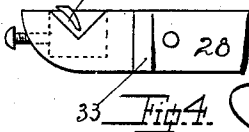
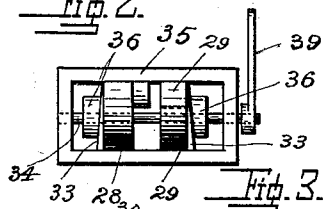
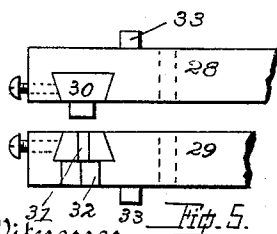
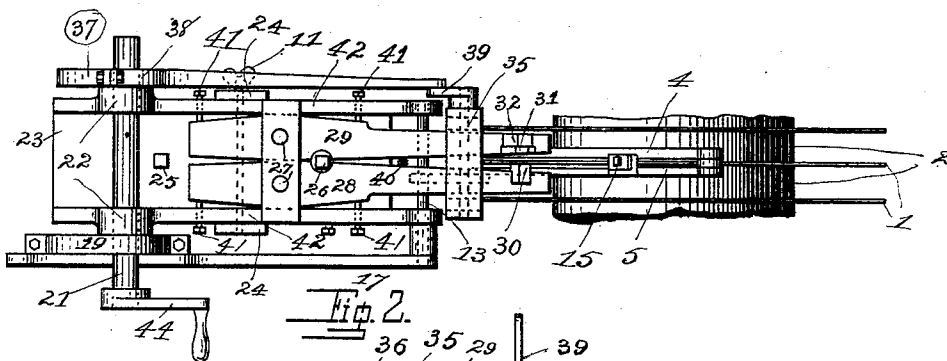
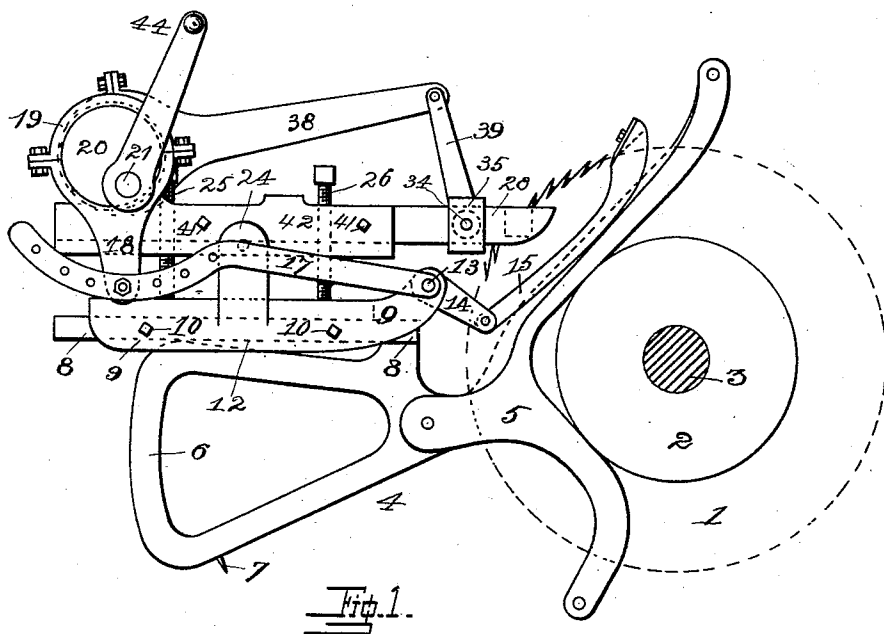


(No Model.)

J. W. SMITH.
GIN SAW GUMMER.

No. 475,621.

Patented May 24, 1892.



Witnesses
L. A. Hayden.
Edward Wood

Inventor
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By his Attorneys
Edward Wood

UNITED STATES PATENT OFFICE.

JEREMIAH W. SMITH, OF ATHENS, GEORGIA.

GIN-SAW GUMMER.

SPECIFICATION forming part of Letters Patent No. 475,621, dated May 24, 1892.

Application filed November 17, 1891. Serial No. 412,238. (No model.)

To all whom it may concern:

Be it known that I, JEREMIAH W. SMITH, of Athens, in the county of Clarke and State of Georgia, have invented certain new and useful Improvements in Gin-Saw Gummers; 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, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to devices for shaping gin-saw teeth by cutting out the metal at the bottom and sides of the interdental spaces, to perform which operation the utmost delicacy is necessary, as the least deviation of the tooth from the proper angle causes it to cut or nap the cotton in drawing it through the gin-grid. To produce a machine, therefore, of this class possessing these qualities is the object of this invention, the detail of which will be hereinafter fully specified.

In the accompanying drawings, Figure 1 is a side elevation of the device, showing same in position on a saw. Fig. 2 is a plan of the machine, as shown in Fig. 1. Fig. 3 is a view of the cam-box and punch and die levers, looking from the front of the machine. Fig. 4 is a side view of a portion of the punch and the die and the die-carrying lever. Fig. 5 is a plan of the forward portions of the punch and die levers.

