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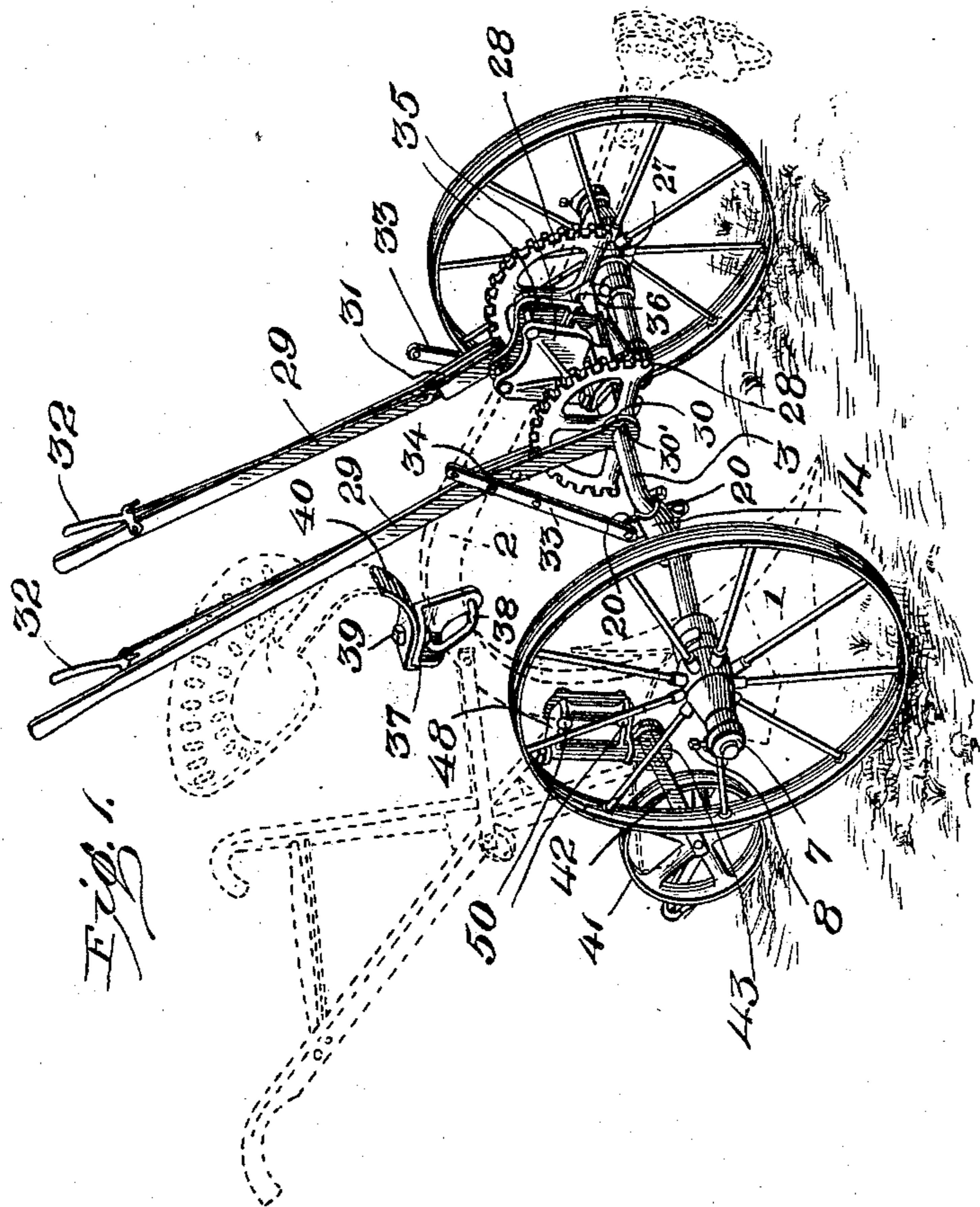
Patented Aug. 12, 1902.

