

Dec. 9, 1947.

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2,432,352

DETACHABLE SUPPORT FOR U-BEAM SCREW CLAMPS

Filed June 4, 1945

2 Sheets-Sheet 1

Fig. 1.

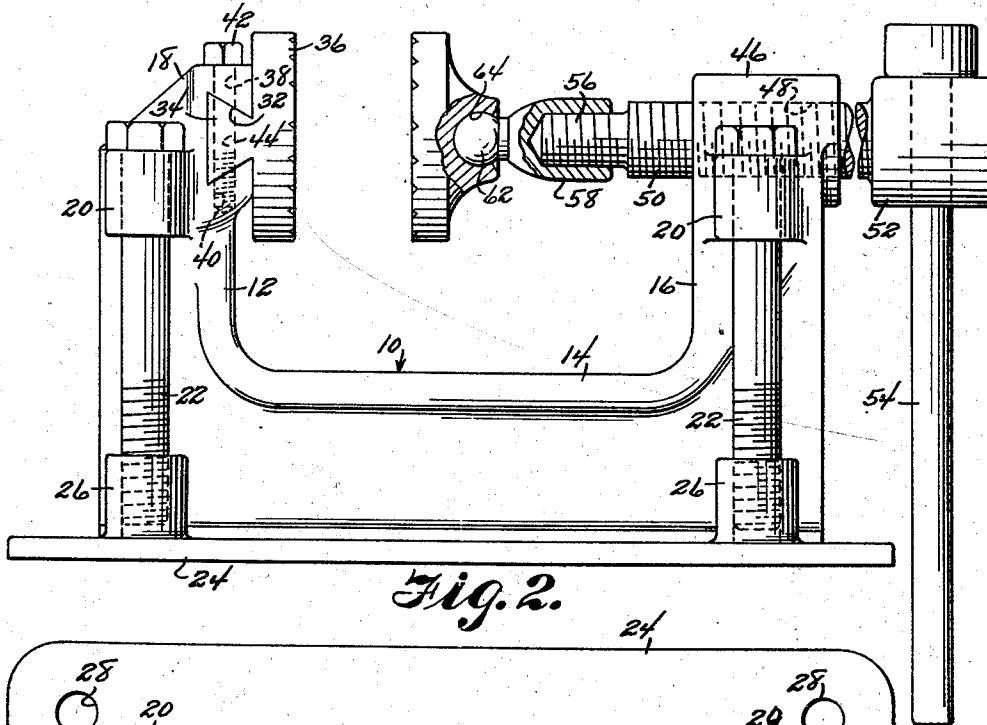
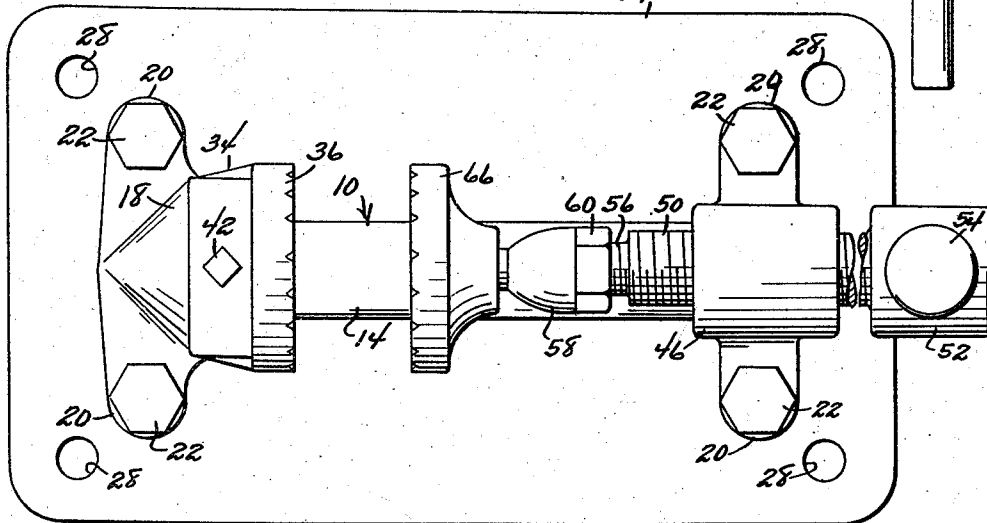


Fig. 2.



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Fig. 3.

