

No. 753,575.

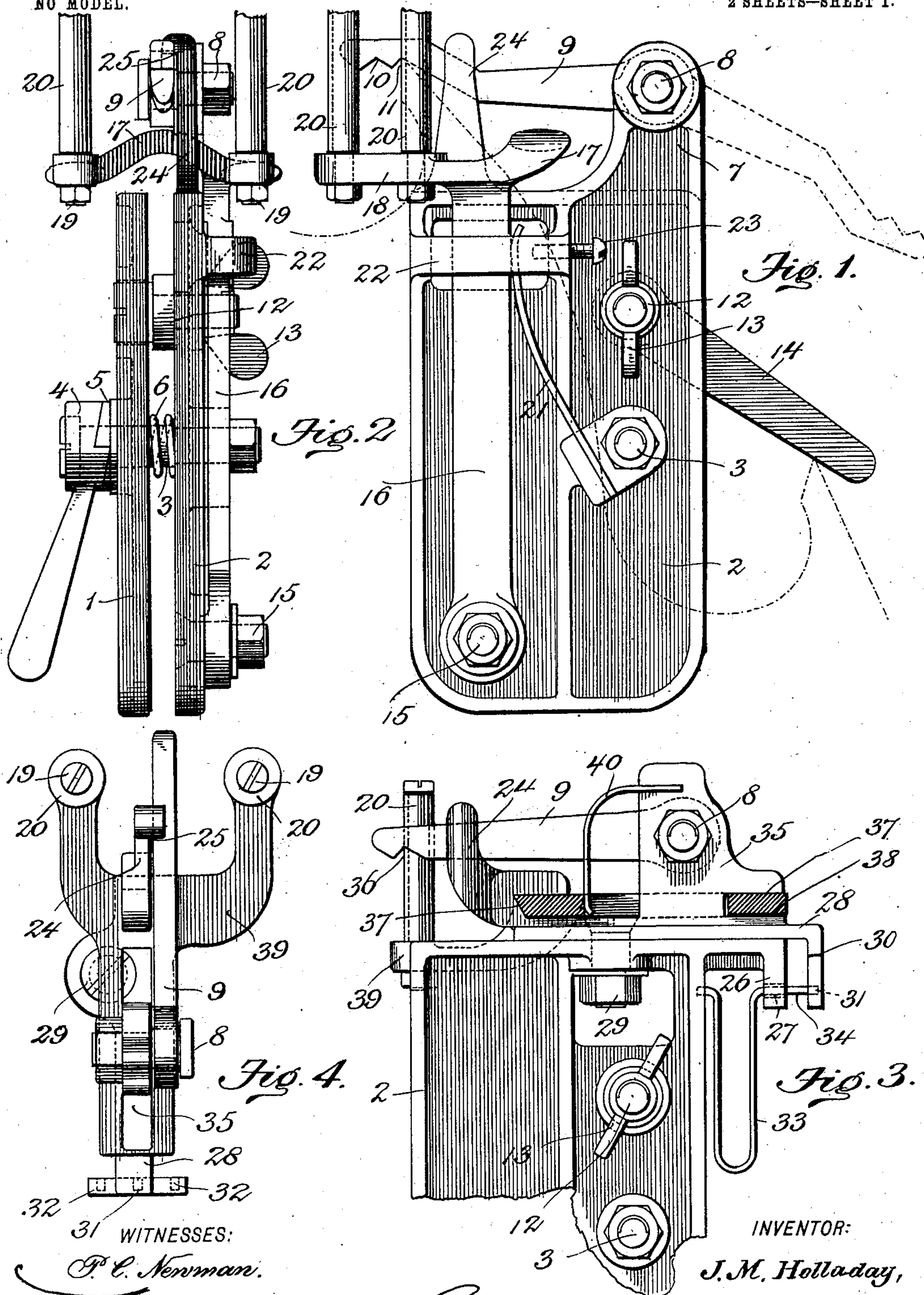
PATENTED MAR. 1, 1904.

