

(No Model.)

2 Sheets—Sheet 1.

S. W. DALY.
MACHINE FOR HOLDING SAWS.

No. 471,168.

Patented Mar. 22, 1892.

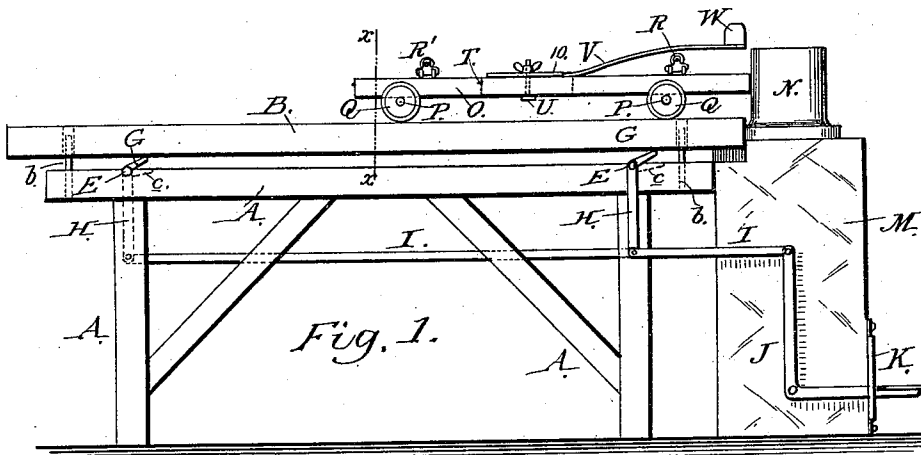
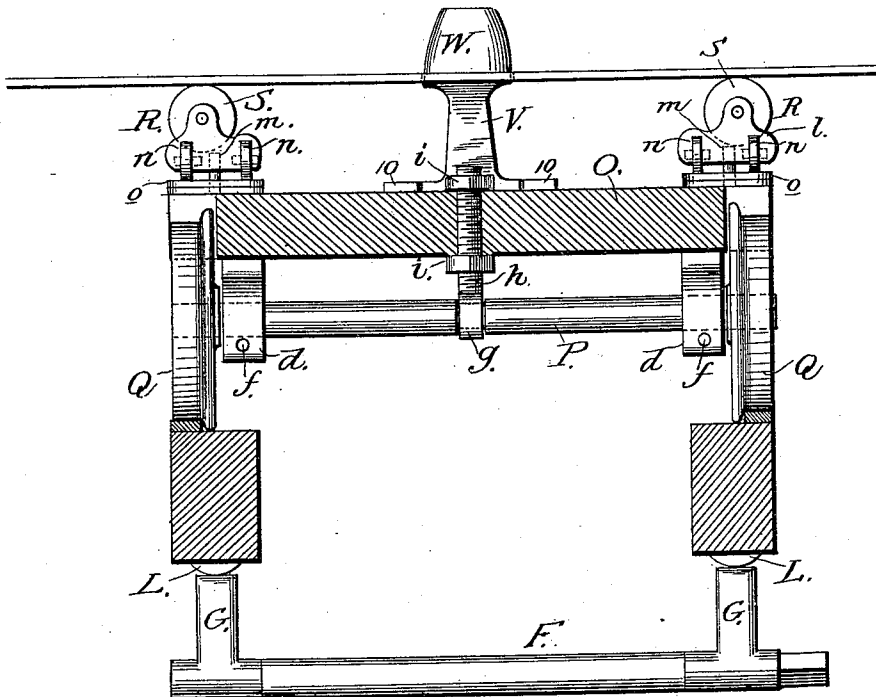


Fig. 2.



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Fig. 3.

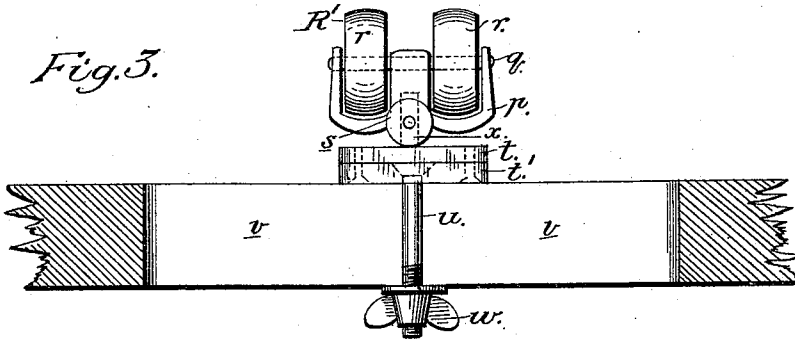


Fig. 4.

