

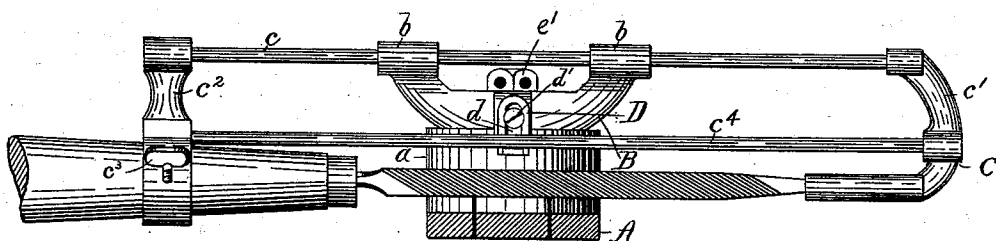
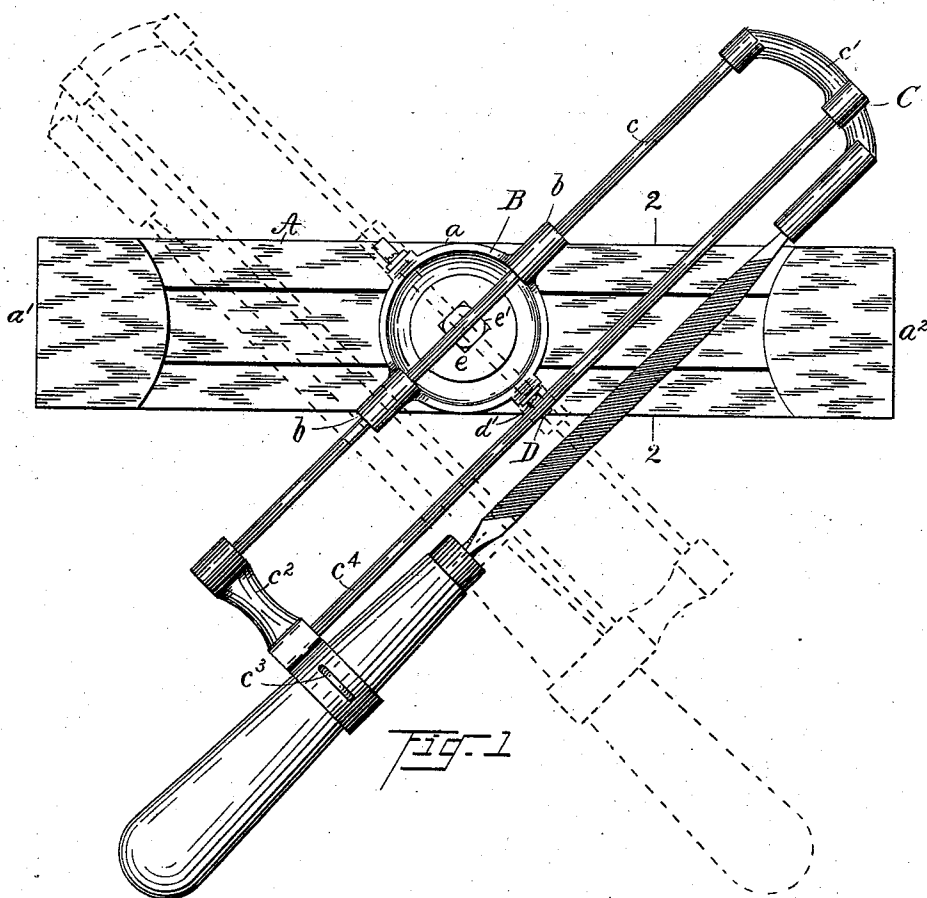
(No Model.)

2 Sheets—Sheet 1.

M. J. WILSON.
SAW FILING DEVICE.

No. 531,456.

Patented Dec. 25, 1894.



WITNESSES.

F. H. Griswold.
Helen M. Wood.

INVENTOR.

