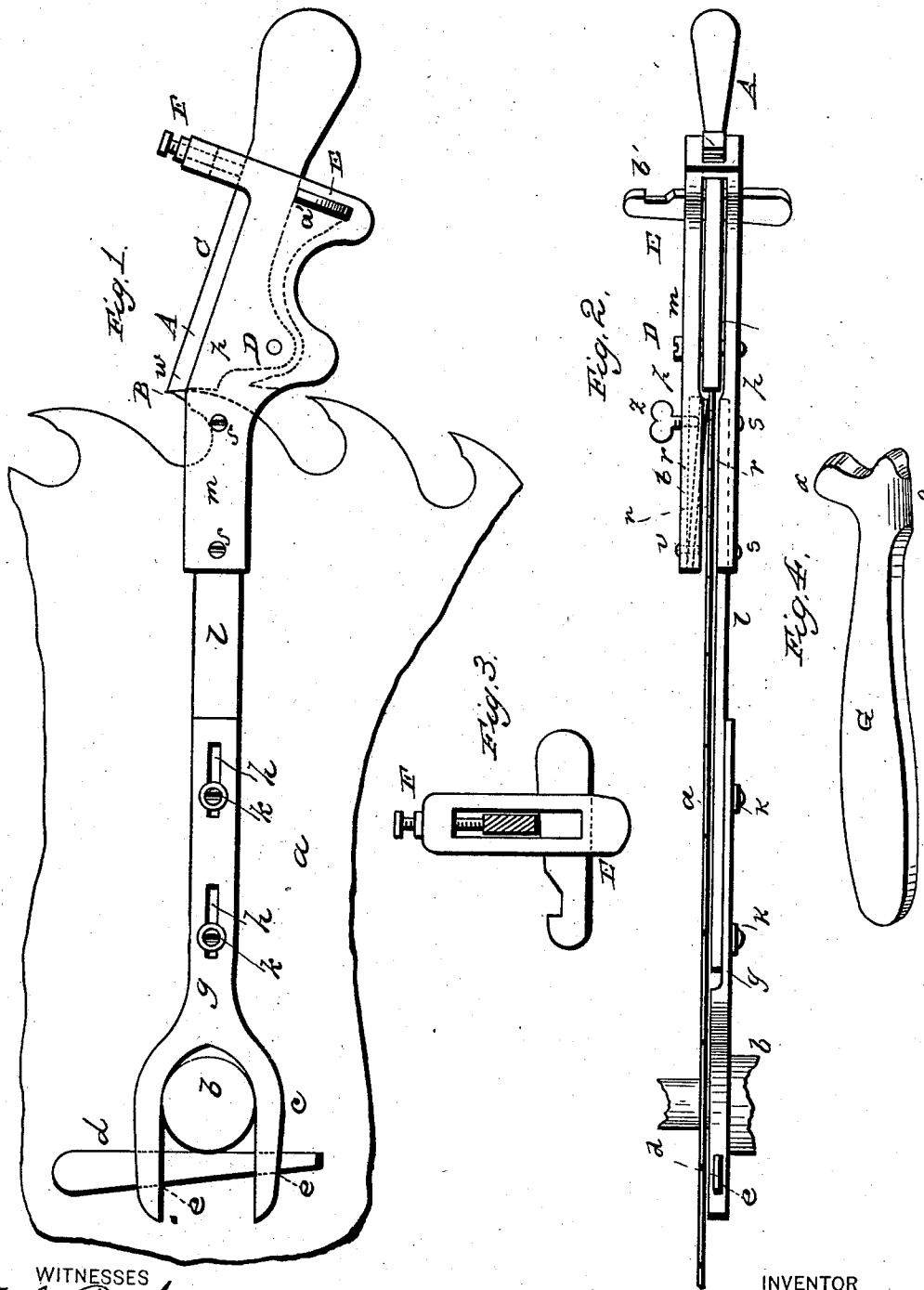


(No Model.)

J. MILLER.
SAW SWAGE.

No. 294,251.

Patented Feb. 26, 1884.



WITNESSES
O. B. Bates,
J. J. Sheehy.

INVENTOR
John Miller,
by *Anderson & Smith*
his ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN MILLER, OF LA OTTO, INDIANA.

SAW-SWAGE.

