

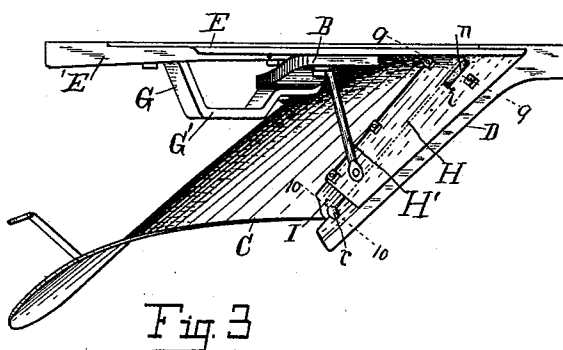
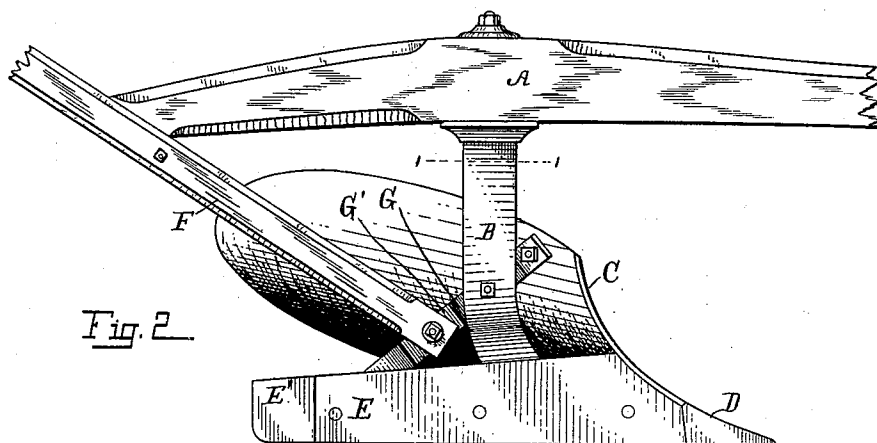
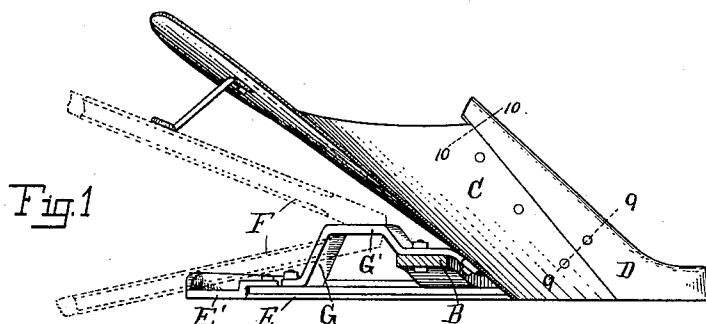
(No Model.)

2 Sheets—Sheet 1.

G. B. ST. JOHN.
PLOW.

No. 512,455.

Patented Jan. 9, 1894.



Witnesses:
Walter S. Wood
Dorr E. Wood

Inventor.
Garland B. St. John
By Fred L. Chappell
Att'y.