J. M. HOLLADAY.
SAW FILER.

APPLICATION FILED JULY 2, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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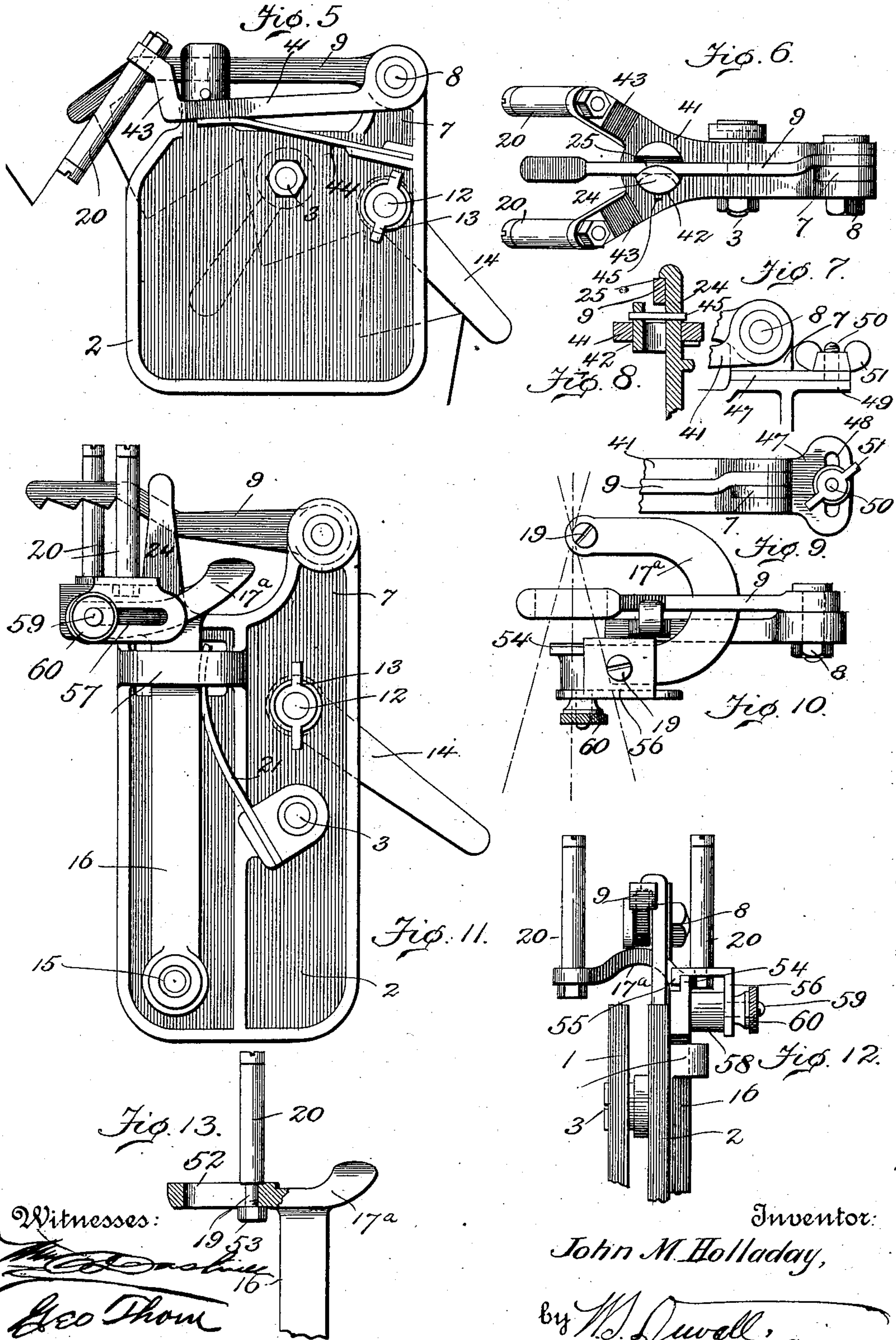
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NO MODEL.

2 SHEETS—SHEET 2.



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16

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UNITED STATES PATENT OFFICE.

JOHN M. HOLLADAY, OF HOLLADAY, VIRGINIA.

SAW-FILER.

SPECIFICATION forming part of Letters Patent No. 753,575, dated March 1, 1904.

Application filed July 2, 1903. Serial No. 164,094. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. HOLLADAY, a citizen of the United States, and a resident of Holladay, in the county of Spottsylvania and State of Virginia, have invented a Saw-Filer, of which the following is a specification.

