

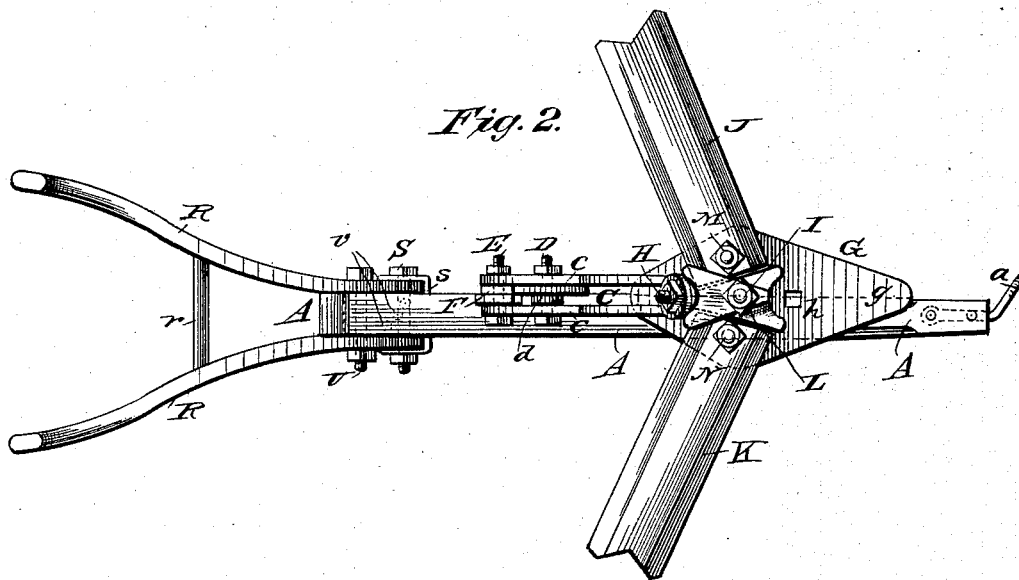
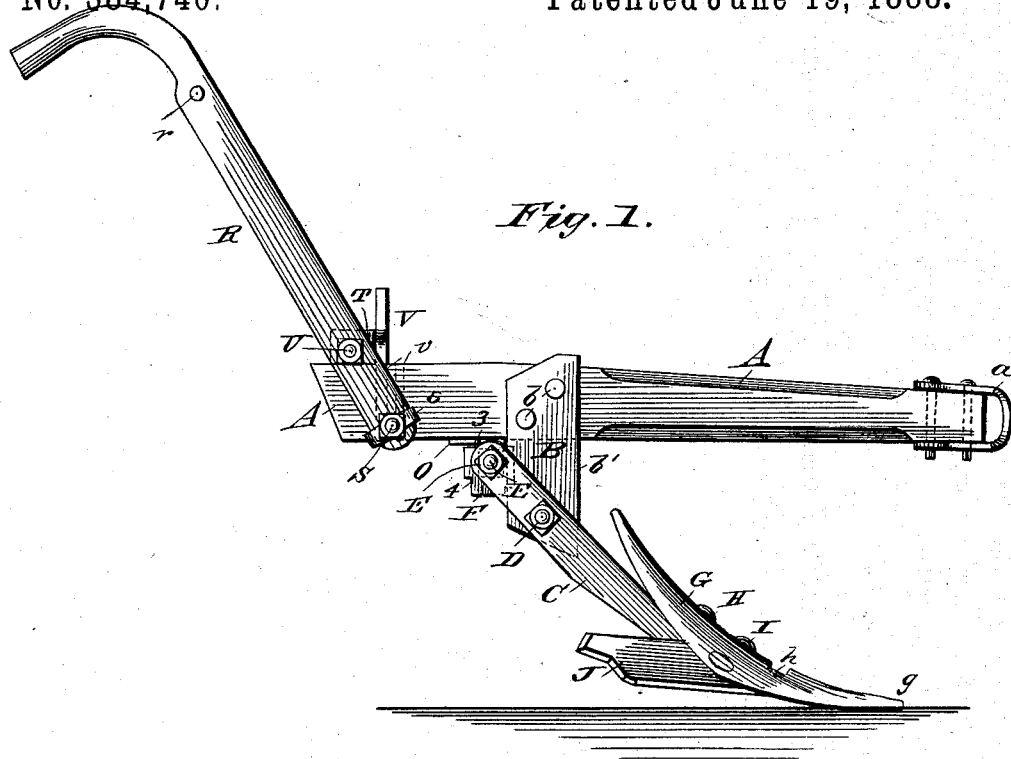
(No Model.)

