Dec. 26, 1922. 1,440,167

A. OBER.
PARALLEL VISE.
FILED AUG. 29, 1921.

2 SHEETS-SHEET 1

Fig. 1

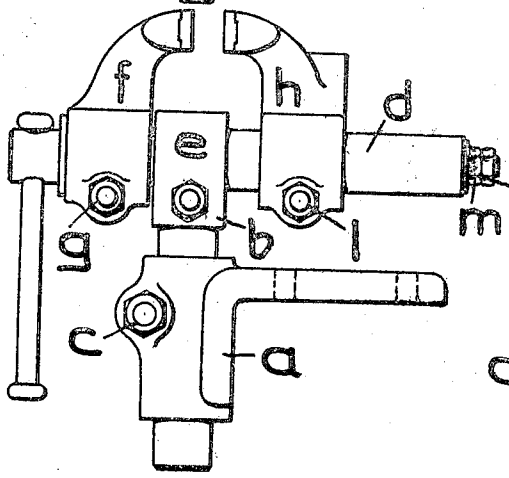


Fig. 2

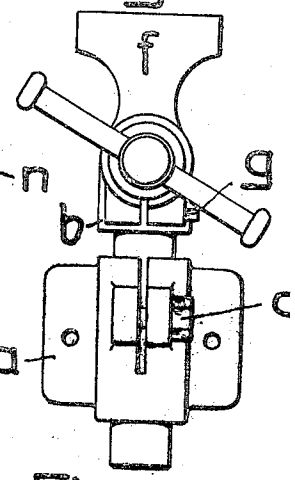


Fig. 3

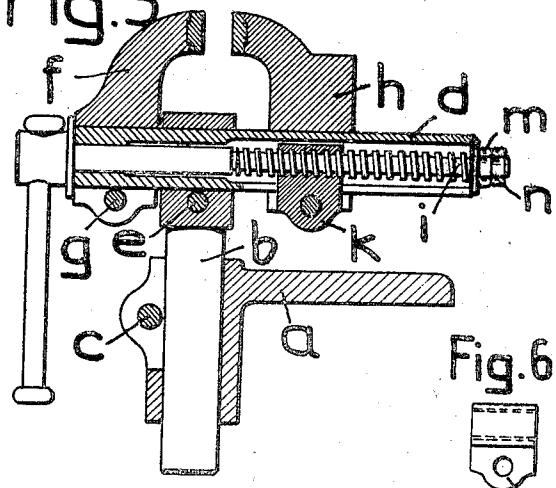


Fig. 4

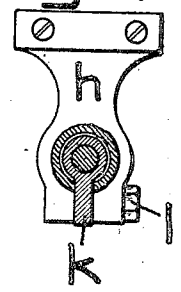


Fig. 6 Fig. 7 Fig. 8

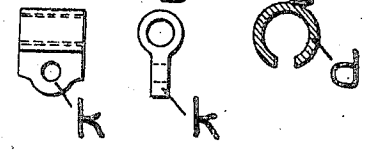
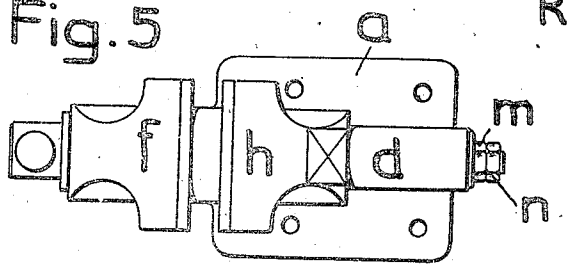


Fig. 5



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2 SHEETS-SHEET 2

Fig. 9

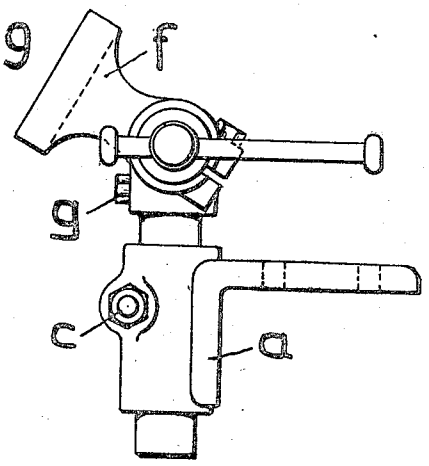
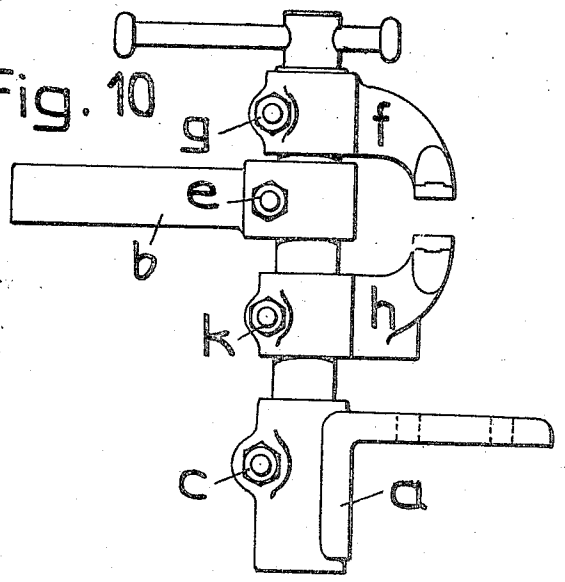


Fig. 10



Inventor:
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Patented Dec. 26, 1922. 1,440,167

UNITED STATES PATENT OFFICE.

