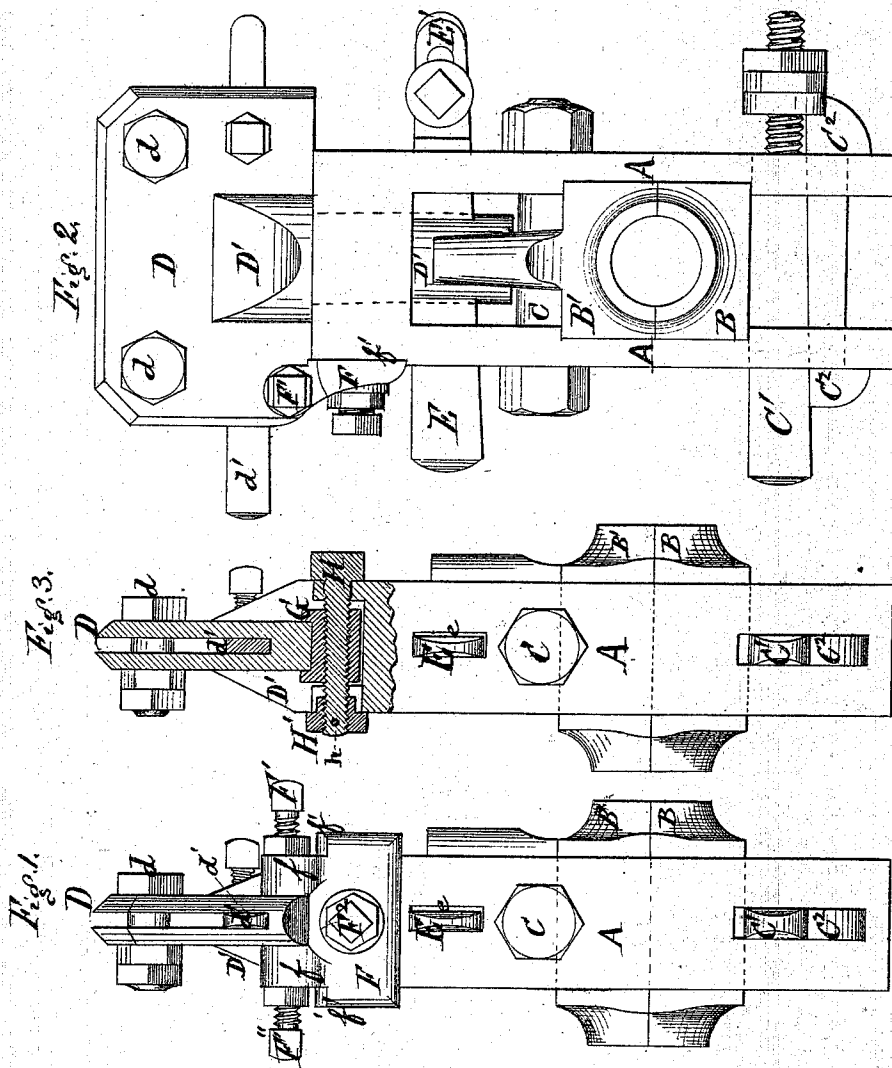


H. W. BROWN.

Buckles for Hanging Reciprocating Saws.

No. 139,363.

Patented May 27, 1873.



Witnesses
 Alex. Mahon
 H. H. Doubleday

Henry W. Brown
 by his Attorney
 A. M. Smith

UNITED STATES PATENT OFFICE.

HENRY W. BROWN, OF WARREN, PENNSYLVANIA.

IMPROVEMENT IN BUCKLES FOR HANGING RECIPROCATING SAWS.

Specification forming part of Letters Patent No. 139,363, dated May 27, 1873; application filed November 21, 1870.

To all whom it may concern:

Be it known that I, HENRY W. BROWN, of Warren, county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Buckles for Hanging Reciprocating Saws, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a front view of my improvement, and Fig. 2 is a side view of the same. Fig. 3 is partly in section, also a side view of a modification of Fig. 1.

The first part of my invention relates to that class of muley-saw mills in which the saw has a rocking motion imparted to it during its downward or cutting stroke, this motion being usually produced by means of a cross-head traveling upon curved or inclined ways at the upper end of the saw, and by a bifurcated pitman at the lower end. In these mills the saw is usually attached to the cross-head and pitman above referred to by means of what is called a buckle, which is mounted upon the cross-head or pitman by means of a wrist and an inclosing bearing, in such a manner that the buckle can vibrate about the wrist as a center, in order to permit the rocking motion of the saw.

