Sheet 2. Sheet 1.

Geo. Watt.

Plow.

No. 92,408. Patented July 6. 1869.

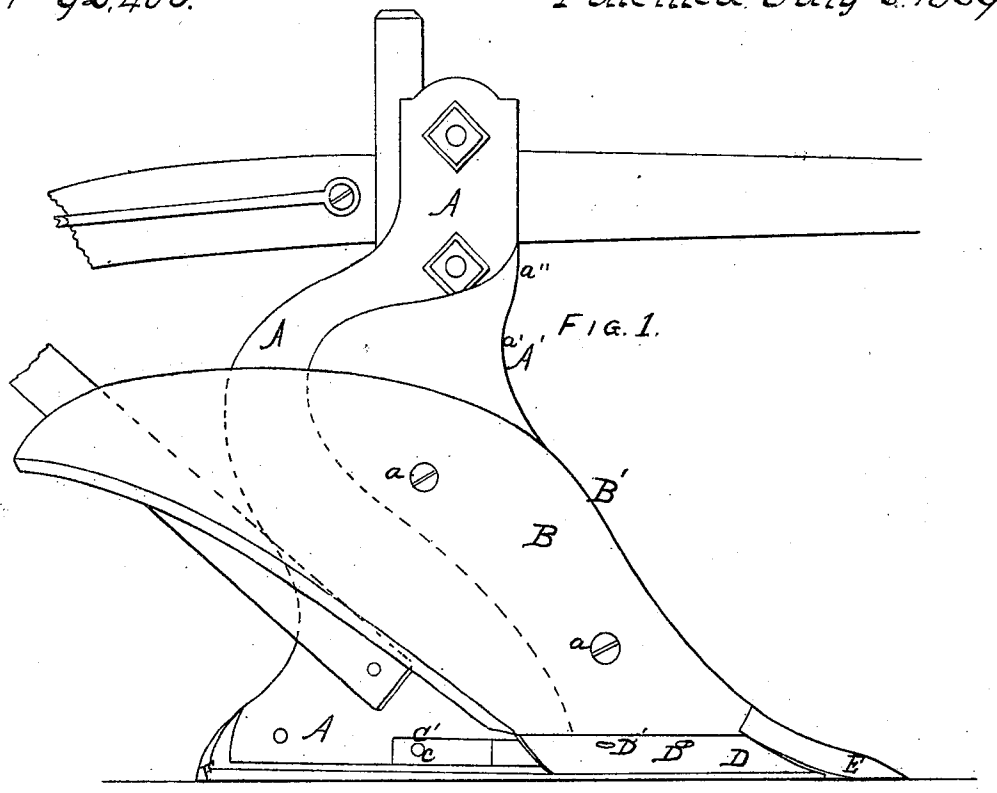

FIG. 1.

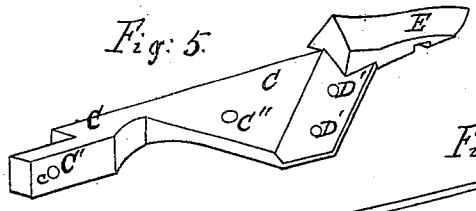

Fig: 5.

Fig: 6.

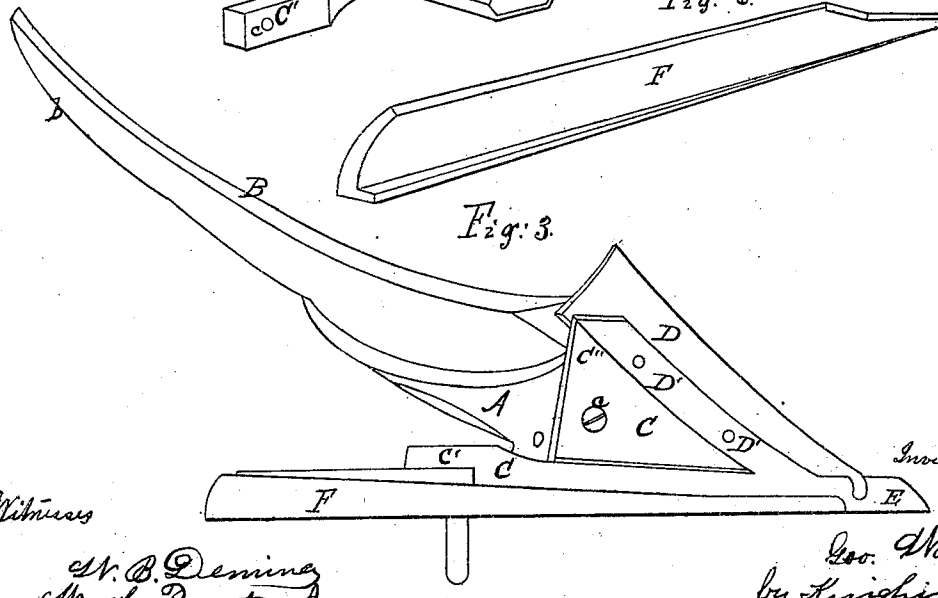

Fig: 3.

