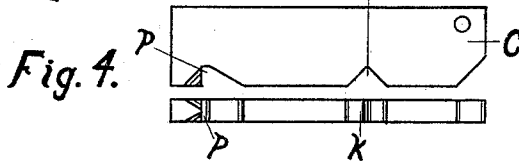
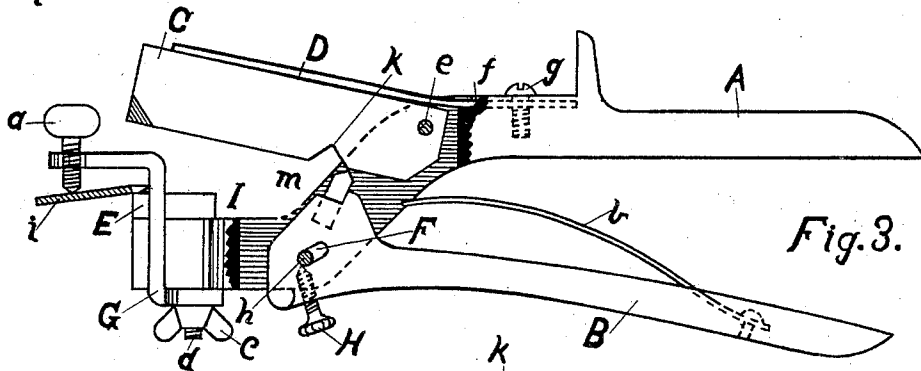
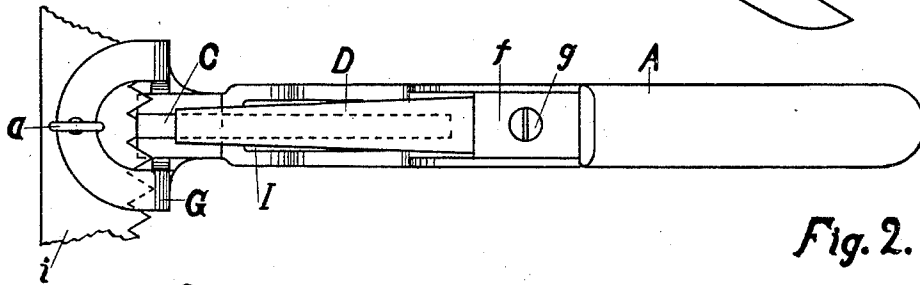
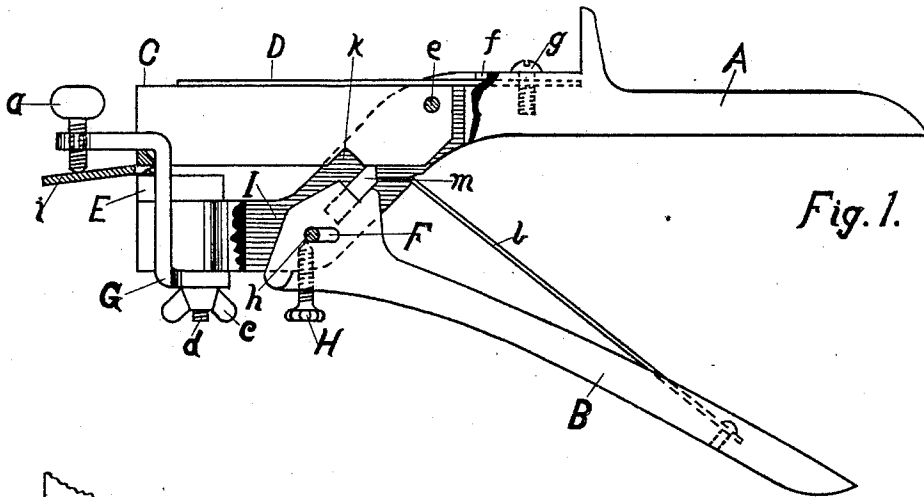


T. J. WEAVER.  
SAW SET.

No. 460,190.

Patented Sept. 29, 1891.



ATTEST.

George Heidmar.  
Alfred M. Allen

INVENTOR.

