J. LANE.

Mold Board for Plow.

No. 107,925. Patented Oct. 4, 1870.

Fig. 2.

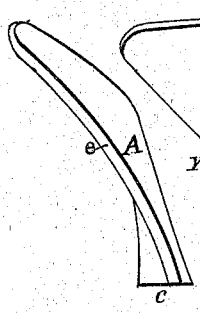


Fig. 1.

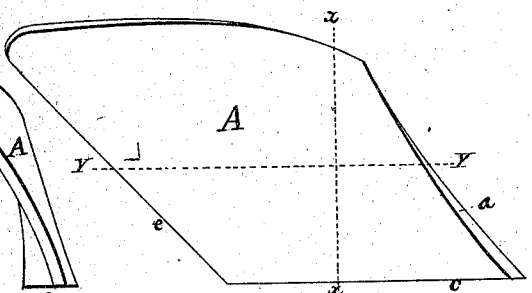


Fig. 3.

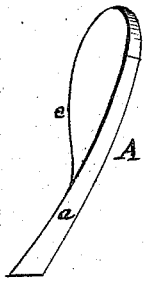


Fig. 4.

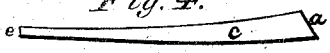


Fig. 5.

Fig. 6.

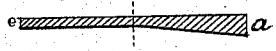
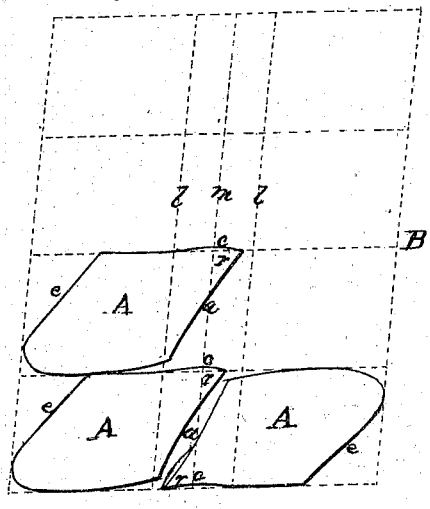


Fig. 7.



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UNITED STATES PATENT OFFICE.

JOHN LANE, OF CHICAGO, ILLINOIS, ASSIGNOR TO HAPGOOD & CO., OF SAME PLACE.

IMPROVEMENT IN MOLD-BOARDS FOR PLOWS.

Specification forming part of Letters Patent No. **107,925**, dated October 4, 1870.

To all whom it may concern:

Be it known that I, JOHN LANE, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mold-Boards for Plows; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use my invention, I will proceed to describe it.

My invention relates to plows; and the invention consists in a novel construction of the mold-board, whereby the part that receives the most wear is made of a variable thickness, corresponding to the varying wear, as hereinafter more fully explained.

Figure 1 is a face or side view of my improved mold-board; Fig. 2, a rear end view; Fig. 3, a front end view; Fig. 4, a bottom edge view; Fig. 5, a section on the line *y y;* Fig. 6, a section on the line *x x;* and Fig. 7, a plan view of a plate, representing the manner of cutting out the blanks.

Various plans have heretofore been devised for rendering the mold-boards of plows more durable. This has generally been done by making them thicker along the shim, and also by cutting the blank from a sheet rolled thicker in one part than another; but no one, so far as I am aware, has ever attempted to carry out this idea, so as to produce a mold-board the thickness of which should vary in accordance with the pressure or friction to which it is subjected in use on the various parts of the surface. This is my present invention, and to accomplish it I proceed as follows:

I take a plate, B, as represented in Fig. 7, which is rolled of a uniform thickness from each edge inward to the line *l*, from whence it increases uniformly in thickness to the central line, *m*. From this plate I cut the blanks A, in the manner or on the plan shown in Fig. 7, by which it will be seen that the blank will have a regularly-increasing thickness from the line *l* to the line *m*, and that that part of the point which projects over the line *m*, and which is designated by the letter *r*, will decrease in thickness in a corresponding ratio. To compensate for this decreasing thickness of the part *r*, I cut the lower edge, *c*, with a curve instead of on a straight line, whereby an excess of metal is obtained at that point, and by upsetting which the point may be provided with a sufficient body of metal to increase its thickness all the way to the extreme point. It is obvious that this surplus metal may be provided by cutting the front edge, *a*, on a curve instead of the lower edge, *c*, as represented in the right-hand blank of Fig. 7, it being immaterial on which edge the surplus is added, or whether it be on both, or by simply extending the point farther out, so it be sufficient in quantity to give to the point when finished the requisite thickness. Or the blanks may be cut from a plate of proper width to cut out a single blank, the plate in such case being rolled with an increasing thickness along one edge only; but the former plan is preferred because it is more economical. When the blanks are thus cut out they have their points upset, either by a suitably constructed press or by hand, to such an extent as to give the necessary thickness to continue the increase all the way out to the point. When thus completed the mold-board will have its front of a regularly-increasing thickness from top to bottom, as shown at *a*, Fig. 3, and also of a regularly-decreasing thickness from the front edge back to the line *x x* of Fig. 1, which corresponds with the line *l* of Fig. 7; or, in other words, that portion of the mold-board in front of the line *x x*, Fig. 1, will increase regularly in thickness from that line to the front edge, and also from top to bottom, as represented by Figs. 3, 4, 5, and 6. It is this part of the mold-board which receives the greatest amount of friction and consequent wear, and this wear is greatest at the lower part, decreasing gradually from the point backward and upward, so that when the mold-board is constructed as described it will be seen that it has a varying thickness corresponding with the varying pressure and wear to which its various parts are subjected in use.

It is obvious that the pressure and wear will vary according as the form and size of the mold-board is changed, the exact points on its surface at which the increase of pressure ceases being dependent, somewhat at least, on the

length and curvature of the mold-board, and that in carrying out and applying my invention to all styles of plows these points must be taken into consideration. As, however, the great mass of steel plows made in the west are of very nearly a uniform curve, the foregoing is sufficient for all practical purposes.

Having thus described my invention, what I claim is—

A plow mold-board having the greatest thickness at the point and the thickness gradually decreasing along the landside or shim end of the mold-board when made substantially in the manner herein set forth.

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Witnesses:

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