2 Sheets—Sheet 1.

T. A. BLANCHARD.
PLOW.

No. 384,740.

Patented June 19, 1888.



WITNESSES:

Phil. C. Dietrich.
W. S. Sedgwick.

INVENTOR:

T. A. Blanchard.

BY

Munn & Co.
ATTORNEYS.

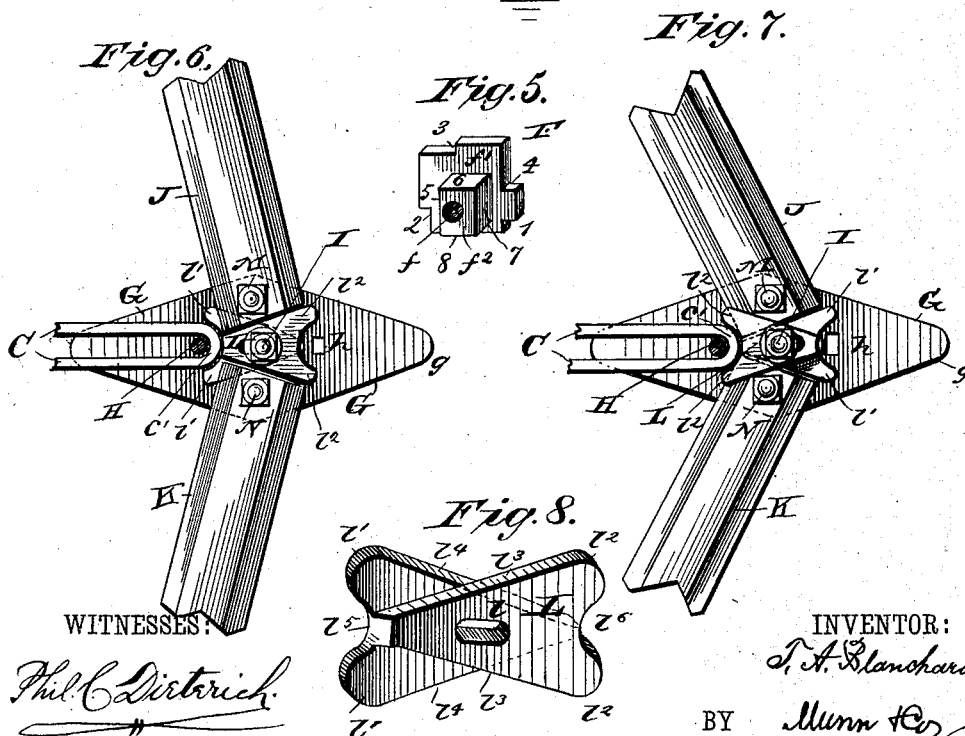
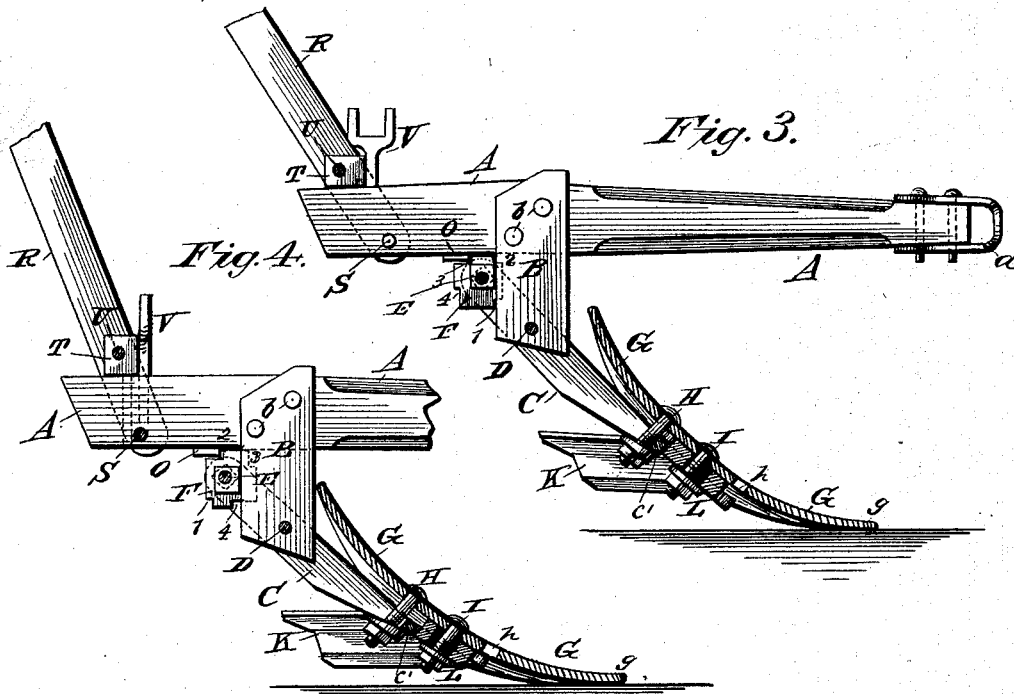
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UNITED STATES PATENT OFFICE.

