No. 860,230. PATENTED JULY 16, 1907.

C. W. McWANE.

PLOW.

APPLICATION FILED JULY 6, 1906.

2 SHEETS—SHEET 1.

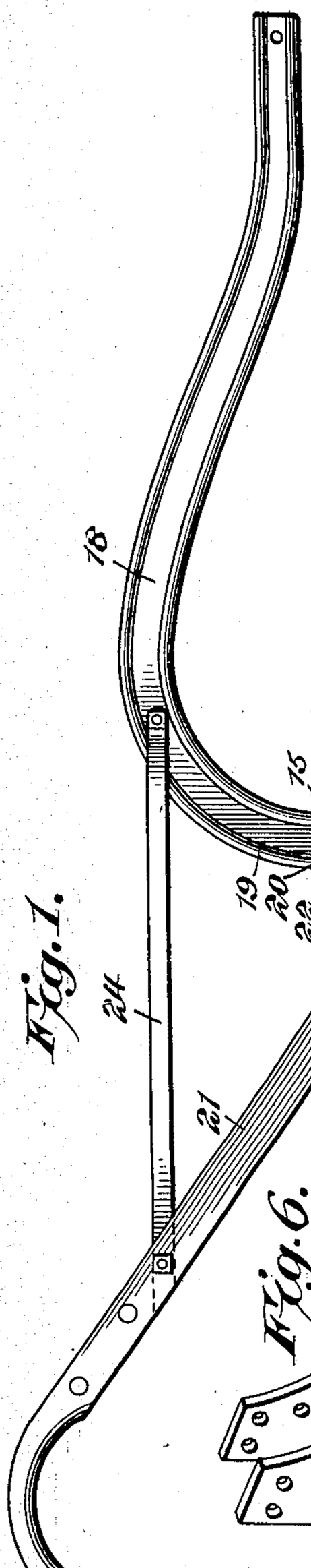

Fig. 1.

