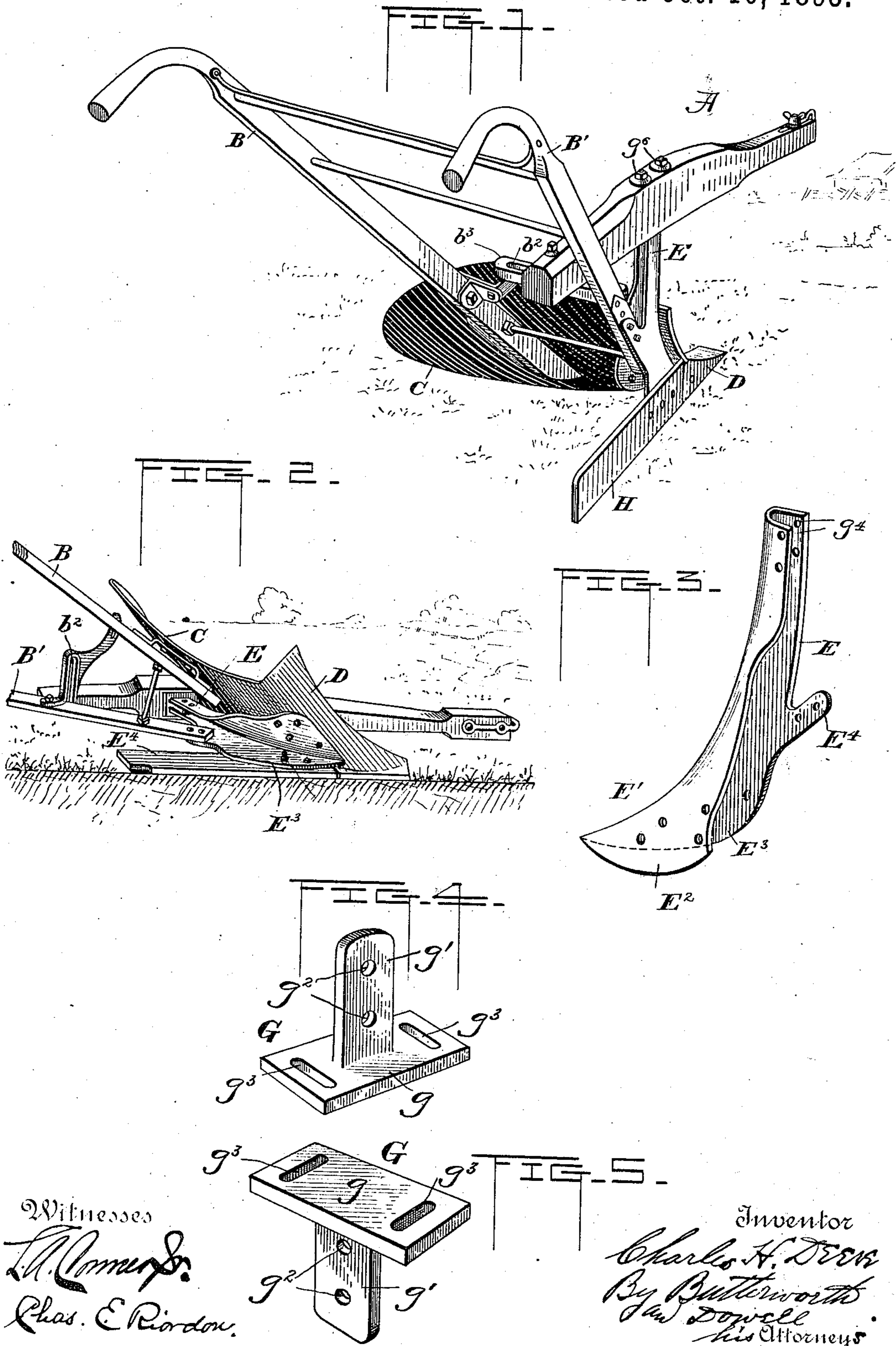


(No Model.)

C. H. DEERE.
STEEL PLOW STANDARD.

No. 506,420.

Patented Oct. 10, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES H. DEERE, OF MOLINE, ILLINOIS, ASSIGNOR TO THE DEERE & COMPANY, OF SAME PLACE.

STEEL PLOW-STANDARD.

SPECIFICATION forming part of Letters Patent No. 506,420, dated October 10, 1893.

Application filed June 3, 1893. Serial No. 476,421. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. DEERE, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Steel Plow-Standards; 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.

One object is to provide a combined standard and frame or support for the attachment of the share, moldboard, landside and landside handle of a plow, combining in its structure the minimum of lightness with the maximum of strength, and dispensing with cross braces, extra bolts and other impediments common to plows of the usual construction, and which tend to clog the throat of the plow and increase the draft.

A further object is to provide a standard cap adapted to afford a firm and efficient connection between the aforesaid standard and beam, and at the same time stiffen, stay and strengthen the standard.

The invention will first be described with reference to the accompanying drawings, which are to be taken as a part of this specification, and then particularly pointed out in the claims at the end of this description.

Referring to the drawings by letters of reference, Figure 1 represents a rear perspective view of a "left hand" plow embodying my improvements. Fig. 2 is a rear perspective view of a "right hand" plow embodying the same; the plow being turned upon its side. Fig. 3 is a perspective view of the standard shown in Fig. 1; and Figs. 4 and 5 are details of the standard cap.

The plow beam A, handles B, B', moldboard C, and share D, the vertical side of which share forms the fixed forward end or part of the landside bar H, are all ordinary parts of a common steel plow, and in so far as my improvements are concerned, may be constructed and combined as shown or in any other proper manner.