THOMAS A. BLANCHARD, OF APPLING, GEORGIA.

PLOW.

SPECIFICATION forming part of Letters Patent No. 384,740, dated June 19, 1888.

Application filed November 14, 1887. Serial No. 255,092. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. BLANCHARD, of Appling, in the county of Columbia and State of Georgia, have invented new and useful Improvements in Plows, of which the following is a full, clear, and exact description.

My invention relates to plows, and especially to those of a class in which laterally-extending sweeps are used, in combination with a central mold-board; and the invention has for its object to facilitate vertical adjustment of the plow mold-board and sweeps relatively to the plow-beam to regulate the depth at which the plow shall work in the ground; also, to provide for setting the sweeps at different angles to the line of draft and for adjusting their faces at varying vertical resistances to the soil; also, to facilitate adjustment of the plow-handles to accommodate the stature of the plowman.

The invention consists in certain novel features of construction and combinations of parts of the plow, all as hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of my improved plow. Fig. 2 is a bottom plan view of the plow. Fig. 3 is a sectional side elevation of the plow adjusted as in Fig. 1 and partly broken away. Fig. 4 is a sectional side view illustrating different relative adjustments of the parts. Fig. 5 is a perspective view of the shouldered block by which the plow-beam is adjusted relatively to the mold-board and sweeps. Fig. 6 is an under side view of the plow mold-board and sweeps in one adjustment. Fig. 7 is a like view with the sweeps differently adjusted, and Fig. 8 is a perspective view of the shouldered block used in connecting the sweeps to the mold-board.

The plow-beam A has a broad thin vertically-ranging metal plate, B, fixed to it by two bolts or screws, *b*, and to which plate the U-shaped standard C of the plow is held by a pivot-bolt, D, which passes through the opposite side parts *c c* of the standard, and a bolt, E, which passes through the sides of the standard and through a metal block, F, which fits between the extremities of the sides of the standard

and behind the back edge of the plate B. A suitable washer, *d*, is placed next the plate B, where the bolt D passes through the plate and washer, to give a solid bearing of the standard on the plate when the bolt D is tightened.

The peculiar construction and functions of the block F will be presently described.

To the lower forward end of the standard C the plow mold-board G is held by a bolt, H, which passes inside of the standard at its bend *c'*. A metal block, L, is held to the mold-board G by a bolt, I, which passes through a slot, *l*, in the block, thus allowing said block to bed itself squarely against the bend *c'* or forward end of the standard C to resist strains, and by the opposite sweeps J K, which are held to the mold-board G and block L by bolts M N, respectively. The peculiar shape and also the functions of the block L with relation to the sweeps and their adjustments relatively to the mold-board will be hereinafter fully described.

