Jan. 9, 1923. 1,441,413.

G. GAMPE.

PARALLEL VISE.

FILED JUNE 24, 1920.

Fig. 1.

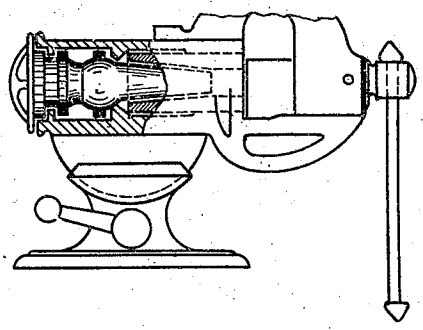


Fig. 2.

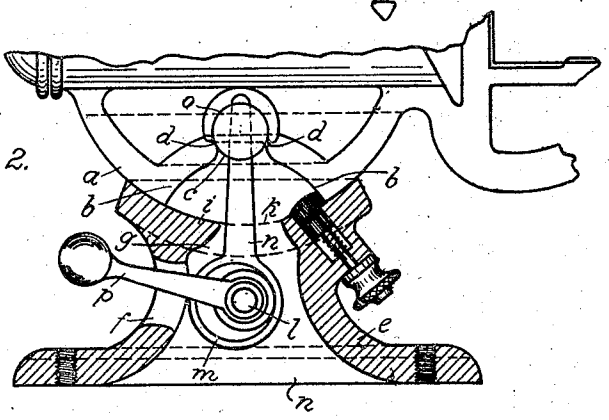
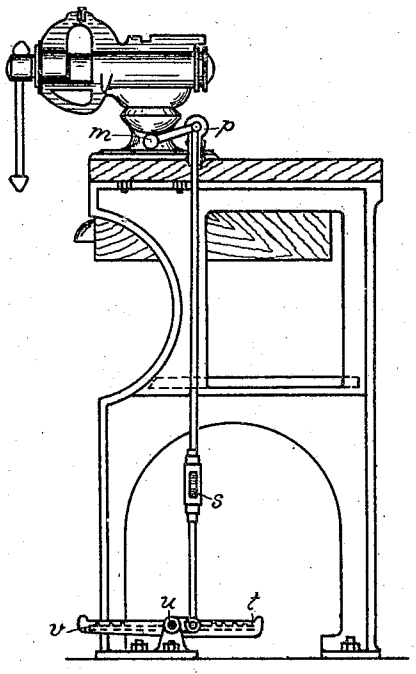


Fig. 3.



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UNITED STATES PATENT OFFICE.

GEORG GAMPE, OF DOBELN, GERMANY.

PARALLEL VISE.

Application filed June 24, 1920. Serial No. 391,524.

To all whom it may concern:

Be it known that I, GEORG GAMPE, a citizen of the German Republic, residing at Dobeln, German Republic, have invented certain new and useful Improvements in Parallel Vises, of which the following is a specification.

In vises which are not adjustable, the work piece has to be chucked after one side has been finished, whereby much time is lost. It has already been proposed to construct vises so that the upper part of the same is adjustably mounted upon a base. This invention has for its object a vise of this type, the construction of which is improved in such a manner that the adjustable part is securely mounted and that it can be adjusted in all directions. Even in the extreme position the upper part of the parallel vise will always be very securely fixed in position so that it cannot get out of this position even under the highest working pressure. The means for securing the improved vise in position or for releasing the same are of simple construction, and they can be manipulated easily and rapidly.

In the accompanying drawings the invention is shown in several forms of construction by way of example.

Fig. 1 is an elevation of a parallel vise according to the first form of construction.

Fig. 2 is a cross section, partly in elevation and on a larger scale showing the adjusting device.

Fig. 3 shows in elevation another form of construction of the means for operating the adjusting device.

The upper part of the improved vise can be of any suitable construction known in the art and it will be hereinafter described only so far as is necessary to explain the invention. A hemisphere *a*, made in one piece with the lower surface of the upper part has a cavity *b* and a passage-way *c* leading to a ball seat *d*.

