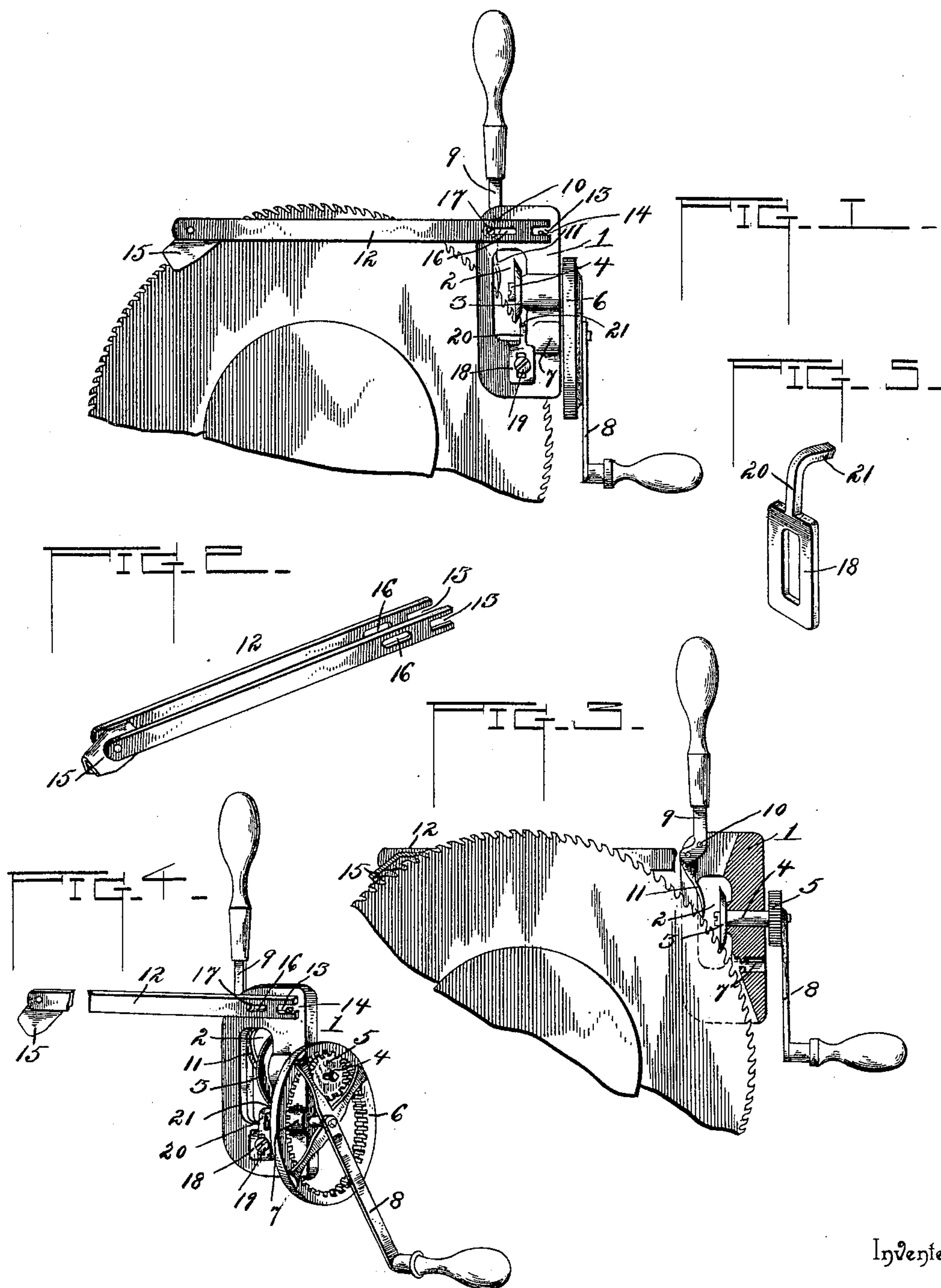


(No Model)

E. L. CHAFFIN.
GIN SAW SHARPENER.

No. 582,807.

Patented May 18, 1897.



Inventor

Edward L. Chaffin,

Witnesses

Milton Q. Cornell
[Signature]

By his Attorneys,

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UNITED STATES PATENT OFFICE.

EDWARD L. CHAFFIN, OF HELENA, ARKANSAS.

GIN-SAW SHARPENER.

SPECIFICATION forming part of Letters Patent No. 582,807, dated May 18, 1897.

Application filed May 4, 1896. Serial No. 590,116. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. CHAFFIN, a citizen of the United States, residing at Helena, in the county of Phillips and State of Arkansas, have invented a new and useful Gin-Saw Sharpener, of which the following is a specification.