The block F is bored transversely at *f* to receive the bolt E, and is made with a large generally-square portion or side, *f'*, and a smaller square portion or lug, *f''*, projecting from the face of the part *f'*, and the hole *f* is bored out of the center of the block or eccentrically to its margins or edges. The four corners of the part *f''* of the block F are notched, as at 1, 2, 3, and 4, said notches being cut successively deeper from what will be the rear edge of the block when adjusted to the beam A, plate B, and standard C. To the underside of the beam there is fixed a metal plate, O, against which the notched parts 1 2 3 4 of the block F bear, while the edges 5, 6, 7, and 8, respectively, of the part *f''* of the block bear against the back edge of the plate B. The holes in the extremities of the side parts, *c c*, of the standard C, through which the block-fastening bolt E passes, are made square, and said bolt has a squared part next its head, which fits the hole in either part *c* of the standard, allowing the bolt to be inserted, after readjustment of the block F, from either side of the standard for screwing its nut at the outside of the opposite standard. The fit of the bolt E to the square hole of the standard assists in forming and maintaining a secure locking engagement of the beam A, plate B, beam C, and bearing-block F when the bolts D E are tightened.

It is obvious as backward strain is brought upon the standard C by the operation of the mold-board or sweeps which it carries that the plate B first will take the pressure, and by action against one of the square faces of the part f^2 of the block F will transmit the pressure to the block, which, by pressure of one of its corner notches, 1, 2, 3, or 4, upon and against the plate O, will transmit the strain to the plow-beam A, which will be protected from wear or injury by the plate O. It also will appear that after loosening the nut of the bolt E and swinging the standard C on its pivot-bolt D the block F may be turned to present other of its notches 1, 2, 3, or 4 to the wear-plate O on the beam A and to present other of its faces 5, 6, 7, or 8 to the back edge of the plate B, and when the parts are readjusted and the nut of bolt E is tightened the inclination of the standard C relatively to the plow-beam A will be changed, and the standard and plow-beam may be set at any one of four different relative adjustments to raise or lower the beam with relation to the point of the mold-board for causing the plow to work at different depths in the soil, as circumstances may require. I bend the clevis a to one side, as seen best in Figs. 1 and 2 of the drawings, to bring the line of draft directly in front of the plate B, which is sharpened at its forward edge, b' , to easily cut sod or roots and turn them aside to prevent choking of the plow. The block F is shown in Figs. 1 and 3, with its notch 3 engaging the plate O on the beam, while in Fig. 4 the block-notch 2 is engaged with the plate O to hold the mold-board and beam nearer each other, and by adjusting the block-notch 1 against the plate O the beam will be brought still closer to the mold-board, while in adjusting the notch 4 to the plate O the beam will be still farther from the mold-board than when the notch 3 is engaged with the plate, as will readily be understood.

The block L has a peculiar form. (Most clearly shown in Fig. 8 of the drawings.) While the block is made in one piece of metal, it may be said to consist of two wedge-like face portions resting one on the other, and with the point of one wedge overlapping the blunt end of the other wedge, and whereby are produced at opposite ends of the block pairs of projecting lips $l' l'$ and $l'' l''$, and also form opposite pairs of inclined side shoulders, $l^3 l^3$ and $l^4 l^4$, and the opposite ends of the block are concaved at $l^5 l^5$, respectively, to fit snugly against the rounded or bent end or foot c' of the plow-standard C. The inner squared ends of the sweeps J K are adapted to rest against the opposite inclined shoulders $l^3 l^3$ or $l^4 l^4$, according to which end of the block L is presented to the plow-standard C, and as presently explained. When the block L is set with its end l^5 and lips $l' l'$ next the foot of the standard C, and as shown in Fig. 6 of the drawings, the lips $l' l'$ will lie flat to the mold-board G, and the rear corners or parts of the sweeps J K will rest on the lower faces of the