In these vibrating buckles, as they have heretofore been constructed, the saw has been ranged either by wedges driven between the saw and the jaws of the clamp in which the saw is held, (the space between the jaws being greater than the thickness of the saw,) or else by set-screws in the jaws, the clamp itself being formed in one piece with the stirrup; but my improved buckle embodies three features of construction, viz., a stirrup, a movable clamp so attached to the stirrup that it (the clamp) can be adjusted relative to said stirrup for ranging the saw, and a circular bearing, by means of which the buckle can be secured to the pitman or cross-head to permit the desired rocking motion of the saw. The invention further consists in certain other features of construction, which will be fully explained.

In the drawings, A represents a stirrup, made in form substantially as shown, having two straps or shanks and a head. B B' is a box,

the lower half B being made in the usual shape, and provided with projecting lips which inclose the straps of the stirrup. The upper half B' is provided with a groove, in which is bedded or seated the bolt C, said bolt serving to prevent the box from being thrust upward in the stirrup. C¹ C² are a gib and key of the usual construction by means of which the box is adjusted upon the wrist in the upper end of the pitman. D is a clamp, forked or provided with jaws, shown plainly in Fig. 2, between which the saw is secured by bolts d. D' is a stem or shank formed upon or attached to clamp D. This shank is round in form and passes through a perforation fitted for its reception in the upper end or head of stirrup A. d' is a key fitting closely in the space between the jaws. E is a key driven through a slot in shank D' for the purpose of securing the clamp firmly to the stirrup. E' is a slotted plate or stop attached to key E to prevent said key from becoming accidentally displaced or loosened. The slots e, through which key E passes, are made wider than would be necessary to merely admit the key for a purpose which will be hereinafter explained. F is a plate expanded at its upper side into lugs or ears f f, and provided with lips f' f' overlapping and inclosing the head of the stirrup. This plate may be cast or formed in one piece with the stirrup, but for convenience I usually prefer making it separate, and attaching it by means of bolt F² or its equivalent. The distance between ears f f should be a little greater than the thickness of clamp D. F' F' are set-screws running through ears f, and impinging upon opposite sides of clamp D. In Fig. 3 a modification of these last-named devices is shown, the upper parts of their figures being in section in order to show more plainly the construction of parts. G is a guide-block placed in a recess formed for its reception in the upper end of the stirrup, and mounted upon a screw-bolt, H, which passes through perforation in the stirrup, as is plainly shown in the drawing. The block G is provided with an internal thread which engages with the thread upon bolt H, and the nut H' is secured in place upon the bolt H by means of a pin, h, which passes through both nut and bolt in a manner which will be readily

understood. Guide-block G is provided with ears or lips which inclose the lower edge of clamp D so that by turning bolt H the guide-block, and with it the clamp, may be easily turned upon the shank D' as a center. Nut H', which supports the threaded end of bolt H, is reduced in size, and rounded at its inner side, forming a sort of neck or sleeve which is sunk in a recess in the wall of the stirrup in order to afford a support for that end of the bolt without injuring the thread.

All or nearly all of the bolts employed in my buckle are provided with jam-nuts to prevent their becoming loosened by the continued jarring to which they are subjected.

In applying this buckle the saw is secured in the clamp by means of bolts *d'*, and the jaws being slightly elastic can be brought up into immediate contact with the saw, thus preventing all chattering. Before screwing up bolts *d* too tight key *d'* should be driven in underneath the saw, forcing it (the saw) up against the bolts; then when they are screwed up the saw will be held rigidly in place. After the pitman-wrist has been properly inclosed by boxes B B' the saw may need to be aligned, as the axial diameter of said wrist may not lie at an exact right angle with the kerf or path required to be cut by the saw through the log. This adjustment or alignment is effected by set-screws F' F', the clamp D, and shank D' turning or swiveling in stirrup A, and key E vibrating in slots *e* to such an extent as shall be necessary to admit of the desired alignment.

From the foregoing it will be readily seen that the box B B' can be removed from the buckle without taking the stirrup from the

clamp, or in any way disturbing the adjustment or alignment of the saw; or the clamp and the saw can be taken off without removing the stirrup and box from the wrist. It is also obvious that from the form which I have adopted for the various parts they can all be conveniently and cheaply made and finished.

I do not claim broadly an adjustable clamp or stirrup for ranging the saw, nor do I claim the construction of a stirrup or buckle in such manner that it can vibrate upon a cross-head or pitman to permit the desired rocking motion of the saw, as these features are well known, and can be found in mills as now constructed.

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

1. A muley-saw buckle or connection composed of the following parts, namely, a stirrup provided with a bearing, B B', adapted to be mounted on a sliding cross-head or on a pitman, and to vibrate thereon, and a clamp in which the saw is secured, this clamp being attached to the stirrup by a pivotal connection, as shown, or its equivalent, whereby the clamp can be adjusted upon the stirrup for ranging the saw, substantially as described.

2. In combination with the stirrup A and pivoted clamp D, in which the saw is secured, the screw H, or its equivalent, for ranging the saw, substantially as described.

H. W. BROWN.

Witnesses:

JAMES C. WELLS,
H. M. POPPLE.