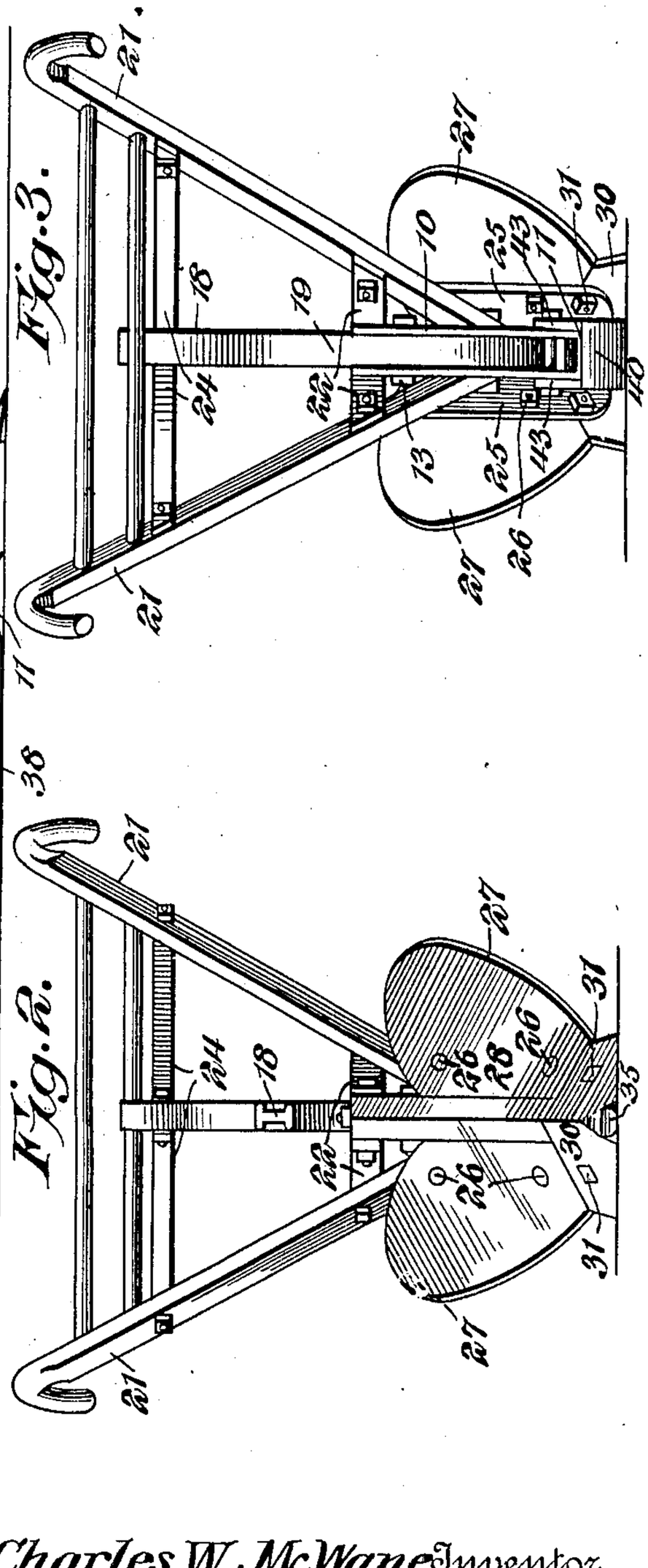

Fig. 3.

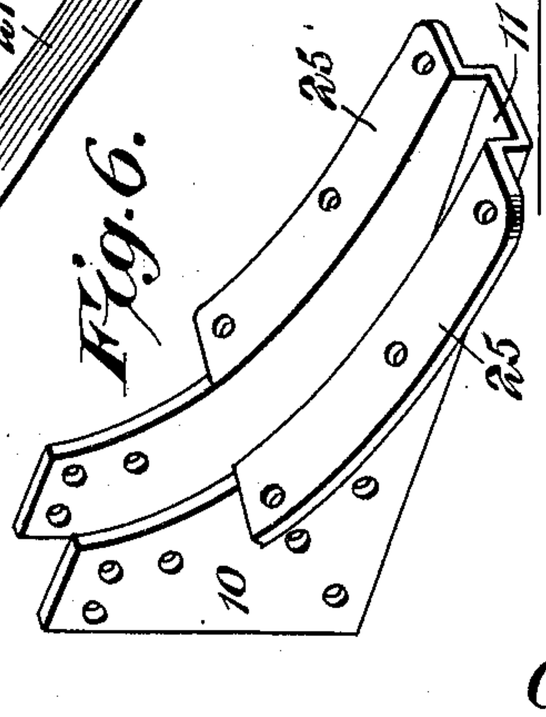

Fig. 6.

Fig. 2.

Witnesses
Howard D. Orr.
B. G. Foster

Charles W. McWane, Inventor,
By E. G. Siggers.
Attorney

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2 SHEETS—SHEET 2.

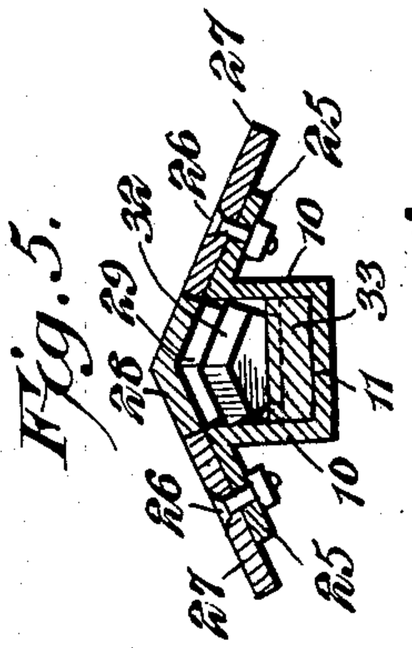

Fig. 5.

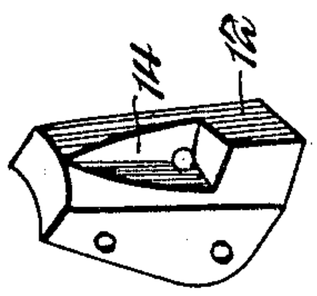

Fig. 9.

