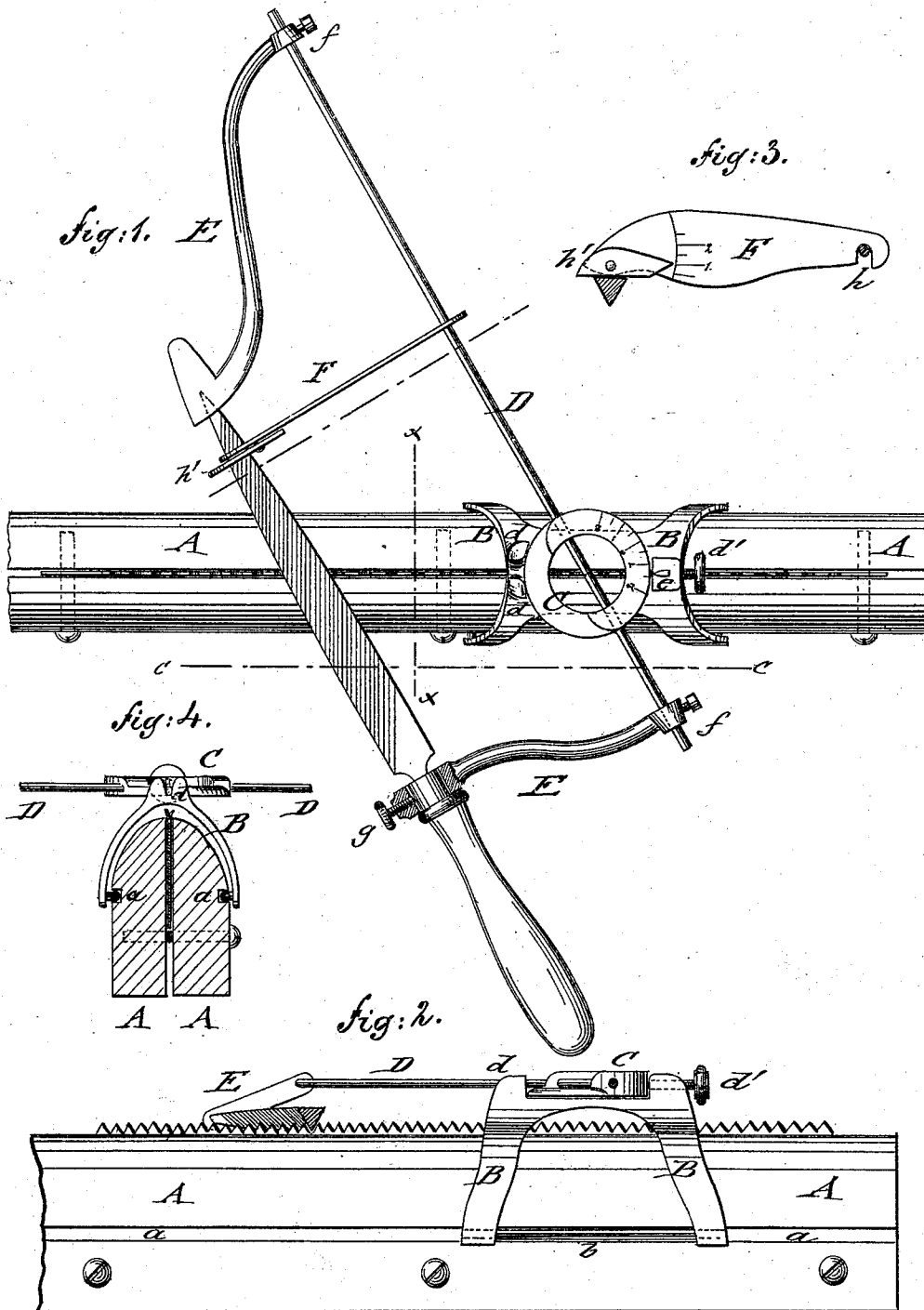


E. ROTH.
SAW FILE-GUIDE.

No. 173,866.