W. H. HOLSCLOW.
ATTACHMENT FOR PLOWS.

(Application filed Jan. 6, 1902.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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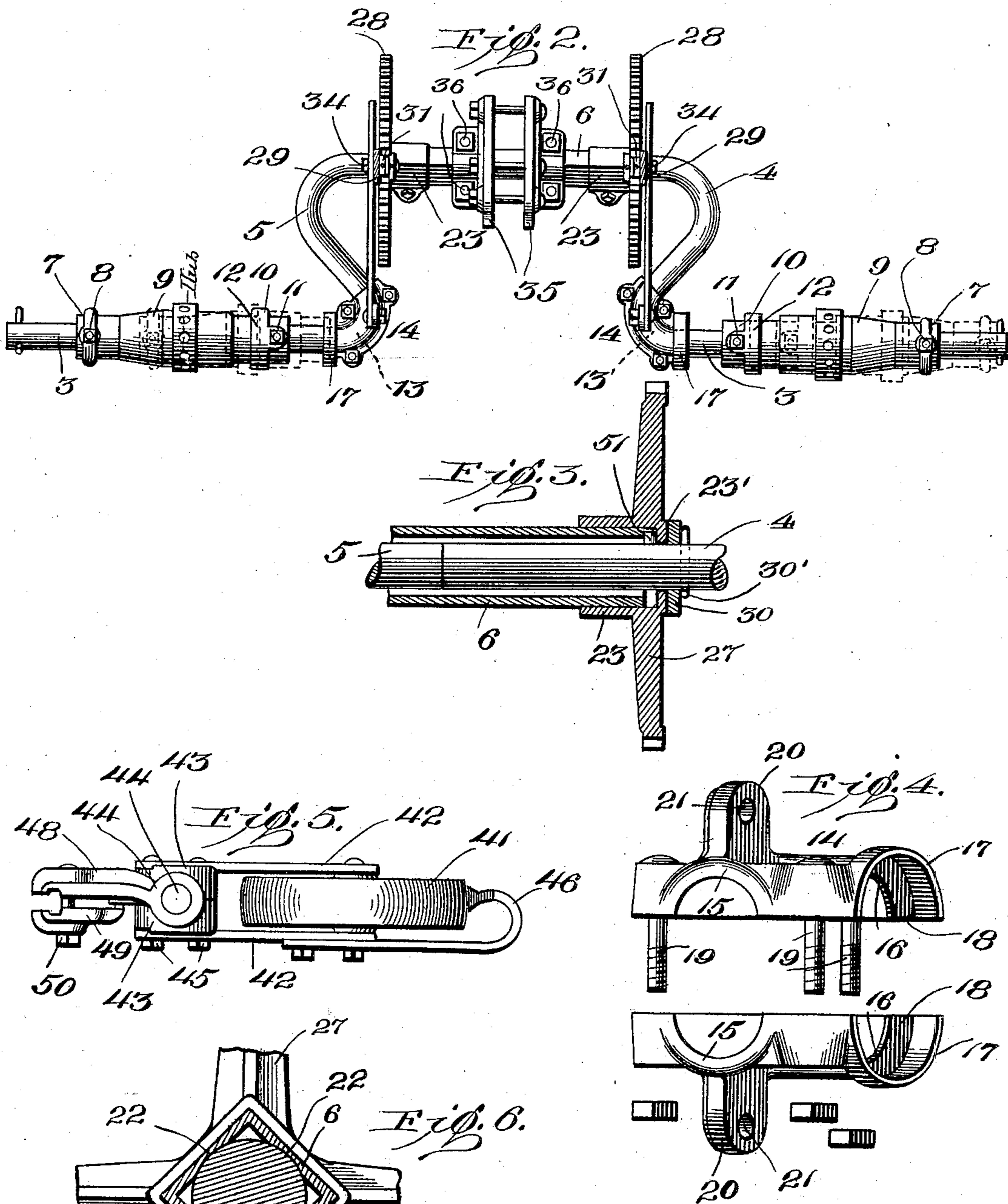
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UNITED - STATES - PATENT - OFFICE.

WILFORD H. HOLSCLAW, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO B. F. AVERY & SONS, A CORPORATION OF KENTUCKY.

ATTACHMENT FOR PLOWS.

SPECIFICATION forming part of Letters Patent No. 706,825, dated August 12, 1902.

Application filed January 6, 1902. Serial No. 88,644. (No model.)

To all whom it may concern:

Be it known that I, WILFORD H. HOLSCLAW, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Attachments for Plows; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in plows, and more particularly to attachments designed to be applied to a walking-plow to transform the same into a riding-plow or sulky.

One object in view is the production of such an attachment designed to be readily applied to any of the common forms of walking-plows and capable of being adjusted to control the depth of furrow; and a further object is the production, in connection with such attaching means, of means for facilitating the ready adjustment of the traction or carrying wheels to a wide or narrow gage.

