

Oct. 7, 1930.

H. B. DROUTZ

1,777,789

ADJUSTABLE VISE FOR WORK BENCHES

Filed April 1, 1929

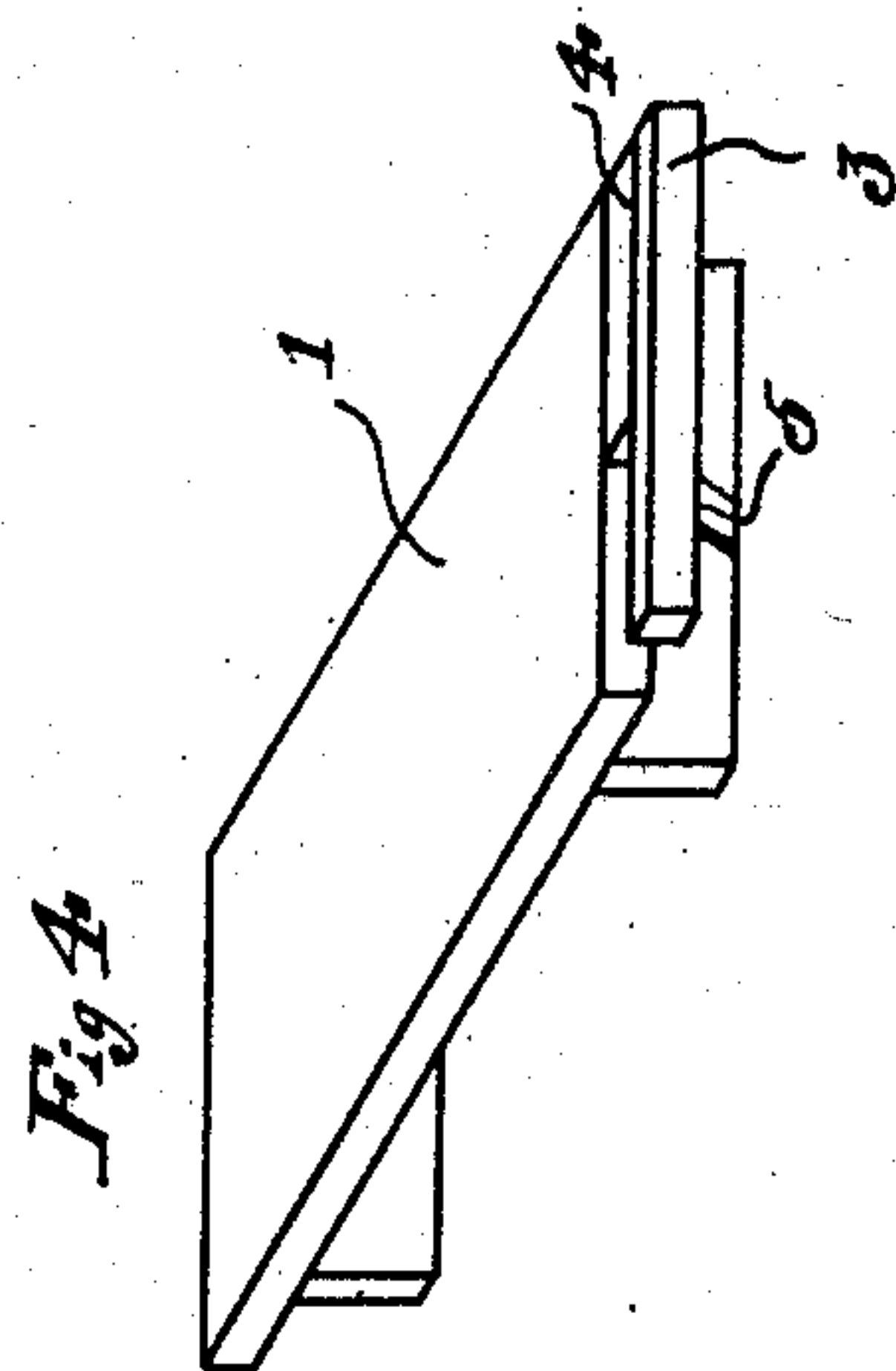


Fig 4

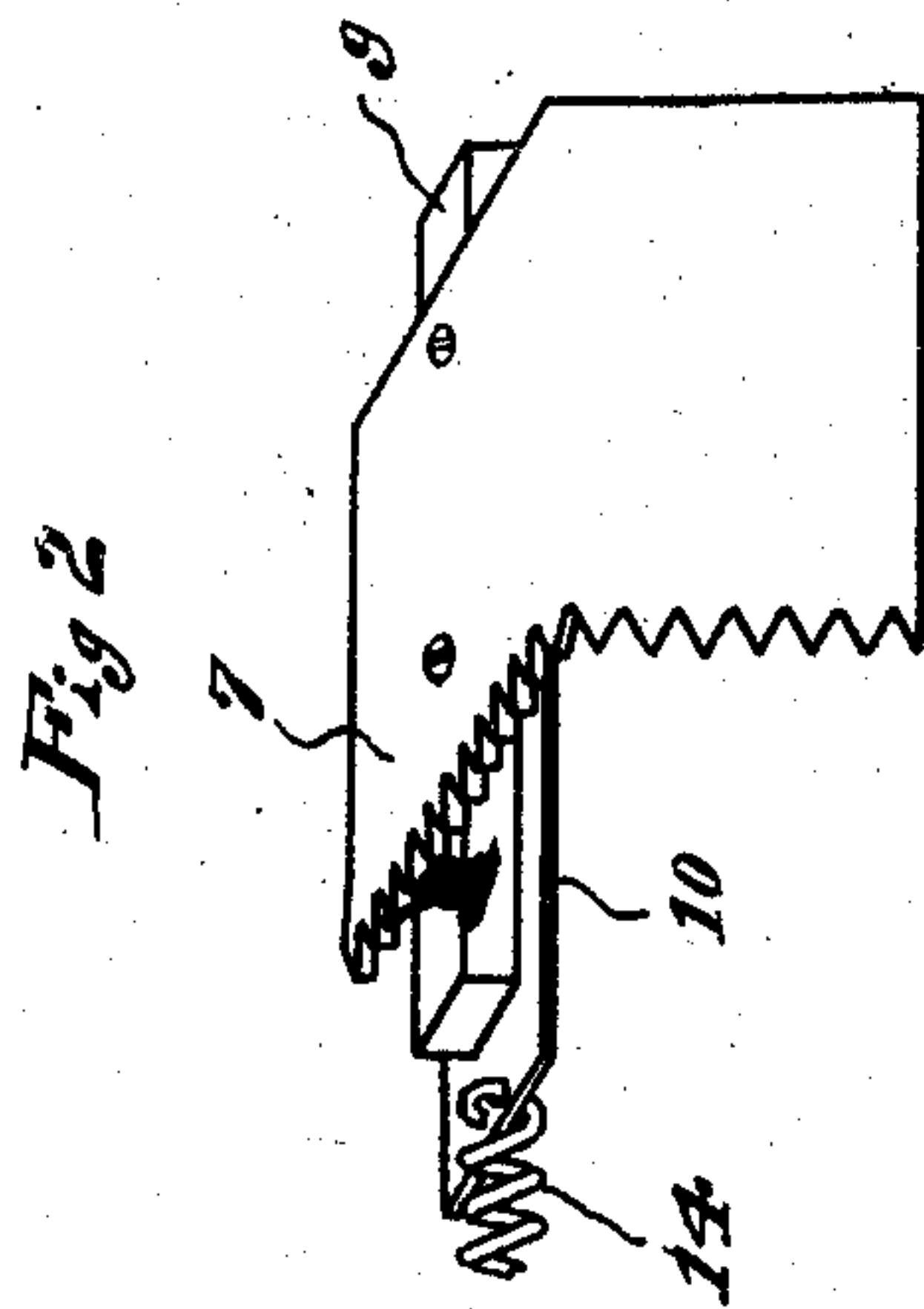


Fig 2

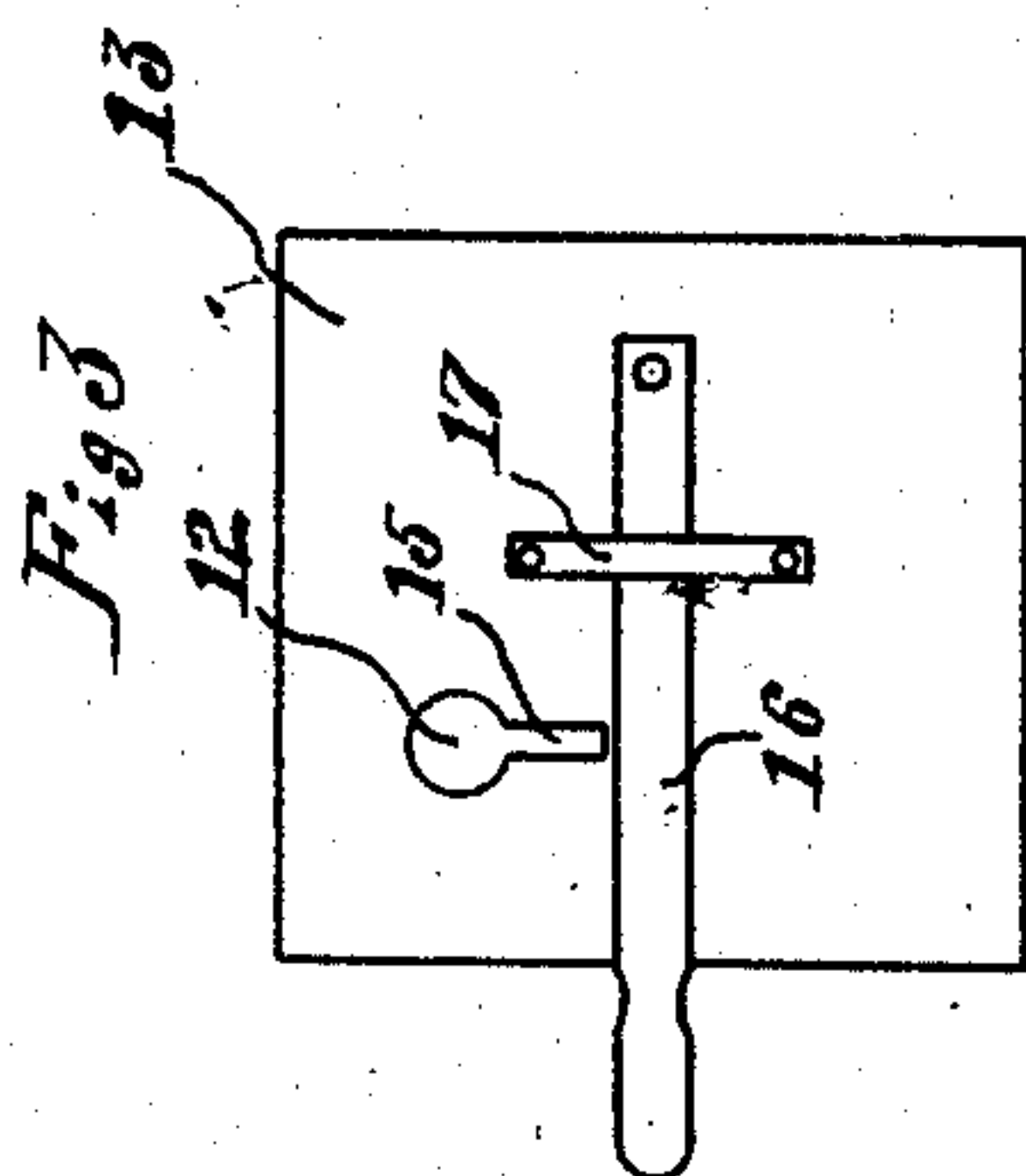


Fig 3

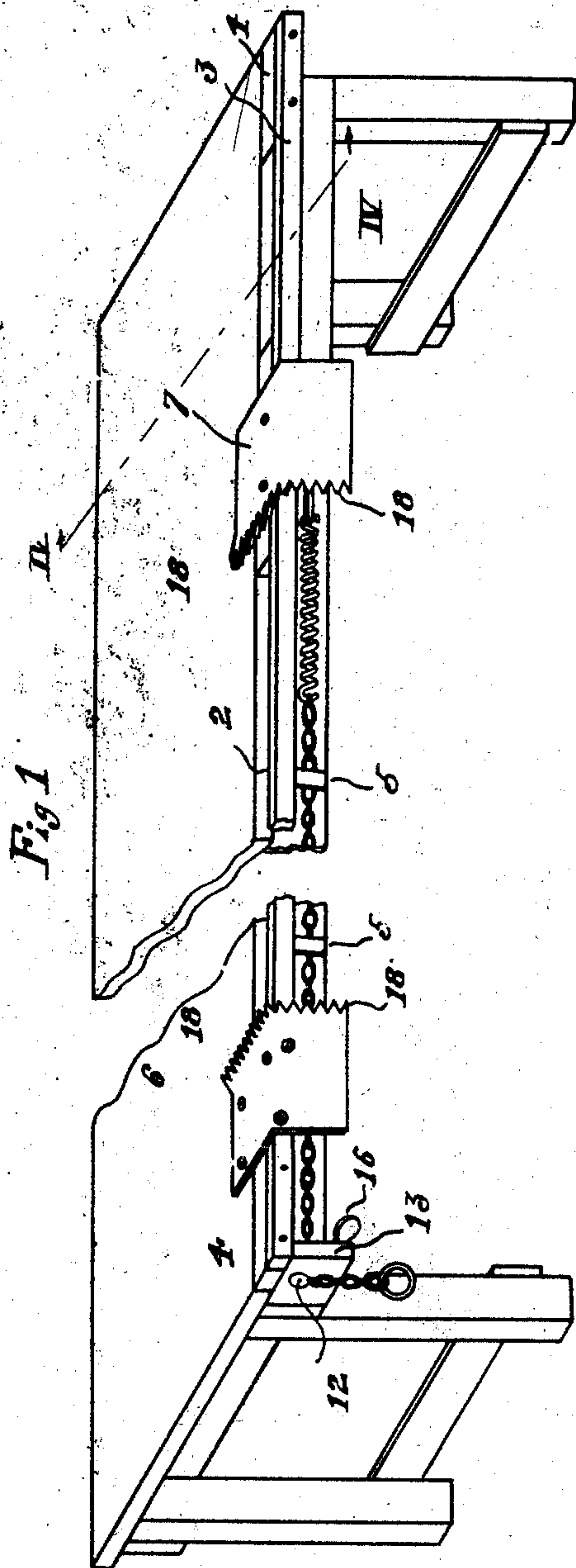


Fig 1

Witness:

J. C. Dickinson

INVENTOR

Harry B. Droutz
by Brown & Cutchlow
his attorneys

UNITED STATES PATENT OFFICE

HARRY B. DROUTZ, OF GREENSBURG, PENNSYLVANIA

ADJUSTABLE VISE FOR WORKBENCHES

Application filed April 1, 1929. Serial No. 351,778.

