Nov. 8, 1927. 1,648,426

A. K. SEARS

SAW FILING GUIDE

Filed June 28, 1926

Fig. 1

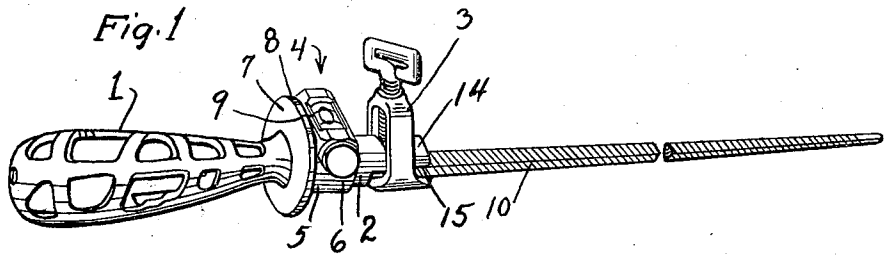


Fig. 2

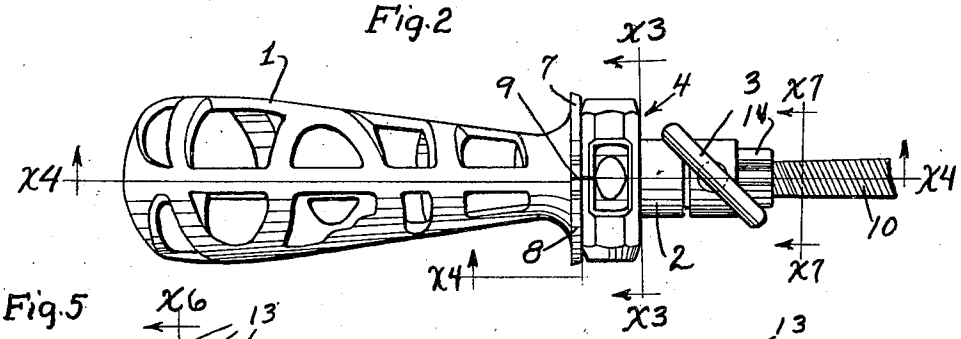


Fig. 5

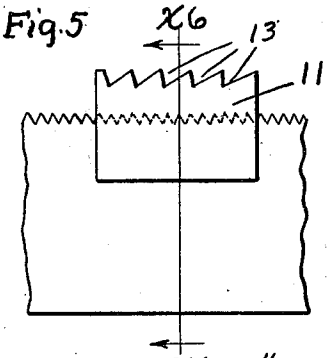


Fig. 3

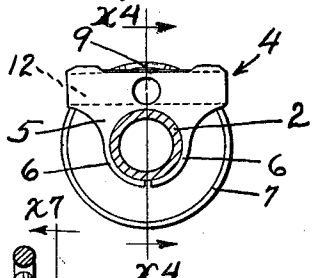


Fig. 6

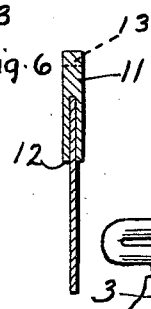


Fig. 7

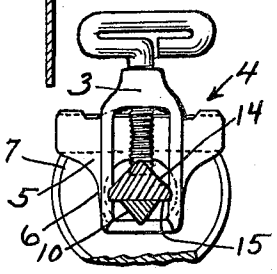


Fig. 4.

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UNITED STATES PATENT OFFICE.

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SAW-FILING GUIDE.

Application filed June 28, 1926. Serial No. 118,913.

An object of this invention is to make provision whereby one may be enabled to guide a file with perfect accuracy in the operation of sharpening a saw.

It is important that the sharpened edges of the teeth of a saw shall be uniform in pitch, and I have discovered that such uniformity can be attained in the operation of filing a saw by providing the file with a level indicator to enable the saw filer to maintain a proper pre-determined position of the file relative to the edge of the saw, and such predetermined position can be indicated to the eye by mounting a spirit level in such manner, that the level bubble will stand in a central position when the file is held in the predetermined position; and that a variation of the bubble will instantly indicate to the operator any deviation of the file from true position.