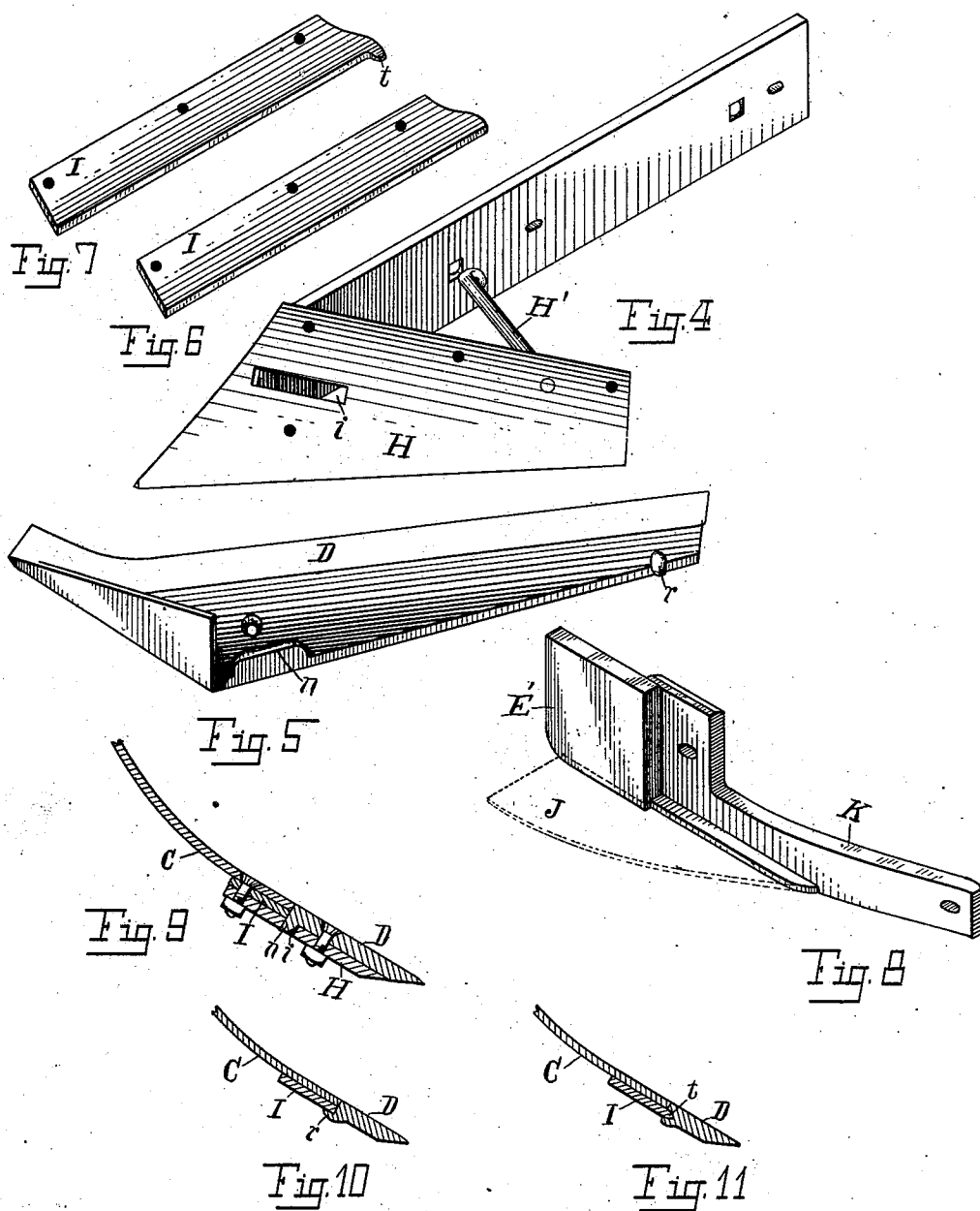
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G. B. ST. JOHN.
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UNITED STATES PATENT OFFICE.

GARLAND B. ST. JOHN, OF KALAMAZOO, MICHIGAN.

PLOW.

SPECIFICATION forming part of Letters Patent No. 512,455, dated January 9, 1894.

Application filed July 14, 1893. Serial No. 480,465. (No model.)

To all whom it may concern:

Be it known that I, GARLAND B. ST. JOHN, a citizen of the United States, residing at the city of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Plows, of which the following is a specification.

My invention relates to improvements in plows and more particularly to that class of plows having very narrow shares which are particularly adapted for use in clayey and sticky soils.

The objects of my invention are first to provide in a plow a secure attachment for a narrow share; second, to provide a plow with improved means for attaching the handles to the center of the plow; third, to provide a plow with handles so improved in their attachment that they will not come in rubbing contact with the soil; fourth, to provide a plow with improved attachments to take the wear, which can be easily and cheaply repaired when they become worn; fifth, to provide an improved attachment for a plow adapted to cut under the next furrow, and sixth, provide an improved means of steadying the plow. I accomplish these objects by the devices shown in the accompanying drawings, in which—

Figure 1, is a top plan view of my invention, the standard being cut off at line 1—1 of Fig. 2. Fig. 2, is a vertical side view from the landside. Fig. 3, is an inverted plan view of the same. Fig. 4, is an enlarged detail view of the shoe or frame of the plow. Fig. 5, is an enlarged detail share. Fig. 6, is an enlarged detail view of Plate 1. Fig. 7 is a modification of the same. Fig. 8, is an enlarged detail of the landside extension of my improved plow. Fig. 9, is an enlarged sectional view on line 9—9 of Figs. 1 and 3. Fig. 10 is an enlarged sectional view on line 10—10 of Figs. 1 and 3. Fig. 11 is a section on same line as Fig. 10, showing a modified construction.

