

R. S. BROWN.

SAW CLAMP.

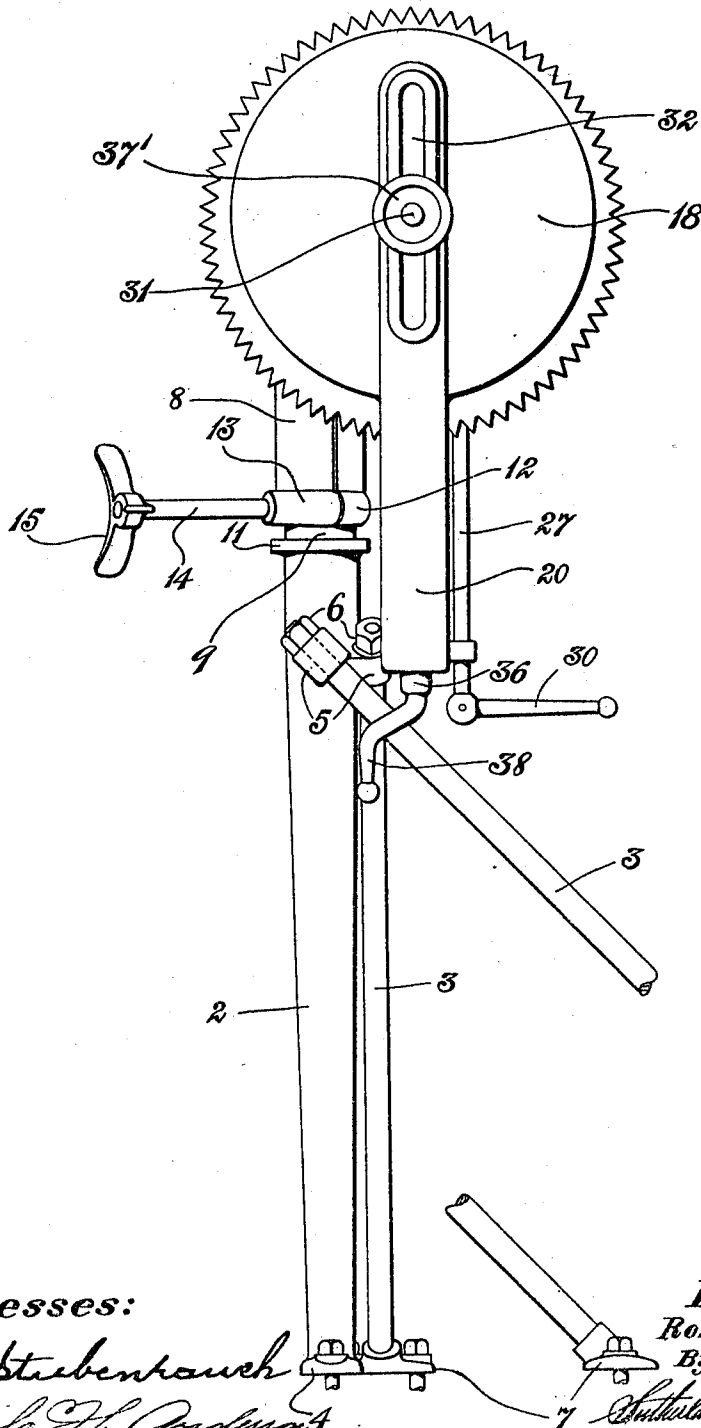
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945,217.

