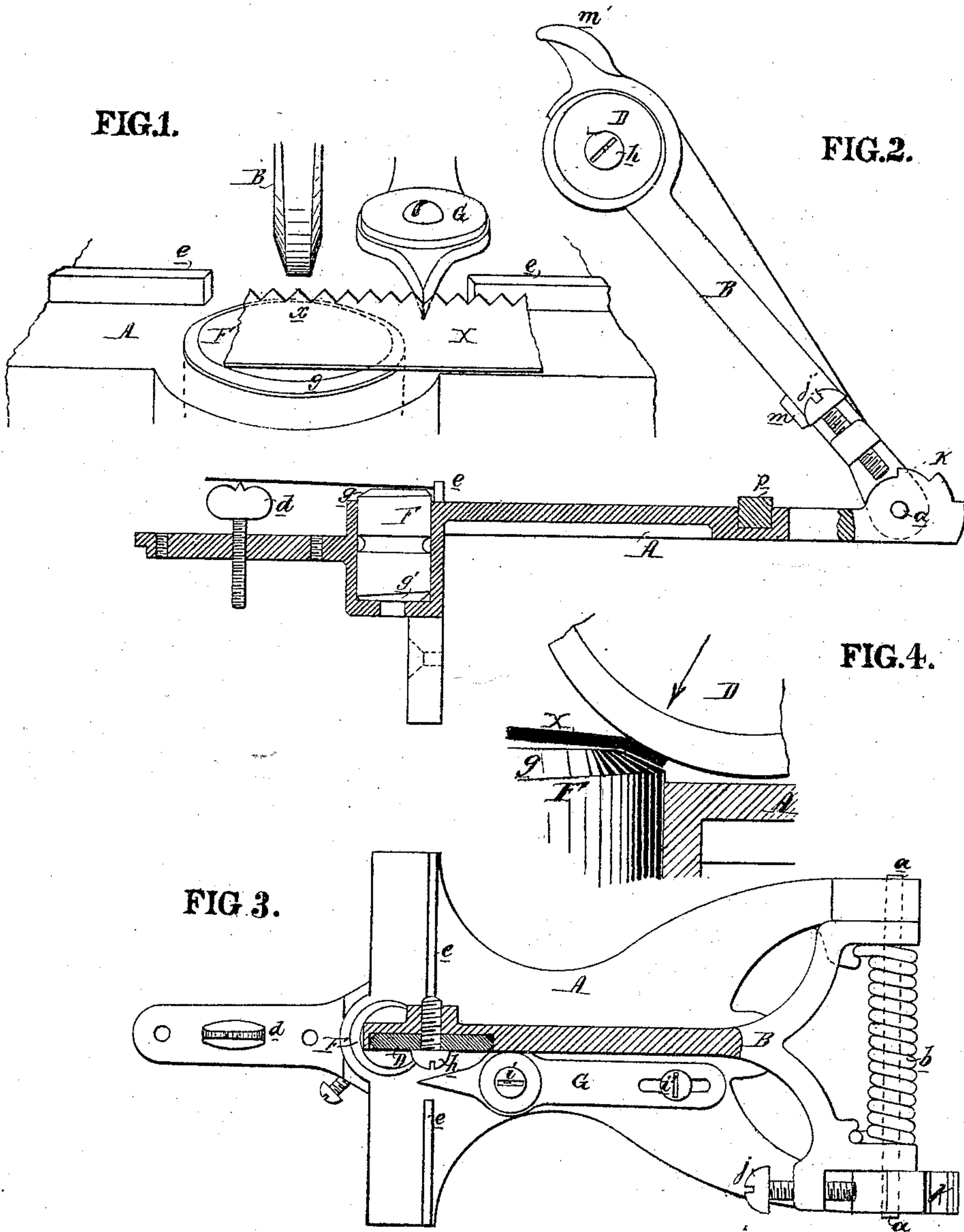


J. G. BAKER.

Machines for Setting Saws.

No. 135,752.

Patented Feb. 11, 1873.



John G. Baker  
by his Atty.  
Howson and Son.

WITNESSES. Harry Smith  
Thomas McIlwain



# UNITED STATES PATENT OFFICE.

JOHN G. BAKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO ENTERPRISE MANUFACTURING COMPANY OF PENNSYLVANIA.

## IMPROVEMENT IN MACHINES FOR SETTING SAWS.

Specification forming part of Letters Patent No. 135,752, dated February 11, 1873.

