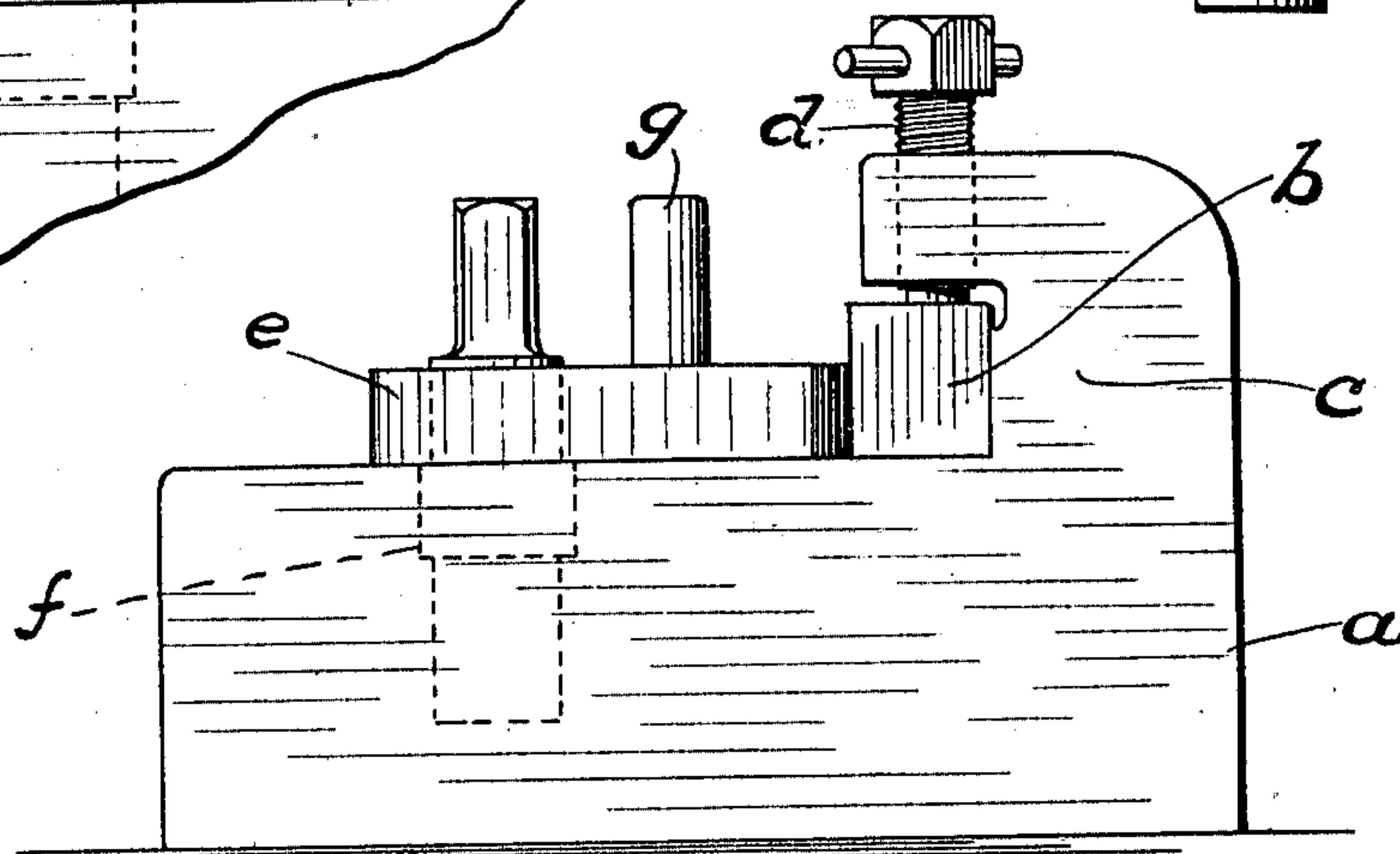
