

April 21, 1925.

1,534,436

E. F. WILKINSON

BENCH ARBOR PRESS

Filed June 24, 1922

2 Sheets-Sheet 1

Fig. 1.

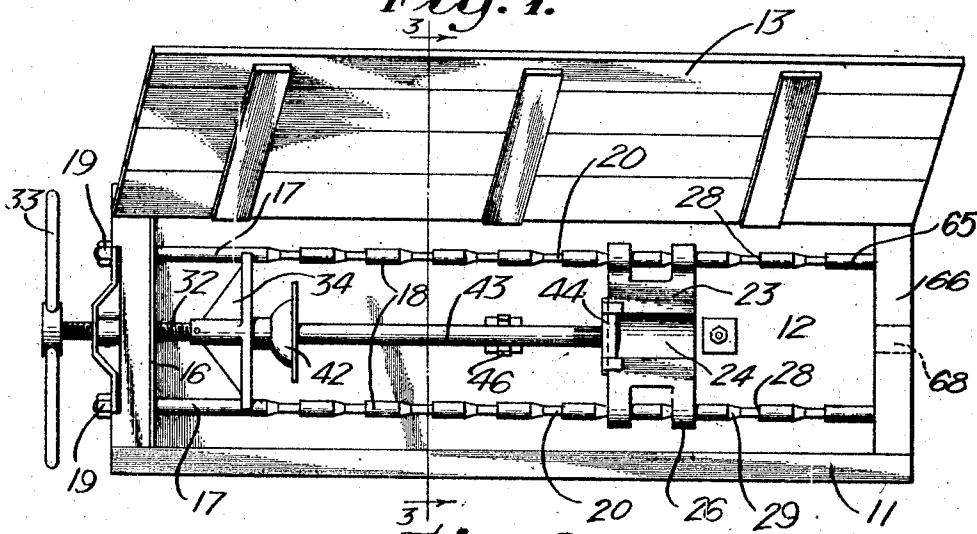
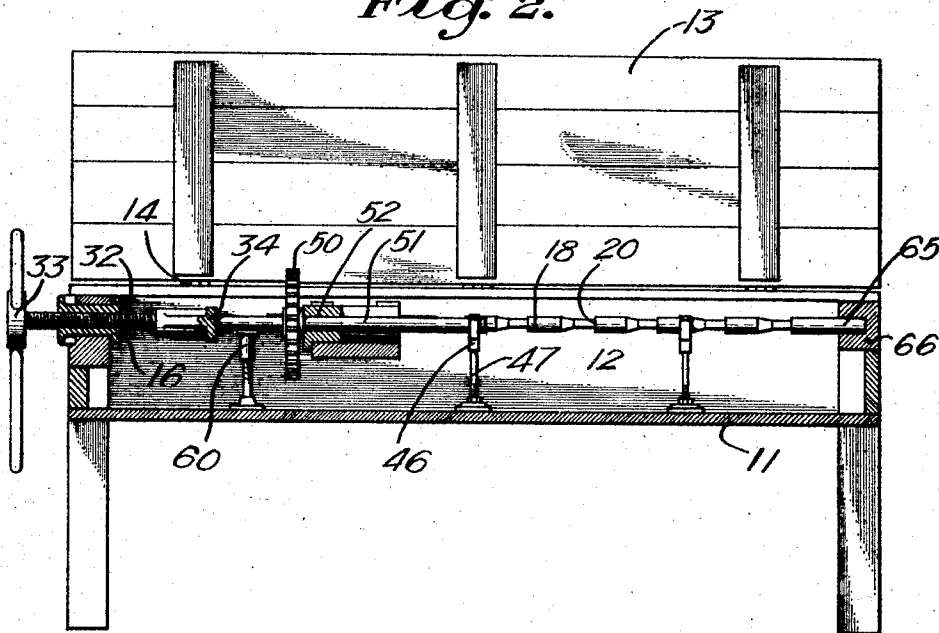


Fig. 2.



