(No Model.) 4 Sheets—Sheet 1.

C. ANDERSON & J. OLIVER.

PLOW.

No. 280,777. Patented July 10, 1883.

Fig. 1.

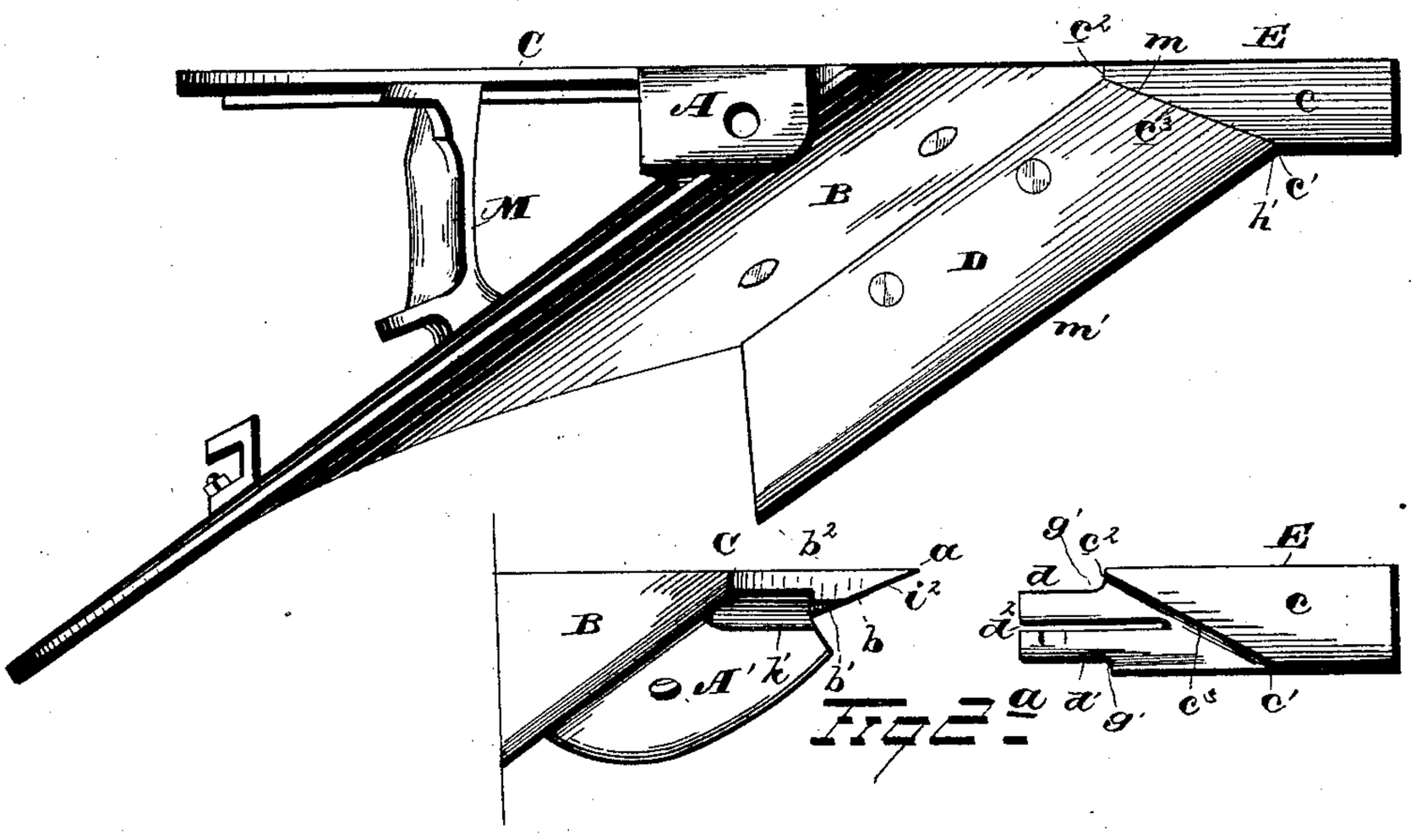
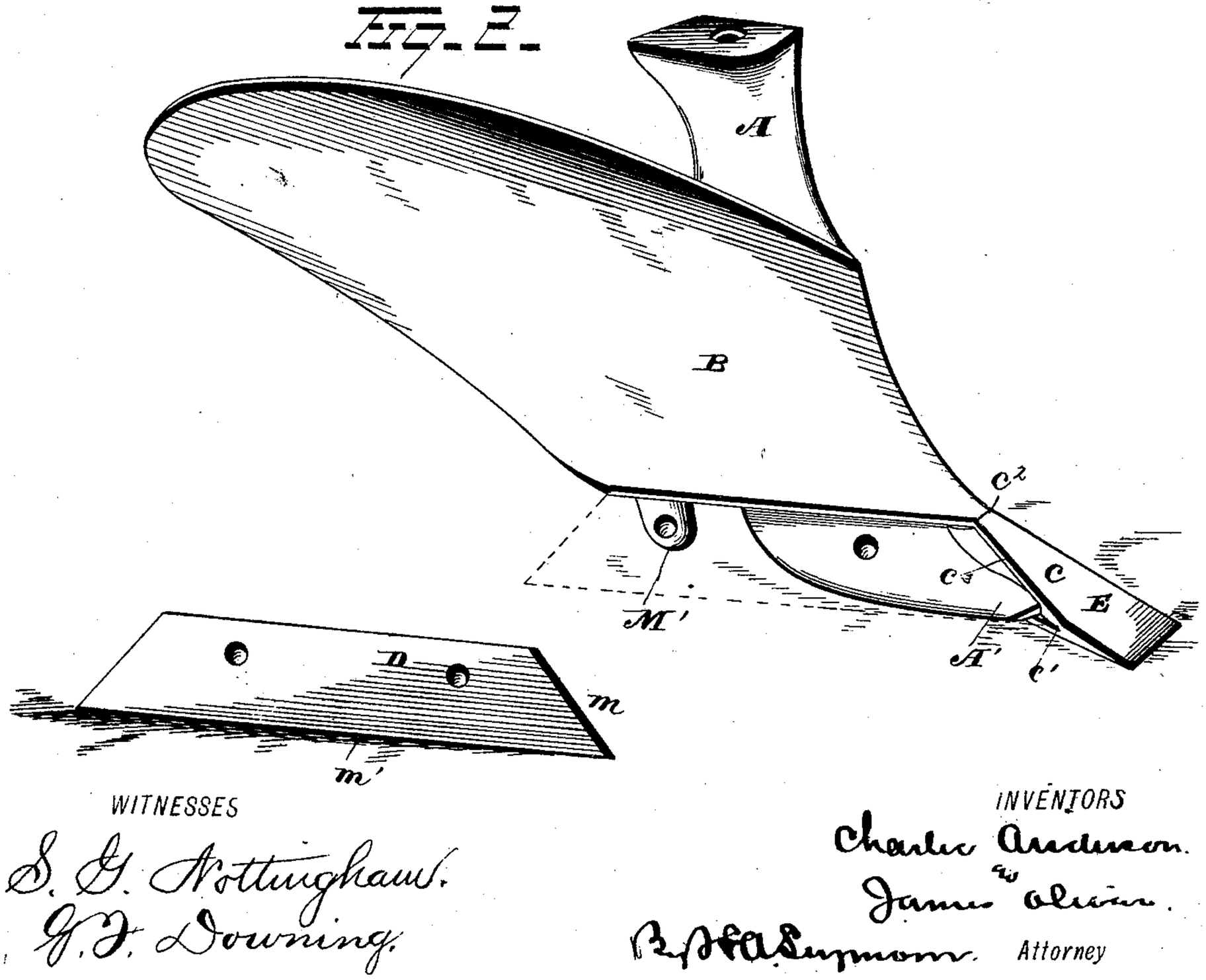


Fig. 2.