Similar letters of reference refer to similar parts throughout the several views.

The standard B of my plow is bolted at the top to beam A and projects down inside the shoe H opposite the central portion of the landside E. A single bolt secures the cross brace H', the standard B and the shoe H together.

A brace G, is bolted to the shoe H opposite the rear of the landside E and projects upward and forward past standard B, to which it is bolted, up to the upper front part of the mold board where it is attached by a suitable bolt or other means. The brace G is bent in toward the center of the plow at G', to afford a convenient central attachment for the handles F which are of course suitably braced, and connected to the beam A besides.

The mold board C is securely bolted to the shoe and extends up and back in the usual form. It extends farther forward, however, than mold boards usually do so that only a very narrow share is required.

The share D being very narrow requires a special construction to make it sufficiently strong to stand the strain and to compensate for the weakening caused by the bolt hole for attaching it. On the share D an elongated lug *n* is formed on the edge opposite the bolt hole. This lug *n* is fitted to a mortise *i* in the shoe. The lug *n* being located opposite to the bolt hole strengthens the part so that if the share should be fractured from the bolt hole the line of breakage would be to one side or the other of the lug and consequently through an increased amount of material. It is thus clear that the breakage is much less liable to occur.

In the drawings I have shown the mold board of steel which can be made thin and the share of cast metal, which must be made thicker. The steel mold board being thinner than the cast share I insert plate I, between the shoe and mold board to give it the required thickness.

I have shown the usual lug *r* to lap onto the mold board and hold the share, a cross section of which is shown in Fig. 10. The form shown in Fig. 11 where the lug *t*, shown on Plate 1 in Fig. 7, projects into a socket or opening in the share is preferable on account of its greater strength and wearing qualities but it is more difficult and expensive to construct.

I attach an extension E' to the rear of the landside E. This extension is attached by an extended arm K which passes around inside the shoe of the plow and is attached by bolts to the same. Where it is desirable to have a blade project out from the landside to cut un-

der the next furrow it should be attached to this extension E, for such a blade would become rapidly worn and it is the object of my invention to replace at small cost the parts which become worn. I have indicated such a blade and its position by the dotted lines J in Fig. 8.

Having thus pointed out the various parts of my invention and their arrangement I desire to say that the advantages of this construction are that the lower ends of the handles are attached near the center of the plow where the soil cannot scour them and wear them away. The handles being attached near the center make the plow balance and it is so easier to handle.

The particular manner of attaching the share makes it possible to attach a very narrow share securely without unduly increasing the thickness, and it also secures a plow having all the advantages of a steel share so far as its scouring qualities are concerned with a cast share which greatly reduces the expense. It is the rear end of the land side that usually wears through first. The extension of the landside which is adapted to be easily renewed greatly increases the life of the plow by renewing this part that wears out first. This extension of the landside which I show could be easily adapted to any plow having the ordinary form of landside. As the extension can be formed of cast iron the cost of renewing is trifling and the consequent advantage apparent.

My invention is capable of considerable variation in its details without departing from its general principles.

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

1. In a plow the narrow share D having lug *n* opposite the bolt hole in combination with the shoe H containing mortise *i* adapted to re-

ceive lug *n* and the mold board C, substantially as described.

2. In a plow the combination with a thin mold board of a plate I, the shoe H and a thick share D, the plate I being to compensate for the difference in thickness between the thick share D and the thin mold board, substantially as described.

3. In a plow, the combination of a mold board, with the shoe H, the plate I having lug *t*, and the share D having a socket to receive lug *t*, substantially as described.

4. In a plow, the combination of a mold board C with a share D having lug *n* the shoe H having mortise *i* to receive lug *n*, and the plate I having lug *t* adapted to a socket in share D, substantially as described.

5. In a plow, the combination of the standard B, the brace G attached to the rear of the landside and upper front portion of the mold board, the brace being offset at G' to the center of the plow to afford attachment for the handles substantially as described for the purpose specified.

6. In a plow, the combination of a brace extending from the main part of the plow down and back to the rear portion of the landside, the handles and the beam, the said brace being offset to the central portion of the plow to afford a central attachment for the handles substantially as described for the purpose specified.

7. The combination in a plow of the shoe H, the landside E, and the extension E' having attaching arm K, substantially as described.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

GARLAND B. ST. JOHN. [L. s.]

Witnesses:

C. E. WESTBROOK,
JAMES M. DAVIS.