

E. CHAINEY.  
SAW GUMMER.

APPLICATION FILED APR. 21, 1910.

1,018,740.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.

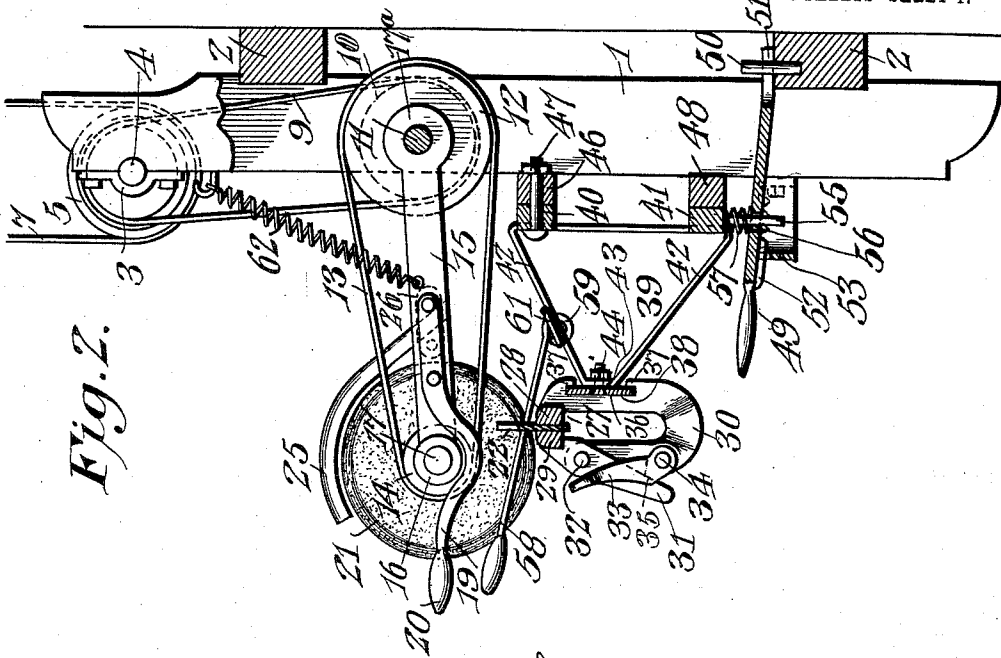


Fig. 2.

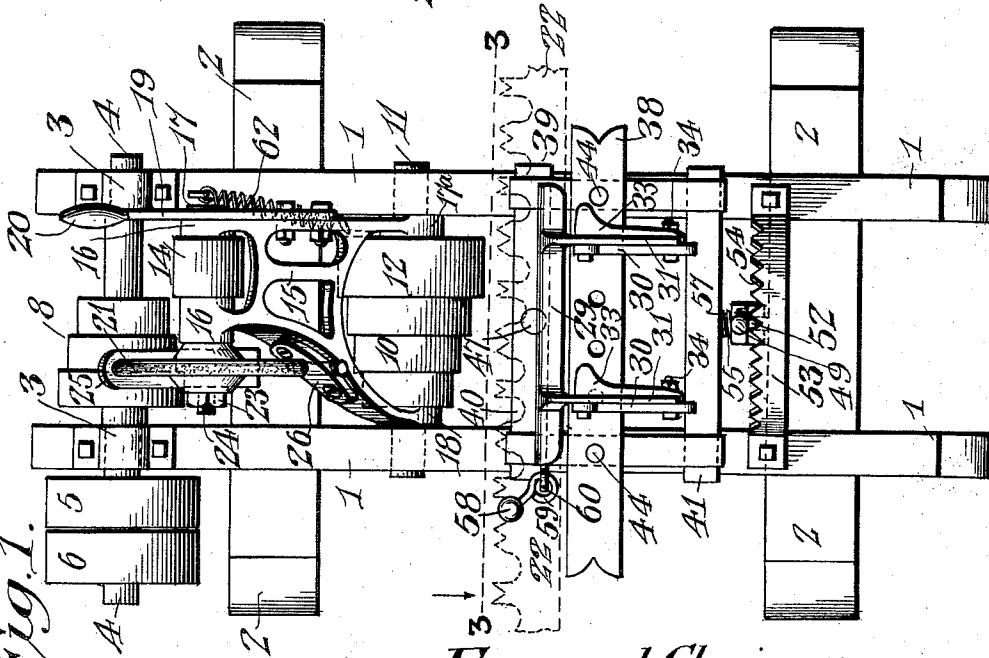


Fig. 1.