*To all whom it may concern:*

Be it known that I, JOHN GULICK BAKER, of Philadelphia, Pennsylvania, have invented an Improved Saw-Set, of which the following is a specification:

The object of my invention is a cheap, portable, and universally-adjustable instrument for accurately and rapidly setting the teeth of saws of a variety of sizes.

The main features of the instrument are illustrated in the perspective diagram, Figure 1, and vertical section, Fig. 2, in which A represents a cast-iron frame, which can be readily secured to a work-bench or vise; and B, an arm hung to the said frame at *a*, acted on by a coiled spiral spring, *b*, shown in the plan, Fig. 3, and carrying at its outer extremity an adjustable disk, D, having a periphery of varying width, which, when the said arm is released after being elevated, will strike the beveled edge of an adjustable and reversible cylindrical anvil, F, contained within a socket in the frame. The saw-blade X rests upon this anvil in a slightly-inclined position, determined by a set-screw, *d*, and by the shoulders *e e* of the frame; and a pointed gage, G, so secured to the frame that it can be adjusted upon the same both laterally and longitudinally, is introduced between two of the teeth of the saw-blade, and thus determines the proper position in respect to the anvil and striking-disk D of the tooth *x* to be struck and set by the latter.

It will be observed on reference to the enlarged sectional view, Fig. 4, that the portion of the periphery of the disk D which strikes the saw-tooth is parallel, or nearly so, with that portion of the beveled edge of the anvil over which the tooth is bent. It will also be observed that the bevel is of exactly the same width as the length of the tooth from the base to the point, and that the width of the striking portion of the disk D, Fig. 4, exactly corresponds with the width of the tooth. These several conditions are necessary to insure a uniform set of the tooth without twisting or indenting the same or distorting the saw-blade; and to preserve these conditions for saw-teeth of any width and length I construct the several parts as follows: The upper edge *g* of the anvil, over which the teeth are

bent, is beveled eccentrically, or in such a manner that the beveled portion shall be of greater width at one point than another, as shown in the drawing, so that by simply turning the said anvil in its socket it can be adjusted to suit saw-teeth of different lengths. The anvil is also eccentrically beveled at its lower edge *g'*, which can be brought into use after the other edge has been worn by simply reversing the anvil.

The periphery or striking portion of the disk D is made of varying width, in order to accommodate different widths of saw-teeth, by eccentrically beveling its opposite edges in the manner illustrated in the drawing, and the adjustment of the said disk is effected by simply turning it upon its central pin *h* and securing it after adjustment.

The degree of set imparted to the saw-teeth will depend upon the angle at which the blade is held, and this is determined by an adjustment of the supporting set-screw *d*. The gage G can be adjusted as required after loosening the screws *i i*, so that the insertion of its point between two of the teeth of the saw to be operated upon will always insure the proper position in respect to the anvil and striking-disk of the tooth to be set.

In order to insure uniformity of work throughout the whole length of a saw, it is necessary that the blows of the striking-disk should be uniform. The vibrating spring-arm B is therefore furnished with a set-screw, *j*, Figs. 2 and 3, which strikes one of a series of stops, K, on the frame when the arm is elevated, and thus restricts the movement of the latter; and this set-screw should be so adjusted as to permit the greatest movement of the arm and disk when operating upon large teeth, for which a heavy blow is required, and least movement when small teeth are being operated upon. A stud, *m*, on the under side of the arm strikes a rubber block, *p*, contained within a recess of the frame, when the said arm descends, and this, without impairing the strength of the blow, causes a recoil of the arm sufficient to lift the striking-disk from the saw, so as not to interfere with the adjustment of the latter prior to striking another tooth.

In operating the machine the attendant simply places a finger beneath the lip *m'* at the



outer end of the arm, and, after elevating the latter until arrested by the stop, releases the arm by removing his finger from the projection. The arm, however, may be elevated and released by any appropriate mechanism instead of by hand.

I claim as my invention—

1. The combination of the said spring-arm with a striker, consisting of an adjustable disk having a periphery of varying width.

2. The combination of the said spring-arm and its set-screw *j* with two or more stops on the frame.

3. The combination of the said spring-arm with a rubber block or equivalent spring, *p*, on the frame, for the purpose specified.

4. The combination of the arm and its strik-

ing-disk, having a periphery of varying width, with the adjustable anvil *F*, having an eccentrically-beveled edge.

5. The cylindrical reversible anvil, having its opposite edges eccentrically beveled, as set forth.

6. The combination, substantially as described, of the adjustable pointed gage *G* with the striker and anvil and the shoulders or stops *e e* of the frame.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN G. BAKER.

Witnesses:

JNO. A. BELL,

LOUIS BOSWELL.