

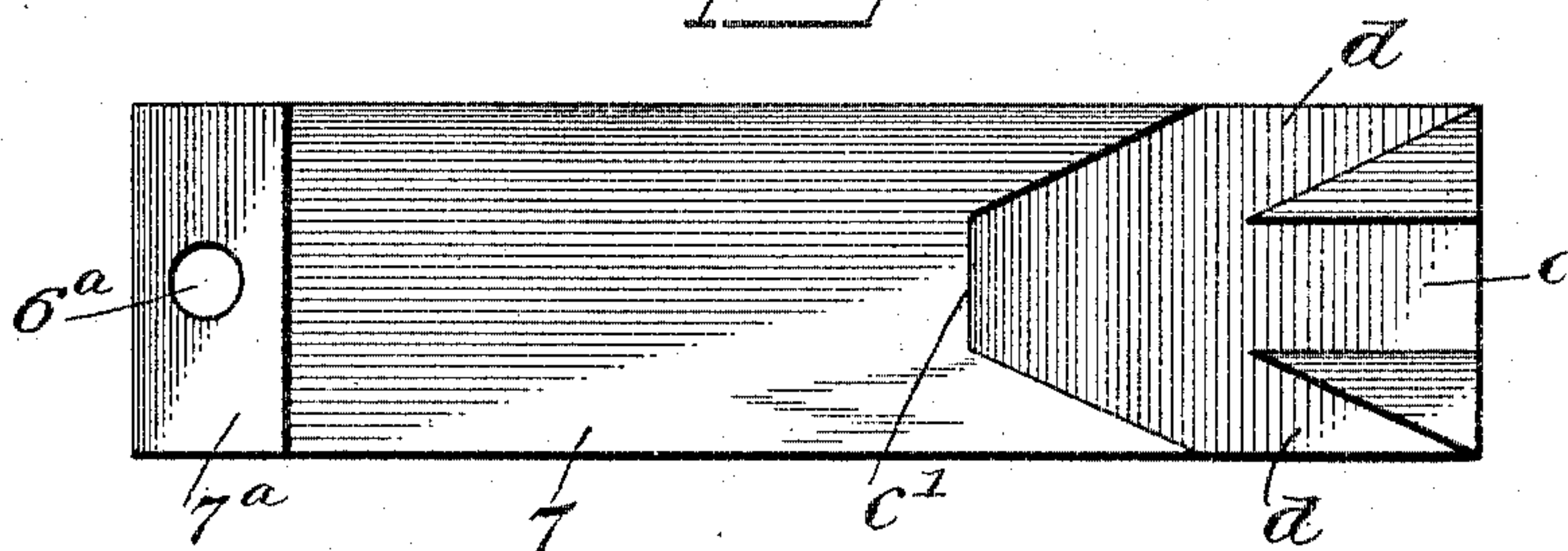
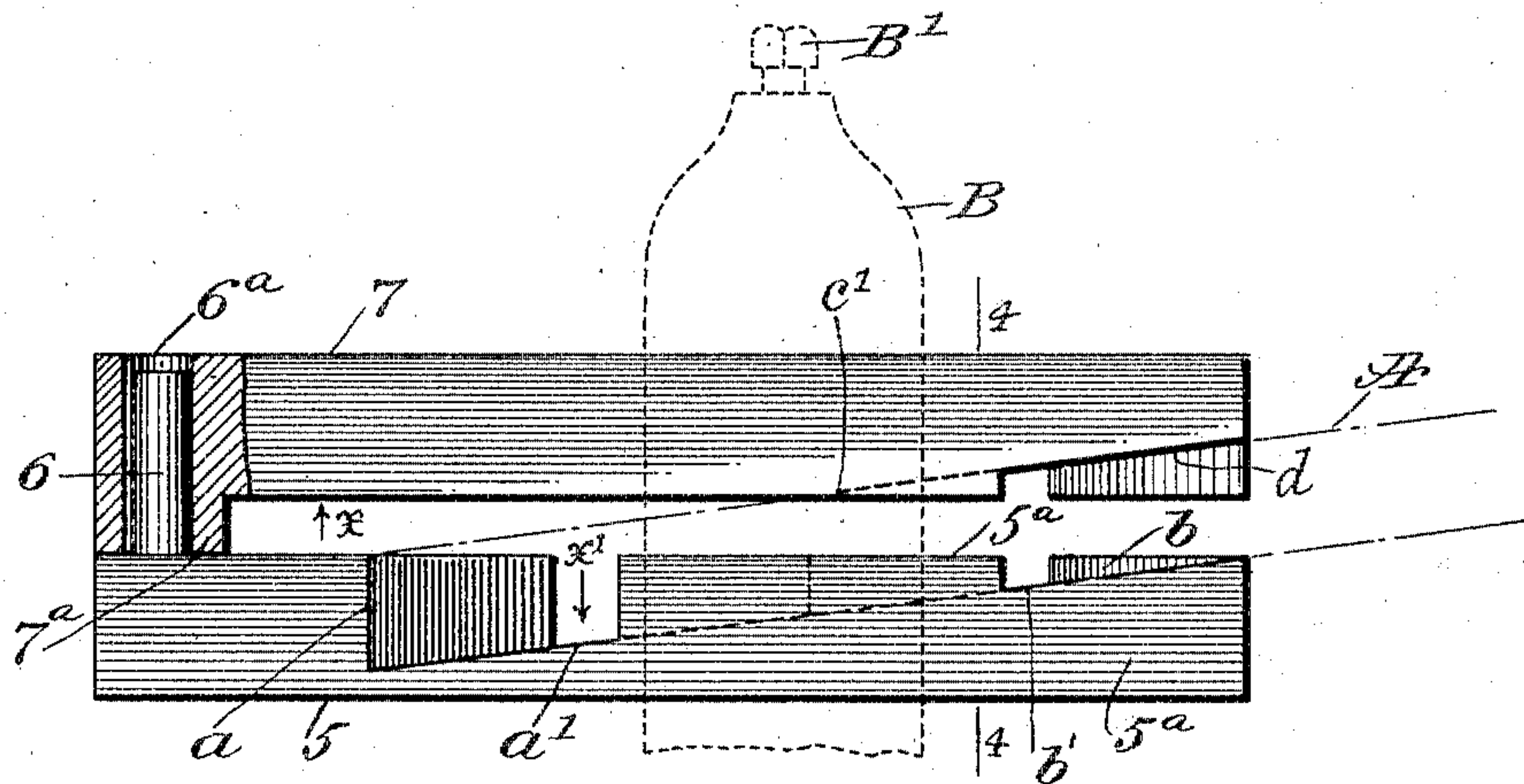
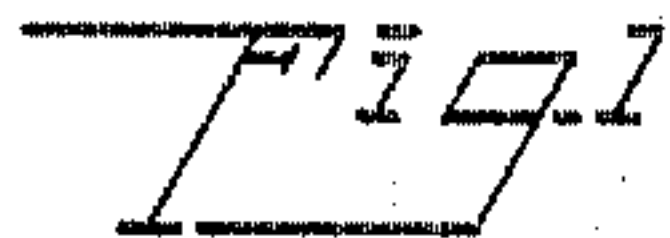
No. 777,359.

