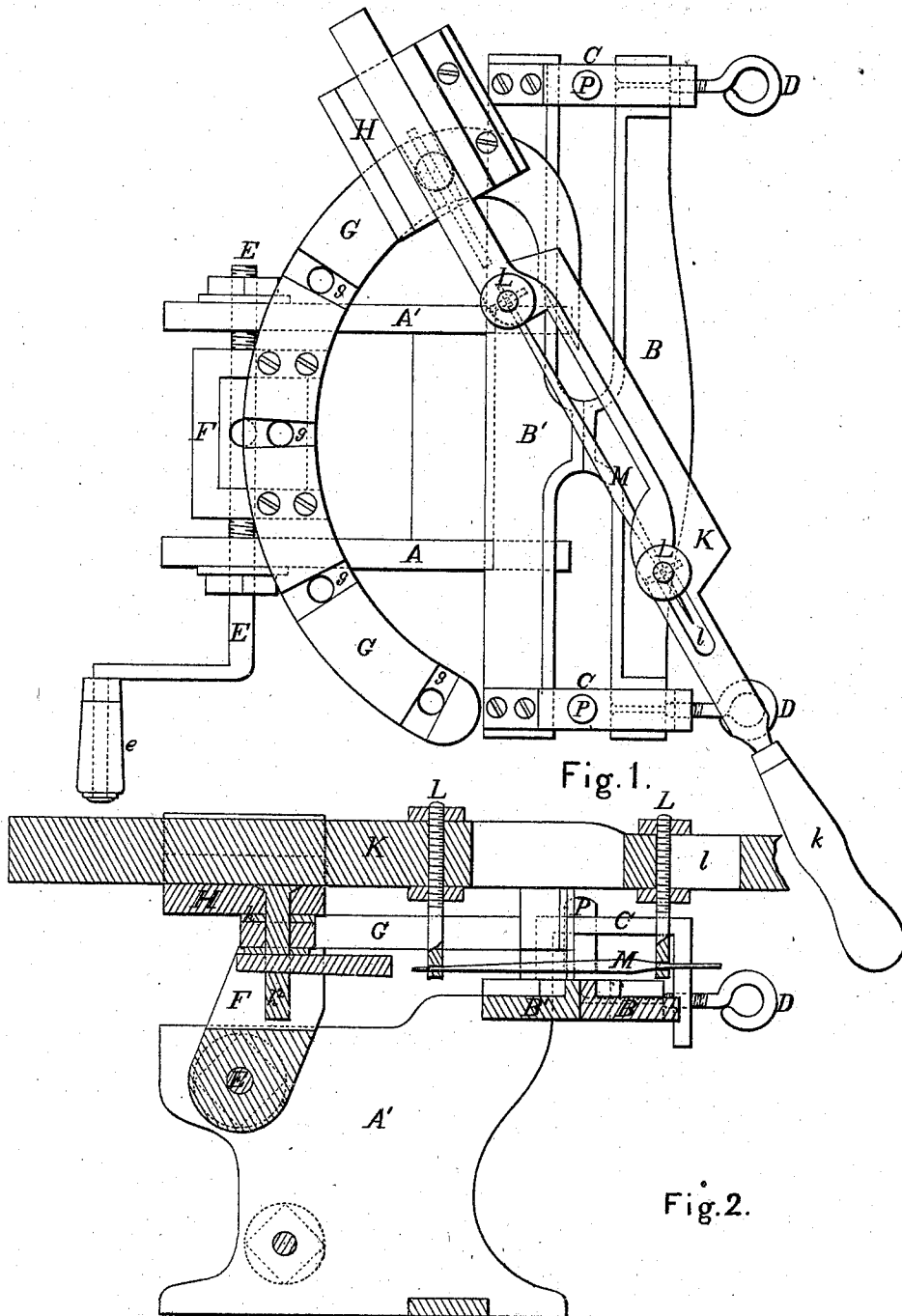


G. BLYTHE.
Saw-Filing Machines.

No. 137,172.

Patented March 25, 1873.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE BLYTHE, OF CHILLICOTHE, MISSOURI.

IMPROVEMENT IN SAW-FILING MACHINES.

Specification forming part of Letters Patent No. 137,172, dated March 25, 1873.

To all whom it may concern:

Be it known that I, GEO. BLYTHE, of Chillicothe, in the county of Livingston and State of Missouri, have invented a new and valuable Improvement in Saw-Filing Machine; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my saw-filing machine. Fig. 2 is a sectional view of the same.

