

No. 788,206.

PATENTED APR. 25, 1905.

C. W. GRANT.
TOOL POST.

APPLICATION FILED APR. 7, 1904.

2 SHEETS—SHEET 1.

Fig. 2.

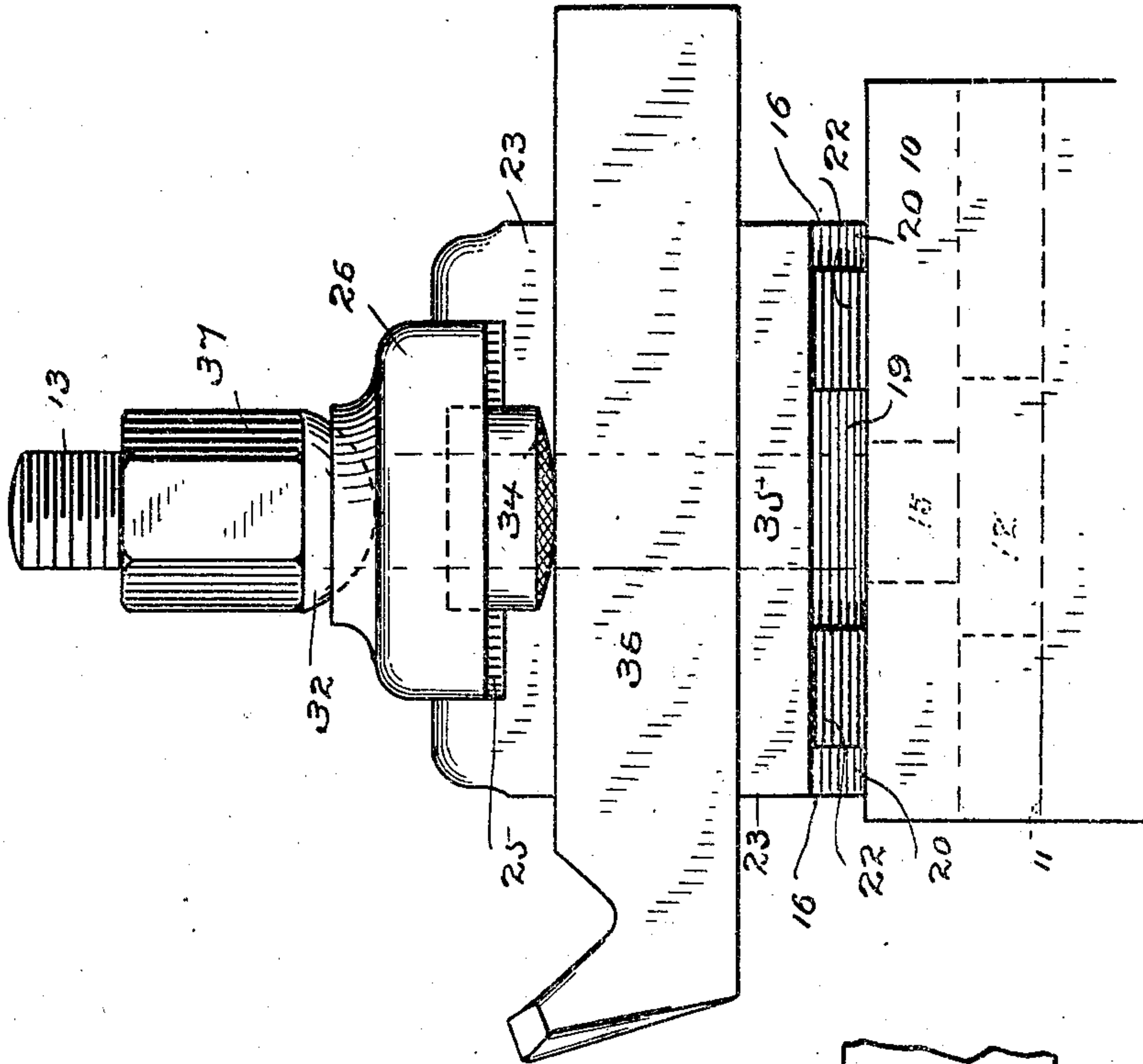
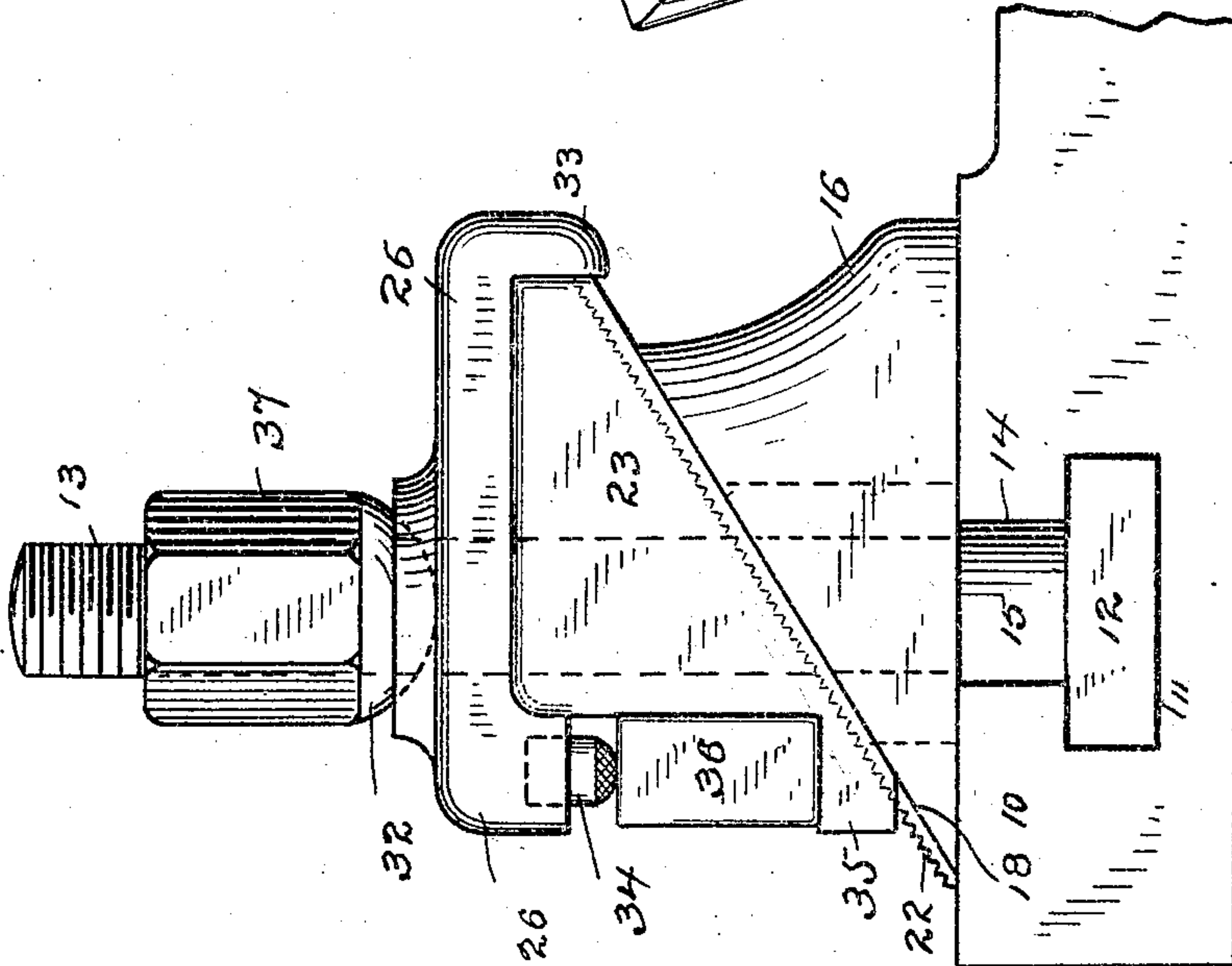


Fig. 1.