With these and other objects in view the invention consists, in combination with a plow and a plow-beam, of a suitable axle, means carried thereby for securing the said plow-beam transversely thereof, and means for adjusting the wheel-carrying ends of said axle to various horizontal planes.

It further consists, in combination with the plow and its beam, of an axle extending transversely to said beam, means for securing said beam and axle together, wheels carried by the free ends of said axle, means for securing a maximum length of bearing between said wheels on the axle, and means for adjusting said wheels from a minimum to a maximum gage upon the axle.

It also consists in certain other novel constructions, combinations, and arrangement of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of my improved attaching means, the plow carried thereby being shown by dotted lines. Fig. 2 represents an enlarged detail view, in top plan, of the axle and its attachments. Fig. 3 repre-

sents a fragmentary longitudinal horizontal section through the squared bearing of the axle and one of the locking-sectors. Fig. 4 represents an enlarged detail view of one of the corner-castings of the axle. Fig. 5 represents a similar view of the caster and its clamping attachment; and Fig. 6 represents a vertical transverse section through the squared bearing and axle, illustrating in side elevation the clamping means for the sleeve of the locking-sector.

In the art to which the present invention relates it has been found desirable to provide means whereby a plow of the ordinary walking type may readily be transformed and employed with facility as a riding-plow, and in the production of such attachments an adjustment of the traction-wheels to various horizontal planes has been found necessary in order to accommodate the said wheels to the contour of the ground being operated upon and also to control the depth of furrow. In order to attain these and other valuable results, I employ, as will be seen by the said drawings, in connection with any suitable plow, as 1, preferably of the double-burster type, having any desirable and well-known form of beam 2, a transversely-arranged supporting-axle, as 3, which axle is composed of bars 4 and 5, having their inner ends held in contact with each other and retained in position by means of a squared tubular bearing, as 6, which incloses said inner ends for a suitable distance. Each of the rods 4 and 5 is formed exactly similar to the other, and a description of one may be applied equally as well to the other, and I will therefore describe but one and desire the description to be applied to both. The rod is extended horizontally for a suitable distance and carries upon such horizontal portion an adjustable collar, as 7, provided with a set-screw 8, designed to contact with the outer end of hub 9, revolubly mounted upon said horizontal portion for retaining the same against lateral outward movement, and a sleeve, as 10, provided with a set-screw 11, engages the inner end of said hub and prevents inward lateral movement thereof, the said sleeve being formed with suitable dust-proof flanges, as 12, designed to inclose said inner end of the

hub. It will be apparent that the set-screws 8 and 11 may be caused to lock the sleeves 7 and 10 at any desired points longitudinal of the horizontal portion of said bar for controlling the gage of the traction-wheels carried by the axle 3. At a suitable point intermediate the length of the bar 4 the same is bent from a horizontal to a vertical plane, as indicated at 13, the said bend being sufficiently great to cause that portion of the bar beyond the point of the bend to extend in a diagonal plane outwardly, and the bar is next formed with a comparatively large bend to bring the inner portion thereof again to a horizontal plane. It will be seen that by these goose-neck bends within the bars 4 and 5 the horizontal portion between the larger bends thereof is given the greatest possible length, while the distance between the smaller curves 13 is reduced to a minimum and the lower horizontal hub-carrying portion of the bars thereby permitted to have a maximum length. About the curve 13 is clamped a two-part casting, as 14, each of the parts of said casting being made exactly similar to the other, each being provided with a semicircular notch, as 15, and a second semicircular notch 16. Surrounding notch 16 and extending laterally therefrom is a dust or sand guard flange, as 17, the said flange being spaced from the notch 15 by an abutting shoulder 18 a distance equal to the thickness of the inner end of hub 9, whereby when said castings have been clamped together by means of bolts, as 19-19, about the bend 13, the semicircular notch 15 surrounding the diagonal portion of the bar and the notches 16 the horizontal portion thereof, the said hub 9 may be moved inwardly, the collar 10 having previously been removed from the axle until its inner end abuts against the shoulder 18 and is guarded by flange 17. Each of the castings 14 is formed with a laterally-extending lug or ear, as 20, apertured, as at 21, for purposes hereinafter disclosed. It will be apparent that each of the castings 14, as above suggested, is formed exactly similar in every respect to the other, whereby an interchange of the castings from one of the bends 13 to the other may be made without the confusion arising from a right and left casting with respect to the relative position of the bends. Of course it will be seen that the statement with reference to the similarity of these castings does not apply with reference to their relative positions when applied to a particular bend, as the castings of course must be made in pairs. The notches 15 and the notches 16 of each pair of castings are arranged to register with each other, respectively, the castings being otherwise similar in all respects, and a right casting upon one bend 13 may with facility be employed as a left casting upon the other bend, and vice versa.