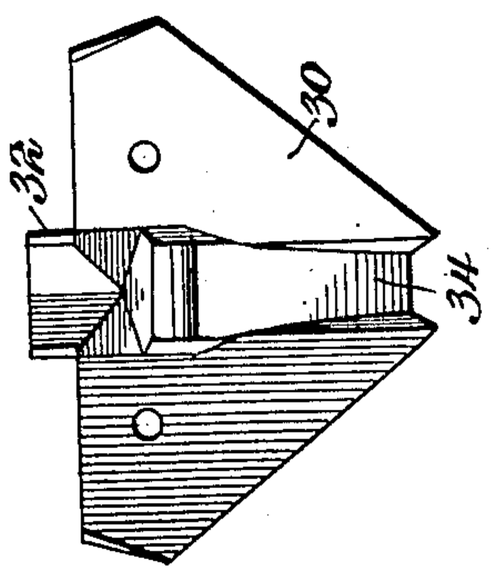

Fig. 8.

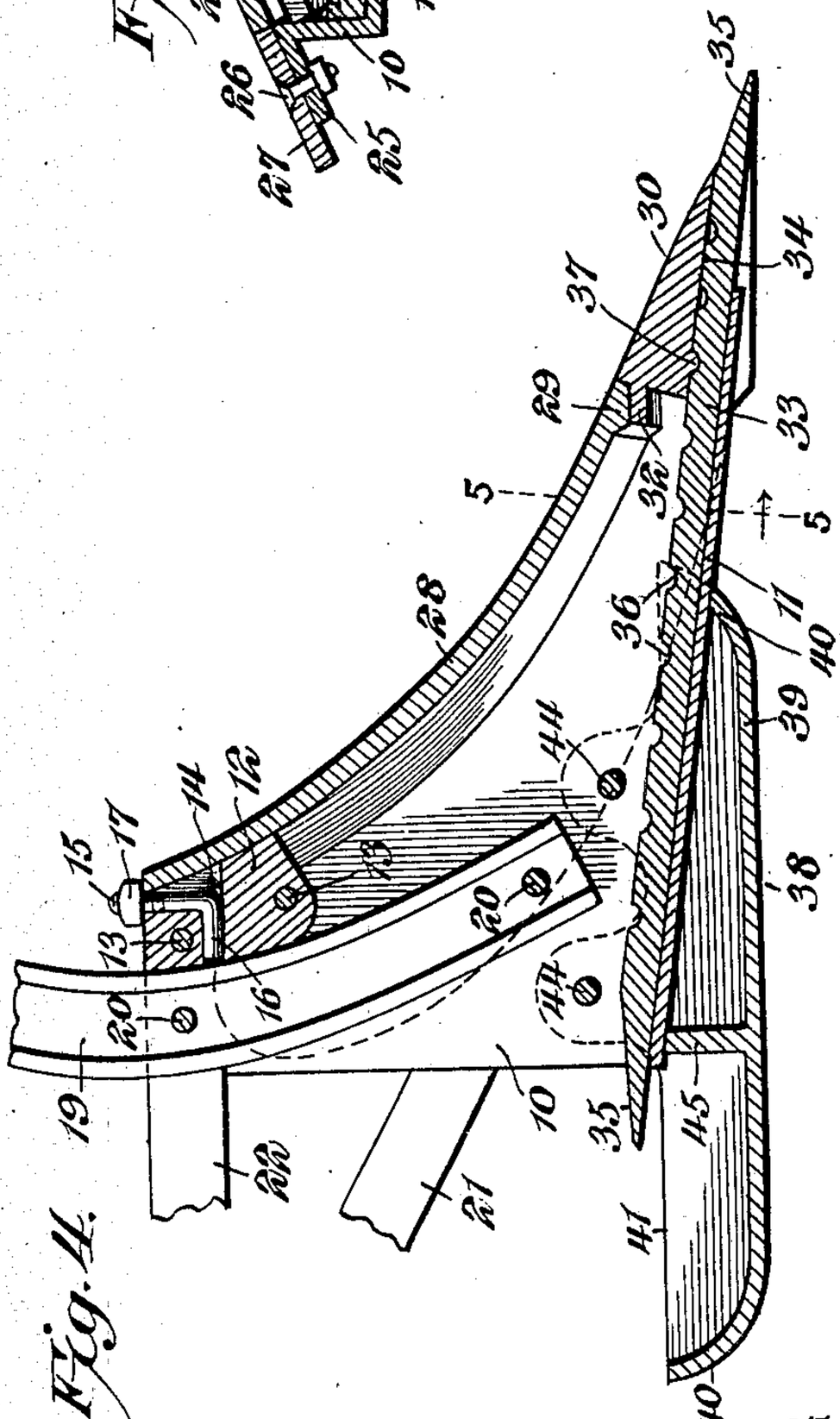

Fig. 4.

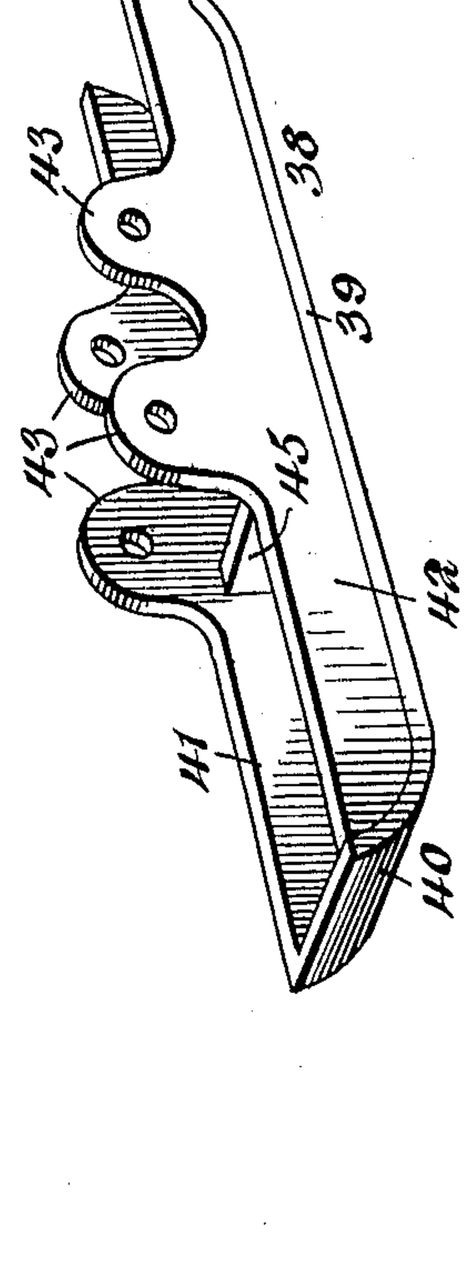

Fig. 7.

Witnesses
Howard D. Orr.
B. G. Foster.

Charles W. McWane, Inventor,
By E. G. Siggers.
Attorney

UNITED STATES PATENT OFFICE.

CHARLES W. McWANE, OF LYNCHBURG, VIRGINIA, ASSIGNOR TO THE LYNCHBURG FOUNDRY CO., OF LYNCHBURG, VIRGINIA.

PLOW.

No. 860,230. Specification of Letters Patent. Patented July 16, 1907.

Application filed July 6, 1906. Serial No. 324,981.

To all whom it may concern:

Be it known that I, CHARLES W. McWANE, a citizen of the United States, residing at Lynchburg, in the county of Campbell and State of Virginia, have invented a new and useful Plow, of which the following is a specification.

This invention relates more particularly to that class of plows ordinarily designated double-mold board or middle breaker plows, though there are features herein disclosed and claimed that are not necessarily limited thereto, but are capable of advantageous use in plows of other types.

One of the principal objects is to provide a novel, comparatively simple and compact combination of parts, which can be readily assembled and dismembered and forms a strong, rigid and effective structure.

A further and important object is to provide a novel form of standard, and to so associate the several parts or members therewith that those subject to excessive wear, can be readily removed and replaced and are effectually held in position.

Still another object is to provide an adjustable and reversible nose piece, together with novel and simple means for holding the same in place.