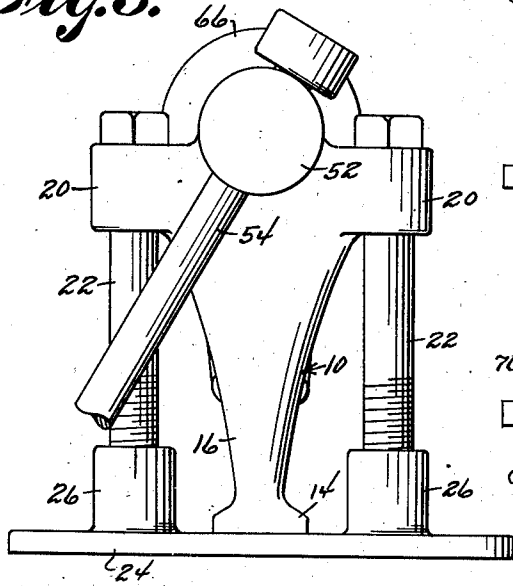


Fig. 5.

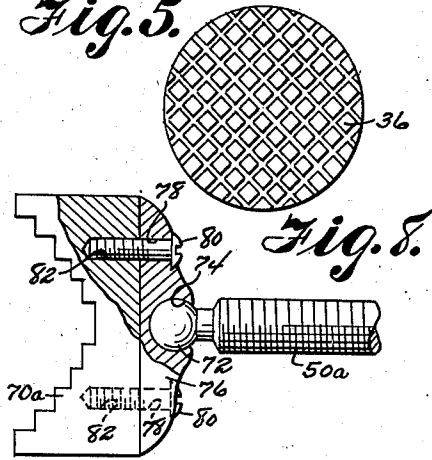


Fig. 8.

Fig. 6.

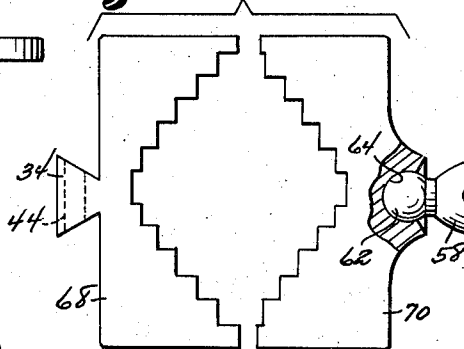


Fig. 4.

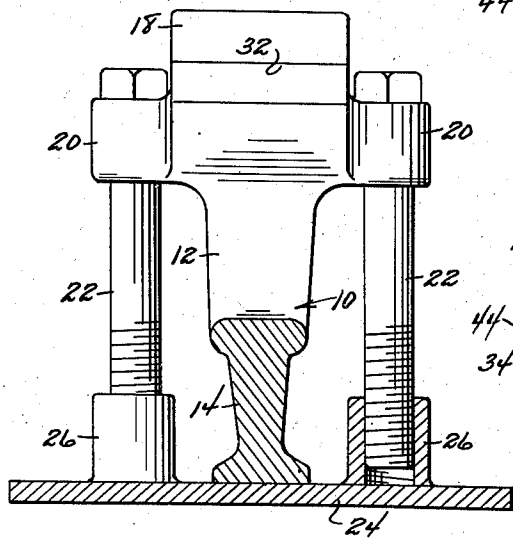
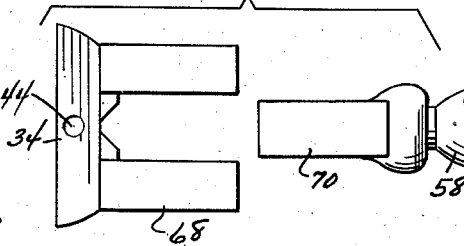


Fig. 7.



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DETACHABLE SUPPORT FOR U-BEAM SCREW CLAMPS

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Application June 4, 1945, Serial No. 597,442

2 Claims. (Cl. 81-33)

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This invention relates to vise clamps and more particularly to that type of device that can be used on a support as a vise and be removed therefrom and used as a clamp.

An object of the invention is to provide a device having removable jaws that will permit it to be used as a machinist's vise or a pipe vise.

With this and other objects and advantages in view the invention further includes the following novel features and details of construction to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:

Fig. 1 is a side elevation partly in section of an embodiment of the invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is an end view.

Fig. 4 is a detailed sectional view.