The inner ends of bars 4 and 5 are preferably held in contact with each other within the squared tube 6, which tube is prepared

by forming the same square and then passing a drill longitudinally therethrough, thereby cutting away portions of its inner wall, as at 22 22, whereby the rods 4 and 5 may be readily passed within the tube 6 and snugly fit therein. Surrounding either end of the tube 6 is a preferably squared sleeve, as 23, slotted longitudinally through its under wall, as at 24, and provided with depending lugs 25 25 upon either side of said slot, a bolt, as 26, being passed through said lugs for clamping the same together and closing the spaces between slot 24, whereby the sleeve 23 is caused to tightly clamp tube 6 and be retained in position. By reference to Fig. 3 it will be seen that the outer end of the sleeve 23 is formed with a circumferential inwardly-extending shoulder, as 23', which fits snugly about its respective bar 4 or 5, the bar carrying a lug 51, which is introduced through the slot 24 before the clamping operation and which engages the shoulder 23' on one side and the respective end of tube 6 on the other, so as to retain its bar against longitudinal movement and at the same time permit rotation thereof. The outer end of the sleeve 23 is formed, preferably, with an integral sector, as 27, provided on its periphery with suitable ratchet-teeth, as 28. Outside of the sectors 27 are arranged operating-levers, as 29, each provided with an eye 30, surrounding its respective bar 4 or 5, and any suitable cotter-pin, as 30', is preferably passed through the said bar for preventing lateral movement of said eye. Each lever 29 is provided with a suitable pawl, as 31, designed to engage the teeth 28 of sector 27 for locking its respective lever against movement. Any suitable gripping means, as arms 32 32, carried by levers 29, may be connected by rods or otherwise, as is well known, to the pawls 31 for releasing the engagement thereof for permitting movement of the levers. Each lever 29 carries an arm, as 33, clamped by means of a bolt, as 34, or otherwise secured to the same, the lower end of which lever is pivotally connected with lug 20 by means of a bolt passed therethrough and through aperture 21, whereby movement of lever 29 will operate to raise or lower the lower horizontal portion of the respective bar and to rotate the upper horizontal portion thereof, the tube 6 and its sleeves 23 and sectors 27 being held against rotation by the weight of the plow-beam 2, which beam is clamped between suitable castings 35 35 by means of suitable bolts or in any preferred manner. Each of the castings 35 35 is rigidly clamped to the tube 6 by means of a bolt 36, having its ends passed through apertures in laterally-extending flanges of the said castings and about said tube, the ends of said bolt 36 being engaged by nuts which may be threaded thereon and contact with said lateral flanges for tightly and rigidly clamping the castings 36 in position upon the tube 6.

In order to provide a suitable seat for the driver, a casting 37 is designed to be held in

position upon beam 2 by means of a clamping-bolt 38, the said casting carrying any suitable securing means, as bolt 39, for receiving and retaining a spring, as 40, of any suitable form of seat. I also find it desirable to provide the follower-caster common to most riding-plows, and in the production of such I employ any suitable wheel, as 41, revolubly carried between parallel arms 42, the inner ends of which arms are secured to clamped blocks 43 43, which blocks are clamped about a vertical shaft 44 by means of any suitable bolts 45 45, which bolts also retain the arms 42. One of the arms 42 preferably carries a follower-finger, as 46, designed to free the periphery of wheel 41 from any foreign substance which may cling thereto. The tubular casting at 47 surrounds the shaft 44 and permits free rotation thereof and is provided with a laterally-extending clamping-jaw 48. A second clamping-jaw, as 49, is preferably loosely carried by the jaw 48, and in operation the said jaws are designed to be clasped upon either side of the rear and lower portion of beam 2 and held in position by any suitable bolts, as 50 50.

In operation any suitable plow may be transformed into a riding-plow with any desired gage of its traction-wheels by simply securing its beam between the clamping-castings 35 and then adjusting the traction-wheels to the desired gage, as above suggested, upon the axle 3, it being obvious that the contour of the earth's surface operated upon may demand that one of the traction-wheels move in a higher horizontal plane than the other, and from the above description it will be seen that the shifting of the levers 29 will produce any desired relative position of the said traction-wheels by a sufficient raising or lowering of the lower horizontal portions of respective bars 4 and 5.