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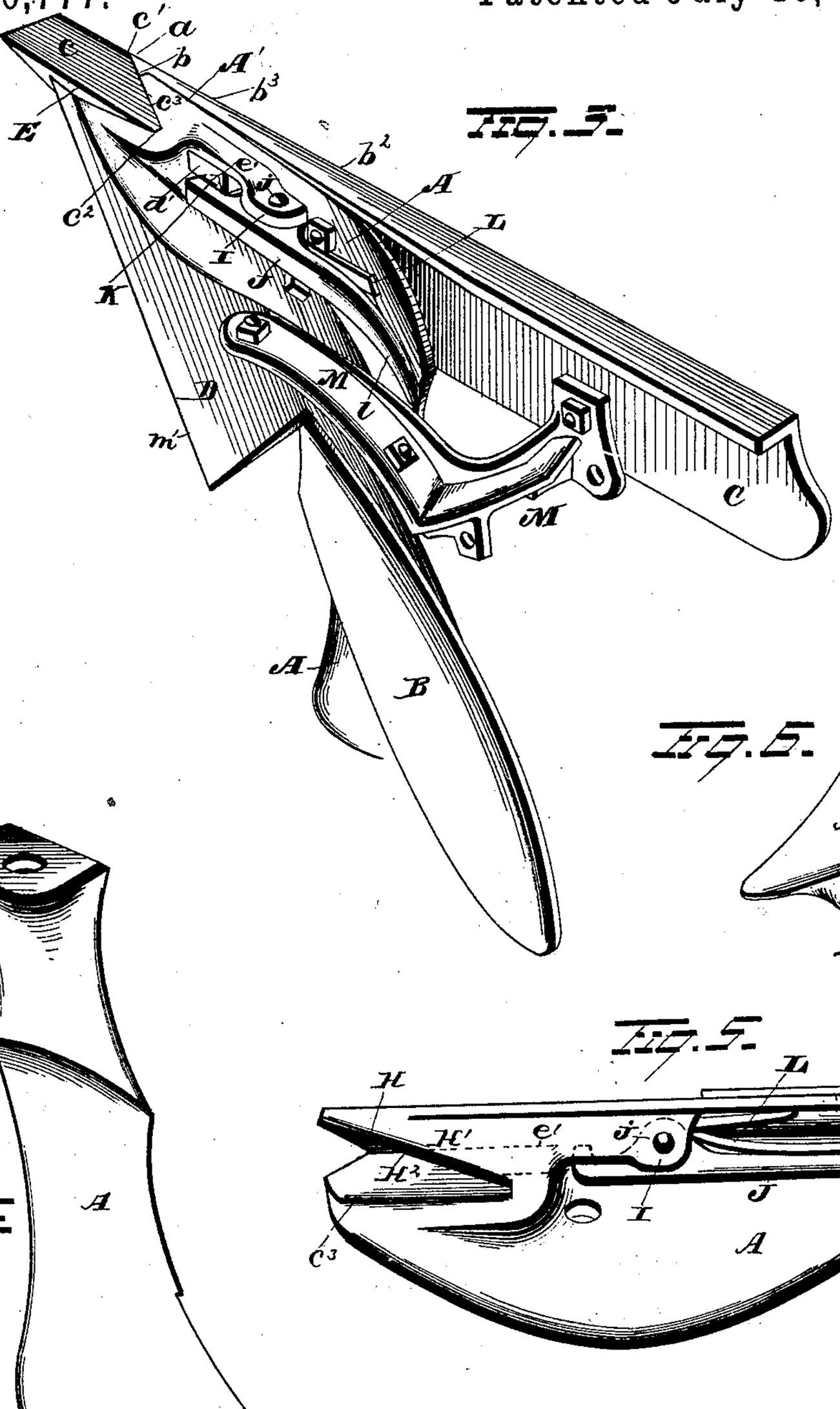

FIG. 3.

