

(No Model.)

2 Sheets--Sheet 1.

G. W. BROWN & S. G. HOLYOKE.
Machine for Tempering Cultivator Teeth or Shovels.

No. 232,112.

Patented Sept. 14, 1880.

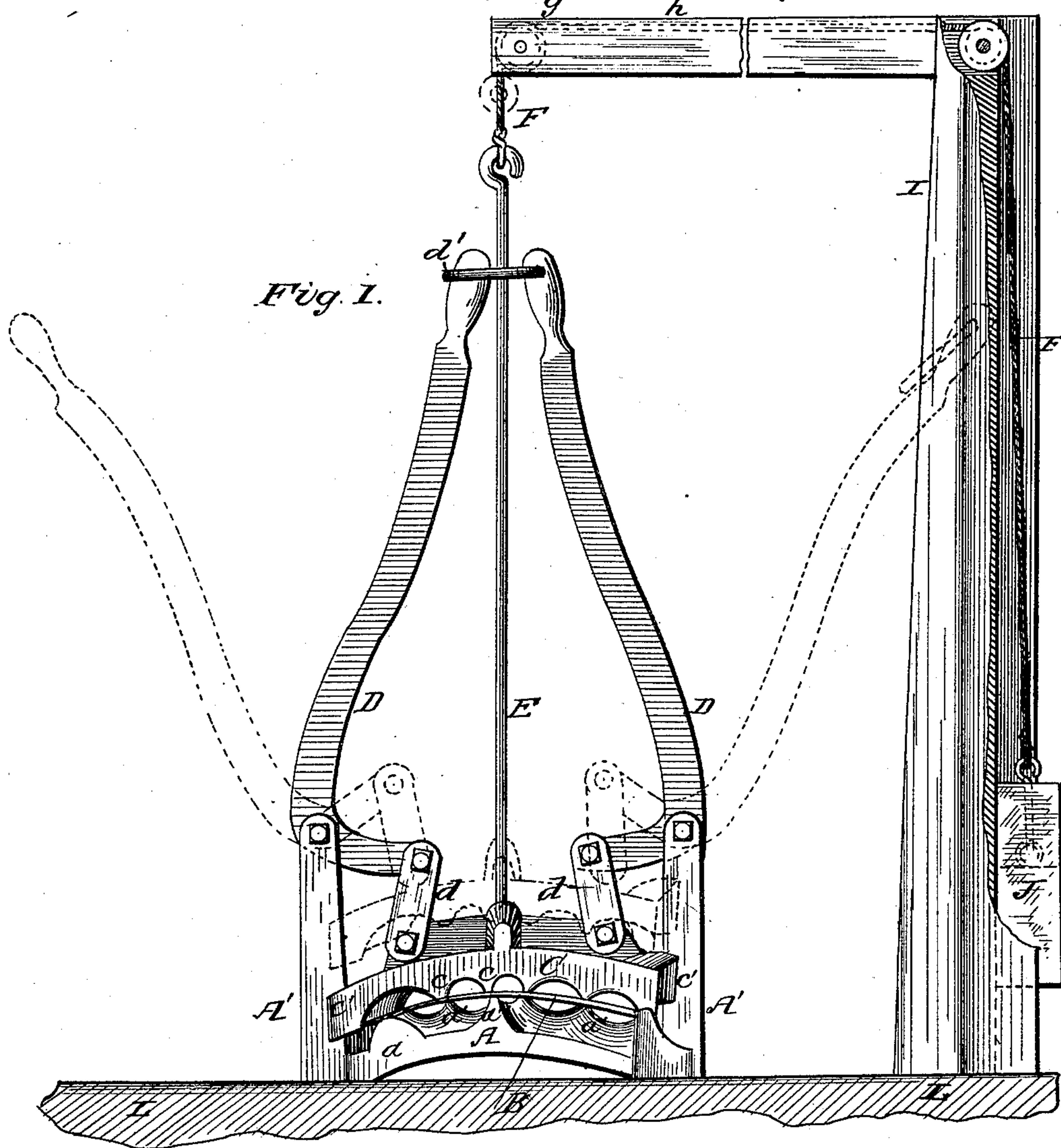
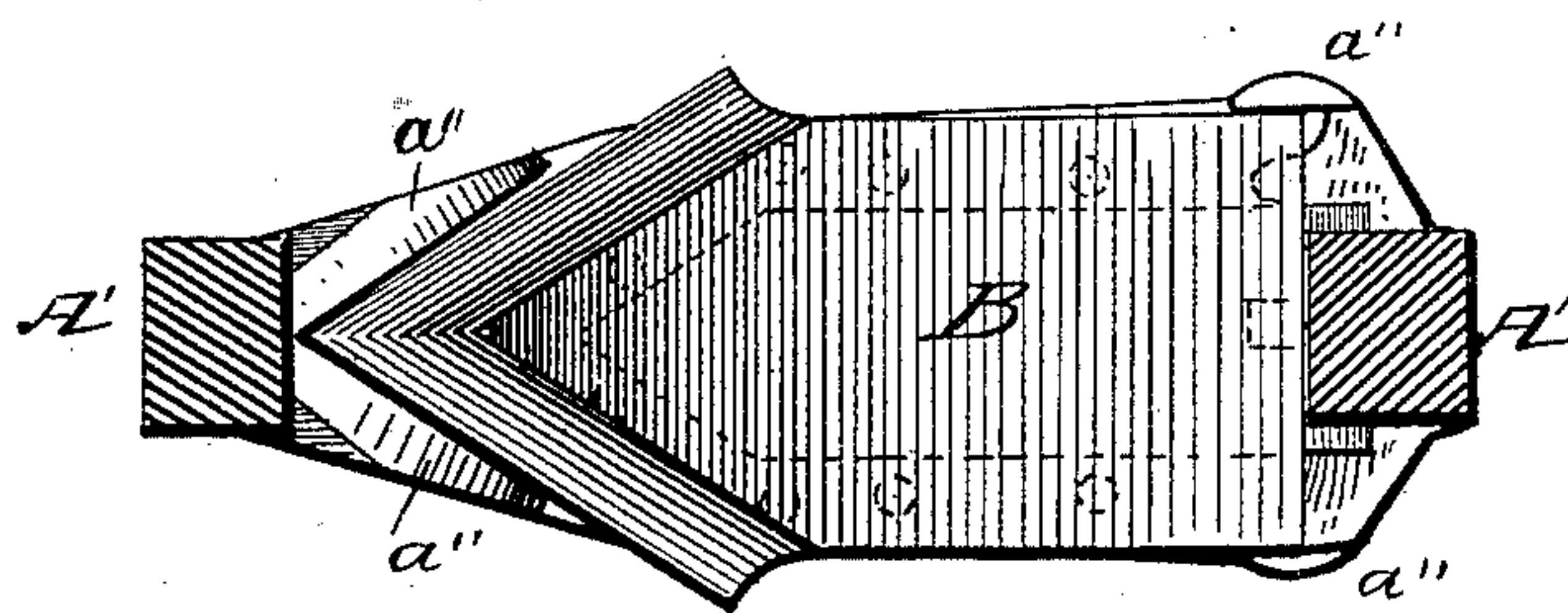