Witnesses

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Sheet 2 2 Sheets

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Fig: 1.

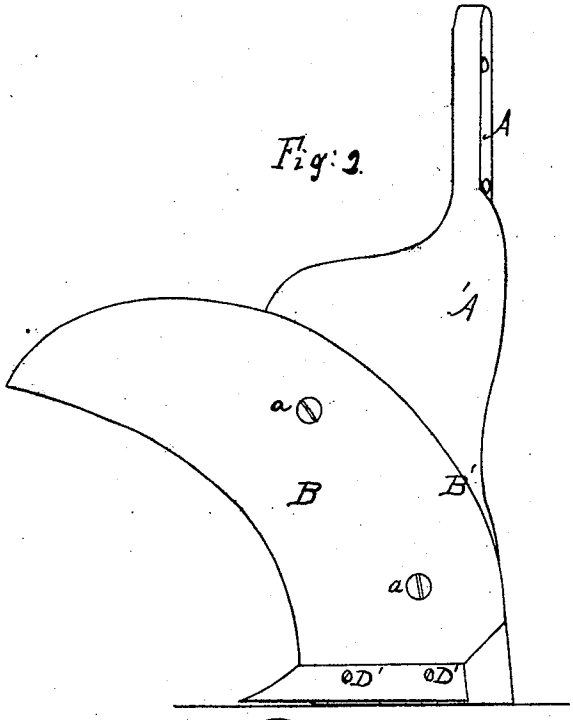


Fig: 7.

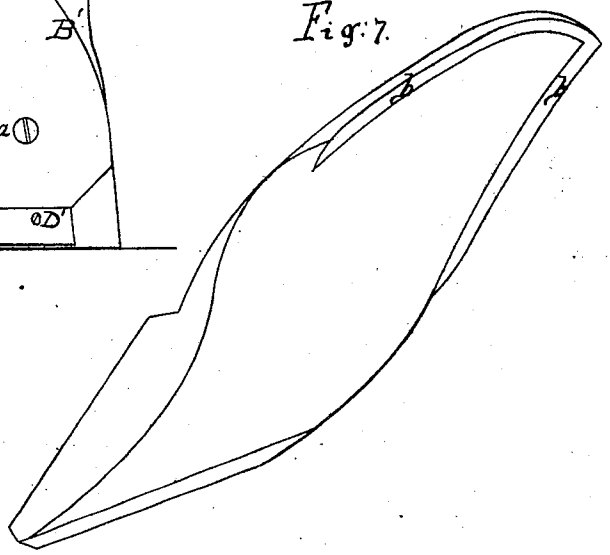
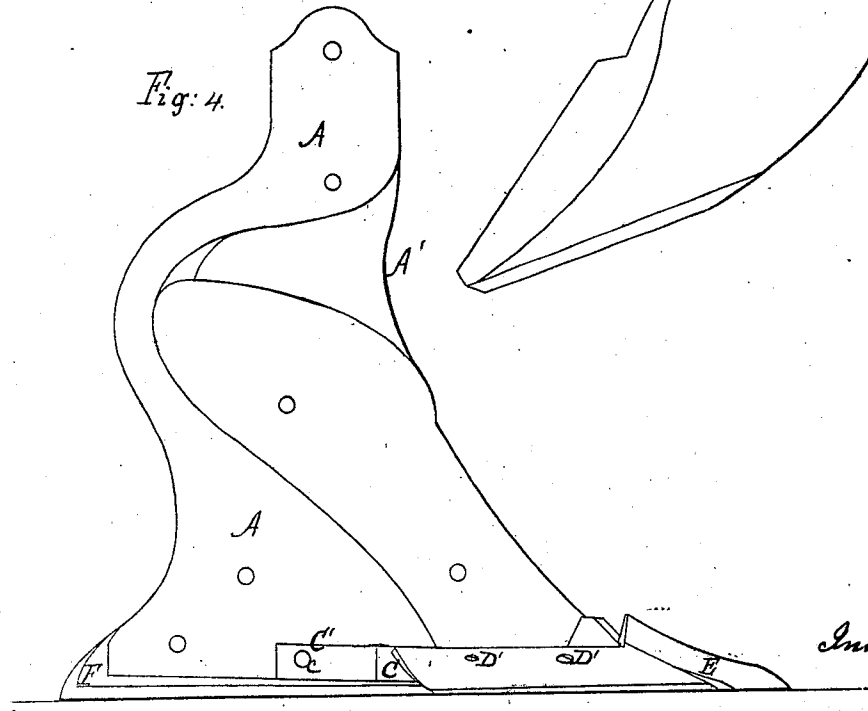


Fig: 4.



Witnesses
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GEORGE WATT, OF RICHMOND, VIRGINIA.

Letters Patent No. 92,408, *dated July* 6, 1869.