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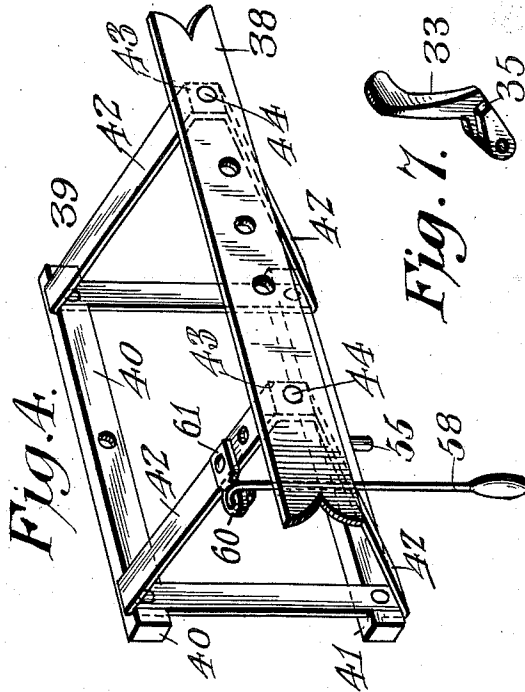
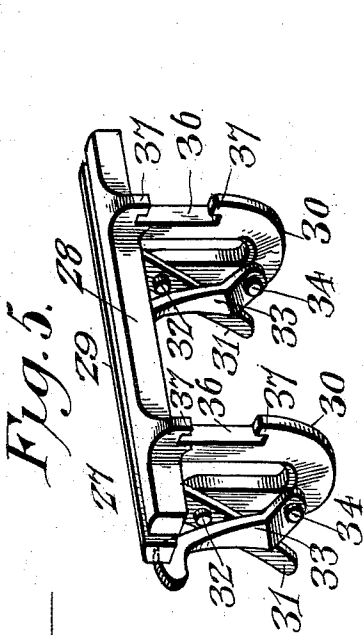
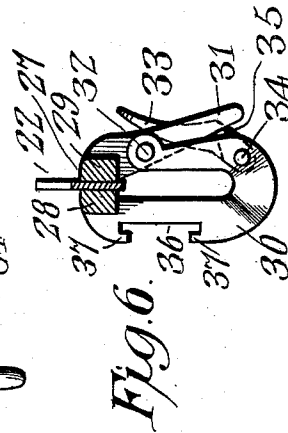
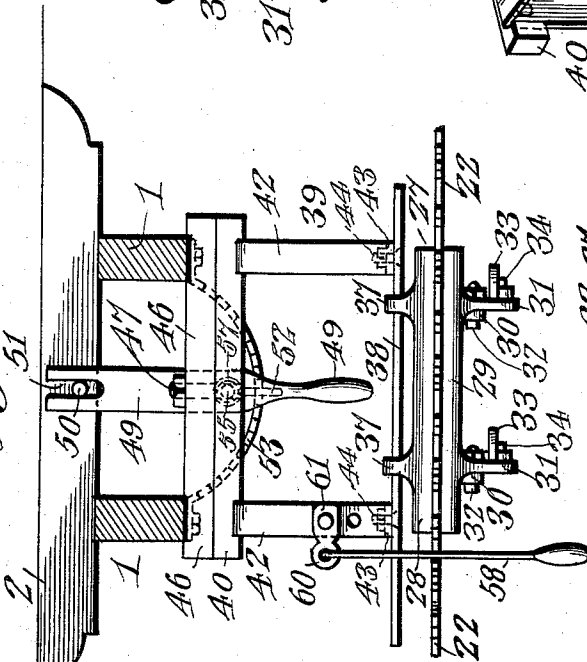


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## SAW-GUMMER.