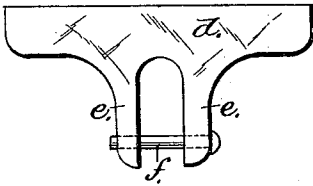


Fig. 5.

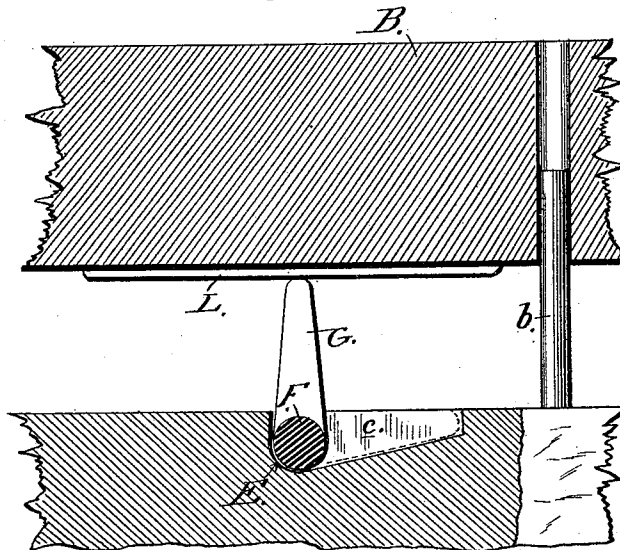


Fig. 6.

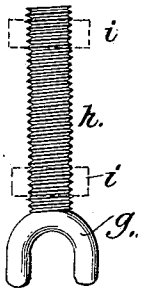
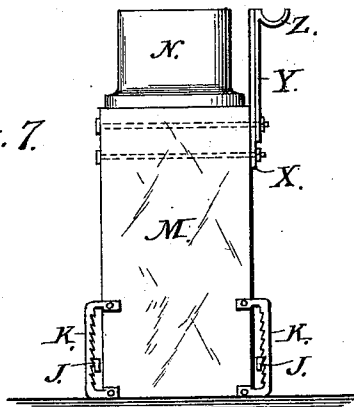


Fig. 7.



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UNITED STATES PATENT OFFICE.

SAMUEL W. DALY, OF METROPOLIS CITY, ILLINOIS.

MACHINE FOR HOLDING SAWS.

SPECIFICATION forming part of Letters Patent No. 471,168, dated March 22, 1892.

Application filed December 22, 1891. Serial No. 415,868. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL W. DALY, a citizen of the United States, residing at Metropolis City, in the county of Massac and State of Illinois, have invented certain new and useful Improvements in Machines for Holding Saws, as set forth in the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a saw-hammering machine embodying my invention. Fig. 2 is a cross-sectional view on the line *x* of Fig. 1. Figs. 3, 4, 5, and 6 are details of construction to be referred to.

My invention relates to that class of machines designed for holding saws while being hammered; and my invention consists of the constructions and combinations of devices which I shall hereinafter fully describe and claim.

To enable others skilled in the art to which my invention appertains to make and use the same, I will now describe its construction and indicate the manner in which the same is carried out.

In the said drawings, A represents a framework of wood or metal supported upon legs *a* and being suitably braced or supported to give strength and rigidity thereto. This main frame A is provided near each end with upwardly-extending pins or guides *b*, adapted to enter corresponding holes in a track-frame B, supported above the main frame, whereby the latter frame is properly guided when moved vertically by the mechanism I shall hereinafter disclose.

In the main frame near its ends are made journal-bearings E, in which are mounted the transverse shafts F, having crank-arms G, the said shafts being connected with levers H, which in turn are attached to a connecting-bar I, fitted at one end to the end of a pivotally-secured angular foot-lever J, whose opposite end lies in a horizontal plane and in a position where it may be readily operated by the foot of the operator, said horizontal portion being adapted for engagement with a rack-plate K, as shown, whereby the lever and its adjuncts is held in any adjusted position. From the construction and arrangement of these parts it will be seen that when the le-

ver is forced down the connecting parts rock the shafts in their bearing and cause the crank-arms to engage the under surface of the track-frame, whereby the latter is elevated for a purpose to be hereinafter stated.

