May 21, 1957 W. TURNER 2,792,731

VISE JAW HAVING REVERSIBLE WORK-ENGAGING PLATE

Filed Feb. 28, 1956

Fig. 1.

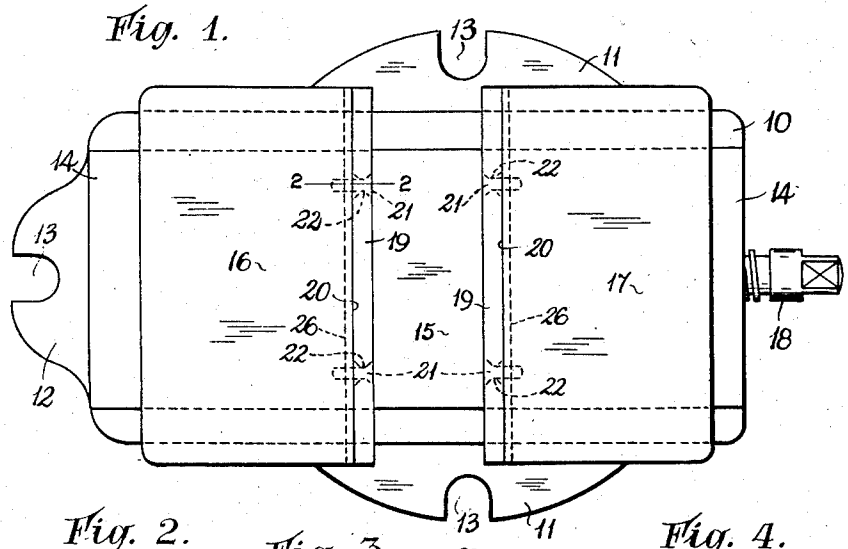


Fig. 2.

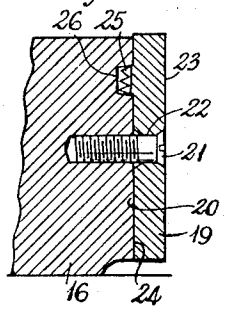


Fig. 3.

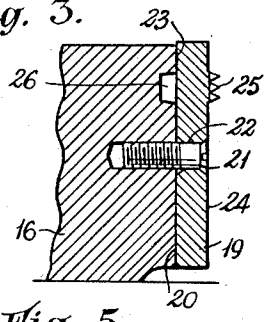


Fig. 4.

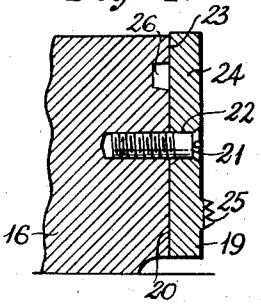
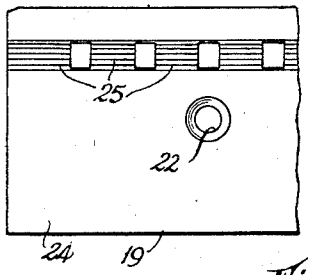


Fig. 5.



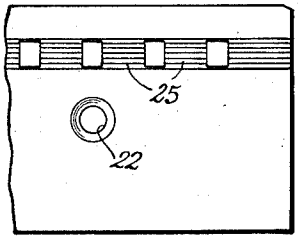


Fig. 7.

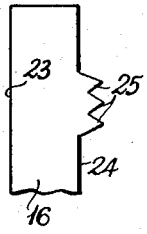
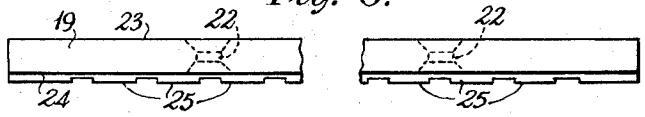


Fig. 6.



Inventor:
William Turner
by Albert D. Jacobs
attorney

United States Patent Office 2,792,731 Patented May 21, 1957

2,792,731

VISE JAW HAVING REVERSIBLE WORK-ENGAGING PLATE

William Turner, Sheffield, England

Application February 28, 1956, Serial No. 568,327

Claims priority, application Great Britain March 4, 1955

4 Claims. (Cl. 81—38)

This invention relates to vises.