This invention relates to improvements in saw-filers; and the main objects in view are to produce a simple and economically-constructed device adapted to be readily and securely clamped on circular saws in proper relation with the teeth thereof, which will accurately and positively guide and regulate the file in its operation of sharpening said teeth, which when once adjusted to the pitch of the teeth may be subsequently moved to and throughout the succession of teeth, and which is equally adapted for the filing of the "chisel" or both right and left hand "briar" teeth.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation, and Fig. 2 an edge elevation, of the preferred form of saw-filer, the former figure showing the saw to be operated upon in dotted lines. Fig. 3 is a side elevation of a modified form, and Fig. 4 a top plan view of the same. Fig. 5 is an elevation similar to Fig. 1, illustrating a modification; and Fig. 6 is a plan thereof. Figs. 7, 8, and 9 are details hereinafter referred to in connection with Fig. 5. Fig. 10 is a plan view of Fig. 11, and Fig. 11 is an elevation of a still further modification hereinafter referred to. Fig. 12 is an edge elevation of Fig. 11. Fig. 13 is a detail hereinafter referred to.

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

My device, which I term a "saw-filer," comprises in each instance illustrated a pair of clamping-plates 1 and 2, the two being perforated in transverse alinement. The two plates are designed to clamp upon a circular saw, and in order that the clamping may be readily accomplished as the device is moved from point to point of the saw to operate suc-

cessively upon its teeth I preferably employ in each instance a connecting-bolt 3, which passes through the two plates 1 and 2 and which at one end may be provided with an ordinary thumb-nut, or, as shown, with a ratchet-nut 4, the teeth of which are caused to engage and interlock with a toothed washer 5. Upon the bolt 3 between the clamping-plates 1 and 2 I may locate an expansive coiled spring 6 to normally spread or separate the two clamping-plates as far as the bolt and nut will permit.

Referring more particularly to Figs. 1 and 2, it will be seen that I extend the upper rear corner of the clamping-plate 2 above its companion 1, thus forming a short ear 7, and upon a transverse pintle 8, passed therethrough, I loosely mount the rear end of an arm 9, of irregular shape, and which may have formed in its under side, near its front and free end, one or a plurality of notches—in this instance two—and designated as "front" and "rear" notches 10 and 11, respectively. In this instance, as in all other forms shown, the clamping-plate 2 has adjustably mounted thereon, by means of a bolt 12 and set-nut 13, a rear gage-arm 14.

Yieldingly mounted on a bolt or stud 15, extending from the face of the clamping-plate 2, is an upwardly-disposed vibratory arm 16, which may pass loosely through a keeper 22 and terminate at its upper end in an arch 17, bridging over the upper ends of the two clamping-plates. Horizontal and parallel terminals 18 may extend forwardly from the arch, and rising from each may be any suitable design of file-guide. I prefer, however, opposite pairs of pins 19, each carrying a loose sleeve or roller 20. These pins and rollers may be arranged as shown in Figs. 1 and 2 or as in Fig. 4—that is, with two or four pins and rollers—the first instance adapting the device for guiding and gaging a file while operating on a saw having chisel teeth only and in the second instance adapting the device for guiding and gaging a file while operating on a saw having either right and left briar teeth or both briar and chisel teeth, all as hereinafter apparent.

A flat or other form of spring 21 may be let into a post formed on the face of the clamp-

ing-plate 2 and at its free end bear against the arm 16, which for convenience I will term the "carrier-arm" in that it carries the file-guides. By this means the carrier-arm is yieldingly pressed forward, being limited and guided in its movement by the keeper 22, in one end of which may be located a set-screw or stop 23, the latter limiting the rearward movement of the arm.

From the front upper end of the clamping-plate 2 rises a locking-standard 24, the same having an overhanging shoulder 25, above which the standard is rounded off or beveled. This shoulder 25 overhangs the path of the arm 9, whereby the arm when depressed is sprung into and engaged by the shoulder and temporarily locked in a depressed position.