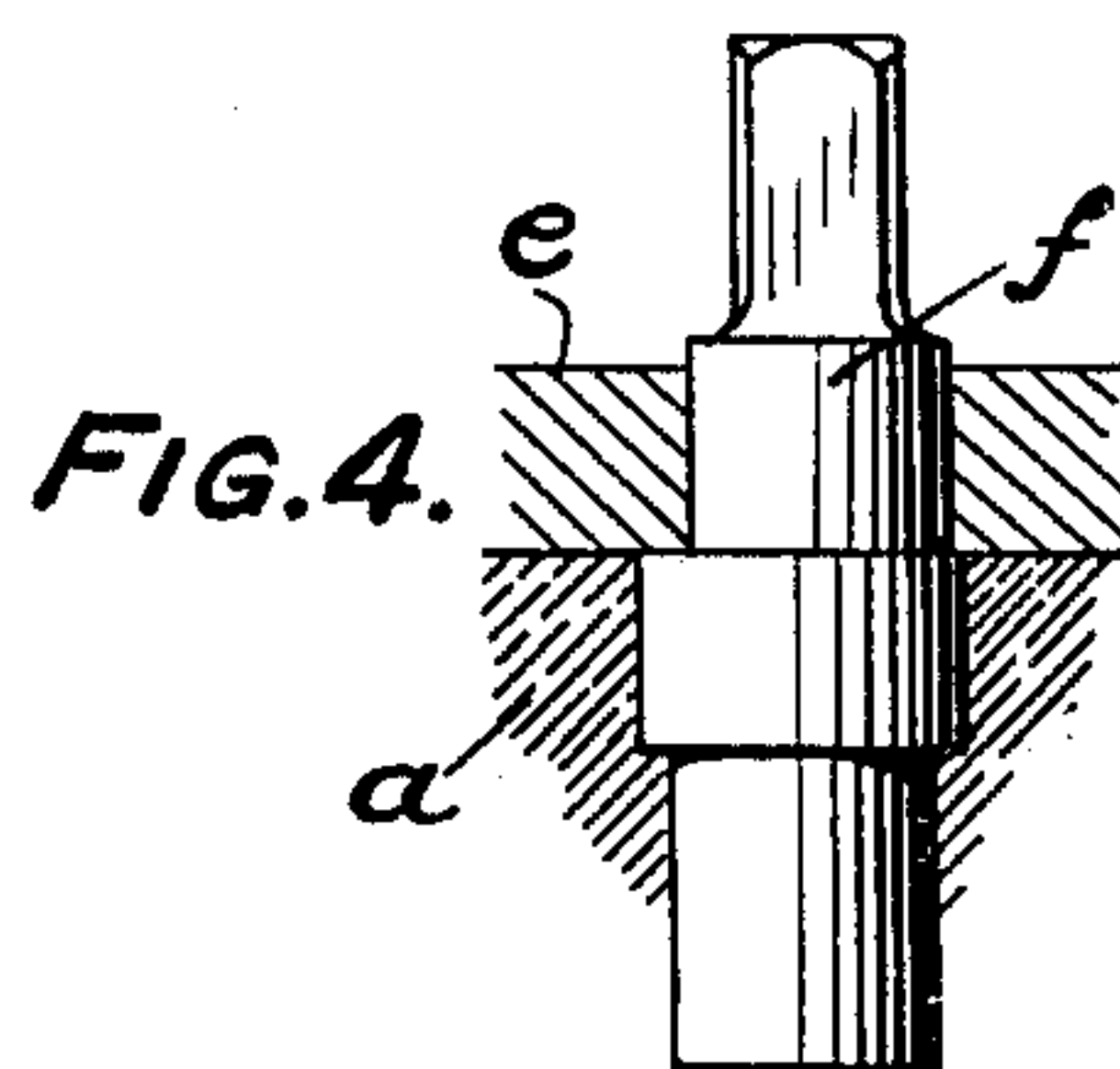
