Dec. 24, 1957 C. R. SIMMONS 2,817,252

FILE GUIDE AND GAUGE FOR CHAIN SAWS

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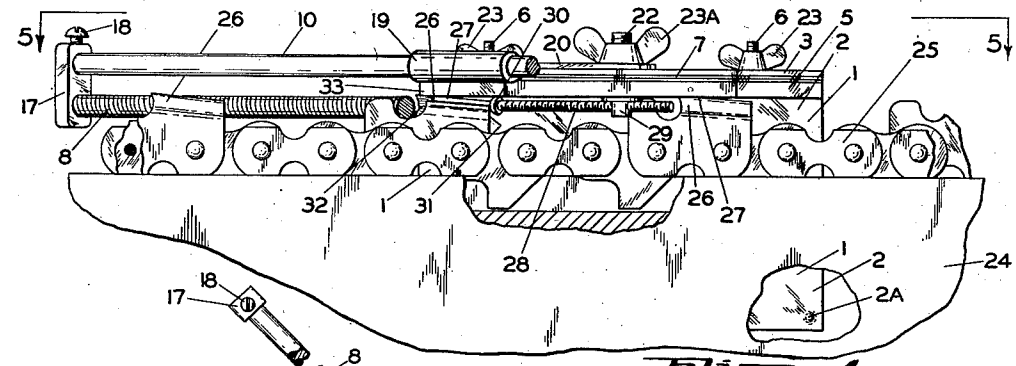


Fig 4

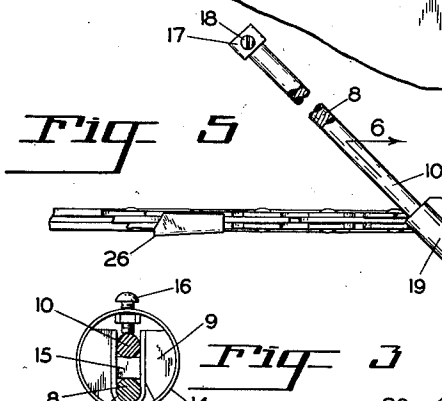
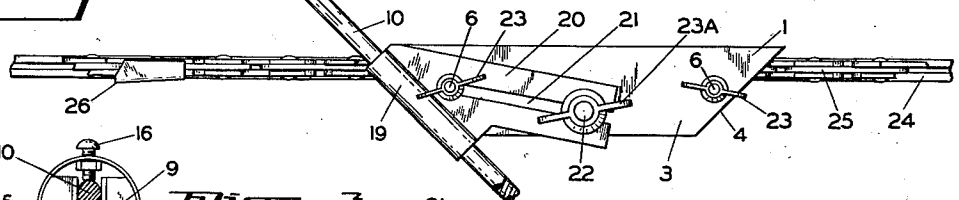