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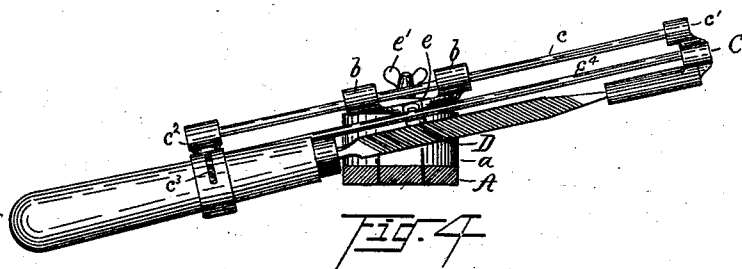
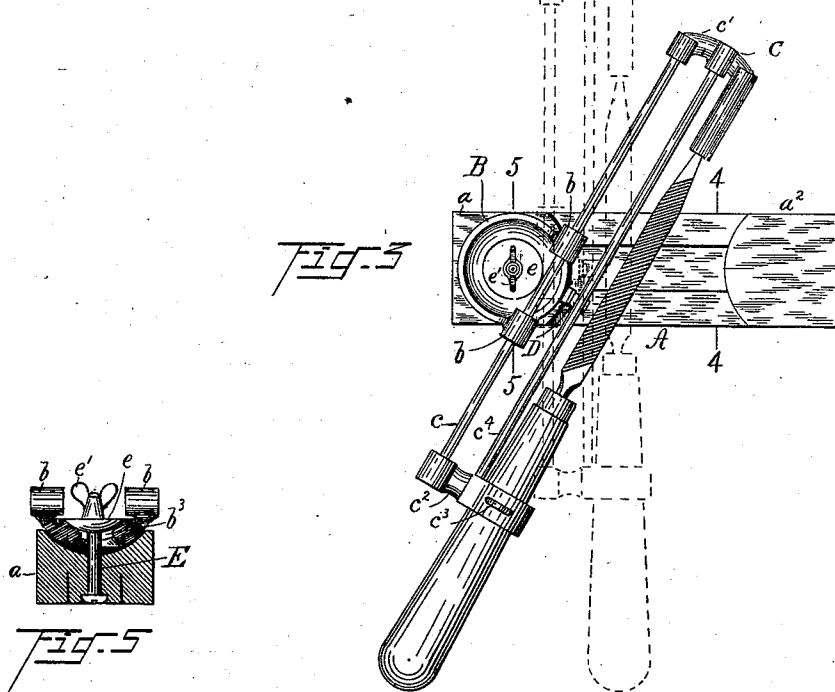
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2 Sheets—Sheet 2.

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WITNESSES.

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UNITED STATES PATENT OFFICE.

MILFORD J. WILSON, OF PAINESVILLE, OHIO.

SAW-FILING DEVICE.

SPECIFICATION forming part of Letters Patent No. 531,456, dated December 25, 1894.

Application filed July 21, 1894. Serial No. 518,176. (No model.)

To all whom it may concern:

Be it known that I, MILFORD J. WILSON, a citizen of the United States, residing at Painesville, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Saw-Filing Devices; 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.

My invention relates to improvements in saw filing devices.

The object of the invention is to provide a simple and inexpensive device with which the teeth of any saw may be filed uniformly with respect to the angle of their cutting edges, the depth of the space between the teeth, and the pitch of the file acting upon the teeth.

The invention consists in the construction and combination of parts shown in the drawings, and hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of the preferred form of my improved device. Fig. 2 is a vertical sectional view of the same on line 2—2 of Fig. 1, when the file lies at right angles to the kerf in the base. Fig. 3 is a plan view of another and less perfect form of the device. Fig. 4 is a sectional view on line 4—4 of Fig. 3 through the block A, when the file is at right angles to the kerfs; and Fig. 5 is a sectional view on line 5—5 of Fig. 3.

Referring to the parts by letters, A represents the base, on the upper side of which are one or more raised parts or projections a a' a^2 . One or more longitudinal kerfs are cut, which extend through said base and into said projections.

When the device is in use, the saw enters one of these kerfs, passing entirely through the base and into said projections.

It will be seen that this device affords means for making a uniform connection between the device and any part of the saw. For, if the saw lying in one of the kerfs always enters as far as possible into the projections a a' a^2 the teeth of the saw will always project the same distance above the base.

A file-frame support B is mounted on the top of one of the projections a , so that it may be turned on a vertical axis, and thereby vary the angle of the file with respect to the saw. The file frame C has a cylindrical rod c which

passes through cylindrical holes in the ears b on the file-frame support. These ears form guides in which the rod c may reciprocate longitudinally, and may turn on its axis. Projecting from the ends of this rod are the arms c' c^2 . In the ends of these arms are sockets which receive the file, which is rigidly held in said sockets by means of a set screw c^3 .

In the particulars above described the device shown in the drawings is substantially like the saw filing device shown and described in Letters Patent No. 508,722, dated November 14, 1893. The construction of the parts named may, however, be varied to any desired extent not inconsistent with the operation of the parts of the device which I will now proceed to describe.

