

No. 829,559.

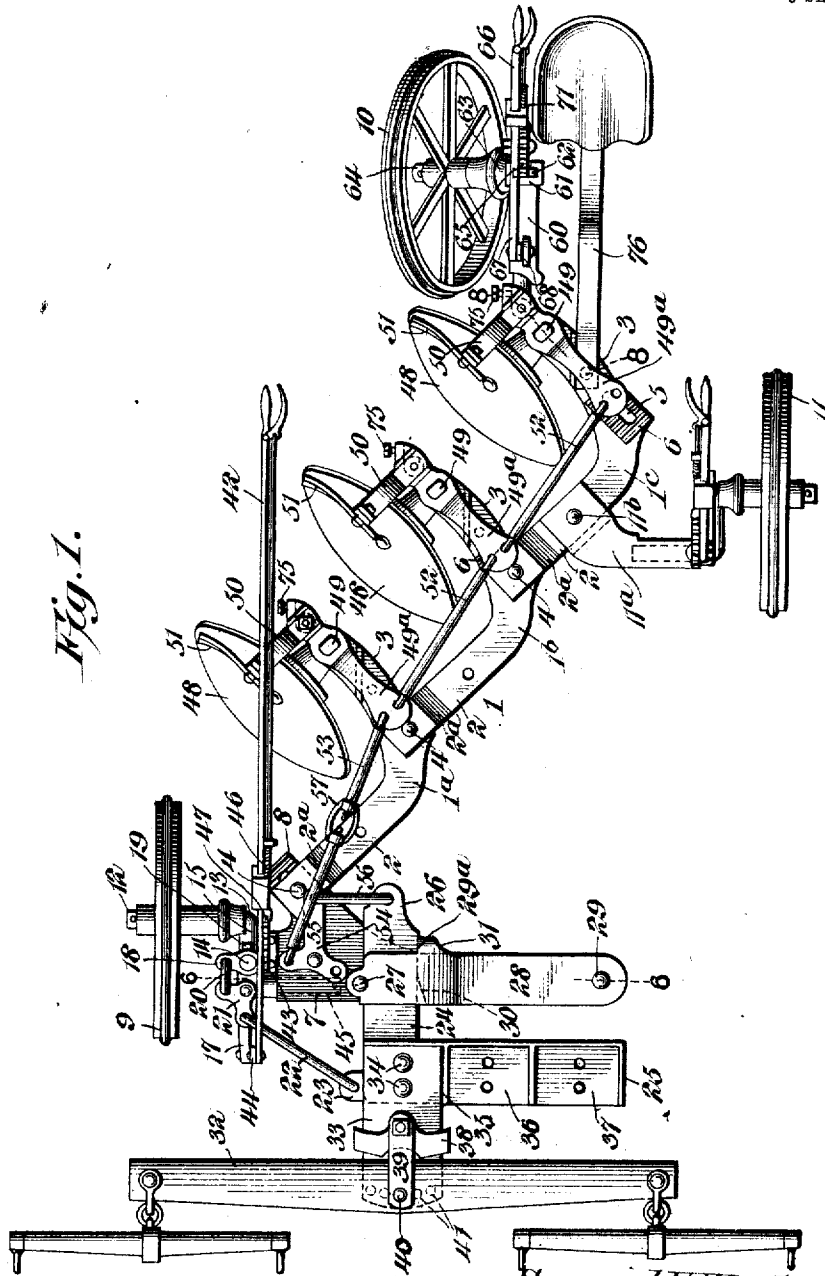
PATENTED AUG. 28, 1906.

S. V. WEEKS.
DISK PLOW.

APPLICATION FILED FEB. 28, 1905.

3 SHEETS—SHEET 1.

Fig. 1.



