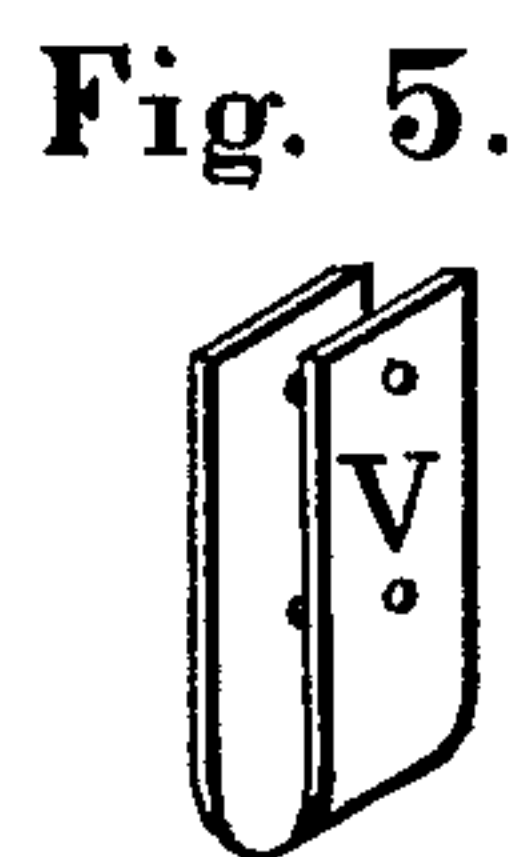
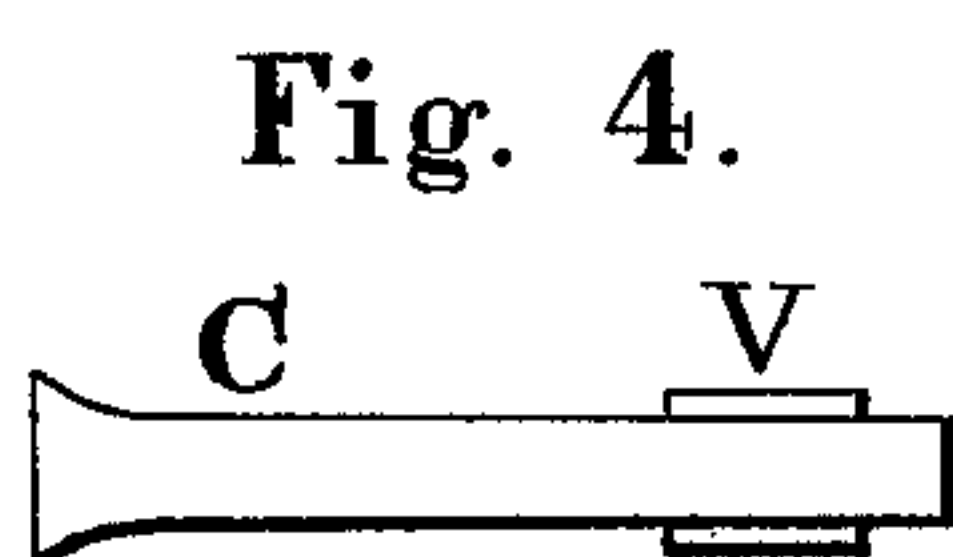