Fig. 5.



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Fig. 2.

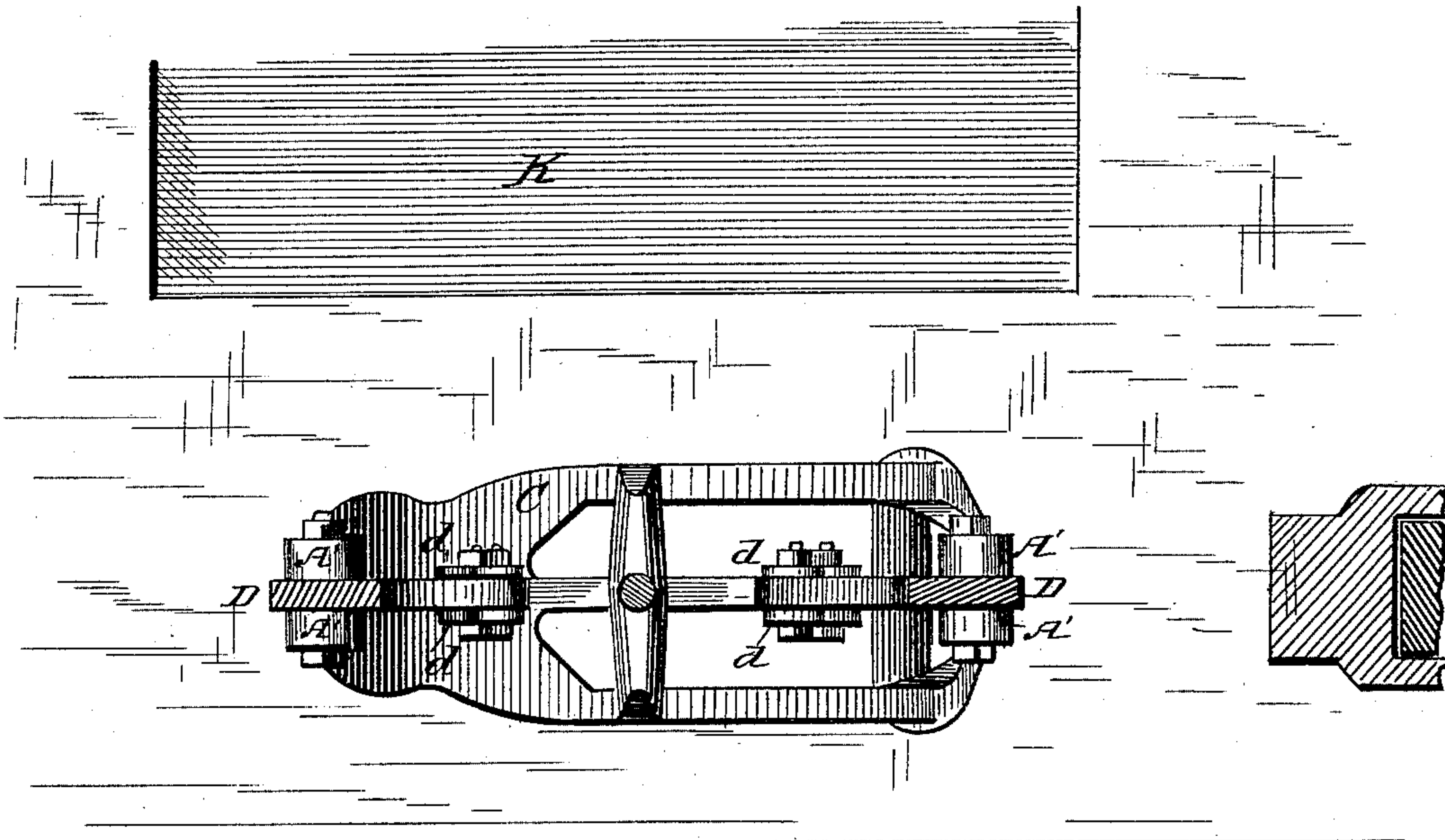


Fig. 3.