This completes the description of my preferred form of saw-filer, and the operation of the same may be briefly outlined as follows: The nut 4 having been loosened, the clamping-plates spring apart and are set astraddle of the saw. (See dotted lines, Fig. 1.) When this is done, the notch 10, if it is a briar tooth, or the rear notch 11, if it is a chisel tooth, that is to be filed, will engage with said tooth. The device as a whole is then given the desired inclination, and when so adjusted the tail of the arm 14 is lowered until it rests on the end of the next succeeding rear tooth, after which the nut 13 is tightened. The arm 14 may be of other shape than that shown and may rest on any part of the saw and not necessarily the point of the tooth. Having thus adjusted the parts the clamping-jaws are now closed tightly and by means of the nut 4 and bolt 3 are caused to tightly embrace the saw. The front gage-arm 9 is now thrown to the rear and out of engagement with the tooth to be filed. (See Fig. 1.) If the tooth be of the chisel style, the file is run back and forth across the front faces of the two rear rollers or sleeves 20, the latter being pressed backward, and thus yielding to the pressure of the file against the tendency of the spring 21. This backward movement of the guides will of course be limited by the set-screw 23, against which the carrier-arm 16 abuts eventually. Having filed this tooth, which it will be seen can be accomplished by unskilled labor, the arm 9 is again thrown into engagement with notch 25 of the standard 24, the nut 4 loosened, the plates 1 and 2 separated by the spring 6, and the device advanced to the next tooth. When thus advanced, the rear notch 11 of the arm 9 is engaged with the tooth to be filed, the device lowered until the rear gage 14 rests on the tooth last filed, and the nut 4 again tightened to clamp the device in position. The arm 9 is then released and swung back out of the way and the tooth filed as before. In case it is a briar tooth that is to be filed the operation is the same, except that the front notch 10 is engaged over the

tooth and the file operated diagonally, the rear sleeve 20 at one side of the carrier and the front sleeve 20 at the opposite side thereof, whichever direction the bevel is disposed, serving in such instance as the guide for the file. Thus will it be seen that the device may be operated on saws having chisel or briar teeth, or alternately right and left briar teeth followed by a chisel tooth, and, furthermore, that the teeth will be given exactly the desired uniform angle.

In Figs. 3 and 4 I have shown a slightly-modified construction. In this instance the upper end of clamping-plate 2 is finished off flat on its upper end and at its rear side provided with a depending lug 26, having a transverse perforation 27. A horizontal plate 28 is mounted on the clamping-plate 2 and is adjustably swiveled thereon by means of a bolt 29, having a clamping-nut on its lower end. The plate 28 at its rear end extends beyond the plate 2 and is formed with a depending flange 30, having a central hole 31 and at either side thereof a hole 32. (See Fig. 4.) A U-shaped spring-catch 33 has one terminal let into the rear edge of the clamping-plate 2 and its other terminal laterally disposed, as at 34, passed through the perforation 27 and may be temporarily engaged with either of the holes 31 or 32. By loosening the nut on the bolt 29 the plate 28 may be set at either angle or parallel to plate 2 and so held by spring-catch 33 and subsequently tightly secured by the nut on bolt 29. Rising from the plate 28 is a standard or ear 35, and pivoted therein by the pintle 8 is the arm 9, which in this instance may be provided with a single notch 36. From the front end of the plate 28 there rises the heretofore-described notched locking-standard 24. The rear edge of the standard 35 and standard 24 are slotted, as at 37, and normally mounted within the same is a guide-frame-carrying plate 38, from the forward end of which there extends a slightly-depressed yoke-shaped guide 39, from which in this instance rises a pair of transversely-opposite pins 19, each having a loose sleeve 20. A curved spring 40, interposed between the standard 35 and plate 38, serves to yieldingly force the latter forward. It will be observed that in this instance the main point of difference is that the carrier 38 is slidably mounted instead of pivotally mounted, as hereinbefore described.

Referring more particularly to Figs. 5, 6, and 8, it will be noted that both the carrier 41 and front gage-lever 9 are mounted on the pintle 8 of the standard 7. The device herein illustrated is intended for that class of lighter circular saws employing the usual form of saw-teeth, and the carrier 41 is preferably mounted, as shown, and divided at its front to form the yoke 43, at the extremities of which are supported the downwardly-inclined

guides 20. This carrier is further provided with an opening 42, upwardly through which projects the locking-standard 24, having the notch 25, designed to engage the front gage-bar 9. A flat spring 44 may be secured at one end to the clamping-plate 2 and at its free end bear upwardly against the under side of the carrier, the latter being limited in its upward tendency by the pin 45.

If desired, the pintle 8 may be mounted on the lug 7^a, the latter rising from a plate 47, widened at its rear end and having a segmental slot 48, through which projects from a similar extension 49, formed on the clamping-plate 2, a bolt 50, carrying at its upper end a winged nut 51. (See Figs. 7 and 9.) The carrier in this instance is swiveled on the standard 24, which is made cylindrical, (see Figs. 5 and 6,) and hence may be given any necessary angle and secured by the nut 51 in the adjusted position, whereby bevels may be filed, if necessary.

