A. E. HOFFMANN.

Saw-Set.

No. 165,332. Patented July 6, 1875.

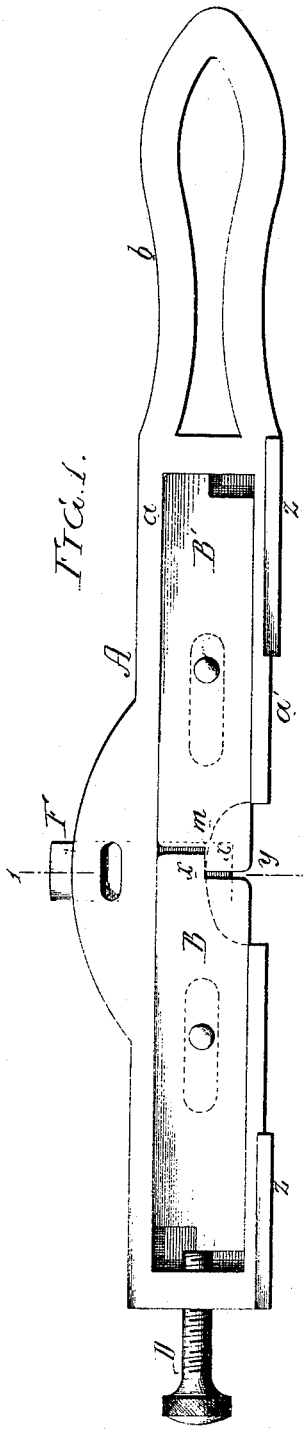

FIG. 1.

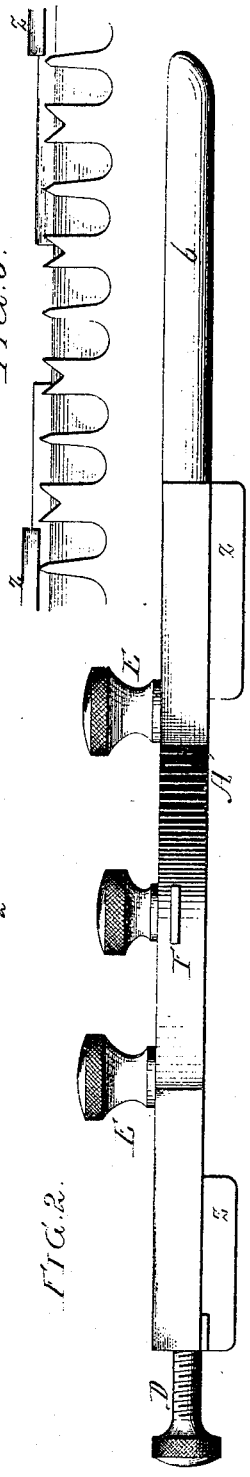

FIG. 2.

FIG. 6.

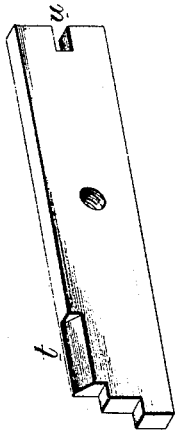

FIG. 5.

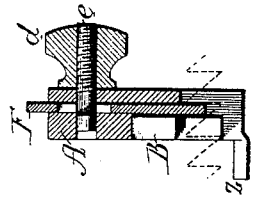

FIG. 3.

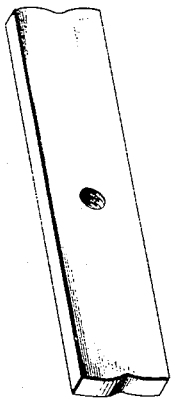

FIG. 4.

Witnesses,

Harry Smith

Hubert Howson

Adolph E. Hoffmann

by his Attorneys,

Howson and Son

UNITED STATES PATENT OFFICE.

ADOLPH E. HOFFMANN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SAW-SETS.

Specification forming part of Letters Patent No. **165,332**, dated July 6, 1875; application filed April 16, 1875.

To all whom it may concern:

Be it known that I, ADOLPH E. HOFFMANN, of Philadelphia, Pennsylvania, have invented certain Improvements in Devices for Setting and Gaging the Teeth of Saws, of which the following is a specification:

The object of my invention is to construct a handy, durable, and effective saw-setting device, which admits of ready adjustment for operating on saw-teeth differing in size and thickness.