Fig 5



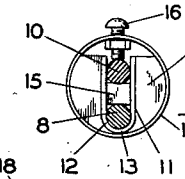


Fig 3

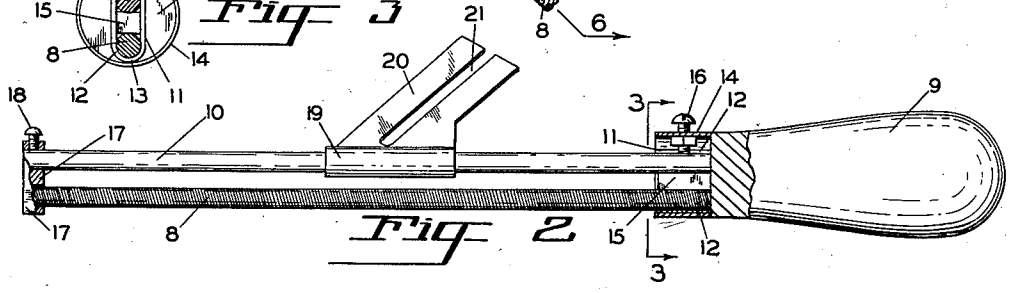


Fig 2

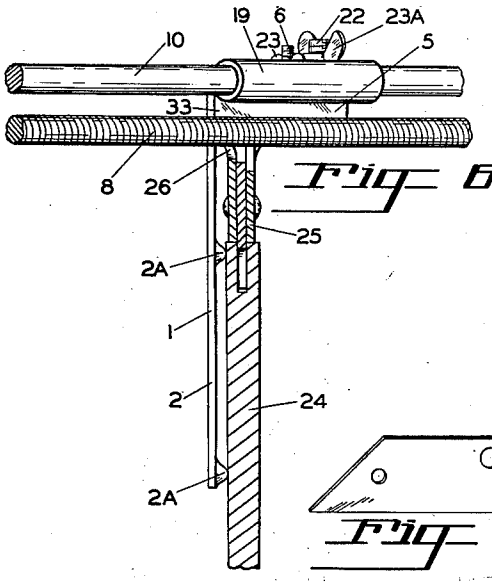


Fig 6

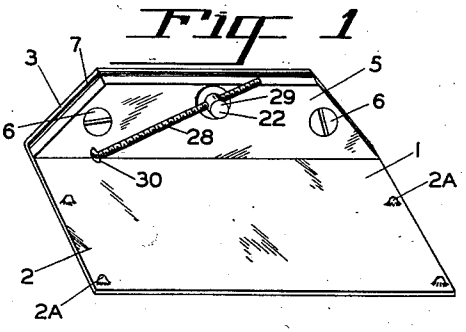


Fig 1

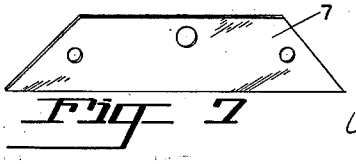


Fig 7

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FILE GUIDE AND GAUGE FOR CHAIN SAWS

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4 Claims. (Cl. 76—36)

This invention relates to a file guide and gauge for chain saws and is particularly adapted for filing the chipper type of teeth.

The primary object of this invention is to provide a file guide and gauge that can be used out on the job, giving precision accuracy in the guiding and gauging of the file in the filing of the chipper teeth of chain saws.

A further object of the invention is the provision of a file guide that will operate on the chain while mounted on the saw bar guide without removing the chain therefrom.

These and other incidental objects will be apparent in the drawings, specification and claims.

Referring to the drawings:

Figure 1 is an inverted perspective view of the frame or body of the guide, having the file and its guide removed therefrom.

Figure 2 is a side view of the file and guide removed from the body or frame of the device.

Figure 3 is an end sectional view, taken on line 3—3 of Figure 2, illustrating how the guide rod and file are mounted within the operating handle.

Figure 4 is a fragmentary portion of a chain saw guide bar, together with the chain having my new and improved file guide and gauge mounted thereon, parts broken away for convenience of illustration.

Figure 5 is a plan view of Figure 4, partially broken away for convenience of illustration.

Figure 6 is an end sectional view of the chain saw guide bar, including the chain and having my new and improved guide and gauge mounted thereon. This view is taken on line 6—6 of Figure 5 looking in the direction indicated.

Figure 7 is a perspective view of one of the shims for positioning the file in determining the shape of the cutting edge of the tooth.

Referring more specifically to the drawings:

My new and improved guide and gauge consists of a frame 1, comprised of a vertical plate 2, having a plate 3 formed on its upper edge at right angles to the said plate 2. The upper plate 3 has an edge portion 4 extending at an acute angle to the upper edge of plate 2, as shown in Figs. 1 and 5. This angle may vary depending upon the angle that the file is going to operate in regards to the tooth being filed.

An adjustable gauge plate 5 is secured to the horizontal plate 3 by way of the bolts 6. The position of the gauge plate 5 is governed by the shims 7, which can be removed or replaced between the gauge bar 5 and the angle plate 3. The purpose of this will be described later on.

The usual round file 8 is fixedly secured within the handle 9, together with the guide rod 10 in the following manner: The handle 9 is cored out at 11 to receive a special U-shaped keeper 12, having its U-bend 13 contacting the inner surface of the ferrule 14 of the handle 9.

The file 8 is first dropped into the keeper, then a spacer 15 is placed over the file for separating the said file

from the guide rod 10 which is next placed in the keeper, after which a set screw 16 is tightened against the rod 10, tightening the whole assembly together within the handle, referring particularly to Figures 2 and 3. The outer ends of the file 8 and the guide rod 10 are held together and spaced apart by the spacer 17, which is fixedly secured to the guide rod 10 by the set screw 18.

The guide rod 10, referring to Figures 4, 5 and 6 particularly, is secured to the plate 3 by way of the tubular guide 19. The tubular guide 19 has an arm 20 forming part thereof and extending at an angle therefrom. This arm has a slot 21 formed therein and is adapted to slide over the surface of the plate 3, being secured thereto by one of the bolts 6 and the bolt 22 by way of the wing nuts 23 and 23A. The tubular guide 19 registers with the angle 4 of the plate 3.

Referring to Figures 4, 5 and 6, I illustrate how my new and improved guide and gauge for files is applied to the chain saw guide bar 24 and to the chain 25 for the filing of the chipper teeth 26. The gauge plate 5 contacts the upper surface 27 of the chipper teeth, while the spacers 2A of the vertical plate 2 separates the said plate 2 from the chain saw bar to clear the said plate from the teeth of the saw, best illustrated in Figures 4 and 6.

The position of the chipper teeth to be filed is determined by the adjustable stop 28, which is mounted to the plate 3 by the bolt 22. The stop 28 is threaded crosswise of the end 29 of the bolt 22. The wing nut 23A is then tightened sufficient to prevent the stop 28 from moving when once adjusted. The opposite end of the stop 28 is adapted to engage the rear 31 of the chipper tooth 26 being filed, positioning the cutting face 32 of the tooth in regards to the end 33 of the plate 2. The plate 2 is especially hardened at this point so that when the file contacts the point 33 of the plate the operator will cease filing, therefore gauging the amount that each tooth is filed.

