F. M. FRANKLIN.

Plow.

No. 107,606. Patented Sept. 20, 1870.

Fig. 1.

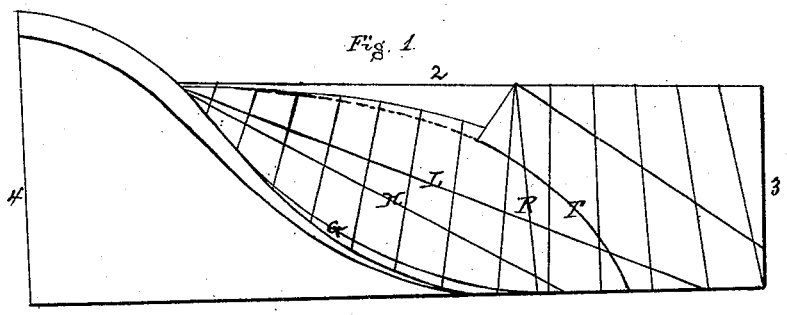


Fig. 2.

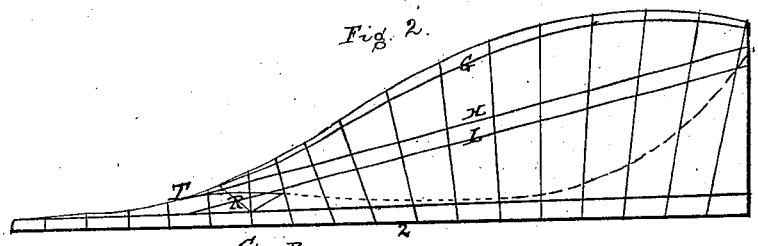


Fig. 5.

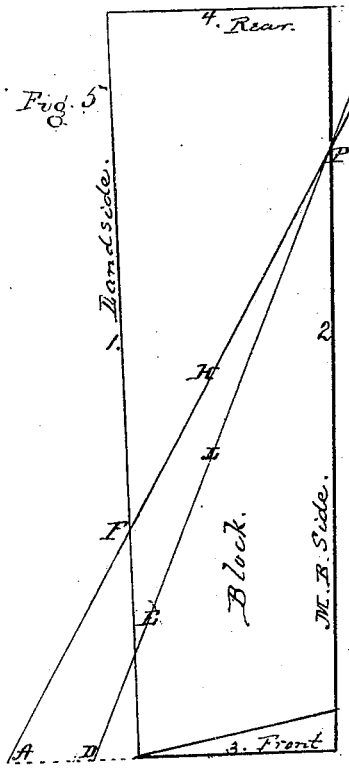


Fig. 3.

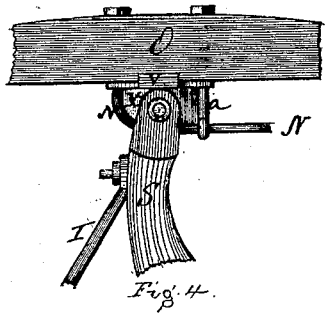
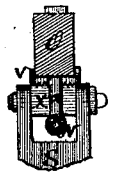


Fig. 4.



Witnesses

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C. L. Emerson

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UNITED STATES PATENT OFFICE.

FRANCIS M. FRANKLIN, OF SPRINGFIELD, OHIO, ASSIGNOR TO HIMSELF AND ASAHEL FRANKLIN, OF SAME PLACE.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **107,606**, dated September 20, 1870.

To all whom it may concern:

Be it known that I, FRANCIS M. FRANKLIN, of Springfield, in the county of Clarke, and in the State of Ohio, have invented certain new and useful Improvements in Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the acccompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The object of my invention is to construct a mold-board of a plow by a varying or an adjustable rule, to produce a shape or form on the working-surface so that their changes will be after the form of an inclined plane for either a sod-plow or a loose-ground plow which will in the greatest degree abate the resistance resulting from friction, and to effect perfect turning of the furrow and scouring of the working-surface of the mold-board, including in my invention rules and directions to be observed in working out the same.

Another part of my invention is the construction of the top part of a sheath or standard to my plow, and the attachment of the brace to it, which is to strengthen it, and in all is to make it more substantial for the changes which are made by hitching from two to three horses to the plow, in which I claim this part of the sheath or standard an improvement over the one patented by me, No. 91,109, dated June 8, 1869; antedated May 24, 1869.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view, and Fig. 2 side view, of the mold-board. Fig. 3 is a side view of a portion of the plow-beam, with the upper end of the sheath or standard, and Fig. 4 is a front view of the same. Fig. 5 is a diagram showing the manner of laying off the mold-board.