Samuel V. Weeks, Inventor,

Witnesses

Howard D. Orr

Louis E. Julihn

By

E. J. Siggers

Attorney

S. V. WEEKS.
DISK PLOW.
APPLICATION FILED FEB. 28, 1906.

3 SHEETS—SHEET 2.

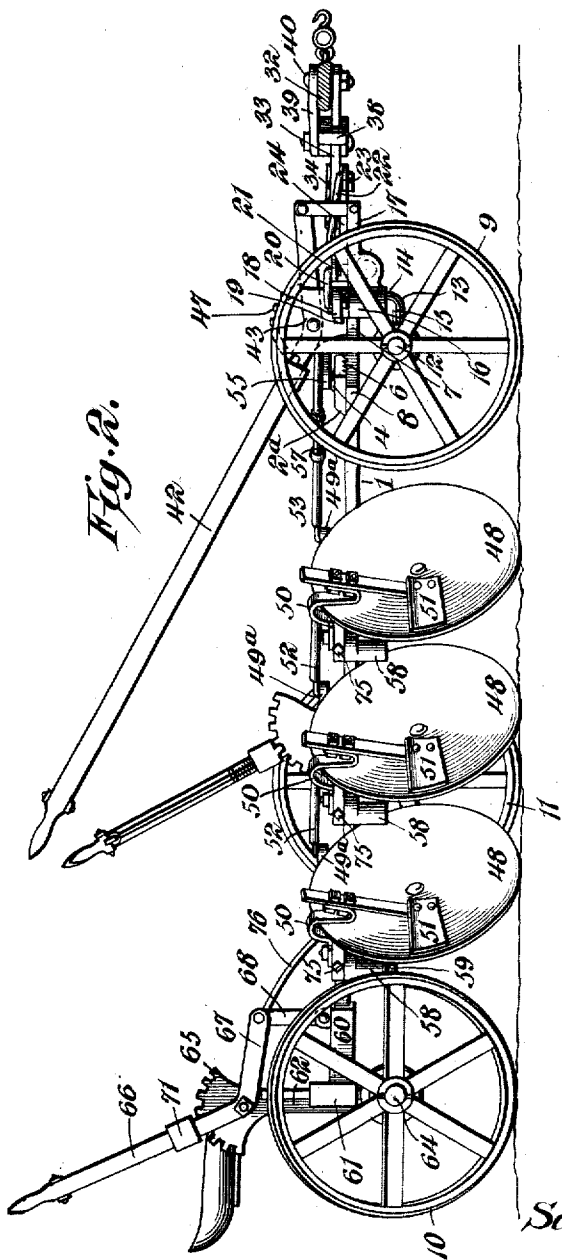


Fig. 2.

Fig. 8.

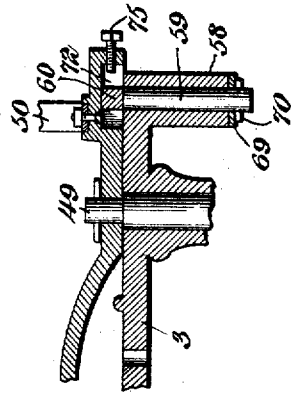
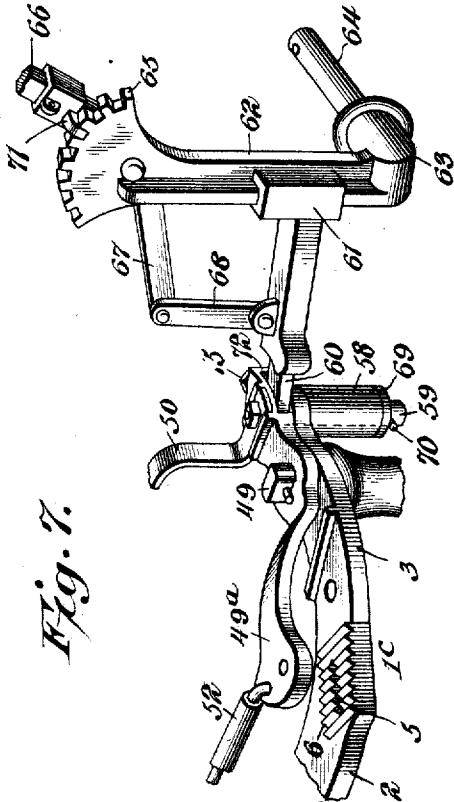


Fig. 7.



Witnesses
Howard W. Orr
Louis G. Julihn

Samuel V. Weeks, Inventor,
By *E. J. Figger* Attorney

No. 829,559.

PATENTED AUG. 28, 1906.

S. V. WEEKS.

DISK PLOW.

APPLICATION FILED FEB. 28, 1905.

3 SHEETS—SHEET 3.

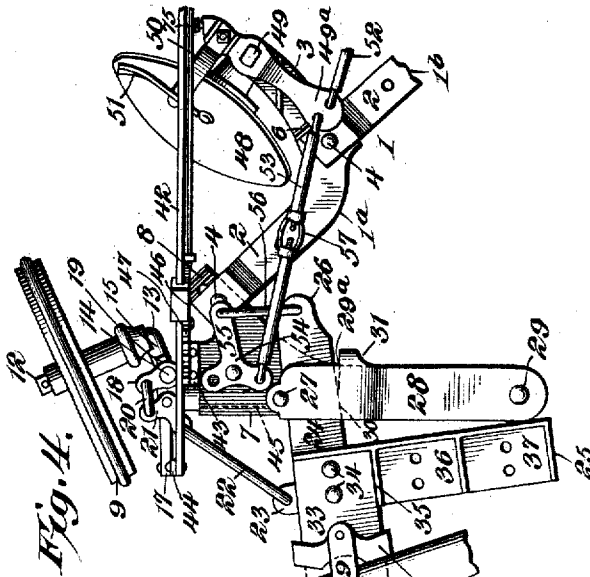


Fig. 3.