The preferred form of construction is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of the plow. Fig. 2 is a front elevation thereof. Fig. 3 is a rear elevation of said plow. Fig. 4 is a vertical longitudinal sectional view through the body of the plow. Fig. 5 is a cross sectional view on the line 5—5 of Fig. 4. Fig. 6 is a detail perspective view of the standard. Fig. 7 is a similar view of the shoe. Fig. 8 is a bottom plan view of the point or share, Fig. 9 is a detail perspective view of the abutment block.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated, a standard is employed, which is substantially U-shaped in cross section, and comprises side walls 10 connected at their lower ends by a cross web 11. The side walls have curved front edges and substantially vertical rear edges, and consequently said side walls taper towards their upper ends. The standard may be of pressed steel, malleable iron, or any other material found suitable for the purpose.

An abutment block 12 is located between the upper ends of the side walls 10, and secured in place by any suitable means, as for instance, bolts 13. This abutment block has a recess 14 in its front face, from which projects a clamping bolt 15, having an offset end 16, located in a socket in the block, the other end of said bolt extending vertically and having a nut 17, threaded thereon. A beam 18, of any suitable structure, has a downwardly extending rear end portion 19 fitted between the side walls and bolted thereto, as shown at 20. This beam abuts against the rear side of the block 12. Handles 21 are secured at their lower ends to the side walls 10 by the lower bolt 20 that fastens the beam in place, and braces 22, secured to the upper end of the standard by the upper bolt 20, are connected to the handles 21, as shown at 23. Still other braces 24 preferably connect the beam 18 and the handles.

The side walls 10 are provided along their curved front edges with outstanding integral wings 25, and secured thereon by suitable bolts 26 are mold-boards 27. The mold-boards terminate short of the lower ends of the wings, and have their inner edges spaced apart. A shim 28 is arranged between the inner edges of the mold-boards, and has its upper end extending over the front face of the abutment block 12, covering the recess 14, and engaging the clamping nut 17, as clearly shown in Fig. 4. The lower end of the shim 28 is preferably thickened, as shown at 29. A point 30 rests against the lower ends of the wings 25, and abuts against the lower ends of the mold-boards and shim, being secured in place by bolts 31 passing through the lower ends of the wings. This point furthermore has a rearwardly extending rib 32 that engages beneath the lower end or thickened portion 29 of the shim 28.

A nose member, in the form of a bar 33, is slidably mounted on the web 11 of the standard between the side walls 10 thereof, and the underside of the point is recessed, as shown at 34 to permit the passage of the nose piece beneath the same. The ends of the nose piece or bar are sharpened, as shown at 35, and its upper face is preferably provided with a series of notches 36. A tooth 37, formed upon the underside of the point or share is arranged to engage in one of the notches 36, and thus when the point is fastened in position, it will be interlocked with the nose member, and securely hold it against movement.

A shoe 38, for protecting the lower end of the standard against wear and properly positioning the plow body with respect to its work, is secured to said standard. This shoe consists of a bottom or runner wall 39, having upwardly curved ends 40, with spaced side walls 41 and 42, the former being integral with the bottom wall, the latter being removable. These side walls have upstanding ears 43 that embrace the lower portion of the standard and are secured thereto by bolts 44. The front upturned end of the bottom wall 38 is of less height than the rear upturned end, and terminates short of the upper edges of the side walls, being abutted against the underside of the standard, as illustrated in Fig. 4. A transverse rib 45, formed in an intermediate portion of the shoe, is arranged to abut

against the underside of the standard at its rear end, so that the bottom of the shoe will be disposed at an inclination with respect to the bottom of the standard.

It will be evident that this is an exceedingly simple structure, and that all the parts are fastened to the novel form of standard, said parts being so arranged, however, that they reinforce and brace each other. The structure is such that the parts can be readily fitted and assembled, and the elements, which are subject to the greatest amount of wear, are entirely accessible, so that they may be removed at any time, and replaced by others without entirely dismembering the plow. Thus, either mold-board may be removed at will, and the shim can be freely detached either by loosening the nut 17, or the point 30. Moreover, when the latter is loosened, and detached, the nose bar can be adjusted or reversed but said nose bar is efficiently held when the point is secured in position.