The foot *e* of the vise is hollow and it has an opening *f* in its side wall. The hollow space *g* is enlarged at its lower end at *h*. The upper surface *i* of the foot *e* is cup-shaped and has at the center a passage *k*.

In the foot *e* a short shaft *l* is mounted which carries an eccentric *m* with a vertical arm. Upon the screw-threaded upper end of the vertical arm *n* a ball *o* is screwed, designed to engage with the seat *d* of the hemisphere *a*. A hand lever *p*, the end of which projects through the opening *f* in the wall of the foot *e*, is keyed upon the shaft *l* of the eccentric.

When this lever *p* is turned upwards, as shown in Fig. 2, the eccentric *m* is in such a position that the ball *o* is slightly removed from its seat *d*, the hemisphere *a* can now be adjusted upon the cup-shaped surface *i* of the foot *e* whereby the position of the vise with the work piece is altered. The position of the vise can be adjusted in any direction, the amount of adjustment being limited by the width of the passage *k*. When the vise has been brought in the proper position, the lever *p* is pressed down, whereby the eccentric *m* is turned so that the rod *n* is lifted and the ball pressed tightly upon its seat *d*, the upper part of the vise being thus secured in its position.

Fig. 3 shows a mechanism for fixing and releasing the vise by foot, so that, when this form of construction is used, the workman has both his hands free for the work. To the end of the lever *p* of the vise (Figs. 1 and 2) a traction rod is hinged, the length of which can be regulated by means of a lock *s* according to requirement. The traction rod is hinged with its lower end to the pedal *t* which is pivotally mounted upon a pivot *u*. An abutment *v* is provided at the other end of the pedal. If the front end of the pedal lever is lowered the eccentric *m* is closed and locks the vise in position and if the rear end of the pedal lever is lowered the eccentric is opened and the vise released.

I claim:—

1. An improved adjustable parallel vise comprising with the vise proper a hollow hemisphere fixed to the lower surface of the base plate of the vise, a ball seat formed in said hollow hemisphere, a hollow foot having an opening in its wall and a passage-way at its upper end and provided with a cup-shaped upper surface communicating with said passage-way, a short shaft mounted in the hollow foot, an eccentric upon said shaft and a vertical rod upwardly projecting from said eccentric, a ball screwed upon the upper end of said rod adapted to engage with the ball seat in the said hemisphere, and a handle fixed to said shaft and projecting through the opening in the wall of the foot, substantially as described and shown.

2. An improved parallel vise comprising in combination the vise proper, a hollow

hemispherical support upon the lower surface of said vise, a ball seat in said hollow support, a hollow foot of the vise having an opening in its wall, a horizontal shaft in said hollow foot, an eccentric upon said shaft, a vertical arm of said eccentric projecting into the hollow hemisphere, a ball upon the upper end of said vertical arm, a handle fixed to said shaft and projecting through the opening in the wall of the hollow foot, a vertical rod hingedly fixed with its upper end to said handle, and a two-armed pedal lever to which the lower end of said rod is hinged, substantially as described and shown.

3. An improved adjustable parallel vise comprising with the vise proper a hollow hemisphere fixed to the lower surface of the base plate of the vise, a ball seat formed in said hollow hemisphere, a hollow foot having an opening in its wall and a passage-way at its upper end and provided with a cup-shaped upper surface communicating with said passage-way, a short shaft mounted in the hollow foot, an eccentric upon said shaft and a vertical rod upwardly projecting from said eccentric, a ball screwed upon the upper end of said rod adapted to engage with the ball seat in the said hemisphere composed of two parts having incisions for the reception of a key, and a handle fixed to said shaft and projecting through the opening in the wall of the foot, substantially as described and shown.

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

GEORG GAMPE.

Witnesses:
FRANK MÜLLER,
HEATH FRIEDERICH.