1,018,740.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed April 21, 1910. Serial No. 556,766.

*To all whom it may concern:*

Be it known that I, EMANUEL CHAINEY, a citizen of the United States, residing at Florence, in the county of Florence and State of Wisconsin, have invented a new and useful Saw-Gummer, of which the following is a specification.

The invention relates to a cross cut saw gummer.

10 The object of the present invention is to improve the construction of saw gummers, and to provide a simple, inexpensive and exceedingly practical saw gummer, adapted to occupy a comparatively small amount of  
15 space and equipped with means for enabling a saw blade to be reciprocated and kept in constant motion while it is being operated on by an emery wheel, or other grinding device, whereby heating of the blade is avoided.  
20 With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims  
25 hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a front elevation of a saw gummer, constructed in accordance with this invention. Fig. 2 is a  
35 vertical sectional view of the same. Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 1. Fig. 4 is a perspective view of the pivotally mounted saw support or bracket. Fig. 5 is a detail perspective view  
40 of the saw clamp. Fig. 6 is a vertical sectional view of the same. Fig. 7 is a detail view of one of the cam levers of the saw clamp.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

In the embodiment of the invention illustrated in the accompanying drawings, the main frame, which is designed to be arranged in an upright position against the  
50 wall, is composed of spaced uprights 1, form-

ing side bars and connected at their upper and lower portions with horizontal cross bars 2, having laterally projecting terminal portions and adapted to be secured to the  
55 wall, or other support. The uprights or side bars of the frame are provided near their upper ends with horizontally alined bearings 3 for the reception of a main drive shaft 4, extended laterally beyond one side  
60 of the frame and having fast and loose pulleys 5 and 6, mounted on such extended portion, as clearly illustrated in Fig. 1 of the drawings. The machine is connected by a  
65 belt 7 with any suitable source of power, and is thrown into and out of operation by lifting the belt from one of the pulleys 5 and 6 to the other. The shaft 4 is also provided with a plurality of pulleys 8 of different diameters, located between the side bars or up-  
70 rights 1 and adapted to be connected by a belt 9 with a similar set of reversely arranged pulleys 10, mounted on a lower counter shaft 11. The counter shaft, which is journaled in suitable bearings of the up-  
75 rights or side bars 1, is also equipped with a pulley 12, which is connected by a belt 13 with a relatively small pulley 14. The shaft 11 forms a pivot for a swinging frame 15, provided at its outer end with bearings 16  
80 for the reception of a transverse shaft 17 upon which the pulley 14 is mounted. The swinging frame is provided at its inner end with spaced bearing portions 17<sup>a</sup> and 18 and spans the pulleys 10 and 12. The bearings 16, which are located at the outer end  
85 of the swinging frame, are spaced apart to straddle the pulley 14. The swinging frame is slightly tapered toward its outer end, and it is equipped at its outer portion with a  
90 handle bar 19, secured at its inner end to one side of the swinging frame and provided at its outer end with a handle or grip 20, and adapted to swing the frame 15 upward and downward to carry an emery wheel 21 into  
95 and out of engagement with a saw blade 22. The emery wheel is mounted on the shaft 17 and is detachably secured thereto by a nut 23, arranged on a threaded portion 24 of the shaft 17, but any other suitable means may  
100 be employed for detachably mounting the emery wheel on the shaft of the swinging

frame. The swinging frame also carries a guard 25, arranged over the top portion of the emery wheel and having an inclined rear portion, provided with a terminal attaching plate 26, which is secured to the adjacent side of the swinging frame.

The saw blade 22 is held in a clamp 27, composed of relatively fixed and movable jaws 28 and 29. The relatively fixed jaw is formed integral with spaced substantially U-shaped yokes or members 30, depending from the fixed jaw 28 and forming supports for the movable jaw 29, which is provided with arms 31, pivoted by bolts 32, or other suitable fastening means to the outer portions of the U-shaped yokes or members 30. The jaw 28 is connected with the inner sides or portions of the U-shaped yokes or members, and the jaw 29 is locked in engagement with the saw blade 22 by means of a pair of cam levers 33, pivoted to the U-shaped yokes or members 30 at the lower portion thereof and provided adjacent to the pivots 34 with cam shoulders 35, adapted to engage the arms 31 of the movable jaw. The arms 31 are arranged at an inclination, and the pivots 32 pierce the arms near the upper portions thereof.