The files commonly used for sharpening saw-teeth are triangular in cross section, and it is common to fix the shank of such a file in a handle, and I have provided for such file handles, a spirit level attachment which may be practically journalled on the shank of the handle so that it may be adjusted to different positions relative to the cross section of the file; whereby the centering of the bubble will indicate that the cutting face of the file is at a proper angle to the toothed edge of the saw, and the saw filer will be warned of any variation from true position; and when the file is held with the bubble in central position, the operator may be assured that the file is being held in the desired position.

I have provided means whereby the workman may visually determine the correct adjustment of the spirit level relative to the file, and said means is shown in the form of a scale, and the same may be a vernier scale; and I provide a circular guard with graduations thereon, and provide a notch on the level adjacent to the graduations to indicate at all times the relation of the file to the correct operating position.

An object is to enable a workman to file a saw, properly.

An object of the invention is to provide means for easily and quickly adjusting the position of the level indicator with reference to the file, so that a uniform and correct bevel may be given the cutting edges of the saw teeth throughout, when the degree of pitch desired to be given has been determined, and to provide means for guiding the eye of the operator, to easily and quickly note the position of the file throughout the filing operation.

An object of the invention is to provide improved means, whereby the angle of the file with reference to the saw may be accurately determined and maintained, and any particular pitch given to the saw teeth.

The invention includes in combination with the file holder, a level setting gage adapted for quick attachment to the toothed edge portion of a saw blade, and provided with notches corresponding to the respective bevel or degrees of pitch, of saw teeth of different types, so that the level indicator may be adjusted with its bubble in a central position when the file is held firmly in the notch of the attachment corresponding to the desired shape of the tooth, and will thereafter indicate to the workman during the filing operation, any deviation from the correct angular position.

Other objects, advantages and features of invention may appear from the accompanying drawing, the subjoined detailed description and the appended claims.

The accompanying drawing illustrates the invention.

Figure 1 is a perspective view of an attachment embodying this invention and applied to a file handle fitted with a triangular file, the spirit level being shown with the bubble in true central position.

Fig. 2 is an enlarged plan view of the file handle with the leveling attachment thereon and a fragment of a file in place and the bubble in central position.

Fig. 3 is a transverse section on line x^3, Fig. 2.

Fig. 4 is a view partly from a plane indicated by line x^4, Fig. 2, and showing a partial mid-longitudinal section as indicated at line x^4, Fig. 3, of the file handle, the spirit level and the clamping means for securing the file in said handle.

Fig. 5 is a detail of the saw tooth pitch setting guide mounted on a portion of the toothed edge of a saw.

Fig. 6 is a cross section on line x^6, Fig. 5.

Fig. 7 is a front elevation of the attachment behind the usual clamping means for

holding the file in true position; which means are shown partly in section clamping a file shown in cross section.

The saw file handle comprising the grip 1, the cylindrical shank 2, and the file clamp 3, may be of a construction commonly found in the open market.

4 is a spirit level having a journal box 5 provided with tongues 6 that fit friction tight upon the cylindrical shank 2, and may be forcibly turned thereon by the mechanic to adjust the level to different angles relative to the file clamped to the handle by the file clamp 3.

7 indicates a guard fixed to the handle, and against which the journal box 5 of the spirit level fits. The guard 7 is shown as a circular flange, having a cylindrical periphery provided with markings 8; and the spirit level journal box 5 is provided with a central mark 9, which may be brought to register with an appropriate one of the marks 8 on the guard, to bring the bubble of the spirit level to a predetermined position which will indicate the angle to the horizontal, and vertical of the cutting face of the file 10 for a desired pitch of tooth.

The level setting guide shown in Figs. 5 and 6 comprises an oblong block 11 preferably of case hardened tool steel, having in its lower edge, a horizontal groove 12, and having in its upper edge a series of notches 13 of different pitch corresponding respectively to the pitch of the teeth of the various saws.

