

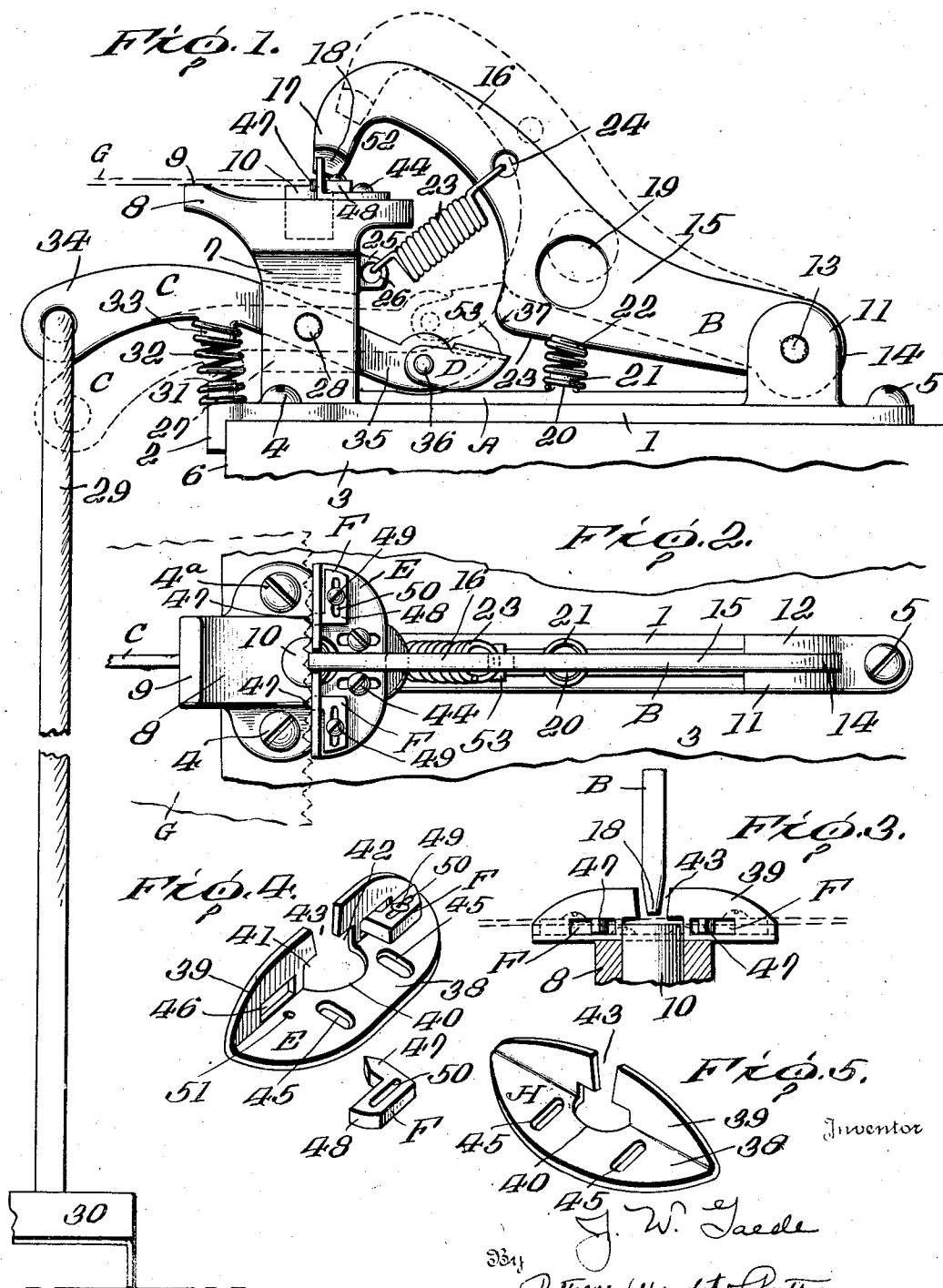
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SAW SET

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SAW SET

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3 Claims. (Cl. 76—62)

This invention relates to an improved saw set and has as one of its primary objects the provision of a saw set which is cheap and simple of manufacture yet is highly efficient in providing a means by which a saw can be rapidly and accurately set.