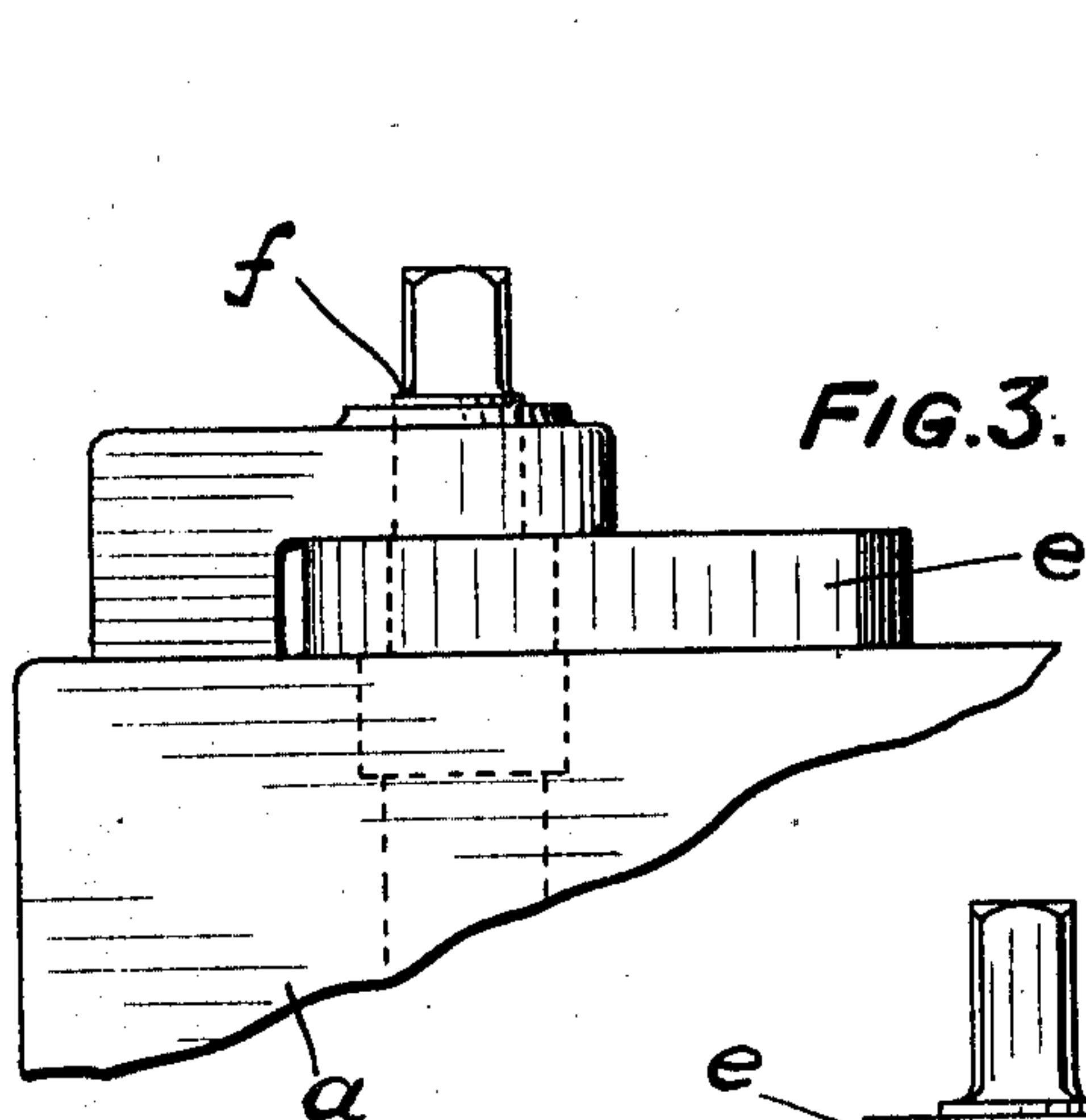