Fig. 5 is a front view of one of the removable jaws.

Fig. 6 is a side view of a modified removable jaw.

Fig. 7 is a top plan view thereof, and

Fig. 8 is a modification of the removable jaw attaching means.

Referring more in detail to the drawings, 10 designates the frame of the vise formed of an upright 12 with a horizontal bar 14 extending therefrom that has an upright 16 at the other end thereof.

The uprights 12 and 16 are substantially triangles in shape with the apex or bar 14 substantially I-shaped in cross section.

The head or top portion 18 of the upright 12 is formed with apertured lugs 20 which are adapted to receive machine bolts 22 therein.

The bolts 22 are vertically positioned with relation to the frame 10 and are adapted to removably secure the frame 10 to a rectangular base 24 by being threaded into complementary internally threaded sockets 26 which are welded to the base 24. The base 24 is provided with openings 28 by which the base can be secured to a bench or other type of support by suitable fastening means.

The head 18 of the upright 12 is provided with a dovetailed space or socket 32 which is adapted to removably receive the wedge shaped projection 34 of the machinist jaw 36.

The head 18 is provided with aligned openings 38 and 40, the openings 40 being internally threaded to receive the complementary threaded end of the machine bolt 42, which extends through the opening 38 of the head 30 and the opening 44 in the wedge shaped projection 34.

The bolt 42 thereby retains the jaw 36 in opera-

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tive position in the head 18 but if it is desirable to remove the jaw 36 for any reason, it can be easily done by removing the bolt 42 and sliding the wedge 34 from its complementary socket 32.

The circular head 46 of the upright 16 is constructed similar to the head 18 having lug 20 to receive the bolts 22 for reception in sockets 26, and is further provided with an internally threaded hole or opening 48 for engagement with a complementary externally threaded screw 50.

The screw 50 is provided with a head 52 on one end thereof in which slides a handle 54 by which the screw is operated.

The other end 56 is externally threaded and the circumference thereof is in reduced proportion to the circumference of the screw 50.

The end 56 of the screw 50 is adapted to be received in the internally complementary threaded socket 58 which is formed with a hexagonal shaped portion 60 which is provided on the socket 58 to tighten the socket 58 in place thereon.

The socket 58 is provided with the ball 62 which is received in the socket 64 formed on the removable jaw 66, thereby forming a universal joint between the jaw 66 and socket 58.

If it is desired to use the vise for a pipe vise the pipe jaws 68 and 70 shown in Figs. 6 and 7 can replace the jaws 36 and 66.

As shown the jaw 68 is formed with the wedge portion 34 and the jaw 70 is provided with the socket 64 for the reception of the ball 62 of the socket 58.

Therefore both sets of jaws are interchangeable.

In Fig. 8 there is shown a modification of the attaching means for the removable jaw as applied to the pipe jaw 70a.

In this instance the screw 50a is formed on the end with the integral ball 72 which is received in the socket 74 formed in the jaw attaching plate 76. The plate 76 is provided with openings 78 positioned adjacent the ends thereof which are adapted to receive the bolts 80. The jaw 70a having internally threaded bores 82 therein can therefore be secured in face-to-face relation with the plate 76 by means of the bolts 80 entering the bores 82 and being tightened therein.

This method of attaching the jaws is simple and economical and the jaws can be changed in an expeditious manner.

By unscrewing and removing the bolts 22 from their corresponding sockets 26 the frame 10 can be removed from the base 24 and used independently therefrom as a clamp.

There is thus provided a device that can be

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supported upon a base or the like to be used as a vise or be removed therefrom to be used as a clamp.

It is to be understood that the invention as illustrated is susceptible of various changes in its form, proportions and minor details of construction and the right herein is reserved to make such changes as properly fall within the scope of the appended claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A device of the character described comprising a frame having a horizontal bar and uprights at the end thereof, apertured lugs formed at the upper ends of said uprights in opposed relation to each other, a rectangular base underlying said frame, threaded sockets on said base in alinement with said lugs, means engageable in said lugs and said sockets for securing said frame to said rectangular shaped base, a head on one of said uprights having a socket thereon to removably receive a jaw therein, the other of said uprights having a circular head thereon to receive a screw

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therein and means for removably securing a second jaw to said screw.

2. The invention as described in claim 1, whereby the removal of the securing means for said frame permits said frame to be used independently of said base.

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