Patented Jan. 4, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



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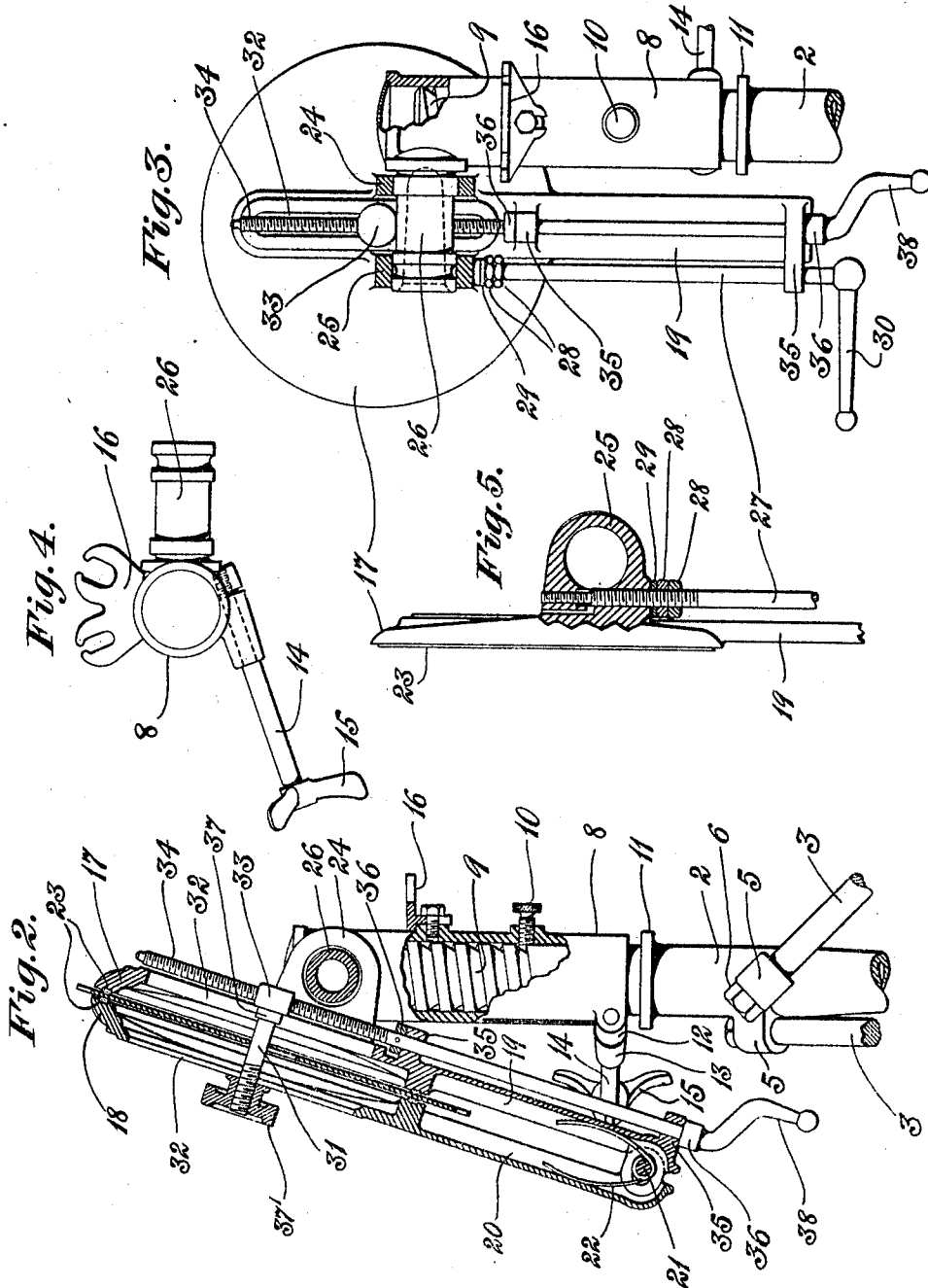
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UNITED STATES PATENT OFFICE.

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SAW-CLAMP.

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Specification of Letters Patent.

Patented Jan. 4, 1910.

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To all whom it may concern:

Be it known that I, ROBERT S. BROWN, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Saw-Clamps, of which the following is a specification.

This invention relates to saw clamps the object of the invention being to provide a simple and effective device of the character set forth having certain adjustments whereby a wide range of operation is assured.

In the drawings accompanying and forming part of the present specification I illustrate in detail one advantageous form of embodiment of the invention which to enable those skilled in the art to practice said invention will be fully set forth in the following description while the novelty of the invention will be included in the claims succeeding said description.

Referring to said drawings, Figure 1 is a front elevation of a saw clamp involving my invention a portion of one of the legs thereof being broken away and set close to the other leg. Fig. 2 is a sectional side elevation of the upper portion of the device, the clamping mechanism being in vertical section and a part of a sleeve being removed. Fig. 3 is a sectional rear elevation of said upper portion, the section being through certain lugs to which allusion will be hereinafter made. Fig. 4 is a top plan view of said sleeve with certain of its adjuncts. Fig. 5 is a sectional side view of one of the jaws and certain coöperating devices, the lug on said jaw being in cross section.

Like characters refer to like parts throughout the several figures of the drawings.