WITNESSES.

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2 SHEETS—SHEET 2.

Fig. 4.

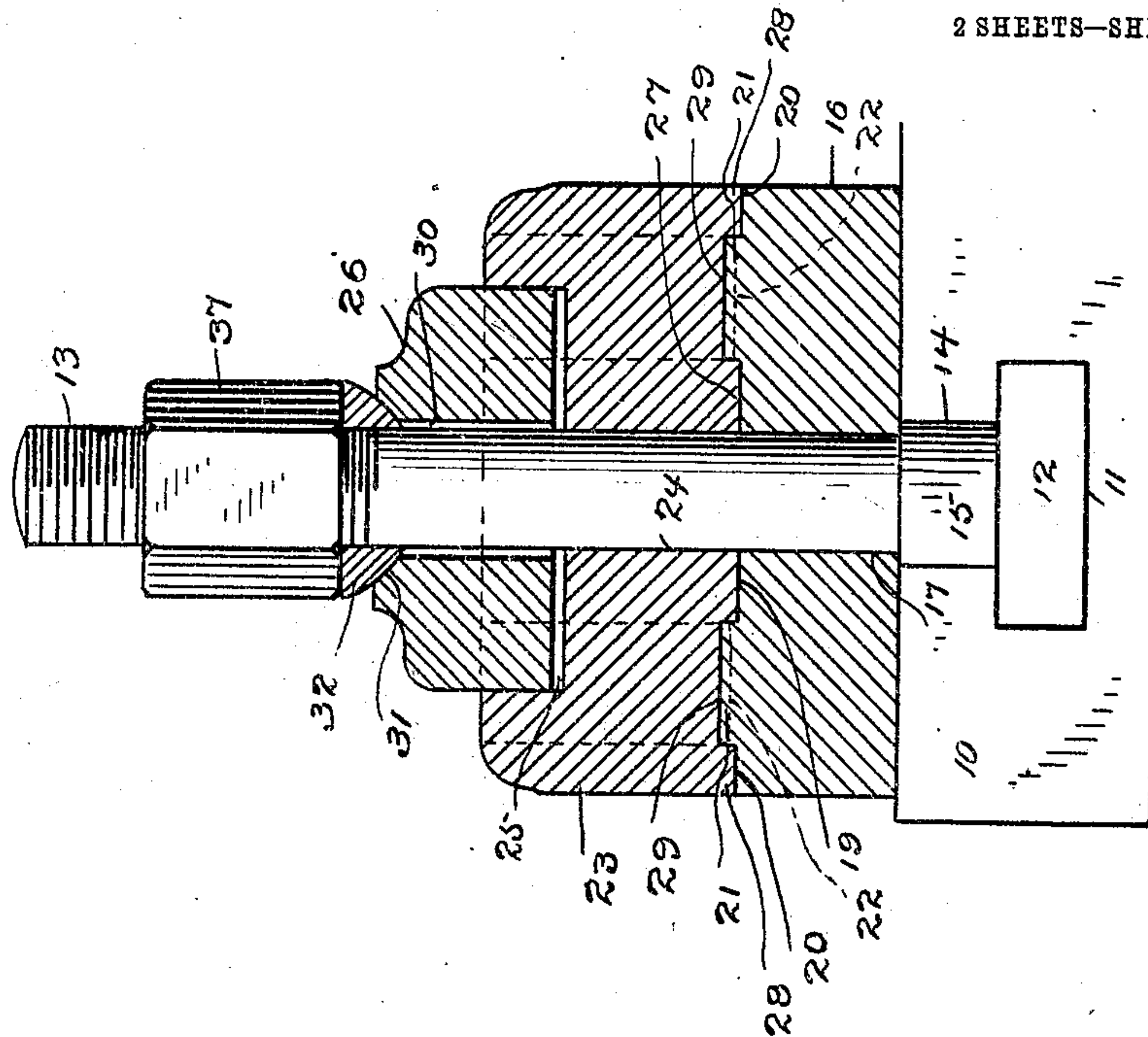
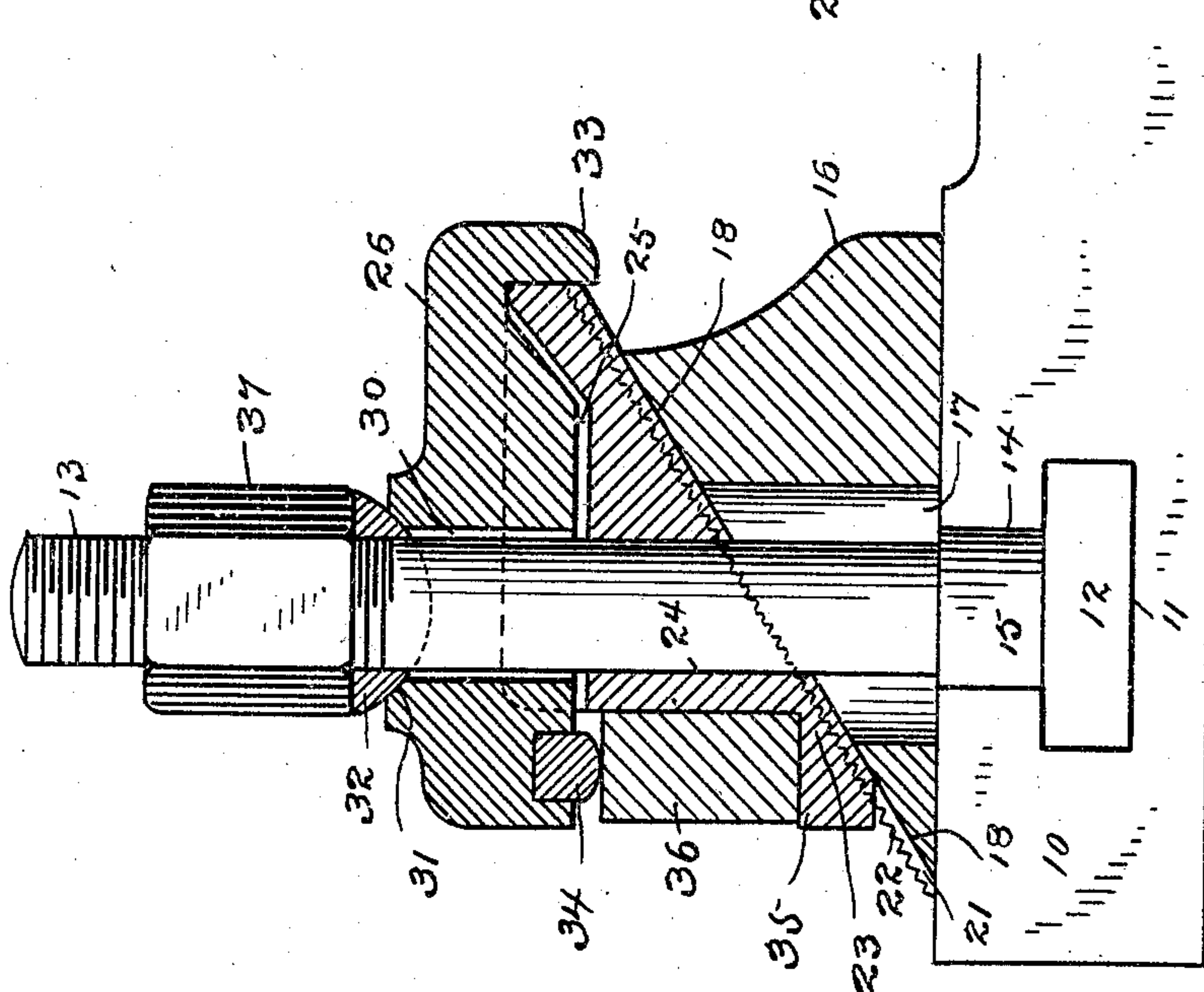


Fig. 3.