A rod c^4 extends between and is secured to the arms c' c^2 of the file-frame. An adjustable stop, in the form of a bracket D, is provided with which said rod c^4 is adapted to engage, thereby limiting the axial movement of the file, and consequently regulating the depth to which said file is adapted to operate upon the saw. This stop D is secured to the file frame support, wherefore it is better able to perform its function when the file-frame support is in any of the different positions to which it is adapted to be moved. If this stop were attached to any part of the device except the file-frame support, it would be operative when the file-frame support was in some of its possible positions, but would be inoperative or but imperfectly operative when said support was in other positions. This bracket D has a vertical slot d through which passes the set screw d' , by means of which said bracket is secured to the support B at any desired elevation.

In order to be able to vary the pitch of the file acting upon the teeth, or in other words, to so arrange the device that the file frame may be able to reciprocate in some other plane than a horizontal plane, the file frame support is so constructed that it is adapted to be turned upon a substantially horizontal axis, and to be secured at any desired point.

In the drawings is shown the construction of the file-frame support and the means for connecting it with the base, whereby it is movable on a horizontal as well as a vertical axis, thus permitting both the pitch and the angle

of the file to be quickly adjusted. This connection between the file-frame support and the base is, in effect, a universal joint; and a clamping device is provided for fixing the support in any desired position relative to the base. The particular form of universal joint preferred is that shown in the drawings, because by loosening one nut the file-frame support may be moved in any direction, and by tightening up this nut, said support may be rigidly fixed to the base in any position relative thereto. That part of the file frame support which rests upon the projection *a* is a concavo-convex section of a sphere, and the top of the projection *a* on which it rests is correspondingly cup-shaped to receive the convex side thereof. A slot *b*³ is formed through the support *B* parallel with the guide rod *c* of the file frame. A bolt *E* passes through the base, through said slot and through a washer *e* which is spherical on its under side and fits the concave upper side of the file-frame support. A nut *e'* screws onto the upper end of said bolt, and when this nut is loosened, the file frame support may be moved in any desired position, for the purpose either of varying the pitch or the angle of the file. When the nut is tightened, the file-frame support is rigidly fixed relative to the base.

Both forms of the device shown in the drawings are constructed in the manner heretofore described. The form of the device shown in Figs. 3 and 4 is not as perfect as that shown in Figs. 1 and 2, for this reason: When filing the alternate teeth of a saw with the device shown in Figs. 3 and 4, when the file frame is set at an angle, as for example such an angle as is shown in Fig. 3, the file, as it moves downward moves at the same time against the cutting edge of that tooth which is being filed. When it is desired to file the intermediate teeth, it is necessary to turn the saw around with respect to the saw filing device. Now when the file, in operation, moves down, it does not move against, but tends to move away from the cutting edge of the tooth being filed. This does not render the device inoperative, because the device may be set loosely on the saw, wherefore the entire device will move slightly on the saw so as to permit the operator to hold the file as it moves down against the cutting edge of that tooth which is being filed. The form of the device, however, which is shown in Figs. 1 and 2 is not open to the ob-

jection above noted. It will be seen that the ears or guides *b b* are in such position that the guide rod *c* of the file frame lies in a plane which passes through the vertical axis on which the file-frame support revolves. It is therefore possible to turn the file-frame support in these guides so that the file shall lie on one side or on the other of the file-frame support, as shown in Fig. 1. In using the form of the device shown in this figure, alternate teeth will be filed by the file when it lies upon one side of the file-frame support, and the intermediate teeth will be filed when the file lies on the other side of said support, and in both these cases the file, as it moves downward, will at the same time draw toward the cutting edge of the tooth which is being filed.

Having described my invention, I claim—

1. In a saw-filing device, in combination, a base having a projection with a cup-shaped top, a slotted concavo-convex file-frame support seated in the cup-shaped top of said projection, a washer having a spherical under side which is seated on said file-frame support, a bolt passing through said projection, through the slot in the file-frame support and through said washer, a nut on said bolt, two guides which are secured to and project upward from said file-frame support, and a file-frame having a cylindrical rod which is movable in cylindrical holes in said guides, substantially as and for the purpose specified.

2. In a saw filing device, in combination, a base having a projection near the middle thereof, and a kerf extending through said base and into said projection, a file-frame support pivoted to the top of said projection, having guides for the file frame which lie in the plane of the vertical axis of said file-frame support, a clamp for fixing the position of said support on said projection, a file frame having a rod which is adapted to move longitudinally and axially in said guides, two adjustable stops secured to said file frame support on opposite sides of its pivot, and a rod secured to said file-frame support adapted to engage with said stops, substantially as and for the purpose specified.

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

MILFORD J. WILSON.

Witnesses:

E. L. THURSTON,
L. F. GRISWOLD.