Among the many advantages of the invention in the present improved structure attention might be called to the fact that the bearings secured by the squared shaft 6 may, if desired, be longer than the distance between the bends 13 13 through the peculiar gooseneck curves in the bars 4 and 5, whereby a greater leverage is secured for the raising or lowering of the traction-wheels.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a mechanism of the class described, the combination with a plow, of a wheel-carrying axle attached to said plow, a squared bearing inclosing said axle for a portion of its length, means for adjusting the ends of said axle to various planes, and locking means clamped about said squared bearing for receiving and retaining said adjusting means, substantially as described.

2. In a device of the class described, the combination with a suitable plow, of a transversely-arranged divided axle, means for securing the same to the beam of said plow, a squared bearing inclosing the inner ends of the sec-

tions of said axle, and means carried by said bearing for adjusting the outer ends of said axle to various horizontal planes with respect to each other, substantially as described.

3. In a mechanism of the class described, the combination with a suitable plow and its beam, of an axle, means carried thereby for securing same to said plow-beam, the said axle being formed of two parts each part being bent intermediate its length, the ends thereof lying in different horizontal planes, a squared bearing inclosing the inner ends of said parts, and means carried thereby for rotating the inner ends of the parts of said axle for altering the horizontal plane of the outer ends thereof, substantially as described.

4. In a mechanism of the class described, the combination with a suitable plow, of an axle designed to support the beam thereof, bent out of its plane and again bent into a plane parallel to the first-mentioned plane, that portion of said axle lying in said parallel plane being longer than the distance between the said first bends, and means for adjusting the wheel-carrying portions of said axle to various planes, substantially as described.

5. In a mechanism of the class described, the combination with a suitable plow, of a two-part axle, means for securing the same to the beam of said plow, each part of the said axle being bent from a horizontal to a diagonal outward plane and back to a horizontal again, and means carried by said axle for rotating the upper horizontal portion of each of its respective parts independently of the other, substantially as described.

6. A riding-plow attachment, comprising in its construction a two-part axle, each of the parts consisting of a bar having a wheel-carrying portion extending in a horizontal plane, said bar being bent from said plane to a diagonal plane outwardly, and then again bent inwardly to a horizontal plane, a squared tube surrounding the inner ends of said bars, means for securing said bars against lateral movement with respect to said tube, and means for rotating the ends of said bars within the tube, substantially as described.

7. A riding-plow attachment comprising an axle formed of two bars extending inwardly in a horizontal plane, then bent upwardly from said plane, and again inwardly in a horizontal plane, a squared bearing inclosing said bars, a lever pivotally engaging each of said bars outside the squared bearing, means carried by said squared bearing for engaging the said levers for preventing movement thereof, and means carried by said levers for rotating the inner ends of each of said bars upon movement of the same, substantially as described.

8. In a mechanism of the class described, the combination with a suitable plow, of an axle formed in two parts and bent centrally upward and flared outwardly, means retaining the parts of said axle against longitudinal movement with respect to each other, means

for securing the beam of said plow to said axle, means carried by the center portion of said axle for moving the outer ends of the two parts thereof to different horizontal planes with respect to each other, substantially as described.

9. In a mechanism of the class described, the combination with a suitable plow, of an axle designed to support the beam thereof, said axle being bent centrally out of its horizontal plane, and again in a higher horizontal plane, a two-part casting clamped about each of the lower bends in said axle, and means engaging said castings for adjusting said lower horizontal portion of the axle to different planes, substantially as described.

10. In a mechanism of the class described, the combination with a suitable plow, of an axle designed to support the beam thereof bent centrally from its horizontal plane, flared outwardly and again bent to a higher horizontal plane, the said axle being formed in two parts, means inclosing the inner ends of said parts, means carried by the upper horizontal portion of said axle engaging the axle at the points of its lower bends and designed to be operated for moving the lower horizontal portions of the axle to various planes with respect to each other, substantially as described.

11. In a mechanism of the class described, the combination with a suitable plow of an axle designed to support the beam thereof, means for securing the said axle to said beam, the axle being bent centrally from its horizontal plane, the axle being formed in two parts, a squared bearing inclosing the inner ends of said parts, a sleeve clamped about each end of said bearing, a lever pivoted to said axle outside each of said sleeves, means carried by said lever engaging said axle whereby movement of the lever is designed to rotate the upper horizontal portion of the respective part of said axle, and locking means carried by each of said sleeves designed to be engaged by its respective lever for preventing movement thereof, substantially as described.