This invention relates to vises for use on carpenter's or wood-worker's benches, and has for its object the provision of an adjustable vise which is simple in construction, dependable in operation and capable of being attached to both work benches in the process of construction and those already in use.

Other objects and a better understanding of the invention will be had when the following detailed description is read in conjunction with the accompanying drawings, in which Fig. 1 is a perspective view of a work bench to which the preferred embodiment of my invention is attached; Fig. 2 a perspective view of a tail block to which the adjustable clamp is attached; Fig. 3 a face view of a detail of construction at the left end of the bench as viewed in Fig. 1; and Fig. 4 a sectional view of the bench top in perspective taken along the line IV—IV of Fig. 1.

Having reference to the drawings, an ordinary work-bench 1 is shown by way of example to illustrate how the invention may be practiced. Along an edge of the bench there is cut, or otherwise provided, a longitudinal slot 2. Where the bench will not permit the cutting of such a slot in its top, one may be conveniently formed by attaching to the edge of the bench in spaced relation therewith a strip of material 3. To space strip 3 far enough from the edge of the bench to provide a slot 2 of the desired width blocks 4 are arranged between it and the bench at its opposite ends, and to hold both the strip and blocks in place, they may be nailed or otherwise attached to the bench in any suitable manner. To give rigidity and lateral support to strip 3 so that it will not be easily broken, reinforcing straps 5 are attached at spaced intervals between the strip and the lower structure of the bench.