Difficulty is often experienced in effectively gripping an irregularly shaped workpiece between the jaws of a vise and although one surface of said workpiece is usually machined for bedding upon the work-supporting table of the vise, it is customary to insert packing pieces or strips between the workpiece and the jaw faces to enable said workpiece to be clamped between the jaws.

Where a surface of the workpiece contacted by one of the jaw faces is not at right angles to the work-supporting table it is not always possible to prevent tilting of the workpiece when being clamped by the jaws.

The object of this invention is to provide an improved construction of vise tending to overcome the above disadvantages.

According to this invention there is provided a vise in which the work-clamping end of at least one of the jaws is provided with a plate-receiving abutment face and a reversible jaw plate detachably secured to said abutment face, the exposed face of said jaw plate constituting the workpiece-clamping face of the jaw, one face of the jaw plate having a plurality of workpiece-engaging lugs projecting outwardly from said face and the plate abutment face of the jaw being recessed to accommodate the workpiece-engaging lugs when the jaw plate is secured to said plate abutment face with said workpiece-engaging lugs directed theretowards.

The detachable and reversible jaw plate is secured to the abutment face of the jaw by countersunk headed setscrews which engage coinciding screw-receiving holes in said jaw plate and said abutment face, the orifices at opposite ends of said screw-receiving holes in the jaw plate being countersunk orifices.

The invention will now be described, by way of example, with reference to the accompanying diagrammatic drawings in which:

Fig. 1 is a plan of one form of vise made according to this invention.

Fig. 2 is a fragmentary sectional view, on an enlarged scale, taken on line 2—2 of Fig. 1.

Fig. 3 is a similar view to Fig. 2 with the jaw plate reversed.

Fig. 4 is a similar view to Fig. 3 with the jaw plate inverted.

Fig. 5 is an enlarged front elevation of the jaw plate.

Fig. 6 is a plan of Fig. 5.

Fig. 7 is a fragmentary end elevation of the jaw plate on a still further enlarged scale.

In Fig. 1 the vise depicted therein comprises a body **10** at the base of the vise having, intermediate of its ends, rounded extensions **11** at opposite sides and a rounded extension **12** at one end, said extensions being provided with open-ended slots **13** by which the vise may be secured by bolts (not shown) to a bench or to the vise-supporting table of a machine.

The body **10** is provided with a pair of upstanding lugs **14** at or adjacent each end thereof and a jaw-supporting table **15** is mounted upon said lugs by setscrews (not shown).

The vise is provided with a pair of jaws **16, 17**, the jaw **17** being a clamping jaw which is slidably movable into clamping position by a traversing screw **18**.

The two jaws **16, 17** are provided with like detachable and reversible jaw plates **19** secured one to each jaw plate-receiving abutment face **20** of the jaws, the exposed faces of said jaw plates constituting the workpiece-clamping faces of said jaws.

Each jaw plate **19** is secured to its respective jaw by countersunk headed setscrews **21** and owing to the reversibility of the jaw plate, the orifice at the opposite ends of each setscrew-receiving hole in said jaw plate is a countersunk orifice **22** so that the heads of the setscrews **21** are always accommodated flush with the exposed face of the jaw plate as is clearly shown in Figs. 2, 3 and 4.

It will also be seen from Figs. 2 to 7 inclusive, that one face **23** of the jaw plate **19** is a plane face while the opposite face **24** thereof is provided with a planar face portion and a series of longitudinally spaced workpiece-engaging toothed lugs **25** integral with said jaw plate and projecting forwardly from said planar face portion **24**.

Obviously, therefore, when the jaw plates **19** for the jaws **16** and **17** are secured each to its respective jaw with the plane face **23** of said jaw plate exposed for constituting the workpiece-gripping face of said jaw, the jaw plate-receiving abutment face **20** of the jaw has to accommodate the toothed lugs **25** of said jaw plate and for this purpose a longitudinal recess **26** is provided in said abutment face as shown in Figs. 2, 3 and 4.