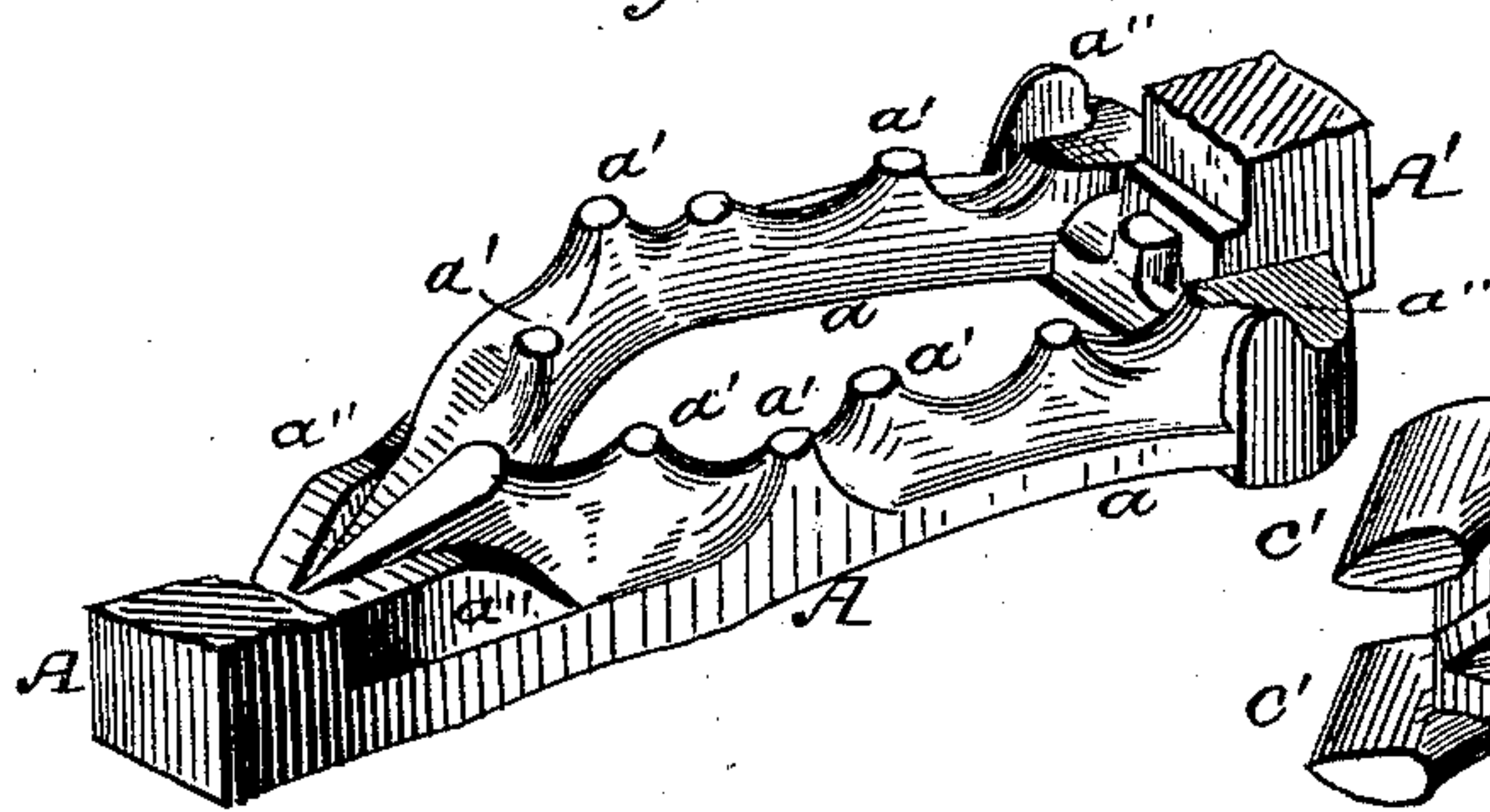