Referring to Figs. 10 to 13, it will be seen that the main difference resides in the means of attaching the guides on the carrier and arranging for their adjustment. In this instance one of the guides 20 is fixedly mounted on one arm of the carrier-frame 17^a, while the companion guide is adjustably mounted on the opposite arm thereof. This matter of adjustment may differ, and I have illustrated in the figures referred to two convenient ways. In Fig. 13 I show the carrier-arm slotted longitudinally, as at 52, the post 19 mounted in the slot and held by a nut 53. Another convenient way is illustrated in Figs 11 and 12, wherein one of the carrier-arms is formed with a rib 54, engaged by an opposing rib or flange 55, formed at the inner edge of an inverted-L-shaped plate 56. The vertical flange of the latter is slotted, as at 57, and projecting outward through the slot from a block 58, inclosed by the plate 56, is threaded stem 59, upon which is mounted a milled nut 60.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a saw-filer, comprising a clamp adapted to engage the saw, and a file-guide adjustably mounted thereon, of a front and a rear gage adapted for adjustment to the edge of the saw, and means for securing said gages.

2. The combination in a saw-filer, comprising a clamp adapted to engage the saw, and a file-guide adjustably mounted thereon, of a front and a rear gage pivotally mounted on the clamp and adapted to engage the saw, and means for securing the same in their adjusted positions.

3. The combination in a saw-filer, of opposite clamping-plates, means for binding them on a saw, a front and a rear gage adapted to engage the saw at opposite sides of the clamp-

ing-plates, and a file-guide adjustably mounted on one of said clamping-plates.

4. The combination in a saw-filer, of a pair of clamping-plates, means for binding the same upon a saw, a file-guide adjustably mounted on one of said clamping-plates, and a spring for separating the plates when released from the binding device.

5. The combination in a saw-filer, of a clamp adapted to be secured upon a saw, an arm pivoted to vibrate on the clamp, a carrier mounted on the arm, a file-guide mounted on the carrier, and a spring engaging said arm and normally forcing the same forward.

6. The combination in a saw-filer, of a clamp adapted to be secured upon a saw, an arm pivoted to vibrate on the clamp, a carrier mounted on the arm, a file-guide mounted on the carrier, a spring engaging said arm and normally forcing the same forward and means for limiting the movements of the arm.

7. The combination in a saw-filer, of a clamp adapted to be secured upon a saw, an arm pivoted to vibrate on the clamp, a carrier mounted on the arm, a file-guide mounted on the carrier, a spring engaging said arm and normally forcing the same forward and an adjustable means for limiting the movements of the arm.

8. The combination in a saw-filer, of a pair of plates, means for clamping the same on a saw, a vibratory arm carried by one of the plates, a carrier at the upper end thereof terminating at its front end in arms, vertical file-guides rising from the latter, means for limiting the vibrations of the arm, and a spring for normally pressing the arm forward.

9. The combination in a saw-filer, of plates, a clamping means therefor, one of which is provided with a keeper and a lug, a vibrating arm pivoted to said plate and extending upwardly through the keeper, a U-shaped carrier at the upper end of the arm, posts rising from the ends of the carrier, sleeves carried loosely thereon, a set-screw mounted in the keeper, a spring bearing on the arm, a rear gage-arm adjustably pivoted between the plates, a front gage-arm pivoted on the said lug and near its front end provided with a tooth-engaging notch, and a locking-standard rising from the clamping-plate and notched to temporarily engage said front gage.

10. The combination in a saw-filer, of a clamp, suitable gages therefor, a yielding spring-pressed carrier, and opposite pairs of vertical file-guides arranged in a quadrangle.

11. The combination in a saw-filer, of a clamp, a front gage having front and rear tooth-engaging notches, a rear gage adapted to engage a tooth of the saw in rear of the clamp, a yielding spring-pressed carrier, and opposite pairs of vertical file-guides rising from the carrier, arranged in quadrangle form and a pair at each side of the front gage.

12. The combination in a saw-filer, of a clamp, a front gage-arm pivoted to the clamp

and at its free end having a plurality of tooth-
engaging notches, a standard rising from the
clamp and notched to temporarily engage the
gage-arm, a rear gage extending from the
5 clamp, a yielding spring-pressed carrier, and
opposite pairs of file-guides arranged at each
side of the said front gage-arm.

In testimony whereof I have signed my name
to this specification in the presence of two sub-
scribing witnesses.

JOHN M. HOLLADAY.

Witnesses:

ARTHUR WESLEY,
GEO. E. TERRY.