My improved standard is formed of a blank

of sheet steel or steel plate cut into proper shape to form, by swaging or otherwise, a standard having an upper portion E, which may be said to form the standard proper, and a lower portion E', which forms the base or frame to which the moldboard, share and landside are attached.

The part E, of the standard has its two sides united, as shown, by a curve so that in cross section it is substantially U-shaped, and is open at its upper end. The U-shaped portion or standard proper gradually merges into the part or frame E', which is substantially V-shaped in cross section and extends forward in a gentle curve, as shown, and is spread out at one side so as to provide a broad firm seat or frog E², to receive the moldboard and share; the upper surface of said frog being shaped to correspond with the lower sides of the moldboard and share fitting thereon, so as to cause said parts to make contact therewith over the entire surface of the latter. The opposite side of the lower end of the standard is shaped to form a wing and support E³, for the landside bar, and above this support is a projection or ear E⁴, for the attachment of the handle B'. Two (more or less) bolts entering the holes f, are sufficient to firmly secure the frog and share together, while the moldboard is also firmly secured to said frog by the bolts entering the holes f'.

The angular construction of the lower part of the standard or moldboard and share support proper, in cross section, adapted as it is vertically, to conform with the outline of the moldboard and share, insures a maximum of strength with a minimum of material, and gives in the highest degree lightness, while at the same time the greatest strength is retained; and the semi-tubular or U-shaped form of the standard proper, with its accompanying strength being carried up from the lower part thereof at its junction with the frame or support clear to the point where it is attached to the plow beam tends greatly to aid the plow in resisting twisting strains when obstructions are met with in the field. The shape of the frog is made to exactly conform with the under side of the moldboard, so that there is a contact between the moldboard and frog-plate over the entire sur-

face of the latter, which is of great advantage in connection with the manufacture of plows having soft center or iron center moldboards, as the broad seat reinforces and strengthens the moldboard by giving it a perfect solid bearing. The same is also true of the connection between the lower part of the frog and the under side of the share, the contact between these two parts being so extended that the share is held firmly to its position without undue strain upon the fastening bolts.

The landside of the plow made with this standard may be held to its place in the same way as the moldboard and share. The relation of all three parts—moldboard, share and landside—is made very rigid by simply being connected together by this form of standard, and as a result it possesses the added advantage of offering a construction which permits of doing away with bracings between the landside and moldboard, except in the very largest and heaviest sizes. As collateral to these improvements there follows the clearance under the throat which results from abolishing all cross-braces, extra bolts, and other impediments of construction so common in plows as usually made with a skeleton framework.

The cap G, preferably consists of a single piece of malleable iron having an upper flat portion or plate g , which rests and fits upon the upper end of the standard E, and a lower depending portion or vertical flange g' , integral with the upper portion, and which projects downwardly and fits closely within and to the inner walls of the upper end of the standard E. The part g' is perforated as at g^2, g^3 , to receive the fastening bolts which pass transversely through holes g^4 , in the sides of the upper end of the standard E. By riveting the projecting ends of these latter bolts or otherwise fixing them in place, as by nuts on the screw-threaded ends thereof, the cap G, is firmly and securely held in place on the standard while its lower part g' , fitting within the standard, forms a stay to stiffen and strengthen the upper end of said standard, and thereby dispenses with the heavy construction thereof which would otherwise be necessary, and forms a simple and inexpensive, easily detachable connection with the beam. The cap plate g , has vertically through its ends elongated holes or slots g^5 , to receive bolts g^6 , which pass through holes in the plow beam, whereby the latter is firmly secured to the standard with provision for lateral adjustment thereon. The angular position of the plow beam laterally with reference to the plow may be rendered adjustable in an ordinary manner, and may be fixed after adjustment by means of a bolt which passes through

the rear end of the plow beam and through a slot b^2 , in a bar b^3 , secured to and between the plow handles.

I am aware that a standard and supporting frame-work or base of angular form in cross-section for the attachment of the moldboard, share and landside of a plow are not broadly new, and hence I make no broad claim to such constructions.

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

1. A combined plow standard and frame or support for the attachment of the share, moldboard, landside and landside handle, formed integrally from a blank of sheet steel or steel plate, and comprising a U-shaped upper portion or standard proper, and a V-shaped lower portion or base, the former gradually merging into the latter; said base having at one side a laterally extended inclined portion forming a broad firm seat for the share and moldboard, and at the opposite side thereof a vertically disposed landside wing and integral rearwardly projecting lug or ear, for the attachment of the landside-bar and handle, respectively, substantially as described.

2. In combination with the U-shaped or semi-tubular standard open and perforated at its upper end and formed with an integral angular base and support for the moldboard, share and landside, the cap comprising the flat horizontal plate having the transverse slots near the ends thereof for connection with the plow beam and provided with a depending perforated portion or vertically disposed flange on the under side thereof adapted to fit snugly within the upper open end of the standard on which said plate rests, and means for connecting and securing said parts together, substantially as described.

3. In a plow, the combined standard and frame or support for the attachment of the landside, moldboard and share; said support being substantially V-shaped in cross-section and having extended bearing surfaces conforming to the adjacent surfaces of the attached parts, and the standard proper being U-shaped in cross section and having an open upper end with perforations in the sides thereof, in combination with the cap having the flat slotted plate provided with a depending portion secured within the upper open end of the standard, and means for firmly connecting said parts, substantially as described.

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

CHARLES H. DEERE.

Witnesses:

FRANK P. HALL,
D. J. WEBB.