It is not a matter of consequence whether the operative parts of the clamping mechanism are mounted upon a standard to be fastened to a floor or other foundation or connected with a clamp to be united to a bench. But I have in the drawings illustrated the said parts as supported by a standard which is of novel and advantageous construction. Said standard involves an upright or post as 2 and several legs or props as 3 the latter being usually made from rods. The upright or post 2 shown in full in Fig. 1 has a foot or base piece as 4 which may if desired be fastened to a floor by screws or

equivalent means. At a suitable height said upright or post may be provided with external lugs as 5 set at an angle thereto and through which the legs or props 3 can be passed being held in position by nuts as 6 connected with the upper reduced ends thereof. The lower ends of said legs or props may be provided with flattened feet as 7 to be also connected by screws with the floor upon which the standard sits. Said legs as will be apparent are angularly disposed with relation to the upright or post 2 the several parts presenting a tripod standard, which is adapted to solidly sustain the several operating parts of the apparatus.

The standard is provided in the present case with a head which is preferably adjustable such a head being shown at 8 and being represented as a split sleeve embracing or surrounding the upper threaded end 9 of the post or upright 2, the groove of the threaded part being comparatively deep and being adapted to receive a pin as 10 shown as a screw tapped through the collar 8 near the lower end thereof. As shown in Fig. 2 the tip or inner end of the screw 10 is shaped to fit said groove, the sleeve being supported thereby during its unclamped relation with the upright 2. To raise the sleeve it is freed from clamping relation with the threaded extension of said post or upright after which it can be readily turned and as it does turn it will be elevated by the engagement between the screwthreaded portion and the pin 10. When the limit of upward adjustment is reached the clamping means for the sleeve will be operated to hold the same in said adjusted position. To lower the sleeve it is then simply necessary to free it from clamping relation with the threaded extension at which time it may be turned in a direction to cause it to descend to its lowest position against the collar 11 on the post 2. Upon said sleeve 8 near the lower end thereof are shown two ears or lugs 12 and 13 through the latter of which a rod as 14 freely passes the inner end of said rod being threaded into the lug 12 so that when the rod is turned in the proper direction it can cause the sleeve to tighten about the threaded extension and be clamped thereto. Opposite turning of the rod will naturally free the sleeve. The rod may have near its outer end a hand grasp as 15 fas-

tened thereto to facilitate the manual operation thereof. A notched file supporting bracket as 16 may be attached by screws or otherwise to the sleeve 8.

5 The clamp involves in its makeup a pair of jaws which constitute the clamp proper and the jaw structure as will hereinafter appear is adjustable as a whole to vary the position of the saw with respect to the filer 10 while one jaw is movable with respect to the companion jaw to permit the mounting or dismounting of a saw. While any suitable jaws may be provided I can with advantage use such as those denoted by 17 and 18 15 the former being the relatively fixed jaw and the other the relatively movable jaw. Said jaws are provided with radially-extending arms as 19 and 20 projecting downwardly therefrom and pivoted together by a 20 pin as 21 by virtue of which the jaw 18 can be swung open and closed with respect to its mate, the jaw 17 when freed from clamping relation with the jaw 17 being preferably moved outward or opened in some positive 25 manner as by a spring 22 coiled about the pivot or pin 21 and the terminal whirls of which are upwardly continued and fitted against the inner faces of the arms 19 and 20 to obtain the function in question. The 30 operative parts of the jaws 17 and 18 may be provided with some suitable sound-deadening material such as rubber made in the form of rings 23 set in the opposite faces of said jaws and adapted to directly engage the 35 interposed saw.

Upon the rear side of the relatively fixed jaw 17 I have shown two lugs 24 and 25 which are perforated to receive a pivot as 26 represented as a hollow stud extending laterally 40 from the sleeve 8 near the upper end thereof. By virtue of this mounting the jaw-structure can be readily swung to vary the angle of presentation of the saw to the filer means being provided to securely retain the said 45 jaw structure in an adjusted position, as will hereinafter appear. It will be perceived that the swinging jaw in the present case moves about an axis in parallelism with that of the jaw structure as a whole. The lug 25 is 50 preferably split or divided and into the free portion thereof may be tapped the upper end of the rod 27 by turning which in one direction said split lug may be tightened upon the stud 26 while turning the same in the opposite 55 direction will free said lug. The said rod 27 is shown as provided with check nuts 28 between which and said lug 25 a washer as 29 is situated by reason of which the said rod can effect the operation of the lug 25 to hold 60 the jaw structure in an adjusted position or to free it therefrom. Said rod may be equipped with a crank portion or handle as 30 at the lower end thereof to easily turn it. The rod or screw 27 fits a groove 26' formed circumferentially in the pivot 26 by virtue of which 65

said rod in addition to serving as a means for drawing the split lug about said pivot also acts as a key to prevent said lug 25 and the companion lug 24 from moving in the direction of the axis of motion of the jaw 70 structure.

