2 Sheets—Sheet 1.

J. B. CRENSHAW.

Plow.

No. 221,034. Patented Oct. 28, 1879.

Fig. 1.

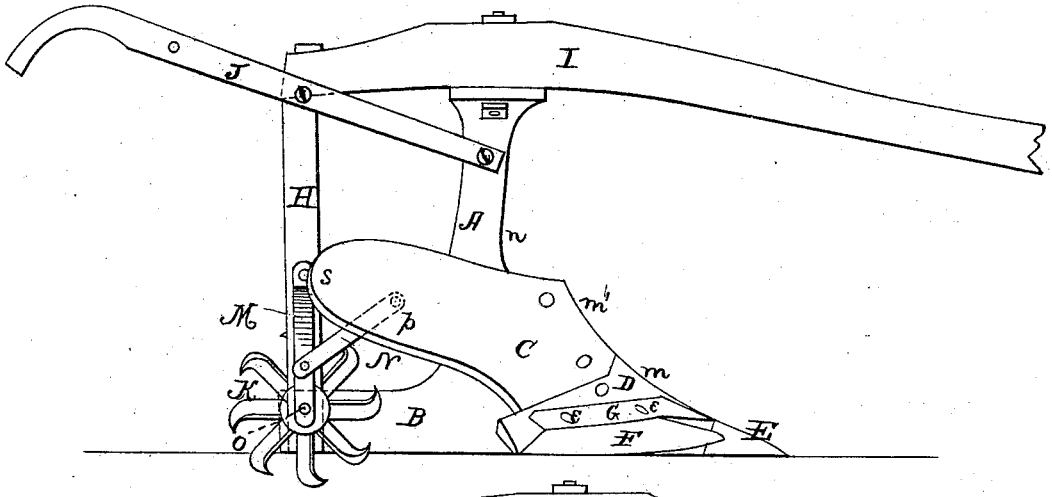


Fig. 2.

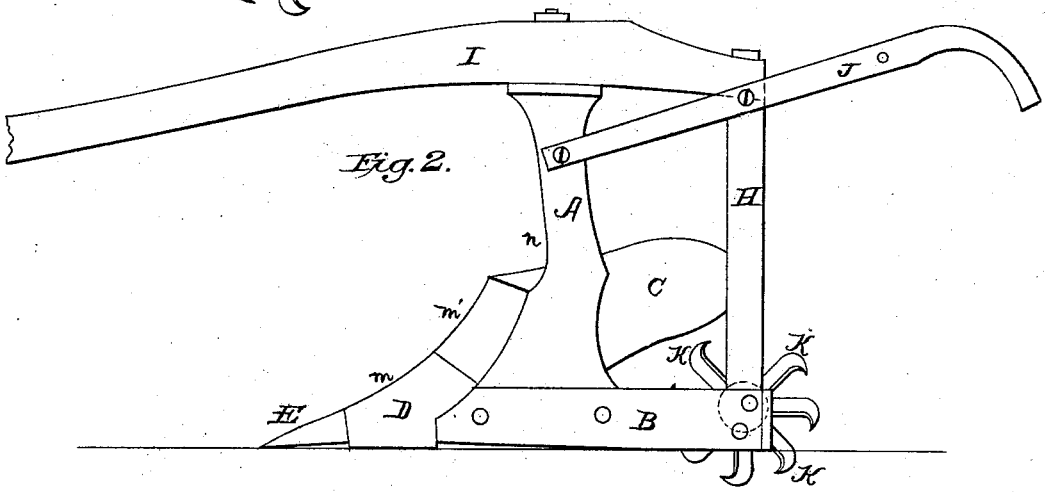
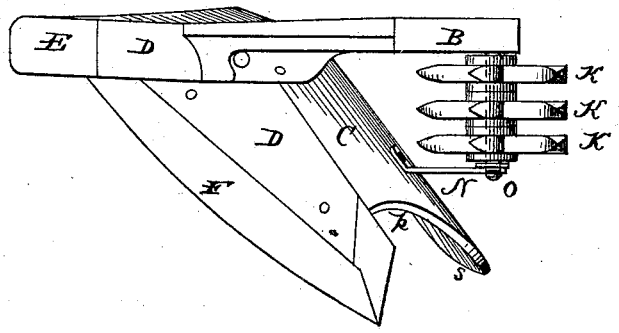


Fig. 3.



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2 Sheets—Sheet 2.

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Plow.

No. 221,034. Patented Oct. 28, 1879.

Fig. 4.