My invention relates to certain improvements in saw-filing machines; and it consists in the peculiar construction and arrangement of the vise or saw-holder, whereby the saw is clamped at the point of contact with the file; also, in the construction and novel arrangement of a curved bar, formed with a series of radial grooves to receive the file-frame guide and hold it in different positions.

The base or stand upon which the parts rest consists of two upright bars or blocks, A A', secured together at the lower and rear sides in any suitable manner, and supporting the vise or saw-holder on the upper front portion. The vise or saw-holder consists of two bars, B B', one of which is screwed or bolted to the blocks A A'. At each end of the bar B' is secured one end of a bar, C, which is bent upward, outward, and downward so as to form an arch or yoke terminating just below the lower side of the bar B. Near the ends of these yokes C, opposite the outer edge of the bar B, are holes in which screw-threads are formed to correspond with set-screws D D which serve to clamp the bars B B' together. The extreme ends of the set-screws D D are made smaller than the threaded portions, and pass into the ends of the bar B so as to hold it in a horizontal position, and cause it to advance or recede as the set-screws are tightened or loosened. The inner edges of the bars B B' form straight lines from their ends toward a point about midway between the blocks A A', at which point they project inward toward each other, forming the vise or clamp for the saw. As this point is situated immediately in the line of travel of the file the saw is clamped at the point of contact with the file, and thus held

firmly and solidly, so as to prevent screeching, which is inevitable when the saw is held loosely in the clamp. Near the rear upper corners of the blocks A A' a shaft, E, is journaled, having a screw-thread formed on the portion between the blocks, and provided with a crank-handle, e, for turning it. This screw-shaft passes through a block, F, having a corresponding thread formed in it, so that, as the crank is turned in one direction or the other the block F travels backward or forward upon the screw between the blocks A A'. Attached to the upper side of the block F is a curved bar, G, which forms an arc of a circle whose center is located at the point where the line of travel of the file crosses the saw-clamp. One end of this bar G turns abruptly and continuous toward the center in nearly a radial line, terminating near the clamping-point, where its under side rests upon the bar B', and its outer edge forms a bearing for the saw to rest against. On the upper side of the bar G are grooves g at suitable distances apart to receive a rib or tongue, h, on the under side of the file-frame guide H, which consists of a block with a groove on its upper side for the file-frame to play in, and a pin or bolt, h², projecting downward from its under side, and passing through perforations in the grooves g to the under side of the bar G where it is secured by a key passing through it. By means of the grooves g, tongue h, and bolt h² the guide H can be adjusted so that the line of travel of the file will cross the saw at any desired angle.

The saw-frame K may be of any suitable form and construction, having a handle, k, at one end, the other end working in the guide H. The file-holders consist of two bars, L L, with eyes formed in their lower ends to receive the point and tang of the file, and screw-threads on their upper portions engaging with nuts, by which means they are secured to the file-frame, there being two nuts to each bar, one above and one below the frame, to facilitate their vertical adjustment in the frame. The eyes in the lower ends are of circular form, so that the file may be turned to correspond with teeth of any degree of pitch. One of the bars L passes through a round hole in the frame and is rigidly attached; but the other works in a slot, l, so that by loosening the up

per nut the bar may be moved backward or forward to accommodate files of different lengths.

It will be seen that by changing the line of travel of the file it is made to correspond with teeth cut at different angles; and by the peculiar construction and arrangement of the bar G, and the connection of the frame therewith, the file is made to operate upon the saw for a distance corresponding with the travel of the block F on the screw E.

If desired, there may be two guides on the bar G, so that both edges of the teeth may be filed before removing the saw and reversing the screw to continue the operation. Where only one guide is used it is best to file all the teeth on one edge only and then reverse the position of the saw and file the other edge.

To prevent injury to the teeth when the saw is being placed or held in the clamp I employ two wooden pins, P P, fitting tightly in holes in the yokes C C, as shown, for the teeth to rest against.

What I claim as new, and desire to secure by Letters Patent, is—

1. The yokes C C carrying the wooden pegs P P, in combination with the set-screws D D and bars B B', substantially as shown and described.

2. In a saw-filing machine, the curved bearing-bar G provided with the grooves g, and having one end turned abruptly, and continues toward the center in nearly a radial line, terminating near the clamping-point, where its under side rests upon the bar B, as specified.

3. The guide H, having the tongue h and downward-projecting bolt h², in combination with the bar G, block F, and screw-shaft E, constructed, arranged, and operating substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

Witnesses: GEORGE BLYTHE.
REUBEN BURNEY,
THOMAS D. PARKER.