Jan. 15, 1924. 1,480,564

H. MORRISON

GUIDE FOR USE IN FILING

Filed March 25, 1922

Fig. 1.

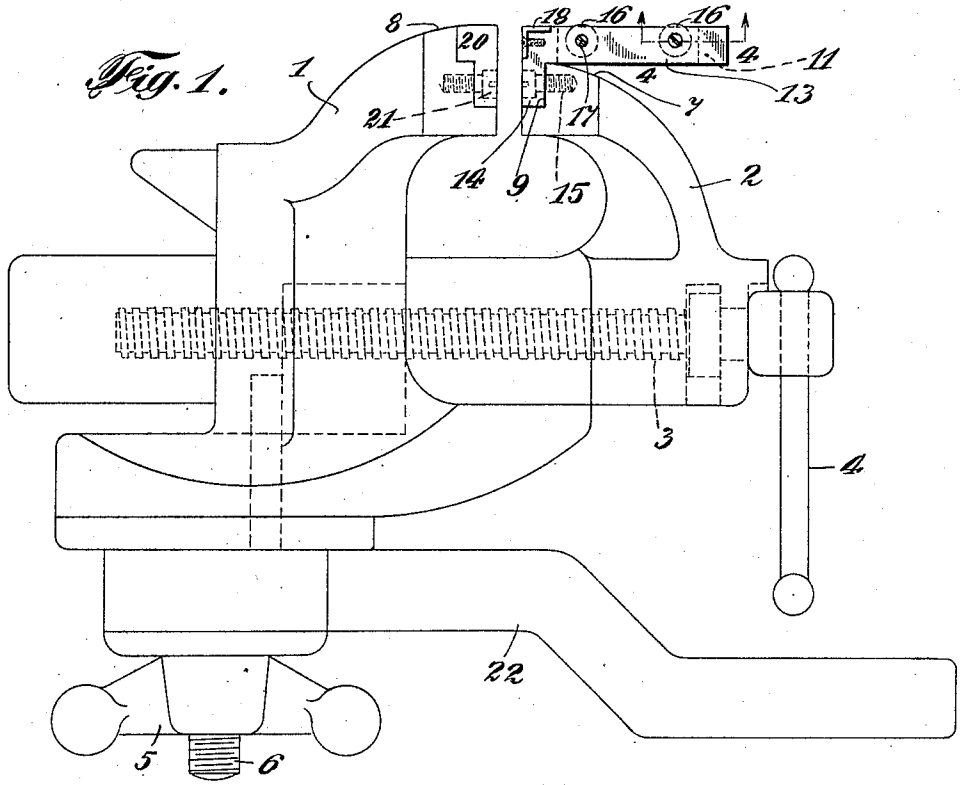


Fig. 2.

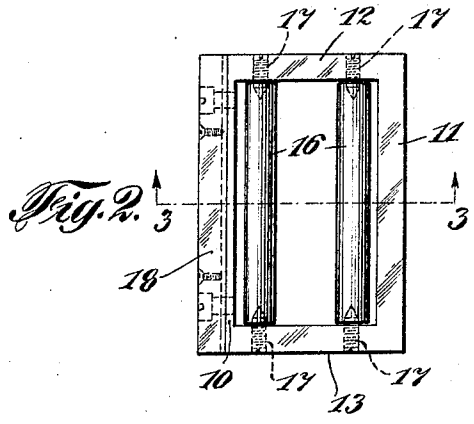


Fig. 4.

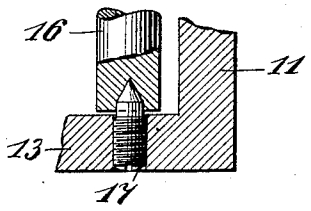
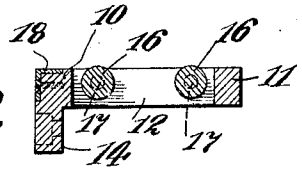


Fig. 3.



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Patented Jan. 15, 1924. 1,480,564

UNITED STATES PATENT OFFICE.

HARRY MORRISON, OF NEW YORK, N. Y.

GUIDE FOR USE IN FILING.

Application filed March 25, 1922. Serial No. 546,719.

To all whom it may concern:

Be it known that I, HARRY MORRISON, a citizen of the United States, and residing at the borough of Bronx, in the city, county, and State of New York, have invented certain new and useful Improvements in Guides for Use in Filing, of which the following is a clear and exact specification, reference being had to the drawings, which form a part of this specification.

This invention relates to means for guiding a file when manually operated to cut down a surface upon a work object held in a vise, and my improvement is particularly directed to an anti-friction bearing device, fitted and securely held to one jaw of a vise, and capable of supplementing the manual use of a file by positively according it effective operation to a true transverse plane.

Filing by hand upon a work object held by a vise has the disadvantage that the most highly skilled artizan is unable to produce a filed surface that is entirely even.

I am aware that attempts have been made to provide file guides which will assure filing to an even plane, but such attempts have not, so far as I am aware, been productive of file guides having the characteristic features of advantage and utility possessed by my invention.

Briefly expressed, my invention consists of a rectangular frame which is to be secured to one of the jaws of a vise, the frame containing a pair of rollers, pivoted therein, with peripheral portions extended above the frame; the rollers being in parallel, spaced arrangement with each other and with the jaw edge.

The artizan, in using the file, with one hand, lays it, adjacent to one end, upon one of the rollers and, adjacent to the other end, upon a work piece, holding it downwardly thereon with the other hand, so that in filing the work piece, the process is limited to a plane upon the work piece which is even with the plane presented by the pair of rollers.

Other features and advantages of my invention will hereinafter appear.

In the drawing:—

Figure 1 is a side elevation of a vise equipped with my improved filing guide.

