

(No Model.)

A. E. BRONSON & D. CHUBB.
SAW SWAGE.

No. 502,065.

Patented July 25, 1893.

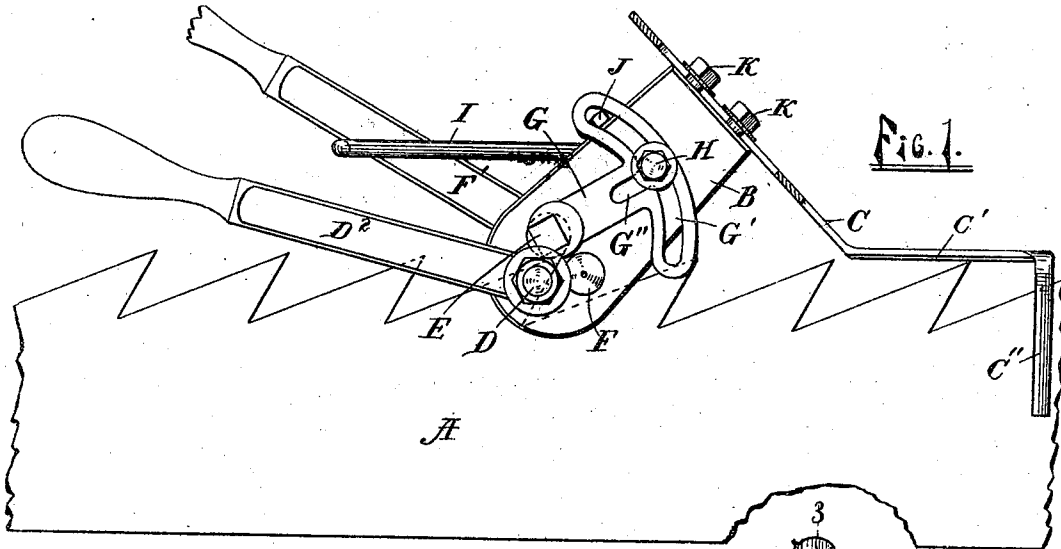


Fig. 1.

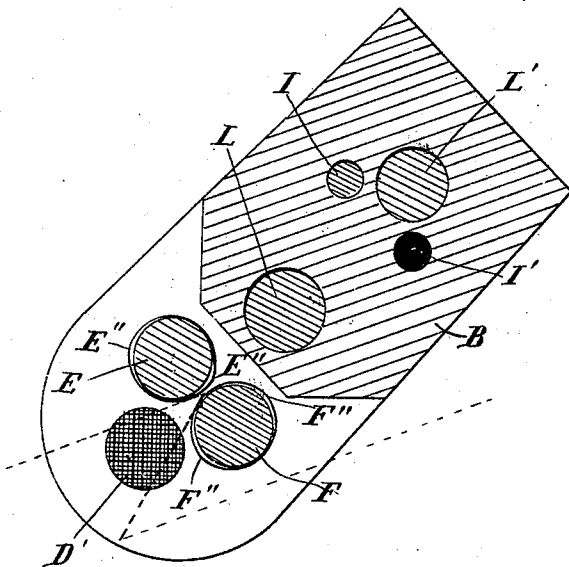


Fig. 3.

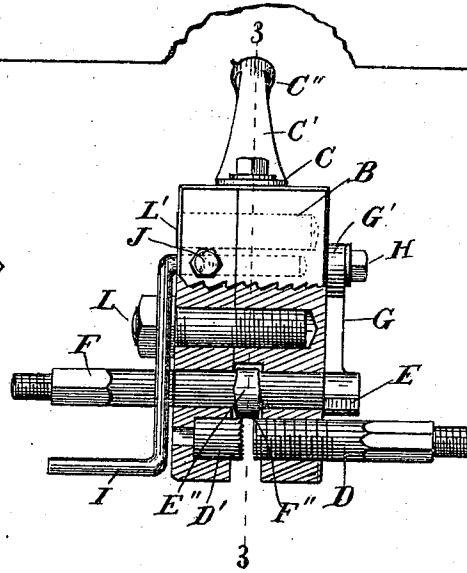


Fig. 2.

WITNESSES:

Lewis C. Standen
Edw. Moulton

INVENTORS
Albert E. Bronson
Daniel Chubb
BY

Luther V. Moulton
ATTORNEY.

UNITED STATES PATENT OFFICE.

ALBERT E. BRONSON AND DANIEL CHUBB, OF LILLEY, MICHIGAN.

SAW-SWAGE.

SPECIFICATION forming part of Letters Patent No. 502,065, dated July 25, 1893.

Application filed April 10, 1893. Serial No. 469,647. (No model.)

To all whom it may concern:

Be it known that we, ALBERT E. BRONSON and DANIEL CHUBB, citizens of the United States, residing at Lilley, in the county of Newaygo and State of Michigan, have invented certain new and useful Improvements in Saw-Swages; and we 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.

