May 6, 1941. C. H. EKSTAM 2,241,297

VISE

Filed May 31, 1940 2 Sheets-Sheet 1

Fig. 1

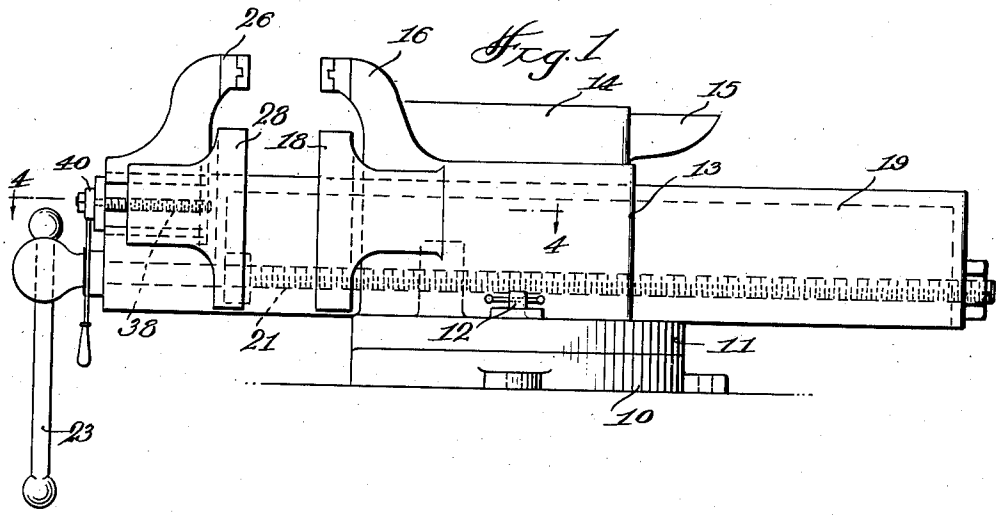


Fig. 2.

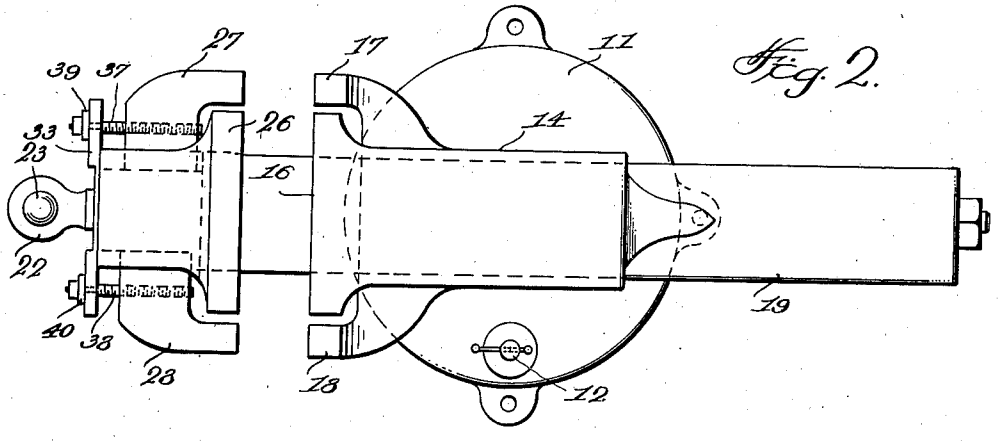
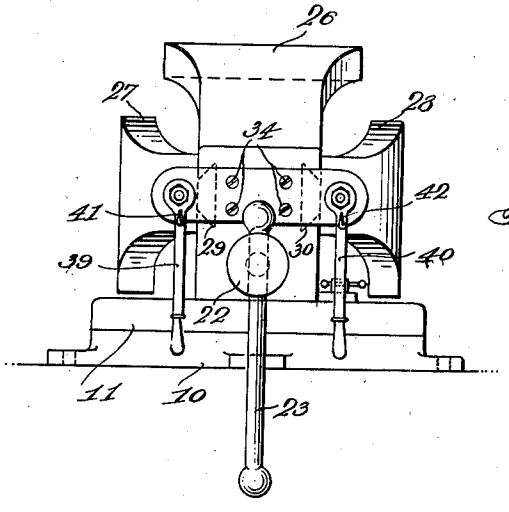


