C. A. CARLSON.

UNIVERSAL VISE.

APPLICATION FILED NOV. 15, 1919.

1,383,524.

Patented July 5, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

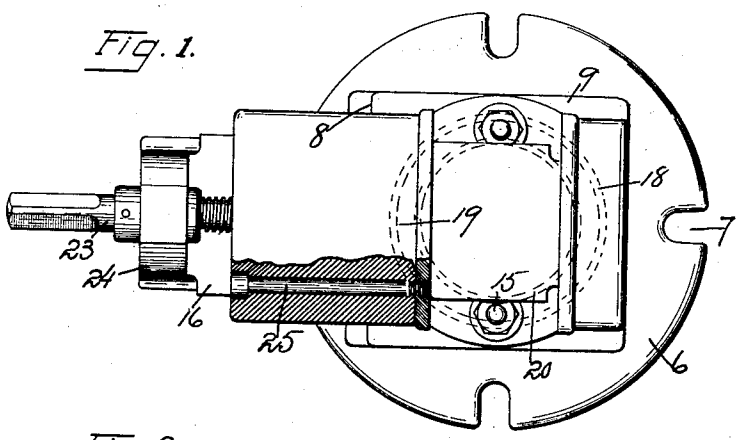


Fig. 2.

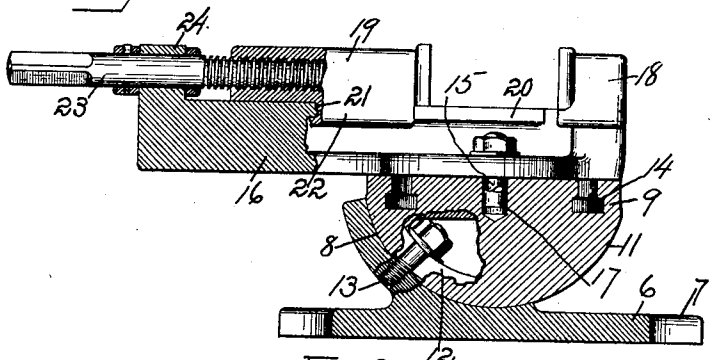
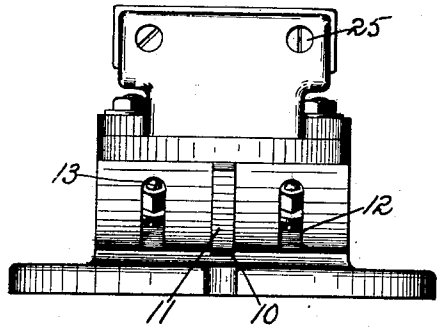