Patented Feb. 22, 1876.



WITNESSES:

Chas. N. Mac
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UNITED STATES PATENT OFFICE.

ELIAS ROTH, OF NEW OXFORD, PENNSYLVANIA.

IMPROVEMENT IN SAW-FILE GUIDES.

Specification forming part of Letters Patent No. **173,866**, dated February 22, 1876; application filed December 11, 1875.

To all whom it may concern:

Be it known that I, ELIAS ROTH, of New Oxford, in the county of Adams and State of Pennsylvania, have invented a new and Improved Saw-File Guide, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view of my improved saw-file guide; Fig. 2, a side elevation, partly in section, on line *c c*, Fig. 1; Fig. 3, a side view of the indicator for setting the file to the desired pitch; and Fig. 4, a vertical transverse section of the guiding device on the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to improvements in saw-file guiding apparatus, by which each tooth on the saw may be produced with the same bevel and pitch, and be refiled accurately at any time with the same bevel and pitch, so that the saw cuts evenly and effectively throughout its full length.

The invention consists in an adjustable indicator placed on a sliding rod and file, in order to set the latter to the pitch required for the teeth.

In the drawing, A represents a straight or arc-shaped clamp of sufficient length, into which the saw-blade is clamped by means of a vise, screws, or otherwise. The clamp A is provided with longitudinal side grooves *a*, at some distance below its beveled edges, for the purpose of guiding the bed or frame B, that extends in yoke-shape over the clamp, and runs, by end studs or rods *b*, in the grooves *a*. The bed B supports, by lugs or flanges *d* at one side, and a set-screw, *d'*, at the opposite side, the graduated ring or circle C, which is readily adjusted to any angle on the bed by means of an indicator, *e*, of the same, so that thereby the file may be set to any desired bevel of the teeth. A file-guiding rod, D, passes through diametrical holes of ring C, and carries the file-holding arms E, attached adjustably thereto by clamp-screws *f*. One of the file-supporting arms E has a ferrule of sufficient size to allow the insertion of the file, which is rigidly secured thereto at the handle-ferrule by a clamp-screw, *g*, the other arm being provided with a socket-hole for the tapering end of the file.

By loosening the clamp-screw *g* of the file, the same may be readily turned, so as to give any desired pitch to the teeth of the saw.

An indicating or pointing device, F, with a recess, *h*, at one end, and a pivoted piece, *h'*, with straight lower edge, made adjustable to a graduation at the main part, at the other end, is placed on the slide-rod D and the file, as shown in Fig. 1, and the file then turned in the arms, to be adjusted to the inclination of the pivot-piece *h'*, and give thereby, at all times, a correct pitch to the teeth when either a new edge of the file is to be used or an entirely new file inserted.

The guide is applicable to circular as well as straight saws, the clamp being in the former case of circular shape, and the guide rods or studs of the bed-frame being made of arc-shape, to slide in the grooves of the clamp.

After the bevel of the teeth is set on the graduated ring, and the pitch by means of the indicator, the clamp-screws are tightened and the teeth filed at one side. For filing the other side of the teeth, the sliding frame is taken out of the grooves and changed to bring the file to the other side of the saw. The sliding frame is then re-inserted into the grooves, and the file set to the same bevel and pitch of teeth as before. The file will then give to each tooth the same bevel and pitch on both sides, producing the effective cutting of the saw throughout its length.

By pivoting the rod D of file-frame in the ring C, I am enabled to raise the front and depress the rear of file on the forward movement thereof, so as to always cut the forward or cutting-edge of tooth to a greater bevel than the rear edge, while on the rear movement of file-frame I can conveniently raise the file from the saw and prevent it from acting upon the tooth.

What I claim as new and of my invention is—

The combination of the file and sliding rod of file-carrying frame with a graduated indicator, having adjustable piece at one end and recess at the other, as and for the purpose specified.

ELIAS ROTH.

Witnesses:

GEO. W. EMMERT,
C. H. EMMERT.