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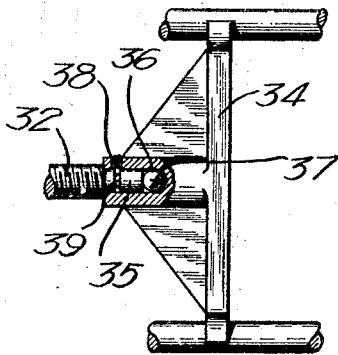
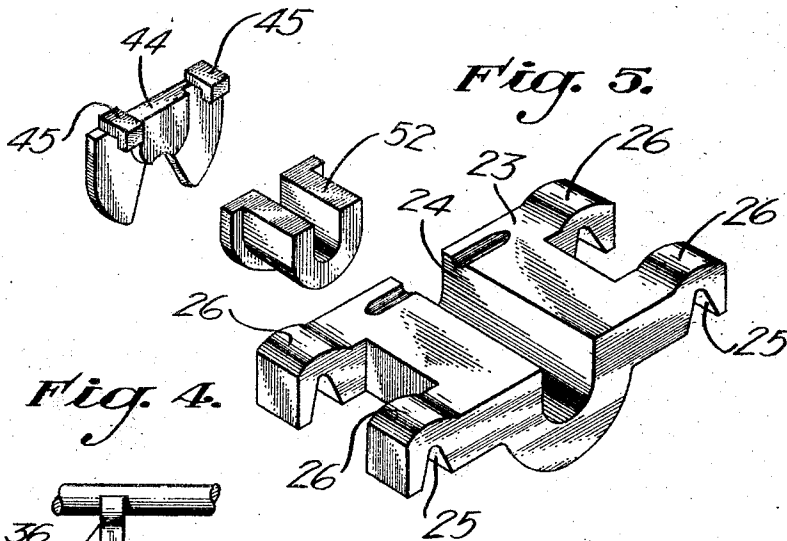
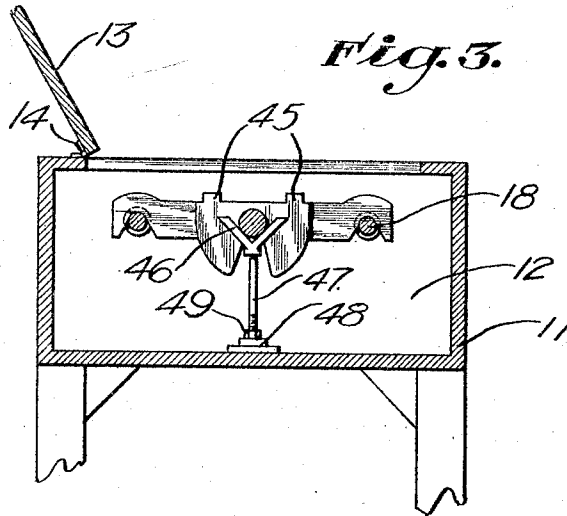
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2 Sheets-Sheet 2



INVENTOR:
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UNITED STATES PATENT OFFICE.

EDWIN F. WILKINSON, OF LOS ANGELES, CALIFORNIA.

BENCH ARBOR PRESS.

Application filed June 24, 1922. Serial No. 570,548.

To all whom it may concern:

Be it known that I, EDWIN F. WILKINSON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented a new and useful Bench Arbor Press, of which the following is a specification.

This invention relates to machine shop and garage equipment and consists especially of manually operated apparatus for assembling and disassembling machine parts.

It is an object of the invention to provide an arbor press which is particularly adaptable to utility in garages and which may be incorporated in a machine shop work bench.

It is a further object of the invention to provide a device of this character in which the parts to be pressed one upon the other may be properly held and ample pressure applied thereto to accomplish the desired operation.

It is a further object of the invention to provide an arbor press, which may be easily adjusted to different lengths and diameters of the articles.

It is also an object to provide a device of this character embodying simplicity of construction and therefore being economical of manufacture.

The specific advantages of the invention and further objects thereof will be made evident hereinafter.

Referring to the drawings which are for illustrative purposes only:

Fig. 1 is a plan view of a bench arbor press embodying the features of my invention.

Fig. 2 is a vertical longitudinal section through the arbor press, in which view a shaft is shown being forced through a spur gear.

Fig. 3 is a fragmentary sectional view taken upon a plane represented by a line 3—3 of Fig. 1.

Fig. 4 is a fragmentary plan detail illustrating the manner in which the crosshead I employ is joined to the drive screw of the apparatus.

Fig. 5 is a perspective view showing the anvil and the attachments which are provided therewith.

The work bench 11 shown in the drawings has a chamber or recess 12 formed therein, provided with a cover 13 which hinges to the bench at 14 and constitutes the top of the work bench when closed over the recess 12. At one end of the bench 11 and extending

across the full width thereof, I mount a yoke 16 which receives the ends 17 of the lateral members 18 which pass through the yoke 16 and are secured in place by nuts 19 situated upon the outside of the yoke.

The lateral members 18 are provided with a series of notches 20 and are preferably formed from round bar stock with the notches 20 turned therein as shown. Supported upon the lateral members is an anvil 23 having the form best illustrated in Fig. 5. This anvil provides a central groove 24 in which the shafts or bar stock may rest, and has V-shaped channels 25 formed in the laterally extending arms 26 thereof, which channels 25 rest over the lateral members 18 with the arms 26 resting in the notches 20, these notches being so formed that shoulders 28 are provided facing the yoke 16 while the opposite extremities of each of the notches 20 are tapered as shown at 29 so that the anvil may be moved upon the lateral members 18 toward the yoke 16, but is prevented from moving away from the yoke by the engagement of the arms 26 with the shoulders 28.