Fig. 2 is a plan view of the filing guide.

Fig. 3 is a section on the line 3—3 of Fig. 2, and

Fig. 4 is an enlarged section on the line 4—4 of Fig. 1.

In the drawing I have shown an ordinary bench vise composed of the stationary jaw portion 1, the movable jaw portion 2, the connecting screw member 3, with a handle 4, whereby the jaw portion 2 may be adjusted relatively to jaw portion 1; and the wing nut 5, working on threaded post 6 for clamping the vise to a bench.

The jaw portion 2, where operatively opposed to jaw portion 1, has its upper surface 7 located in a lower plane than the upper surface 8 of jaw portion 1, and jaw portion 2 is provided with a recess 9 in its face, for the reception of my improved guide means.

The guide means consists of a rectangular frame having the side bars 10, 11, and end bars 12, 13. The side bar 10 has a depending portion 14 which is adapted to fit within the recess 9, and screws 15, passed through portion 14 serve to secure the frame jaw portion 2. Rollers 16, 16 are disposed endwise within the frame, being pivotally supported therein by means of pivot screws 17, with conoidal ends, that enter conoidal seats provided therefor in the roller ends, to thus engage the rollers in manner to permit the latter to freely rotate.

The rollers, as thus pivotally mounted in the frame, lie in a horizontal plane therein, in spaced relation, with their peripheral surfaces extended slightly above the upper surface of the frame, the rollers thereby constituting a horizontal guide for a file that is laid across the rollers.

The forward portion of bar 10 is provided with a strip 18, of relatively hard steel, that fits within recesses provided therefor along its top and front surfaces, so that the strip will lie flush with the upper front surfaces, respectively, of bar 10. Countersunk screws 19 secure the strip 18 to bar 10. Also, the front portion of the stationary jaw portion may be equipped with relatively a hard wear portion 20, secured to the main jaw portion 1 by screws 21.

With the organism thus described and shown, the file guide and bearing surface provided by the rollers 16, mounted as they are by their frame upon the movable jaw portion 2, permit a file that is placed thereover and manually reciprocated over a work object held between the vise jaws, pressure being applied to hold the file, adjacent to one end, against one of the rollers, and, ad-

jacent to the other end, against the work object to wear down the surface of the work object to, and not below, the plane presented by the rollers. Hence, by means of my improved guide, filing may be accomplished, through manual operation, with precision.

For economy of manufacture, the frame is preferably constructed of relatively soft material, such as iron, steel or bronze. However, a permanent edge is provided therefor in the form of a hardened steel or other strip 18 which is accurately paralleled to the working plane of the rollers 16, but slightly beneath that plane to provide a reference base with respect to which the object to be filed is adjusted in the vise jaws. Being slightly below the working plane of the rollers 16, the strip 18 is protected against any but accidental contact with a file and, being hardened, is maintained as an accurate adjusting base even though frequently so engaged by the file.

Sometimes the vise is to be held by a larger vise, and then the wing nut 5, instead of clamping it to a bench, engages a bar 22, which itself can be clamped by the larger vise, thereby permitting such radial adjustment as may be desirable.

While I have shown and described a particular form of my invention, changes may be effected therein without departing from the spirit and scope thereof, as set forth in the appended claims.

Variations within the spirit and scope of my invention are equally comprehended by the foregoing disclosure.

I claim:—

1. The combination with a pair of clamping jaws movable relatively to one another to clamp a work object between them, of a roller-supporting structure disposed at one side of the jaws, and a pair of rollers supported by said structure, in spaced parallelism to said jaws, the rollers projecting beyond said structure and beyond said jaws to provide a file bearing plane which limits the filing operation upon a work object held by the jaws to a plane slightly removed from the jaws.

2. The combination with a vise having a fixed jaw and a movable jaw, of a roller-supporting structure mounted on the movable jaw, and a pair of rollers supported by said structure in spaced parallelism to said jaws, the rollers projecting beyond a portion of said structure and beyond the jaws to provide a file bearing plane which limits the filing operation upon a work object held by the vise to a plane slightly removed from the jaws.

3. The combination, with a vise having jaws movable relatively to one another to clamp a work object between them, one of the jaws being lower than the other, and having a forward recess, of a rectangular frame composed of side bars and end bars, one of the side bars having a depending portion to enter the recess, means for securing the frame to the jaw, the upper surface of the frame lying in the same plane as the upper surface of the fixed jaw, and a pair of rollers pivotally mounted in the frame, in spaced parallelism, the rollers projecting beyond the frame to provide a file bearing plane which limits the plane of operation upon a work object held by the vise.

4. The combination with a vise comprising relatively movable clamping jaws constructed to clamp any one of a wide variety of work objects between them, of a roller-supporting structure for supporting a pair of rollers at one side of the vise jaws, and a pair of rollers supported by said structure, in spaced parallelism to said jaws, the rollers projecting beyond said jaws to provide a file bearing plane which limits the filing operation upon a work object held by the jaws to a plane above said jaws.

5. The combination with a vise comprising stationary and movable jaws, of a structure mounted on the movable jaw having an edge portion providing a reference line by which objects to be clamped by the jaws are accurately clamped in position and a pair of rollers mounted on said structure in spaced parallelism to said jaws to provide a definite work plane above said edge.

6. The combination with a vise comprising stationary and movable jaws, of a roller-supporting structure mounted on the movable jaw, a member mounted adjacent to the clamping edges of the jaws providing a reference line by which objects to be clamped by the jaws are accurately clamped in position, and a pair of rollers supported on said structure in spaced parallelism to the jaws to provide a definite work plane above said reference member.

Signed in the borough of Manhattan, city, county and State of New York, this 20th day of March, 1922.

HARRY MORRISON. [L. S.]