Sept. 4, 1934. W. J. BROWN 1,972,260

FLEXIBLE FILE HOLDER

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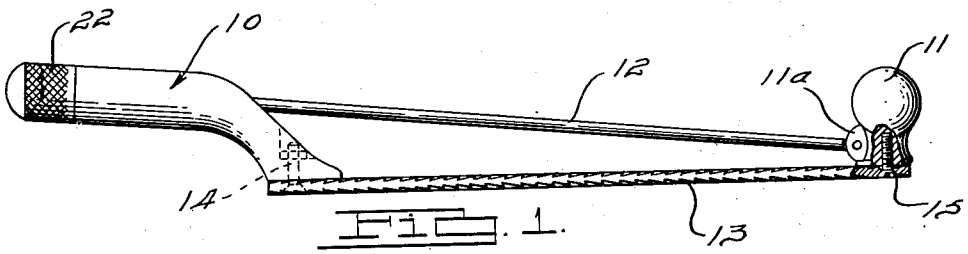


Fig. 1.

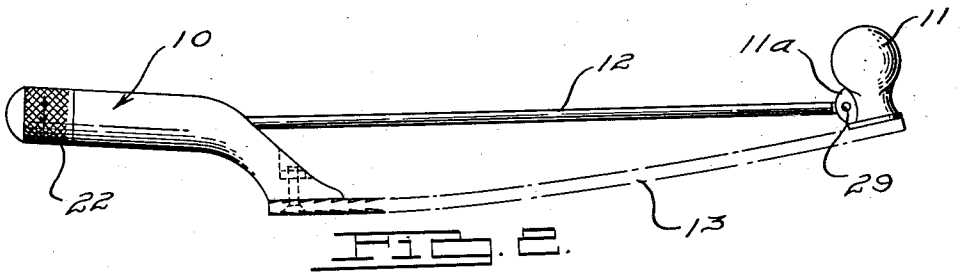


Fig. 2.

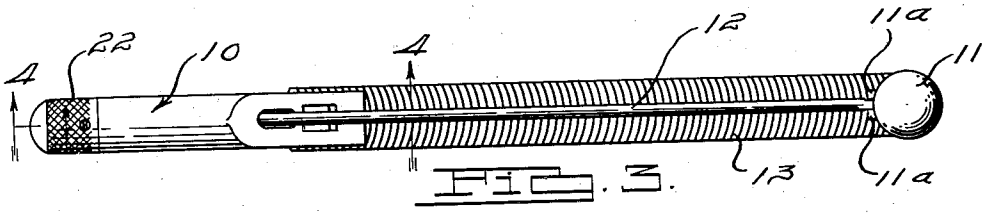


Fig. 3.

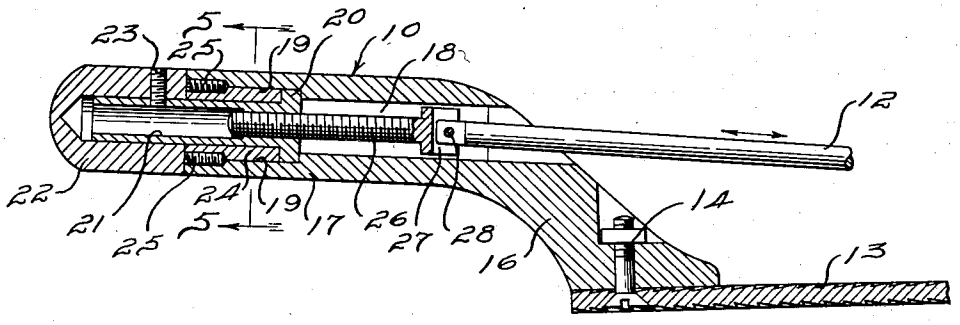


Fig. 4.

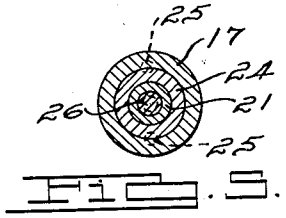


Fig. 5.

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FLEXIBLE FILE HOLDER

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7 Claims. (Cl. 29—80)

This invention relates to file holders for supporting files and particularly to a holder capable of bending or flexing the file to present a convex or concave working face to facilitate filing curved or uneven surfaces, such for example as automobile fenders.

An object of my invention is to provide a file holder of comparatively simple construction which is easy to manipulate and in which the operating mechanism for flexing or bending the file is located within one of the handles.

Another object of the invention is to provide an operating handle in which the gripping portion of the handle remains at all times at a fixed angle with relation to the end of the file upon which it is mounted, to provide a clearance for the hand of the operator during use, whereby the entire working face or surface of the file may be used.

In previous file holders of this general type it has often been difficult to use the working surface of the file throughout its length. This is due, in part, to the fact that during flexing of the file the angle of the handle changes or varies with relation to the file, causing the operator's hand to come into contact with the surface of the work when attempting to use the full length of the file. This disadvantage is overcome, however, by the present improvement.

