G. C. AVERY.
Plow-Standard.

No. 218,417. Patented Aug. 12, 1879.

Fig 1.

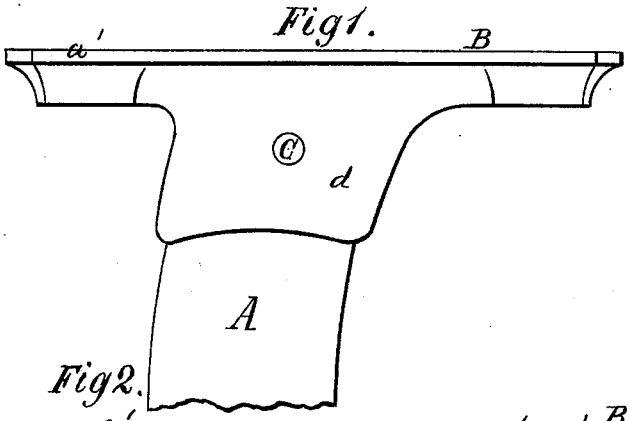



Fig 2.

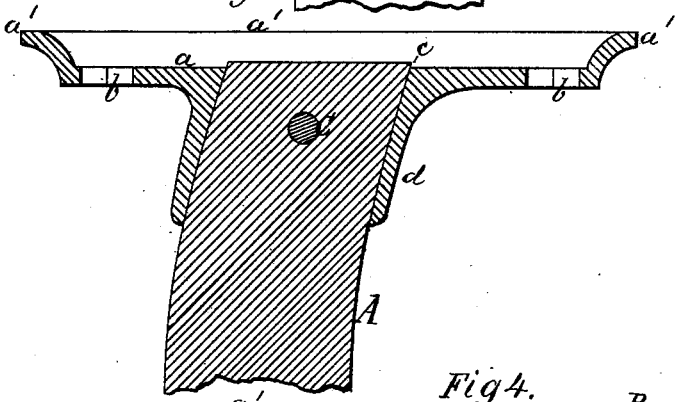



Fig 3.

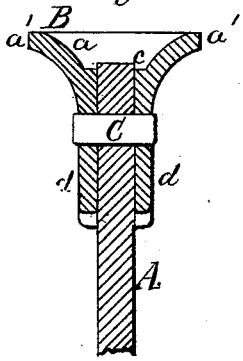



Fig 4.

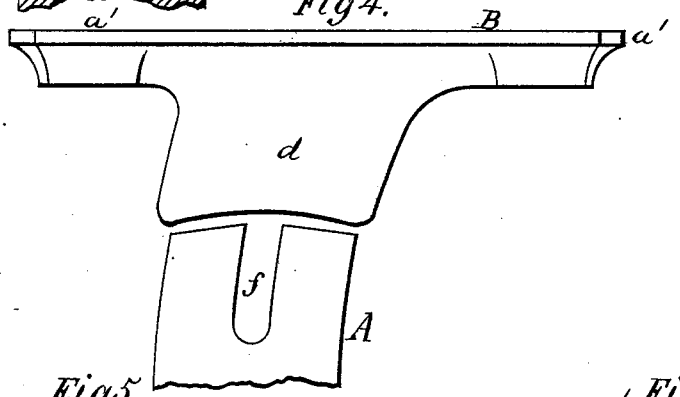



Fig 5.

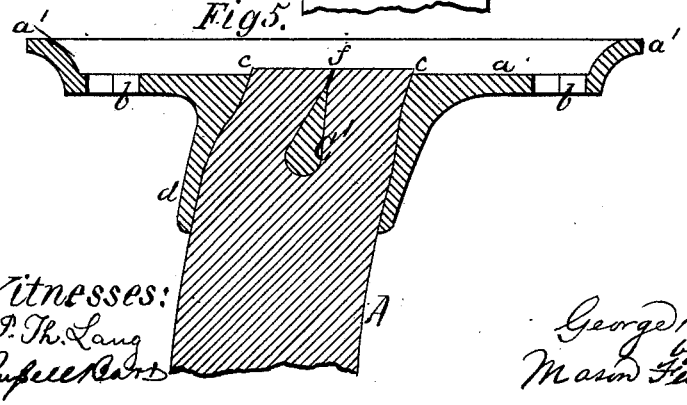
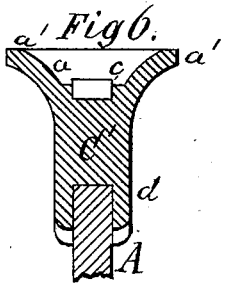



Fig 6.




Witnesses:
J. P. Th. Lang
J. Rupert Ards

Inventor:
George C. Avery
by Mason Fenwick & Lawrence

# UNITED STATES PATENT OFFICE.

GEORGE C. AVERY, OF LOUISVILLE, KENTUCKY.

## IMPROVEMENT IN PLOW-STANDARDS.

Specification forming part of Letters Patent No. **218,417**, dated August 12, 1879; application filed May 9, 1879.

*To all whom it may concern:*

Be it known that I, GEORGE C. AVERY, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Plow-Standard Cap; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my improved plow-standard cap, showing a standard inserted and secured in the same. Fig. 2 is a vertical central longitudinal section of the same, and Fig. 3 a vertical transverse section of the same. Figs. 4, 5, and 6 are views corresponding to the figures already described, showing a modification of the means for fastening the cap and standard together.