Thomas J. Weaver

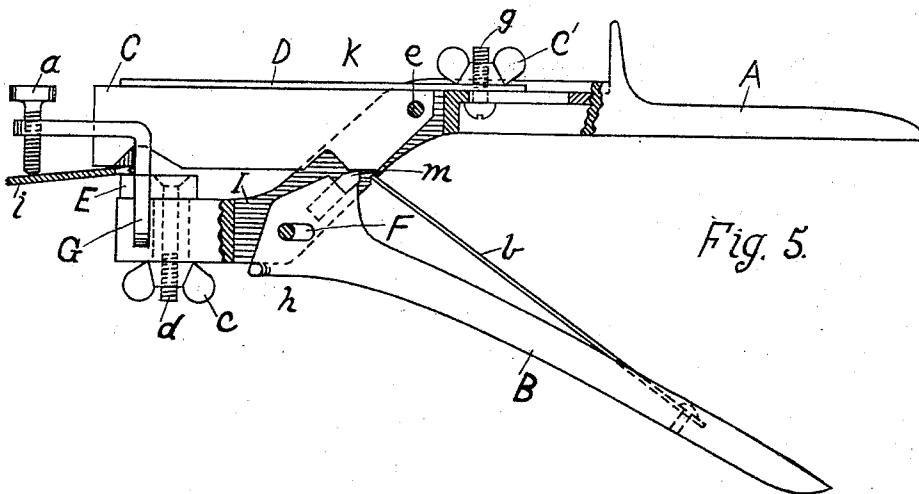
(No Model.)

2 Sheets—Sheet 2

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ATTEST.

*Thos. Kemper*  
*George Friedman*

INVENTOR.

*Thomas J. Weaver*  
*by Alfred M. Allen*  
*Assoc. atty.*

# UNITED STATES PATENT OFFICE.

THOMAS J. WEAVER, OF CINCINNATI, OHIO.

## SAW-SET.

SPECIFICATION forming part of Letters Patent No. 460,190, dated September 29, 1891.

Application filed November 1, 1890. Serial No. 370,092. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS J. WEAVER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Saw-Sets, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to improvements in that class of saw-sets in which a trip-hammer working on an anvil is employed to do the work; and it consists of a new and improved construction of parts to be hereinafter fully set forth and claimed, whereby the blow of the hammer may be readily adjusted to suit the character of the work required, and the teeth of hand-saws can be set perfectly, rapidly, and with ease to the operator.

In the drawings, Figure 1 is a side view of my saw-set, showing the parts in their normal position and having one side of the slot broken away to show the novel self-tripping device for raising the hammer. Fig. 2 is a top view of same. Fig. 3 is another side view showing the handles compressed and the hammer raised to a point ready to be tripped and thrown by the spring upon the anvil. Fig. 4 is a side and a lower edge view of a modified form of hammer. Fig. 5 is a side view of a modified form of saw-set in which the gage is formed integral with the frame and the anvil is adjustably connected thereto. Similar letters represent identical parts in all the figures.

The teeth of hand-saws can be set either by holding the saw upon an anvil and striking each tooth with a hammer or by grasping the teeth with pinchers or crimpers and thus bending the tooth the required amount. The hammer and anvil arrangement is much the preferable one; but of saw-sets of that description those hitherto devised have provided no method for regulating the blow of the hammer, and the means devised for tripping the hammer have consisted of several parts, which were liable to become out of order and not to work properly.

The object of my invention is to overcome these defects and to provide a saw-set in which the blow of the hammer can be readily adjusted, and in which the mechanism for operating the hammer is of the simplest possible description.

A is the frame of the device, having a slot I. A handle B is formed in the frame, and the hammer C is pivoted therein by pin *e*, so as to bear upon the anvil E, which is attached to the handle A by the screw *d* and thumb-nut *c*; or the anvil may be cast integral with the frame. The yoke G is a gage, movably attached to the handle A by the same screw *d* and thumb-nut *c* that holds the anvil in place, so that the yoke may be moved back and forth to regulate the depth of the set from the point of the teeth in the saw *i*. The thumb-screw *a* in the top of the yoke G is used to regulate the amount of set in the teeth by changing the angle which the saw *i* makes with the top of the anvil E.

D is a flat spring, one end of which is attached to the handle A by the screw or rivet *g*, while the other end bears upon the hammer C. The plate *f* is employed to support the spring D and to add strength thereto.

B is the operating-lever, which is pivoted in the slot I by the pin *h* passing through the slotted hole F in the lever. A case-hardened plug or pin *m* is cast integral with or rigidly secured to the top of the lever and bears against the hammer C. The handles A and B are held apart by the spring *b*, one end being attached to the handle B and the other end bearing against the handle A. The tendency of this spring *b* being to straighten itself, it bears upon the pivoted handle B and pushes it out until the pin *h* is brought to the farthest end of the slot F, and the parts will remain in the position shown in Fig. 1, the plug *m* bearing against the under surface of the hammer C. When the operating-lever B is compressed toward A, the handle swings on the pivoted pin *h* and the plug *m* is brought to bear on the hammer C to raise the same. This causes the plug *m* to move along the bottom of the hammer toward the notch *k* in the hammer until the parts are in the posi-