PATENTED DEC. 13, 1904.

L. C. WILCOX.
TOOL HOLDER.

APPLICATION FILED MAR. 8, 1904.

NO MODEL.



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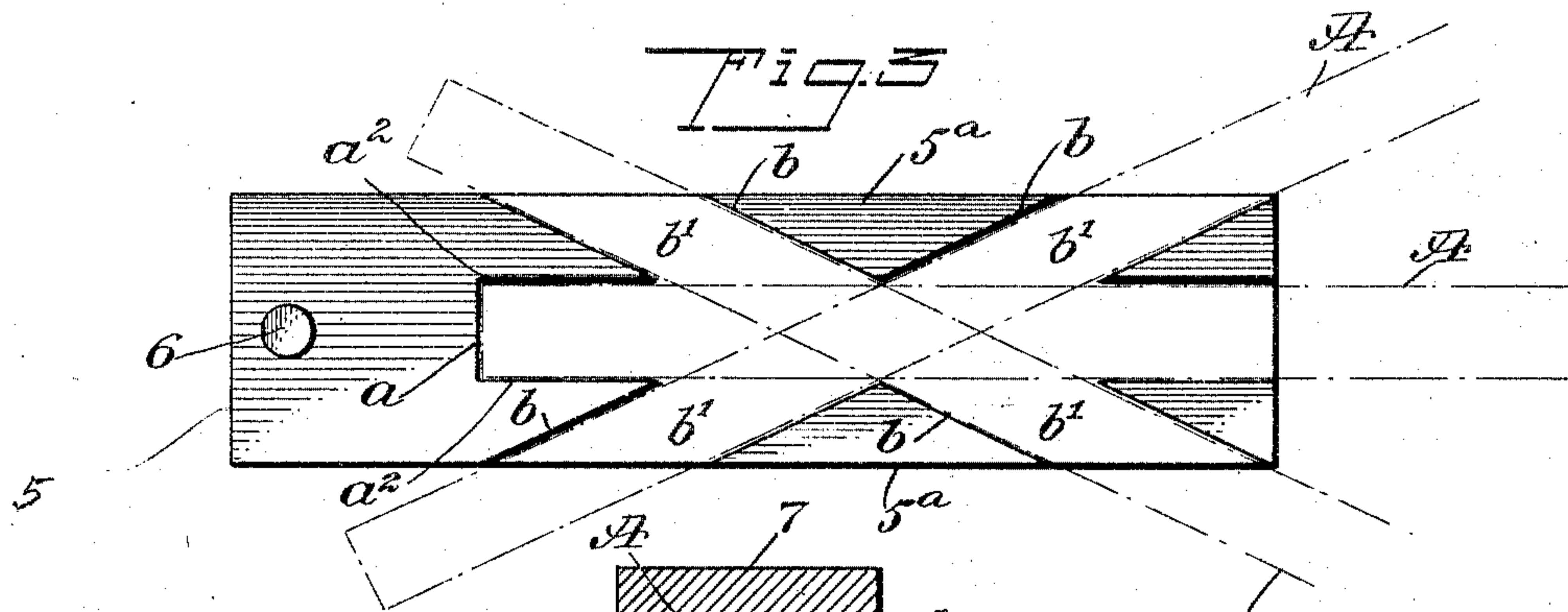
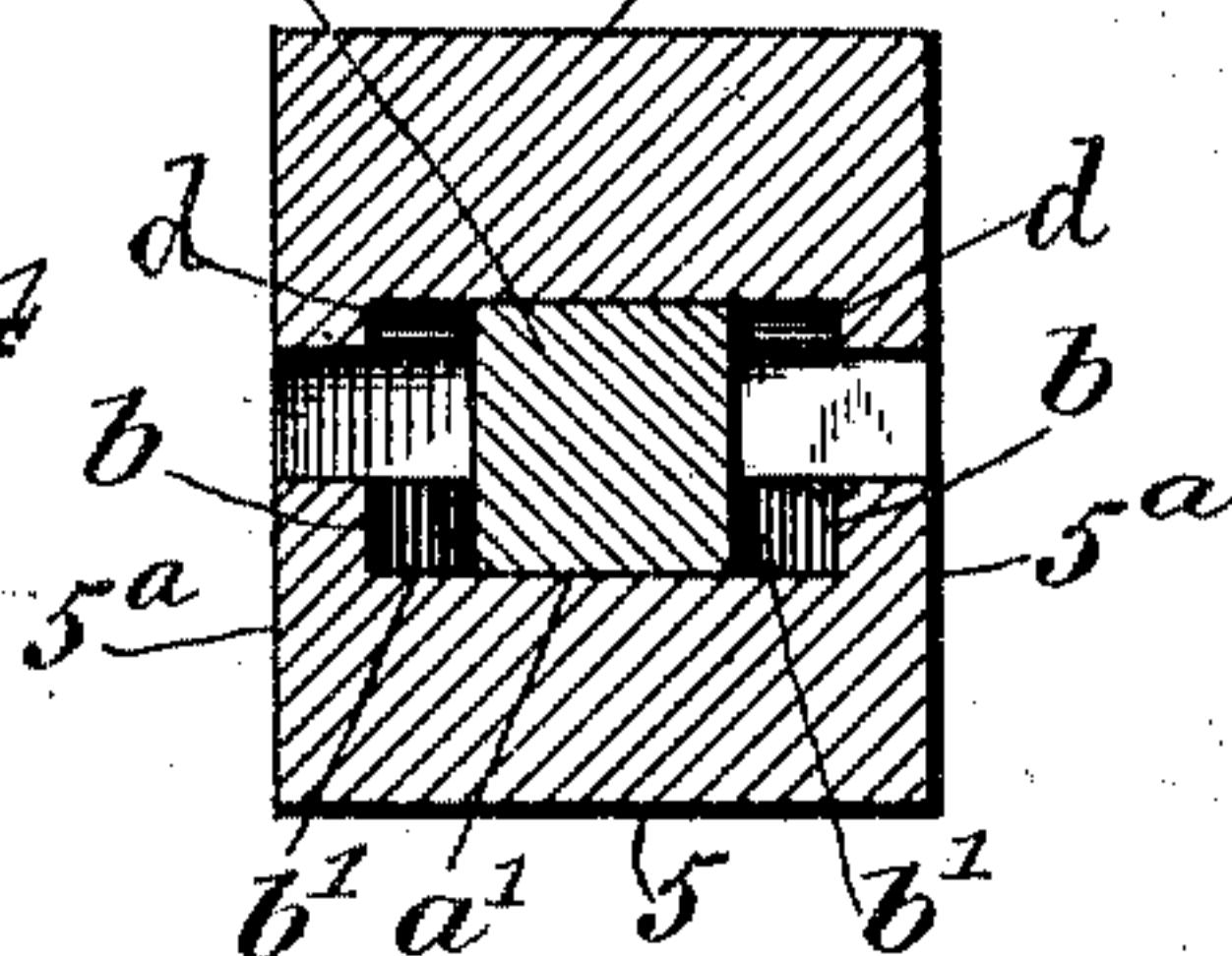


