

J. P. HEDSTROM.
ATTACHMENT FOR SAW SWAGES.
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909,295.

Patented Jan. 12, 1909.

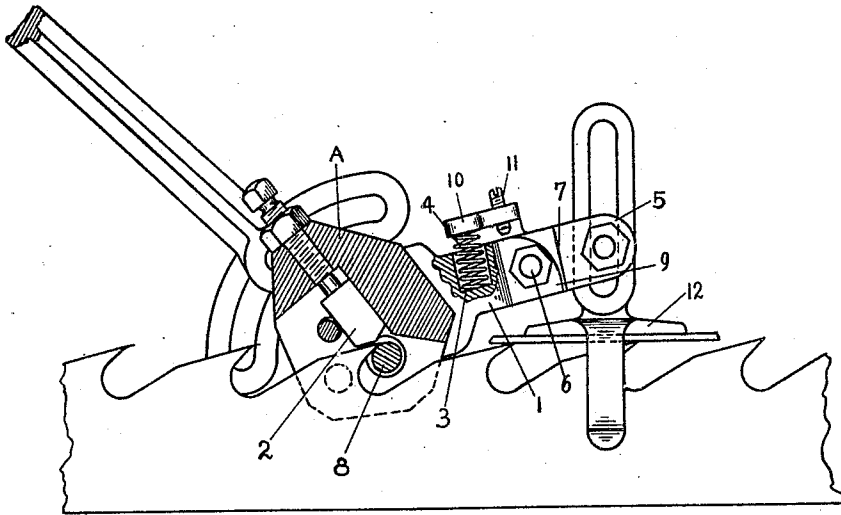


Fig. 1

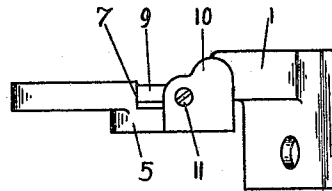


Fig. 2

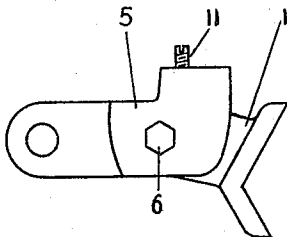


Fig. 3

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ATTACHMENT FOR SAW-SWAGES.

No. 909,295.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN P. HEDSTROM, a citizen of the United States, residing at Big Rapids, in the county of Mecosta and State of Michigan, have invented certain new and useful Improvements in Attachments for Saw-Swages; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to attachments for saw swages, one object of which is to hook or round over the teeth of saws substantially simultaneously with the swaging of the teeth.

Another object is the provision of an adjustment for regulating the degree to which the teeth shall be hooked or rounded over.

A further object is to combine an attachment having the above-named advantage with the usual guide carried by the swage.

Still another object is the location of the means controlling the amount of "hook" to be given the teeth at a point adjacent the swage rather than at the end of the guide support.

In my invention, the spring is carried by the bracket at a point adjacent the swage head instead of at the outer end of the arm, and means, as a set-screw, is provided to adjust the tension of the spring, whereby the arc of movement or amount of give is controlled. No other similar attachment, so far as I am aware, possesses these advantages.

Another advantage is the use of a coil spring so arranged that it is held in place and cannot get out of order. The spring is subjected to a minimum amount of strain for the work to be done and will always impart the same even pressure corresponding to the adjustment of the tension. A further advantage attained is that the pressure of the spring can only be exerted in one direction (downward). Other springs are flat and are located at the outer end of the bracket arm as far distant as possible from the swage, which is the element desired to be controlled by the spring. Such flat springs not only give in a downward direction, but also sidewise or forward and backward, making a less positive and secure forward rest and being liable to wear and breakage.

In adjusting a bracket arm rigid with the swage, it is necessary to loosen its attachment to the fork, moving the bracket up or

down relative to the fork and then re-secure it to the fork or forward guide rest. In my invention, all that is necessary is to manipulate the set screw, to impart more or less hook to the teeth of the saw. Obviously, the forward fork or guide rest may be and is adjustably secured to the bracket arm so that a wide adjustment is possible, the finer adjustments being attained by the manipulation of the set screw.

Another object attained is that less grinding of the swage anvil is required with my invention.

When the swage is placed on the saw, the anvil should fit the back of the tooth. In a rigid bracket swage, if it is desired to impart a greater degree of hook to the teeth, it is necessary to tip the swage forward on the saw, thus raising one side of the anvil off the tooth so that in order to cause the anvil to press flat against the back of the tooth, it must be ground to fit these new and ever-changing conditions.

In my invention, grinding of the anvil is unnecessary because the swage is not tipped forward until after the swaging operation has commenced; then the anvil tips with the swage and follows the back of the tooth during the swaging operation. Hence, the same-shaped anvil can be used, no matter what degree of hook is to be given the teeth. In a swage having a rigid bracket, the swage must remain stationary against the tooth during the swaging operation and not allowed to tip forward.

Another object is that in my invention the swage takes hold of the tooth more quickly than in a swage having a rigid bracket, since in my invention the swage is not tipped until after the swaging operation has begun and the swage taken hold of the tooth, whereas a swage equipped with a rigid bracket arm it must remain stationary relative to the saw during the swaging operation, and hence must be tipped as far forward as is necessary to impart the required hook to the tooth, before the swaging operation is commenced.

My invention further consists of certain other novel features and combinations, such as will be more fully described hereinafter and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side view of a swage equipped with my invention and partly broken away; Fig. 2 is a top plan view of the attachment removed

from the swage; and Fig. 3 is a view showing the opposite side of the attachment from that disclosed in Fig. 1.