In the upper surface of the sides of the main frame recesses *c* are formed to receive the crank-arms G when the latter are in their normal position, so that these arms lie flush with the top surface of the frame, and to prevent the arms wearing the under surface of the track-frame by repeated contact therewith I secure to the under part of the track-frame suitable wear-plates L, of curved form in cross-section, against which the arms strike, as shown in Fig. 5. The pivoted foot-lever and rack-plate are secured to an anvil-block M, on which the anvil N is mounted, as shown in Fig. 1.

The track-frame is immediately above the main frame and supports the carriage O, upon which the saw-blade is carried. This carriage consists of a frame of any suitable construction in which the parallel shafts P are mounted, and provided with bearing-wheels Q, adapted to travel upon the track-rails of the frame toward and from the anvil. Each of the axles of the carriage has by preference three boxes, and these are located one near each end and one at or near the center. The end boxes *d* are formed with downwardly-extending lugs *e*, which straddle the axles and receive a transverse pin *f*, which serves to retain the boxes to the shafts, and the middle box *g* is formed with a lower curved portion adapted to straddle the axle, and whose stem *h* is threaded and passes up through the body of the carriage and is provided with nuts *i*, one above and one below the body of the frame, as shown in Fig. 2. This arrangement of the boxes enables the carriage to rock or cant on the middle bearing, and as the latter bearing is capable of adjustment vertically by means of its threaded stem and nuts it is manifest the carriage may be adjusted with relation to the condition or kind of saw to be operated upon. In other words, if the saw-blade is straight the position of the carriage will be level; but if the saw-blade has a twist or is irregular the carriage is permitted to cant toward the side to accommodate the irregularity

and to present the saw-blade whether straight or twisted, so that its position on the anvil will be level and firm.

Upon the carriage-frame are mounted
5 double-roller casters R R', these being preferably four in number, two near each end of the carriage. The casters R at the front of the carriage are made secure thereto by any
10 suitable means, and their frames *l* are mounted upon vertical pins or posts *m*, about which they swing, said frames having bearings in their upper ends for the saw-blade-supporting rollers S, while in their lower ends are small
15 rollers *n*, whose axes are at right angles to the axes of the rollers S and whose peripheral surfaces travel in contact with plates *o*, secured to the frame of the carriage, as shown in Fig. 2. The caster R' at the rear end of the carriage consists of a frame *p*, through
20 which passes a shaft *q*, upon which the casters or wheels *r* are mounted, so as to support the rear end of the saw, and the frames of these rear casters carry other rollers *s*, adapted to travel upon plates *t*, bolted to other plates
25 *u*, having a bolt or stem *u* passing through a slot *v* in the carriage-frame and threaded at their lower ends to receive a thumb-nut *w*, as shown in Fig. 3. The frames of the rear rollers *r* are mounted upon pins or studs *x*, about
30 which they swing, and the mounting of these casters is such that by loosening the thumb-nuts the casters and adjunctive parts may be moved forward or rearward to correspond with the size of the saw to be operated upon
35 and then tightened up by manipulating the thumb-nuts.

At the center of the carriage-frame is made a slot or opening T, through which a threaded headed bolt U is passed and secured by a
40 thumb-nut at its upper end. Over this bolt one end of a steel spring is passed and then secured by the thumb-nut, said spring fitting between suitable guides 10 on the carriage-frame to hold it in place. From its secured
45 end the spring extends forwardly and is slightly inclined upwardly. On the upper surface of the forward end of the spring-plate is a center or stud W, with rounded upper
50 edges adapted to form a center to enter the mandrel-hole of the saw, this stud or center being slightly tapered toward its upper end, so that it may readily enter the mandrel-hole as the saw is moved over it. Inasmuch as the
55 spring-plate is adjustable back and forth, the stud or center W is moved so that the front end of the carriage may come up squarely against the anvil, and sufficient room is left for the front of the spring-plate to clear the anvil when the plate is depressed under the
60 weight of the saw or to rise when the saw is removed.

