No. 890,841. PATENTED JUNE 16, 1908.

W. E. CANEDY.

VISE.

APPLICATION FILED JUNE 7, 1907.

Fig. 1.

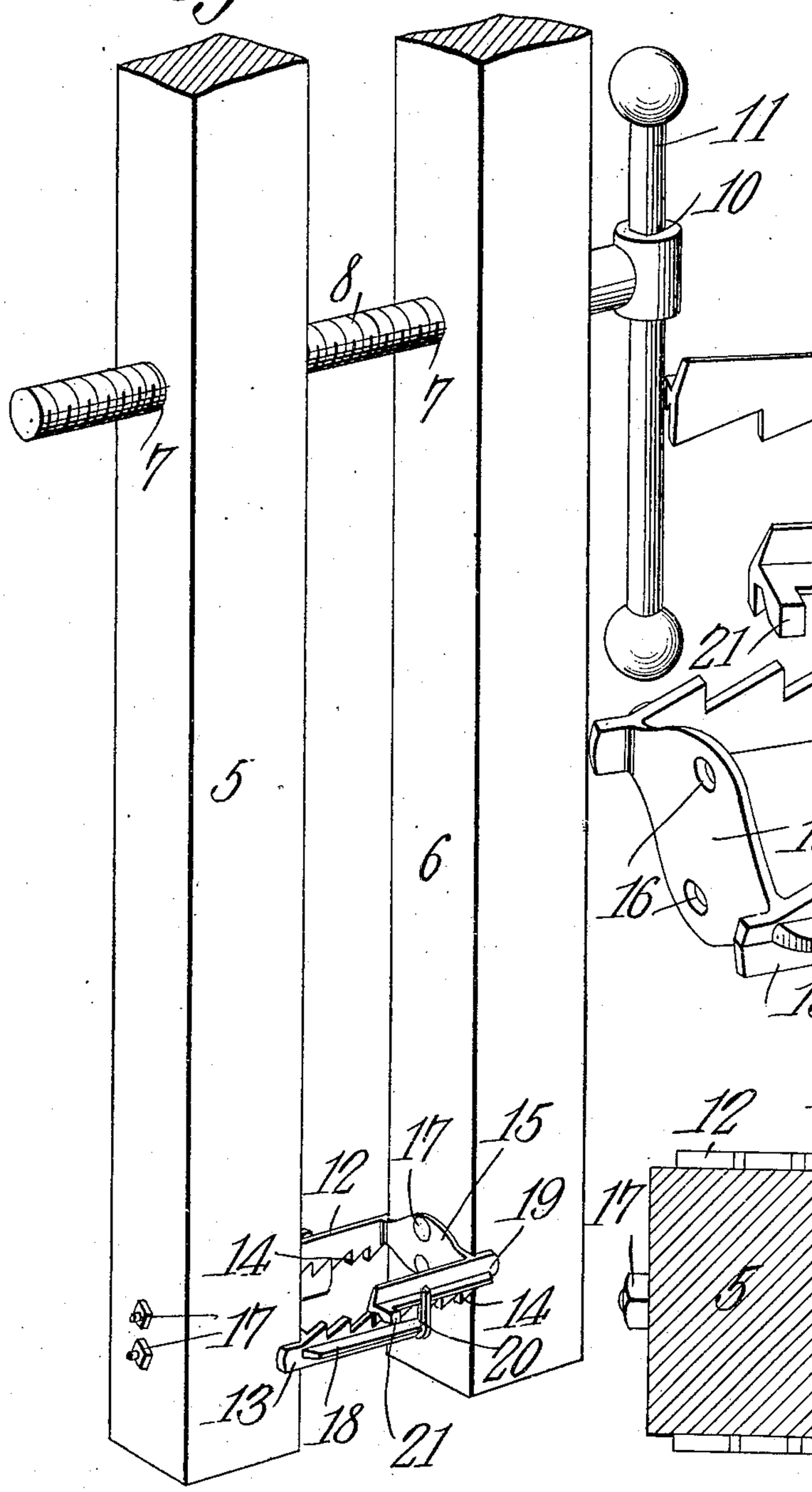


Fig. 3.