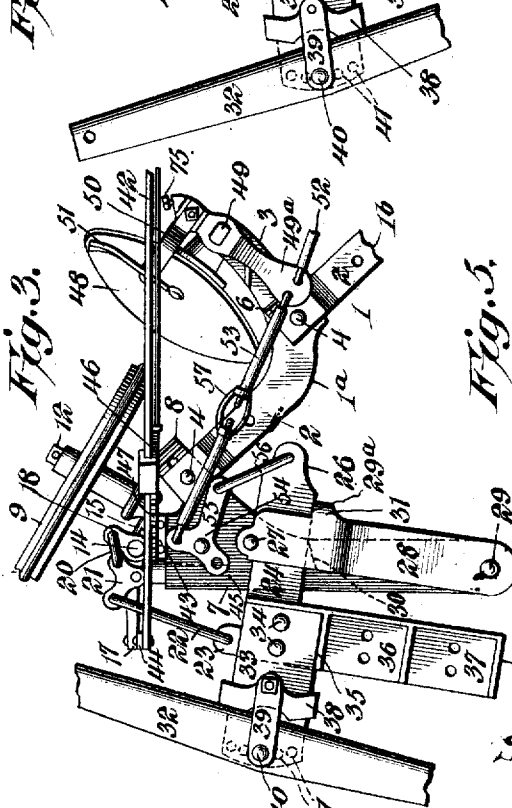


Fig. 5.

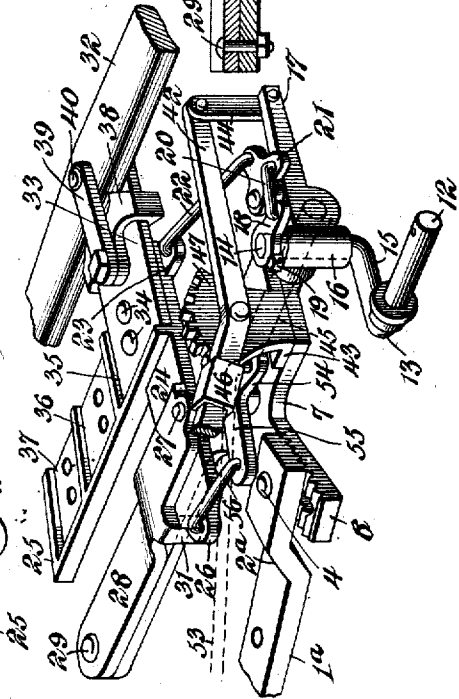
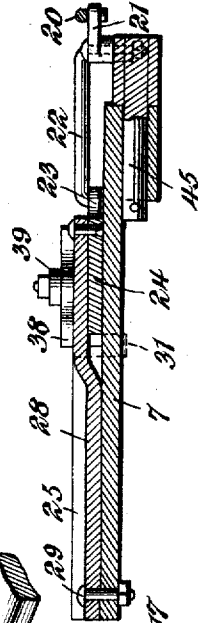


Fig. 6.



Witnesses
Howard D. Orr.
Louis E. Julihn

Samuel V. Weeks, Inventor,

By

E. G. Siggers

Attorney

UNITED STATES PATENT OFFICE.

SAMUEL V. WEEKS, OF HIGHLAND PARK, TENNESSEE, ASSIGNOR TO THE
VOLUNTEER DISC PLOW COMPANY, OF CHATTANOOGA, TENNESSEE.

DISK PLOW.

No. 829,559.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed February 28, 1906. Serial No. 247,703.

To all whom it may concern:

Be it known that I, SAMUEL V. WEEKS, a citizen of the United States, residing at Highland Park, in the county of Hamilton and State of Tennessee, have invented a new and useful Disk Plow, of which the following is a specification.

This invention relates to a plow of that type in which the beam supported by furrow and land wheels is made up of interchangeable members, each adapted for the support of a furrow-opening device, so that the plow may be quickly and conveniently converted for the use of a single plow element or a gang of such elements comprising any desired number of units.

Among the objects of the invention the following are most prominent: first, to equip the plow with a draft appliance capable of rearrangement to facilitate the attachment of any desired number of draft-animals; second, to provide improved means for automatically shifting the position of the front furrow-wheel when the line of draft is changed in making a turn in either direction; third, to provide an improved connection between the several beam elements and between the beam and the front-wheel frame in order to enable the parts to better withstand the strain imposed upon the connections and to facilitate the lateral adjustment of the beam elements with respect to each other and to the wheel-frame in order to regulate the width of the furrow; fourth, to provide means whereby the disks constituting the furrow-opening devices may be simultaneously adjusted to suit the character of land to be plowed, as well as automatically adjusted when the line of draft is changed in making a turn; fifth, to improve the mechanism for raising and lowering the frame with respect to the wheels, and, sixth, to improve the arrangement of the stop mechanism which limits the swinging movement of the rear crank-axle.

