

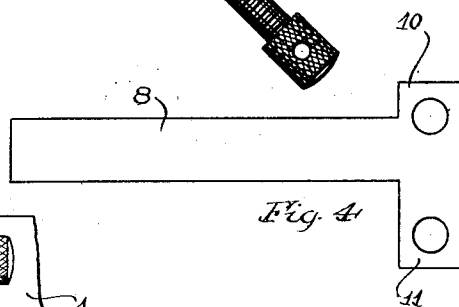
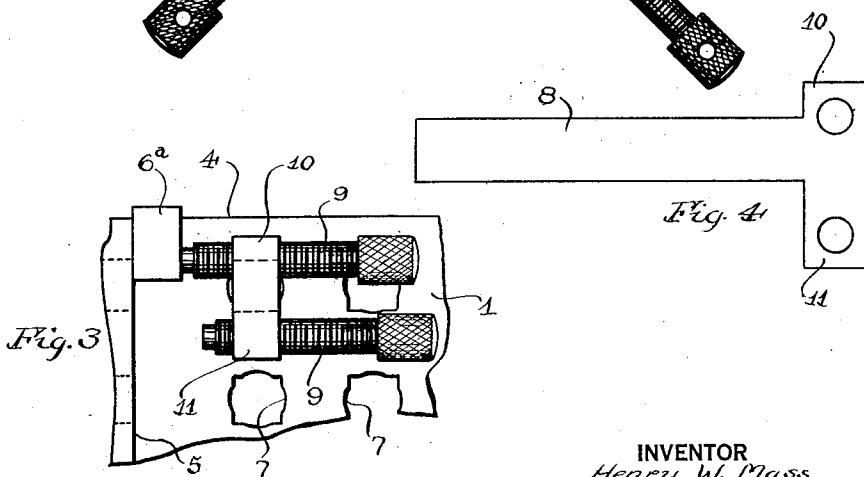
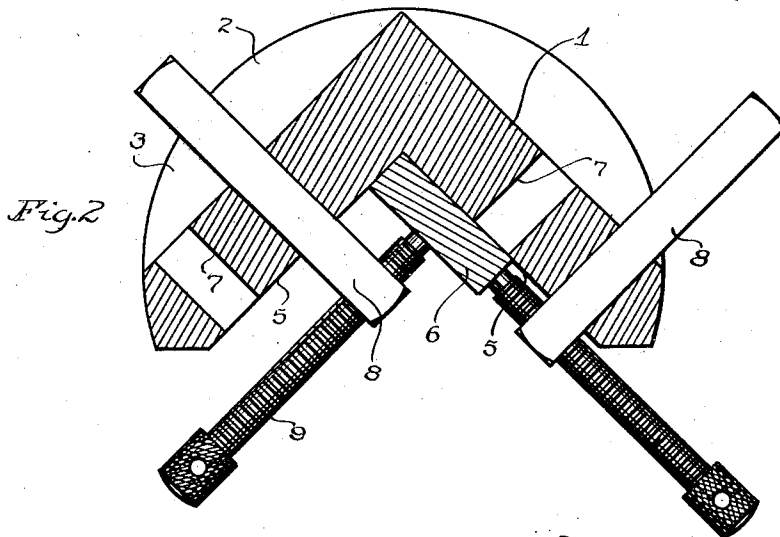
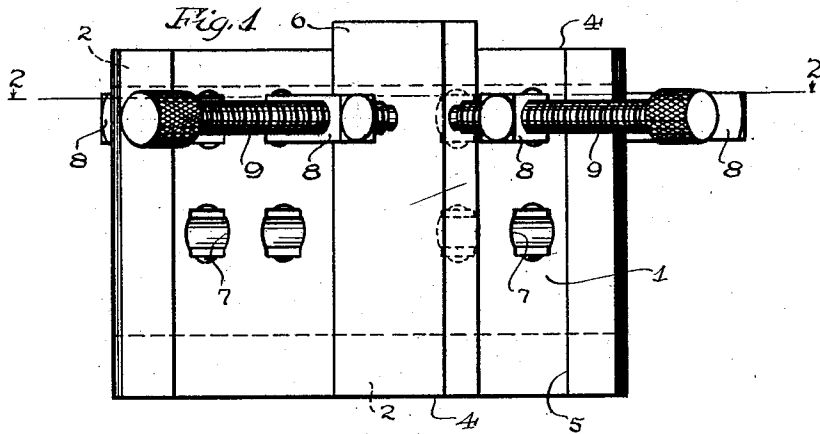
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WORKHOLDING CLAMP

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WORKHOLDING CLAMP

Application filed May 25, 1929. Serial No. 366,044.