From the foregoing, it is thought that the construction, operation, and many advantages of the herein described invention, will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a plow, a standard comprising spaced parallel similar side walls, and a bottom connecting the lowermost edges of the side walls and extending along the entire length of the same.

2. In a plow, a standard comprising spaced side walls having angularly disposed rear and lowermost edges and curved front edges, and a bottom connecting the lowermost edges of the side walls and extending along the entire length of the same.

3. In a plow, a standard substantially upright U-shaped in cross section and comprising side walls, a bottom web connecting the lowermost edges of the same, and outstanding mold-board supporting wings carried by the front edges of the side walls.

4. In a plow, the combination with a standard having spaced side walls, of a beam having a portion fitted between the side walls, and a shim detachably secured to the standard and bridging the space between the front portions of the side walls.

5. In a plow, the combination with a standard having spaced side walls, of mold-boards secured to the side walls and having their inner edges spaced apart, and a shim secured between said inner edges and closing the space between them and between the side walls of the standard.

6. In a plow, the combination with a standard having spaced side walls, and outstanding wings projecting from the front portions of the side walls, of a beam having a portion fitted between the side walls, mold-boards secured to the wings and having their inner portions spaced apart, and a shim fitted between the mold-boards and bridging the space between the front portions of the side walls.

7. In a plow, the combination with a standard including side walls, of an abutment located between the side walls, a beam having a portion located between the side walls and arranged against one side of the abutment, and a shim bridging the space between the side walls and arranged against the opposite side of the abutment.

8. In a plow, the combination with a standard comprising side walls, and a web connecting the lower ends thereof, of an abutment block secured between the upper portions of the side walls, a beam having a down-turned rear end secured between the side walls and abutted against the rear side of the block, and a shim bridging the space between the front portions of the side walls and having its upper end abutted against the front portion of the block.

9. In a plow, the combination with a standard including side walls, of an abutment block secured between the upper portions of the same, a shim bridging the space between the front portions of the side walls, and a fastener for the upper end of the shim secured to the block.

10. In a plow, the combination with a standard having side walls, of an abutment carried by the upper portions thereof, a shim engaged with the abutment and extending longitudinally along the front edges of the side walls, and a point secured to the lower portion of the standard and engaged with the shim to hold it in place.

11. In a plow, the combination with a standard having spaced side walls, of a shim bridging the space between the side walls, and a point secured to the lower portion of the standard and having a lip extending between the side walls and beneath the lower end of the shim.

12. In a plow, the combination with a standard substantially U-shaped in cross section and comprising substantially parallel side walls, and a web connecting the lower ends thereof, of an abutment block secured between the upper ends of the side walls, a bottom having a down-turned rear end secured between the side walls and disposed in rear of the abutment block, a shim bridging the space between the front portions of the side walls and having its upper end engaging the abutment block, a fastener for securing the portions of the shim to the abutment block, a point secured to the lower portion of the standard and engaging the lower end of the shim to hold the same in place, outstanding wings projecting from the outer sides of the side walls, and mold-boards secured to said wings and having their inner edges abutted against the opposite sides of the shim.

13. In a plow, the combination with a standard, of a nose mounted on the standard, a point having an integral portion that has an interlocking engagement with the nose for holding the same against movement on the standard, and means other than said portion for fastening the point to the standard.

14. In a plow, the combination with a standard, of a nose slidably mounted on the standard, a point provided with an integral portion that has an adjustable interlocking engagement with the nose for holding the same against its sliding movement, and means other than said portion for fastening the point to the standard.

15. In a plow, the combination with a standard, of a nose mounted on the standard, a point associated with the nose, said point and nose being provided one with a socket and the other with an integral tooth that engages in the socket to hold the nose and point against relative movement, and means other than the tooth for fastening the point to the standard.

16. In a plow, the combination with a standard comprising side walls, and a bottom web, of a nose element slidably mounted on the web between the side walls, and a plowing member secured to the standard and interlocking with the nose element to hold it against movement.

17. In a plow, the combination with a standard substantially U-shaped in cross section, said standard comprising side walls, and a bottom web connecting the side walls, of a beam having a portion fitted between and secured to the side walls, a shim bridging the space between the front portions of the side walls, a reversible nose bar slidably fitted between the side walls on the web, and a point fastened to the standard and engaging the nose bar to hold it against movement.

