H. GALE.

Plow.

No. 103,038. Patented May 17, 1870.

Fig. 1

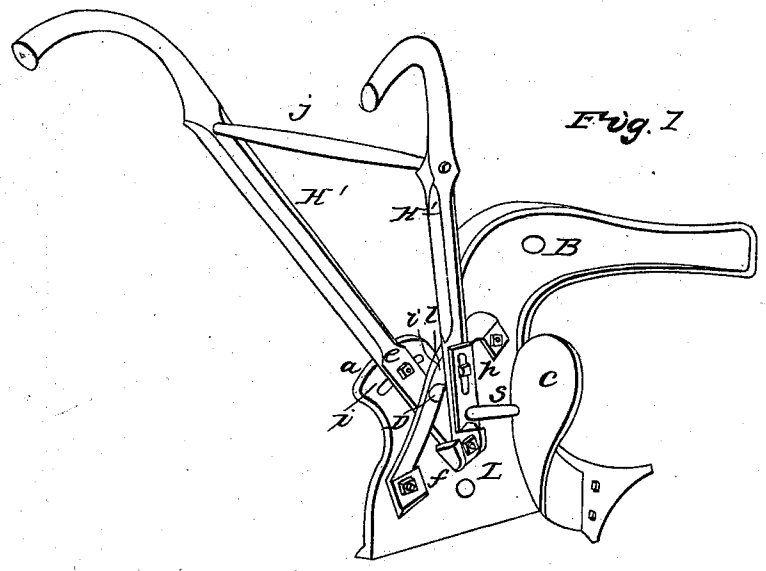
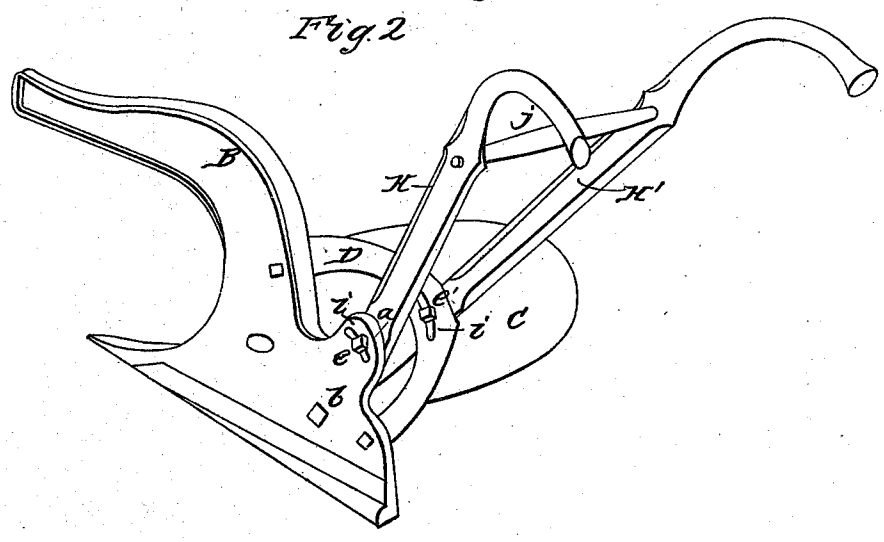


Fig. 2



Witnesses
D. F. Cook
Otto G. Johnston.

Inventor
Horatio Gale.

UNITED STATES PATENT OFFICE.

HORATIO GALE, OF ALBION, MICHIGAN.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **103,038**, dated May 17, 1870.

I, HORATIO GALE, of the village of Albion, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Plows, of which the following is a specification:

My invention relates to the combination, with the land-side or with the beam and land-side of a plow, of a side hanger-brace, occupying an intermediate position between the hinder ends of the land-side and mold-board; my object being to support the plow-handles by means isolated from and independent of the mold-board, whereby, in connection with an adjustable stud, the mold-board may be effectually stayed without any special fitting of connecting-braces or other supports, the advantages of which arrangement will be hereinafter fully described.

