

(No Model.)

D. F. TALLMAN.
VISE.

No. 454,779.

Patented June 23, 1891.

Fig 1.

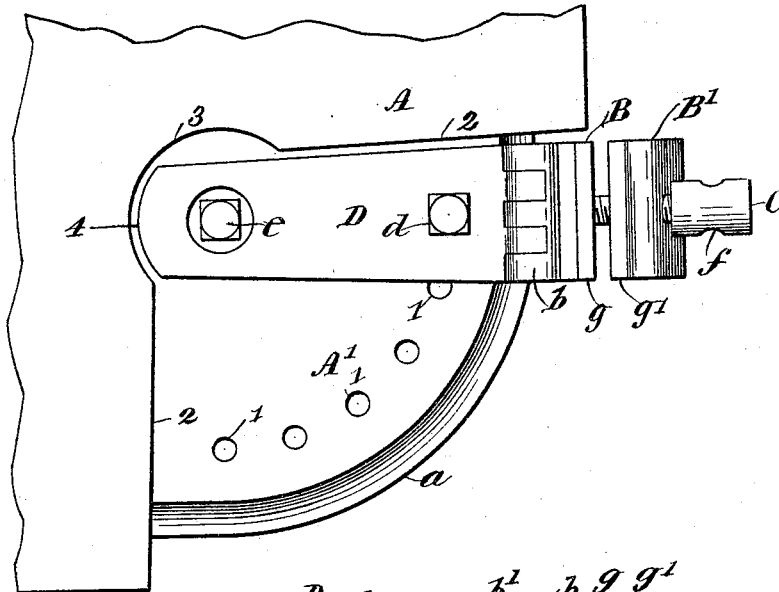
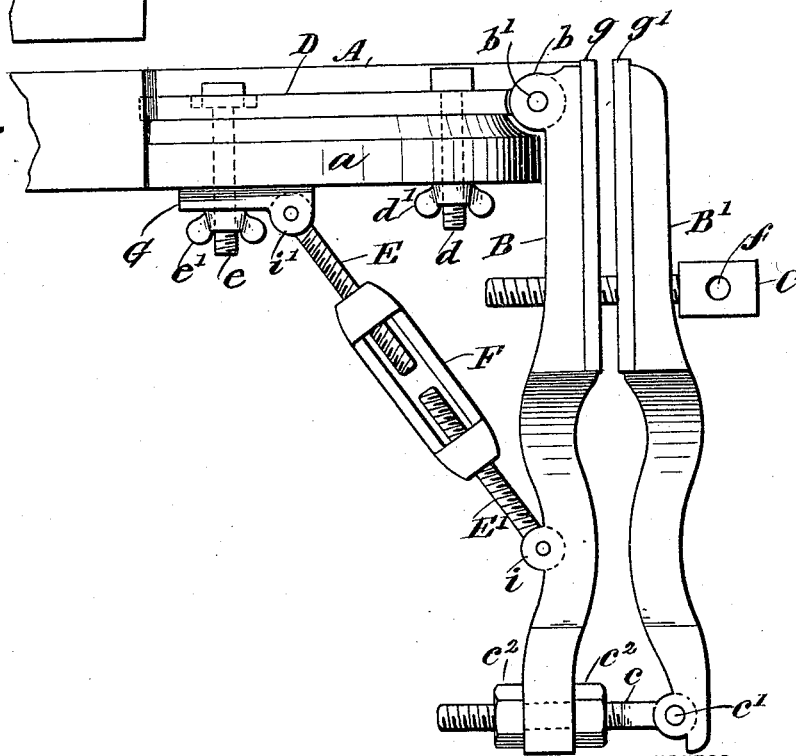


Fig 2.



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SPECIFICATION forming part of Letters Patent No. 454,779, dated June 23, 1891.

Application filed December 4, 1890. Serial No. 373,566. (No model.)

To all whom it may concern:

Be it known that I, DAVID F. TALLMAN, of Lyme, in the county of Grafton and State of New Hampshire, have invented a new and useful Vise, of which the following is a full, clear, and exact description.

This invention relates to improvements in vises for wood or metal workers' use, and has for its object to provide a simple, strong, shapely, and convenient device of the type named, which will afford means to grip and retain a piece of material inclined forwardly at any desired angle from a perpendicular plane, a further object being to so construct the vise and bench on which it is attached that the vise may be orbitally moved to throw the plane of the jaw-faces at any desired angle to the front edge of the bench-top and be detachably secured when so swung, the alteration with regard to forward inclination of the jaws being permitted at any point of orbital adjustment.

To these ends my invention consists in certain features of construction and combinations of parts, as is hereinafter described, and pointed out in the claims.

Reference is to be made to the accompanying drawings, forming a portion of this specification, in which similar letters and figures of reference indicate corresponding parts in both the views.

Figure 1 is a plan view of a bench broken and the vise connected thereto, and Fig. 2 is a side elevation of the vise in position on the end portion of a bench.