tion shown in Fig. 3. Any further movement of the handle B toward handle A will allow the plug *m* to enter the notch, and the hammer C will thus be tripped under the impulse of the spring D with sufficient force to set the tooth of the saw *i*. Upon the tripping of the hammer C and the plug *m*, entering the notch *k*, the function of the slot F comes into play. Without the slot F the plug *m* would remain within the notch *k*; but the moment the point *m* has entered the notch *k*, inasmuch as the slot F is inclined upward, as shown in Fig. 3, the action of the spring *b* throws the pin *h* to the other end of the slot F and draws the plug *m* without the notch *k*, and the further action of the spring *b* then returns the parts to their normal position, as shown in Fig. 1. By this novel arrangement the ratchet and pawl usually employed to raise and trip the hammer in saw-sets of this description is dispensed with, thereby cheapening the cost of the tool and making it less liable to get out of order. The screw H in the handle B is used to regulate the blow of the hammer C. By turning the screw H, which passes into the slot F and bears against the pin *h*, the point *m* is moved nearer the edge of the notch *k*, causing the hammer to trip more quickly and thereby striking a lighter blow, the strength of which depends upon the distance the hammer is raised above the anvil E, and by this means it will be seen that the hammer C can be made to strike a blow to suit teeth of any size. It is obvious that the slot F, instead of being in the handle B and the pin *h* fast in the sides of the frame A, the slot may be made in the frame A and the pin *h* fast in the handle B, either arrangement allowing of adjustment of the point *m* on handle B by means of the screw H.

Instead of the above method, that part of the handle A through which the screw *g* passes may be slotted, allowing the spring D to be moved back and forth upon the hammer C, according as a light or heavy blow is desired.

The modified form of hammer C shown in Fig. 4 is operated the same as the one previously described, but differs from it in form by having another notch *p* near the front end. The front edges of this notch *p* are cut away, giving the part between the notch and the end of the hammer the form of a tooth, as shown by the edge view. When this form of hammer is used, the gage G is made integral with the frame A, and the anvil E is attached to the frame in such a manner that it can be moved back and forth to regulate the depth of the set from the point of the teeth.

My improved set is operated as follows: The gage G and thumb-screw *a* are regulated according to the size of teeth and amount of set required, and the saw *i* placed upon the anvil E and against the gage G, with one tooth directly under the hammer C, which is raised

by compressing the handles A and B until it is tripped and thrown down by the spring D with sufficient force to set the tooth. The handle B is allowed to return to its normal position and the same operation repeated for each remaining tooth.

When the modified form of hammer shown in Fig. 4 is used, having a second notch *p*, it is not necessary to adjust the gage G, but the gage may be cast integral with the frame, while the anvil itself is adjusted with reference to the size of the teeth and the amount of set required, so that the edge of the anvil will receive the blow delivered by the hammer upon the saw the proper distance from the point of the tooth of the saw, and with the gage thus cast integral with the framework the cost of the set would be cheapened and there would be fewer parts to get out of order.

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

1. In a saw-set, the combination, with the frame, anvil attached thereto, and hammer pivoted therein, of an operating-lever having a hardened point secured thereto, and notch in the hammer to receive the point of the lever and allow the hammer to be tripped when raised to a given height, substantially as shown and described.

2. In a saw-set, the combination, with frame, hammer, and anvil, of an operating-lever bearing against said hammer, pivoted in the slot to the frame, and means for adjusting the lever with reference to the height it is to raise the hammer, substantially as shown and described.

3. In a saw-set, the combination, with the frame, hammer pivoted therein and acted upon by a spring, with notch in the hammer, of an operating-lever with hardened point secured thereto to enter said notch, spring attached to the frame and acting on said lever, and slot at the pivot of the lever to allow the lever to be returned to its normal position, substantially as shown and described.

4. In a saw-set, the combination, with frame, hammer, and anvil, of an operating-lever pivoted in a slot therein and having a hardened point arranged to enter a notch in said hammer and thus trip the same, with screw entering said slot, whereby the lever may be adjusted in its action on the hammer, and spring attached to said lever and bearing against the frame to separate the two, substantially as shown and described.

5. In a saw-set, the combination, with the frame, of a hammer pivoted thereto, having a notch near its striking end with its edges cut away to the form of a tooth, gage integral with the frame, and anvil adjustably connected thereto, substantially as claimed.

6. In a saw-set, the combination, with the

frame, of a hammer pivoted thereto, spring  
to operate said hammer adjustable on the  
same, so as to regulate the blow thereof, notch  
in said hammer and an operating-lever with  
5 hardened point to enter said notch, and slot  
at the pivot of the lever to allow the hardened  
point to be withdrawn from the notch and

returned to its normal position, substantially  
as shown and described.

THOMAS J. WEAVER.

Witnesses:

ALFRED M. ALLEN,  
GEORGE HEIDMAN.