Our invention relates to improvements in saw swages, and its object is to provide the same with certain new and useful features, hereinafter more fully described and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation showing our improved device in position upon a saw. Fig. 2 is a front elevation of the swage with parts removed to show the construction; and Fig. 3 a full size detail, in vertical section on the line 3—3 of Fig. 2.

Like letters refer to like parts in all of the figures.

A represents a portion of a saw.

B is the frame of the swage, which frame is divided in a vertical plane into two suitably equal parts, and secured together by a stud I and pin L', and having a gap at the lower end, in which gap are the clamping jaws D and D', and the anvil E and die F. The jaw D' is fixed in one side of the frame and roughened on its inner end, and the other jaw has a smooth end; is screw threaded, and passes through the other side of the frame, being provided with a hexagon outer end, and a lever D² with a hexagon opening to fit said end and secured in place with a nut. By removing said lever and turning it in various positions on the said outer end, the movable jaw may be adjusted to various thicknesses of saws, and the lever operated in substantially the same arc at all times. Journaled in said frame near said clamping jaws and in proper position to engage the respective upper and under sides of a tooth when clamped by said jaws, are the anvil E and die F, each being substantially cylindrical steel pins, having oppositely enlarged middle portions, making them substantially oval in cross section, and

having obtuse angles at E'', E'', and F'', F''. The anvil E extends outside of the frame at one end, and is square to receive the open end of a lever G to adjust the said anvil in proper position about its axis and hold the same. Said lever for this purpose is provided with a segmental T head, having a slot G', and also a lateral slot G'', through which slots is inserted a binding screw H, adapted to traverse the same, whereby said lever and anvil may be turned about the axis of the anvil, and held in any position within the range of the slot G'. Said screw H may also be slackened, and said lever disengaged from the anvil, by passing the screw into the radial slot G'', without detaching the screw and lever from the frame. The die F is also extended outside the frame at the side opposite the lever D², being square at the end and provided with a lever F', which engages a stop consisting of a bent arm I, which is adjustable about the point of attachment to the frame by means of a set screw J, whereby the lever F' is stopped in proper position to permit the saw tooth to properly enter between the anvil and die. A guide bar C extends diagonally downward from the top of the frame, and thence horizontally along the points of the saw teeth, being provided on its under surface with a strip of copper, or other suitable stuff C', to prevent dulling said teeth, and also downwardly extended arms C'' embracing the saw. Said bar is adjustably secured to the frame by screws passing through a slot in said bar, whereby the inclination of the frame may be adjusted and said frame guided and held in proper relation to the saw teeth, as it is moved from tooth to tooth to swage the same. By reversing the position of the guide bar C on the frame and reversing the position of said frame on the saw and adjusting the levers D² and F', and the stop I, the anvil and die will be operated in reverse upon the tooth; so that either an upper or under swage may be got. So also by reversing the die and anvil in the frame, either side of the angles E'', or F'' may be used, and by bringing the said obtuse angles to bear upon the work, the surface subjected to action is much reduced, thereby securing much easier operation to secure a given result. We thus gain easier operation and a greater number of operating surfaces

being practically four to each part, instead of two as in the eccentric die and anvil, heretofore used in such devices. By means of the guide bar the saw may remain stationary and the swage moved along over the saw, which is of great advantage, especially in large band saws for sawing logs, which are heavy and difficult to move tooth by tooth to a fixed swage.

10 What we claim is—

1. In a saw swage, in combination with a frame divided in a vertical plane, a reversible anvil and die, consisting of cylindrical steel pins, having oppositely projecting ends provided with holding and operating mechanism, and having their middle portions substantially oval in cross section, and each having opposite obtuse angles, E'', E'', and F'', F'', respectively, whereby said pins may be taken out and reversed in said frame, and operated at four different portions of their respective surfaces, substantially as described.

2. In a saw swage, the combination with the frame and clamping jaws, of an anvil and die, an adjustable lever, having in one end an open-ended slot engaging an angular portion of said anvil, said lever having in its upper end a curved slot and a supplemental slot extending at an angle with and opening at one end into said curved slot, and a set screw designed to pass through either said curved or supplemental slot, and serving to keep the le-

ver in its adjusted position, substantially as described.

3. A saw swage, consisting of a frame, divided in a vertical plane; a reversible anvil and die, having their adjacent portions substantially oval in cross-section and each having a plurality of opposite obtuse angles, whereby said anvil and die may be operated at four different portions of their respective surfaces; a lever, detachably secured to the outer end of said anvil, said lever having in its upper end a curved slot and a supplemental slot opening into said curved slot; a set-screw designed to engage the frame and pass through either said curved or supplemental slots in the lever; a clamp; a lever on the end of the movable member of the clamp, for operating the same; an operating lever on the end of said die; a stop adjustably secured to the frame and designed to engage said last-mentioned lever; and a guide bar, removably and adjustably secured to the frame and designed to engage the saw being swaged, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ALBERT E. BRONSON.
DANIEL CHUBB.

Witnesses:

JOHN VOLMER,
O. V. PLEE.