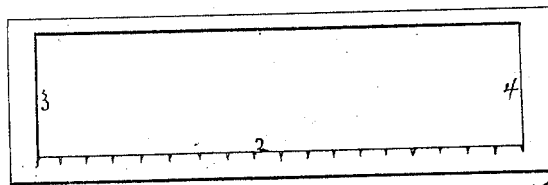
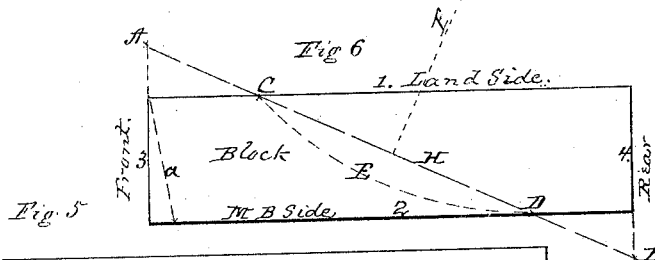
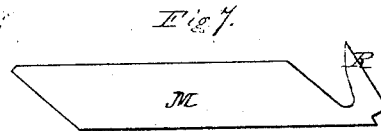
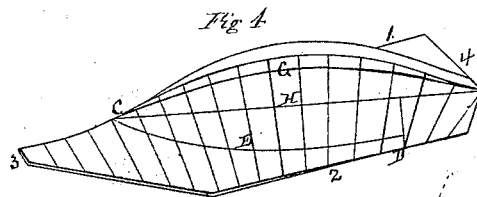
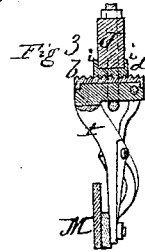
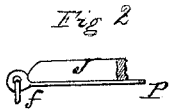
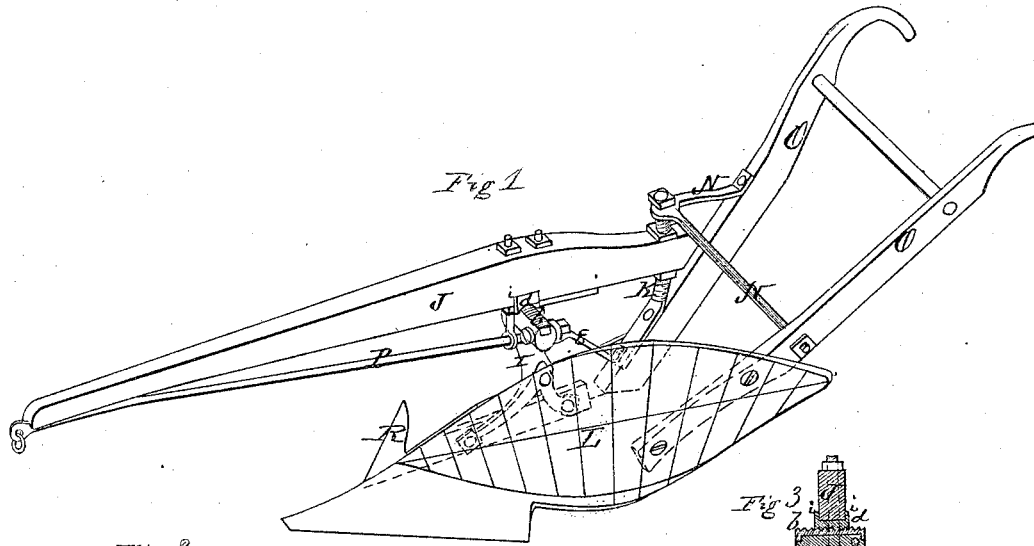


A. & F. M. FRANKLIN.

Plow.

No. 108,247.

Patented Oct. 11, 1870.



Witnesses.

Harry King
G. L. Cuthbert

Inventor.
Francis M. Franklin
Abner Franklin

per
Alexander Thomson
Attys.

UNITED STATES PATENT OFFICE.

ASAHEL FRANKLIN AND FRANCIS M. FRANKLIN, OF SPRINGFIELD, OHIO.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **108,247**, dated October 11, 1870; antedated October 1, 1870.

To all whom it may concern:

Be it known that we, ASAHEL FRANKLIN and FRANCIS M. FRANKLIN, of Springfield, in the county of Clarke, and in the State of Ohio, have invented certain new and useful Improvements in Plows; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in certain improvements upon the plow of Francis M. Franklin, patented June 8, 1869, antedated May 24, 1869, No. 91,109, and also in a new method for laying off the mold-board.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a perspective of the entire plow. Fig. 2 is a side view of the front end of the plow-beam, with draft-rod. Fig. 3 is a transverse vertical section, showing the construction and mode of attaching the plow-sheth. Fig. 4 is a perspective of the mold-board as laid off. Figs. 5 and 6 are diagrams, showing the manner of laying off the mold-board; and Fig. 7 is a side elevation of the landside and cutter-bar.