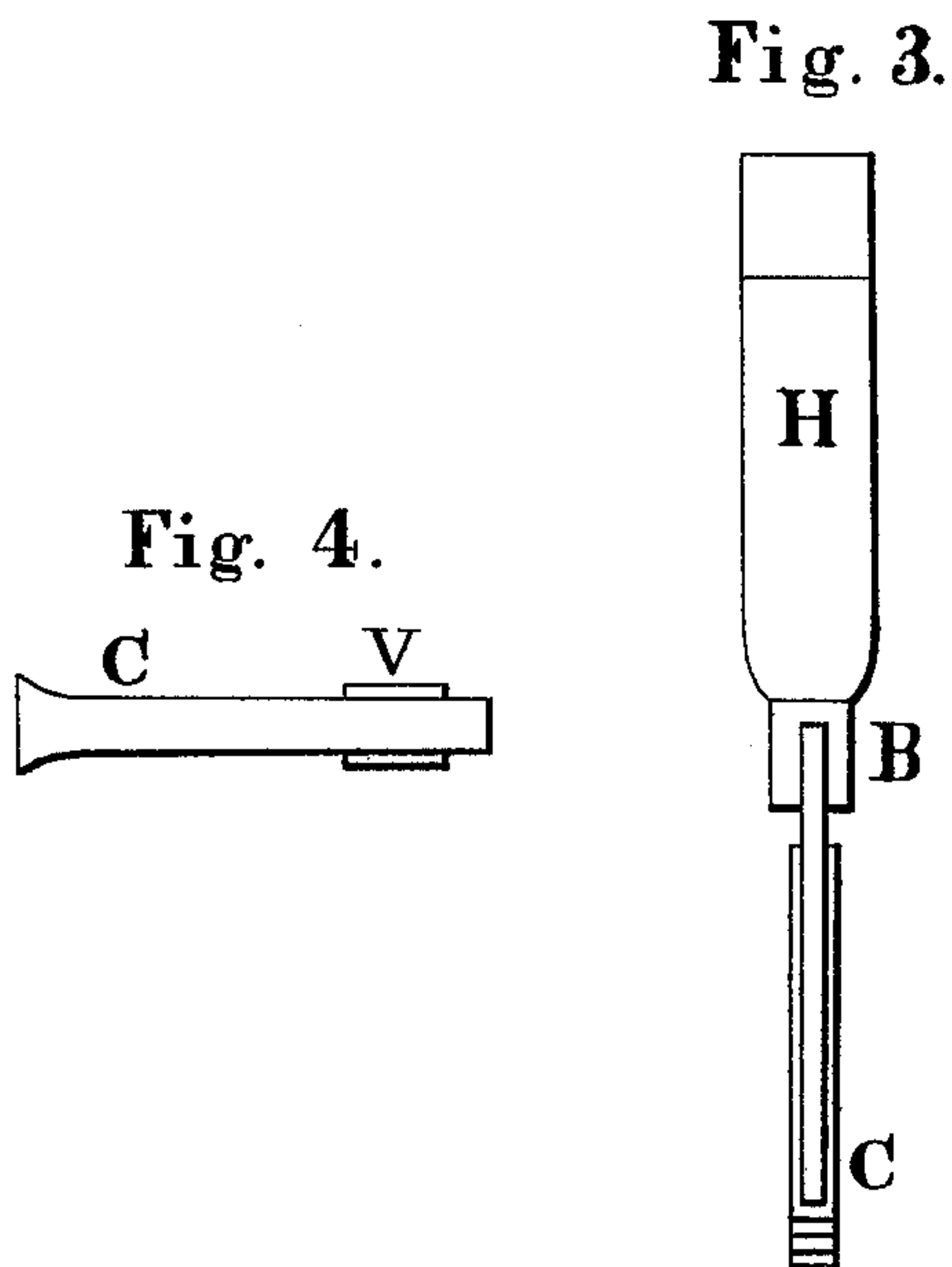