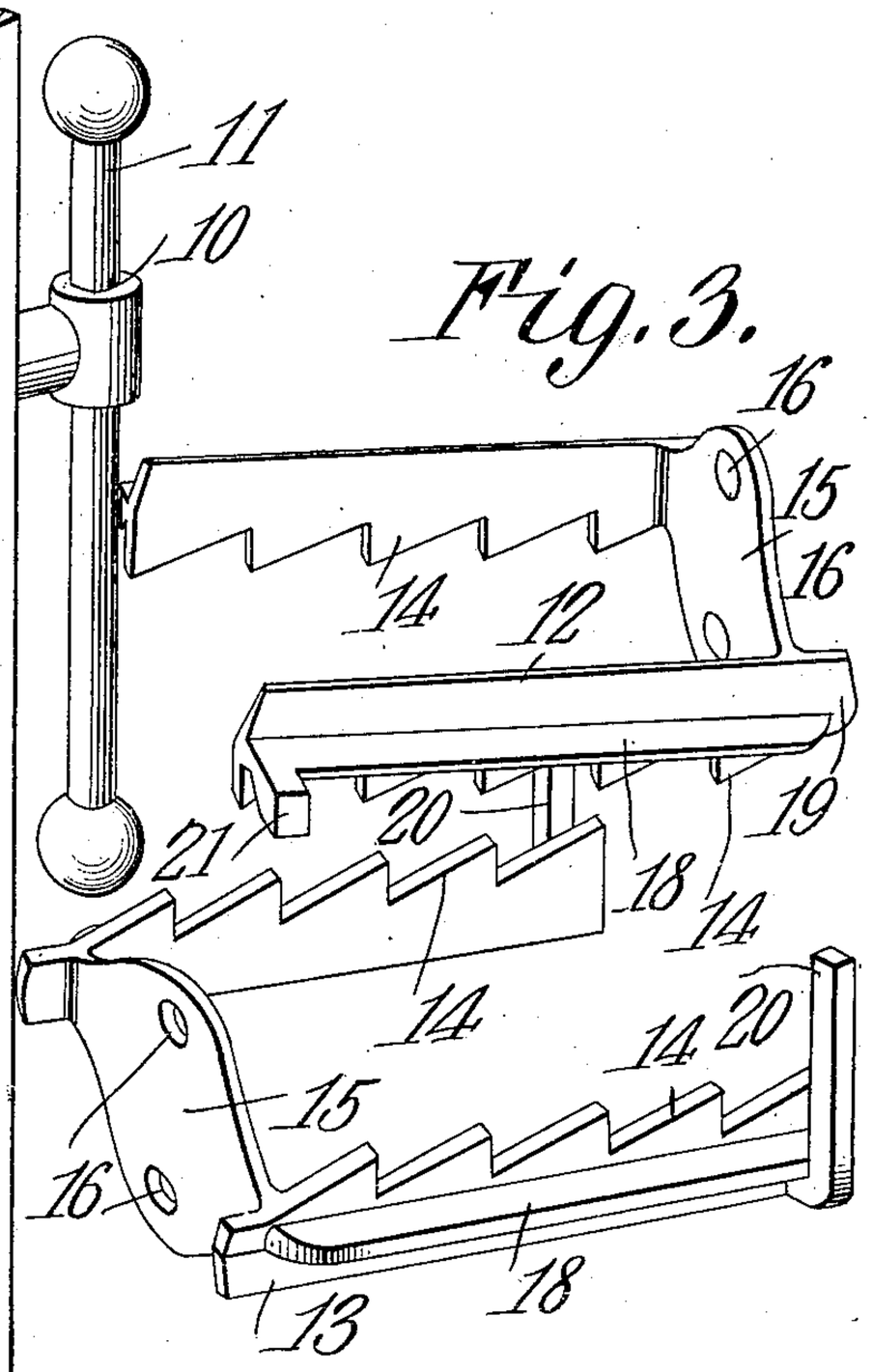
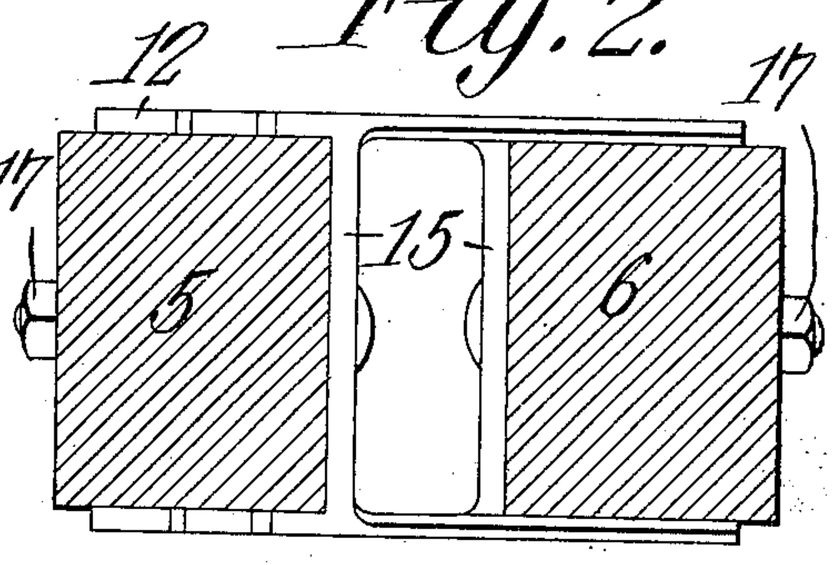


