

(No Model.)

C. MESSER.
SAW SET.

No. 465,581.

Patented Dec. 22, 1891.

Fig. 1.

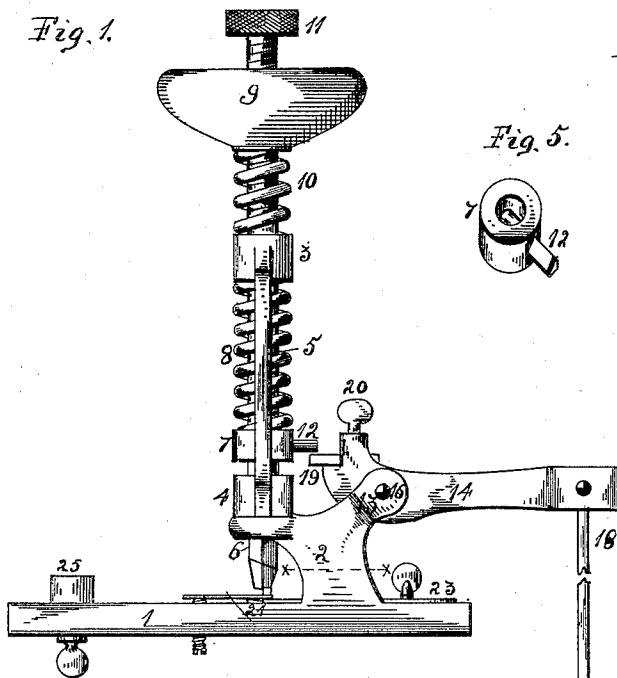


Fig. 2.

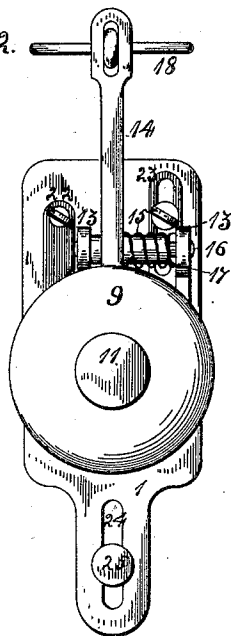


Fig. 5.

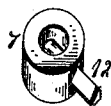


Fig. 3.

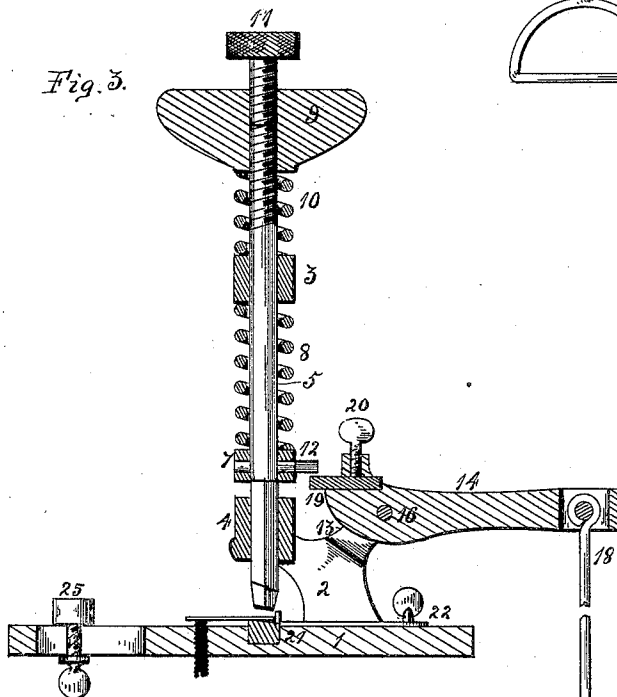
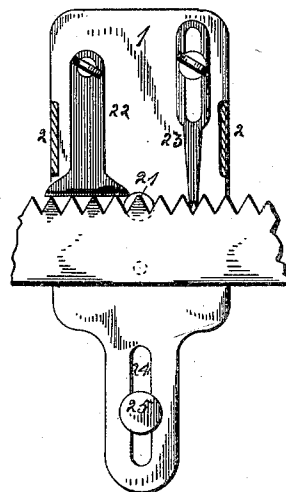


Fig. 4.



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CHARLES MESSER, OF BELOIT, WISCONSIN.

SAW-SET.

SPECIFICATION forming part of Letters Patent No. 465,581, dated December 22, 1891.

Application filed April 4, 1891. Serial No. 387,702. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MESSER, a citizen of the United States, residing at Beloit, in the county of Rock and State of Wisconsin, have invented certain new and useful Improvements in Saw-Sets, of which the following is a specification.

