Chance & Rishe,

Saw Sharpener.

No. 107,872. Patented Oct. 4. 1870.

Fig. 1.

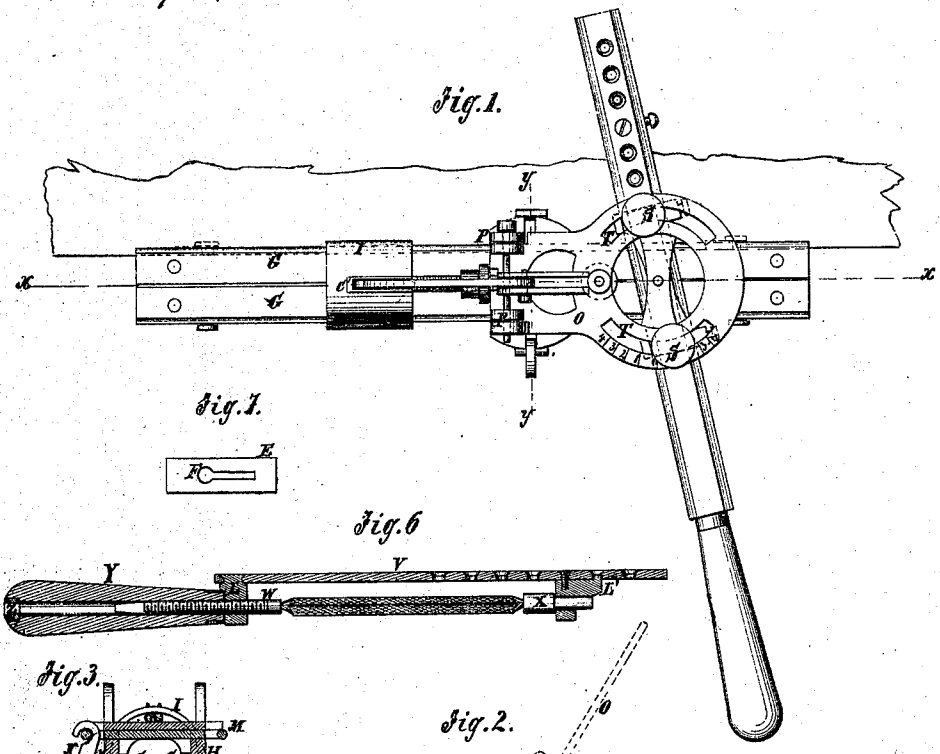


Fig. 7.

Fig. 6

Fig. 3.

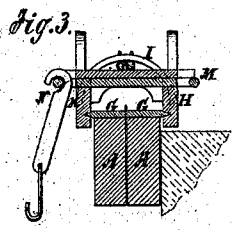


Fig. 2.

Fig. 5.

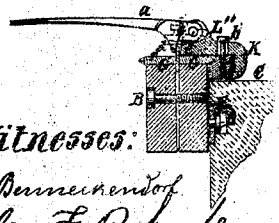
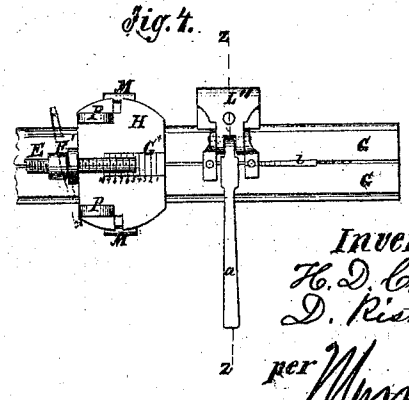


Fig. 4.



Witnesses:

A. Bennenendorf

Alex. F. Roberts

Inventors:

H. D. Chance

D. Rishe

per Munn & Co

Attorneys.

United States Patent Office.

HIRAM D. CHANCE AND DANIEL RISHE, OF LLEWELLYN, PENNSYLVANIA.

Letters Patent No. 107,872, dated October 4, 1870.

IMPROVEMENT IN SAW-FILING AND SETTING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that we, HIRAM D. CHANCE and DANIEL RISHE, of Llewellyn, in the county of Schuylkill and State of Pennsylvania, have invented a new and improved Saw-Filing and Setting Machine; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to machines for filing and setting saws, and

My object is to introduce to the public certain improvements thereon, which will first be described in connection with all that is necessary to a full understanding thereof, and then be clearly specified in the claim.

Figure 1 is a plan view of our improved apparatus.

Figure 2 is a longitudinal sectional elevation, taken on the line *x x* of fig. 1.

Figure 3 is a transverse section on the line *y y* of fig. 1.

Figure 4 is a partial plan, showing the application of the setting-lever.

Figure 5 is a cross-section on the line *z z* of fig. 4.

Figure 6 is a sectional elevation of the file-holder; and

Figure 7 is a plan of one of the plates used for attaching the clamping-bars to the bench.

Similar letters of reference indicate corresponding parts.

A represents a pair of clamping-jaws for holding a saw for filing, the saw being clamped between them by the screws B, the said jaws being held in a vise, or they may be attached to the side of a bench, C, by means of the screws or pins D engaging with the slotted plates E fitted in the side of the bench, and receiving the heads through the large parts F, after which the jaws are moved so as to engage the heads of the pins behind the plates at the narrow part of the slots, in a manner well known. It is intended that both the jaws be provided with these pins, so that the jaws may be readily turned and attached for holding either side of the saw to the workman.

Each jaw is provided with a plate, G, on the top, the outer edge of which is beveled for fitting in the grooves of the slide-rest H, the bridge I, and the block K of the setting apparatus, of which I″ is the slide-rest.