IMPROVEMENT IN PLOWS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE WATT, of Richmond, in the county of Henrico, and State of Virginia, have invented certain new and useful Improvements in Plows; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof, to enable those skilled in the art to which it pertains, to manufacture and use the same, reference being had to the accompanying drawings, forming part of this specification.

My present improvements relate primarily to the plow for which Letters Patent of the United States were granted to me, November 26, A. D. 1867, and consist essentially—

First, in a superior construction of the coulter-edged mould-board, to render the same self-sharpening.

Second, in the provision of a "sole" of novel construction, for the support of the share and point, to facilitate the removal of said parts for renewal and repair, and in so arranging said "sole" as to adapt it to be entirely protected from wear.

In the drawings—

Figure 1 represents a mould-board-side elevation of my improved plow, with portions of the wood-work broken away.

Figure 2, a front elevation, and

Figure 3 an under-side view of the plow-iron detached.

Figure 4, a side elevation of the plow-iron without the mould-board;

Figure 5, a perspective view of the sole and point;

Figure 6, a perspective view of the landside-bar or slide; and

Figure 7, an under-side perspective view of a mould-board of modified form.

Similar letters of reference indicate like parts in the several figures.

A is the iron frame or skeleton of the plow, to which the mould-board, landside-bar, share, and point, are to be attached.

A′ is the rounded throat or breast, made with the sides sufficiently broad and rounding to leave no angles upon, or in which weeds, rubbish, grass, sods, or other kinds of obstructions may become fastened.

It will be seen that this rounded throat or breast also makes a gradual curve towards the rear, and unites with the mould-board B in preventing clogging, by carrying off obstacles, and also in turning a smooth and uniform furrow.

The mould-board B, constructed after my improved plan, is fastened to the frame A by means of proper bolts *a*.

B′ is a cutting-edge, which extends out in front of and some distance beyond the mould-board B, of which it forms a part.

This cutting-edge commences at about the point where the front line of the frame-work A meets the upper edge of the mould-board B, and continues from that point down to the lower terminus of the same, forming a coulter which needs no separate appliance for attaching it to the plow, this being done when the mould-board is secured.

From the point where the front line of the frame intersects the curving line described by the upper edge of the mould-board, back to the rear extremity of the frame A, the mould-board and frame are so united as to make each aid the other in carrying off rubbish, &c., and prevent the clogging of the plow.

The coulter or cutting-edge B′ is, by the peculiar form given it, made self-sharpening.

This desirable object is attained by having the surface in rear of the edge upon which the friction falls, slightly concave.

This construction further locates the greatest thickness of the metal of the mould-boards at the point where the greatest amount of wear occurs, and thus adapts them to wear longer than they otherwise would.

I further increase the strength of the mould-boards by casting on their under sides marginal flanges *b*, as shown in figs. 3 and 7.

C, fig. 5, is what is usually termed the sole, and is fastened securely to the bottom or under side of the frame A, by means of bolts *c*, or other suitable devices.

This sole is made of wrought-iron, with a wing, C″, similar to the wings of the soles in common use, but its projecting edge is so constructed as to be adapted to the shape of the steel share D, which is fastened to it by means of bolts or rivets D′, and to the point E, which may, if desired, be either bolted, riveted, or welded fast to it.

By such a construction of this portion of the plow, several desirable objects are gained; and first among them is the ease with which the point E of the plow may be replaced or sharpened without injury to the share or other important parts, by heating.

The sole, being of wrought-iron, may be easily welded, and have steel points welded, riveted, or bolted to it for a trifling amount, much less than a new point and share of the present form in use would cost.

It is attached to the iron frame A of the plow by means of a bolt, *c*, which passes through the flange C′, and through the landside of the frame, and by a bolt, *c′*, passing through the sole-plate, near the centre, upwards into a proper lug or projection on the inner or under side of the frame-work.

The sole, being of wrought-iron, needs some protection from wear. This is given by the steel point E, the steel share D, and the cast-iron landside-bar F, which cover the wrought-iron at every place where friction is likely to occur, and it is therefore made to last a long time, when proper care is taken of it.

The share D is made to fit up close against the lower edge of the mould-board B, which rests upon the outer

flange of the sole C, and thus the two present a smooth continuous surface for turning the sod over, and making the furrow properly.

I propose, by constructing the share D with similarly-shaped ends, with its two sides similar, and with the holes for the reception of the bolts, by which it is attached at equal distances from its ends, and from its upper edge, to render the same reversible and self-sharpening.

Having described my invention, the following is what I claim as new therein, and desire to secure by Letters Patent:

1. The coulter-edged mould-board B B′, constructed and operating as and for the purpose set forth.

2. I claim the sole C, constructed as and for the purposes specified.

3. I claim the arrangement of the landside-bar F, the point E, and share D, by means of which the sole C is securely protected from wear.

4. I claim the combination of the frame A, supplied with the rounded throat A′, with the coulter mould-board B B′, the sole C, the point E, and share D, all substantially as and for the purposes described.

GEO. WATT.

Witnesses:
W. C. KNIGHT,
R. A. WILLIAMS.