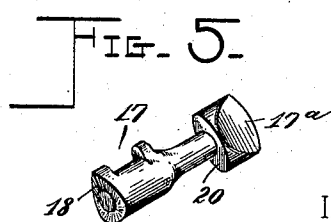
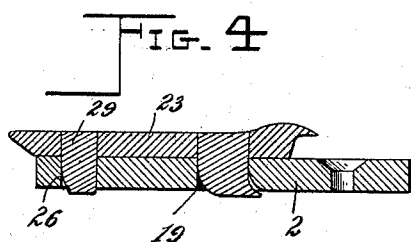
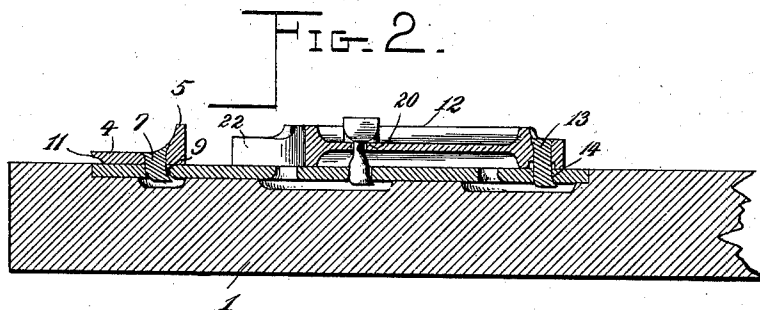
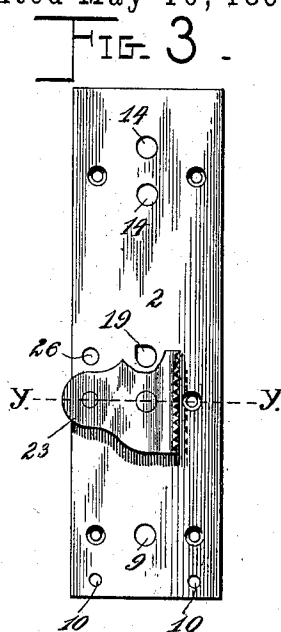
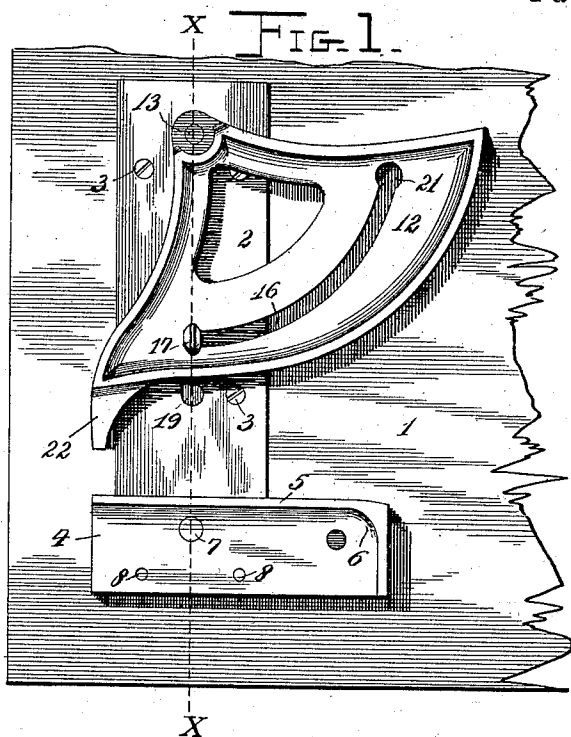


(No Model.)

J. P. ROGERS.
AUTOMATIC BENCH CLAMP AND DOG.

No. 603,970.

Patented May 10, 1898.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES P. ROGERS, OF KYLE, TEXAS.

AUTOMATIC BENCH CLAMP AND DOG.

SPECIFICATION forming part of Letters Patent No. 603,970, dated May 10, 1898.

Application filed July 15, 1897. Serial No. 644,689. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. ROGERS, a citizen of the United States, residing at Kyle, in the county of Hays and State of Texas, have invented a new and useful Automatic Bench Clamp and Dog, of which the following is a specification.

This invention relates to automatic bench clamps and dogs, more especially designed for use on carpenters' benches; and the objects of the invention are, first, to provide a simple and efficient clamp which may be easily and quickly placed in position on the bench or removed therefrom and which will automatically and firmly clamp boards of varying thicknesses and securely hold them in edgewise position on the bench against forward longitudinal movement, and, second, to provide a bench-dog which may also be easily and quickly placed in position on the bench or removed therefrom, one of the openings in the supporting-plate being utilized for securing either the dog or one member of the clamp.

With these objects in view the invention consists of the several details of construction and combination of parts hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of a portion of a bench, showing my improved clamp in position. Fig. 2 is a vertical section on the line *xx* of Fig. 1. Fig. 3 is a plan view of the supporting-plate with the clamp removed and the bench-dog in position, the latter being partly broken away. Fig. 4 is a vertical section on the line *yy* of Fig. 3. Fig. 5 is a perspective view of the locking-pin detached.

Similar reference-numerals indicate similar parts in the several figures.

1 indicates the bench, and 2 a metal plate fitted into a recess in the bench to be flush therewith and secured in position by screws 3. The stationary member of the clamp consists of a plate 4, having a vertical flange 5 at its inner side, which flange may be of any height desired to form a bearing for one side of the board. The flange will also preferably extend around the rear end of the plate 4, and the rear inner corner will preferably be rounded, as indicated at 6. The plate 4 is provided with a duck-bill pin 7, projecting

from its lower face adjacent to the flanged side, and this pin may be either integral with the plate or be firmly secured thereto in any suitable manner. The plate is also provided with straight pins 8, which also project from its lower face near its outer edge. The plate 2 is provided with an opening 9, which is undercut on one side to receive the pin 7, and also with openings 10 to receive the pins 8. In order to secure the stationary member of the clamp in place, it must be tilted sidewise to hook the pin 7 into the opening 9, then turned down to a horizontal position, when the pins 8 will enter the openings 10, and the plate 4 will be held against vertical or horizontal movement. The plate can, however, be easily removed by again tilting it up sidewise, and to facilitate this tilting movement the plate 4 is provided with a finger-slot 11 in its outer edge.