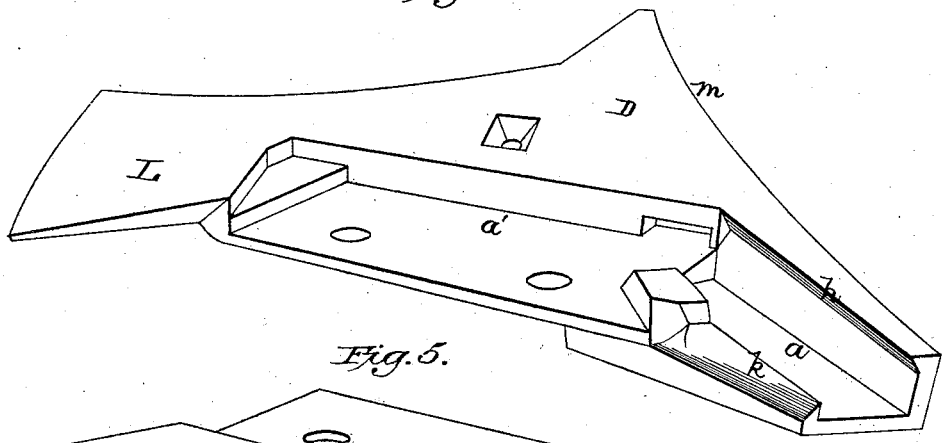


Fig. 5.

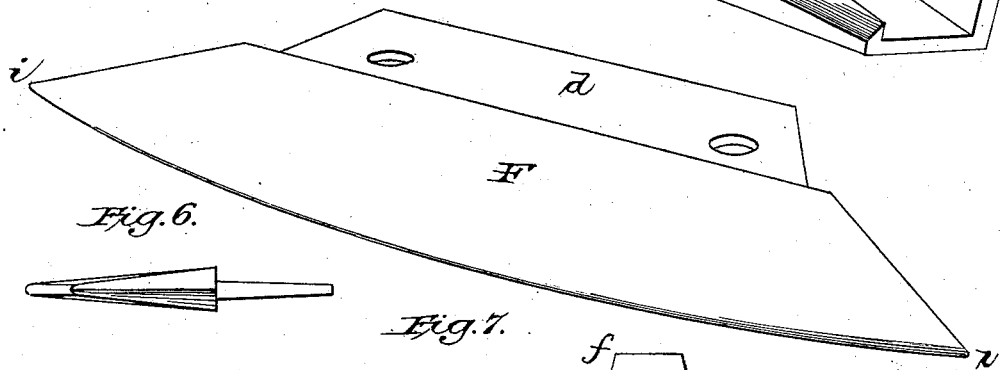


Fig. 6.

Fig. 7.

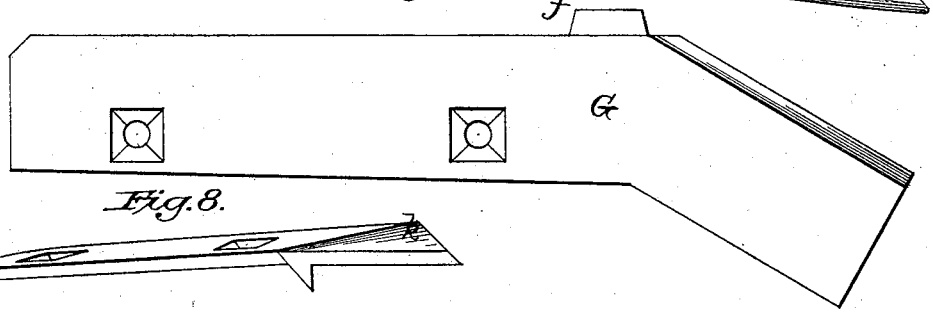
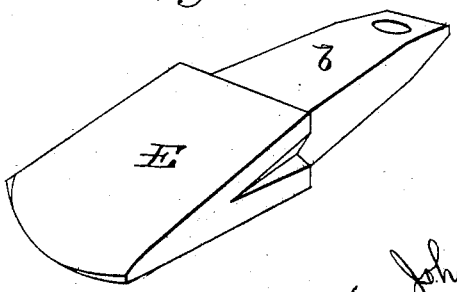


Fig. 8.

Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN B. CRENSHAW, OF RICHMOND, VIRGINIA.

IMPROVEMENT IN PLOWS.

Specification forming part of Letters Patent No. **221,034**, dated October 28, 1879; application filed August 25, 1879.

To all whom it may concern:

Be it known that I, JOHN BACON CRENSHAW, of Richmond, in the county of Henrico, and in the State of Virginia, have invented certain new and useful Improvements in Plows; and I 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.

My invention consists in the construction of a plow, the peculiarities of which will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a side elevation from the mold-board side of a plow embodying my invention. Fig. 2 is a side elevation of the same from the opposite side. Fig. 3 is a bottom view thereof. Figs. 4 to 9 are detailed views of parts of the plow.

A is the main standard. B is the land-side. C is the mold-board. D is the socket-piece, containing the reversible point E and reversible share F. G is a cap for holding point and share in place. H is a rear or auxiliary standard. I is the plow-beam. J J are the handles. K K are rotating toothed diggers.

The land-side B, mold-board C, and socket-piece D are all fastened to the main standard A. The socket-piece D is cast at the front with a recess, *a*, in which is placed the shank *b* of the reversible point E. The recess *a* is extended rearward, as shown at *a'*, to receive the elongated tongue *d* of the reversible share F. The cap or cap-piece G is constructed to fit over the tongue *d* and shank *b*, and make a continuous smooth surface, the cap being fastened by two bolts, *e e*.