18. In a plow, the combination with a standard, of a shoe secured thereto and comprising a bottom and side walls, the former being located beneath and embracing and being secured to the lower portion of the standard.

19. In a plow, the combination with a standard, comprising spaced side walls, of a shoe comprising a bottom, spaced side walls having outstanding ears that embrace and are secured to the lower portion of the standard, and a supporting rib located on the bottom between the side walls of the shoe and bearing against the lower end of the standard.

20. In a plow, the combination with a standard, of a shoe secured thereto, said shoe comprising a bottom wall

having upturned end portions and spaced side walls, one of said side walls being removable, said walls having portions embracing the standard, and means for securing said portions to the standards.

21. In a plow, the combination with a standard, substantially U-shaped in cross section, and comprising side walls, and a bottom web, of an abutment block secured between the upper portions of the side walls, a beam having a downturned rear end fitted between and secured to the side walls in rear of the abutment block, a shim bridging the space between the front portions of the side walls and having its upper end engaged with the abutment block, a nose bar slidably mounted between the side walls upon the web, outstanding wings projecting from the front portions of the side walls, mold-boards secured to said wings and having their inner edges abutted against the sides of the shim, a point secured to the wings and having a seat through which the nose bar extends, said point and side bar having an adjustable interlocking engagement for holding the latter against its sliding movement, and a shoe comprising a bottom and side walls, said side walls having portions embracing the lower end of the standard and secured thereto, said shoe having a bearing against the lower end of the standard.

22. In a plow, the combination with a standard comprising side walls and a bottom web, said side walls having upwardly extending spaced front and rear edges, of outwardly extending mold-board supporting wings projecting from the front margins of the walls, a beam located between the walls and the front and rear spaced edges thereof and projecting toward the bottom web, and mold-boards carried by the wings.

23. In a plow, the combination with a standard comprising side walls and a bottom web connecting the side walls, of a beam having a portion located between the side walls, and a nose-piece slidably mounted between the side walls and between the lower end of the beam and the web.

24. In a plow, the combination with a standard comprising side walls and a bottom web connecting the side walls, of a beam having a portion located between the side walls and terminating short of the web, a shim bridging the space between the lower portions of the side walls and terminating short of the web, and a nose piece slidably mounted on the web between the side walls and below the beam and shin.

25. In a plow, a standard comprising spaced side walls having curved front edges and substantially straight bottom edges, a web connecting the lowermost edges, and outstanding mold-board supporting wings carried by the curved edges and of shorter length than the same.

26. In a plow, the combination with a standard including spaced side walls having separate outstanding wings, of separate outstanding mold-boards secured respectively to the wings.

27. In a plow, the combination with a standard including spaced side walls having separate outstanding wings, of outstanding mold-boards secured respectively to the wings and having their adjacent edges spaced apart, and a shin interposed between said edges.

28. In a plow, the combination with a standard, of a nose mounted on the standard at the base thereof, a point resting upon and having an interlocking engagement with the nose, and a shim arranged above and bearing at its lower end upon the point, said shim serving to maintain the point in interlocking engagement with the nose.

29. In a plow, the combination with a standard, of a nose mounted thereon and provided with recesses, and a point having its under side resting against and provided with a projection or tooth to fit in any one of the recesses of the nose to hold said nose against movement.

30. In a plow, the combination with a standard comprising side walls and a bottom web, of a nose element slidably mounted on the web between the side walls, and a plowing member secured to the standard and having a portion resting against and locking the nose element to hold it against movement.

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

CHARLES W. McWANE.

Witnesses:
P. H. McCAULL,
GEO. O. MORGAN.

Correction in Letters Patent No. 860,230.

It is hereby certified that in Letters Patent No. 860,230, granted July 16, 1907, upon the application of Charles W. McWane, of Lynchburg, Virginia, for an improvement in "Plows," an error appears in the printed specification requiring correction, as follows: In the specification and claims the word "shim" wherever it occurs should read *shin;* and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 20th day of August, A. D., 1907.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.