The present invention relates to work holding clamps and more particularly to the type for accurately positioning work pieces in metal working machines such as drill presses, planers, grinders, lathes etc.

An object of this invention is to provide a construction which is adapted to hold effectively work pieces of various sizes and shapes with reference to a plurality of planes at angles to each other.

To this and other ends, the invention consists of certain parts and combinations of parts all of which will be hereinafter described; the novel features being pointed out in the appended claim.

In the drawings:

Fig. 1 is a face view of a clamp constructed in accordance with this invention.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a detail view showing a slide adapted for use with work that cannot be held by the slides shown in Figs. 1 and 2; and

Fig. 4 is a detail view of the slide shown in Fig. 3.

In the illustrated embodiment of the invention there is employed a frame or block made of steel, and having two angularly arranged intermediate portions 1 and end portions 2 projecting beyond the intermediate portions to provide flanges 3 which serve to provide portions through which the body may be clamped in position on the metal working machine. The faces 4 of the end portions are plane faces and are parallel so that either end of the body may cooperate with a plane face on the metal working machine. The angularly arranged portions 1 are each provided with a plane face 5 which is perpendicular to the faces 4 and extends between them, each face 5 forming at an angle preferably at a right angle to the other face 5. A work piece 6 positioned against the two faces 5 will be perpendicular to the faces 4.

With the end in view of firmly holding work pieces of different shapes and sizes in firm engagement with both faces 5, clamping means of novel construction is provided. In this instance, each portion 1 is provided

with a plurality of openings passing therethrough and having guide walls 7 which are perpendicular to the face 5 of such portion. In this instance, four guides are provided in each portion 1 arranged in the form of a square. For operating on these guides slides 8 are provided which are so formed that they conform generally to the shape of the guide openings in cross section and are non-circular so that they cannot turn in said guide openings. This arrangement permits each guide to move freely in a line perpendicularly to one face 5 and parallel with the other face 5. Each slide 8 carries a clamping device which in this instance, is in the form of a clamping screw 9 passed through the slide transversely and at right angles to the line of movement of the slide so as to hold the work piece against that face 5 which is parallel to the line of movement of the slide by which the screw is carried. The guide on which a slide is arranged depends on the size of the work piece. Each slide, in this instance, may be positioned on any one of four guides each positioned at different points with reference to the plane face against which the work is clamped by the clamping device. For narrow work pieces the guides nearest the junction between the two faces are employed, whereas, for wider pieces the guides farther from the junction are employed. For short pieces the guides nearer the upper end of the frame or block are employed whereas for longer pieces the guides nearer the bottom of the block are employed, the workman selecting the guides best adapted for the work pieces. The slides are freely movable on the guides to position the clamping devices at the best points for engaging the work, and the clamping of the work by the clamping devices acts to bind the slides on their guides against freedom of movement.

In Fig. 3 the slide is designed for work pieces 6^a which are required to be engaged at points between the guides. In this form of the guides two extensions 10 and 11 of different lengths are projected from opposite sides of the slide 8 and carry the screw clamping devices 9. Either one or both of

these clamping devices may be employed for engaging the work piece.

What I claim as my invention and desire to secure by Letters Patent is:

- 5 As a new article of manufacture, a work holder consisting of a metal block comprising two like members disposed at a right angle to each other and having outwardly disposed flanges at opposite ends and provided with a plurality of openings extending
10 therethrough, the flanges providing means for clamping the holder to a machine, a slide selectively engageable with an opening of each of the members and freely slidable
15 therein and of noncircular outline in cross section to prevent turning, and a screw at the inner end of each of the slides, the screws coacting to clamp the work in the angle and against the faces of the holder and, at the
20 same time secure the slides in the required adjusted position.

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