(No Model.)

F. C. MERRILL.

PLOW.

No. 289,848. Patented Dec. 11, 1883.

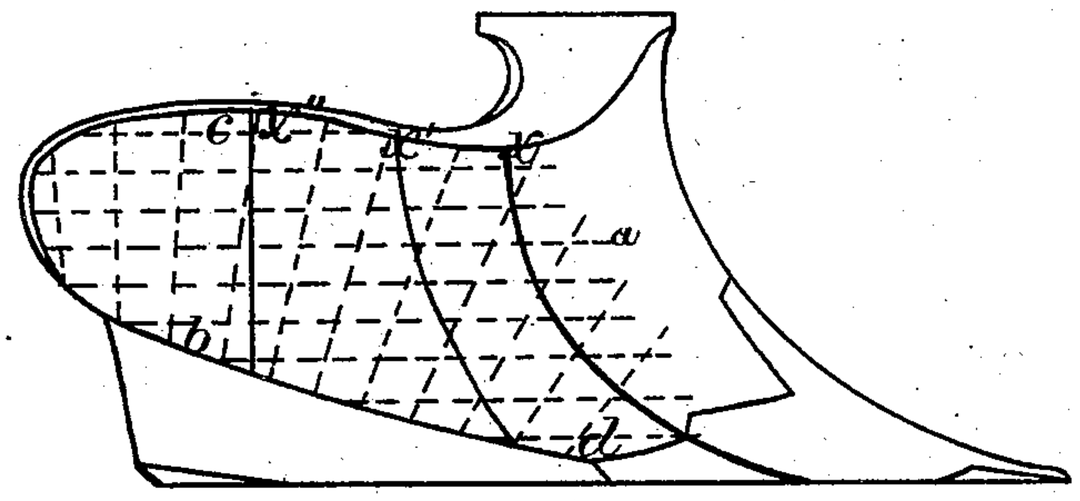

FIG. 1.

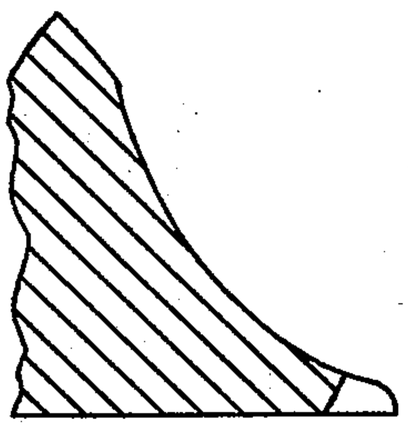

FIG. 2.

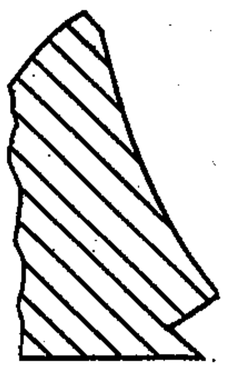

FIG. 3.

FIG. 4.

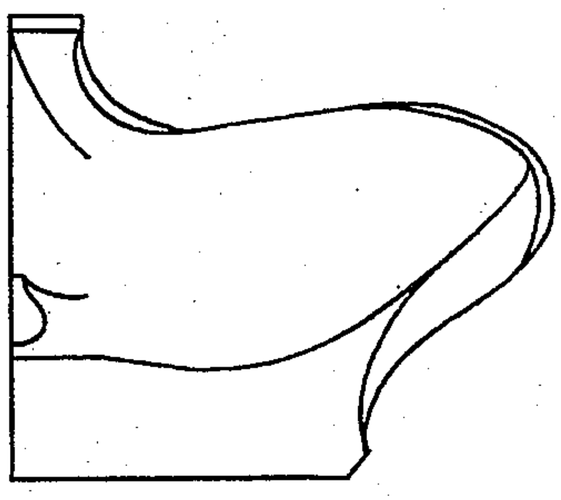

FIG. 5.

WITNESSES:

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PLOW.

SPECIFICATION forming part of Letters Patent No. 289,848, dated December 11, 1883.