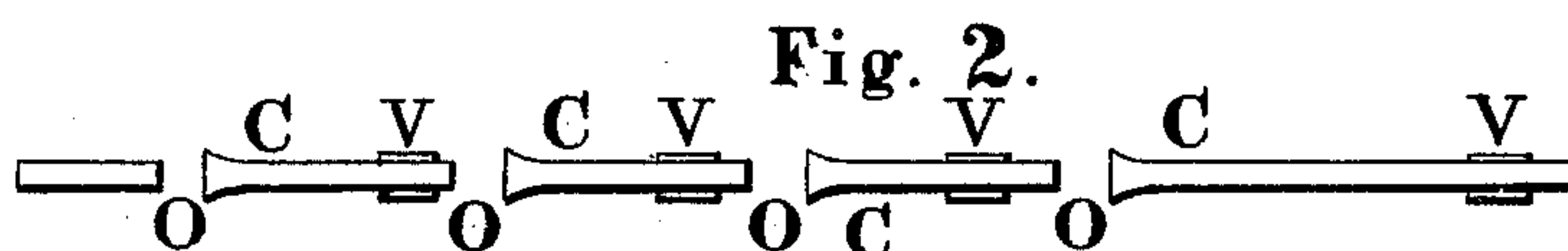
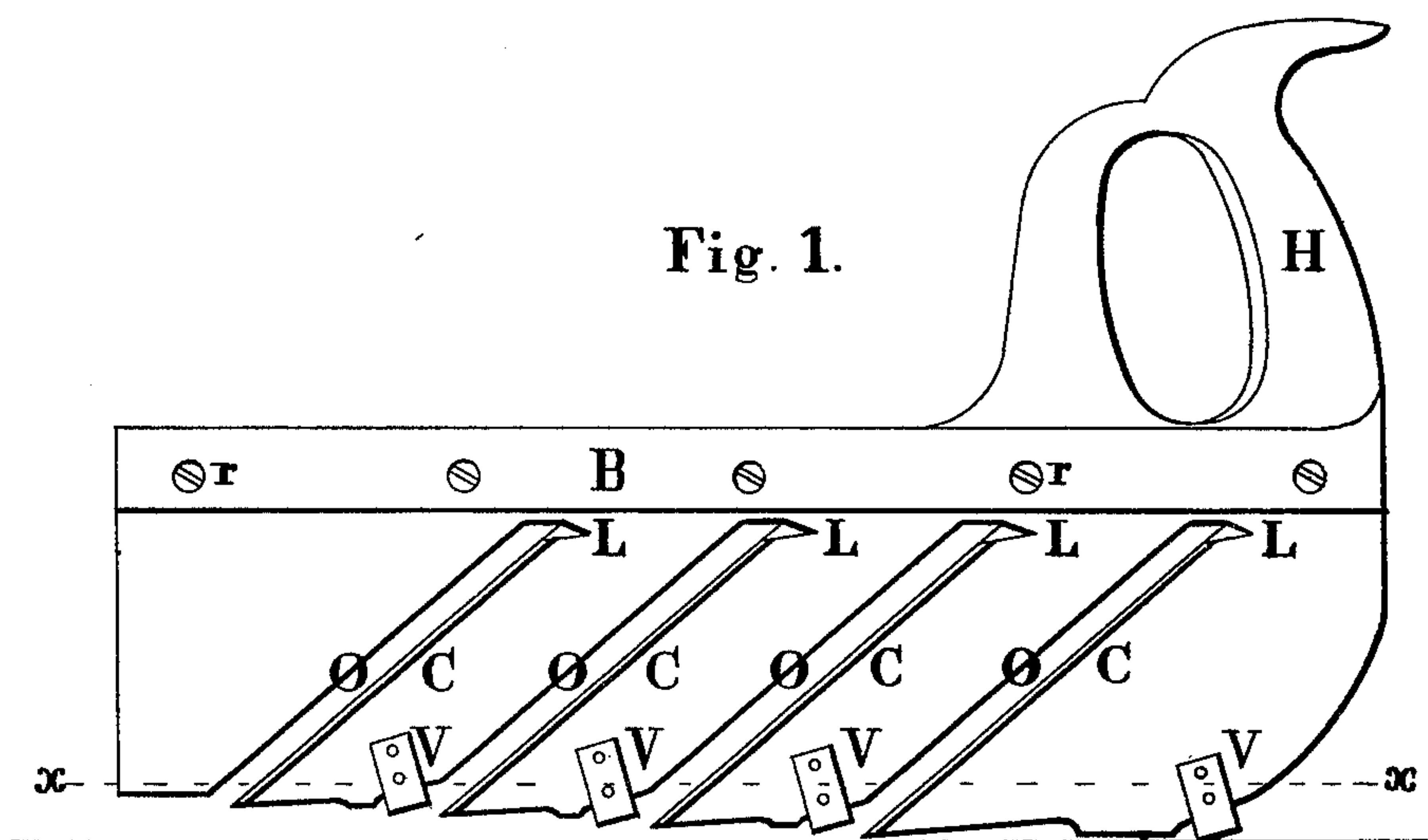