Subordinate to the objects stated are others, which will appear as the succeeding description of the illustrated embodiment of the invention is developed.

In the accompanying drawings, Figure 1 is a plan view of my plow complete. Fig. 2 is a side elevation of the subject-matter of Fig. 1 viewed from the disk side of the plow. Fig. 3 is a plan view of the front end of the plow,

showing the positions assumed by certain of the parts in making a turn to the right. Fig. 4 is a similar view, showing the positions assumed by the parts in making a turn to the left. Fig. 5 is a perspective view of the front end of the plow and designed more particularly to show the mounting of the front crank-axle. Fig. 6 is a detail section on the line 6 6 of Fig. 1. Fig. 7 is a perspective view of the rear end of the plow, designed more especially to show the mounting of the rear crank-axle; and Fig. 8 is a detail view on the line 8 8 of Fig. 1.

Each part is indicated by its appropriate reference character in all the views.

When organized as a gang-plow, the implement includes a beam 1, made up of a series of interchangeable sections, members, or disk-carrying elements 1^a, 1^b, and 1^c, which are rigidly connected. Each element is of substantially angular form, as shown, and comprises two arms 2 and 3, the first being disposed longitudinally of the beam and the second extending laterally and constituting the rear end of the element. While the several elements of the beam are connected rigidly, they are nevertheless designed to be capable of more or less lateral adjustment relative to each other for the purpose of widening or narrowing, as the case may be, the furrow to be opened by the gang of disks. To provide this connection, the front end of each arm 2 is slightly elevated, as by an offset 2^a, and is lapped over the arm 3 of the beam section or element next in advance thereof, to which it is rigidly but adjustably secured by a bolt 4, passed through the front end of the arm 2 and through a slot 5, formed at the inner end of the adjacent arm 3 and disposed longitudinally of said arm or transversely of the beam. To insure the rigid retention of the beam-sections, their contacting faces are formed with interfitting corrugations 6, disposed longitudinally of the beam, as shown in Figs. 1 and 7. The front end of the beam is supported by a plate 7, disposed directly across the line of draft and termed the "front-wheel frame," for the reason that it is supported by the front furrow-wheel in a manner to be described and serves in turn as a support for the front end of the beam. The frame is formed at the rear side thereof adjacent to its front end with an angular extension 8, overlapped by

the front end of the front section 1^a of the beam and rigidly bolted to the latter, the extension 8 being provided with a slot and corrugations which correspond with the similar features of the beam. Thus the beam as a whole is adjustably connected to the front-wheel frame 7 in a manner similar to the adjustable connection of its sections.

The plow is supported, as usual, by front and rear furrow-wheels 9 and 10 and a land-wheel 11. The front furrow-wheel 9 is mounted on the horizontal spindle 12 of the crank-axle 13, having a vertical spindle 14, connected at its lower end to the inner end of the spindle 12 by a horizontal crank portion 15. In order to permit the front crank-axle to turn or train on a vertical axis, and thus permit the wheel 9 to assume a proper position with respect to the line of draft, the spindle 14 is journaled in a vertically-disposed bearing-sleeve 16, formed at the rear end of the lever 17, disposed longitudinally of the plow at the right-hand end of the front-wheel frame 7. Above the sleeve 16 the spindle 14 is provided with an outwardly-extending arm 18, fixed to the spindle by a set-screw 19 and connected by a link 20 with one arm of a bell-crank lever 21, fulcrumed on the upper edge of the lever 17, as shown in Fig. 5. The other arm of the bell-crank lever 21 is connected by a link 22 to a lug 23, rigid with an angular tongue-support 24. The tongue-support 24 comprises angularly-related arms 25 and 26, the former being located at the front end of the latter and disposed across the line of draft. The arm 26 of the tongue-support extends rearwardly, as shown, and is pivoted at a point intermediate of its ends, as indicated at 27, to a plate 28, pivoted at its left-hand end, as indicated at 29, to the left-hand end of the front-wheel frame 7. The arm 26 is interposed between the plate 28 and the frame 7, and its left-hand edge abuts normally against a shoulder 29^a on the plate 28, the front end of the shoulder being disposed at an angle, as indicated at 30. At the rear end of the shoulder 29^a the plate 28 is provided with a depending stop-lug 31, which normally abuts against the rear edge of the front-wheel frame. (See Fig. 5.) It will now be seen that when a straightforward pull is exerted on the tongue-support 24 the side edge of the arm 26 thereof will abut against the shoulder 29^a, and as the stop 31 bears against the rear edge of the wheel-frame the parts will be maintained in the positions indicated in Fig. 1, with the frame 7 disposed directly across the line of draft. On the contrary, when a lateral strain is imposed upon the tongue-support in making a turn to the right, as shown in Fig. 3, said support and the plate 28 will swing in unison from the axis 29 at the left-hand end of the plate. This movement of the tongue-support will cause the link 22 to swing the

bell-crank lever 21, which in turn will urge the arm 18 rearwardly, thus swinging the crank-axle of the front wheel inwardly or toward the plow and disposing the front furrow-wheel 9 in proper position for a turn to the right. When the turn has been completed, a straightaway pull will restore the parts to their normal positions.