The pattern for constructing our mold-board is made of a rectangular piece of wood of about the following dimensions, viz: three feet eight inches long, one foot wide, and fourteen inches high. The base of said block or pattern is represented in Fig. 6, line 1 being the right-hand base-line, 2 the left-hand base-line, 3 the front end line, and 4 the rear end line. The front and rear end lines are projected on opposite sides, about five inches from the side lines, to A and B, and a regulating-line, H, drawn diagonally from A to B, cutting the lines 1 and 2 at C and D. The line H passes from the rear and upper corner of the mold-board directly over the point B, diagonally across the block, about the center of the face of the mold-board, to a point immediately over the point C on the line 1, the height of about two inches and a half perpendicularly above the point C on the land-line being the point where the regulating-line

H crosses the land-line. This is near the junction of the share and mold-board, as is more clearly shown in Fig. 4. Additional pieces are put on the block or pattern to form the extension at the rear end. The surface of the mold-board will be finished in such a manner that a straight-edge laid on the line H will touch it its entire length.

In shaping the mold-board the block is scored roughly to near the bottom, and an incurvated line, E, is cut from the point D (see Fig. 4) perpendicularly about two and half inches above the base-line, and extending to line 1, where the regulating-line H intersects it. The incurvated line E is drawn in the following manner: From a point equidistant from D and C on the line H draw a horizontal line, F, at right angles with the line H. A tram having a narrow chisel-pointed tooth at one end and ordinary pivot at the other is used, the pivot being placed on the line F three feet from the line H, and with the chisel-point cut the line E, as above. A line, G, is then drawn on what is to be finished as the upper working-surface, starting at the point of the plow at or near the intersection of lines 1 and 3, to the rear of the mold-board, everywhere twelve inches from the line 2. This line G corresponds with the upper contour of the mold-board, and is divided into sixteen spaces, about three and a quarter inches each. The line 2 is divided into eighteen spaces, about two and a half inches apart, and transverse lines drawn across the face of the mold-board, the first or front line, a, being drawn from a point two and a half inches from the front end of line 2 (or the width of one space on said line) to the point of the plow, as shown in Fig. 6. All these cross-lines are cut in to fit a straight edge from the incurvated line E, across the regulating-line H, to line G.

A rule is thus furnished to finish back the upper portion of the mold-board. A mold-board finished by this rule will be concave in front and convex toward the rear, forming, as we term it, "a combined concave and convex plow."

The upper surface of the share; and those parts of the mold-board above line G and below line E, may be finished at will. The face of the mold-board at the rear end of line E is perpendicular between the point D on line 2 and line

H above it, the line E being at every point about two and a half inches from the plane of the ground-lines 1 and 2.

A mold-board constructed according to these rules will have its working-surface offering very little resistance to the earth through which it is running, either frictional or otherwise, and at the same time securing an even and regular turning of the earth from the furrow, and also effecting a perfect scouring of the mold-board throughout its entire surface.

The sheth or standard I is made of wrought-iron of suitable thickness. Just below its attachment to the mold-board it forks, one branch extending forward about eight inches and the other backward about two inches. To both of these branches the landside M is attached by bolts. The sheth is bolted also near its bifurcation to the inside part of the mold-board L, its shape and attachment giving it very great strength. From its point of attachment to the mold-board the sheth is rounded and rises about five inches, bending from the line of the beam J outwardly, and rising to about seventeen inches from the ground, when it is bent in a right angle in the opposite direction. This horizontal part, which we term a "knee," is provided with a small metal bar, *b*, having ratchet-notches on its upper side, which bar is fitted in a groove on top of the knee. It is kept in place by pins or raised points falling into indentations or holes in the bottom of said groove.

On the under side of the beam J is placed a metal plate or bar, *d*, held in place by flanges *i*, and provided on its under side with ratchet-notches to fit in the ratchet-bar *b*. The upper side of the knee, with the bar *b*, being rounded, the plate *d* is made concave to fit the same.

By the use of the ratchet-plates *b* *d* the position of the beam is adjusted so as to take more or less land, while the depth is regulated by the upright K at its rear end.

An angular brace, N, having its angle pierced by a hole for the upright K, is attached to both the handles O O. The short arm of the brace N is flat, and its end bent so as to lie on the sur-

face of the landside-handle and be secured to the same by one or more bolts, while the longer arm of said brace is round, provided with screw-threads, and passes through the mold-board handle, where it is fastened by a nut. By this means are not only the handles strengthened and supported, but the distance between them may be readily widened or lessened, so as to suit the brace to the various sizes of plows. The upright K has its lower part (attached to the landside-handle) made long enough to include the end of the brace *e*, which is bolted on the end of upright at this point, one bolt answering for both, to fasten them to the landside-handle.

The draft-rod P is provided with a shoulder at *f*, as shown in Fig. 2, fitting the end of the beam J, and turned up so as to relieve the strain upon the bolts.

The cutter-bar R and landside M of the plow (from the share back to the rear) is constructed of one piece, the bolts passing through the forked ends of the sheth I, securing it in place.

We do not claim under this patent the rule for laying off the mold-board; nor do we claim the ratchet-connection of the standard and draft-rod and plow-beam, as these are set forth and claimed in the patent of F. M. Franklin for a plow, which bears an even date with this.

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

The combination of the beam J, draft-rod P with shoulder *f*, upright K, brace *e*, angular brace N, handles O O, forked sheth I, and ratchet-plates *b* *d*, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 16th day of October, 1869.

ASAHEL FRANKLIN.
FRANCIS M. FRANKLIN.

Witnesses:

JOHN F. OGLEVIE,
B. C. CONVERSE.