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UNITED STATES PATENT OFFICE.

CHARLES W. GRANT, OF DERBY, CONNECTICUT.

TOOL-POST.

SPECIFICATION forming part of Letters Patent No. 788,206, dated April 25, 1905.

Application filed April 7, 1904. Serial No. 202,068.

To all whom it may concern:

Be it known that I, CHARLES W. GRANT, a citizen of the United States, residing at Derby, county of New Haven, State of Connecticut, have invented a new and useful Tool-Post, of which the following is a specification.

My invention has for its object to provide a simple, durable, inexpensive, and easily-operated tool-post, which shall be so constructed as to enable the operator to utilize to the fullest extent the distance between the top of the slide-rest and the lathe center, will permit a great range of vertical adjustment, will hold the tool rigid in a perfectly horizontal position, so that the tool cannot possibly slip down under a heavy cut, as is frequently unavoidable when the tool is held by frictional engagement, especially when cutting standard threads, which will provide a tool-seat having an open side, so that tools with large ends, such as forming-tools, may be readily inserted and removed, and which will permit convenient universal adjustment of the tool-seat and tool, while retaining the latter rigidly in the horizontal position.

With these and other objects in view the invention consists in certain constructions and in certain parts, improvements, and combinations, which will be hereinafter described and then specifically pointed out in the claims hereunto appended.

In the accompanying drawings, forming a part of this specification, in which like characters of reference indicate the same parts, Figure 1 is an elevation of my novel tool-post with a tool clamped therein in position for use; Fig. 2, an elevation as seen from the left in Fig. 1; Fig. 3, a vertical section corresponding with Fig. 1, and Fig. 4 is a vertical section corresponding with Fig. 2.

Referring to the drawings, 10 denotes the slide-rest of a metal-working machine, which is provided with a recess 11 to receive the head 12 of a bolt 13 and with a slot 14, which extends into the recess and receives a hub or boss 15 on the bolt. 16 denotes the base of my novel tool-post, which bears upon the slide-rest and is provided with a slot 17, which receives the bolt freely, so as to permit the base to be moved in the direction of its length permitted

by the length of the slot relatively to the diameter of the bolt when said bolt is loosened. The upper surface of the base consists of a straight incline 18, which may extend down to the slide-rest when in position, as clearly shown in Figs. 1 and 3. At the mid-width of the incline is a channel or depression 19, lying parallel with the slot, and at the sides of the channel 19 are depressions 20, which may be omitted if preferred. Between channel 19 and channels 20 are ribs 21, whose upper surfaces lie parallel with the plane of the incline and are provided with teeth 22.

23 denotes the tool-rest, which is provided with a hole 24, which receives the bolt freely, and in its top with a depression 25, which receives the clamping-piece 26. On the under side of the tool-rest is an incline corresponding with incline 18 on the base. At the center of the tool-rest, on the under side, is a rib 27, which lies in channel 19 in the base, and at the sides of the tool-rest, on the under side, are ribs 28, which lie in depressions 20 in the base. It should be understood, however, that the number, width, and arrangement of these corresponding channels or depressions and ribs are wholly immaterial, it being simply required that when in position on the base the tool-rest shall remain rigidly in any position in which it may be placed. Between rib 27 and ribs 28, on the under side of the tool-rest, are channels or depressions 29, the bottoms of which are provided with teeth adapted to engage the teeth on ribs 21 on the upper side of the base. The engagement of the teeth on the tool-rest with the teeth on the base renders sliding of the tool-rest on the base absolutely impossible in use, as will be more fully explained.

