April 9, 1968 J. J. WATSON 3,377,061

ADJUSTABLY MOUNTABLE WOODWORKER'S VISE

Filed Feb. 17, 1966 2 Sheets-Sheet 1

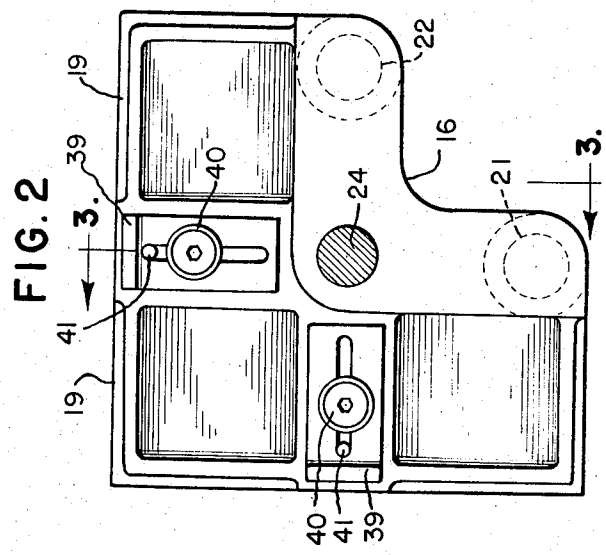


FIG. 2

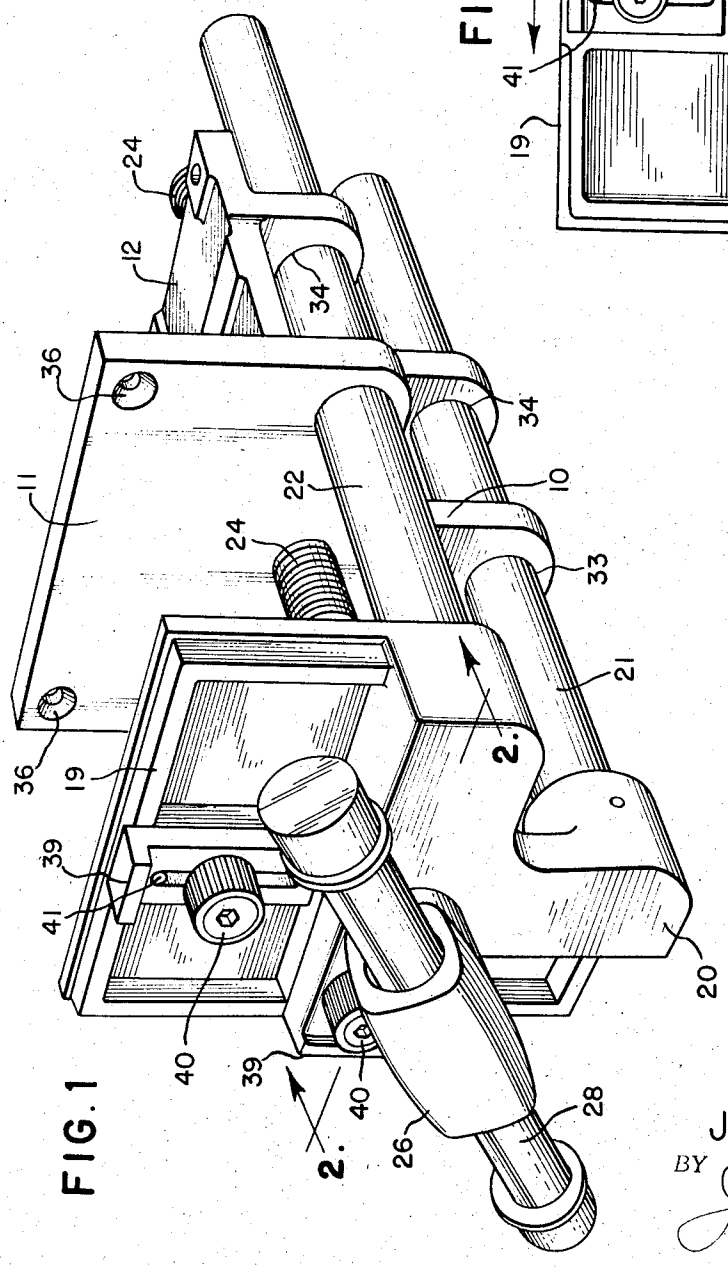


FIG. 1

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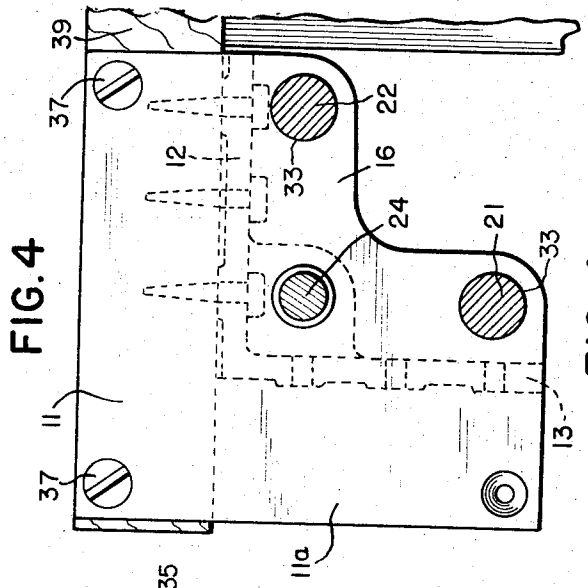