In turning to the left, as shown in Fig. 4, the plate 28 will be held against movement by the lug 31; but the tongue-support 24 will swing from the pivot 27 as an axis, the inclined forward end 30 of the shoulder 29^a permitting this movement of the tongue-support relative to the plate 28. This movement of the tongue-support to the left will effect the outward swinging of the front crank-axle to properly train the front furrow-wheel 9 for the turn toward the plowed land. At this point attention may be directed to the provision which is made for the attachment of any desired number of draft-animals to the plow. It should be remembered that no matter how extensive the plow may be or how many draft-animals are employed to draw the same the right-hand animal should be located approximately directly in advance of the front furrow-wheel. Thus when two draft-animals are employed the doubletree 32 is attached to a short tongue-piece 33, which is rigidly secured at the extreme right-hand end of the arm 25 of the tongue-support by securing-bolts 34. When, however, a greater number of draft-animals is necessary, the tongue-piece is shifted to the left and secured at the proper point. To facilitate the retention of the tongue-piece upon the tongue-support, the arm 25 of the latter is provided with a series of sockets 35, 36, and 37, defined by vertical flanges and each having bolt-openings for the securing-bolts 34. The tongue-piece 33 is provided, as usual, with an eveners-brace 38 and a keeper-strap 39, the front end of the latter being adapted to receive the bolt 40, which may be set in any one of several openings 41 in the tongue-piece to retain the whiffletree.

The vertical adjustment of the front end of the plow is effected by means of a lever 42, fulcrumed upon a bracket 43, rigid with the frame 7. The front end of the lever 42 is connected by a link 44 with the front end of the lever 17, from which extends at a point in advance of the sleeve 16 a horizontal shaft or spindle 45, afforded a bearing in the frame 7. (See Figs. 1 and 5.) The lever 42 is equipped with a spring-latch 46, which engages a toothed segment 47, formed on the bracket 43. When it is desired to elevate the front end of the plow, the rear end of the lever 42 is depressed, the parts acting in a manner understood in the art.

Each section of the beam 1 constitutes a support for a disk or furrow-opening device 48, carried by a vertically-disposed spindle

49, journaled in the laterally-disposed arm 3 of the beam section or element and equipped at its upper end with a disk-adjusting lever 49^a, to which is also attached the support 50 of a disk-scraper 51. The left-hand ends of the several levers 49^a are connected for movement in unison—as, for instance, by links 52—the foremost lever being connected by a similar link or rod section 53 with one arm of a double bell-crank lever 54, having a comparatively long rearwardly-extending arm 55, connected by a link 56 with the rear end of the arm 26 of the tongue-support 24. The disks are designed to be shifted simultaneously by the draft appliance for the purpose of disposing them at the proper angle with respect to the line of draft in making a turn, this and other features of the present invention being disclosed, broadly, in my Patent No. 759,489, of May 10, 1904, and in my co-pending application, No. 204,057, filed April 20, 1904.

It has already been pointed out that in making a turn in either direction the tongue-support 24 is caused to swing from either the axis 27 or the axis 29. It therefore follows that in either event the lever 55 will swing and will thus cause the shifting of the levers 49 and the adjustment of the several disks, it being noted that since the same adjustment of the disks is desired when turning either to the right or left the link 53 will be attached to one or the other of the short arms of the lever 55, according to the direction of the turn. (Compare Figs. 3 and 4.)

In addition to this automatic adjustment of the disks the present invention contemplates the addition of means whereby the several disks may be manually adjusted in unison to accommodate the kind of soil to be plowed. This adjusting means consists in forming the link 53 in two sections and in interposing between the sections a turnbuckle 57, by means of which the link may be shortened or lengthened. As the front section of the link 53 is held against endwise movement, it follows that the rear section thereof will necessarily be shifted by the turnbuckle and that the levers 49 will thus be swung in one direction or the other and retained, thus adjusting the disks in unison and retaining the same.

At the outer end of each arm 3 of the beam-sections is formed a bearing-sleeve 58, (see Figs. 7 and 8,) which receives a vertically-disposed spindle 59, depending from the front end of a horizontal arm 60, at the outer end of which is formed a slide 61, having the form of a boxing, embracing and sliding upon a vertical arm 62, constituting an element of the rear crank-axle 63 upon the horizontal spindle 64, of which the rear furrow-wheel 10 is mounted. At the upper end of the arm 62 is formed a toothed segment 65, at the axis of which is fulcrumed a lever 66, having its

lower end 67 extended forwardly and connected by a vertically-disposed link 68 with the horizontal arm 60. As the spindle 59 is provided at a point below the sleeve 58 with a washer 69 and a cotter 70, its upward withdrawal from the sleeve is prevented, and the rear end of the plow may therefore be elevated by swinging the lever 66 to elevate the horizontal arm 60 with reference to the vertical arm 62 of the rear crank-axle, the lever being retained in its adjusted position by a spring-latch 71 engaging the segment 65.

