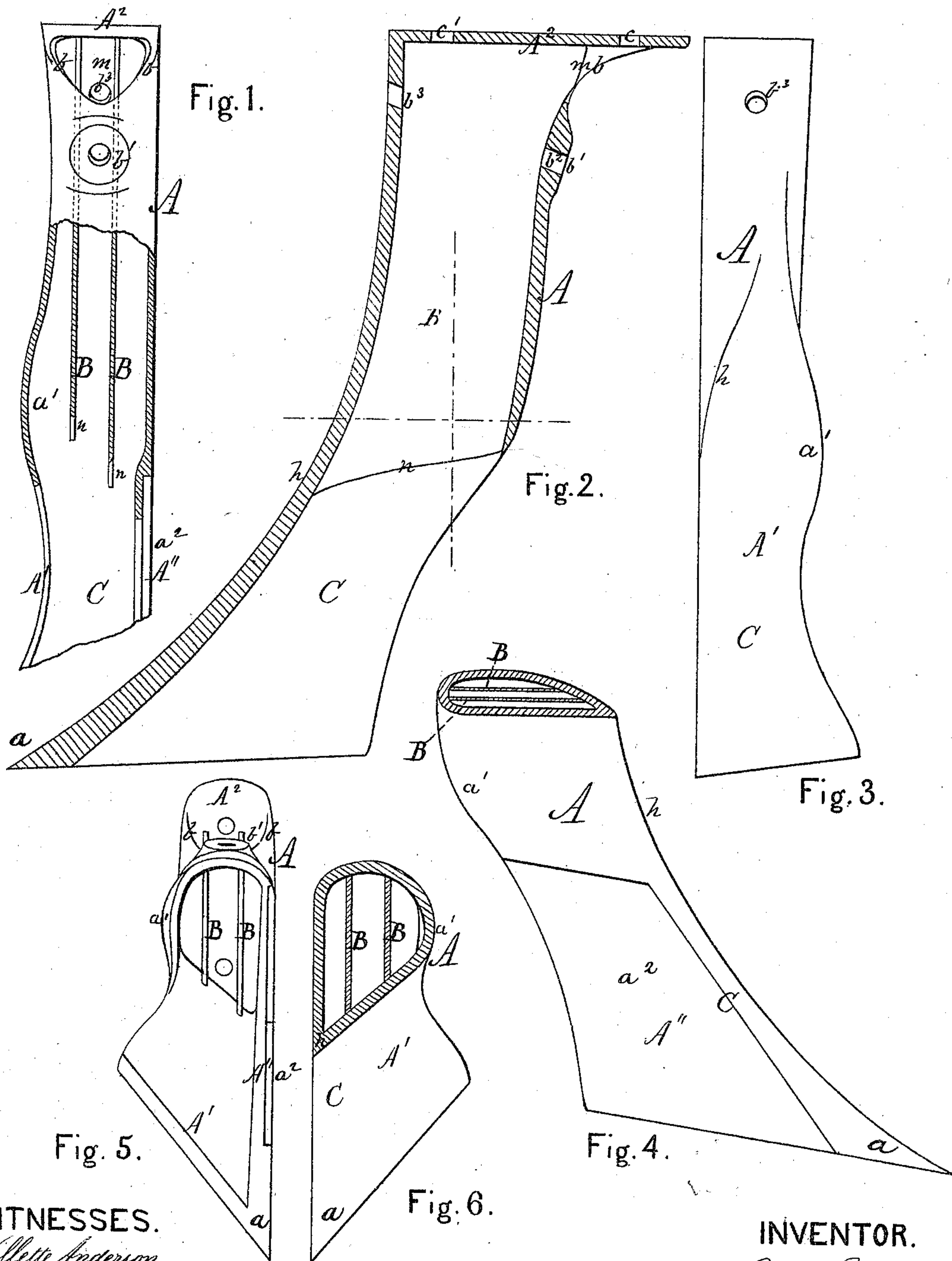


P. LOEB.

Plows.

No. 140,053.

Patented June 17, 1873.



WITNESSES.

Villette Anderson,

Chas. B. Steele

INVENTOR.

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UNITED STATES PATENT OFFICE.

PETER LOEB, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO
DAYTON MALLEABLE-IRON COMPANY, OF SAME PLACE.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **140,053**, dated June 17, 1873; application filed
May 10, 1873.

