably mounted on the mobile frame for movement between an operative ground-engaging position and an inoperative raised position, means interconnecting the markers so as to cause placing of each marker in ground-engaging position to effect placing of the other marker in raised position, a guide adjacent the interconnecting means, a control element ex-

tending from a point of connection with the interconnecting means to the last-mentioned guide and thence at a substantial angle to the interconnecting means and terminating in a handle portion supported by the guide on the upright secured to the draft means, the point of connection of the control element with the interconnecting means being spaced from the guide adjacent the interconnecting means to one side of said guide with one marker in ground-engaging position whereby a jerk upon the handle portion of the control element is operative to move the point of connection to the guide adjacent the interconnecting means and beyond it to a position spaced from the other side of the guide and thereby to bring the said one marker to raised position and the other marker to ground-engaging position and whereby a similar jerk of the handle portion of the control element is operative to move the point of connection with the interconnecting means back toward the guide adjacent the interconnecting means and beyond it to its original position and thereby to lower the said one marker to ground-engaging position.

8. In combination, a mobile frame having centrally positioned draft means secured thereto and extending forwardly therefrom, a forward upright secured to the forward end of the draft means and extending upwardly therefrom, a guide mounted on the top of the forward upright, a pair of end uprights secured to opposite ends of the frame and extending upwardly therefrom, guides mounted on the upper ends of the end uprights, a pair of markers movably mounted on the mobile frame for movement between an operative ground-engaging position and an inoperative raised position, a flexible element engaging the guides on the end uprights and connecting the markers so as to cause the placing of one marker in operative ground-engaging position to bring the other marker to raised inoperative position, a middle upright secured to and extending upwardly from a mid-point of the frame, a guide mounted on the top of the middle upright, a control element extending from a point of connection with the flexible element to the guide on the middle upright and thence forwardly and terminating in a handle portion supported on the guide on the forward upright, the point of connection of the control element with the flexible element being spaced from the guide on the middle upright to one side thereof with one marker in ground-engaging position whereby a jerk upon the handle portion of the control element is operative to move the point of connection to the guide on the middle upright and beyond it to a position spaced from the other side of the guide and thereby to bring the said one marker to raised position and the other marker to ground-engaging position and whereby a similar jerk of the handle portion of the control element is operative to move the point of connection back toward the guide on the middle upright and beyond it to its original position and thereby to lower the said one marker to ground-engaging position.

9. In combination, a mobile frame having centrally positioned draft means secured thereto and extending forwardly therefrom, a forward upright secured to the forward end of the draft means and extending upwardly therefrom, a guide mounted on the top of the forward upright, a pair of end uprights secured to opposite ends of the frame and extending upwardly therefrom, guides mounted on the upper ends of the end uprights, a pair of markers movably mounted on

the mobile frame for movement between an operative ground-engaging position and an inoperative raised position, a flexible element engaging the guides on the end uprights and connecting the markers so as to cause the placing of one marker in operative ground-engaging position to bring the other marker to raised inoperative position, a middle guide adjacent the middle of the frame, a control element extending from a point of connection with the flexible element to the middle guide and thence forwardly and terminating in a handle portion supported on the guide on the forward upright, the point of connection of the control element with the flexible element being spaced from the middle guide to one side thereof with one marker in ground-engaging position whereby a jerk upon the handle portion of the control element is operative to move the point of connection to the middle guide and beyond it to a position spaced from the other side of the guide and thereby to bring the said one marker to raised position and the other marker to ground-engaging position and whereby a similar jerk of the handle portion of the control element is operative to move the point of connection back toward the middle guide and beyond it to its original position and thereby to lower the said one marker to ground-engaging position.

10. In combination, a mobile frame having centrally positioned draft means secured thereto and extending forwardly therefrom, a forward upright secured to the forward end of the draft means and extending upwardly therefrom, a guide mounted on the top of the forward upright, a pair of markers movably mounted on the mobile frame for movement between an operative ground-engaging position and an inoperative raised position, a flexible element connecting the markers so as to cause the placing of one marker in operative ground-engaging position to bring the other marker to raised inoperative position, a middle upright secured to and extending upwardly from a mid-point of the frame, a guide mounted on the top of the middle upright, a control element extending from a point of connection with the flexible element to the guide on the middle upright and thence forwardly and terminating in a handle portion supported on the guide on the forward upright, the point of connection of the control element with the flexible element being spaced from the guide on the middle upright to one side thereof with one marker in ground-engaging position whereby a jerk upon the handle portion of the control element is operative to move the point of connection to the guide on the middle upright and beyond it to a position spaced from the other side of the guide and thereby to bring the said one marker to raised position and the other marker to ground-engaging position and whereby a similar jerk of the handle portion of the control element is operative to move the point of connection back toward the guide on the middle upright and beyond it to its original position and thereby to lower the said one marker to ground-engaging position.

11. In combination, a mobile frame having centrally positioned draft means secured thereto and extending forwardly therefrom, a forward upright secured to the forward end of the draft means and extending upwardly therefrom, a guide mounted on the top of the forward upright, a pair of markers movably mounted on the mobile frame for movement between an operative ground-engaging position and an inoperative raised position, a flexible element connecting the

markers so as to cause the placing of one marker in operative ground-engaging position to bring the other marker to raised inoperative position, a middle guide adjacent the middle of the frame, a control element extending from a point of connection with the flexible element to the middle guide and thence forwardly and terminating in a handle portion supported on the guide on the forward upright, the point of connection of the control element with the flexible element being spaced from the middle guide to one side thereof with one marker in ground-engaging position whereby a jerk upon the handle portion of the

control element is operative to move the point of connection to the middle guide and beyond it to a position spaced from the other side of the guide and thereby to bring the said one marker to raised position and the other marker to ground-engaging position and whereby a similar jerk of the handle portion of the control element is operative to move the point of connection back toward the middle guide and beyond it to its original position and thereby to lower the said one marker to ground-engaging position.

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