J. R. MASON.

Plow.

No. 34,371. Patented Feb. 11 1862.

Fig. 2.

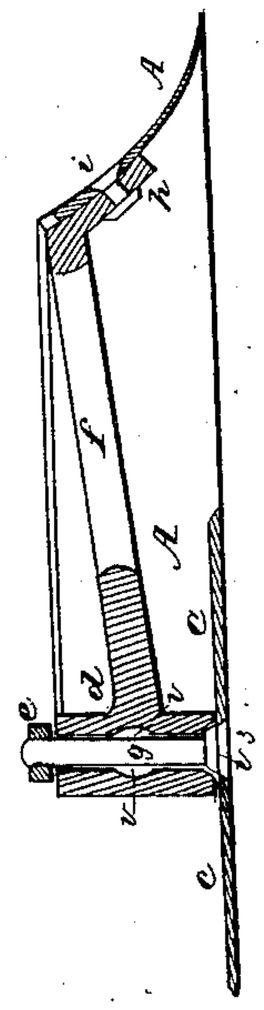


Fig. 4

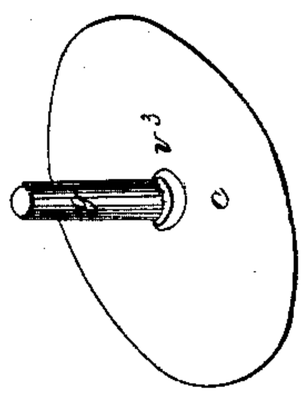


Fig. 1.

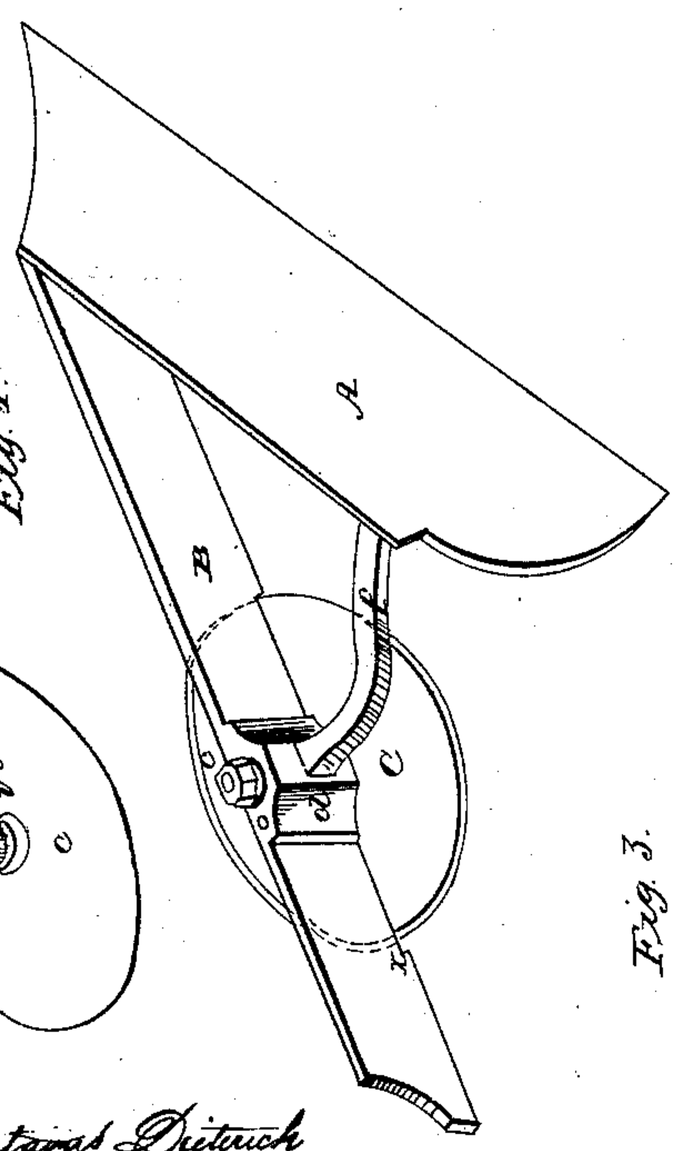
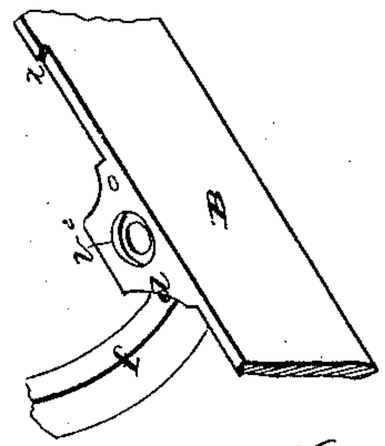


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES R. MASON, OF ELGIN, ILLINOIS.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. 34,371, dated February 11, 1862.