In use the block is placed on the toothed edge of the saw and the file is positioned at right angles thereto, and is inserted into the notch that has the pitch corresponding to that of the saw to be filed. The spirit level is then turned on the shank to bring the bubble of the spirit level to central position, thus determining the proper position to file teeth to the pitch of the notch in which the file is set.

In this manner the file may be set to any pitch found on the guide.

When the edge of the saw clamp is level, thereby bringing the toothed edge of the saw level the mechanic will set the spirit level in the proper position by turning it on the shank of the handle to bring the mark 9 on the spirit level into register with the appropriate one of the marks 8 on the guard and the operator will take care to maintain the file in such position that the bubble will be central the mark 9 during the filing operation. The setting gage is intended for use when it is not convenient to have the edge of the saw level.

It is necessary that the file shall be held in a definite position with respect to the vernier scale 8 on the guard 7 and with this object in view the tip 14 of the shank is provided with a flat surface 15 on its under side against which a flat face of the file is clamped by the clamp 3 so that when the file is clamped by the clamp it is nonrotatable relative to the guard and the vernier scale 8 thereon, and when the leveling device is turned to bring the center mark 9 to the predetermined mark on the scale 8 the exact angle of the file side relative to the toothed edge of the saw will be invariable if such edge is held level and the bubble is held in central position.

The position of the bubble relative to the marks on the handle indicate the position of the flat surface relative to a horizontal plane and consequently the angle of the file face to the horizontal toothed edge of the saw and the angle to such toothed saw edge, of the tooth edge being filed by the file.

I claim:—

1. The combination with a file handle, of a spirit level journalled on the handle, and extending transversely of the handle; and a guard integral with the handle provided with a mark to indicate a pre-determined position for the spirit level bubble.

2. The combination with a file handle having a cylindrical shank; of a spirit level formed with tongues frictionally engaging the shank, and a circular guard on the handle against which the spirit level abuts.

3. The combination with a file handle, of a spirit level frictionally journaled thereof, and extending transversely of the handle; and a guard on the handle provided with marks to indicate various pre-determined positions for the spirit level bubble.

4. In a saw file holding device, a handle having means for receiving and holding a file in level position, and means rotatably mounted on the handle for visually indicating the level position of the file.

5. A guide or gage for reciprocating hand tools comprising a handle, a cylindrical shank on said handle, means to hold a tool in fixed position on the shank, a spirit level adjustable on said shank, a guard on said shank, and co-operating markings on the guard and level for determining the level position of the tool.

6. A guide or gage for reciprocating hand tools, comprising a handle; a shank on said handle; means to hold a tool in fixed position on said shank; a spirit level on said shank; a guard integral with said shank, and co-operating markings on the guard and level for determining the level position of the tool.

7. A file level setting device comprising a handle; a shank on said handle; a file clamp mounted on said shank and adapted for adjustment to hold the file in fixed position thereon; a spirit level adjustable on said shank; a guard on said shank against which said spirit level is in frictional engagement, and co-operating markings on

the guard and level for determining the level position of the file.

8. A guide or gage for reciprocating hand tools, comprising a handle; a shank integral with said handle and provided with a bore adapted for the reception of the tool end; a file clamp adapted to hold the tool in fixed position on said shank; a spirit level adjustable on said shank; a guard integral with said shank, and said guard and level being formed with co-operating markings for determining the level position of the tool.

9. A guide or gage for reciprocating hand tools, comprising a handle; means to hold a tool in position in said handle; a spirit level rotatably adjustable on said handle; a circular guard on said handle and co-operating markings on the guard and level for determining the position of the tool relative to a horizontal plane or line.

10. The combination with a file handle; of a spirit level and a circular finger guard concentric with the axis of said handle, said guard formed with graduations upon its periphery co-operating with a mark upon said level, and said level adapted for rotation transversely of the longitudinal axis of said handle and adapted to indicate the position of the level relative to a face of the file.

In testimony whereof, I have hereunto set my hand at Los Angeles California, this 19th day of June, 1926.

ARCHIE K. SEARS.