A screw 32, threaded centrally through the yoke 16, has a spider 33 detachably mounted upon the exterior ends thereof whereby the screw 32 may be turned, and makes engagement with a crosshead 34 as shown in Fig. 4. The inner end 35 of the screw 32 is turned down to a reduced diameter and is inserted in a hole 36 formed in the crosshead 34 and bears against a steel ball 37 situated within this hole 36. For holding the screw 32 and the crosshead in operative association, a dog pointed screw 38 engages an annular slot 39 cut in the reduced end 35 and prevents the screw and the yoke from becoming disengaged.

In Fig. 1 of the drawing my invention is shown in the operation of forcing a wheel plate 42 upon an axle shaft 43. In this utility the attachment 44 is employed to obstruct the groove 24. This attachment is provided with a pair of hook members 45 which are adapted to rest over the top of the anvil and serve as a means for maintaining it in place. The axle shaft 43 is supported before the anvil 23 upon saddles 46 which are mounted upon the upper end of posts 47. These posts 47 are supported in plates 48 and are adjustable in height by nuts 49 which are threaded upon the lower end of each of the posts 47.

In Fig. 2 of the drawing a gear 50 is shown being removed from a shaft 51. In this application of my device the reducer 52 is employed, the shaft resting therein and being forced by the crosshead 34 through the gear 50 which abuts the front face of the anvil.

For supporting various other articles between the crosshead and the anvil, a flat headed attachment such as shown at 60 may be employed; although, for most purposes it is most convenient to use the saddles 46.

The rear ends 65 of the lateral members 18 may be supported in the end piece 66 of the bench, as shown, it being not necessary to otherwise secure the ends 65, as all the stresses incurred in the lateral members are received by the yoke 16. An opening 68 is also provided through the end member 66 through which shafts of greater length than the bench 11 may extend when in the arbor press.

The particular advantages of my invention reside in the simplicity with which the device may be constructed, its adjustability to different forms and sizes of machine parts, and its convenient location when the use thereof is required.

I claim as my invention:

1. In an article of the class described, the combination of: a bench having a covered recess; an anvil disposed within said recess; a crosshead horizontally movable within said recess; and a screw for forcibly moving said crosshead toward or away from said anvil.

2. In an article of the class described, the combination of: a bench having a covered recess; an anvil adjustably disposed within said recess; a crosshead horizontally movable within said recess; and a screw for forcibly moving said crosshead toward or away from said anvil.

3. In an article of the class described, the combination of: a bench having a covered recess; an anvil disposed within said recess; a crosshead horizontally movable within said recess; a yoke mounted across the width of said recess; and a screw having threaded engagement with said yoke for moving said crosshead toward or away from said anvil.

4. In an article of the class described, the combination of: a bench having a covered recess; an anvil adjustably disposed within said recess; a crosshead horizontally movable within said recess; a yoke mounted across the width of said recess; and a screw having threaded engagement with said yoke for moving said crosshead toward or away from said anvil.

5. In an article of the class described, the

combination of: a bench having a recess therein open at the top; a cover for said recess hinged to said bench; a yoke mounted across one end of said recess; lateral members extending from said yoke into said recess; an anvil mounted upon said lateral members; a crosshead between said anvil and said yoke; and a screw threaded through said yoke for moving said crosshead toward or away from said anvil.

6. In an article of the class described, the combination of: a bench having a recess therein open at the top; a cover for said recess hinged to said bench; a yoke mounted across one end of said recess; lateral members extending from said yoke into said recess; an anvil mounted upon said lateral members; and screw means associated with said yoke having movement toward or away from said anvil.

7. In an article of the class described, the combination of: a bench having a recess therein open at the top; a cover for said recess hinged to said bench; a yoke mounted across one end of said recess; lateral members extending from said yoke into said recess; an anvil adjustably mounted upon said lateral members; a crosshead between said anvil and said yoke; and a screw threaded through said yoke for moving said crosshead toward or away from said anvil.

8. In an article of the class described, the combination of: a bench having a recess therein open at the top; a cover for said recess hinged to said bench; a yoke mounted across one end of said recess; lateral members extending from said yoke into said recess; an anvil adjustably mounted upon said lateral members; and screw means associated with said yoke having movement toward or away from said anvil.

9. In an article of the class described, the combination of: a bench having a recess therein open at the top; a cover for said recess hinged to said bench; a yoke mounted across one end of said recess; lateral members extending from said yoke into said recess; said members having notches formed along the length thereof; and an anvil supported upon said lateral members and adapted to engage certain of said notches thereupon so as to be confined to the designated location upon said lateral members; a crosshead between said anvil and said yoke; and a screw threaded through said yoke for moving said crosshead toward or away from said anvil.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 19th day of June, 1922.

EDWIN F. WILKINSON.