lips, and the inner squarely-cut ends of the sweeps will abut the opposite shoulders $l^3 l^3$ of the block, and the sweeps will be held to the mold-board by their respective bolts M N, so as to cause the sweeps to lie quite flat or to present less face vertically to the soil, and also to stand more nearly at right angles to the line of draft to make a shallower but broader cut in the soil than when the sweeps are adjusted as in Fig. 7, which shows the block L turned the other end foremost, or with its concaved end l^5 and lips $l' l'$ next the foot of the plow-standard C, and the inner ends of the sweeps abutting the shoulders $l^4 l^4$ of the block. In this case the inner rear corners of the sweeps lie flat against the mold-board G, and the block-lips $l' l'$ overlap the sweeps. The angle of the shoulders l^4 is a little less than that of the shoulders l^3 , whereby, when the sweeps abut these shoulders and are bolted flat to the mold-board, the sweeps will stand straighter and will present vertically a broader acting face to the soil, and will slant backward more toward their rear ends to make a narrower cut in the soil than when they are adjusted upon the lips l' and against the shoulders l^3 , as hereinbefore described.

It will be seen that the shoulders $l^3 l^4$ of the block may be given the same or any relatively different angles to cause the sweeps to stand at any two preferred angles with the line of draft, while allowing the sweeps to be set either lower or higher at their rear upper edges to operate most effectively in the soil as the best growth of any particular crop may require, and the sweeps have squarely or straight cut inner ends, promoting easy and cheap manufacture of them. Furthermore, the fit of the sweeps against the block and the fit of the block against the plow-standard provides for reception of the strain of both the block and sweeps directly onto the foot of the standard, and also materially helps in holding the mold-board to the standard, thereby promoting the strength and durability of the plow.

The plow-handles R R are of the usual pattern, with a cross-stay, v , between them, and are pivoted on a bolt, S, to the plow-beam A, the handles being preferably fitted with metal plates or washers s , through which the pivot-bolt passes. To and between the handles R R, next the beam A, a block, T, is pivoted on a bolt, U, which is fitted eccentrically in the block or in such position that the four faces of the block adapted to rest on the plow are at different distances from the bolt S, and whereby, when a locking-pin, V, is removed from a hole, v , in the beam, the block T may be turned on the bolt U when the handles are raised on the bolt S to present either of the four faces of the block T to the beam, thus allowing the back ends of the handles to be easily and quickly adjusted higher or lower to suit the stature of the plowman. There are a series of holes, v , in the beam, allowing the pin V to be adjusted closely at the front of the block T, to prevent forward swinging of the handles

when the plow is to be raised by lifting on them, however the block T and the handles may be adjusted. The handles are shown in two of the four possible adjustments in Figs. 3 and 4, respectively, of the drawings.

The pin V is formed preferably as a wrench fitting the nuts of the fastening-bolts used in the implement for convenience in adjusting its parts, as hereinbefore described.

The mold-board G is provided with an extra hole, *h*, to receive the bolt H, thus allowing the mold-board to be reversed when one end or point is worn out.

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

1. The combination, with a plow-beam provided with a downwardly-projecting plate, of a plow-standard pivoted to the said plate, and an eccentrically-apertured block secured to the rear end of the standard and engaging the rear edge of the said plate, substantially as herein shown and described.

2. The combination, with a plow-beam provided with the downwardly-projecting plate B, and the plate O, secured to the beam in rear of the plate B, of the standard C, pivoted to the plate B, and the eccentrically-apertured block F, secured to the standard and provided with the notches 1 2 3 4, and the laterally-

projecting lug *f*², substantially as herein shown and described.

3. The eccentrically-apertured block F, having a series of notches, 1 2 3 4, of varying depths, and provided with the laterally-projecting lug *f*², substantially as described.

4. The combination, with the mold-board, of a block adjustably secured to the mold-board and having two wedge-shaped face portions with the point of one overlapping the blunt end of the other, and sweeps secured to the mold-board and having their inner ends engaging the said block, substantially as herein shown and described.

5. A sweep-adjusting block having two wedge-shaped face portions with the point of one overlapping the blunt end of the other and provided with the slot *l*, substantially as described.

6. The slotted block L, having two wedge-shaped face-portions with the point of one overlapping the blunt end of the other, the blunt ends of the wedge-shaped faces being concave, substantially as herein shown and described.

THOMAS A. BLANCHARD.

Witnesses:

GEORGE D. DARSEY,
A. S. HARDIN.