Fig 4



WITNESSES:

J. V. Propoy

Wm. L. Patton

INVENTOR

Lewis C. Wilcox

BY

Минск

ATTORNEYS

UNITED STATES PATENT OFFICE.

LEWIS C. WILCOX, OF TRENTON, NEW JERSEY.

TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 777,359, dated December 13, 1904.

Application filed March 8, 1904. Serial No. 197,147. (No model.)

To all whom it may concern:

Be it known that I, LEWIS C. WILCOX, a citizen of the United States, and a resident of Trenton, in the county of Mercer and State of New Jersey, have invented a new and Improved Tool-Holder, of which the following is a full, clear, and exact description.

This invention relates to a holder for the retention of a cutting-tool on a lathe, planer, or other machine of like character to engage with material to be cut by the tool when the machine is in operation, and has for its object to provide novel simple details of construction for a tool-holder which will reliably hold a straight cutting-tool disposed at a proper angle to the material it is to engage when the tool-holder is placed in the tool-post of a lathe and held therein by the set-bolt carried by the tool-post or when said tool-holder is placed in the yoke-clamp of a planer, shaper, or slotting-machine and is therein clamped by the adjustment of nuts on the bolts of said yoke-clamp, whereby the cutting-tool is held from displacement without requiring special set-screws for the tool-holder that take up room and are ineffective in use.