These plates are alike as to width, thickness, and arrangement with the jaws, so that the slide-rest and other devices working on them may be applied either way, and will fit the same.

The slide-rest H is fitted to work loosely on the guide-plate G, and carries yokes or eyes M, in which a pendent foot-strap may be suspended by hooks N, for the operator to clamp the slide-rest firmly at any point by pressing with his foot down upon the said foot-strap.

O is a file-stock holder; it is hinged to the slide-rest at P, so as to project along the saw, above which it is supported by the temper-screw Q.

This stock has two boxes or supports, R, for the file-stock, suspended from the under side by clamping pins S, arranged in the curved slots T, so that they can be adjusted for holding the file-stock at any angle required relatively to the saw.

The file-holding stock consists of a bar of metal fitted to the boxes or bearings R, to slide back and forth in them; the lug L′, file-holding centers W X, and the handle Y being adjustable along the plate for long or short files, and the centers being capable of turning on their axes, to hold the file at any required angle.

The center X may have a set-screw for holding the file in the required position. The center W is also the shank for the attachment of the handle Y, which is screwed onto it, and the other end of the handle has a square socket, Z, fitting the similarly formed end of the center for turning it to shift the file.

A′ is a pawl, pivoted adjustable to the ears B′ on the top of the file stock-holding plate O, and so arranged that when the said plate O is raised on the hinge-joint it will push backward; the free end of this pawl rests in a groove, C′, in the top of the bridge I, which groove terminates by a strong wall, D′, against which the pawl will strike when moving back. This bridge is made of an elastic bent sheet of metal, and is so arranged as to spring against the edges of the plates G with sufficient force to cause a considerable amount of friction thereon, so that the said bridge will not move along the plates except by the application of a considerable force.

This bridge has a screw-threaded rod, E′, projecting from it along the plates G, and so that the top of the slide-rest H will slide under it.

This rod is provided with a pair of jam-nuts, F′, against which the edge of the top of the slide-rest will strike when moving toward the bridge I.

G is a scale on the top of the slide-rest, by which the said bridge may be gauged in its movement the distance required for the pitch of teeth of the saw in hand.

When one tooth has been filed and it is required to move the file along to the next one to be filed, or the notch between two teeth, the operator placing his foot in the strap attached to the slide-rest by the hooks N, as before described, presses down thereon, so that the rest will not slide; he then raises the plate O on its hinge and forces the pawl A′ against the wall at the end of the groove C′, pushing the bridge along, the movement of which he observes by

the scale G′ and the end of the screw E′, and regulates accordingly.

When the bridge has been moved far enough he releases the pressure on the rest H and moves the latter back until it strikes the jam-nuts, which have been previously set, so as to let it move back as far as the bridge has moved. When moved back against the jam-nuts, and the file let down on the saw, the pressure of the foot is again put on the rest, and it is held thereby against being moved by the act of filing, or by the action of the teeth on the file.

By this arrangement the teeth will all have the same pitch, the depth of the notches between being governed by the temper-screw Q, which comes down to the top of the teeth not filed when the file has worked down far enough.

When one-half the teeth have been filed on one angle, the file-stock may be shifted to the corresponding angle for the other teeth, and the bridge and the slide-rest may be moved back to the place of beginning, and the other teeth filed in the same way, or the clamping-bars or the saw may be turned, and the bridge and slide-rest correspondingly shifted on the clamping-bars to file the other half of the teeth without shifting the file-holder or stock.

In conjunction with the clamping-bars, and the guide-plates G thereon, I propose to employ a setting apparatus, consisting of the lever *a*, the block or rest L″, the adjusting-block K, and the adjusting-screw *b*, the same to be arranged for placing on the said guide-plates, as shown in fig. 5, to be moved along first on one side and then on the other to the alternate teeth, for bending them between the point *d* of the lever and the shoulder *e* of the block or rest, by pressing the lever *a* down, the said lever being hinged to the block, and the latter overhanging the edge of the plate G opposite the lever, and receiving it in the groove in the block K, in a manner to hold the lever, so that the force of the pressure will be imparted to the teeth.

This block K is introduced in the overhanging part of the block to be raised or lowered by a screw, *b*, for varying the set, which is effected by raising the outer edge of the block thereby.

This setting apparatus is shifted from side to side of the clamping-bars for setting the teeth in the opposite directions.

i is an adjustable spring-gauge attached to the block L, and arranged to spring over the top of the teeth, and to set the block in the right plate by bearing at the end on the teeth, as shown.

Having thus described my invention,

We claim as new and desire to secure by Letters Patent—

1. The edge-beveled guide-plates G G, placed on top of and combined with the jaws A A in a saw-filing machine, as and for the purpose described.

2. The slide-rest H, working loosely on guide-plates G, and having yokes M M combined with treadle-hooks N, as and for the purpose described.

3. The plate V L, perforated at several points, and the movable lug L′, combined as described, with the centers and handles, to adapt the device to a greater or lesser length of file.

4. The combination, with the above, of the bridge I, pawl A′, screw E′, and jam-nuts F′, all substantially as specified.

5. The combination, with the holder O, of the adjustable bearings R and clamping-screws S, substantially as specified.

6. The combination, with the clamping-bars A and gauge-plates G, of the slide-block or rests L″ K, and the lever *a*, all arranged substantially as specified.

7. The combination, with the block L″, of the spring *i*, substantially as specified.

HIRAM D. CHANCE.
DANIEL RISHE.

Witnesses:
EZRA COCKILL,
LEWIS ZIMMERMAN.