As will be seen in Figs. 3 and 4 a jaw plate **19** can be secured to its jaw with the workpiece-engaging lugs **25** disposed in a high or low position as may be required for gripping a workpiece of irregular shape while for gripping a regularly shaped workpiece the jaw plate is detached and replaced in a reverse position to present the plane face **23** as the gripping face as shown in Fig. 2.

What I claim and desire to secure by Letters Patent is:

1. In a vise, a pair of jaws, the work-clamping end of at least one of the jaws being provided with a plate-receiving abutment face, a reversible jaw plate detachably secured to said abutment face, one side of the jaw plate having a workpiece-engaging plane face and the other side of said jaw plate being provided with a planar face portion, a series of longitudinally spaced workpiece-engaging toothed lugs integral with said jaw plate and projecting forwardly from said planar face portion, the plate-receiving and abutment face of the jaw having a longitudinal recess to accommodate said lugs when said jaw plate is secured to said abutment face with said lugs directed theretowards, and means securing the jaw plate to the jaw, said means comprising countersunk headed setscrews engaging coinciding screw-receiving holes in the jaw plate and the jaw, the orifices at opposite ends of said screw-receiving holes in the jaw plate being countersunk orifices.

2. In a vise, a pair of jaws, the work-clamping end of at least one of the jaws being provided with a plate-receiving abutment face, a reversible jaw plate detachably secured to said abutment face, one side of the jaw plate having a workpiece-engaging plane face and the other side of said jaw plate being provided with a planar face portion, at least one workpiece-engaging tooth integral with said jaw plate and projecting forwardly from said planar face portion, the plate-receiving and abutment face of the jaw having at least one recess to accommodate said tooth when said jaw plate is secured to said abutment face with said tooth directed theretowards, and means extending through the jaw plate and into the jaw and securing said jaw plate to said jaw, said means per-

mitting securement of the jaw plate to the jaw for said tooth to be exposed selectively at one of two different positions of location with respect to said jaw.

3. In a vise, a pair of jaws, the work-clamping end of at least one of the jaws being provided with a plate-receiving abutment face, a reversible jaw plate detachably secured to said abutment face, one side of the jaw plate having a workpiece-engaging plane face and the other side of said jaw plate being provided with a planar face portion, a series of longitudinally spaced workpiece-engaging toothed lugs integral with said jaw plate and projecting forwardly from said planar face portion, the plate-receiving and abutment face of the jaw having a longitudinal recess to accommodate said lugs when said jaw plate is secured to said abutment face with said lugs directed theretowards, and means extending through the jaw plate and into the jaw and securing said jaw plate to said jaw, said means permitting securement of the jaw plate to the jaw for said lugs to be exposed selectively at one of two different positions of location with respect to said jaw.

4. In a vise, a pair of jaws, the work-clamping end of at least one of the jaws being provided with a plate-receiving abutment face, a reversible jaw plate detachably secured to said abutment face, one side of the jaw plate having a workpiece-engaging plane face and the other side of said jaw plate being provided with a planar face portion, at least one workpiece-engaging tooth integral with said jaw plate and projecting forwardly from said planar face portion, the plate-receiving and abutment face of the jaw having at least one recess to accommodate said tooth when said jaw plate is secured to said abutment face with said tooth directed theretowards and countersunk headed setscrews engaging coinciding screw-receiving holes in the jaw plate and the jaw, the orifices at opposite ends of said screw-receiving holes in the jaw plate being countersunk orifices and permitting securement of the jaw plate to the jaw for said tooth to be exposed selectively at one of two different positions of location with respect to the jaw.

References Cited in the file of this patent

UNITED STATES PATENTS

120,947	Davis	Nov. 14, 1871
860,949	Walters	July 23, 1907

FOREIGN PATENTS

64,861	Switzerland	Feb. 28, 1913
255,060	Germany	Dec. 27, 1912
781,908	France	Mar. 4, 1935