To all whom it may concern:

Be it known that I, JAMES R. MASON, of Elgin, in the county of Kane and State of Illinois, have invented a new and Improved Plow; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, like letters indicating the same or analogous parts in the several figures, and in which drawings—

Figure 1 is a perspective view of my improved plow with the rotary cutter in working position; Fig. 2, a transverse section, showing the bearing of the axle of the cutter in relation to the brace-bar which connects the landside with the mold-board; Fig. 3, an inverted plan of that portion of the plow which receives the cutter-blade and its axle; Fig. 4, a perspective view of the cutter-blade and its axle.

In plows as heretofore constructed in which cutters have been used for separating the sod from the earth beneath on a line with the furrow to be turned, and whether the cutters used have been of that class known as "rotary," or of knife-blade form and stationary, great difficulty has been experienced to so attach them to the plow as to render them of permanent use, owing to the fact that, whether applied to the "landside" as stationary cutters or to the "mold-board" as rotary-cutters, the points of attachment to the mold-board and the landside have been, and as plows are ordinarily constructed are, so thin that no sufficient strength for a bearing exists at any proper point, even of their greatest thickness, at which to attach the said cutters without materially weakening the parts to which the attachment may be made. The consequence has been that either the landside, if attached thereto, or the mold-board, if attached thereto, owing to the great strain upon the cutter in the act of plowing, has gradually become weakened at the point of attachment, and finally broken from constant strain; or else the cutters themselves have given out by becoming loose, owing to the want of a proper depth or thickness of bearing to sustain the strain upon the plow. Besides this, the mode of attaching side cutters without regard to the strain upon them, as well as without regard to what point upon the body of the plow such strain shall fall, has resulted not only in a constant tendency to force the parts to which they were attached, whether mold-board or landside, out of their true position with respect to their fellow parts of the plow, but also in a constant tendency to prevent it from doing its work with ease and efficiency. These difficulties I have overcome, not only by means which strengthen and support the main portions of the plow at a point where the greatest strain is imposed, but which also affords the means of lubricating the axle of the cutter in the act of plowing, and thus not only reducing the draft, but preventing the rapid wearing away of the parts surrounding the axle.

In my plow the mold-board A and landside B are of the usual form and thickness, with their forward working ends adjoining and held together by any of the well-known appliances. Just in rear of a point midway of the length of the landside, I attach to the inner surface of the landside, by brazing, a shoulder-bearing, *d*, which constitutes one end of a main brace, *f*, its opposite end being flattened and turned down, so as to fit against and conform to the curved outline of the inner face of the mold-board A at a point near its rear extremity, and at which point it is secured by rivet *i*, as shown in the drawings by Fig. 2. This shoulder-bearing *d*, I construct of a width equal to the width of the landside, its length being such as to afford a proper support to the landside, and its thickness being such as not only to afford a sufficient resistance to the torsion upon the axle *g* of the cutter-blade C in the act of plowing, but also a chamber, *v*, for holding lubricating material. As shown in Fig. 3, the shoulder *d* is reamed out, as at v^2, on its under side, in order to receive a conical-formed shoulder or bearing, v^3, Fig. 4, at the base of the axle and just above the top face of the cutter-blade. The strain which comes upon the axle at the point of its attachment with the cutter-blade is thus not only resisted by the bearing v^3 against the shoulder *d*, but additional stability and trueness of action is given to the cutter-blade itself. The top of the axle *g* is provided with a screw-thread, and a screw-nut, *e*, confines the axle and cutter-blade in place, as shown in Fig. 1. The bottom edge of the landside being cut away, as at *x x*, for a distance equal to the diameter of the cutter-blade and of a depth equal to the thickness of the said blade permits the lower working face of the cutter-blade to run on the same plane with

the lower working-edge of both landside and mold-board. A steady central foundation is thus provided for the plow, and the whole is properly balanced. As will be seen, my plow, after turning the first furrow, leaves the sod of each succeeding furrow partially separated from the earth beneath, the cutter-blade being armed with a sharp cutting-edge, thus partially relieving the mold-board from the work of separating or tearing up the sod from the earth. The draft of the plow is thus lessened, and its work becomes more natural and easy, while the strain upon the body of the plow due to the use of the cutter is restricted by direct impact against the brace *f*, and at a point which, with reference to the body of the plow, becomes a central balance for the entire implement.

I am aware that rotary cutters have been attached to the mold-boards of plows. Such cutters, simply considered, I do not claim; neither do I claim placing simply a brace between the landside and mold-board of a plow; but

What I do claim as my invention, and desire to secure by Letters Patent of the United States, is—

Constructing the main brace *f* with a landside termination, *d*, and cup *v*, and ream-socket v^2, in combination with the landside B, cutter-blade C, and its base-enlarged axle *g*, the whole arranged and operating substantially in the manner and for the purpose set forth.

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Witnesses:

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