A fixed clamp 6 is securely attached to the bench at the end of slot 2, and a movable clamp 7 is mounted on a tail block 9 arranged for movement in the slot. This tail block is adapted to slide in slot 2, and has a strap or plate member 10 attached to its bottom, the edges of the plate projecting beneath strip 3 and the adjacent edge of the bench. For actuating tail block 9 to move clamp 7

into engagement with a piece of work positioned between it and fixed clamp 6, a flexible member such as a chain 11 is attached to strap 10, carried along the underside of the bench, and passed through a hole 12 cut in end-board 13 thereof.

In order to make it possible to insert pieces of work of the same size in and remove them from the vise without requiring separate adjustment for each piece, a helical spring 14 extends between the end of chain 11 and strap 10. Through the elasticity of this spring the movable clamp can be readily moved outwardly, without movement of chain 11, sufficiently to permit a piece of work to be extracted from the vise and another of substantially the same length to be inserted in it.

For conveniently locking the movable clamp in a selected position to hold a piece of work in the vise, a slot or keyway 15 (Fig. 3), adapted to engage the links of chain 11, is cut downwardly from hole 12. This slot is made only sufficiently wide to receive one of the links of the chain when it is arranged in a vertical position. Hence when one of the links is so positioned in the slot its walls engage the link on each side and prevent further movement of the chain. The elasticity of spring 14 makes it possible to drop one of the chain links in slot 15 after movable clamp 7 has been adjusted to a desired position.

To provide for lifting chain 11 out of slot 15 in case it sticks, a lever 16 is pivotally attached to board 13 immediately below the slot, being held in place by a strap 17 as illustrated more particularly in Fig. 3.

Both fixed clamp 6 and movable clamp 7 are made in the form of angles, and are so attached to the bench that one leg of the angle extends parallel and the other perpendicular to the top of the bench, so that a piece of work may be held in the vise at either the top or side of the bench. To insure their gripping the work, the faces of the clamps are provided with serrations 18 which are slanted slightly outward from the longitudinal planes of the clamps.

It will be readily understood by those

skilled in the art that a vise conforming to my invention may be built in a bench when it is first constructed, or readily attached to one already in use. Furthermore, because of its simple construction, it can be manufactured at a very low cost.

According to the provisions of the patent statutes, I have explained the principle and operation of my invention, and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. A work bench having its face provided with a longitudinal slot, a stationary work-engaging clamp attached to the bench at one end of said slot, said clamp having one portion of its work-engaging surface arranged parallel to the top of the bench and another portion extending over the edge of the bench at right angles to the top portion, a tail block arranged to slide in the slot, a work-engaging clamp of the same shape as said stationary clamp attached to said block, a cable attached to said block for moving said clamp into engagement with a piece of work disposed between it and said stationary clamp, and means for holding the cable and clamp in adjustable work-engaging positions.

2. A work bench provided in its top with a slot parallel with one of its edges, a stationary work-engaging clamp attached to the bench at one end of said slot, a tail block arranged to slide in said slot, a work-engaging clamp mounted on said block, and a chain attached to said block for moving said clamp into work-engaging position, said chain being extended along the length of the bench and passed through a hole in the under structure thereof at the end of the bench, said hole having a slot-like portion adapted to engage a link of the chain to hold the adjustable clamp in a selected position.

3. A work bench provided in its top with a slot parallel with one of its edges, a stationary work-engaging clamp attached to the bench at one end of said slot, a tail block arranged to slide in said slot, a work-engaging clamp mounted on said block, a chain attached to said block for moving said clamp into a work-engaging position, said chain being extended along the length of the bench and passed through a hole in the under structure thereof at the end of the bench, said hole having a slot-like portion adapted to engage a link of the chain to hold the clamp in a selected position, and a lever pivotally attached to the bench below and adjacent to the slot for lifting the chain out of the slot.

In testimony whereof, I sign my name.
HARRY B. DROUTZ.