FIG. 4

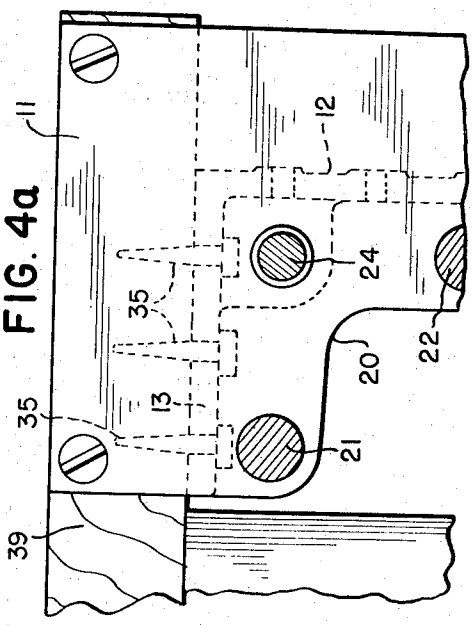


FIG. 4a

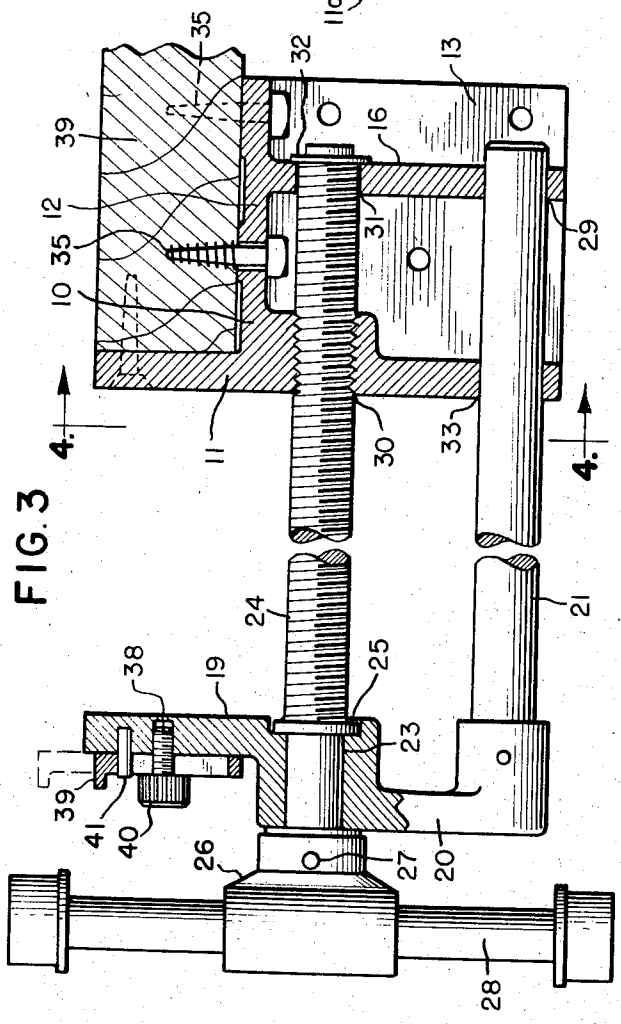


FIG. 3

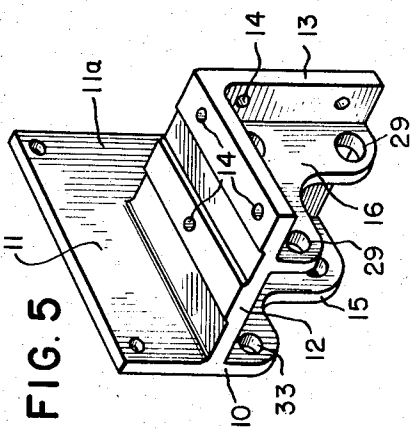


FIG. 5

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ADJUSTABLY MOUNTABLE WOODWORKER'S VISE