FIG. 4.

FIG. 5.

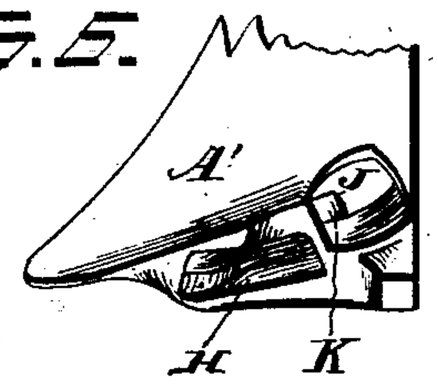

FIG. 6.

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No. 280,777. Patented July 10, 1883.

Fig. 1.

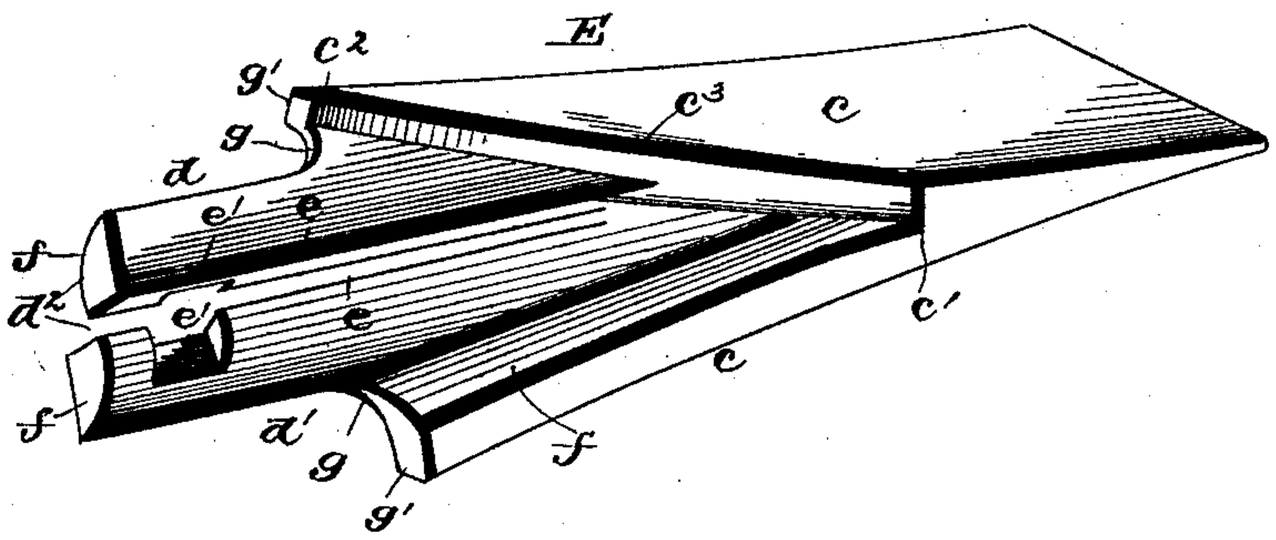


Fig. 4.