The arbor for sustaining the saw during filing and while it is clamped may be of any desirable nature although an arbor such as 31 is advantageous as in the manner 75 in which it is mounted, adjusted, and maintained in adjusted position. Said arbor extends through elongated slots as 32 in the jaws 17 and 18 so that said arbor can be adjusted to adapt it to the diameter of 80 the saw to be filed, said slots being made sufficiently long as to secure the maximum results. The rear end of the arbor 31 is shown as provided with a feed nut 33 which receives a feed or adjusting screw as 34 85 which although rotative to adjust said arbor does not move in an endwise direction being thus held by suitable means as will be hereinafter set forth. Upon the relatively fixed jaw 17 and its projecting arm 19 are rearward 90 projections as 35 through which the non-threaded or plain portion or shank of the screw 34 freely passes, said screw being shown as held against longitudinal movement by collars as 36 thereon engaging 95 against the respective projections 35. The arbor 31 may be provided with a squared portion 37 slidably fitted in the rear slot 32 by reason of which said arbor cannot turn.

The arbor 31 is provided with a clamping 100 member for holding the jaws 17 and 18 in firm engagement with the intermediate saw and a nut as 37' may be provided for such purpose said nut being threaded on the outer 105 end of said arbor and when set up pressing the jaws firmly together. When the nut is freed or backed off sufficiently the arbor 31 can be easily adjusted by the screw 34, the latter being provided with a crank portion 110 as 38 by which it can be easily turned. I provide several adjustments as will be apparent. I can raise or lower the sleeve 8 and correspondingly adjust the jaw structure as an entirety so as to adapt the device to the 115 height of the filer. I can in addition to this angularly adjust said jaw structure or can if desired have the same exactly upright or vertical and thereby adapt the device to saws of different types. More important than these 120 however, is the fact that the various devices by which the adjustments can be made are all accessible from the front of the apparatus so that the operator does not have to reach 125 across the saw or back of the same to change an adjustment by reason of which there is no possibility of his injuring his wrists or snagging or tearing his clothing. Other advantages have been hereinbefore mentioned while still others are so obvious that they 130 need not be recited.

Having described the invention what I claim is:

1. A saw-clamp comprising a standard provided with a threaded extension, a split sleeve surrounding said threaded extension for turning movement and also longitudinally adjustable thereon, a pin movably connected with said sleeve whereby it can be moved into and out of the groove of said threaded extension, means for clamping said sleeve to said extension, and a swinging jaw structure supported by said sleeve and comprising two clamping jaws one of which is movable with respect to the companion clamping jaw.

2. A saw clamp comprising a standard provided with a threaded extension, a sleeve turnable on and adjustable longitudinally of said extension, a pin carried by said sleeve and movable into and out of the groove of said extension, means independent of the pin for positively holding the sleeve in an adjusted position, and a swinging jaw structure supported by said sleeve and comprising a pair of clamping jaws one of which is movable with respect to the companion jaw.

3. A saw clamp comprising a standard provided with a threaded extension, a split sleeve fitted around said extension, a screw tapped through the sleeve and the tip of which is adapted to enter the groove of said extension, means for drawing the sleeve around the said threaded extension and clamping mechanism carried by said sleeve.

4. A saw clamp comprising a standard provided with a head having a pivot furnished with a circumferential groove, and a jaw structure provided with a split lug turnable on said pivot, and a screw for drawing said split lug into clamping engagement with said pivot said screw fitting said

groove to prevent movement of the lug in the direction of the axis of the jaw structure.

5. A saw clamp comprising a pair of jaws, an adjusting screw rotatively supported by one of the jaws, and an adjustable arbor for a saw supported between said jaws, having a feed nut engageable by said screw.

6. A saw clamp comprising a pair of jaws having elongated slots, an arbor extending through and adjustable in said slots and having means associated therewith to prevent turning thereof and also having a feed nut, and a feed screw coöperative with said nut, supported against endwise movement and rotatively by one of the jaws.

7. A saw clamp comprising a pair of jaws having elongated slots, an arbor extending through and adjustable in said slots having means associated therewith for preventing turning thereof and also having a feed nut, and a rotary, non-endwise movable feed screw connected with said nut.

8. A saw clamp comprising a jaw structure, a head provided with a pivot, said jaw structure having a split lug turnable on said pivot, a screw on the back of said jaw structure, connected with said split lug for drawing the same about said pivot to thereby hold said jaw structure in an angularly adjusted position, said jaw structure comprising two jaws one of which is movable with respect to the other, an arbor for a saw, between said jaws, and an adjusting device for said arbor, also on the back of said jaw structure.

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

ROBERT S. BROWN.

Witnesses:

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F. E. ANDERSON.