F. STAFFORD.

ICE-TOOLS.

No. 183,077.

Patented Oct. 10, 1876.



Witnesses.

Chas. A. Smith
John G. Nichols

Inventor.

F. Stafford

UNITED STATES PATENT OFFICE.

FRANK STAFFORD, OF BARRE, VERMONT.

IMPROVEMENT IN ICE-TOOLS.

Specification forming part of Letters Patent No. **183,077**, dated October 10, 1876; application filed August 7, 1875.

To all whom it may concern:

Be it known that I, FRANK STAFFORD, of Barre, in the county of Washington and State of Vermont, have invented an Improved Ice-Tool, of which the following is a specification:

The object of this invention is to furnish a tool by which cakes of ice can easily be divided into pieces, enabling the user to divide the cakes of ice into even and regular blocks without wasting the ice.

In the accompanying drawings, Figure 1 is a side view of my improved ice-tool. Fig. 2 is a sectional view, taken on the line *xx*. Fig. 3 is an end view of same. Fig. 4 is a sectional view of one of the cutters drawn full size. Fig. 5 is an isometric view of one of the U-shaped cutters drawn full size.

C C C are the cutters, all formed from a single plate of steel, in which the recesses O O O are cut. The plate from which the cutters are formed is fitted into a recess in the back B, and is secured by the rivets or screws *r r* which pass through the head B and hold the cutter-plate in position. The rivets or screws *r r* are finished off even with the face of the head B, which is a convenience in a hand-tool of this kind.

H is the handle by which the tool is grasped in the hand of the operator, and by which the grooves are pushed through the ice. V is an auxiliary U-shaped cutter placed upon the heel of the cutters C C. L is a recess cut back on each side of the upper portion of the cutters C to allow the ice which is cut away by the groover to be freely discharged from the tool. The cutters C C are all formed from a single plate of steel by cutting the recesses O O only so far as they are required for the work, and leaving all the cutters connected together by the upper portion of the plate. This makes a firmer and stronger tool than can be formed by bolting independent cutters to the head. The cutters C as shown in Fig. 4 are swaged back from the recess O, forming the chisel or cutting edge on the front side of each cutter-blade C.

Operation: It is the usual custom to store ice in large blocks or cakes, and in this shape they are carried about for delivery, but it is

often necessary to divide these cakes, giving a portion to each consumer, and where delivered in whole cakes it is often necessary to divide them into pieces for use. It has been customary heretofore to divide such blocks with a hatchet, but by this method the cakes were often divided very unevenly, and much ice was broken off and wasted in the operation, and it was sometimes necessary to trim the pieces to bring them into proper shape, which also wasted the ice.

With my improved hand ice-groover a cake can quickly and accurately be divided by passing the groover several times across the face of the cake by means of the handle H. Of the cutters C C each plows a shaving of ice as it passes over the block.

Each cutter C is provided at its heel with a U-shaped cutter, V, which, as it passes along behind the cutter, pares out a pencil of ice, increasing the depth of the groove and making the operation more rapid. One or more of these loop-cutters V can be placed on each cutter C, to which they are riveted, as shown in Figs. 1, 4, and 5. As the cutters pare out the ice from the groove the chips are carried upward through the recesses O O, and discharged over the edge of the groove or through the recesses L L.

When the tool has been passed a few times over the face of the ice, a deep and straight groove will have been formed. By now striking a wedge into this groove the block will be split easily and accurately in a plane at right angles to the face of the block.

By the use of this tool a cake of ice can be subdivided into small rectangular blocks, all the blocks having true square sides, and being of uniform size. This it is impossible to do with a common hatchet, which has heretofore been used for this purpose.

This implement not only enables the operator to divide his ice much more rapidly, accurately, and easily, but he is enabled to save all waste of ice from crumbling while being divided.

Having thus described the nature and operation of my invention, what I desire to secure by Letters Patent is—

1. As an article of manufacture, a hand ice-groover for cutting up large blocks of ice, consisting of the cutters, substantially as described, secured to the back piece B, and the handle H, all combined and arranged substantially as described, and for the purpose set forth.

2. The combination of the loop-cutters V V,

one or more, with the groovers or teeth of the ice-cutter, substantially as described, and for the purpose set forth.

FRANK STAFFORD.

Witnesses:

JOHN G. NICHOLS,
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