Application filed September 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, FREEMAN C. MERRILL, of South Paris, in the county of Oxford and State of Maine, have invented certain new and useful Improvements in Plows; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation of my plow. Fig. 2 is a vertical transverse section taken on the line *x*. Fig. 3 is a vertical transverse section taken on the line *x'*. Fig. 4 is a vertical transverse section taken on the line *x''*. Fig. 5 is a rear end view.

Same letters show like parts.

My invention relates to plows. The object of it is to produce a plow to turn a level or flat furrow, which will turn the furrow-slice bottom up and leave the plowed surface level.

The invention also aims to produce a plow of easy draft with a long furrow-board and landside having a firm set in the ground, a long thread, and one that imparts a twisting and turning motion to the furrow-slice, that not only inverts it, as above set forth, but disintegrates it at the same time.

The effects above described I accomplish by a combination or succession of curves formed along the board of the plow, and blending or running into each other in such way as to form a face to the board of the peculiar curved form shown in the drawings. For the purpose of illustrating the peculiar character and sequence of curves exhibited on the face of the board of my improved plow, certain dotted lines have been made in the drawings at Fig. 1. The first series of these, *a*, are drawn longitudinally of the board. These lines are parallel to each other and have no curvatures, either in vertical or horizontal planes. The face of the plow-board is so formed that any number of parallel lines can be drawn on it longitudinally of the board, and they will all be straight lines—that is, they will possess no curvature inwardly or outwardly—*i. e.*, in horizontal planes—or upwardly or downwardly—*i. e.*, in vertical planes. In other words, starting at any point on the line *x* and drawing a horizontal line on the plow-board toward the rear end of the board, the line will be a straight line. Other dotted lines are seen in the drawings, intersecting the horizontal lines at angles for the most part acute, but varying in the degree of their acuteness. The angles made by these diagonal lines approach more and more nearly to right angles as we go toward the rear of the board, until at the end they are nearly, if not quite, right angles. Every one of these diagonal or slanting lines is a straight line. This combination of lines is hereby referred to and exhibited in the drawings in order to render clear the shape of the board on its exterior surface, as well as the method of working out the shape or pattern of the board. By molding or cutting out the pattern on straight lines arranged relatively to each other as illustrated in the drawings, the different but blending and united curves are produced which are illustrated at *x x' x''*. It is, of course, to be understood that there are very great numbers of gradations from the curves shown in the three sectional lines selected as illustrations in passing from one of these to the other; but the correct formation to the pattern will be secured if the cutting and molding be pursued on straight lines similar to those portrayed in the drawings, Fig. 1. The slanting or diagonal lines are radii of a circle whose center is considerably below the bottom edge of the plow-board. The curvatures of the three lines *x x' x''* indicate in outline the general form of the board. The first curve is so made as to permit the furrow-slice to ride up freely on the board, and bending away from the bottom edge, as it does, allows the slice to ascend quite high on the board. At the second line, however, a different curvature appears, whose influence is to throw over the top edge of the slice, so that the edge farthest from the land when the slice was cut off shall come nearest to the land and the whole slice be inverted. As the plow moves along until the same portion of the slice has reached the point *x''*, it now becomes inevitable that it must be turned completely bottom side up. The supporting bottom edge, *b*, of the board has both been cut away and curved in under the top edge, *c*. The slice, thus hav-

ing no support, is turned bottom side up and so left. From the point *d* a quick upward curve along the lower edge rapidly narrows the board and turns inwardly the said lower edge. By these successive and blending curves I secure the objects named.

The plow is excellent in breaking up sward land in the spring; also for turning over old hay-fields for reseeding. The plow scours very effectively. Acting directly against the slice, as it does, to push or turn it over, the friction of this action keeps it perfectly clear, even in sticky and clayey soils. The straight horizontal lines show the lines of contact of the board with the slice, and illustrate how comparatively easy the draft is rendered.

What I claim as my invention, and desire to secure Letters Patent, is—

The plow having a board consisting of the combination and succession of blending curves herein set forth, the same being worked out on the straight lines herein set forth, the said board having the top edge curved and tipped, as described, and the lower edge curved or cut away upwardly from the point *d*, as herein specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

FREEMAN C. MERRILL.

Witnesses:
J. A. KENNEY,
H. E. BONNEY.