This object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a front view of my improved saw-setting instrument; Fig. 2, a plan view; Fig. 3, a transverse section on the line 1 2; and Figs. 4 and 5, perspective views of different kinds of dies.

A is a frame, made by preference of malleable cast-iron, and having a longitudinal recess bounded above by the flange *a*, and below by the flange *a'*. In this recess are placed the oblong steel dies B and B', the rear end of the latter bearing against the end of the recess in the frame near the handle *b*, which forms a part of the said frame, at the opposite end of which is a set-screw, D, for bearing against the end of the other die B, the said screw being employed for the delicate adjustment of the said die, and for resisting the end pressure imparted to the same. Each die has a threaded hole for receiving the threaded stem of a set-screw, E, by which the die may be secured within the recess, the stem of the screw passing through an elongated opening in the frame. At a central point where the two dies meet is a plate, F, adapted to a vertical opening in the frame, the front of the plate being in the same plane with the bottom of the recess against which the dies bear. A bolt, *e*, attached to the frame, passes through a vertically-elongated slot in the plate, which is confined to its place by the nut *d* of the bolt. The flange *a'* is discontinued for a short distance from each side of the point where the dies meet, and the back of the frame is cut away, as shown by dotted lines in Fig. 1, so as to allow for the proper action of the dies on the saw-teeth. The dies shown in Fig. 1 have projecting ends *x x*, the projecting end of one die overlapping that of the other, so as to limit the depth of the opening *y* presented by the two dies, the die B being so adjusted that the said space shall be adapted to the thickness of the teeth to be operated on by the instrument. In applying the instrument to a saw-tooth the stop *m*, presented by the overlapping projection of the die B, coming in contact with the point of the tooth, determines the depth of that portion of the same which is embraced by the dies, and the point whence the bending of the tooth takes place, while the plate F, bearing against the tooth adjoining that operated on, insures the proper position of the dies in relation to the tooth which they embrace. It will be noticed, on reference to Fig. 1, that the dies are alike at both ends, with the exception that their corners are cut away to a greater or less extent, so that while the teeth are all gaged to the same extent with one set of dies, the amount of set imparted to the teeth may be varied. It should be understood that a number of different dies accompany the instrument. Thus dies of the character shown in Fig. 4 may be occasionally required for operating on teeth of the largest size, or the die may be made as shown in Fig. 5, each die having two overlapping shoulders, and its portion *t* being beveled so as to be adapted to small teeth. In either case the dies are inserted, secured, and operated in the same manner as those first described. The die may have a slot, *w*, at one end, so as to receive a projection at one end of the other die; in fact the different dies may be differently formed to suit the requirements of different sizes and styles of teeth.

Another important feature of my invention is the facility with which it can be used, in the same manner as ordinary gages, as a gage for determining the depth of the clearing-teeth of saws, the ends of the teeth in such case bearing against the projections *z z* of the frame, as shown in Fig. 6, these projections being so arranged in respect to the level of the dies B B' that the clearing-teeth which are operated upon by a file working in the space formed by the discontinuation of the flange *a'* of the

frame will be of the proper depth when reduced to the level of the said dies. As the dies are made of hardened steel they will not be injuriously acted upon by the file, so that the amount of reduction of the clearing-teeth will always be uniform—a prominent objection to ordinary gages of iron being thus effectually obviated.

I claim as my invention—

1. The frame A, constructed with a suitable handle at one end, having a set-screw at the other, and a recess for the reception and guidance of dies, all substantially as set forth.

2. The combination of the frame and its recess with the oblong dies confined by set-screws E E, which pass through elongated openings in the said frame, all substantially as specified.

3. The combination of the frame and dies with the adjustable plate F.

4. The dies having projecting ends *x*, that of one die for overlapping the other, as and for the purpose set forth.

5. The combination of the flanges *z z* on the frame with the dies B B′, and the space formed by the discontinuation of the flange *a′*, all substantially as and for the purpose set forth.

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

A. E. HOFFMANN.

Witnesses:
HUBERT HOWSON,
HARRY SMITH.