The nature of my invention consists, first, in the combination, with a plow-standard terminated below the beam, as hereinafter described, of a plow-standard cap consisting of a concave bolting-plate and a tubular support or extension, which is provided with a passage through it for the standard, said passage extending from the bottom of the extension to the top surface of the concave plate, the concavity of the plate forming an extension upward and outward of the passage of the tubular support or extension, whereby an improved cap of great strength and decreased weight is produced, and into the tubular and concave portion thereof the upper end of the plow-standard can be introduced, so that its uppermost portion stands even with or a little above the upper side of the concave portion of the plate, and thus the strain upon the lower end of the standard is brought upon the cap at the angles or points where the tubular extension unites internally with the bolting-plate, or on a plane with the upper surface of the concave portion of the bolting-plate, at which points the cap is the strongest and least liable to break when strained. The plate thus constructed is also capable of fitting firmly, by its narrow edge, to the under side of the beam, and there is no necessity for perforating the beam or cutting a recess in its under side to admit the upper end of the plow-standard; and while this is so a fastening-pin or other device for holding the standard from downward or upward movement can be inserted or applied below the bolting-plate, and when the pin is so employed the strain upon it will be relieved by the bearing of the upper portion of the standard upon the highest corners of the tubular portion of the cap.

My invention consists, second, in providing the tubular portion of the plow-standard cap with a passage through it, which is contracted upwardly, and with a fastening device; and, third, in the combination, with said cap, of a plow-standard which is slotted or forked at its upper end, whereby when the forked end of the standard is driven up into the tubular part of the cap the prongs of the said forked end will be caused to close around the said fastening device in a manner to firmly unite the standard and cap to each other, and prevent the standard rising or descending in the tubular portion of the cap when the plow is put into use.

A in the drawings represents the plow-standard, and B the cap, provided with a concavity, *a*, on its top surface, slot *c*, bolting-flanges *b*, narrow bearing-edges *a'*, and a tubular socket or supporting-extension, *d*, as shown.

The standard A is inserted into the tubular support far enough to bring its upper end on a line with or a little above the bottom of the concavity *a*, and is fastened in place by a pin, C, which is either secured by riveting, or by means of screw-threads, or screw-threads and nuts. Thus constructed and united together, the cap B and standard A are bolted to the under side of the plow-beam, the flange *a'* making a close fit and neat finish.

Another plan of uniting the cap B and standard together is shown by Figs. 4, 5, and 6, whereby the pin C (shown in the other figures) is substituted by a stationary fastening, C', cast upon the cap B.

It will be seen that the upper portion of the passage through which the standard A is inserted in order to connect it to the cap B is contracted in length with respect to the lower portion thereof, the contraction being in a gradual manner from near the bottom to the top of the passage, as shown in the drawings.

The stationary fastening C' is in form of a wedge with semicircular back, and it unites

the two longitudinal sides of the tubular support *d* in the operation of casting the cap, as will be seen in Fig. 6. The upper end of the plow-standard has a long slot, *f*, formed in it, and this slot permits the standard to be inserted into the tubular support, notwithstanding the obstruction offered by the fastening C′. In driving up the standard from the position shown in Fig. 4 to the position shown in Figs. 5 and 6, the curved or inclined sides of the support *d* crowd the separated portions of the standard together, and cause them to close snugly around the stationary fastening of the cap, and thus the standard and cap are firmly united without the use of a removable or separate pin.

The improved cap, as shown in all the figures, enables me to apply the uniting-fastening C below the bottom plate of the cap, and avoids the inconvenient and insecure mode of riveting above the cap, and besides this the long and strong tubular support renders the plow to which the cap is applied very durable and firm, for it is hardly probable that the standard will break or become deflected between the beam and lower end when supported, as herein shown, for so great a distance below the beam.

It is important to have the fastening C or its equivalent as low down on the standard as possible, in order not to subject it to the great leverage which is exerted by the standard when in use, and as the ordinary plate which is used with plow-standards does not admit of the fastening being applied below its surface there is great inconvenience experienced from the breaking away of the parts at the points where the rivet-connections between the plate and cap are made.

In the use of the improved plow-standard cap described various methods of fastening the standard and cap together may be devised and employed, and therefore I do not confine myself to any special mode of constructing or applying the fastenings C and C′, intending to secure to myself under this patent the exclusive use of the concave cap with a tubular support, *d*, irrespective of the particular mode of fastening the standard after it is inserted into the cap.

In the operation of uniting the forked standard to the fastening C′ of the cap, the standard is heated before it is inserted into the tubular extension *d*, and then driven home.

What I claim is—

1. The cap B, concave at *a* on its upper surface, and provided with a hollow extension, *d*, in combination with the plow-standard A and a suitable fastening device, substantially as shown and described.

2. The plow-standard slotted or forked at its upper end, in combination with a standard-cap, B, having a tubular support or extension, *d*, and a fastening device, as at C′, substantially as and for the purpose herein described.

3. The plow-standard cap B, provided with a tubular extension or support, *d*, having an upwardly-contracted passage, and a fastening, C′, substantially as and for the purpose described.

Witness my hand in the matter of my application for a patent on an improved plow-standard cap this 29th day of April, A. D. 1879.

GEORGE C. AVERY.

Witnesses:
I. F. MUNSON,
H. W. HALL.