ALFRED OBER, OF HAMBURG, GERMANY.

PARALLEL VISE.

Application filed August 29, 1921. Serial No. 496,524.

To all whom it may concern:

Be it known that I, ALFRED OBER, a citizen of the German Republic, and a resident of Hamburg, Germany, have invented certain new and useful Improvements in Parallel Vises (for which I have filed an application in Germany on Aug. 16, 1921), of which the following is a specification.

My invention relates to a parallel vise, more especially to a parallel vise of novel construction, wherein the jaws may be turned, inclined and positioned with the spindle on end, i. e., vertical.

The object of my invention is to provide a parallel vise meeting all requirements in regard to adjustability, a vise that will readily take all working pieces, even such of odd shapes and of bulky form and that will hold them rigidly in any position required by the work to be performed on them and by the conditions of light prevailing at the place of work.

A further advantage of my novel vise resides in that all parts subjected to wear may be readily re-adjusted, and that the jaws are equally well guided and supported at all widths of grip. The front jaw may also be inclined side-ways by itself, facilitating the change of jaw-plates in both jaws, since with the front jaw inclined the screws are more readily accessible. The arrangement of the eye-bolt between the two jaws causes the pressure to be well received and transmitted to the working table.

The vise will also take large size plates in horizontal position, as it may be put "on-end" i. e. with the spindle vertical, and the vise may also be turned when in the on-end position.

In the drawings attached to this specification and forming part thereof, a modification of my invention has been illustrated by way of example.

In the drawings—

Fig. 1 is a side elevation of the vise;
Fig. 2 is a front view of the vise, and
Fig. 3 is a longitudinal section, while
Fig. 4 is a cross-section on line A—B in Fig. 3.
Fig. 5 shows a plan view of the vise,
Fig. 6 is a side-view of the nut, while
Fig. 7 shows the nut in a front view;
Fig. 8 is a cross-section through the guide bush;
Fig. 9 illustrates the vise turned by 90° and inclined to the left by 60°,
Fig. 10 shows the vise in the on-end position.

Intermediate the two jaws *f* and *h* the eye-bolt *b* is arranged, which may be shifted vertically and turned in the clamping bracket *a*. The eye-bolt may be clamped tight in the bush of the bracket *a* by means of the screw *c*. The round guiding bush *d*, carrying the two jaws *f* and *h*, is journalled horizontally in the eye of the eye-bolt *b*, wherein the bush may be fixed in position by means of the screw *e*. The front jaw *f*, being slotted below its boring, is clamped tight on the bush *d* by means of the screw *g*. The back jaw *h* is also slotted below, as is also the bush *d*. The slot in bush *d*, however, extends only along the portion of the bush projecting from the eye-bolt *b*. A nut *k* (conf. Figs. 6 and 7) is positioned on the screw-spindle *i* and is adapted to be screwed forward and backward freely. The nut *k* is provided with a tail, which is guided within the slot of the guide bush *d* and is clamped in the slot of the back jaw *h* by means of the screw *l*. If the screw spindle *i* is being turned, the back jaw *h* will move forward or backward. The two nuts *m* and *n* prevent the spindle *i* from being screwed out of the guide bush *d*. If the clamping screw *l* at the eye-bolt *b* is slackened, the two jaws may be inclined to the right or left hand side together with the bush *d* to any angle up to over 90 degrees. Fig. 9 shows the vise turned by 90° and inclined to the left by about 60°.

The outside diameter of the bush *d* and the inside diameter of the boring in the bracket *a* are exactly the same, and consequently, if the free end of the bush *d* is placed into the bracket *a*, the whole vise may be put on-end, as is shown, in Fig. 10. The slot in the back jaw permits the jaw to be clamped tight on the guide-bush, allowing also for wear. The width of grip of the vise may be increased at a slight additional cost by merely designing the guide bush *d* and the screw-spindle *i* of greater length, the jaws being equally well guided and supported at all width of grip.

After having thus particularly described the nature of my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A parallel vise of the adjustable type, comprising in combination a bored bracket partly slotted, an eye-bolt disposed in said

bracket, a guide bushing of round sectional shape, said bushing being partly slotted and adapted to be journaled and fixed within the eye of said eye-bolt, a slotted front jaw, clamped onto the non-slotted section of said guide-bushing, a bolt adapted to effect the clamping of said front jaw, a slotted back-jaw positioned on the slotted part of said guide-bushing, and a screw free to rotate within said bushing.

2. A parallel vise of the adjustable type comprising in combination a bored bracket partly slotted, an eye bolt disposed in said bracket, a round guide-bushing partly slotted and adapted to be fixed within the eye of said eye-bolt, a front jaw and a back jaw positioned on the non-slotted and slotted sections of the said bush respectively, a spindle free to rotate within the said bushing, a tailed nut positioned on the said spindle and adapted to be screwed backward and forward within the said bushing, the tail of said nut being extended into the slot of said bushing, a bolt adapted to clamp said tail of the said nut to said back jaw, the latter being adapted by means of this connection to be moved backward and forward on the said bushing.

3. A parallel vise of the adjustable type comprising in combination a bored bracket partly slotted, an eye-bolt disposed in said bracket, a round guide bushing partly slotted and adapted to be fixed within the eye of the said eye-bolt, the boring in the said bracket being of the same diameter as that of the out-side diameter of the guide bushing in order to permit the free end of said bushing to be inserted into and to be adjusted within the boring of said bracket.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED OBER.

Witnesses:

ERNEST H. L. MUMMENHOFF,

THEODOR SPIRO.