The invention consists in the construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a partly-sectional side view of the tool-holder, indicating its application for holding a cutting-tool clamped in the tool-post of a lathe, the tool and tool-post appearing in dotted lines. Fig. 2 is a reversed plan view of the upper half-section of the tool-holder seen in the direction of arrow x in Fig. 1. Fig. 3 is a top plan view of the lower half-section of the tool-holder seen in the direction of arrow x' in Fig. 1; and Fig. 4 is a transverse sectional view of the improved tool-holder and of a cutting-tool clamped therein, taken substantially on the line 4-4 in Fig. 1.

The improved tool-holder consists, essentially, of two similar elongated pieces of suitable metal that have parallel sides and are respectively flat on their upper and lower faces,

their novel features residing in the particular conformation of clamping-surfaces thereon, as will appear in the following description of each holder-section.

The bottom section 5 of the improved tool-holder is of a suitable length, width, and thickness proportioned to the size of the cutting-tool that is to be clamped in the tool-holder. The general upper surface of the holder-section 5 is parallel with the level bottom surface thereof, and in said upper surface at the transverse center a rectangular channel is formed which cuts through the front end of the piece 5 and terminates in a vertical shoulder a at a proper distance from the opposite end of said lower section 5.

The shoulder a is a very essential feature of the device, as it provides a rigid abutment for the rear end of the tool A to impinge upon, so that the tool cannot slip back. It thus coöperates with the single screw B' in the post B to hold the tool A in clamped condition for effective service.

The channel, which is formed with a bottom surface a' and vertical parallel side walls a'' , has proper width to permit the sliding insertion of a cutting-tool A , that is rectangular in cross-section, said tool impinging at its rear end against the shoulder a when fully inserted within the channel and projecting from the front end of the holder a proper distance for an engagement of its cutting end with material that is to be cut.

The channel described is preferably inclined a suitable degree by sloping its bottom surface a' from the front end of the holder-section downward and toward the vertical transverse shoulder a , which will obviously cause the cutting-tool A to incline upward toward its outer or cutting end.

In the parallel side walls 5^a, formed by the excavation of the channel in the bottom section 5, two similar diagonal channels b are formed that are of an equal depth with the central channel, the diagonally-trending channels b crossing the central longitudinal channel at or near its longitudinal center and preferably slope an equal degree on their bottom surfaces b' from front to rear, so that a cutting-tool will incline upward and outward or

toward the cutting end thereon when seated in either diagonal channel.

Upon the lower holder-section 5 near its rear end and at the transverse center thereof a dowel-pin 6 is erected which engages within a suitable vertical perforation 6^a, formed in the upper holder-section 7.

As shown in Figs. 1 and 2, the holder-section 7 is formed with a projection 7^a on the lower side at and near the rear end of the same, the lower surface of said projection being flat and parallel with the main portion of the bottom of the upper holder-section, the perforation 6^a extending vertically through said projection, so that when the dowel-pin 6 is inserted through the perforation 6^a the two holder-sections 5 and 7 will be loosely joined together and held slightly separated forward of the projection 7^a.

The provision of the hole-and-pin connection for the holder-sections 5 and 7 is quite advantageous, as it permits the quick and convenient separation in parallel planes of the loosely-connected holder-sections for insertion between them of tools that vary considerably in thickness while the sections are held from complete separation.

In the lower side of the upper holder-section 7 a central rectangular longitudinal channel *c* is formed of a proper depth at its front end, from which end the channel slopes down and rearward, as shown by full and dotted lines in Fig. 1, terminating at *c'*, where the bottom merges into the level lower surface of the upper holder-section 7. Two similar diagonal channels *d* are formed in the lower side of the upper holder-section 7, that are equal in width and also have equal width with the central longitudinal channel *c*, that corresponds in width with that of the channels in the lower holder-section 5, and the diagonal channels *d* are downwardly inclined on their bottom surface from front to rear an equal degree with the inclination given the bottom surface of the central channel *c* emerging thereinto, as indicated in Fig. 2.