Bolted securely to the side of the anvil-block is a plate or bar X, and to this bar a
65 second bar or plate Y is bolted and provided with a hook portion Z, which lies slightly below the plane of the face of the anvil. The hook portion of the bar Y serves as a means

for suspending the saw, and the top of the bar X serves as a fulcrum for the saw in lifting it off the hook portion of the bar Y to
70 place it upon the anvil and also when it is removed from the anvil and placed upon the hook portion.

The operation of my invention is substantially as follows: The operator first hangs the
75 saw upon the hook portion Y and examines it with a straight-edge, then swings it upon the anvil and slips it along until the center or stud W enters the mandrel-hole and thereby retains the saw in place on the carriage,
80 so that it may be turned about the stud as a center to permit any portion of its surface to rest upon the anvil and be hammered, the foot-lever J being operated to raise the track-frame and superposed parts until the saw lies
85 squarely upon the anvil. The saw may be readily examined at any stage with a straight-edge for lumps or irregularities and tested for strain while on the anvil and carriage, and when it is found necessary to hammer the
90 other side of the saw the latter is removed from the center or stud W and swung over on the hook Y, and then changed or reversed and again placed upon the carriage and anvil
95 in the manner before stated.

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

1. In a saw-holding machine, a vertically-adjustable frame, a saw-support on said frame
100 and movable longitudinally on said frame, and means for adjusting the frame, substantially as herein described.

2. In a saw-holding machine having a main frame and fixed anvil, a frame mounted upon
105 the main frame and adapted to be moved in vertical planes, and a wheeled carriage upon the movable frame, adapted to be adjusted toward and from the anvil, substantially as
110 herein described.

3. In a saw-holding machine, a main frame, a supplemental frame mounted thereon, means
110 for adjusting said supplemental frame in vertical planes, a carriage movable upon the supplemental frame and forming a saw-support,
115 and a fixed anvil toward and from which the carriage is adjusted.

4. In a saw-holding machine, a main frame, a supplemental frame mounted on guides
120 thereon, rock-shafts on the main frame having crank-arms adapted to engage the supplemental frame, a foot-lever and interposed connections for rocking the shafts and vertically adjusting the supplemental frame, a
125 carriage or saw support on the supplemental frame, and a fixed anvil toward and from which the carriage is adjusted, substantially as herein described.

5. In a saw-holding machine, a main frame and a supplemental frame vertically movable
130 upon said main frame, in combination with a wheeled carriage adjustable upon the supplemental frame and mounted to rock laterally upon its main axles under the influence

of the saw placed upon it, substantially as herein described.

5 6. In a saw-holding machine, a main frame, a supplemental frame thereon, and means for adjusting the supplemental frame in vertical planes, in combination with a carriage-frame, the main axles and wheels upon which the carriage-frame is supported, journal-boxes for the ends of the axles, and journal-boxes
10 near the middle of the axles, forming bearings about which the carriage-frame may rock sidewise, substantially as herein described.

15 7. In a saw-holding machine, the carriage thereof movable upon the frame of the machine and provided with swiveled casters adapted to support the saw-blade, substantially as herein described.

20 8. In a saw-holding machine, the carriage thereof movable upon the frame of the machine and provided with swiveled casters at its front and rear for supporting the saw-blade, said rear casters being adjustable and the forward casters fixed, substantially as herein described.

25 9. In a saw-holding machine, the main frame, the vertically-adjustable frame thereon, a saw-carriage adjustable upon the latter frame, swiveled casters in fixed bearings at

the front of the carriage, swiveled casters at the rear of the carriage, having stems passing through slots in the carriage and provided with thumb-nuts whereby the rear casters may be moved toward and from the forward casters, substantially as herein described.

35 10. In a saw-holding machine, the adjustable carriage having a spring-supported center or stud adapted to enter the mandrel-hole of the saw, substantially as herein described.

40 11. In a saw-holding machine having a fixed anvil, the adjustable carriage having fixed and adjustable casters for supporting the saw, a spring-plate adjustably held to said carriage and provided with a centering-stud adapted to enter the mandrel-hole of the saw.

45 12. In a saw-holding machine provided with mechanism for supporting the saw while being hammered, a hook-shaped plate for suspending the saw having its upper end serving as a fulcrum for the saw in moving the
50 latter to and from the supporting mechanism, substantially as herein described.

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Witnesses:

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