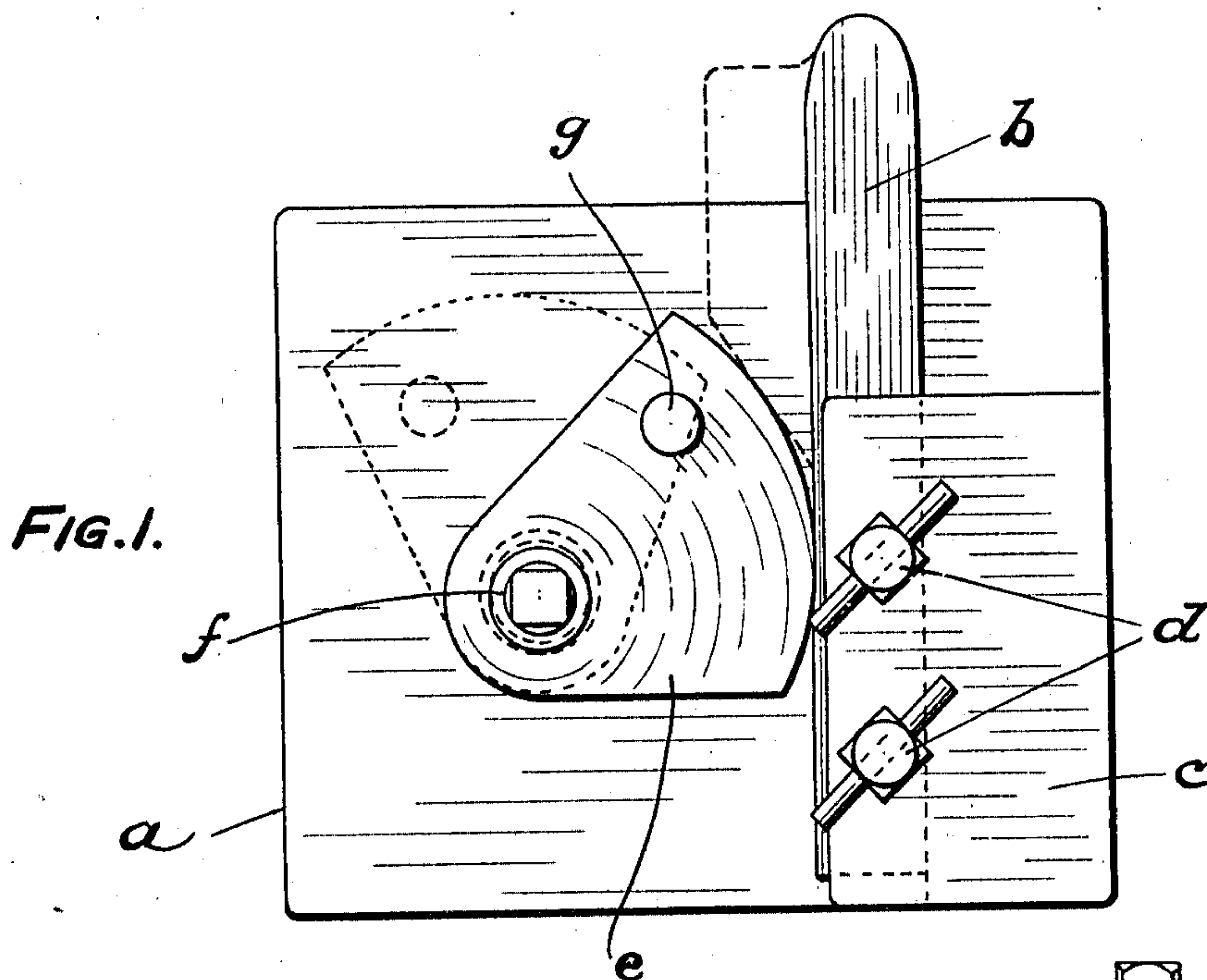