The saw clamp is provided at the back with aligned guide-ways 36, formed by recessing the inner or rear sides of the U-shaped yokes or members at the rear edges thereof. The upper and lower walls of such recesses are grooved to form projecting lugs 37, which engage the inner or rear face of a guide 38, carried by a pivoted saw support or bracket 39. The saw support or bracket 39 is composed of spaced upper and lower transverse bars 40 and 41 and approximately triangular frames or members 42, connecting the upper and lower transverse bars 40 and 41 and extending forwardly or outwardly therefrom and supporting the guide 38, which is secured to the triangular frames or members 42. The triangular frames or members 42 consist of inner vertical portions and inclined upper and lower outwardly extending portions, which are connected by short outer vertical portions 43 to which the guide 38 is attached by suitable fastening devices 44. The pivoted bracket may be constructed of any suitable material and may be braced in any preferred manner. The guide 38 preferably consists of a relatively thin metallic bar having its side face arranged in a vertical plane, and its upper and lower edges are engaged with the end grooves of the guide-ways 36.

The bracket or support 39 is pivoted to a cross piece 46 of the frame of the machine by a bolt 47, or other suitable fastening device, and it is adapted to swing laterally of the frame to arrange the saw blade at the desired angle. The lower bar 41 of the bracket or support 39 fits against a fixed

cross piece 48 of the frame of the machine, and the saw support or bracket 39 is adjusted by means of a lever 49, extending beneath the bracket 39 and fulcrumed at its rear end on the lower cross bar 2 by means of a pin 50, projecting from the upper face or edge of the said bar 2. The inner or rear end of the lever 49 is provided with a slot or bifurcation 51 to straddle the fulcruming pin 50, and the lever, which has its front portion shaped into a grip or handle, is provided adjacent to the same with a lug 52, arranged at the lower face of the lever and engaged with a curved ratchet bar 53, arranged horizontally at the front of the machine and secured at its terminals to the uprights or side bars 1 thereof, and provided at its upper edge with teeth 54 to engage with the lug 52 of the lever, whereby the latter is held in its adjustment. The lever is connected with the frame by a pin 55, depending from the lower transverse bar 41 of the bracket and extending through an opening 56 of the lever. The lever is maintained in engagement with the ratchet bar 53 by means of a coiled spring 57, disposed on the pin 55 and interposed between the transverse bar 41 of the bracket and the upper face of the lever, as clearly shown in Fig. 2 of the drawings. The pivoted frame is adjusted by grasping the handle portion of the lever 49, which is lifted to disengage it from the teeth of the ratchet bar 53. The frame may then be swung either to the right or left, and when the lever 49 is released the spring will reengage the lug 52 with the ratchet bar.

The emery wheel is engaged with the saw blade by swinging the frame 15 downward, and in order to prevent the saw blade from becoming heated through such grinding action, it is reciprocated or vibrated, being kept continually in motion by an operating lever 58, fulcrumed on the upper portion of the bracket or saw support and extending forwardly across the saw blade and provided at its outer end with a handle or grip. The inner end of the lever 58 is provided with an eye 59, which is linked into an eye 60, having a shank 61, which is riveted or otherwise secured to the upper face of the upper inclined portion of the adjacent triangular connecting frame or member 42. The lever 58 is spaced from the vertical plane of the operating handle of the swinging frame, and in the operation of the machine, the operating handle of the swinging frame is grasped by the operator with his right hand, and the lever 58 is operated by his left hand. The lever 58 extends across the saw blade between the teeth thereof, and it directly engages the teeth when it is oscillated to reciprocate the saw blade. As the emery wheel is smaller than the cut to be made in the blade, the latter may be recip-

roated the length of the cut while the emery wheel is in operation. The motion should be constant for the reason that if the emery wheel be kept on the same spot any length of time, it would create heat. The swinging frame is normally maintained in an elevated position by means of a coiled spring 62, connected with the frame at one side thereof and to one of the side bars or uprights 1 of the frame of the machine at the upper portion of the latter. The coiled spring 62 is distended when the frame 15 is swung outward, and it operates to elevate the frame when the handle 20 is released by the operator.