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

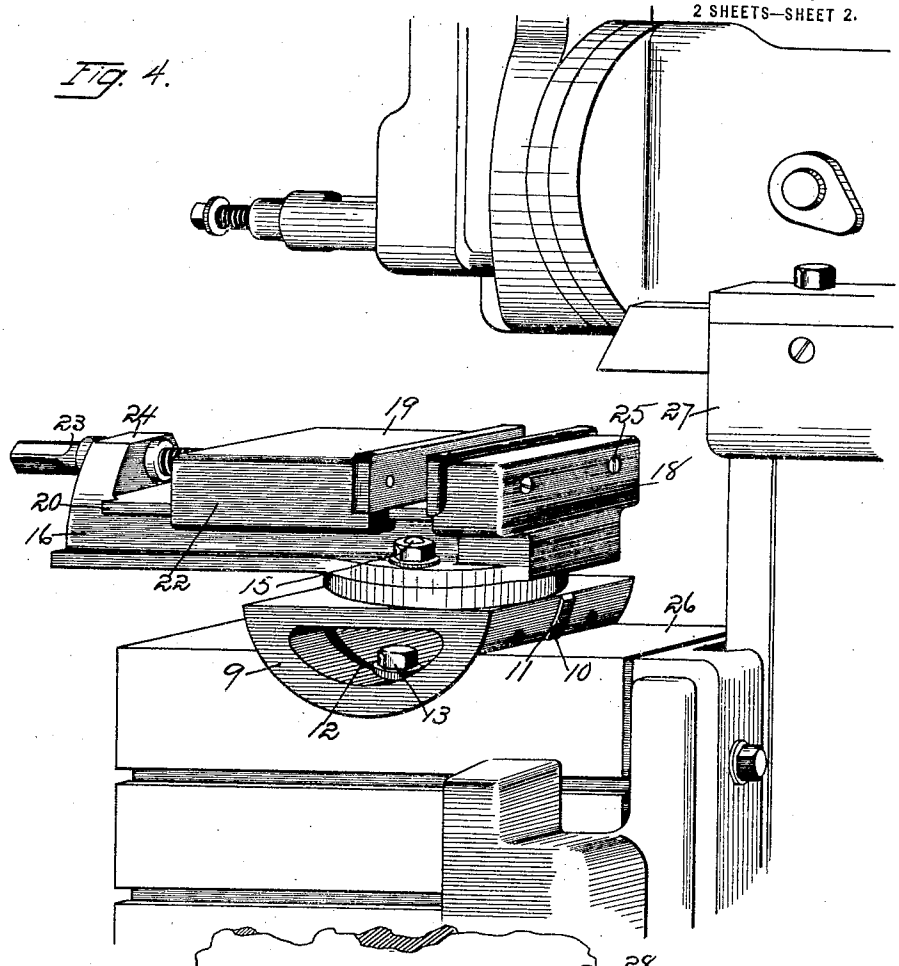
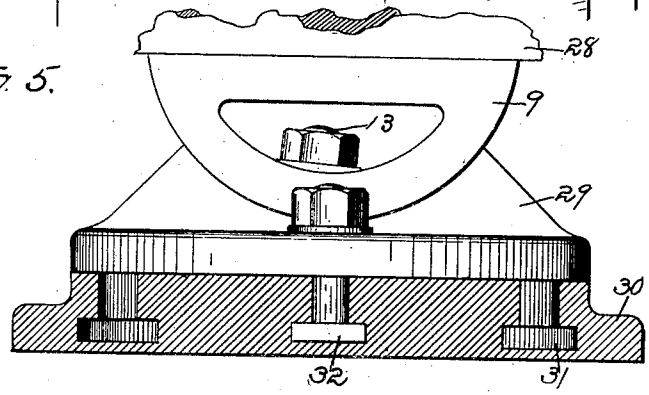


Fig. 5.



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UNIVERSAL VISE.

1,383,524. Specification of Letters Patent. Patented July 5, 1921.

Application filed November 15, 1919. Serial No. 338,376.

To all whom it may concern:

Be it known that I, CARL ADRIAN CARLSON, a citizen of the United States, residing in New Britain, in the county of Hartford and State of Connecticut, have invented a new and Improved Universal Vise, of which the following is a specification.

My invention relates to the class of devices employed for clamping and holding pieces of work for the operation of cutting tools of various kinds, and an object of my invention, among others, is to provide a device of this class that shall be simple in construction, and that may be readily operated to place the work pieces in different angular positions for the operation of said cutting tools.

One form of device embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawings, in which—

Figure 1 is a top view of my improved universal vise with parts broken away to show construction.

Fig. 2 is a view in side elevation with parts broken away to show construction.

Fig. 3 is an end view looking at the vise from the right as seen in Fig. 2.

Fig. 4 is a perspective view of a portion of a shaping machine showing my improved vise secured thereto and in a slightly different form from that shown in the preceding figures.

Fig. 5 is a view showing a further slightly different form of my improved vise.

In the accompanying drawings the numeral 6 indicates the saddle of my improved vise that may have any suitable means, as notches 7, to receive bolts for attachment to a support, as the table or like part of a machine embodying a cutting tool or tools to operate upon a piece of work held in the vise. This saddle has a recess or seat 8 of curved form to receive the base 9. The seat shown in Figs. 1 to 3 is of a length slightly greater than ninety degrees, but this length is immaterial to my invention so long as it is sufficient to securely hold the base 9 and the work supported thereby. The meeting surfaces of the base and saddle have a groove on one part to receive a rib on the other part, as shown herein the groove 10 being formed in the saddle and the tongue or rib 11 being located on the base. The base is secured to the saddle so that it may be adjusted to different positions, in the form of attachment herein shown there being slots 12 formed through the base to receive fastening bolts 13 screwed into the base. The saddle is provided in its upper surface with a concentric T-slot 14 to receive bolts 15 located on opposite sides of the jaw support 16 of the vise, the latter having a pivot pin 17 extending into a hole formed in the center of the base 9. It will, of course, be understood that the bolts 15 have T-shaped ends to fit the T-shaped slots 14.