SPECIFICATION forming part of Letters Patent No. 294,251, dated February 26, 1884.

Application filed May 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN MILLER, a citizen of the United States, residing at La Otto, in the county of Noble and State of Indiana, have invented certain new and useful Improvements in Saw-Swages; and I do 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a side view. Fig. 2 is an edge view, Fig. 3 is a top view, and Fig. 4 is a detail view.

This invention has relation to saw-swages; and it consists in the construction and novel arrangement of devices, as hereinafter set forth, and particularly pointed out in the appended claims.

In the accompanying drawings, the letter *a* designates a portion of a saw-blade, and *b* the mandrel on which the saw is seated. The end fork, *c*, of the swage-shank is applied to the collar of the mandrel, and is fastened accurately in position by means of a tapering key, *d*, which passes transversely through slots *e*, made in the branches of the fork.

In the stem *g* of the fork slots *h* are made, through which pass the clamp-screws *k*, whereby the outer portion, *l*, of the swage-shank is attached to the end fork in an adjustable manner, so that the swage-shank can be lengthened or shortened to conform to the radial length of the saw-blade. The outer portion, *l*, of the swage-shank is provided with a reversible bearing, *m*, cleft from the inner end outward, as indicated at *n*, and longitudinally recessed on the inside of its branches *p*, as indicated at *r*. By this bearing being reversible the teeth of a saw may be operated upon from either side of the blade. In one of these recesses is seated the end of the outer portion, *l*, of the shank, and fastened therein by means of screws *s*.

In the recess *r* of the other branch, *p*, is located a movable slip or bearing, *t*, which is connected to the branch or arm by means of a small screw, *v*, at one end. The free end of the slip-bearing is governed in its adjustment by a set-screw, *z*, which passes through the

branch *p*, as shown in the drawings. The function of this slip-bearing is to steady or prevent the saw vibrating while a tooth is being swaged.

Between the branches of the cleft bearing *m* is located a pivoted swage-anvil, *A*, having the beveled face *B* at its inner end, said face meeting the front edge, *C*, of the anvil-piece at an acute angle, preferably as indicated at *w*. The anvil-piece is formed with a perforated lug, *D*, at its back, through which passes the pivot-pin, whereby the anvil-piece is connected to the cleft head or bearing *m*. In the outer portion of this bearing is arranged a tapering key, *E*, passing through slots *a'* of the walls of the bearing or head *m* back of the swage-anvil, and serving, when properly adjusted, to hold the anvil to its position on the rear side. On the front side the anvil is held by a key, or, preferably, a set-screw, *F*. The key *E* is usually formed with a notch, *b'*, at its smaller end, designed to engage the back of the anvil-piece when it is drawn partially out, so that said key is not liable to be lost.

G represents a small swaging-instrument, which is designed to be operated on the face of the saw-tooth after the swage-anvil has been properly set up to the back of the same at its point portion. This operation is effected by peening with the instrument *G*, or striking at the point *x* with a hammer, the portion engaging the saw-tooth.

In adjusting the device to the saw the toothed perimeter of the saw is introduced into the inner portion of the cleft *n* of the head *m*, between its branches *p*, and after adjustment the set-screw *z* is set up to cause the slip-bearing *t* to engage the side of the tooth and hold it steadily in position.

By the operation of these swaging devices it is designed to spread the face of the tooth after it has become worn, the teeth being spread evenly and regularly throughout the perimeter of the saw; and as the anvil-face is held firmly against the back of the point portion of the tooth in swaging or spreading the face, the tooth is drawn out somewhat, so that its length is complete or full.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. An adjustable saw-swaging device, con-

sisting of the forked shank end *c* and tapering key, the adjustable shank *l*, and cleft head *m*, the lateral adjustable slip-bearing *t*, and the adjustable swage-anvil *A*, pivoted in the cleft head, the said device being adapted for operation in connection with the instrument *G*, substantially as specified.

2. The combination, with an extensible shank, of a reversible cleft head, carrying attached to one of its arms an adjustable lat-

eral bearing, and having pivoted between its walls an anvil-piece, adjustable between a rear tapering key and a front key or set-screw, substantially as specified.

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

JOHN MILLER.

Witnesses:

JOHN P. MORROW,
THEO. MUNGEN.