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Filed Feb. 17, 1966, Ser. No. 528,193
9 Claims. (Cl. 269—101)

My invention is directed to vises and adjustable clamping devices adapted to be adjustably and removably mounted on any portion and on or at either of the ends of work benches or of other work supports.

Presently known vises which have angular projecting jaws have a single apertured supporting and mounting plate connected to or integral with the vice body which plate is securable to the edge or under side of a bench. Such present vises with an angular jaw can only be secured at one end of a work bench, and purchasers and users can only mount such woodworkers vise at one end of a bench and not on either of the bench ends. This necessitates a user to purchase a left hand vise if securance to the left end of a bench is required, and if securance to a right bench end is desired, such user has to purchase a differently constructed bench vise so that the angular leg of the jaws will project from the right end portion of a bench. This requires dealers and distributors to buy and maintain an inventory of two kinds of vises of different construction, and increases the manufacturing costs of making vises of different constructions for different installations.

Such present vises have only one flat supporting or base plate requiring its securance to a bench to only one position at one end of a bench and which said plates cannot be suitably secured to the opposite end of a bench.

It is an object of my invention to provide novel adjustable vises and clamping devices which have stationary and movable jaws which are of angular shape and in which the jaws have one portion thereof positioned to extend horizontally to receive work pieces from above and which jaws have another integral leg work engaging portion extending in a generally vertical direction and beyond either end of a bench or work support; and whereby one of said opposed jaw portions will extend outwardly relative to the left end of a bench when the vise is mounted adjacent such left end, and wherein the other of said jaw portions of the same vise will extend outward relative to the right end of a bench with the vise mounted adjacent the right end of the bench, said jaw and gripping portions providing for gripping and holding long work pieces substantially vertically at either of the two ends of a bench to permit performance of work upon the upwardly extending portion of said long pieces adjacent either end of a bench.

A further object of my invention is the provision of two apertured and connected mounting and supporting plates or webs on the body of vises which have their normally securable apertured faces at right angles to each other, so that when the vise is mounted at one end of a bench, only one of said mounting members will be flat against the underside of a bench top and securable thereto by bolts or screws, and when the vise is to be mounted at the opposite end of a bench, the other of said mounting plate faces will be positioned and secured against the flat underside of the bench to be secured to the latter by bolts or screws.

A further object of my invention is the provision of vises which have transversely extending jaw portions adapted to project beyond the ends of a bench and which have at least two mounting members or plates or webs on the bodies of the vises angularly disposed relative to each other to permit optional easy securance of the vises at

either the right end or at the left end of a bench, thereby providing for easy selective changing of position of such vises and for selective versatile mounting of the same vises in either left or right hand positions relative to work benches.

A further object of my invention is to eliminate the increased work and cost of manufacturing different types of woodworkers bench vises adaptable for securance to both ends of work benches and to eliminate the necessity for dealers to stock two different vises to fulfill the different trade requirements.

Other and further objects of my invention will be apparent from the following description and claims.

On the drawings:

FIG. 1 is a perspective view of my novel adjustable woodworker's vise which is adjustably mountable in different positions.

FIG. 2 is a front elevation thereof.

FIG. 3 is a partially cross-sectional view and partially elevational view taken on a vertical plane indicated by the lines 3—3 of FIG. 2.

FIG. 4 is a front elevational view of the stationary jaw, taken on a vertical plane, with parts in section and illustrating the vise secured on a left hand portion of a bench.

FIG. 4*a* is a partially elevational and partially cross sectional view of my novel vise illustrating same mounted in a different position on a right hand portion of a bench.

FIG. 5 is a perspective view of the stationary jaw and body and mounting plate in one of two optional positions for selective securance.

As shown on the drawings:

Referring to the drawings, numeral **10** designates a passaged metal body which has an integral flat faced stationally jaw **11** and a pair of integrally formed rearwardly extending base plates or mounting and supporting plates **12** and **13** whose mounting faces are substantially at right angles to each other, as indicated in FIG. 5. Each of said mounting plates **12** and **13** have a plurality of apertures **14** therein, preferably three in number, as indicated in FIG. 5.