The object of this invention is to construct a saw-set which can be controlled in the force of its blow; and it consists of a striking-spring and a cushioning-spring, the tension of which is made adjustable to regulate the force of the blow, and further consists in details of construction to be hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of my improved saw-set. Fig. 2 is a plan view of the same. Fig. 3 is a vertical central section. Fig. 4 is a horizontal section on dotted line X, Fig. 1. Fig. 5 is an isometrical representation of the collar 7 and stud 12.

The base 1 of my improved saw-set may be of any suitable form, and therefrom rise arms 2, which connect with a central uprising guideway for the plunger. This guideway consists of an upper bearing 3 and lower bearing 4, connected by bars 5. The plunger 6 in this instance has its lower end rectangular in form, which fits a corresponding opening in the lower bearing 4, and by reason of which the plunger is prevented from rotating. A collar 7 is secured to the plunger above the lower bearing, and a spiral spring 8 is located between this collar and the under side of the upper bearing 3, so that its force will be exerted to force the plunger downward. The upper portion of the plunger is of cylindrical form and extends through a cylindrical opening in the upper bearing, which forms its guide. The extreme upper end of the plunger is screw-threaded, and a weight 9 has a vertical adjustable connection therewith. A spring 10 is located between the upper surface of the upper bearing and the under side of the weight, for a purpose to appear hereinafter. A thumb-screw 11 has a screw-thread connection with the weight, and its lower end rests in contact with the upper end of the plunger, said ends meeting within the weight. A stud 12 projects from the rear side of the collar 7. Ears 13 project from the arms 2 and have their free ends perforated. A device for raising the

plunger is supported by these ears, and consists of a lever 14, provided with a long bearing 15, through which a pin 16 extends and forms a connection between the lever and ears. A spiral spring 17 surrounds the bearing and presses against the main portion of the lever and the inside of one of the ears 13, which holds the lever to one side in a yielding manner. The long end of the lever has a rod 18 connected therewith, which extends downward within reach of the foot of the operator. The short end of the lever carries an adjustable pawl 19, which engages the under side of the stud 12. By means of the thumb-screw 20 the pawl can be adjusted to protrude more or less and will be firmly held when adjusted.

In my improved saw-set it will be seen that the downward force exerted upon the plunger by the spring 8 is always uniform, and in raising the saw-set the operator will counteract such portion of this force as is necessary to give the required effect upon the teeth of the saw by adjusting the tension of the spring 10 by the weight 9, which will cushion or arrest the downward force of the plunger. When the required adjustment of the plunger has been secured, the saw to be set is placed in position, so that one of its teeth will overlie the anvil 21, held by the base. The operator will then pull down upon the longer end of the lever by his foot engaging the loop of the rod 18. This movement will cause the pawl 19 to engage the under side of the stud 12, and will thus raise the plunger 6 against its spring force until they become disengaged, when the plunger will descend upon the tooth of the saw, thereby bending it in the required manner.

It will be noticed that the upper surface of the stud 12 is beveled. This is for the purpose of allowing the pawl to assume its original position under the stud, and the spring 15 will yield to allow the lever to move sideways until the pawl passes by the stud, when the spring will force it under the stud. This operation is repeated at the setting of each tooth.

It will be noticed that the plunger is held elevated by the contracting force of the spring 10, so that the saw can be adjusted to permit its various teeth to be operated upon, and the

blow is very quick and effective, which will not mar the teeth of the saw, and by employing the foot to raise and release the plunger the operator has both hands free to manipulate the saw.

5 I have employed a weight to assist the spring to strike the blow, thus permitting me to employ a much lighter spring than I otherwise could, and by adjusting the weight up
10 and down the plunger the force of the blow will be varied, and when adjusted the thumb-screw 11 will act as a jam-nut and hold the weight in the desired position, and by making the pawl adjustable the height to which
15 the plunger is raised will be varied, which will also assist to regulate the force of the blow.

Gages 22 and 23 are employed to properly present the teeth of the saw to the anvil and are adjustable to set the teeth of different
20 saws. I have also slotted the base at 24. An adjustable stud 25 is held in position so as to form the center upon which circular saws can be placed to bring their teeth over the anvil.

I claim as my invention—

25 1. In a saw-set, the combination of a suitable frame, a plunger supported to move end-

wise therein, a spring for striking a blow, having its upper end resting against the frame and its lower end exerting its force on the plunger, a spring located above the frame, 30 having its lower end resting on the frame, a weight having a connection with the upper end of the plunger to assist the spring in striking its blow, and a pawl to raise the plunger, said pawl made adjustable to vary 35 the lifting height of the plunger.

2. In a saw-set, the combination of a suitable frame, a plunger supported to move end-wise therein, a spring for striking a blow, having its upper end resting against the frame 40 and its lower end exerting its force on the plunger, a spring located above the frame, having its lower end resting on the frame, the upper end of the plunger screw-threaded, and a weight having a connection with the upper 45 end of the plunger to assist the spring in striking its blow, said weight made adjustable to vary the tension of the upper spring.

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