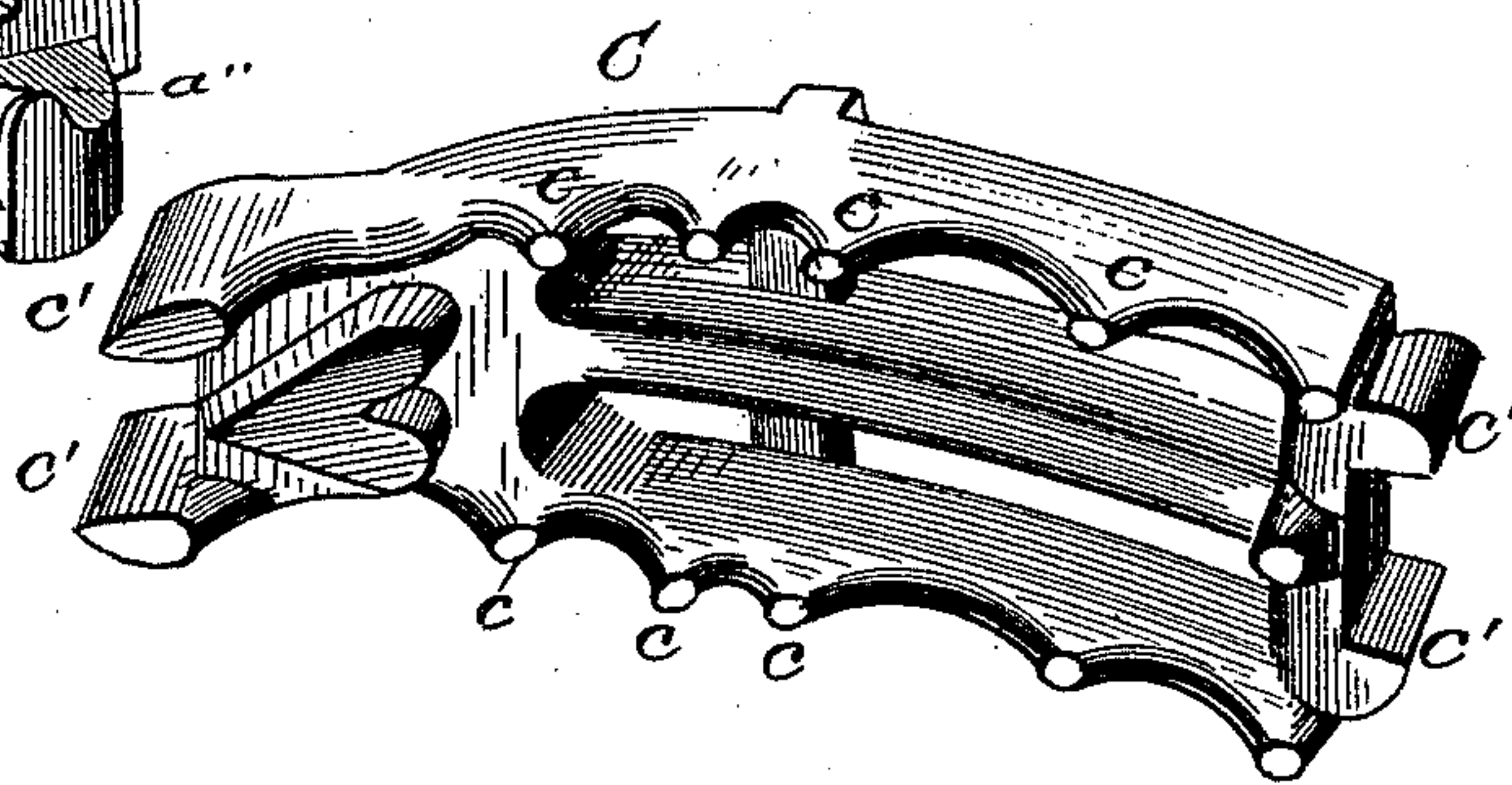