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

1. A machine of the class described including a grinding device, a guide, a slidable saw clamp mounted on the guide, and an operating device directly engaging the teeth of the saw for vibrating the same along the guide to prevent the saw blade from becoming heated.

2. A machine of the class described including a grinding device, a guide, a slidable saw clamp mounted on the guide, and a lever arranged to directly engage the teeth of the saw blade for vibrating the latter along the guide to prevent the saw blade from becoming heated.

3. A machine of the class described including a grinding device, a guide, a slidable saw clamp mounted on the guide, a lever fulcrumed in rear of the saw clamp and arranged to extend across the same, whereby it is adapted to be engaged with the teeth of a saw blade for vibrating the same along the guide to prevent the saw blade from becoming heated.

4. A machine of the class described including a frame, a grinding device, a pivoted saw support arranged to swing laterally to arrange the saw blade at an inclination with respect to the grinding device, and a lever connected to the frame and with the saw support for swinging the latter.

5. A machine of the class described including an upright frame, a grinding device, a pivoted saw support mounted on the frame and arranged to swing laterally thereof, a toothed bar mounted on the frame, and a lever fulcrumed on the frame and connected with the saw support and engaging the toothed bar.

6. A machine of the class described including a frame, a grinding device, a pivoted saw support, a toothed bar spaced from the support, a lever fulcrumed on the frame and operating in the space between the saw support and the toothed bar and engaging the latter, and means for connecting the lever with the saw support.

7. A machine of the class described in-

cluding a frame, a grinding device, a pivoted saw support, a toothed bar spaced from the support, a lever fulcrumed on the frame and operating in the space between the saw support and the toothed bar and engaging the latter, a pin connecting the lever with the saw support, and a coiled spring disposed on the pin and engaging the lever to hold the same against the toothed bar.

8. A machine of the class described including a frame, a grinding device, a pivoted saw support mounted on the frame below the grinding device, a curved bar secured to the frame and arranged beneath the saw support and provided with teeth, and a lever pivoted to the frame and connected at an intermediate point with the pivoted saw support and provided with a lug engaging with the teeth of the bar.

9. A machine of the class described including an upright frame, a swinging frame pivoted to the upright frame and arranged to move upwardly and downwardly, a grinding device carried by the swinging frame, a saw support located beneath the swinging frame and pivoted at its upper portion to the upright frame, adjusting means connected with the frame and with the lower portion of the saw support for swinging the latter, and saw clamping means carried by the saw support.

10. A machine of the class described comprising a main frame, a grinding device, a saw supporting bracket composed of spaced upper and lower bars, and approximately triangular connecting frames secured to the upper and lower bars and extending outwardly therefrom, means for pivoting the saw supporting bracket to the main frame, a guide bar secured to the said connecting frames, and a saw clamp mounted on the guide bar.

11. A machine of the class described comprising a main frame, a grinding device, a saw supporting bracket composed of spaced upper and lower bars, and approximately triangular connecting frames secured to the upper and lower bars and extending outwardly therefrom, means for pivoting the saw supporting bracket to the main frame, a guide bar secured to the said connecting frames, a saw clamp slidably mounted on the guide bar, means for adjusting the pivoted frame, and operating mechanism for reciprocating the saw clamp during the grinding operation to prevent a saw blade from becoming heated.

12. A machine of the class described including an upright frame designed to be secured against a wall or other support, a driving shaft journaled on the frame at the upper end thereof, a swinging frame pivotally mounted on the upright frame at a point between the ends thereof, a grinding device carried by the swinging frame,

means for communicating motion from the driving shaft to the grinding device, a laterally movable pivoted frame mounted on the upright frame below the swinging frame and provided with a guide, and a saw clamp  
5 slidable along the guide.

In testimony, that I claim the foregoing

as my own, I have hereto affixed my signature in the presence of two witnesses.

EMANUEL CHAINEY.

Witnesses:

FRANK WARING,  
G. W. BAIRD.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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