Fig. 2.



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VISE.

No. 890,841. Specification of Letters Patent. Patented June 16, 1908.

Application filed June 7, 1907. Serial No. 377,786.

To all whom it may concern:

Be it known that I, WILLIAM E. CANEDY, a citizen of the United States, residing at Chicago Heights, in the county of Cook and State of Illinois, have invented a new and useful Vise, of which the following is a specification.

This invention relates to vises and more particularly to means for preventing vertical or wabbling motion of the movable clamping jaw of the vise when the operating screw is adjusted to clamp the work.

A further object of the invention is to provide a vise the clamping jaws of which are connected by spaced racks having their teeth intermeshing so as to hold the upper or active ends of the jaws in parallelism.

A further object is to form the connecting means or racks with spaced arms which embrace the adjacent faces of the clamping jaws thereby to center the jaws and maintain the same in alinement with each other.

A further object is to provide means for limiting both the lateral and expansible movement of the clamping jaws.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification. Figure 1 is a perspective view of a portion of a vise constructed in accordance with my invention. Fig. 2 is a transverse sectional view showing the clamping jaws of the vise in closed position. Fig. 3 is a perspective view of the connecting yokes or racks detached.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved vise which may be attached to a work bench or other suitable support consists of a pair of spaced clamping jaws 5 and 6 having their side walls pierced by alined openings 7 in which is threaded an operating screw 8, the latter being provided with a terminal socket 10 for the reception of a handle 11 whereby the jaws may be moved to operative and inoperative position.

Secured to the lower ends of the clamping jaws 5 and 6 are inwardly extending yokes the parallel arms 12 and 13 of which are provided with spaced teeth 14 constituting racks and by means of which the lower ends of said jaws are maintained in parallelism.

The parallel arms of the yokes are united by connecting webs 15 having their intermediate portions extended laterally and provided with perforations 16 for the reception of bolts or other suitable fastening devices 17 which pierce the clamping jaws and serve to lock the yokes in position thereon.

The arms of the yoke are preferably reinforced and strengthened by longitudinal ribs 18, said arms being extended laterally beyond the connecting webs 15 to form attaching ears 19 which bear against the adjacent longitudinal faces of the clamping jaws and assist in preventing accidental displacement of the yokes.

