C. H. BALTZER.

Plows.

No. 156,836. Patented Nov. 17, 1874.

Fig. 1

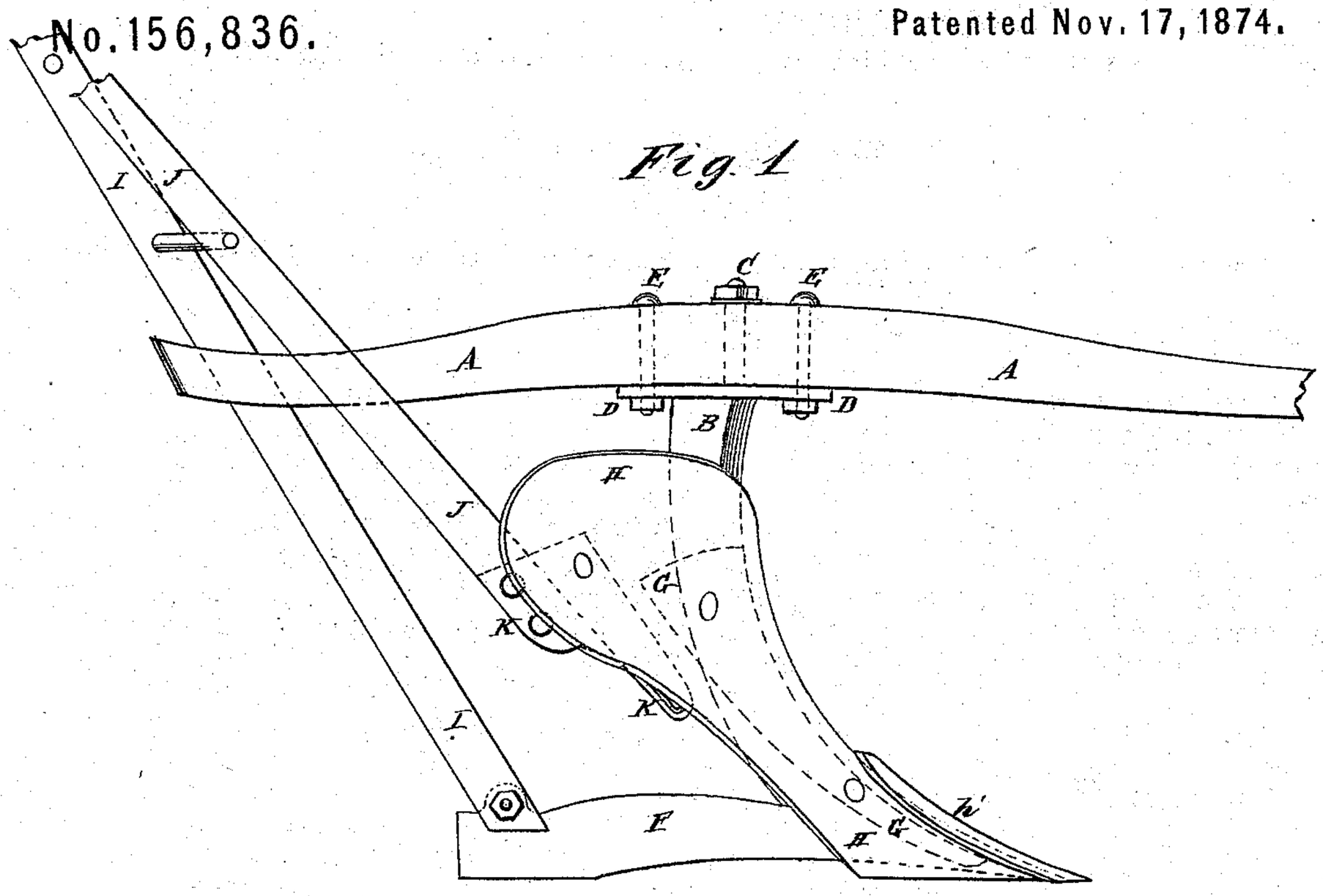


Fig. 2

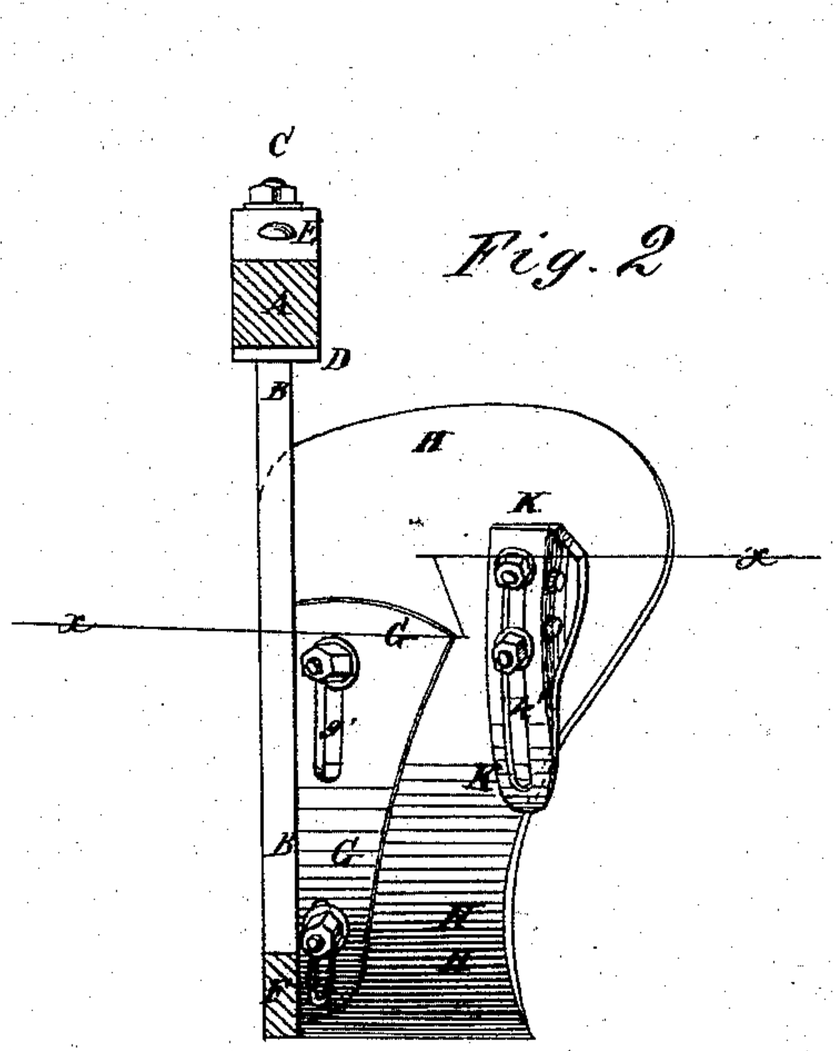
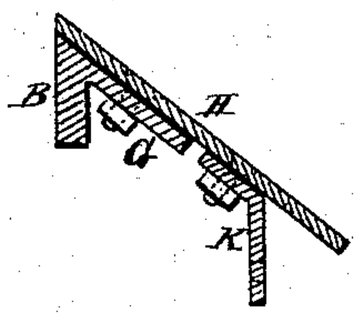


Fig. 3



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UNITED STATES PATENT OFFICE.

CHARLES HENRY BALTZER, OF HICKMAN, KENTUCKY.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **156,836**, dated November 17, 1874; application filed May 25, 1872.

To all whom it may concern:

Be it known that I, CHARLES HENRY BALTZER, of Hickman, in the county of Fulton and State of Kentucky, have invented a new and useful Improvement in Plows, of which the following is a specification:

In the accompanying drawing, Figure 1 is a side view of my improved plow. Fig. 2 is a rear view of the same, part being cut away to show the construction. Fig. 3 is a detail section of the same taken through the line *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts.

My invention relates to the class of plows in which the mold-board is adjustable, so as to be moved downward as it wears; and it consists in the construction and combination of various parts of the plow, as hereinafter more fully described, the better to effect such purpose, and also to shift the mold-board laterally toward the land-side to compensate for wear upon the land-side edges.