The proper training of the rear furrow-wheel 10 to facilitate the turning of the plow is accommodated by the swinging of the arm 60 from the spindle 59 as an axis. It is desirable, however, particularly during the plowing of a straight furrow, to prevent the arm 60 from swinging outwardly—that is to say, to the right—so as to compel the rear furrow-wheel to properly trail in the furrow. For this reason each of the disk-adjusting levers 49 is provided in its under side at the rear end of the lever with a recess 72, within which is accommodated the front end of the arm 60. (See Figs. 7 and 8.) Projecting through the outer end wall of the recess 72 is a stop-screw 75, disposed to arrest the arm 60 as the latter swings outwardly, the stop being capable of adjustment in order to regulate the normal limits of movement of the arm and also to insure the assumption to its proper position with respect to the arm 60 in the various positions of the arms 59, which may be assumed by the latter upon the adjustment of the turnbuckle 57. While the stop 75 normally prevents the arm 60 from swinging outwardly, it is evident that when the levers 49 are shifted during the turning of the plow the stop 75, moving with the rearmost lever, will be withdrawn farther away from the arm 60, and thus permit the latter to swing as far as may be necessary to permit the proper training of the rear furrow-wheel. While it is desirable, as here shown, to have each of the beam sections or elements equipped with the bearing-sleeve 58, so that said elements will be truly interchangeable, it is possible to employ only one section having this provision for the attachment of the arm 60 and to utilize this particular section as the last unit of the beam, or as the only section of the beam, accordingly as a gang-plow or a single plow is desired. The crank-axle of the land-wheel 11 is carried by the land-wheel bracket 11^a, secured to one of the beam-sections by a bolt 11^b, each of the several beam-sections being equipped for the attachment of this bracket. Similarly, each beam-section is equipped for the attachment of the seat-spring 76, as shown.

It is thought that from the foregoing the construction and arrangement of my plow will be properly comprehended; but I wish to be understood as reserving the right to

effect such changes, modifications, and variations of the illustrated structure as may come fairly within the scope of the protection prayed.

5. What I claim is—

1. A plow, including a frame made up of directly and rigidly connected furrow-opener-supporting beams relatively adjustable transversely of the frame, the connected portions of adjacent beams being disposed one above another.

2. A plow, including a frame made up of directly-connected overlapping furrow-opener-supporting beams, the connections between the beams permitting their relative adjustment transversely of the frame and including interfitting corrugations formed in the engaging faces of the beams.

3. A plow, including a beam comprising overlapping beam elements having interfitting corrugations disposed longitudinally of the beam and one of said elements having a slot disposed transversely of the beam, and a connecting device connecting the overlapping elements and passed through the slot to permit the adjustment of said elements in a direction transverse to the beam.

4. A plow, including a beam comprising a series of overlapping interchangeable furrow-opener-supporting elements, said elements being relatively adjustable transversely of the beam, and means for effecting a direct, rigid connection between said elements to retain them in their adjusted positions.

5. A plow, including a beam comprising a series of furrow-opener-supporting elements each having a laterally-disposed arm at its rear end, the front end of each element being disposed above and adjustably connected to the laterally-disposed arm of the element next in advance thereof.

6. A plow, including a beam comprising a series of interchangeable furrow-opener-supporting elements, each having a laterally-disposed arm at its rear end, the front end of each element being disposed above and rigidly connected to the laterally-disposed arm of the element next in advance thereof, the opposed faces of connected elements being formed with interfitting corrugations.

7. A plow, including a beam comprising a plurality of interchangeable elements, each having a laterally-disposed arm at its rear end, said arm being formed with a longitudinal slot and with transverse corrugations, the front end of one element having a corrugated under face disposed over and in contact with the corrugated face of the element next in advance thereof, and a connecting device passed through the slot.

8. In a plow, including front and rear furrow-wheels, a land-wheel, a front-wheel frame disposed transverse to the line of draft, and a beam disposed obliquely across the line of draft, said beam being rigidly con-

nected to the front-wheel frame and adjustable thereon in a direction substantially at right angles to the beam.

9. A plow, including front and rear furrow-wheels, a land-wheel, a front-wheel frame disposed transverse to the line of draft and having a corrugated slotted extension, a beam disposed obliquely across the line of draft with its front end overlapping the extension of the wheel-frame and provided with corrugations in its under face, and a connecting device connecting the beam with the frame extension and passed through the slot in the latter.