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE W. BROWN AND SAMUEL G. HOLYOKE, OF GALESBURG, ILLINOIS;
SAID HOLYOKE ASSIGNOR TO SAID BROWN.

MACHINE FOR TEMPERING CULTIVATOR TEETH OR SHOVELS.

SPECIFICATION forming part of Letters Patent No. 232,112, dated September 14, 1880.

Application filed July 15, 1880. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. BROWN and SAMUEL G. HOLYOKE, citizens of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Machines for Tempering Cultivator Shovels or Teeth; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification, in which—

Figure 1 is a side elevation of a construction embodying our invention. Fig. 2 is a horizontal sectional plan in the line $x x$ in Fig. 1. Fig. 3 is a perspective of the lower clamping-jaw. Fig. 4 is a perspective of the upper clamping-jaw, shown bottom side upward. Fig. 5 is a top plan of the lower clamping-jaw with a cultivator-shovel in place thereon.

This invention relates to apparatus for tempering cultivator shovels or teeth; and it consists in combinations and constructions hereinafter described, and set forth in the claims hereto annexed.

Referring to the drawings by letter, A represents a bed-block or base, formed of bars $a a$, with upwardly-projecting teeth or points a' , in any desired number, and their upper ends adapted to fit exactly one side of the curved cultivator-shovel B which is to be tempered. Other teeth, a'' , project upwardly from the base A, and serve as guides at the sides of the shovel to aid in placing it correctly on the base A. Standards A' also project upwardly, one from each end of the base A.

C is a sliding head, of open frame-work, with teeth c projecting from its lower side, the ends of which are adapted to fit the upper side of the shovel B when it is placed on the base A. The head C has flanges c' , which fit on the standards A' , and act as guides in raising and lowering the head C.

DD are elbow-levers, pivoted at their angles or bends, one in the upper end of each standard A' , and their shorter ends connected by

links d with the head C. The longer arm of one of the levers D carries a bridle-link, d' , which may be engaged with the other lever-handle when they are approached near to each other.

E is a suspending-rod connected at its lower end to the head C and at its upper end to a cord, F, which runs over pulleys g on an arm h , which projects from a standard, I. J is a counter-weight on the end of the cord F. K is a reservoir of water, to one side of where the head A stands on the platform or floor L.

The operation is as follows: When the base A is standing on the platform L the weight J and cord F will raise the head C from the base A, as shown by dotted lines at Fig. 1, and thus permit of placing the shovel B, which has been previously bent to the desired shape, and which is heated, in proper position on the base A. The upper ends of the lever-handles may then be brought toward each other to lower the head C to the shovel B, as shown by full lines at Fig. 1, and when brought together with sufficient force to hold the shovel firmly suspended between the confronting teeth on the head C and base A the bridle-link d' may be turned over the free lever-handle to secure both levers and the head C. The whole device may then be slightly raised and pushed to one side and over the reservoir of water, into which it may be lowered to cool and temper the shovel, while it is held firmly to prevent bending, buckling, or warping, and held between the teeth of the head C and base A, so that the water can have free access to all of its sides.

When tempered the device may be raised and moved over to the platform L, and the bridle-link turned upward to release the lever-handles, when the head C will be again elevated, as hereinbefore described, for the removal of the tempered shovel and the insertion of another heated ready for tempering or hardening.

We claim as new—

1. In combination with a base, A, and sliding head C, constructed substantially as described, the levers D, pivoted to the standards A' , and connected with the sliding head C by links, whereby the head C may be forced down-

ward to hold the shovel, substantially as and for the purpose specified.

2. In a machine for tempering shovels, the combination of a base, A, sliding head C, levers
5 D, pivoted to the standards A', and connected with the sliding head C by links, whereby the head C may be forced downward to hold the shovel, suspending-rod E, cord F, running over pulleys g, and a counter-weight J, all con-

structed and relatively arranged to operate so substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE W. BROWN.

SAMUEL G. HOLYOKE.

Witnesses:

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J. B. BOGGS.