Another object of the invention is the provision of a device having the above attributes which is comparatively small and thereby readily portable so that it can be used either at home, in the shop, or be actually carried by a carpenter and be used by him when out on a job.

Other further specific objects, novel features of construction and improved results will appear from the following description when read in the light of the accompanying drawing from which it will appear that the particular device has been conceived and constructed in a manner to facilitate the rapid yet accurate setting of a saw.

Another and still further object of the invention is the provision of a novel and highly efficient combined saw set, guide and gage which is adjustable both in respect to its guiding and gaging functions.

In the drawing:

Fig. 1 is a view in side elevation of the improved saw set, a portion of the view being shown in dotted lines to illustrate the position of the parts when elevated to deliver a blow to the tooth of a saw.

Fig. 2 is a top plan view of the device.

Fig. 3 is a fragmentary view in front elevation of the combined guide and gage, a portion of the figure being broken away and shown in vertical section.

Fig. 4 is a rear strung-out perspective view of the combined guide and gage.

Fig. 5 is a rear perspective view of a modified form of guide.

Having reference now to the drawing which illustrates a preferred embodiment of the invention and in which like parts are designated by similar reference numerals throughout the description, A indicates a metallic casting comprising an elongated base 1 having at its forward edge a down-turned end or lip 2. In the operation this base is positioned upon any suitable support designated as at 3 and secured thereto by suitable screws or the like 4, 4a and 5 which pass through the front and rear ends of the base respectively into the support 3. The down-turned end or lip 2 parallels and abuts the front edge or face 6 of the support to assist in preventing longitudinal movement of the casting.

Adjacent its front end the base is provided with an integral upwardly extending and upstanding arm 7 terminating in a head 8 having at its forward edge an elevated portion forming a saw rest 9 and having inset in its center portion a steel anvil 10 which is preferably, though not necessarily, of cylindrical form.

Adjacent its rear end the base 1 is provided with a pair of upwardly extending integrally formed ears 11 and 12 between which is positioned and pivotally mounted as upon a suitable transversely extending pivot pin 13, the rear or lower end 14 of a hammer designated as an entirety by B.

The hammer B from its pivot point forward to a point about intermediate its length is comparatively wide as indicated at 15 which broad portion merges into an upwardly and outwardly extending narrow portion 16 which in turn terminates in a downwardly turned forward end 17 the extremity of which is tapered as at 18. The broad portion 15 of the hammer is provided with a large stamped out opening 19 to reduce the weight of the device.

By reference to Figs. 1 and 2 of the drawing it will be seen that the base is provided with an integrally formed upwardly extending stud 20 about which is disposed the lower end of an expanding coil spring 21 the upper end 22 of which abuts the under face or edge 23 of the broad portion 15 of the hammer and tends normally to hold the tapered end 18 of the hammer above and in separated relationship to the steel anvil 10. A contracting hammer operating coil spring 23 has one end attached in an opening 24 in the narrow portion 16 of the hammer while its other end is attached as at 25 in an opening formed in a rearwardly extending lug 26 formed on the rear face of the aforementioned arm 7. This contracting spring 23 is not under sufficient expansive force to overcome the tension of the aforementioned spring 21 with the result that the tapered end 18 which is intended to impact the anvil 10 is normally positioned above and in separated relation to the anvil. When the parts are in their operative normal positions as shown in Fig. 1, the expanding spring 21 overcomes the contracting force of the spring 23 and the weight of the hammer lever B lifts and holds the hammer end 18 above and separate from the anvil 10 sufficiently to enable the saw blade to move freely between the hammer end 18 and the anvil 10. When, however, the hammer lever B is raised, the tension of the contracting spring 23 becomes greater than the tension of the expand-

ing spring 21, whereby the release of the said hammer lever B by the trigger 37 causes a setting blow to be delivered on the teeth of the saw blade. That is to say the operating movement of the parts causes the simultaneous releasing of the tension of the contracting spring 23 and causes the decrease of the tension of the expanding spring 21.