In arranging the tool-holder for use the two sections thereof are loosely connected by the dowel-pin 6, as before explained, and a cutting-tool A is passed into either the central or one of the diagonal slots in the holder, as may be appropriate for the proper engagement of the cutting end of the tool with material that is to be cut. The tool-holder may now be inserted in assembled condition in a tool-post B on a lathe, such a post being indicated by dotted lines in Fig. 1 and having the usual set-screw B' inserted downward in a tapped perforation in the post at its upper end.

It will be seen that the downwardly-screwed adjustment of the set-screw B' will clamp the two holder-sections 5 7 together and upon the tool A, thus firmly securing the cutting-tool in proper adjustment for engaging material rotated in the lathe, and it will be evident that

the cutting-tool may be readily changed in position in the channel it occupies to move it forward or rearward in said channel by slackening the set-screw B' and subsequently tightening it. Furthermore, by loosening the set-screw B' the cutting-tool, such as A, may be readily removed and shifted from one channel to another one in the improved tool-holder and be therein secured by a subsequent-tightened adjustment of the set-screw.

Obviously the improved tool-holder may be readily clamped with a tool therein upon the usual tool-holding head of a planer, slotting-machine, or the like by introducing the tool-holder in assembled condition between the ordinary tool-holding clamp thereon and the tool-head of the machine and then adjusting the clamping-nuts on the stud-bolts of the tool-holding head for the compression of the clamp upon the tool-holder, which will firmly secure the cutting-tool on the slotting or planing machine, as the case may be.

It will be noticed that the improved tool-holder has no projections to interfere with its insertion in the ordinary tool-clamping means on a lathe, planer, or slotting machine; also, that the holder and tool it is to clamp can be as readily placed and removed as the ordinary cutting-tools used on such machines.

The improved tool-holder from its peculiar construction prevents the cutting-tool from shifting endwise or sidewise when the holder is clamped in the tool-post of a lathe or the clamp on a planer or the like, so that it will not yield, but will cut as reliably as if it were a fixture on the lathe or other machine with which the tool is to be connected.

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

1. A tool-holder, comprising two holder-sections, one section seating upon the other and connected at the rear ends of the sections by a dowel-pin, the lower section having a longitudinal channel therein that has vertical sides, and a flat bottom, and extends from the front end to a vertical shoulder, said bottom inclining down from the front end of the shoulder, said lower holder-section also having two similar diagonal channels of like form and dimensions, the bottoms of said channels inclining rearward and downward, the upper holder-section having a mating central channel which inclines rearward and downward, and two diagonal channels that register respectively with the diagonal channels in the lower holder-section.

2. A tool-holder, comprising two holder-sections of equal breadth and length, one section seating upon the other section, a dowel-pin projected from the upper side of the lower section near the rear end thereof, the upper section having a vertical perforation near a like end which loosely receives the dowel-pin, the lower section having a central channel in its upper side extended longitudinally and ter-

minating in a shoulder forward of the dowel-
pin, said channel having a flat bottom that
inclines from the front end to the rear end
thereof, the lower section also having two
5 similar diagonal channels of similar form to
that of the central channel, the bottoms of
said channels inclining rearward and down-
ward, the upper holder-section having a cen-
tral longitudinal channel that is equal in width
10 to that of the like channel in the lower sec-
tion, but terminates forward of the lower

channel, and also having two diagonal chan-
nels that are similar to the diagonal channels
in the lower section and respectively register
therewith.

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In testimony whereof I have signed my name
to this specification in the presence of two sub-
scribing witnesses.

LEWIS C. WILCOX.

Witnesses:

JOHN H. MAGEE,
JOHN E. GRAY.