I will now describe the operation of my new file guide and gauge. The operator first determines the elevation of the file in regards to the cutting tip of the tooth. He then adds or substracts the shims 7 from the frame 1 of the device. This adjustment is determined by the type of material to be sawed. If the file is adjusted high in regards to the teeth, the tip of the tooth would be filed to a blunt point, while if the file were adjusted downwardly from the top of the tooth, the tooth would be shaped with more of a chisel point.

After the gauge plate 5 has been adjusted, determining the type of tooth tip to be filed, the stop 28 is adjusted against the rear 31 of the tooth 26 for determining the amount that will be filed from the tooth. Usually each group of teeth is filed to completion. The tubular guide 19 is then positioned on either end of the upper plate 3, depending upon whether a right or left chipper tooth is to be filed, then the guide 19 is changed to the opposite end of the plate 3 by simply loosening the wing nuts 23 and 23A, removing the same and turning the whole assembly over on to the opposite end of the plate 3, after which it is locked thereto by the wing nuts 23 and 23A.

The file handle, while not showing in the drawings in regards to the guide, is located on the opposite side of the saw frame or bar to that of the vertical guide plate 2.

In operating the file, the filer positions the vertical plate 2 against the side of the saw guide bar, aligning the end 30 of the guide 28 against the rear 31 of the tooth to be filed. With one hand he holds the device against the saw chain guide bar, while with the opposite hand he operates the file in filing the tooth. As he operates the file he rotates the handle slightly, pivoting the file about the guide rod 10 against the face of the tooth on the forward stroke of the file, swinging the same away from

the face of the tooth on the return stroke, giving a natural feel of the filing operation at the same time. In other words, with this new file guide, only one hand need operate the file while the opposite hand holds the guide to the work being performed.

I claim:

1. A saw file guide comprising a support of substantially right-angular configuration to provide one portion to lie against the side of a saw with the other portion overlying the saw teeth, a guide member mounted on said overlying portion and including a tubular guide element, a guide rod slidable in said tubular guide element, file support means releasably mounted on said guide rod for supporting a file in fixed spaced parallel relation to said guide rod, means adjustably mounted under said overlying portion for engaging and positioning the rear edge of a saw tooth to be filed relative to the guide, a gauge plate, and shims interposed between said gauge plate and the overlying portion of the support for adjustably mounting said gauge plate on the underside of said overlying portion to bear on said plate and position the file relative to the saw teeth.

2. A saw file guide comprising a support of substantially right-angular configuration to provide one portion to lie against the side of a saw with the other portion overlying the saw teeth, a guide member mounted on said overlying portion and including a tubular guide element, a guide rod slidable in said tubular guide element, file support means releasably mounted on said guide rod for supporting a file in fixed spaced parallel relation to said guide rod, and means adjustably mounted under said overlying portion for engaging and positioning the rear edge of a saw tooth to be filed relative to the guide, said guide member comprising a plate supporting said tubular guide element at one end, said plate having a slot longitudinally thereof and opening through the other end thereof, and three bolts in symmetrical relation on said overlying portion and spaced so that the central bolt and one end bolt can fit said slot, whereby said guide member can be positioned selectively at either end of said overlying portion.

3. A saw file guide comprising a support of substantially right-angular configuration to provide one portion to lie against the side of a saw with the other portion

overlying the saw teeth, a guide member mounted on said overlying portion and including a tubular guide element, a guide rod slidable in said tubular guide element, file support means releasably mounted on said guide rod for supporting a file in fixed spaced parallel relation to said guide rod, and means adjustably mounted under said overlying portion for engaging and positioning the rear edge of a saw tooth to be filed relative to the guide, said file support means including a spacer member at one end of said guide rod and having a socket for removably receiving one end of a file, and a handle member at the other end of said guide rod and including a ferrule, a U-shaped keeper within said ferrule and defining a slot open at one end to said ferrule, and a spacer element removably mounted in said keeper slot for interposition between a file in the closed end of said slot and said guide rod, said set screw being in said ferrule in alignment with the open end of said keeper slot.

4. A saw file guide comprising a support of substantially right-angular configuration to provide one portion to lie against the side of a saw with the other portion overlying the saw teeth, a guide member mounted on said overlying portion and including a tubular guide element, a guide rod slidable in said tubular guide element, file support means releasably mounted on said guide rod for supporting a file in fixed spaced parallel relation to said guide rod, a stud pivotally mounted on said overlying portion and having a threaded bore diametrically therethrough, and a bolt threaded in said bore and having a head with a slot therein for seating around the rear edge of the saw tooth to be filed to position the guide relative thereto.

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