The arm 7 intermediate its length is provided with an opening 27 through which extends a trigger arm designated as an entirety by C. This trigger arm intermediate its length is pivotally supported in said opening 27 upon a suitable pivot pin 28. To the outer end of the trigger arm is suitably attached a cable, rope, chain or the like 29 to the lower end of which is suitably attached a foot treadle 30. The base 1 adjacent its forward end is provided with an upwardly extending integrally formed stud 31 about which is coiled a spring 32 which has its upper end coiled about a stud 33 formed on the under side of the trigger arm C at a point exterior or in front of the opening 27 in the vertical anvil arm 7. This spring is under tension and tends normally to hold the outer end 34 of the trigger arm upwardly and the inner end 35 of the trigger arm downwardly against the upper face of the cast base 1.

A dog indicated as an entirety by D is pivotally mounted as at 36 on the inner end of the trigger arm to form an extension or elongation thereof and this dog is normally disposed beneath the front lower end 37 of the broad portion 15 of the hammer arm B.

Referring now specifically to Fig. 4 of the drawing illustration is found of the combined guide and gage E which is preferably a steel casting just as are the hammer and trigger arms C and the dog D. This device comprises a horizontally disposed base portion 38 having at its front edge an upwardly or vertically extending portion 39. Intermediate its length the base at its front edge is provided with a semi-circular cut-out portion 40 which merges with the notched out portions 41 and 42 in the lower edge of the front plate portion 39, which cut-out portions in turn merge with a vertical passageway 43 cut through the front plate and which is for the purpose of accommodating and permitting the passage of the tapered front end 18 of the trigger arm B. In Fig. 2 of the drawing the manner of application of this combined guide and gage to the head 8 of the anvil arm 7 is illustrated wherein it is seen that the horizontal base 38 rests upon the upper face of the head 8 and is adjustably secured thereto by means of suitable screws 44 which pass through elongated openings 45 disposed in spaced parallel relationship and which means of securement permits the device to be moved forwardly towards and rearwardly away from the anvil. Under normal setting a portion of the rear of the steel anvil 16 is disposed within the semi-circular cut-out portion 40 of the device as clearly appears in Fig. 2 of the drawing.

In each of those portions of the vertical plate 39 at either side of the cut-out portions 41 and 42 openings 46 are provided through which extend the outer V-shaped ends 47 of the substantially L-shaped gage members designated as an entirety by F. The inner arms 48 of these gage members rest upon the base 38 and are adjustably secured thereto as to longitudinal position by screws 49 or the like which pass through the elongated openings 50, provided in

each of the arms, into the openings 51 provided in the base 38.

As a guard against the possibility of the pivot pins 13 and 28 becoming loose within their respective openings these pins are knurled as is clearly illustrated in Fig. 1 of the drawing.

A few words should suffice to afford an understanding of the operation of the device.

To begin with, the combined guide and gage E is properly positioned on the head 8 in respect to the anvil and its positioning will be determined by the length of the saw teeth. Next, the gage arms or pins F are properly adjusted as to the distance between them, which adjustment will be of course determined by the number of saw teeth per inch in the edge of the saw G. After these adjustments have been properly made rapid setting of the saw is accomplished in the manner illustrated in Figs. 1 and 2 from which it will be clear that the saw G is held in a horizontal position and moved horizontally along the saw rest 9 with the toothed edge of the saw extending through the cut-out portions 41 and 42 of the member E. An important feature here to be noted is that the rear edge of the steel anvil is tapered downwardly as indicated at 52 with the result that the saw teeth themselves are not in actual engagement with the anvil but overhang the downwardly tapered portion of the anvil. The two V-shaped ends 47 of the gage pins F are disposed between remotely positioned saw teeth and as each saw tooth is operated upon by the hammer the saw is progressed across the anvil tooth by tooth.

Progression of the saw along or across the anvil is facilitated and speeded by reason of the fact that the hammer or saw tooth engaging end 18 of the hammer is normally elevated above the anvil and will thus permit rapid and unimpeded movement of the saw.