10. A plow, including front and rear furrow-wheels, a land-wheel, a frame structure, a front crank-axle having a vertical spindle, an arm extending from said spindle, a bell-crank lever connected to the arm, and a movable draft appliance connected to the bell-crank lever.

11. A plow, including a frame, a horizontal lever fulcrumed in the frame, a front crank-axle having a vertical spindle journaled in the lever, means for swinging the lever to adjust the frame, a bell-crank lever mounted on the first-named lever and connected to the vertical spindle of the front crank-axle to swing the same, and a movable draft appliance connected to the bell-crank lever.

12. A plow, including a trailing front furrow-wheel, a draft appliance arranged to swing from either of two axes without swinging from the other, and an operating connection between the draft appliance and the front furrow-wheel, whereby the latter will be positively shifted when the draft appliance is swung from either axis.

13. A plow, including a front crank-axle, a tongue-support mounted to swing from different axes but from one only at a time, and an operating connection between the tongue-support and the front crank-axle.

14. A plow, including a front crank-axle, a tongue-support mounted to swing from different axes, and an operating connection between the tongue-support and the front crank-axle, said connection including a bell-crank lever.

15. A plow, including a front crank-axle having a vertical spindle, an arm extended from said spindle, a bell-crank lever connected to the arm, and a tongue-support mounted to swing from a plurality of axes and connected to the bell-crank lever.

16. A plow, including a frame, a horizontal lever fulcrumed in the frame, a front crank-axle having a vertical spindle journaled in the lever and provided with an arm, means for swinging the lever to adjust the frame, a pivoted tongue-support, and a connection between the tongue-support and the arm, whereby said arm will be swung when the tongue-support is moved in either direction.

17. A plow, including a frame, a lever ful-

crummed in the frame, a front crank-axle having a vertical spindle journaled in the lever and provided with an arm, a tongue-support mounted to swing from different axes, and a connection between the tongue-support and the arm, whereby said arm will be shifted when the tongue-support is moved from either axis.

18. A plow, including a frame, a lever fulcrumed therein, a front crank-axle having a vertical spindle journaled in the lever and provided with an arm, means for swinging the lever to effect the vertical adjustment of the frame, a bell-crank lever mounted on the first-named lever and connected to the arm, and a tongue-support mounted to swing from different axes and connected to the bell-crank lever.

19. A plow, including a front-wheel frame, a tongue-support pivoted thereon, a front furrow-wheel supporting the frame, a tongue-piece, and means for connecting the tongue-piece to the tongue-support at different distances from the front furrow-wheel.

20. A plow, including a front-wheel frame, a tongue-support pivoted thereon and having an arm extended transversely of the plow and provided with a series of sockets, and a tongue-piece adapted to be secured in either of said sockets.

21. A plow, including a beam, a swinging horizontal arm trailing from the rear end of the beam, and a crank-axle to which the free end of the trailing arm has a vertically-adjustable connection.

22. A plow, including a beam, a swinging horizontal arm trailing from the rear end of the beam, and provided at its front end with a vertical spindle journaled directly in the beam, and a rear crank-axle having a vertical arm slidably connected to the rear free end of the trailing arm.

23. A plow, including a beam, a rear crank-axle having a vertical arm, a horizontal arm trailing from the rear end of the plow-beam and journaled therein, a slidable connection between the rear end of the trailing arm and the vertical arm of the crank-axle, and means carried by the vertical arm of the crank-axle and connected to the trailing arm to elevate the beam.

24. A plow, including a beam, a crank-axle having a vertical arm, a trailing arm having slidable connection at its free end with the vertical arm of the crank-axle and having direct pivotal connection at its opposite end with the rear end of the beam, and means carried by one of said arms and having connection with the other arm to effect the vertical adjustment of the beam.

25. A plow, including a beam, a horizontal arm trailing from the rear end thereof, a crank-axle having a vertical arm slidably connected to the free end of the trailing arm, an adjusting-lever mounted on the vertical

arm of the crank-axle, and a link connecting the adjusting-lever with the trailing arm.

26. A plow, including a beam, a furrow-opener supported thereby, a lever for adjusting the furrow-opener, a stop carried by the lever, a horizontal arm mounted to swing from the beam and having its movement limited by the stop, and a crank-axle adjustably connected to the horizontal arm.

27. A plow, including a beam, a rear crank-axle having a vertical arm, a horizontal arm mounted to swing from the beam and having a vertically-adjustable connection with the vertical arm of the rear crank-axle, a lever mounted on the beam, and a stop carried by the lever and disposed to arrest the movement of the horizontal arm.

28. In a plow, a plurality of carrying-wheels, a frame comprising a series of rigidly-connected beams arranged in tandem, and disks carried by the respective beams and inclined with respect to the line of draft, said beams being adjustable substantially in the direction of the inclination of the disks to vary the width of their combined cut without changing their inclination with respect to the line of draft.