The fixed jaw 18 of the vise projects from one end of the support 16 and the movable jaw 19 is slidably mounted on the support and held thereon as by means of ribs 20 on opposite sides of the support extending into grooves 21 on the inner sides of depending flanges 22 on the lower side parts of said movable jaws. The movable jaw is moved toward and from the fixed jaw, for the purpose of clamping or releasing a piece of work, as by means of a clamp screw 23 projecting through a lip 24 on the support 16, said screw being held from lengthwise movement in said lip but free to rotate therein in a manner common to devices of this kind. Likewise, the gripping faces of the jaws may be held in place as by means of screws 25.

From the above description, taken in connection with the accompanying drawings, it will be seen that a piece of work held between the jaws 18 and 19 may be placed in any angular position that may be desired with respect to a cutting tool operating upon such piece of work, and the different adjustments for placing the work in such different angular positions may be readily obtained for such purpose.

The form of the device illustrated in Fig. 4 is substantially the same as that hereinabove described with the exception that the base 9 has its saddle formed in the knee 26 of a shaping machine 27, Fig. 4 illustrating that construction of the vise to adapt it especially for use in connection with a shaping machine.

In the form of the device illustrated in Fig. 5 the jaw support 28 is rigidly secured to the base 9 that rests in and is secured to a saddle 29, similar to that hereinabove described, with the one exception that the curved seat is of greater length than that shown in the saddle first mentioned. In

this form of the structure the saddle is adjustably secured to a plate 30 in the same manner that the jaw support 16 is secured to the base 9, said plate 30 having T-shaped circular grooves 31 to receive the T-headed bolts 32 located on opposite sides of the center of the saddle 29.

In accordance with the provisions of the patent statutes, I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative, and that the invention may be carried out by other means.

I claim—

1. A universal vise comprising a saddle having a curved seat, a base fitting said seat and in contact with substantially the entire seating surface thereof, means for adjustably securing the base to said seat, a jaw support adjustably mounted on said base, means for rotatably adjustably securing said support to said base, and means for securing said support to said base.

2. A universal vise comprising a saddle having a curved seating surface, a base having a seating surface fitting that on the saddle, one of said seating surfaces being shorter than the other, an intermeshing integral tongue projecting from the longer of said seating surfaces and a groove upon the shorter of said seating surfaces, means for adjustably securing the base to the saddle, a jaw support rotatably adjustably mounted on said base, and means for securing said support to said base.

3. A universal vise comprising a saddle having a curved seating surface with a groove therein, a base fitting said seating surface and having a seating surface longer than that of the saddle, a tongue projecting from the seating surface of the base into said groove, means for adjustably securing the base to the saddle, a jaw support adjustably mounted on said base, and means for securing said support to said base.

4. A universal vise comprising a saddle having a curved seat, a base fitting said seat, means for adjustably securing the base to said seat, said base having a circular T-shaped groove, a jaw support pivotally mounted on said base and T-headed clamping members engaging said T-shaped groove for clamping the jaw support to said base.

5. A universal vise comprising a saddle having a curved seat, a base fitting said seat, said base and seat having an intermeshing tongue and groove and an opening with slots extending therefrom to the outer surface thereof and on opposite sides of said tongue and groove, clamping members located in said slots for adjustably securing the base to said seat, said base having a T-shaped circular groove, a jaw support seated on the flat surface of said base, and T-headed clamping members extending from said support into said T-shaped slot to rotatably adjustably secure the support to the base.

6. A universal vise comprising a saddle having a seat formed on a curve with a horizontal axis, means for securing the saddle to the seat in different positions, a jaw support pivotally mounted on said saddle on an axis extending vertically, said saddle having T-shaped slots formed concentrically with the axis thereon, and bolts having their heads located in the broader part of said slots and with their opposite ends extending through flanges located on opposite sides of the jaw support.

CARL ADRIAN CARLSON.