The metal body **10** has a normally depending integrally formed apertured extension **15**, and a transversely extending apertured reinforcing web **16**, having spaced apertures therein, is formed integrally with the mounting plates **12** and **13**, as indicated in FIG. 5.

The stationary jaw **11** has two connected grippable portions, one grippable portion **11***a* projecting beyond the plane of the mounting plate **13** and being integral with the portion **11** of said jaw, as indicated in the drawings.

As illustrated in FIGS. 1, 2 and 3, the front movable jaw has formed therein two threaded recesses **38**, each being inward of the straight edge of the grippable portions of said jaw **19**. A slotted dog or pawl **39**, illustrated in FIGS. 1, 2 and 3, is slidably mounted on the outer face of each of the two integral gripping portions of the movable jaw **19**, as indicated in FIGS. 1 and 3. A knurled threaded screw **40** is threaded in each of the two threaded recesses **38**, and which is manually rotatable to release said slidable dogs **39** or to secure it in either retracted position or in outwardly projected position as indicated in dotted lines in FIG. 3. Each of said dogs **39** is slidably mounted and guided on a metal stud **41** whose inner end portion is suitably secured in the jaw **19**, as illustrated in FIG. 3. Said dogs **39**, when projected, provide a means for pressing and clamping relatively wide objects, such as doors or panels, while the latter are supported on the work bench and when their opposite edge portions engage a wall or other vertical stationary support.

Numeral **19** designates the metal movable jaw, which is generally of right-angular shape and which has a relatively thicker angular apertured reinforcing portion **20** integrally formed. The downwardly extending portion **20** of

said jaw has a recess therein in which is securely mounted one end of a guide rod **21**, and the opposite leg of said jaw portion **20** has a recess therein in which is securely mounted, preferably by means of a pin, one end of a guide rod **22**.

The intermediate portion of said jaw **19** has an annular recessed passage **23** formed therein, as indicated in FIG. 3, in which is journalled one end portion of a screw or threaded spindle **24**, shown in elevation in FIG. 3. Spindle **24** has an annular integral flange **25** thereon, as shown in FIG. 3, which seats in and rotates in the recess of the said passage in jaw **19**. The adjacent end portion of the spindle or screw **24** has secured on it a metal T-shaped fitting **26**, preferably by means of a metal pin **27**. A grippable handle **28** of conventional type is slidably mounted in the transverse passage of the T fitting **26**, as indicated in the drawings.

The passage **30** of the body **10** is internally threaded and said spindle or screw **24** threadedly engages it and extends through an aperture **31** formed in the reinforcing web **16**, and same has a suitable ring or washer **32** secured thereon to limit the withdrawing and retracting movement of said screw and of said movable jaw.

The normally inner portion of the stationary jaw **11** has two apertures or passages **33** therein in which the guide rods **21** and **22** are slidably mounted respectively, and said guide rods **21** and **22** are also slidably mounted in suitable holes **29** formed in spaced apart positions in the web **16**, as indicated in FIGS. 4, 5 and 1.

Two holes are formed in the upper portion of stationary jaw **11**, and screws **37** are adapted to be mounted therein to and in securing said jaw to a work bench **39** as illustrated in FIGS. 3 and 4.

The mounting plates **12** and **13** provide means for optional and selective alternative mounting of said vise at either the left or at the right end of a work support or work bench **39**, this by means of a plurality of lag screws **35** or equivalent fastening elements which are partially illustrated in FIGS. 3, 4 and 4*a*. For example, as illustrated in FIG. 4, the vice is suitably secured by screws **35** as indicated, at the left hand portion of a work bench in such a way that the opposed vertically extending portions of the stationary jaw and of the movable jaw will be open to the left to quickly and easily receive longer vertically or upwardly disposed work pieces.

Due to the wide variety of work bench installations and mountings thereof, either adjacent to a wall or to other stationary objects, or due to situations where the worker desires to have work pieces gripped adjacent the left hand portion of a bench, it is in such instances desirable to mount the said vise adjacent to and connected to the left hand end of a work support or work bench, as illustrated in FIG. 4.