Other objects of the invention will appear from the following description and appended claims when taken in connection with the accompanying drawing, in which

Fig. 1 is a side elevation, partly in section, of the file holder of my invention;

Fig. 2 is a view similar to Fig. 1 showing the file flexed to present a convex working surface;

Fig. 3 is a top plan view of the device of Figs. 1 and 2;

Fig. 4 is a fragmentary sectional view taken substantially along the line 4—4 of Fig. 3;

Fig. 5 is a section taken substantially along the line 5—5 of Fig. 4.

Before explaining in detail the present invention it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawing, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation, and it is not intended to limit the invention claimed herein beyond the requirements of the prior art.

Referring particularly to the drawing, the file holder of my invention comprises a main handle member shown as a whole at 10, an outer handle member in the form of a knob 11, and an operating rod 12 connecting the two handle members, said handle members being mounted upon a file 13. The inner end of the file is fastened to the flat end of the body portion 16 by means of a bolt and nut 14, and the outer end of the file is secured to the handle member 11 by means of a screw or bolt 15. The body portion 16 of the handle 10 terminates in a hand grip 17 which is offset therefrom to provide a clearance space for the workman's hand which remains constant regardless of the bowed condition of the file 13. The gripping portion of the handle is tubular and is provided with a bore therethrough, the forward portion 18 of the bore being square in cross section. Located within the bore 19 is a rotatable nut 20 having a rearwardly extending sleeve portion 21 which projects beyond the handle portion 17 and supports an externally knurled closure cap or member 22. The cap is secured to the sleeve 21 by a set screw 23 so that these parts can be rotated together. A bushing 24 is located within the bore 19 between the sleeve 21 and gripping portion 17 and is held in position by screws 25. The bushing 24 provides a bearing for the member 20. The latter is internally screw threaded to receive a screw member 26 having a round head 27 slidable longitudinally in the bore 18. Thus it will be seen that the operating mechanism for flexing the file is located within the handle 10.

As shown in Fig. 4 the inner end of the rod 12 is connected within a slot in the head 27 by means of a pin 28, providing a flexible or pivotal connection between the screw 26 and the inner end of the rod. As seen in Figs. 1, 2 and 3, the outer handle member 11 is provided with a pair of ears or projections 11*a* adapted to receive therebetween the outer end of the rod 12. This end of the rod is held in place between the ears by a pivot pin 29.

When it is desired to flex the file 13, that is to say, to cause the file to present a longitudinally curved working face or surface as shown in Fig. 2, the cap 22 of the handle is turned in one direction thereby turning the nut 20 and propelling the threaded rod 26 longitudinally within the handle. It will be understood that this operation will result in bending the file either in the manner shown in Fig. 2 or the reverse, depending upon which direction the cap is turned. It is to be noted that the angular relation of the handle grip 17 and

the plane of the inner end of the file remains the same during the operation of the flexing mechanism.

It will be seen that sufficient clearance is provided at all times for the hand of the operator due to the fixed relation between the gripping portion of the handle and the plane of the inner end of the file. It will also be seen that the present construction enables the operating mechanism to be housed within the handle, each change in contour of the file being produced by adjusting the outer end of the device relatively to the operating parts within the handle grip.

I claim:

1. A file holder comprising spaced handle members, a file secured at opposite ends to said members, a rod pivotally connected at one end to a handle member, and means mounted within the other handle member and pivotally connected to said rod for shifting the rod in an endwise direction.

2. A file holder comprising a hand grip, a file secured thereto at one end, a push and pull rod pivoted to the opposite end of the file, a screw device located within the hand grip and pivoted to said rod, and means for operating said device.

3. A file holder comprising a hand grip, a file secured thereto at one end, a push and pull rod pivoted to the opposite end of the file, a screw device located within the hand grip and pivoted to said rod, said grip having a rotatable portion for operating said device.

4. A file holder comprising a hollow hand grip having an offset portion providing a space for the hand, a file attached at one end to said offset portion in fixed angular relation with said grip, a screw device within said grip, and an articulated connection between said device and the opposite end of the file and shiftable endwise upon rotating said screw device.

5. A file holder comprising a support, a file secured at one end thereto, operating mechanism for flexing the file including a device having a rectilinear movement within the support and a rod connected to the opposite end of the file and having an articulated connection with said device interiorly of the support.

6. A file holder comprising a hand grip, a file secured thereto at one end, a push and pull rod pivoted to the opposite end of the file, a screw device located entirely within the hand grip and pivoted to said rod interiorly of the grip, said hand grip having a fixed portion and also a rotatable portion cooperating with said screw device for shifting the same longitudinally within the handle.

7. A file holder comprising a hollow support including a hand grip, a file secured at one end to the support, an endwise shiftable member connecting the support and the opposite end of the file, said member including at one end a screw device mounted within the support and an articulated connection between said device and the opposite end of the member, said connection being shiftable within said support.

WILLIAM J. BROWN.