12. In a mechanism of the class described, the combination with a suitable plow of an axle designed to be secured to the beam thereof, said axle being bent centrally from its horizontal plane, then again bent to a higher horizontal plane, said axle being formed in two parts, a squared bearing inclosing the inner ends of the parts of said axle, sleeves engaging the ends of said squared bearing, locking-sectors carried by said sleeves, a lever pivotally engaging said axle outside each of said sectors, means carried by said lever for engaging the sectors to prevent movement of the lever, and means carried by each of said levers pivotally engaging its respective part of said axle at the points of its lower bend, whereby movement of one of the levers is designed to rotate the upper horizontal portion of its respective part of the axle and to alter the plane of the lower portion thereof, substantially as described.

13. In a mechanism of the class described, the combination with a plow of an axle designed to be secured to the beam thereof, said axle being bent centrally and from its horizontal plane, and again bent to a higher horizontal plane, the axle being formed in two parts, a squared bearing inclosing the inner ends of the parts of said axle, a sleeve inclosing each of said squared bearings, means for clamping each of said sleeves in position upon said bearing, an inwardly-extending shoulder formed upon said sleeve and designed to snugly fit about its respective part of the axle outside the end of the squared bearing, a space being left between said end of the bearing and said shoulder, a lug carried by the respective part of said axle and occupying the space between said shoulder and the respective end of said squared bearing, whereby the parts of said axle are held against longitudinal movement, and means for rotating the upper horizontal portion of said axle, substantially as described.

14. In a mechanism of the class described, the combination of an axle bent centrally from the horizontal plane, and again bent to a higher horizontal plane, the said axle being formed in two parts, means for preventing longitudinal movement of the parts of said axle with respect to each other, two-part castings clamped about and inclosing the lower bend of each part of said axle, levers pivotally carried by the upper horizontal portion of said axle, means carried by each lever pivotally engaging its respective castings, and means for locking each of said levers against movement, whereby the wheel-carrying horizontal portions of said hub may be moved to varying planes with respect to each other, and held in said relative positions, substantially as described.

15. In a mechanism of the class described, the combination of an axle centrally bent from the horizontal plane, and again bent to a higher horizontal plane, the said axle being formed in two parts, means for rotating said parts of the axle against longitudinal movement with respect to each other, levers each provided with an eye surrounding its respective part of said axle, a two-part casting, clamped about the lower bend of each part of said casting, an arm carried by each of said levers pivotally engaging one of said lugs, whereby movement of either lever is designed to alter the plane of the lower horizontal portion of the respective part of said axle and rotate the upper portion thereof, and means for locking said lever against movement, substantially as described.

16. In a mechanism of the class described, the combination of an axle bent centrally from a horizontal plane upward and again bent to a higher horizontal plane, the said axle being formed of two parts, divided centrally of the upper horizontal portion, a squared tube inclosing the inner ends of said parts, the inner walls of said tube being cut away to accom-

modate the contour of said axle, means for preventing longitudinal movement on the parts of said axle, and means for altering the plane of the lower horizontal portions of the axle, substantially as described.

17. In a mechanism of the class described, the combination with a suitable plow, of an axle bent centrally from a horizontal plane, and again bent to a higher horizontal plane, the said axle being divided approximately at the center thereof, a squared bearing inclosing the inner portion of said axle, means preventing a longitudinal separation of the parts of said axle, means carried by the respective parts of said axle for altering the horizontal plane of the wheel-carrying portion thereof, and clamping means carried by said bearing designed to engage the beam of said plow, substantially as described.

18. In a mechanism of the class described, the combination with a suitable plow of an axle and means for securing same to the beam

of said plow, the said axle being bent centrally from its normal horizontal plane, flared outwardly, and again bent to a horizontal plane, and means carried by the second-mentioned horizontal portion of the axle for altering the plane of the first-mentioned horizontal portion thereof, substantially as described.

19. In a mechanism of the class described, the combination with a suitable plow, of a divided axle engaging the beam thereof, each part of said axle being bent out of its normal horizontal plane, and means for independently rotating the inner ends of the parts of said axle, said inner ends lying at times in the same transverse, vertical plane, substantially as described.

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

WILFORD H. HOLSCLAW.

Witnesses:

ADOLPH G. RENAULT,
FRANK T. MARION.