The clamping-piece 26 is so shaped as to rest in depression 25 in the top of the tool-rest, whereby lateral movement is prevented. The clamping-piece is provided with a hole 30, which receives the bolt freely, and in its top, surrounding the hole, with a rounded recess or socket 31, which receives a round-faced washer 32, the purpose of which will presently be explained. At the rear end of the clamping-piece is a tailpiece 33, which en-

gages the rear face of the tool-rest, serving as a stop for the clamping-piece, preventing longitudinal movement and protecting the grooves or channels in the base and tool-rest from dirt and chips. The forward end of the clamping-piece is provided with a hardened-steel grip 34, which is shown as provided with a rounded serrated face which engages the top of the tool. The tool-rest is provided with a ledge 35, which supports the tool 36. Any size or style of tool may be carried by my novel tool-post, and the fact that the side of the rest is open permits any style of tool to be inserted or removed without difficulty. 37 denotes a nut which engages the threaded upper end of the bolt. By interposing a round-faced washer between the nut and the clamping-piece I insure the presentation of a perfectly-horizontal face to the nut no matter what may be the shape or size of the tool that is to be clamped. It will be noted that the hole 24 in the tool-rest is placed well toward the front thereof. This enables me without undue strain on any part of the post to apply the entire pressure with which the nut is turned down to clamp the tool and hold it in position. As the tool is always held perfectly horizontally, it makes no difference how heavy the cut may be. The tool will be retained absolutely rigid in its horizontal position.

The operation is as follows: It is obvious that when the nut is turned upward on the bolt the clamping-piece may be lifted, and any size or style of tool may be placed in position on the rest and locked there by turning the nut down again. To adjust the tool up or down, it is simply necessary to loosen the nut slightly and move the base forward or backward in the direction of its length one or more teeth, as may be required, the slot 17 permitting such adjustment, the teeth retaining the tool-rest and tool in any position in which they may be placed. When the nut is loosened, the base, tool-rest, and clamping-piece will swing around the bolt freely to any required position, and when the nut is turned down again the tool will be clamped rigidly in a perfectly horizontal position between the grip and the ledge, and the base, tool-rest, and clamping-piece will be locked firmly to each other and clamped rigidly to the slide-rest, the interposition of the round-faced washer between the nut and the clamping-piece insuring that a perfectly flat face will be presented to the nut when gripping all sizes and styles of tools.

Having thus described my invention, I claim—

1. A tool-post comprising a base having a straight inclined toothed upper surface and formed with a slot elongated in the direction of the length of said inclined surface, a tool-rest having its under side formed with a corresponding toothed incline, a clamping-piece above the tool-rest, a portion of said tool-rest and a portion of said clamping-piece being adapted to coöperate to clamp a tool, and a bolt extending through the slot of the base and through the tool-rest and having a nut whereby pressure may be exerted upon the clamping-piece to clamp a tool.

2. A tool-post comprising a base having a straight inclined toothed upper surface and formed with a slot elongated in the direction of the length of said inclined surface, a tool-rest having its under side formed with a corresponding toothed incline, and having a depression in its top, a clamping-piece resting in said depression in the top of the tool-rest, a portion of said tool-rest and a portion of said clamping-piece being adapted to coöperate to clamp a tool, and a bolt extending through the slot of the base and through the tool-rest and having a nut whereby pressure may be exerted upon the clamping-piece to clamp a tool.

3. A tool-rest comprising a base having upon its upper side a straight incline, at the center of said incline a channel or depression and on opposite sides of the channel ribs provided with teeth, a tool-rest having upon its under side a corresponding incline, at the center of said incline a rib adapted to engage the channel in the base and on opposite sides channels or depressions adapted to receive the ribs on the base and having at their bottoms teeth corresponding with the teeth on the ribs, a clamping-piece above the tool-rest and means for locking said parts together and retaining the device in position for use, said ribs and channels preventing lateral movement of the tool-rest on the base and the interlocking teeth preventing sliding of the tool-rest on the base, the base being adjustable in the direction of its length under the tool-rest.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. GRANT.

Witnesses:

GEORGE A. ROSE,
P. W. MURPHY.