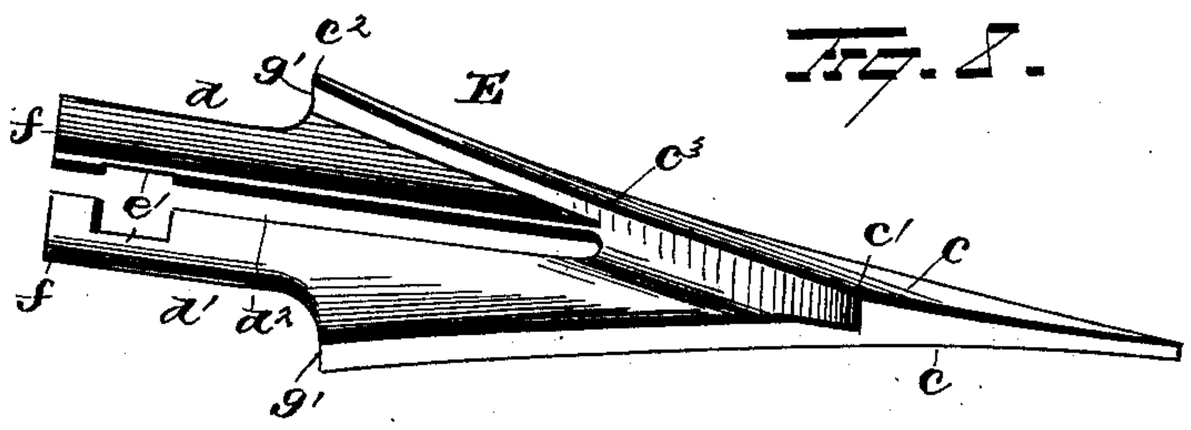
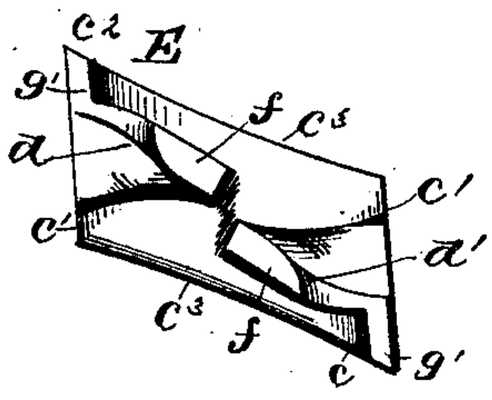


Fig. 3.



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PLOW.

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Fig. 11.

