W. LOUDEN.

CULTIVATOR.

No. 177,258. Patented May 9, 1876

Fig. 1

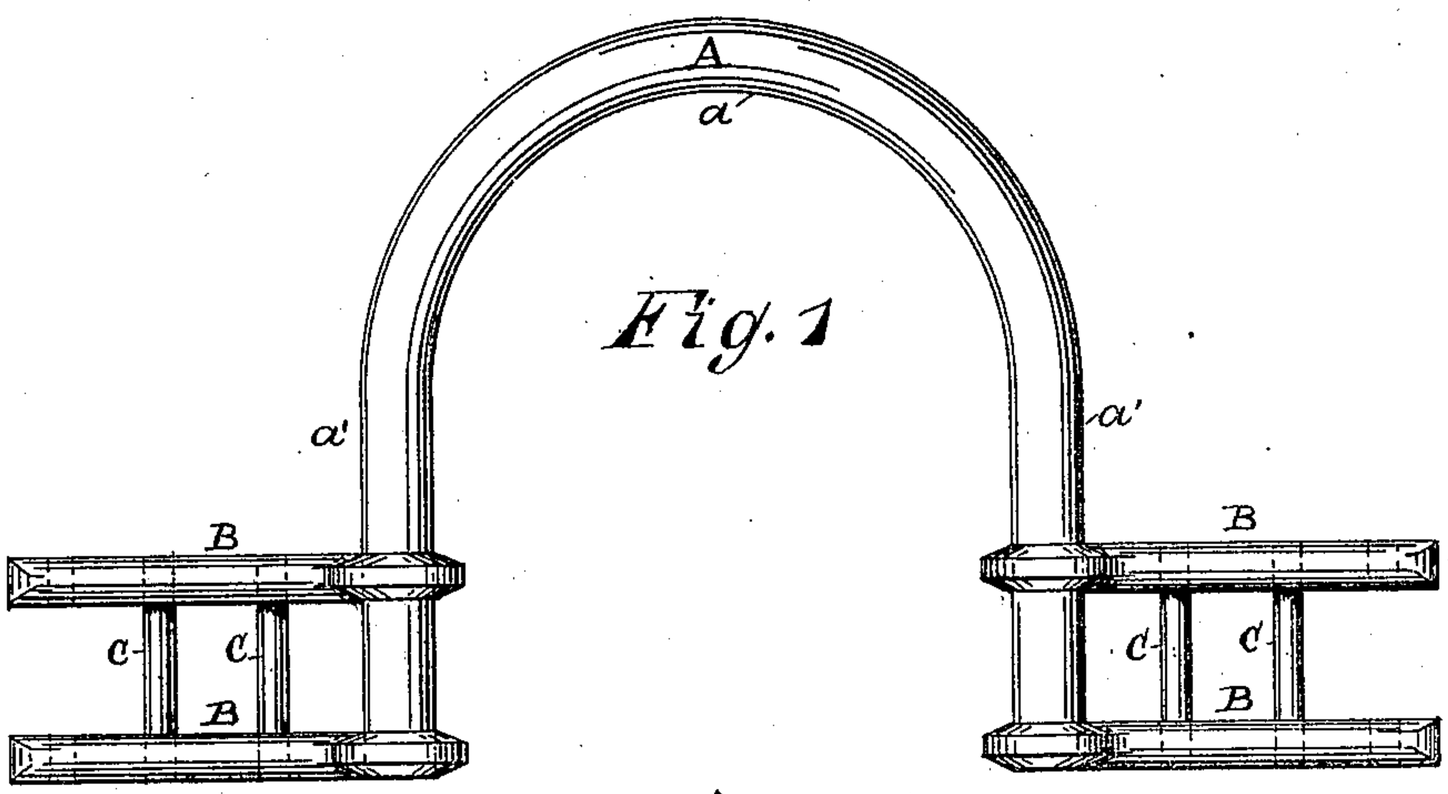


Fig. 2

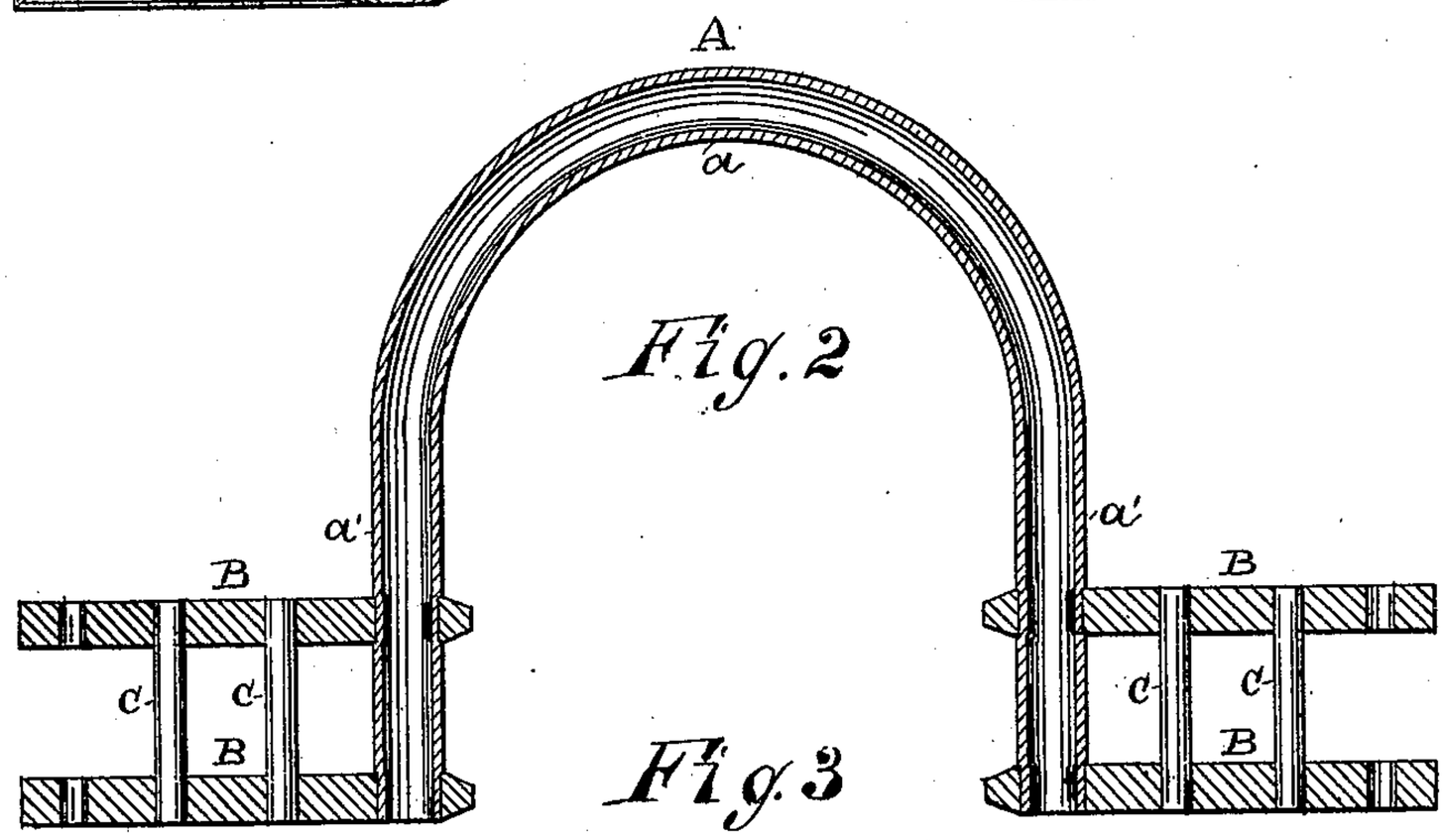
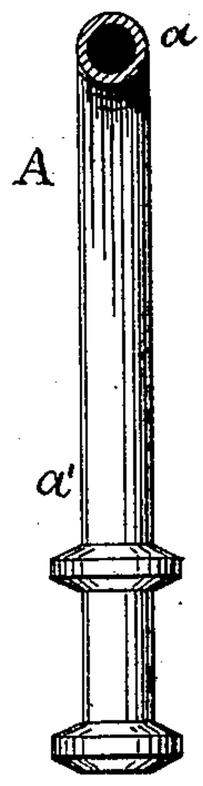


Fig. 3



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UNITED STATES PATENT OFFICE.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **177,258**, dated May 9, 1876; application filed February 2, 1876.

To all whom it may concern:

Be it known that I, WILLIAM LOUDEN, of Fairfield, county of Jefferson and State of Iowa, have invented certain new and useful Improvements in Cultivators, of which the following is a full, clear, and exact description, and such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the annexed drawing, making a part of this specification, and in which—

Figure 1 is an elevation of a cultivator-axle embodying my invention. Fig. 2 is a longitudinal sectional view, and Fig. 3 a transverse sectional view on the line *x x* in Fig. 1.

The nature of my invention relates to improvements in the construction of axles for what is known generally as straddle-row cultivators; and the invention consists in making the arch, or central and main part, of the axle, of tubular wrought-iron, and in the manner of securing the cast iron parts thereto, for the plows and wheels, all as hereinafter fully described.

Referring to the parts by letters, A represents the arch, or central portion of the axle, consisting of an elevated central portion, *a*, and vertical side portions *a'*. The arch A is constructed of tubular wrought-iron, (gas-pipe of one and one-fourth inch to two inches diameter is a very suitable article,) and is bent or curved as shown. The arch A is then placed in the molder's flask, and the plates B B cast thereon, and with their ends encircling the pipe A. The walls of the pipe A being light, the heated metal of B will partly fuse it, and produce a secure union of the parts, which may, however, be strengthened by roughening the surface of the pipe A where the metal B incloses it. C C are the journals, to which the cultivator-plows are connected.

Heretofore these arched cultivator-axles have been made of cast-iron, solid wrought-iron, and wood. The cast-iron is found liable to breakage, the solid wrought-iron too heavy, if made stiff enough, and the wood expensive, &c. When the arch is made of tubular iron the axle may be light, and still rigid, and the thinness of the metal, from being easily heated, facilitates welding the other parts thereto.

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

The axle or beam-yoke of a straddle-row cultivator, constructed as described, with its arched central portion A made of tubular iron, and the side portions B B attached rigidly or cast thereon, in manner substantially as and for the purpose specified.

WILLIAM LOUDEN.

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