The movable member 12 of the clamp will preferably be a segmental plate provided at one of its apexes with a duck-bill pin 13, which serves as a pivot for the plate 12 and is adapted to seat on either of the openings 14 in the plate 2. These openings are undercut for about two-thirds of their circumference to permit the pin 13 to turn therein, but not to have vertical movement. The clamping-face of the plate 12 is eccentric to the pivot-pin 13 and will preferably be of the same height as the opposing face of the stationary member of the clamp. The central portion of the segmental plate will preferably be of less thickness than the edge portions, and the latter will project beyond the former on both sides of the plate for the purpose of reducing the weight of the movable member 12 and also decreasing the area of the surface to engage the plate 2, thereby avoiding unnecessary friction. The plate 12 is provided in the thinner portion thereof with a slot 16, which is concentric with the pivot 13. A pin 17 is adapted to extend through the slot 16 and is provided with a head 17^a, which is shaped to form a finger-hold. The lower end of the pin is enlarged and provided with spaced V-shaped lugs 18. Heart-shaped openings 19 are formed in the plate 2, and these openings are undercut around a portion of their circumference to receive the lower lug 18, when the pin is turned, and the upper face of the plate 2 and

the pin 17 will thus be locked against vertical movement. A shoulder 20 is formed at the junction of the head to the shank, and this shoulder will engage the plate 12 on opposite sides of the slot 16, and thereby hold the plate against vertical movement, but permit it to turn freely on its pivot. One end of the slot is enlarged, as indicated at 21, for the purpose of permitting the insertion or withdrawal of the pin into or from the openings 19.

A lug 22 projects from the front end of the clamping-face of the member 12, adapted to be engaged by the end of the board, and as the latter is pushed forward the member 12 will turn on its pivot and move the clamping-face into engagement with the side of the board. This lug may, however, be dispensed with, as the member 12 may be turned on its pivot by the frictional engagement of the board with its clamping-face.

In order to remove the member 12 from the plate 2, the pin 17 must be turned until the V-shaped lugs are in alinement with the pointed portion of the heart-shaped opening 19, when it can be withdrawn from said opening, and then by tilting the plate upwardly on the pivot-pin the latter will become disengaged from the opening 14.

It is obvious that instead of having V-shaped lugs on the pin 17 the lugs may be of any other shape desired, and the openings 19 in the plate 2 will be correspondingly shaped to permit the passage of the lugs. It is obvious that by changing the pivot 13 from one of the openings 14 to the other and at the same time changing the pin 17 from one of the openings 19 to the other the space between the clamping-face of the moving member and that of the fixed member can be increased or lessened, as the case may be. The device can therefore be used for boards of greatly-varying thicknesses.

23 indicates the bench-dog, which may be of the ordinary construction and is provided with a duck-bill pin projecting from its lower face and adapted to be fitted in either of the openings 19. The dog is also provided with a straight pin 29, adapted to be seated in one of the openings 26. This construction enables the dog to be firmly held in position on the bench, but also permits its removal in an easy and expeditious manner.

It will be understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what I claim is—

1. In an automatic clamp for benches, the combination with a plate secured to the bench to be flush therewith, of a normally-fixed clamping member, having a straight clamp-

ing-face detachably secured to said plate, a movable clamping member detachably pivoted on said plate and having a curved clamping-face eccentric to its pivot, and provided with a slot concentric to the pivot, and a headed pin passing through the slot and detachably secured to said plate to prevent vertical movement of the pivoted member, substantially as described.

2. In an automatic clamp for benches, the combination with the plate removably secured to the bench and having a straight vertical flange at one side to form a clamping-face, of a segmental plate detachably pivoted at one of its apexes to the bench and having a curved clamping-face eccentric to the pivot, and a slot concentric thereto, and a headed pin passing through the slot and detachably secured to the bench to prevent vertical movement of the segmental plate, substantially as described.

3. In an automatic clamp for benches, the combination with a supporting-plate secured to the bench flush therewith, of a clamping-plate having a straight clamping-face, duck-bill pins projecting from the lower face of said clamping-plate and adapted to be removably seated in an undercut opening in the supporting-plate, straight pins projecting from the lower face of the clamping-plate adapted to be removably seated in openings in the supporting-plate, and a segmental plate removably pivoted at one of its apexes to the supporting-plate and having a curved clamping-face eccentric to its pivot, and means to hold the segmental plate against vertical movement, substantially as described.

4. In an automatic bench-clamp, the combination with a supporting-plate secured to the bench flush therewith and having a series of undercut openings, one of said openings having also a lateral recess, of a straight clamping-plate removably secured to the supporting-plate, a plate provided with a duck-bill pivot-pin removably seated in one of said undercut openings in the supporting-plate, said pivoted plate having a curved clamping-face eccentric to its pivot and a slot concentric therewith, and a pin extending through said slot and the opening in the supporting-plate having a lateral recess, said pin having spaced lugs on its lower end engaging respectively the upper and lower faces of the supporting-plate, and having also a shoulder to engage the pivoted plate on the side of the slot, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES P. ROGERS.

Witnesses:

G. D. HARGIS,
J. L. McCORKLE.