An oblong block of wood is formed about three feet and nine inches long, and twelve inches wide at the front end, and about thirteen inches wide at the rear end, and about fourteen inches high. In order to work out the same, it is done by lines. 1 is the right-hand base line; 2, the left-hand base line, and 3 the front-end line, which projects on the side of the line 1 about five inches and a half to the point A. 4 is the rear-end line, which projects on the side of line 2 about four inches and a half to the point B, and then another point is made on line 4 three inches and a half from line 2 at C. On line 3 another point, D, is made, two and a quarter inches from line 1. A line, H, is drawn from A to B, cutting line 1 at F and line 2 at P, and another line, L, is drawn from D to C, cutting line 1 at E and line 2 at P, all as shown in diagram, Fig. 5. Line 2 is divided off in about eighteen spaces, each being about two inches and a half. On the rear portion of the block from which the mold-board pattern is made are fastened additional pieces sufficient to meet a perpendicular line rising from B to a point about ten inches and a half high, and from that point a line, H, passes to a point about two inches and three-quarters high on a perpendicular line rising from F on line 1; and on a perpendicular line rising from C about eight inches and a half high a line, L, passes to a point about one inch and a quarter high on a perpendicular line rising from E on line 1. The lines H and L are cut in to fit a straight edge. Then lines are cut in at right angles across the block into and near lines H, and L to work the surface by, and then a line, G, is drawn or cut on what is to be finished as the working-surface, starting at line 3, near its intersection with line 1, following around to the rear, measuring everywhere twelve inches from line 2. This line G is divided off in about sixteen spaces, each being about three inches and a quarter. Lines are then drawn or cut in from the directions of the divisions on line 2, in to touch or cut both lines H and L, and to the divisions on line G, the first or front line starting one space in advance on line 2, as shown in Figs. 1 and 5. The surface is then worked down to these lines H and L and their intersecting lines. A small portion of the share in the rear end of the wing is concaved. In order to make the concave portions go off at a tangent from the surface above it, the surface is cut to fit a straight edge applied in the direction of line R. (Shown in Figs. 1 and 2.)

The curved line T shows where the mold-board and share join together, which joint is everywhere two inches high from the bottom

of the same plane of the plow. The dotted line shows the shape of the bottom part and rear portion of the mold-board, which is perpendicular opposite P on line 2.

It will be seen that by varying the front ends of either or both lines H and L, and their cross-lines with them, either to the right or left, up or down, the plow or mold-board will have greater or less pitch. If line H was moved more to the right and the cross-lines with it, the plow would have less pitch. If moved to the left, it will have greater pitch. If it is moved up or down, it will change the pitch more in the front of the plow, and but a very little in the rear portions, and if both of the front ends are moved more to the right and cross-lines with them, it would be a shorter plow, which would be suitable for loose ground. A rule is thus furnished by which to finish or form the working-surface of a plow, which rule can be varied to suit a sod-plow or a loose-ground plow, either long or short. A mold-board and share finished by this rule will be a combined surface, after the form of an inclined plane, and increases convex from the middle of the mold-board toward the rear end.

S represents the upper portion of the sheath or standard, the end of which is forked, forming, as it were, a letter U, as shown in Fig. 4. The prongs of said U-shaped portion or end of the sheath S are wide enough apart to admit of all the variations of the beam and draft-rod that will be necessary for either two or three horses. The block X fits neatly between the two prongs, near the upper ends, and is bolted in between them, as shown in the drawings. The said block is curved so as to form the arc of a circle the diameter of which is equal to twice the distance from where it rests against the plow-beam O to the regulating upright screw *a*, as shown in my former patent above referred to. It is also made with notches in its upper surface, to receive the projections of the plate V. The rear part of the block X is also rounded off, to better accommodate the proper arrangement of the draft-rod N. The plate V is constructed so that it will have projections on the under side to fit the ratchet or notches in the block X, and with a flange on each side for better security in fastening to the beam O; also, have holes in each end, the rear hole to admit the draft-rod N as it passes around the block X and up through the beam O, the front hole to admit the eyebolt *a* on the draft-rod N, as it also passes up through the beam in front of the block X. The ratchet-notches in the block X and plate V will prevent the beam O and draft-rod N from slipping when screwed fast by the nuts on the draft-rod and eyebolt on top of the beam O. Below the prongs of the sheath S a brace, I, is bolted to the shank on the rear side of the standard, running diagonally from the said standard or sheath, and is bolted to the landside-bar of the share or to the landside-handle, as in my former patent, the whole of said standard or sheath to be constructed of metal suitable for the purpose. It is readily seen that this form of standard, with its accompaniments, is constructed so that the beam O, when placed properly on the block X and fastened at the rear end, as shown in my Patent No. 91,109, will admit of all the variations necessary for either increasing or diminishing the depth and width of the furrow for either two or three horses, and also lessening the draft of the plow.

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

1. The method or rule herein described for laying off the mold-board and share of a plow, substantially as herein set forth.

2. The arrangement of the standard S, block X, draft-rod N, eyebolt *a*, plate V, and beam O, all constructed as described, and operating as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 9th day of November, 1869.

FRANCIS M. FRANKLIN. [L. S.]

Witnesses:

J. WARREN KEIFER,

J. F. OGLEVEE.