

(No Model.)

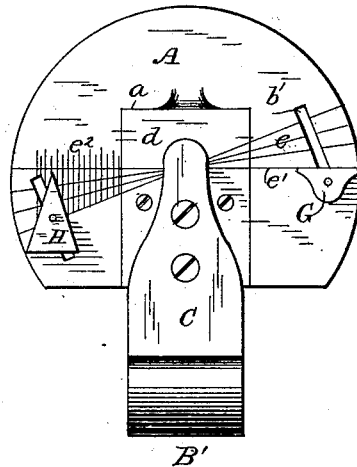
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DEVICE FOR CUTTING AND GUMMING SAW TEETH.

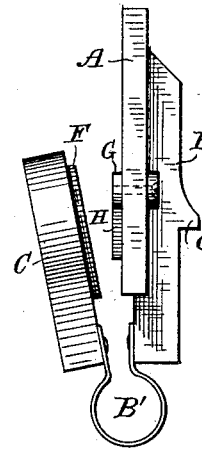
No. 342,263.

Patented May 18, 1886.

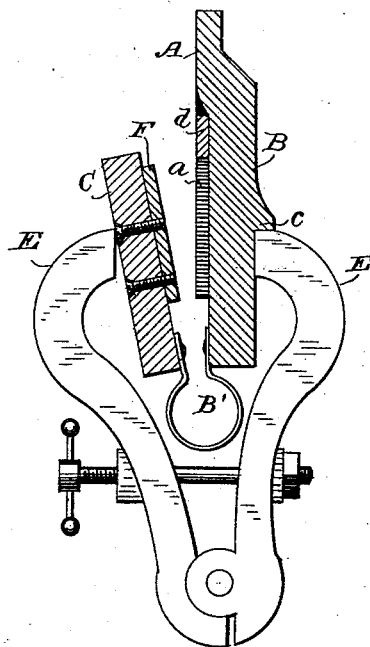
*Fig. 1.*



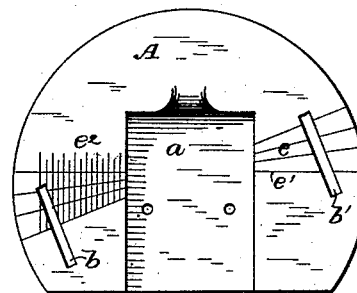
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## DEVICE FOR CUTTING AND GUMMING SAW-TEETH.

SPECIFICATION forming part of Letters Patent No. 342,263, dated May 18, 1886.

Application filed March 4, 1886. Serial No. 193,942. (No model.)

*To all whom it may concern:*

Be it known that I, ALGENON S. NORWOOD, a citizen of the United States, residing at West Point, in the county of Clay and State of Mississippi, have invented certain new and useful Improvements in Machines for Cutting and Gumming Saw-Teeth; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Figure 1 is a front elevation of my improved saw-tooth cutter and gummer. Fig. 2 is a side or edge view of the same. Fig. 3 is a vertical central section showing the device applied between the jaws of a vise as it is used in operation. Fig. 4 is a face view of the back plate, the die-jaw being removed.

This invention relates to novel improvements in devices for cutting saw-teeth on blades, and also for gumming saws; and it consists in a saw-tooth cutter which is designed for use between the jaws of an ordinary blacksmith's vise, and which will be fully understood from the following description, when taken in connection with the annexed drawings.

Referring by letters to the drawings, A designates a substantial back plate, which presents a front flat side and is preferably of the form shown in Fig. 1. This back plate or saw-bearing A may be made of cast or wrought iron or steel, and it is constructed with a rectangular recess, *a*, in its face, also with two inclined slots, *b b'*, through it near its periphery, and also with a strong broad rib, B, on its back, having a horizontal shoulder, *c*, and an extension below the lower edge of said plate. This back rib, B, is preferably formed integral with its plate A.

C designates a die-jaw, which is connected to the lower extension of the back rib, B, by a U-shaped spring, B', of sufficient strength to keep the jaw and rib B forcibly pressed against the gripping-faces of the vise-jaws E E, as shown in Fig. 3, when the device is adjusted between said jaws for operation, the tooth cutting and

gumming being effected by manipulating the vise screw.

On the inner face of the spring-actuated jaw C is suitably secured a tempered steel die, F, of the exact shape and size required for the space between the teeth of the saw which it is desired to produce. This die F is removably secured in a suitable manner to its jaw, and it is designed to operate in combination with a counter-die, *d*, recessed, as shown in Fig. 4, and removably secured in the recess *a* in plate A. The recess in the counter-die corresponds to its counterpart F, so that the pieces of metal cut from the saw-blade by their joint action will form the spaces between the saw-teeth of the finished saw.

G designates a guide or rest for the edge of the saw-blade, and H a gage and holder for this blade, both the guide and gage being adjustable by means of binding-screws that pass through the inclined slots *b b'*, above referred to.

The operation of the device is as follows: It is adjusted in an ordinary blacksmith's vise, as shown in Fig. 3. The saw-plate to be cut is placed on the guide or rest G and moved back of the die-jaw C, over or in front of the counter-die *d*. The vise-jaws are then closed and a piece is cut from the saw-blade the exact shape of the die and counter-die. The saw-plate is then moved along—the die cutting out pieces—until this plate reaches the gage H, when the opening first made in the plate is fitted on this gage, and then by passing each cut over it it nicely regulates the distance of the teeth from each other, and also acts as a steady support for that end of the saw-plate. The radial lines *e*, engraved in the face of the plate A, are guides for the operator in adjusting the rest and gage, and by them the proper position of the edge of the saw-plate can be adjusted so as to cause this blade to pass in any desired direction—the horizontal line *e'* being for a "cut-off" saw, and the lines *e* being for a "rip-saw"—the said rest and gage being adjusted up or down for the different purposes. These pieces G H can be inclined in any desired direction, and when both are adjusted above the line *e'* and inclined inward the device can be adapted to cut teeth on a

"circular" saw-blade or on a "semicircular crosscut" saw-blade. The short vertical lines  $e^2$ , intersecting the lines  $e e'$  on one side of the counter-die  $d$ , are one-sixteenth of an inch apart and serve to gage the distance of the teeth until the saw-plate reaches the gage H, which then regulates the distance between the saw-teeth.

Having described my invention, I claim—

- 10 1. In a saw-tooth cutting and gumming machine, the combination of the back plate recessed and slotted, as described, the removable counter-die, the adjustable rest and gage, and the spring-actuated jaw, bearing a cutting die, all substantially as described.
- 15 2. The combination, with the back plate, A,

its back rib provided with a shoulder, the adjustable rest and gage, the counter-die, and the die-bearing jaw connected by a spring to the said back rib, all substantially as and for the purposes described.

3. The combination, in a saw-tooth cutter and gummer, of the back plate, A, provided with the gage-marks, as described, the adjustable rest and gage, a counter-die, and a die-carrying jaw, substantially as specified.

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

ALGENON S. NORWOOD.

Witnesses:

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