J. BURT.
TOOL HOLDER.
APPLICATION FILED JUNE 18, 1909.

945,081.

Patented Jan. 4, 1910.



WITNESSES:

Robt. R. Kitchel.
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FIG. 2.

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UNITED STATES PATENT OFFICE.

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TOOL-HOLDER.

945,081.

Specification of Letters Patent.

Patented Jan. 4, 1910.

Application filed June 18, 1909. Serial No. 502,887.

To all whom it may concern:

Be it known that I, JOHN BURT, a citizen of the United States, residing at Narberth, county of Montgomery, and State of Pennsylvania, have invented a new and useful Improvement in Tool-Holders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved tool holder particularly applicable for machine tools which will enable the tool to be readily, and with a minimum of labor, secured in position and will provide ample clearance for the removal of the tools when the locking mechanism is released.

In a usual arrangement the tool is held in a slot and secured by one or more set screws impinging upon, say, the top surface. It is customary, for side guiding, to make the fit of the tool in the slot a close fit, and in order to obtain considerable freedom it is necessary to back off the set screws considerably more than just sufficiently to release the tool. If the tool has any enlargement on the cutting end, as is frequently the case, and it be not possible to withdraw the enlarged end through the slot, the shank must be pulled out on the cutting side of the holder. To accomplish this, involves the withdrawal of the holder away from the work sufficiently to permit the withdrawal of the tool in this manner. This arrangement is slow and laborious. In the construction forming my invention, the object is to obviate these difficulties and firmly, readily and with little labor lock and release the tool and hold it locked against the action of cutting. Further, to permit the tool to be withdrawn in a direction away from the cut, thus maintaining the holder at all times close to operating position for the insertion and securing of a new tool.

Generally speaking, I accomplish this result by providing an abutment against which one surface of the shank of the tool rests, and a pivoted clamping member which moves into contact with and away from the opposite surface of the shank of the tool. I also provide mechanism to force and lock the clamping member, when in contact with said surface, against said surface. Preferably, the clamping member is an eccentric or cam.

I will now describe the embodiment of my invention as illustrated in the accompanying drawings and then point out the invention in the claim.

In the drawings: Figure 1 is a plan view of an improved tool holder embodying my invention. Fig. 2 is an elevation of same. Fig. 3 is a partial elevation of another form of holder. Fig. 4 is a detail view of the eccentric shaft.

a is the top slide of a tool carriage.

b is the cutting tool. One side of this tool rests against the projection or abutment *c* from the top slide *a*. Through the overhang of this projection or abutment pass the set screws *d*, the purpose of which is to prevent vertical movement of the tool.

e is a cam carried by the eccentric shaft *f*. *g* is a handle by which this cam may be swung into the position shown in dotted lines. A wrench applied to the eccentric shaft *f* will move that shaft so as to bodily move the cam toward or from the tool.

In operation: In the insertion of a tool the eccentric shaft is in the position which holds the cam in its outer position, and the cam swung into the position shown in dotted lines. The tool is then inserted so that one side rests against the abutment *c*. The cam is swung until its face contacts with the side of the tool shank opposite to that of the abutment. The wrench is then applied to the eccentric shaft *f* and it is turned in the direction to bodily move the cam into locking contact with the tool shank. It will be noted that, when in this position, should the tool slide back under the cut, this action will increase the pressure between the tool shank and cam, as the cam itself is eccentrically mounted. To release the cam the eccentric shaft is rotated to release the locking action upon the cam and the cam swung to the position shown in dotted lines. In this position of the cam the tool may readily be removed.

The device may be applied horizontally to the side of the tool or vertically to the top surface.

The device may be used to clamp narrow tools with straight shanks, or tools having enlarged ends for forming purposes. In this case there is provided a bevel between the straight shank and the widened end which will bear against the cam at the same time that the straight shank is in contact.

This is shown in broken lines in Fig. 1. The eccentric shaft may be, as before described, supported on one side only of the cam, or, as shown in Fig. 3, it may have a
5 bearing upon each side of the cam.

Having now fully described my invention, what I claim and desire to protect by Letters Patent is:—

10 A tool holder comprising, in combination, a fixed abutment for one face of the tool, an

adjustable eccentric shaft, and a cam rotatably mounted upon said eccentric shaft.

In testimony of which invention I have hereunto set my hand, at Philadelphia, on this 11th day of June, 1909.

JOHN BURT.

Witnesses:

WARREN R. CHURCH,
HELEN FAHNESTOCK.