In instances where it is necessary or desirable that the work pieces be gripped and held at the right hand portion of a work bench or the like, the said described vise having my novel described features would be installed and secured in a position at the right hand end portion of a work bench as illustrated in FIG. 4*a*, and wherein the other of said mounting plates would be secured against the bench and wherein the opposed vertically extending jaw portions (which in the previous installations were in horizontal position) would be open to the right to receive and to clamp work pieces in various positions.

Among the advantageous and novel structural features of my described vise are the novel means including the right-angled base supporting and mounting plates which provide for optional and alternative securance of the said vise either in a lefthand position, or in a righthand position relative to work benches and work supports, and this has the further advantage of eliminating the additional cost of manufacturing two separate and different vise constructions in order to meet the varied mounting and installation requirements in the trade. This also provides the further advantage that manufacturers, dealers and jobbers do not have to carry in stock two separate kinds of vises to fulfill the different requirements of customers and users. A further advantage is the provision of a slidably mounted and selectively projectable dog on both of the grippable portions of movable jaws of vises, this for the purpose of releasably holding relatively wide and large objects in desired positions upon work supporting benches.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter, and it is contemplated that various changes may be made in the embodiment of the invention herein specifically described without departing from or sacrificing any of the advantages of the invention or any features thereof, and nothing herein shall be construed as limitations upon the invention, its concept or structural embodiment as to the whole or any part thereof except as defined in the appended claims.

I claim:

1. In an adjustable woodworker's vise, a metal passaged body of substantially right angled section and having mounting faces angularly disposed relative to each other;

an apertured stationary jaw of right angled shape integral with said body;

a projecting re-inforcing web integral with said body having spaced apertures therein;

an apertured movable jaw of right angled shape;

a spindle rotatably mounted in said movable jaw and threadingly engaging said stationary jaw;

and guide rods connected to said movable jaw and slidably engaging apertures of said web and of said stationary jaw;

one of said mounting faces being mountable at one end of a bench or the like and the other of said mounting faces being securable to the opposite end of a bench.

2. An adjustably mountable vise as recited in claim **1** and in which each of said jaws have two integral gripping portions at right angles to each other so that one of said gripping portions of both said jaws will be mounted in opposed relation to receive and clamp vertically extending work pieces, while the other of said jaw gripping portions will extend transversely to receive and clamp transversely extending work pieces.

3. An adjustably mountable woodworker's vise as recited in claim **2**, in which one of said mounting faces is securable to one end portion of a work bench to thereby position one of the gripping jaw portions in a vertical direction at one end of a bench;

and in which the other of said mounting faces is securable to the opposite end of a bench to position the other of said gripping jaw portions adjacent such opposite end of said bench.

4. An adjustably mounted vise as recited in claim **2**, in which said movable jaw has at least one slotted slidable dog;

and a manually operable screw for selectively holding said dog in either retracted position or in projected position partially beyond the edge of said jaw;

said jaw being adapted to aid in clamping large work pieces.

5. In an adjustable woodworker's vise, a metal body having a stationary jaw of substantially right-angled shape in which one leg portion of said jaw is adapted to project transversely and downwardly relative to the position of the other leg portion thereof;

a movable jaw of substantially right-angular shape having guide means and having one of its integral leg portions adapted to extend downwardly relative to the other of said jaw leg portions;

a rotatable screw journaled in said movable jaw and threadingly engaging said stationary jaw;

an apertured angular supporting plate formed integral with said body having two flat faces angularly disposed relative to each other to provide for selective mounting of either of said plate angular faces to an under side of either end portion of a work bench;

one of said portions of said stationary jaw and of said movable jaw being positionable and securable in transverse substantially horizontally extending positions while the other of said jaw portions is positionable in vertically extending positions adjacent to one end of a work bench, said vise being selectively securable at either end of a work bench, and guide rods on said movable jaw and slidably mounted in said stationary jaw.

6. An adjustable vise as recited in claim 5, and having an adjustable dog slidable on one portion of said movable jaw and adapted to be projected upwardly above the edge of said jaw to selectively engage and clamp wide work pieces.

7. An adjustable vise as recited in claim 5, characterized by said angular mounting plate being integral with said vise body and being of substantially right angled shape.

8. An adjustable vise as recited in claim 5, and in which said guide means includes an apertured extension on said stationary jaw and in which said guide rods are connected to said movable jaw and slidably engaging the apertures of said extension.

9. An adjustable vise as recited in claim 5, and having a second selectively movable dog slidably mounted on the second connected portion of said movable jaw and in a position to be projected beyond the other gripping edge of said movable jaw.

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