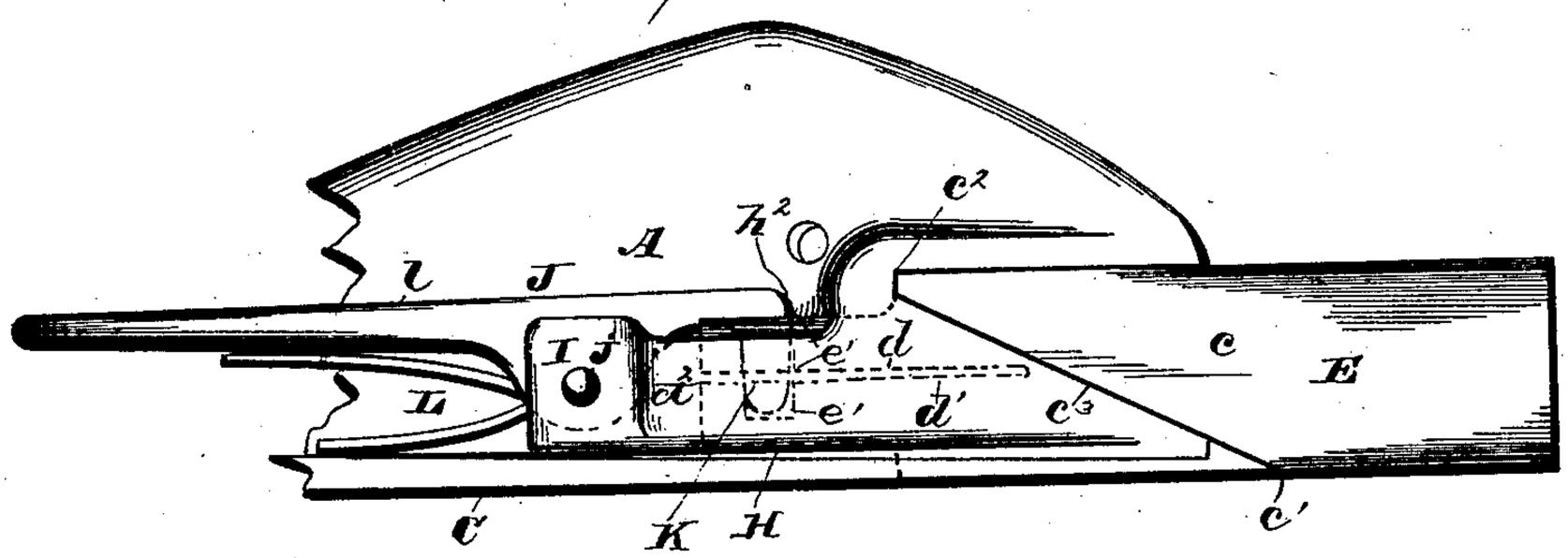

Fig. 10.

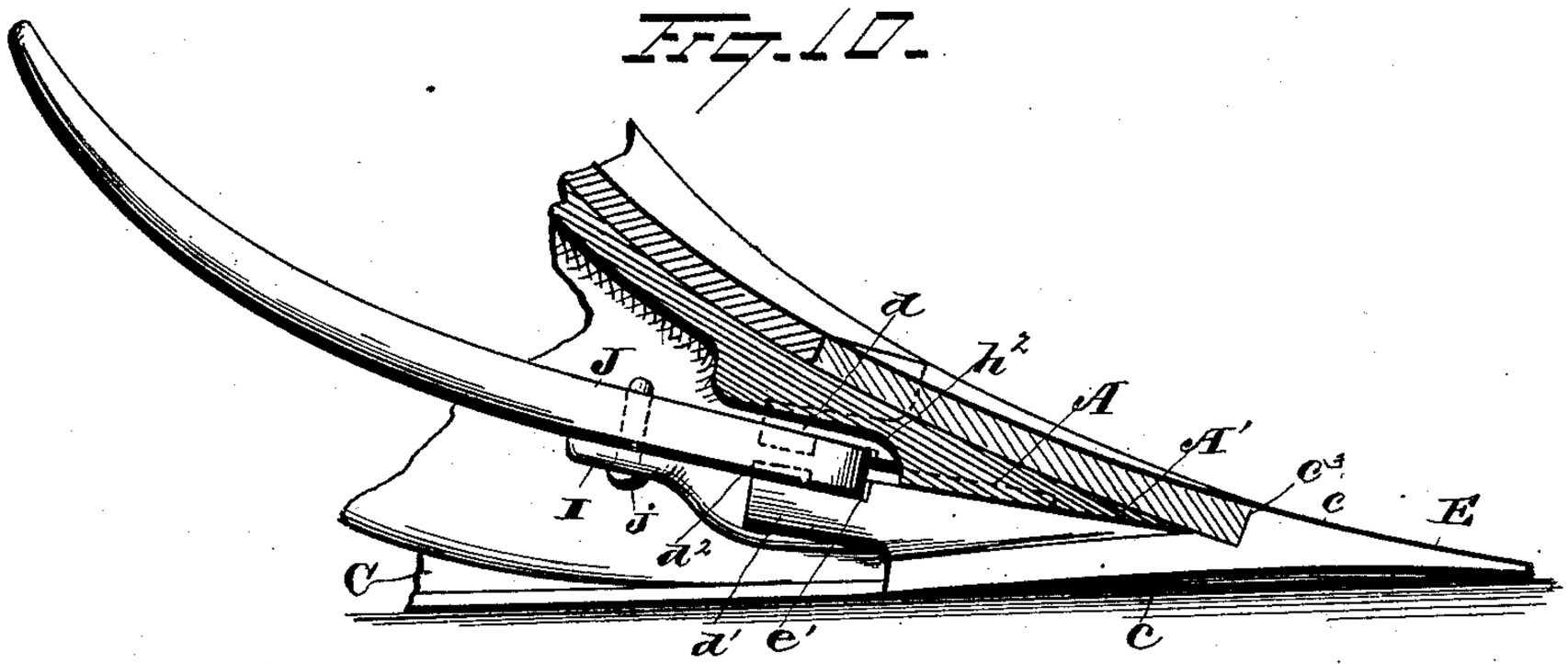

Fig. 12.