To facilitate the attachment of the vise to the bench-top A, a quadrantal open recess A' is formed near its end, terminating in perpendicular shoulders 2 2, which are at right angles, said shoulders intersecting a semicircular wall 3. At the front the corner of the bench-top is cut away, forming a quarter-circle on the edge a, which is terminated by the shoulders 2, that extend to the outer edges of the front side and end of the bench A, as shown in Fig. 1. At the radial center of the circle of which the curved edge a is an arc a vertical perforation is made through the bench for the introduction of a bolt e, and other preferably even-spaced perforations 1 are made in the bench-top at equal distances from the center bolt e. A bracket-plate D, of metal, is

provided, which is flat, and is adapted to have its top face slightly below the level of the general surface of the bench-top face when in place. Said bracket-plate, having a proper width, is cut at its inner end 4 to conform with the arc of the semicircular wall 3, and is vertically perforated at such a distance from said end 4 that the bolt e may be inserted to retain the plate in swinging adjustment within the quadrantal recess A'. At a proper distance from the pivot-bolt e a vertical bolt-hole is made in the bracket-plate D, that will register with any of the perforations 1, so that the clamping-bolt d may be freely inserted through the aligning holes at any point of radial movement given to the bracket-plate, a thumb-nut d' on said bolt at its lower end affording convenient means to secure the bracket-plate D at a desired point on the bench-top A.

The vise consists, mainly, of two nearly-similar limbs B B', which are relatively adjusted by the screw C, which is provided with the usual head that is perforated transversely, as at f, to receive a handle-lever, (not shown,) which is of the ordinary form, said screw, by its revoluble movement, serving to adjust the limbs of the vise toward or from each other, as may be required.

The jaws of the vise-limbs are, when used for holding wooden material, made of considerable length, vertically considered, and have a facing g g' applied, which may be of wood or other material which will not bruise or scratch the stuff that is held between the jaws.

At the outer end of the bracket-plate D, and on the adjacent side of the limb B at its upper end, mating sections of a knuckle-joint connection b are formed, which are loosely secured to have a hinged movement by the pintle b', which is transversely inserted in aligning perforations made in the joint-knuckles, whereby the limb B is hung dependent from the bracket-plate.

Preferably the limbs B B' are made of metal, which may be cast into form, and below the jaws g g' are similarly bent to cause their lower end portions to diverge a proper degree from each other. On the inner surface of the outer limb B', at the lower end, a screw-bolt c is pivoted, as at c', so as to be permitted to

adjust itself readily to different degrees of separation of the limbs at their lower ends. The limb B is perforated below, opposite the joint c' , on the lower limb B', for the free passage of the body of the screw-bolt c , and jam-nuts c^2 are placed each side of the limb end B on the threaded body of the bolt, which by their adjustment will retain the limbs at any necessary point of separation below. At a proper point above the screw-bolt c knuckle-joint ears i are formed on the same side of the limb B from which the knuckles of the joint b project. To the joint-ears i one end of an extension-brace is pivoted, which brace is comprised of a right-hand screw and a left-hand screw E E', joined together extensibly by the turn-buckle F, the upper end of the screw E being attached pivotally at i' to ears formed on the end portion of a swivel-plate G, which is suitably perforated to receive the depending end portion of the pivot-bolt e . A binding-nut e' thereon engaging the lower face of the swivel-plate will, by being tightened, secure the plate G wherever it is moved to align with the vise when the latter is swung around the quadrantal circular edge a , the tightening of the nuts on the bolts e and d serving to hold the vise wherever it has been orbitally adjusted, as has been explained.

If it is desired to incline both limbs of the vise forwardly or rearwardly to incline the jaws $g g'$ from a vertical plane and so pitch the material held between said jaws to facilitate the manipulation of tools in contact with parts of the same, the extension or shortening of the inclined brace by a movement of the turn-buckle F will speedily effect the desired result and the vise be retained stably adjusted until a chain is made in the length of the extension-brace.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a vise, the combination, with a bracket-plate adapted to be pivoted to and adjustably secured to a bench, of a vise hinged by one of its jaws to said plate, and an adjustable brace hinged to said jaw and to the pivot-bolt of the bracket-plate, substantially as set forth.

2. In a vise, the combination, with a jaw provided with a knuckle at its upper end and an adjustable brace hinged to said jaw, of a clamping-jaw, an adjusting-screw, and a bolt hinged to said clamping-jaw passing through

the first jaw and provided with jam-nuts, substantially as set forth.

3. The combination, with a bench cut circular at one corner and adapted to pivotally retain a swinging bracket-plate, of a bracket-plate pivoted at one end on the bench and adapted to be secured at different points of swinging adjustment, and a vise hinged to the outer end of the bracket-plate by one limb, substantially as set forth.

4. The combination, with a bench and a vise hung from the bench at its front edge, of an extensible brace secured to the vise and bench, substantially as set forth.

5. The combination, with a bench and a vise pendent therefrom at its front edge, of an extension-brace secured loosely at its ends to the vise, and a swivel-plate on the bench, substantially as set forth.

6. The combination, with a bench having one end curved to allow a bracket-plate and an attached vise to swing in an arc of a circle, a bracket-plate pivoted by one end on the bench and perforated to align its hole with any of a series of holes concentrically arranged with the curved edge of the bench, and a clamping-bolt which is inserted in holes that align, of a vise having one of its limbs hinged to the outer end of the bracket-plate, a screw for the jaws of the vise-limbs, and a lower adjusting-screw hinged to one limb and adjustably clamped to the other limb, substantially as set forth.

7. The combination, with a bench having one corner cut to an arc of a circle, a recess on the bench at this corner, a bracket-plate thereon pivoted on a bolt at the radial center of the arched edge, a clamping-bolt that is made to penetrate the bracket-plate and engages any one of a series of holes in the bench which are equidistant from the arched edge of the bench, a swivel-plate on the pivot-bolt, and a binding-nut for the pivot-bolt and clamping-bolt, of a vise having one limb hinged to depend from the bracket-plate, a screw for the jaws of the vise-limbs, an adjusting-screw below on the limbs, and an extension-brace between one limb of the vise and the swivel-plate, substantially as set forth.

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Witnesses:

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