To operate upon each individual tooth it is necessary only to put pressure upon the foot treadle 30 which causes the inner end of the trigger arm C carrying the dog D to rise to the position illustrated in dotted lines in Fig. 1 of the drawing which has caused the hammer arm B to be elevated to the position illustrated in dotted lines in Fig. 1 of the drawing and at the same time exert tension upon the coil spring 23. As soon as the end 53 of the pivoted dog has passed the point or portion 37 of the hammer the hammer will strike smartly downwardly against the saw tooth and anvil under the influence or impetus of the coil spring 23 and the particular saw tooth positioned to be operated upon will have been automatically set or reset.

Release of pressure upon the foot treadle 30 will cause the trigger to renew or assume its original position by reason of the action of the coil spring 32 while the coil spring 22 has again automatically positioned the hammer to permit the saw to be progressed one tooth for the next resetting or setting operation.

It will be perfectly apparent that the pivotal mounting of the dog D will permit the trigger to return to its normal position under the action of the coil spring 33.

Most saws are made with a certain number of teeth per inch but occasionally there is what is known as an irregular saw and when such a saw is to be reset the use of the gage pins F will be dispensed with.

To provide a device which is cheaper of manufacture and also one which is useable upon both regular and irregular saws I have illustrated in

Fig. 5 of the drawing a guide only which is designated as an entirety by H. The guide H appearing in Fig. 5 of the drawing is identical with the combined guide and gage illustrated in the remaining figures of the drawing with the exception that no guide pins or arms F are provided with the consequent result that this part of the apparatus can be more cheaply fabricated and will yet provide a saw set which will be perfectly satisfactory in use but in which the setting operation cannot be effected quite so rapidly or accurately as with the use of guide means which cooperate with the saw teeth.

The present saw set is so constructed that the operator while using the same has a clear view of the saw tooth which is to be operated upon. Additionally the device will set every tooth exactly the same without any danger of breaking any particular saw tooth because with the guide set properly only the points of the teeth will be struck by the hammer and the likelihood of breaking a tooth is reduced to a minimum because a tooth is never struck low or deep enough to cause this result. Another advantage of the present invention is that of providing a foot operated device which leaves both hands of the operator free to move and properly place the saw in the combined guide and gage. The advantage heretofore mentioned of overcoming the likelihood of breaking a tooth has also the advantage of providing a better set to the saw as only the points of the saw teeth are set, which is the exact and proper portion of the saw to be set.

From the foregoing it will be seen that a much improved and highly efficient saw set has been provided which is comparatively cheap and simple of manufacture, and by the use of hardened metal for all moving parts the life of the device is greatly lengthened.

I claim:

1. An improved saw set comprising an anvil, a pivotally mounted hammer, expanding resilient means normally holding said hammer above and in separated relation to said anvil and the saw blade thereon, a second contracting resilient means resisting the upward movement of said hammer, and a trigger for raising said hammer

against the tension of said contracting resilient means and then releasing the said hammer to deliver a setting blow.

2. An improved saw set comprising, an anvil, a pivotally mounted lever having a hammer portion located above said anvil, a pair of springs engaging said lever, one of said springs being a contracting spring acting to resist movement of said hammer away from said anvil and normally urging said hammer towards engagement with said anvil, the second of said springs being an expanding spring acting oppositely to and normally having greater power than said first named spring whereby the said hammer is normally held elevated above said anvil, means for raising said lever against and increasing the tension of said contracting spring, and releasing said lever when the hammer has been raised a predetermined distance, and the increased tension of said contracting spring driving said hammer downward with sufficient force to overcome the tension of said expanding spring, whereby said hammer is caused to strike the anvil.

3. An improved saw set comprising, an anvil, a movably mounted lever having a hammer portion, a spring normally urging said hammer towards said anvil, a second spring normally urging said hammer away from and supporting the hammer above and free of said anvil, means including a trigger for lifting said lever against the tension of said first named spring to cause said hammer to deliver a setting blow upon said anvil, a guide plate of an L shape in cross section attached to and extending across said anvil, one of the legs of said plate extending vertically in respect to the anvil and provided with an opening for the passage of said hammer and further provided at each side of said hammer opening with horizontally elongated openings, a guide member extending through each of said openings and adapted to engage the toothed edge of a saw, said guide members being longitudinally adjustable in said elongated openings to provide means to properly position on said anvil the teeth of saws having varying numbers of teeth per inch, and means to secure said guide members in their adjusted positions.

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