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UNITED STATES PATENT OFFICE.

CHARLES ANDERSON AND JAMES OLIVER, OF SOUTH BEND, INDIANA, ASSIGNORS TO THE SOUTH BEND IRON WORKS, OF SAME PLACE.

PLOW.

SPECIFICATION forming part of Letters Patent No. 280,777, dated July 10, 1883.

Application filed March 19, 1883. (No model.)

To all whom it may concern:

Be it known that we, CHARLES ANDERSON and JAMES OLIVER, of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Plows; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improvement in plows; and it consists in certain features of construction and combinations of parts, as will hereinafter be described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a plow embodying our invention. Fig. 2 is a view in perspective of the plow with the share removed. Fig. 2ª is a detached plan view of the plow-point and forward end of the standard. Fig. 3 is a view in perspective of the under side of the plow. Figs. 4 and 5 are plan views of the upper and lower side of the standard-foot, the point being removed. Fig. 6 is a front view of the standard-foot. Fig. 7 is a plan view of the reversible point. Fig. 8 is a view in side elevation of the point. Fig. 9 is a rear view of the same. Fig. 10 is a sectional view, showing the point locked in place. Fig. 11 is a plan view of the lower side of the standard and plow-point, and Fig. 12 is an edge view of the share.

A represents the standard; B, the mold-board; C, the landside; D, the share, and E the reversible point. Landside C is bolted to the side of the standard, the forward end of the landside terminating in a point, *a*, which projects forward of the standard-foot A′. The point of the landside is provided with a lug, *b*, which fits within a recess, *b′*, formed in the upper side of the foot of the standard, whereby the parts are locked against displacement, while the sole b^2 of the landside is cut away at b^3, to receive the outer edge of the standard-foot.

Reversible point E is provided with upper and lower wearing-faces, *c c*, which are correspondingly curved and tapered, so as to conform to the curvature and inclination of the mold-board and share, and thus allow the point to be reversed when worn, and preserve the symmetry and efficiency of the different parts of the plow. The wearing-faces are each cut away diagonally from the point *c′* to c^2, thereby forming an inclined bearing, c^3, on opposite sides of the point, against which fits the end of the reversible share. Prongs *d d′* extend rearward from the wearing-faces of the reversible point, and are arranged on a line diagonal to the forward edge of the point, a space, d^2, being formed between the prongs, that extends to the center of the diagonal bearing c^3 of the wearing-faces. The inner and adjacent edges, *e*, of the prongs are made flat, and are each provided with a notch, *e′*, for the reception of the head of a locking-lever, as will be explained. The upper side of each prong is made slightly curved, as shown at *f*, while its under side is curved, as at *f′*, and merges into the under side of the wearing-face. The prongs are cut away, as at *g*, thereby forming a shoulder, *g′*, on the rear end of each wearing-face of the point. Standard-foot A′ is constructed with an open groove, *h′*, in its upper side, within which is received one of the prongs of the reversible point, said prong extending through an opening, h^2, at the rear end of the groove a sufficient distance to enable the head of the locking-lever to engage therewith. The upper surface of the prong will be flush with the upper surface of the standard-foot, thereby enabling the share to be seated over the prong and abut against the inclined bearing or edge c^3 of the point. The under side of the upper face of the point is seated upon the standard-foot and the upper edge of the landside.

The under side of the standard-foot is provided with a diagonal groove, H, for the reception of the prong on the under side of the point, and with an opening, *i*, through which the prong projects for engagement with the locking-lever. Groove H is formed with an overlapping flange, H′, having an inclined edge, H^2. The prong on the under side of the point extends beneath the overlapping flange and has a bearing thereon throughout its entire width, while the inclined bearing c^3 of the point fits against the inclined edge H^2 and the inclined bearing-edge i^2 on the point of the land-

side. The groove H on the under side of the standard is also constructed with a straight shoulder or bearing, i^3, against which fits the straight side of the point.