Near the angle or bend in the cap G there projects from its upper edge, on the under side, a tongue, *f*, which enters a corresponding recess or cavity made in the socket-piece. This, in connection with the beveled ledge *h* of the socket-piece, which comes over the edge of the cap, holds the cap in place, and causes the cap to bear sufficiently hard on the shank of the point to hold the same in place while working. The share F is also reversible and made on a curve, with its ends inclined, as shown, forming points *i i*. It is so arranged that it bears flatly from the center to the heel or rear end, which gives perfect steadiness to the plow, while from the center to the front end it is gradually raised, so that the point of the share will be in the longitudinal center of the point E, and this arrangement sets the share at such an angle to the land that it will readily enter the hardest surface. At the front edge of the share the socket-piece and cap form a V-shaped groove, as shown at *k*, for said front edge of share to fit in, the extreme point of the share fitting in a similar groove in the side of the point E.

The rear edge of the share is protected by means of a shield, L, formed at the rear of the socket-piece, which gives an additional bearing thereto and imparts additional strength. The shield L prevents any wear of the rear part of the share, so that when the share is reversed and the heel becomes the point, no grass can come in at the front.

The socket-piece with reversible share and reversible point may be applied to any plow.

The land-side B is of unusual length, and attached to the standard A at an angle of about five degrees, its upper part leaning over. The top edge of the socket-piece overhangs the side and bottom of the land-side and forms a cutting-edge, *m*.

The upper part of the main standard A is dropped back from the land-side, as shown at *n*, to cause a center draft and form an enlarged throat to prevent choking.

The mold-board C passes at a continuous gentle angle, and projects or overhangs on the land-side, to form a cutting-edge, *m'*, in continuation of the cutter *m* of the socket-piece.

It will also be noticed that the point, front part of socket-piece, and land-side are not on a straight line, but a portion of the point and the heel of land-side are on a line, while the intermediate part is at an angle inward from said line. By this construction of the land-side, socket-piece, and mold-board, the bearing of the plow against the earth will be only about five inches at the point, the continuous cutting-edge *m m'*, and about five inches at the heel, which surfaces are hardened, whereby a cavity is formed between the earth and the body of the plow, admitting a column of air, which passes down along the land-side, and counterbalances the pressure on the mold-

board, resulting in less friction and consequent ease of draft.

The face of the mold-board is on a right line from the cutting-edge *m'* for about two-thirds its distance, while the remaining one-third is dropped down at a decided angle, as shown at *p*, causing the sod to drop enough to break to pieces and pulverize.

The end of the top of the mold-board hangs over in front, as shown at *s*, which turns the sod over and drops it at a different angle, causing increased pulverization. By this peculiar construction of the mold-board, land worked with this plow will present the appearance almost as if it had been raked.

The auxiliary standard H is attached to the rear end of the land-side B, and its upper end is formed with a V-shaped opening, as shown, and in the top is a lateral slot, on which the rear end of the plow-beam I is adjusted, the said beam being pivoted on top of the main standard.

The handles J J have their front ends fastened directly to the sides of the main standard at or near the top, and, extending backward, are attached near the top to the sides of the rear standard, H, as shown, whereby the operator obtains a perfect control of the plow by having the leverage acting directly on the center of the plow. The handles are adjustable up and down on the rear standard to accommodate the height of the plowman.

To the inner side of the rear standard, H, is attached a bar or brace, M, which extends inward and downward, and has another brace, N, connecting it with the back of the mold-board. In the lower end of the brace M and rear end of land-side B a shaft, O, has its bearings, upon which shaft are placed the rotating toothed diggers K K. These are constructed substantially as shown, each digger consisting of a hub with a series of radial curved arms, forming plows or teeth, at their ends, said teeth being beveled so as to come out of the ground with a sharp edge first, and then spread toward both sides. The diggers K K are intended to run about five or six inches deeper than the plow itself, for subsoiling and pulverizing the earth to that depth, and this, by practical experiments, has been found does not increase the draft to any appreciable extent, evidently for the reason that the upward bearing of the diggers counteracts the downward pressure of the earth upon the mold-board. These diggers are easily removable, and are only intended for use in clean land.

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

1. The socket-piece D, formed with the open recesses *a a'*, to receive the shank of the point and the tongue of the share, in combination with the cap G, having a projecting tongue, *f*, to enter a cavity in the socket-piece, substantially as set forth.

2. The socket-piece D, formed with the recesses *a a'* and the beveled ledge *h*, to overlap the upper edge of the cap G, for the purposes set forth.

3. The reversible share F, constructed with a curved cutting-edge, and with its ends inclined, forming the points *i i*, and with the central tongue, *d*, extending nearly the entire length, in combination with the socket-piece D, point E, and cap G, substantially as and for the purposes set forth.

4. The socket-piece D, with the shield L formed at its rear end to protect the rear edge of the share, for the purposes set forth.

5. The rotating diggers K, consisting of radial curved arms having bevel-edged teeth and mounted on a shaft in rear of a plow, in combination with braces M and N, for sustaining the same in position, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of August, 1879.

JOHN B. CRENSHAW.

Witnesses:
C. L. EVERT,
H. J. ENNIS.