

UNITED STATES PATENT OFFICE.

M J HAWLEY, OF SAN FRANCISCO, CALIFORNIA.

STONE-CLAMP.

SPECIFICATION forming part of Letters Patent No. 552,759, dated January 7, 1896.

Application filed August 10, 1894. Serial No. 519,988. (No model.)

To all whom it may concern:

Be it known that I, M J HAWLEY, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Stone-Clamps; 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.

This invention relates to improvements in stone-clamps, and more particularly to that class employed for elevating and positioning slabs or blocks of marble in the operation of treating their edges on a rubbing-bed.

The prime objects of my invention are, first, to increase the range between the clamping-faces over the ordinary pivoted jawed clamp now generally used, thereby adapting the clamp to the reception, at the same time, of a plurality of slabs or blocks; second, to so construct and assemble the clamping-faces relative to the arms of the clamp that the former are capable of revolution independent of the latter, thereby permitting the slab or slabs to be readily revolved while in a clamped position, and adjacent edges treated on the rubbing-bed, without the necessity of readjusting the clamping-jaws; third, to so construct the clamp that its position, in the operation of treating the slabs or blocks, is such as to supply the additional function of a lever by which the position of the slabs may be readily shifted, and, fourth, to accomplish these ends with structural simplicity and economy.

The novelty resides in the peculiarities of construction, and the combination, arrangement and adaptation of parts, all as more fully hereinafter described, and particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of my improved form of clamp. Fig. 2 is a plan view, and Fig. 3 is a vertical section through the line X X, Fig. 2. Fig. 4 is a side view of the plates which retain the bearing-plates in position.

I will now explain in detail the construc-

tion and operation of my invention, reference being had to the above figures.

The main body of the clamp consists of two parallel arms or members A A' constructed of steel I-shaped beams, which are held at the required distance apart, and securely bound to form a rigid structure, by means of the transverse channel-beam B and I-brace C, the former being situated at corresponding extremities of the beams A A' and bolted to the flanges thereof, while the latter is bolted to the flanges at a point distant from the channel-beam B about one-third the length of the beams A A', thereby allowing the remaining two-thirds of the beams to remain free and open.

Securely bolted to the web of the beams A A' at their extremities are the castings D D', respectively, which are so perforated and internally threaded as to admit the screw-clamps E E', whose line of adjustment is at right angles to the longitude of the members A A'.

Swivelly connected to the inner extremities of these screw-clamps E E' are the clamping-faces F F', respectively, which are retained in position by the construction shown in Fig. 3—namely, the inner extremities of the screws E E' enter corresponding cavities G in the faces F F' and bear against the loose bearing-plates H, being held in that position during the adjustment of the screws E E' by means of the plates I I', which are formed in two halves and engage with peripheral grooves near the extremities of the screws E E', which they encircle. Rigidly secured to the opposite extremities of the screws E E' from the faces F F' are the hand-wheels J J', by means of which the adjustment of the screws is accomplished.

In the employment of my improved clamp the plurality of slabs or blocks are placed between the clamping-faces F F', as indicated in dotted lines in Fig. 2, which are screwed up firmly against the outer faces of extreme slabs. The clamp and load are then suspended in the proper position over the rubbing-bed by means of a suitable hoisting-tackle attached to the ring K of the U-shaped arms L, the latter being loosely secured to the free extremities of the members A A', while the opposite extremity of the clamp is suspended

by a secondary hoist attached to the suspension-bar M, (shown in dotted lines in Fig. 1,) which is pivotally attached to the clamp by the angle-irons N and bolt O.

5 It will be readily seen by reference to the drawings that the derrick attached to the ring K supports one-half the weight of the clamp in addition to the entire load, while that attached to the bar M merely supports
10 the weight of one-half the clamp.

It is further evident that the load suspended in this manner is free to revolve about the inner extremities of the screws E E' as pivots and that adjacent edges of the slabs or blocks
15 may be treated on the rubbing-bed without the necessity of readjusting the screws E E', which are held in a locked position during such revolution by the lock-nuts P.

To increase the rigidity of the clamp I have
20 provided the transverse bolts Q, whose extremities protrude through the side plates R and engage with the nuts T, while any longitudinal movement is prevented by causing the bolts to rest in depressions a in the flanges
25 of the beams A A'.

As an additional means for more firmly binding the clamping-faces against the load I have caused the screws E E' to project beyond the hand-wheels J J' and formed them
30 with a square cross-section to receive the mouth of a wrench, by which additional leverage may be exerted. The contact-surfaces V of the clamping-faces F F' are also lead-faced with a view to increasing the security
35 of the clamp; and to increase the range between the faces I have cut away the inner surface of the castings D D' to allow the faces F F' to recede flush with the faces of the beams A A'.

40 In the employment of my clamp it is my intention to accomplish the transverse squaring of the slabs by the positioning and shifting of weights on either of the arms A A' between the I-brace C and castings D D'.

45 By the employment of the improved construction and assemblage of parts herein shown and described the successful treat-

ment and necessary manipulation of the slabs or blocks on the rubbing-bed is accomplished without necessitating the objectionable and
50 labor-consuming operation of readjusting the clamping-screws, and in view of the fact that marble flooring and wainscoting are now being so widely employed in buildings the adaptation of a clamp to the reception of a
55 plurality of similar slabs is of more than minor importance.

I am perfectly aware that various changes in the relative position and proportion of parts of the devices and members herein
60 shown as an embodiment of my invention can be made in adapting the clamp to the manipulation of various sizes and forms of material without departing from the spirit or sacrific-
65 ing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

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

1. A stone clamp provided with similarly constructed opposite members, each bearing at its free extremity an adjustable clamping
75 jaw having its inner bearing face constructed to revolve independent of the remaining portions of the clamp, and a yoke pivoted near the free ends of said members by means of which the clamp is suspended as set forth.

2. A stone-clamp comprising rigid parallel
80 and relatively stationary members each provided with an adjustable screw clamping jaw, the bearing faces of said jaws being capable of revolution independent of the remaining portions of the clamp, and means for
85 securely locking said jaws in a clamped position, substantially as set forth.

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

M J HAWLEY.

Witnesses:

GEO. T. KNOX,
M. TRANOR.