Figures 1 and 2 are perspective views of a plow from different points in which my invention is embodied.

In the drawings, B is the beam, and L the land-side, and they are shown as forming only one single piece of casting; but my invention is equally applicable to plows having wooden beams and cast land-sides firmly connected together in any suitable way.

C is the mold-board, which does not differ materially from those in ordinary use, and may be connected with the land-side in front in any well-known approved manner. As there is no attachment in my arrangement to the hinder part of the mold-board, its interior convex face may be cast perfectly even, and without the usual recesses, loops, or other projections, except, perhaps, two short ribs to form a groove, for a purpose to be hereinafter explained.

a is an extension or arm of the land-side, to which the left handle, H, is bolted. D is the hanger-brace, which, for the purpose of conferring strength as well as symmetry, I usually construct in an arched form. This hanger-brace is provided with end flanges, through which it is bolted to the land-side, or land-side and beam, in such a manner that the arched central portion will be projected laterally, to bring it into a proper relative position for the attachment to it of the right-hand plow-handle, H′.

The handles, with the exception of the usual end curves to hold by, are made straight, and the lower ends, being chamfered and fitted together to give the proper flare, are inserted between two projecting flanges, *f*, cast on the land-side, and are secured thereto by a pivot-bolt, *b*, in such manner that the handles are capable of vibrating on the bolt for vertical adjustment. The seat for the foot of the left handle against the land-side must be properly projected therefrom, so that when connected the handle will have the proper flare or set. An adjusting-slot, *i*, is formed in the land-side arm *a*, and also one in the hanger D, both slots being arcs of a circle struck from the point *b*.

The two handles H and H′, being fitted as aforesaid, and connected with a stay, round, as at *j*, have their lower ends inserted between the flanges *f*, and are there secured to the land-side by the bolt *b*. The left handle is adjustably secured to the land-side by a bolt at *e*, passing through the slot, and the right handle, lying against the right side of the hanger-brace D, is similarly secured by the bolt *e′*. Between the right handle and the mold-board a slotted plate, *p*, carrying a projecting stud, S, is interposed, and is adjustably secured to the right handle by the same bolt that screws the handle to the hanger-brace.

In my mode of securing the handles and staying the mold-board, it is not necessary to erect the entire plow for transportation or storage; for, should the set of the mold-board in relation with the land-side vary a little, as it generally does in different plows, the staying stud-plate being the closing piece in the erection, the end of the stud will always find its bearing against the mold-board, on the plate being slid alongside the handle in the wedge-shaped interval, until the end of the stud comes in contact. When the handle is adjusted to a suitable height, the whole is secured by one bolt, and in this way all fitting or other skilled labor is entirely dispensed with in the final erection of all the parts. If deemed best for additional strength or security, the end of the stud S may enter a groove (not shown) formed by casting two ribs on the mold-board, as aforesaid.

Plows, when erected complete, are bulky

and expensive articles of storage and transportation. My arrangement permits them to be stored or transported in detached parts—as, for instance, the beam and land-side with the hanger-brace, fitted and connected to them in the shop, may form one part, the mold-board another, and the two handles, fitted and bored to gage, another—and in this way a great saving in storage and freightage be effected.

My arrangement, in addition, permits the main fitted parts of the handles to be made straight, and also allows each handle to be separately adjusted in height, which is sometimes a great convenience in operating a plow.

I do not claim, broadly, pivoted plow-handles adjustable in slots, as there is a plow in which the left handle is pivoted to the land-side, and the right handle is attached in the same manner to the mold-board, the handles being adjustable in slots in the land-side and mold-board, respectively.

I claim as my invention—

1. The detachable brace D, provided with a slot, *i*, in combination with the land-side and the handle H′, as and for the purpose set forth.

2. In combination with the right handle of a plow attached to a brace, D, as described, the adjustable sliding plate *p*, having thereon a stud or post, S, for the purpose set forth.

HORATIO GALE.

Witnesses:

C. T. COOK,

OTTO L. JOHNSON.