(A) indicates a swage of the "Hanchett" type preferably, though not necessarily, polygonal in shape. Projecting forwardly from and removably secured to the body of the swage is a bracket (1), which is provided with a seat (3) to receive a spring (4) for a purpose presently to be set forth. One end of an arm (5) is eccentrically pivoted to the forward end of the bracket (1) in front of the spring in any suitable manner, as by means of a bolt (6), the arm being cut away to form a wall or shoulder (7), against which the eccentric end (9) of the lug engages to normally retain the swage and guide in proper position when passing from tooth to tooth of a saw. The arm is also cut away to reduce the amount of metal and make a compact device, the reduced end of the arm overlapping the forward end of the bracket.

The rear reduced end of the arm is provided with a lip (10) overhanging the upper edge of the bracket and engaged by the upper end of the spring (4), the tension of which normally retains the shoulder (7) against the eccentric end (9) of the lug. The overhang or lip is also provided with an adjustable member, as a set screw (11) adapted to engage the bracket to limit the arc traversed by the swage relative to a tooth and thus regulating the amount of hook or downward curve imparted to the end of the tooth. The screw may also be so adjusted as to permit no movement of the swage relative to the forward guide, thus allowing the swage to be used in the customary manner. The forward end of the arm (5) may or may not be reduced, though I have shown it reduced to save material, the upper end of a fork or guide-rest (12) being adjustably secured thereto.

It is obvious that my invention is not complicated and is of sufficient strength to withstand rough handling. Its few parts are so assembled as to occupy the least possible space, the metal being reduced wherever it can be done without sacrificing strength. In fact, it is apparent that I have devised a most simple, inexpensive means capable of attachment to any swage in common use and adapted to incline or round off the teeth of saws as the latter are being swaged.

In use, the swage is applied to the saw in the customary manner, and operated to form the usual upset on the ends of the teeth by means of the anvil (2) and rotary eccentric (8), or in any other suitable manner. During the swaging process, or immediately thereafter if preferred, pressure is exerted by the operator to depress the forward pivoted end of the bracket against the tension of the spring (4), causing the anvil to move over the end of the tooth in the arc of a circle to bear

against and round over or incline the end of the tooth, the tooth being supported from beneath by the eccentric, until the end of the screw (11) engages the upper edge or face of the bracket, thus limiting the amount of hook imparted to the tooth. The swage is then released from the saw after which the lever controlling the swage former is returned to its original position and the swage moved forward to the next tooth where the operation is repeated.

It has been determined that the use of this swage attachment reduces the labor incident to dressing saw teeth by at least one-half, since as a general rule heretofore the operator had to go over each tooth at least twice, whereas now a single operation suffices. The tension of the spring, of course, returns the swage to normal position when pressure on the lever is removed.

The anvil does not require to be ground for every change in the amount of hook to be given the teeth of saws. The spring is located adjacent the swage which it must control and is protected from injury. The movement permitted the swage is easily and quickly adjusted, and the swage upset and hook are given the tooth practically simultaneously.

It is obvious that changes might be made in the particular form and arrangement of the parts as herein set forth without departing from the spirit and scope of my invention.

Having thus fully disclosed my invention, what I claim as new is—

1. A means for simultaneously swaging and inclining saw teeth comprising a swage, a suitable rest, a bar comprising sections whose adjacent ends are pivotally connected, the outer end of the bar pivotally connected to the rest, the inner end of the bar being fastened to the swage, and a spring carried by one section of the bar and engaging the remaining section to normally retain the swage in raised position.

2. A means for inclining saw teeth comprising a swage member, a rest, a connection extending between the swage and rest, the connection being pivoted intermediate its ends, a spring carried by one element of the connection and engaging the other element thereof, an adjusting member carried by one element of the connection and engaging the other element thereof to regulate the arc of movement of the swage relative to the rest and a stop-means for positively limiting the movement of the swage in one direction relative to the rest the connection being pivotally secured to the rest.

3. The combination with a swage and a rest, of a bracket pivotally secured to the swage, an arm carried by the rest, the adjacent ends of the arm and bracket overlapping and pivotally connected, a shoulder on the arm against which the end of the bracket en-

gages to constitute a stop, an overhanging lip on the arm behind the pivotal connection of the arm and bracket, and a spring seated on the bracket and engaging the lip to normally maintain the end of the bracket against the shoulder.

4. An attachment for swages comprising, in combination, with a swage and a rest, a bracket projecting from the swage, an arm pivotally connected to the rest, the adjacent ends of the bracket and arm overlapping and pivotally connected, a shoulder on the arm, the end of the bracket provided with an eccentric face adapted to engage the shoulder and form a stop to limit pivotal movement of the bracket relative to the arm in one direction, and tension means engaging the arm and bracket to normally retain the end of the bracket against the shoulder.

5. The combination with a saw swage and a rest, of a bracket secured to the swage, an arm pivotally secured to the rest, the adja-

cent ends of the bracket and arm being pivotally connected, an overhanging lip on the arm behind the pivotal connection of the arm and bracket, and a spring interposed between the bracket and lip.

6. The combination with a saw swage and a rest, of a bracket secured to the swage, an arm pivotally secured to the rest, the adjacent ends of the bracket and arm being pivotally connected, a shoulder on the arm against which the end of the bracket engages, the shoulder constituting a stop to limit the vertical arc of movement of the bracket and swage in one direction, and means for limiting the movement of the swage and bracket in the opposite direction.

In testimony whereof, I affix my signature in presence of two witnesses.

JOHN P. HEDSTROM.

Witnesses:

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LOUIS B. HANCHETT.