Fig. 3



Carl Harry Ekstam
INVENTOR

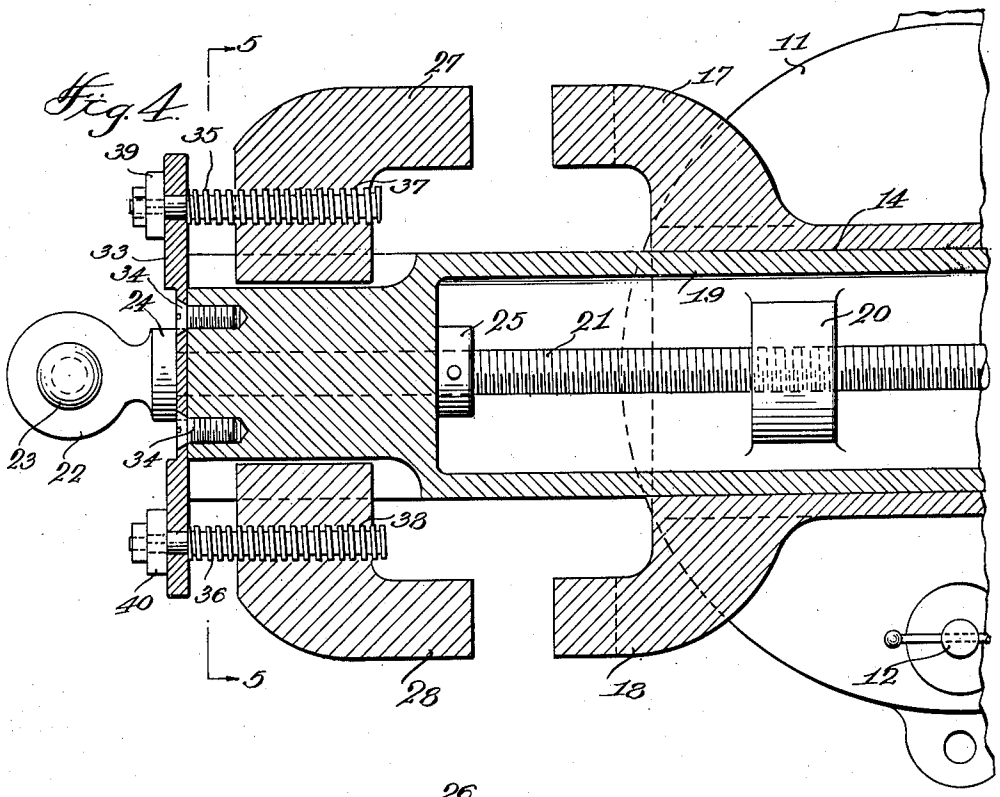
BY Victor J. Evans & Co.
ATTORNEYS

May 6, 1941. C. H. EKSTAM 2,241,297

VISE

Filed May 31, 1940 2 Sheets-Sheet 2

Fig. 4.



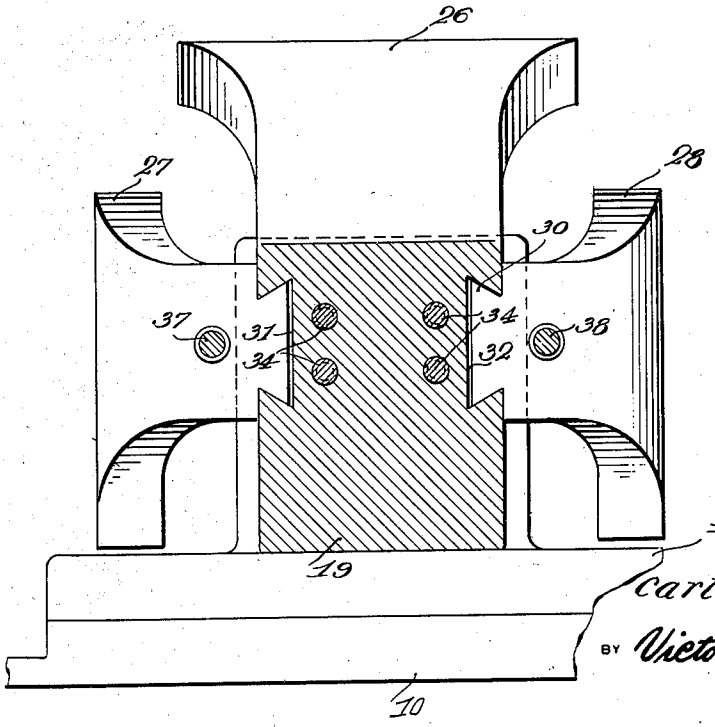


Fig. 5.

Carl Harry Ekstam
INVENTOR

BY Victor J. Evans & Co.
ATTORNEYS

Patented May 6, 1941

2,241,297

UNITED STATES PATENT OFFICE

2,241,297

VISE

Carl Harry Ekstam, Bloomington, Ill.