29. In a plow, a plurality of carrying-wheels, a disk-supporting beam carried thereby, and a disk carried by the beam and disposed at an oblique angle across the line of draft, said beam being adjustable substantially in the direction of the angular disposition of the disk, whereby said disk will normally have the same angular disposition with respect to the line of draft, but may occupy different positions toward the right or left.

30. In a plow, a supporting structure and a plurality of furrow-openers arranged one in advance of another and relatively adjustable to vary the width of their combined cut without substantially increasing or diminishing the actual distance between said openers or changing their angular relation to the line of draft.

31. In a plow, a beam and a plurality of disks carried thereby one in advance of another and each disposed at an oblique angle across the line of draft, said disks being relatively adjustable edgewise to vary the width of their combined cut without changing their inclination to the line of draft.

32. In a plow, a plurality of carrying-wheels, a furrow-opener-supporting structure including a plurality of beams arranged one in advance of another, a furrow-opener carried by each beam, and means adjustably connecting the beams and permitting said beams to be adjusted relatively to vary the width of the combined cut of the openers by effecting relative substantially edgewise adjustment of the same.

33. In a plow, a plurality of carrying-wheels, a plurality of beams carried thereby, each beam having its front end disposed ob-

liquely to the line of draft and connected to the beam in advance thereof, a furrow-opener carried by each beam and disposed at an angle across the line of draft, and means
5 permitting the relative adjustment of the disks in a substantially edgewise direction to change the width of their combined cut when in their normal angular positions with respect to the line of draft.

10 34. A plow including a beam comprising a series of elements, each having a laterally-disposed furrow-opener-supporting arm, each of said elements having direct and rigid but adjustable connection with the laterally-disposed arm of the element next in advance
15 thereof.

35. A plow, including a plurality of disks arranged in a diagonal series across the line of draft and having relative substantially
20 edgewise adjustment to vary the width of their combined cut.

36. A plow, including a plurality of rigidly-connected disk-carrying elements arranged in tandem and relatively adjustable trans-
25 versely to effect the relative edgewise adjustment of the disks.

37. A plow, including a series of furrow-opener-supporting beams, and means for rigidly connecting said beams, said connect-
30 ing means permitting the relative edgewise adjustment of the furrow-openers by the lateral adjustment of the beams.

38. A plow, including a beam comprising a plurality of elements, each having a later-
35 ally-disposed furrow-opener-supporting arm, each of said elements being relatively adjustable in a direction lengthwise of its arm.

39. A plow, including front and rear furrow-wheels, a land-wheel, a front-wheel
40 frame disposed transversely across the line of draft, a beam disposed obliquely across the line of draft and composed of a series of disk-carrying elements rigidly connected in tandem, said beam being rigidly connected to
45 the front-wheel frame and adjustable thereon in an angular direction with respect to both said wheel-frame and the beam, and each disk-carrying element in rear of the first being adjustable in a direction substan-
50 tially at right angles to the beam.

40. A plow, including front and rear furrow-wheels, a land-wheel, a front-wheel frame disposed transversely to the line of draft, a beam disposed obliquely across the line of draft and made up of separate detach- 55 able elements each having a laterally-disposed furrow opener-supporting-arm, the front element being rigidly connected to the front-wheel frame and adjustable thereon in an angular direction with respect to both the 60 frame and beam, and each of the remaining beam elements being rigidly connected to the arm of the element in advance thereof and adjustable transversely of the beam.

41. A plow, including front and rear furrow-wheels, a land-wheel, a frame supported by the wheels, a bearing disposed transversely of the frame at the front end thereof, a lever disposed longitudinally of and beyond one side of the frame, a spindle extended 70 transversely from the lever at a point intermediate of the ends of the latter and received within the bearing, a front crank-axle having a vertical spindle journaled in the rear end of the lever, a hand-lever fulcrumed on 75 the frame, a vertically-disposed link connecting the front end of the hand-lever with the front end of the lever first named, a movable draft appliance, and a connection between said draft appliance and the vertical 80 spindle of the front crank-axle.

42. A plow, including a frame comprising a plurality of detachably-connected beams arranged in tandem, a trailing arm adapted to be connected to any of said beams and to 85 swing therefrom, front and rear furrow-wheels and a land-wheel adapted to support a frame made up of one of said beams or a plurality thereof, an axle for the rear furrow-wheel having adjustable connection with the 90 trailing arm, and means for adjusting the trailing arm relative to the crank-axle to raise or lower the rear end of the plow-frame.

In testimony that I claim the foregoing as my own I have hereto affixed my signature 95 in the presence of two witnesses.

SAMUEL V. WEEKS.

Witnesses:

D. H. RAINS,
GARNETT MERRIAM.