The parallel arms of the connecting ribs are so arranged as to embrace the outer faces of the clamping jaws when said jaws are in closed or partially closed position so that the jaws are centered with respect to the support and at the same time maintained in alinement with each other.

By having the jaws connected in this manner vertical or wabbling movement of the movable jaw 6 is effectually prevented when the screw 8 is adjusted to clamp the work.

Extending vertically from the reinforcing flange or ribs of the lower yoke is an arm or projection 20 which extends in the path of movement of a lug or boss 21 carried by the upper yoke thereby to limit the expansible movement of the clamping jaws.

The arms 20 preferably extend above or beyond the reinforcing ribs of the upper yoke so as to prevent the yokes from moving laterally and thus disengaging the teeth. It will thus be seen that the arms 20 and lugs 21 serve the double function of limiting the lateral and expansible movement of the clamping jaws.

In operation when the handle 11 is rotated to expand or separate the clamping jaws the ratchet teeth 14 of the upper yoke will ride over the corresponding teeth of the lower yoke until the desired adjustment is effected. As soon as the handle 11 is rotated in the opposite direction, that is to say, draw the clamping jaws together the teeth 14 will interlock, and a further movement of the handle 11 will cause the active ends of the clamping jaws to securely grip and hold the object to be operated upon, the racks at the same time serving to prevent the movable jaw

from wabbling or moving vertically during the clamping operation. It will thus be seen that by having the lower ends of the clamping jaws connected in the manner described said jaws may be spaced apart at any desired distance and maintained in absolute parallelism.

From the foregoing description it is thought that the construction and operation of the device will be readily understood by those skilled in the art and further description thereof is deemed unnecessary.

Having thus described the invention what is claimed is:

1. A vise including co-acting clamping jaws, racks secured to the inner faces of said jaws and having their free ends arranged to bear against the longitudinal edges of the mating jaws and provided with intermeshing teeth, and means for operating the jaws.

2. A vise including co-acting clamping jaws, a rack secured to each jaw and embracing the mating jaw, said racks being provided with intermeshing teeth, means for operating the jaws, and means for limiting the expansible movement of the lower ends of said jaws.

3. A vise including co-acting clamping jaws, a yoke secured to the lower end of each clamping jaw and provided with spaced arms adapted to embrace the longitudinal faces of the adjacent jaw, and intermeshing teeth formed on the arms of said yokes.

4. A vise including co-acting clamping jaws, a rack secured to each jaw and embracing the adjacent jaw, an arm extending vertically from one rack and adapted to engage the adjacent rack for limiting the lateral movement of said racks, and means for operating the jaws.

5. A vise including co-acting clamping jaws, yokes secured to the lower ends of said jaws and provided with spaced arms having longitudinal reinforcing flanges, intermeshing teeth formed on said arms, a projection extending vertically from one of the arms and bearing against the reinforcing flange of the adjacent arm for limiting the lateral movement of the yokes, and means for operating the jaws.

6. A vise including co-acting clamping jaws, a yoke secured to the inner face of each jaw at the lower end thereof and provided with spaced arms embracing the adjacent jaw, attaching ears formed integral with the yokes, and intermeshing teeth formed on said yokes.

7. A vise including co-acting clamping jaws, a yoke secured to the lower end of each jaw and having spaced parallel arms united by an intermediate connecting web, intermeshing teeth formed on the arms, and ears extending laterally from said arms for attachment to the clamping jaws.

8. A vise including co-acting clamping jaws, a yoke secured to the inner face of each clamping jaw at the lower end thereof and having spaced parallel arms adapted to embrace the opposite longitudinal faces of the mating jaw, said arms being provided with intermeshing teeth, ears extending laterally from said arms for attachment to the clamping jaws, a projection extending vertically from one of the yokes, and a lug carried by the opposite yoke and adapted to engage the projection for limiting the lateral movement of said yokes.

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

WILLIAM E. CANEDY.

Witnesses:
W. H. DONOVAN,
W. J. L. ANGEWS.