In the views like reference-marks indicate corresponding elements of construction.

1 is the saw, 2 the space-blocks, and 3 the shaft thereof.

4 is the frame of the gummer, the forward end of which is bifurcated to extend above and below the space-blocks, as shown in Fig. 1, and has a comparatively-bifurcated part 5 screwed to its side, a space being left between said parts 4 and 5 to allow the same to pass over a saw and hold the machine stationary thereon. A handle 6 is conveniently placed at the back, and a spur 7 may be employed, if desired, to engage a saw-horse or bench set in front of the saw-cylinder.

On the upper side of the frame 4 is a table 8, which has its edges beveled, and on this table a bed-frame 9 is arranged, movable back-

ward and forward, being adjustable transversely of said table by screws 10 and 11, and passing through the downwardly-projecting flanges 12 thereon. By loosening the screw 11 it is obvious that the bed 9 may be moved forward or backward and its lateral position relative to the table 8 be preserved, the tightening of said screw holding it in position to which it is moved. The flanges 12 are projected beyond the bed 9 in front and form bearings for the rock-shaft 13, which has thereon a short arm 14, carrying a pitman 15, on the distal extremity of which is a blade 16, so arranged thereon that it will engage with the teeth of the saw. A long arm 17 is also secured to the rock-shaft 13, extending backward therefrom and having connected to its free end or at the desired distance from the rock-shaft 13 the pitman 18, which carries on its upper end a strap 19, surrounding an eccentric 20 on the shaft 21, suitably journaled in the lugs 22 of the bed 23. For the necessary part of its length the lever 17 is curved, the curvature being such as will preserve the proper relative positions of the eccentric and said lever when the pitman is connected at any one of the holes in the lever.

The bed 23 is pivoted near its middle portion to the lugs 24 on the bed 9 and has motion on said pivot to raise either end and lower the opposite end, which adjustment is rendered necessary by the difference in angle of the teeth in different makes of saws and the difference in the diameter of saws. This adjustment is effected by means of the screws 25 and 26, passing downwardly through the bed 23 and bearing against the top side of the bed 9.

Pivoted by pins 27 to the bed 23, as shown in Fig. 2, are the punch and die levers 28 and 29, respectively. These levers 28 and 29 preferably have bearing against each other between their pivotal points, which takes all operating strain from the pins 27. Carried in the end of the lever 28 is a punch 30, the same being held therein in any desired way, preferably a dovetail and set-screws or wedge. This punch may obviously be of any shaped face desired, and the die 31, carried in the arm 29, in the same manner as the punch is held in its lever, should conform thereto. The notch 32 in the lever forms a clearance for

the die. Obviously the punch and die should be reciprocated to and from each other, the motion forward being necessarily forcible. To obtain this motion, an incline 33 is made 5 on the outside of each lever 28 and 29. A shaft 34, housed in a rectangular frame 35, passes through the levers 28 and 29 and carries outside of said levers two wipers 36, which pass in their downward movement over in the 10 inclines 33, said movement being caused by the eccentric 37 on the shaft 21 through the pitman 38 and lever 39 on the shaft 34.

The levers 28 and 29 are held normally apart by a spring 40 of requisite form and 15 tension. The movement of the levers 28 and 29 is limited by the set-screws 41, passing through the flanges 42 of the bed 23.

A hand-crank 44 is secured to the shaft 21, whereby power is applied thereto.

20 The operation of the driver is as follows: The bifurcated end of the former is placed over the saws and space-blocks, as shown and described, and the bed 23 moved up or down until the punch is directly over the proposed 25 cut, after which the feed is set to catch each successive tooth and turn the saw an equivalent distance. The hand-crank is then turned and the feed-lever caused to vibrate and the wiper-shaft caused to partially revolve, which 30 feeds the teeth under the punch in successive order and then closes the punch and die on them. As soon as one saw has been fully com-

pleted, the operation, barring all adjustment, is performed on the next saw, and so on.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is— 35

1. In a device of the class specified, a frame bifurcated and slitted in the forward end to fit over the space-blocks and saws, a bed sliding thereon, movable to and from the saws, a 40 second bed pivoted near its middle portion to said sliding bed, so that each end has vertical movement, and two arms pivoted thereon and movable laterally and carrying, respectively, 45 a punch and correlative die, for the purpose specified.

2. In a device of the class specified, a frame adapted to be applied to a saw-mandrel, cor- 50 relatively-vibratable levers pivoted thereon, normally held apart and carrying dies in their ends and having inclined lugs thereon, a housing inclosing said levers, a shaft passing through said housing and levers and carrying wipers in contact with said inclines, and 55 means for causing an oscillation of said wipers, for the purpose specified.

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

JEREMIAH W. SMITH.

Witnesses:

J. M. WEATHERLY,
T. P. VINCENT.