My invention relates to gin-saw sharpeners, and has for its object to provide a simple and efficient device adapted to be applied to a saw and adjusted accurately by positive means to the desired pitch, regulated by the diameter of the saw.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a side view of a gin-saw sharpener constructed in accordance with my invention applied in the operative position to a saw. Fig. 2 is a detail view in perspective of the guide-bar. Fig. 3 is a side view, partly in section, showing the handle attached to the file-spindle. Fig. 4 is a perspective view of the device dismounted. Fig. 5 is a detail view of the depth-gage detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a frame or body provided with a transverse slot 2, in which is arranged the beveled rotary file or disk 3, said file or disk being attached to the spindle 4, which is mounted in the frame or body. The file-spindle terminates at its front end in a pinion 5, with which meshes a driving-gear 6, having its spindle mounted in a bearing 7 below the pinion. In the arrangement illustrated in Fig. 1 the operating-crank 8 is attached to the driving-gear, but when it is desired to turn the file slowly the crank may be attached to the extremity of the file-spindle, as shown in Fig. 3.

Pivotally mounted upon the frame or body is a feeding-lever 9, connected at its lower extremity below its pivotal point 10 to a feeding-pawl 11, which engages the teeth of the saw contiguous to the file or disk.

The guide-bar 12 is pivotally mounted at

an intermediate point upon the frame or body portion and is provided at the extremity of its short arm or at its front end with a bifurcation or notch 13. Fixed to the frame or body portion and projecting laterally therefrom, between the arms of the bifurcation at the front end of the guide-bar, is a stud 14, and attached to the extremity of the long arm or the rear end of the guide-bar is a rest 15, which extends over and engages the edge of the saw. When the long arm of the guide-bar is depressed to bring the lower side of the fork or bifurcation at the front end of the bar in contact with said stud, the apparatus is adjusted for use in connection with a ten-inch saw, the file being at the proper angle to suit the pitch of a standard tooth on a saw of that size. When the long arm of the guide-bar is elevated to bring the upper side of the fork or bifurcation at its front end in contact with said stud, the parts of the apparatus are adjusted for use in connection with a twelve-inch saw, these sizes being the ones generally in use.

If it is desired to adjust the file to a different pitch from those possible by the limited vibration of the guide-bar, it may be accomplished by moving the said bar rearwardly a sufficient distance to disengage the fork or bifurcation from said stud, this rearward movement of the guide-bar being attainable by reason of a slot 16, embracing the pivot 17, upon which the bar is fulcrumed. The guide-bar is preferably constructed of duplicate sides, as shown in Fig. 2, to provide an even bearing upon opposite sides of the saw-blade.

From the above description it will be seen that the position of the sharpening device depends entirely upon the periphery of the saw and not upon the space-block by which contiguous saws are separated, the advantage of this feature residing in the fact that the diameter of the space-block differs in different machines, whereas the saws are of standard sizes. It will be observed, furthermore, that the means described for adjusting the pitch of the file do not require the exercise of judgment upon the part of the operator and do not require experiment in setting it. When a saw of a given size is to be dressed, the guide-bar is adjusted either upward or down-

ward, as may be required, and the result will be a uniform dressing of the teeth upon lines corresponding with the original shape thereof.

In addition to the above-described devices I preferably employ a depth-gage for regulating the depth to which the file is allowed to cut, said gage having a slotted plate 18, to be secured to the frame of the apparatus by means of a set-screw 19, and an arm 20, extending upwardly from said plate and provided with a transverse detent 21 to fit in the notch between the teeth immediately in rear of that occupied by the file. Hence in order to set the gage two teeth of the saw are filed, and while the file remains in the interval last formed the gage is moved to bring its detent snugly into the first-filed interval and is secured by means of the set-screw.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a gin-saw sharpener, the combination with a frame adapted to be seated upon the periphery of a saw and carrying a file-spindle and means for operating the same, of a guide-bar pivotally mounted upon said frame and provided at its free end with a rest to engage the periphery of the saw, and means, consisting of a fixed stud and a coacting fork in the extremity of the guide-bar engaging said stud, for limiting the swinging movement of the guide-bar with relation to the frame, substantially as specified.

2. In a gin-saw sharpener, the combination with a frame adapted to be seated upon the periphery of a saw and having a file-spindle and means for operating the same, of a guide-bar provided at an intermediate point with a longitudinal slot engaging a fixed fulcrum-pin on the frame, a seat at the extremity of the long arm of the guide-bar for engaging the periphery of the saw, and a fork at the extremity of the short arm of the guide-bar for engaging a fixed stud on the frame to limit the angular adjustment of the guide-bar with relation to the frame, substantially as specified.

3. A gin-saw sharpener having a slotted frame adapted to be seated upon the periphery of a saw and provided with lateral openings, a file-spindle mounted in a bearing in said frame, means for operating said spindle, a guide-bar attached at one end to the frame and carrying a seat for engaging the periphery of the saw, means for adjusting said guide-bar to vary the pitch of the file, a feeding-lever fulcrumed upon the frame and provided with a pawl operating in the slot thereof, and a depth-gage adjustably secured to the frame and having a transverse detent extending through the contiguous lateral opening of the frame to engage a saw-tooth in rear of the file, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

EDWARD L. CHAFFIN.

Witnesses:

JOHN P. DUNCAN,
CHARLES E. NIXON.