Application May 31, 1940, Serial No. 338,203

1 Claim. (Cl. 81—33)

This invention relates to a vise and has for an object to provide a vise having side jaws on the male part of the vise mounted for forward or rearward movement whereby to permit them to be moved into operative or inoperative position with relation to the work to be held by the vise to the end that the vise will be adapted to clamp various objects heretofore unable to be properly clamped in conventional vises.

A further object is to provide a vise having the side jaws mounted on the male part of the vise through the medium of dovetail ribs carried by the jaws and fitting in corresponding grooves formed in the male part of the vise, to permit the jaws to be accurately adjusted to the work.

A further object is to provide simplified means for adjusting the side jaws comprising a bar secured to the front side of the male part of the vise projecting beyond the lateral sides thereof and carrying screws which engage the side jaws and are ratchet operated to permit the screws to be turned readily when it is desired to move the jaws into or out of operative position.

A further object is to provide a device of this character which will be formed of a few strong, simple and durable parts, which will be inexpensive to manufacture, and which will not easily get out of order.

With the above and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming a part of this specification:

Figure 1 is a side elevation of a vise constructed in accordance with the invention.

Figure 2 is a plan view of the vise shown in Figure 1.

Figure 3 is a front elevation of the vise.

Figure 4 is a longitudinal sectional view of the vise, drawn to large scale, and taken on the line 4—4 of Figure 1.

Figure 5 is a cross sectional view of the vise taken on the line 5—5 of Figure 4.

Referring now to the drawings in which like characters of reference designate similar parts in the various views, 10 designates a disk base plate adapted to be bolted to a work bench or other support in the usual manner and having mounted thereon a disk 11 which may be adjusted through a limited arc of movement by a conventional adjusting screw device 12. The female part 13 of the vise is formed integral with the disk 11 and is provided with an anvil 14, a horn 15, and three jaws 16, 17 and 18, the jaw 16 being similar to the conventional jaw of a vise and the jaws 17 and 18 being side jaws disposed laterally of the conventional jaw 16 and having their working faces in the plane of and below the conventional jaw 16.

The male part 19 of the vise is movable longitudinally through the female part of the vise in the usual manner through the medium of a fixed nut 20 and a feed screw 21 which is equipped at the front end of the male part with an eye 22 and a lever 23, there being collars 24 and 25 on the feed screw to prevent the feed screw from endwise movement while it is being rotated to manipulate the male part of the vise.

Formed integral with the male part of the vise is a jaw 26 which confronts the jaw 12 of the female part of the vise and co-acts with the latter in the usual manner to clamp work between the jaws. Also mounted on the female part of the vise are a pair of side jaws 27 and 28 adapted to co-act with the side jaws 17 and 18 of the female part of the vise.

The side jaws 27 and 28 are provided with respective dovetail ribs 29 and 30 which fit in corresponding dovetail grooves 31 and 32 formed in the sides of the male part of the vise, as best shown in Figure 5. The dovetail grooves and ribs permit the side jaws 27 and 28 to be adjusted forwardly or rearwardly with relation to the side jaws 17 and 18 of the female part of the vise.

For adjusting the adjustable side jaws 27 and 28 a bar 33, best shown in Figure 4, is secured to the front side of the male part of the vise by screws 34. The ends of the bar project beyond the lateral sides of the male half of the vise and are equipped with respective feed screws 35 and 36 which are threadedly engaged in respective openings 37 and 38 in the jaws 27 and 28. Rotation of the screws feed the jaws 27 and 28 independently of each other toward and away from the opposite side jaws 17 and 18. For rotating the side jaws feed screws 35 and 36, ratchet handles 39 and 40, best shown in Figure 3, are secured to the outer ends of the feed screws and these ratchet handles may be of any preferred conventional type, but are preferably reversible through the medium of conven-

tional latches 41 and 42 to positively back out or advance the feed screws 35 and 36.

From the above description it is thought that the construction and operation of the invention will be fully understood without further explanation.

What is claimed is:

In a vise, a female part having an upper jaw and side jaws formed integral therewith, a male part having an upper jaw and side jaws for cooperating with the jaws of the female part, the side jaws of the male part being mounted on the male part through the medium of dovetail ribs carried by the jaws fitting in corresponding grooves formed in the male part, a bar secured to the front side of the male part and projecting beyond the lateral sides thereof, screws carried by the bar engaging the side jaws of the male part, and ratchet handles connected to the screws to permit the screws to be turned when it is desired to move the side jaws of the male part into or out of operative position.

CARL HARRY EKSTAM.