To all whom it may concern:

Be it known that I, PETER LOEB, of city of Dayton, in the county of Montgomery and State of Ohio, have invented a new and valuable Improvement in the Manufacture of Agricultural Plows; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figures 1 and 2 of the drawings are representations of sectional views of my tubular plow-standard. Fig. 3 is a front view of the same. Fig. 4 is a side view, and Fig. 5 and 6 are top views, of the same.

This invention has relation to tubular metallic plow-standards; and it consists in the construction and novel arrangement of the upper tubular-shank portion, cast with bolt-seats near its upper closed end, and swelled on the mold-board side near its lower end, which is open and gradually changes from the tubular form into the angular shape of the foot, open at the rear, and provided on its sides with suitably-formed seats for the attachment of the mold-board and land-side. It also consists in the construction, within the tubular portion, of the brace partitions lying in vertical planes parallel with each other and with the line of draft.

In the accompanying drawings, the letter A designates the tubular stem or shank of my plow-standard, having the horizontal top-plate A², which closes its upper end. In its cross-sectional form the tubular shank is elliptical, gradually swelling or bulging out at *a*¹ near its lower end on the mold-board side, and in front gradually changing from the rounded to the angular shape, as indicated at *h*, to form the foot C, which is open at the rear, expanding on one side below the swell *a*¹ into the curved concave wing A' for the attachment of the mold-board, and on the other side into the plane wing A'' recessed at *a*² for the reception and attachment of the land-side. The bulge *a*¹ is arranged at the highest part of that portion of the standard to which the mold-board is attached for the double purpose of gaining more bearing-

surface for the mold-board, and of strengthening this portion of the standard against the torsion strain caused by the great leverage of the mold-board when passing through the ground. At a suitable distance below its upper end, at the back of the standard, a boss, *b*¹, is cast with a bearing-surface, which is plane and perpendicular to the common axis-line of the bolt-holes *b*² and *b*³ made through the rear and front walls of the tubular shank for the reception of the draft rod or bolt. Thus, by its increased thickness of metal around the opening *b*², the boss compensates for the weakness of the shank at this point, and presents, at the same time, a plane bearing for the nut or head of the draft-bolt.

The horizontal plate A², forming the top of the standard, projects to the rear some distance beyond the back of the tubular shank, and the connection of said plate with the rear wall of the tube is made by the tapering side flanges *b* bordering an opening, *m*, just below the horizontal plate. This construction serves to strengthen the shank at its neck or upper portion next the plate A², avoiding an angular junction, which is apt to break, and throwing the fibers of the metal, by means of the flanges *b*, in the direction of the strain. At the same time the opening *m* is provided for manipulating the various connecting-bolts. Through the plate A² are made the holes *c* and *c'*, for the passage of the bolts which connect the upper end of the standard immediately to the plow-beam. The length of the plate A² enables the bolt-holes to be placed at a considerable distance from each other, thus securing a firm attachment.

If the standard is designed to be used in a plow for very heavy work it may be still further strengthened by the addition of inner parallel brace-walls or partitions B, running vertically in the direction of the draft, and connecting the front and back parts of the tubular shank. These braces are designed also to be connected at their upper ends with the top plate A², and to terminate at their lower ends in free edges *n*, running obliquely downward and forward from the rear wall to the front wall of the standard.

The material required for the formation of the brace-plates B may be deducted from the

material of the tube, as the surface area, which is known to be the strongest part of the metal, is increased, as is also the sectional area of those parts which run in the direction of the draft. Below the tubular portion the standard flares out to such an extent in the formation of the wings, and is of such strong proportions, that a break is hardly liable to occur in this portion. Further, this portion is strengthened by its angular shape, and indirectly by the attachment of the mold-board and land-side.

What I claim as new, and desire to secure by Letters Patent, is—

1. The plow-standard constructed of the elliptical tube, as shown, and having opening

B, boss b^1 , and swell a^1 , said standard changing gradually in its lower portion to an angular shape, and forming the mold-board wing A' , and the recess a^2 for the land-side, substantially as specified.

2. The tubular plow-standard having one or more interior vertical cross-braces, B, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

PETER LOEB.

Witnesses:

GEO. M. YOUNG,
CHAS. W. FINCH.