A is the plow-beam. B is the plow-standard, upon the upper end of which is formed a bolt, C, which passes up through the beam A, and has a nut screwed upon its upper end. The standard B is kept from turning upon the the beam A by a plate, D, attached to its upper end, and which rests against the under side of the beam A, and is secured to it by the bolts E that pass through the beam A, and through slots in the end parts of the said plate D. This construction enables the plow to be readily adjusted to take more or less land, and holds it securely in place when adjusted. The forward side of the standard B, upon which the plow-plate rests, is curved in the arc of a circle, and to the rear side of its lower end is attached the forward end of the base or shoe F. Upon the side of the forward part of the standard B is formed a flange or wing, G, which is also curved in the arc of a circle, and has slots g^1 g^2 formed in its upper and lower parts to receive the bolts that secure the plow-plate to said wing G and standard B. These slots g^1 g^2 should incline, from their upper to their lower ends, very slightly toward the standard B, so that, as the plow-plates wear and are moved downward, they may also move a little toward the standard to compensate for the wear upon their land-side edges. H is the plow-plate, which is a segment of a hollow cylinder, its curve being upon the arc of the same circle as the curve of the standard B, so that it may be moved down to take up the wear, or down or up to adjust it to run deeper or shallower in the ground, and still rest firmly upon its seat. The plow-plate H is designed to be made of steel and hardened, and upon the lower part of its land-side edge is welded a steel point, *h'*, which should extend up a little above the lower bolt-hole in said plate, so that, as the plow-plate wears and is moved downward, it may always have a suitable point.

In the case of very large plows, double bolts should be placed in each slot. The different sizes of plows should always be made upon the arcs of circles of certain fixed radiuses, and the point angle of the mold-board, and the angle that the mold-board makes with the standard, should also be fixed, so that the plows of each size may be always uniform. Plow-plates of any desired form may be used, but they should all be bent upon the arcs of circles.

I is the land-side handle, the lower end of which is bolted to the rear end of the base or shoe F. The handle I is also bolted to the rear end of the beam A. J is the mold-board side handle which is connected with the handle I by rounds in the ordinary manner. To the lower end of the handle J is bolted the flange of the angle-plate K, the body of which is bent upon the arc of a circle to fit upon the rear side of the mold-board or plow-plate, H, and has a slot, *k'*, formed in it to receive the bolt by which the plow-plate H is secured to it. The flange of this angle-plate K is at its side, and is designedly bent into a plane nearly at right angles to that of the slotted portion, so as to be parallel with, and adapted to be secured to, the inner side of the right handle J, and therefore the strain or stress when the plow is in use is directly in the direction of the breadth of this flange, and not in the direction of its thickness, thus securing the maximum of strength and of resisting power, and also not requiring the handle to be cut away or beveled, or otherwise weakened, in order to adapt it to the flange.

In the case of light or single-horse plows, the plate K need not be used, but the handle J made shorter, and its lower end bent inward and secured to the beam A or handle I. In the case of large plows, they may be strengthened by a brace or stay extending from the rear end of the base or shoe F to the lower part of the handle J. In the case of shovel-plows, the flange or wing G will not be required, and the lower slot, g^2, may be formed in the lower part of the body of said standard. A cutter may be used in sod or in rough land when desired.

From the above description, it will be seen that the removable plate G forms the lower mold, and the plate H the outer or top mold, and both being sections of cylinders the top one H is adjustable so that in the wearing off of the plow on its cutting-edge, and on the edge next to the land, a downward adjustment of H will compensate for both such wears, by advancing these edges, the one forward and the other sidewise or toward the land. I would further state that a vertical or perpendicular line drawn from the center of the circle, of which the mold is a section, must be in advance of the point of the mold H, and this condition allows the plowman to let the mold down in order to run the plow deeper, and which will be the action until the point passes the lowest point of the imaginary circle, or rather passes beyond the vertical line above named. The lower mold-plate G, and the standard, permit a change of different attachments, such as half-shovel, cotton-scraper, &c., adapted to fit the same standard and stock. The curve on the under side of my land-side shoe causes the plow to run steadily, as the bearings are on the cutting-edge and heel only.

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

1. In combination with the mold-board H formed of a section of a cylinder, and applied as described, the lower mold or plate G g' applied so as to be flush with the front edge of the standard, as described, and having the inclined slots as a means for adjusting the mold-board both vertically and toward the standard and land-side to compensate for wear.

2. In combination with the mold-board H, the slotted mold G g', and the standard B, all having the coinciding curvatures described, the slotted angle-plate K k' also having a corresponding curvature and slots, and having a side wing or flange, and connected to and bracing the handle, all as shown and described.

3. The described combination and arrangement, with the mold-board H, of the described means for adjusting the same downward and toward the land-side, and of the slotted and adjusting plate D rigidly secured to the plow-standard, for permitting the plow to take more or less land, as shown and described.

CHARLES HENRY BALTZER.

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