On the under side of the standard and in rear of the standard-foot is cast a flange, I, between which and the upper side of the standard is pivoted the locking-lever J by the pin j. Locking-lever is provided with a beveled head, K, which fits into the notches in the prongs of the reversible point and retains it against displacement. A spring, L, interposed between the handle l of the locking-lever and the standard serves to retain the head of the lever in engagement with the prongs. The handle l extends upwardly beneath the standard, and is of sufficient length to enable the lever to be easily pivoted.

The foregoing construction of reversible point, standard-foot, and means for securing the point in place have several valuable features. The reversible point is of such construction that the prongs are wide and thick, and hence are not liable to break in use. Again, by making the point in the manner described, it can be worn away to a great extent and yet be rendered firm and serviceable.

By cutting away the point diagonally, as shown and described, we secure an extended bearing-surface for the prongs, and also enables us to employ a desirable form of share and locate the joint between the point and share on a line diagonal to the wear of the parts. The standard-foot is grooved in such a manner that the share is almost wholly relieved from its extreme point, because the lower prong has an upper and a lower bearing in the standard-foot, while the under wearing-face has an end bearing, and the upper prong has an extended bearing in the upper portion of the standard-foot. Thus the strain is exerted on the thickened portion of the standard-foot, and little or no danger of breaking the point is met with. To remove or reverse the point it is simply necessary to depress the handle of the locking-lever, when the point may be taken out and replaced.

This construction of parts enables us to dispense with fastening bolts and nuts, and thereby obviate all their attendant objectionable features. The point is tapered and also curved or twisted, so that it will conform to the curvature of the share and mold-board. When the point is made of the same width throughout its length, or when it is made tapering, slightly narrower at its rear end than at its point, it is impossible to secure a perfect curvature and taper to its upper and lower surfaces without making the standard thick, heavy, and cumbersome; but by cutting the wearing-faces away diagonally, in the manner shown, we secure a symmetry of form and curvature that is a most desirable feature in this class of implements.

Mold-board B is secured at its forward end to the standard, and is further secured to a brace, M, the opposite end of which is fastened to the landside. Brace M extends downwardly from the lower edge of the mold-board and forms a seat, M′, for one end of the share D, the opposite end of which rests on the upper face of the landside. Share or wing D is made with reversely-tapered ends m m, a cutting-edge, m', and rear edge, m^2. The share is reversely twisted, the point n being slightly depressed, and the point n' being slightly elevated, thereby causing the share to fit its seat when reversed and preserve the symmetry of the curves of the point, share, and mold-board.

We make no claim to the reverse twist of the share, as it has long been customary to impart a twist to the shares of plows to cause them to accurately fit their seats and insure the proper curvature to the wearing-face of the plow.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a plow-standard having its foot portion provided with grooves on its upper and lower side, arranged diagonally to each other, of a reversible plow-point constructed with prongs arranged to fit within said grooves, substantially as set forth.

2. The combination, with a plow-standard having its foot provided with a groove on its upper side and a groove on its lower side, the latter furnished with an overlapping flange having a diagonal edge, of a plow-point provided with prongs, and with diagonal bearings on its upper and lower sides, substantially as set forth.

3. The combination, with a plow-standard having grooves in its upper and lower sides, arranged diagonally to each other, and a reversible plow-point provided with prongs adapted to fit in said grooves, of a locking-lever adapted to secure the point against accidental displacement, substantially as set forth.

4. The combination, with the plow-standard having its foot provided with grooves on its upper and lower sides, arranged diagonally to each other, and a reversible point provided with prongs adapted to fit within said grooves, of the landside extending in front of the standard-foot and adapted to serve as a side bearing for the reversible point, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

CHARLES ANDERSON.
JAMES OLIVER.

Witnesses:
F. C. NIPPOLD,
E. K. LINDSEY.