

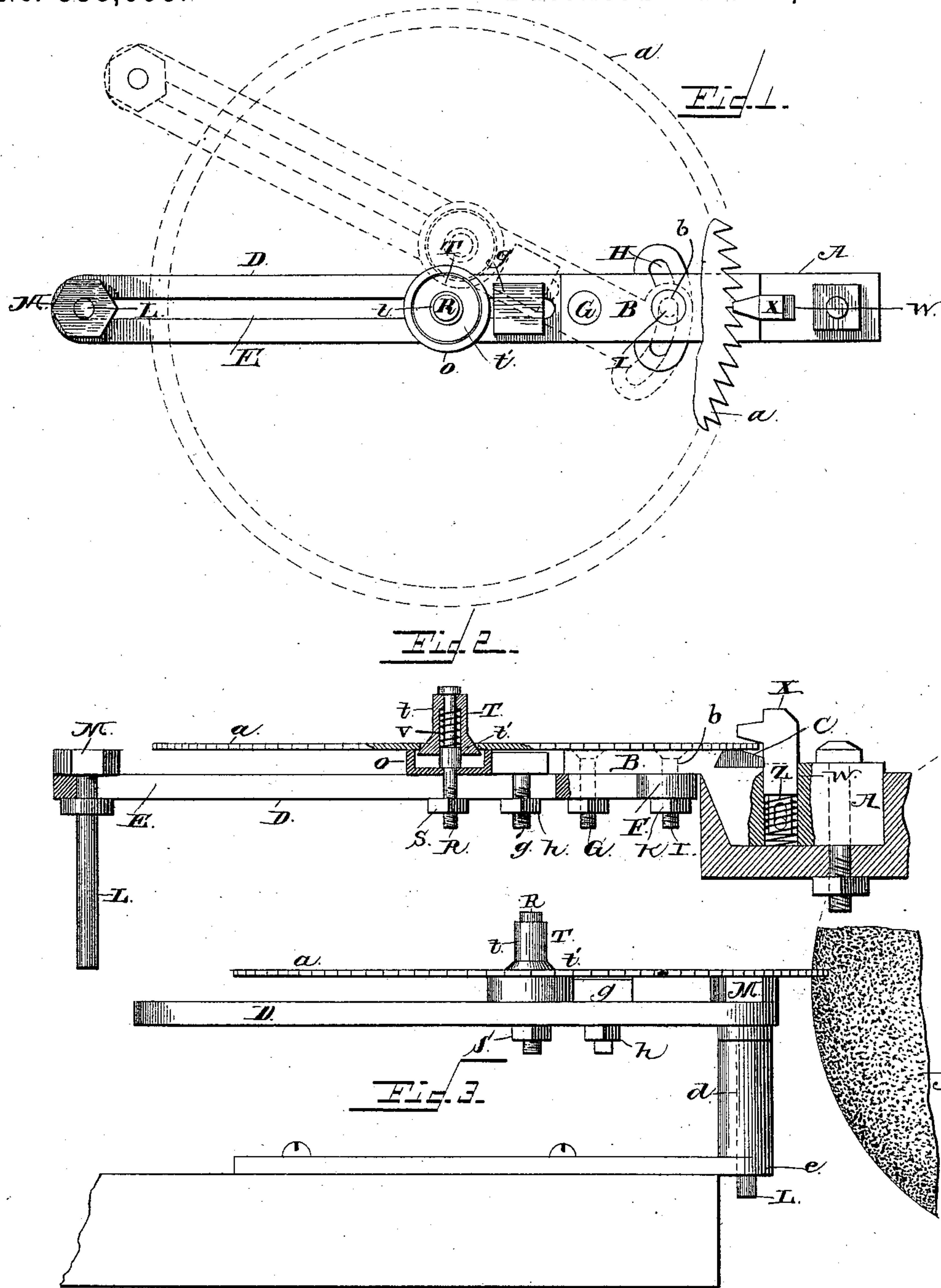
(No Model.)

C. J. BALCH.

DEVICE FOR SETTING SAWS.

No. 338,693.

Patented Mar. 30, 1886.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES JOSEPH BALCH, OF EAST MINNEAPOLIS, MINNESOTA.

DEVICE FOR SETTING SAWS.

SPECIFICATION forming part of Letters Patent No. 338,693, dated March 30, 1886.

Application filed January 28, 1886. Serial No. 190,103. (No model.)

To all whom it may concern:

Be it known that I, CHARLES JOSEPH BALCH, a citizen of the United States, residing at East Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Improvement in Combined Saw Set and Gumming Tool, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in saw-sets for circular saws; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a top plan view of my invention. Fig. 2 is a side elevation of the same, partly in section. Fig. 3 is a similar view of the same when used for grinding the teeth.

A represents the head, which is bolted to a table or other suitable support, as shown in Fig. 2, and is removable therefrom at will. This head has an outwardly-extending arm, B, which forms the anvil, the upper side of which, at its inner end, is beveled, as at C.

D represents a supporting arm, which is provided with a slot, E, that extends nearly its entire length, and is provided at its inner end with an enlarged head, F. This arm D is pivoted to the arm B by means of a pivotal bolt, G, and in the head F is made a segmental slot, H, drawn on a radius from the center of the bolt G. Through this slot H, and through an opening, b, which is made in the arm B of the head, passes a bolt, I, which is provided on its lower threaded end with a clamping-nut, K.

To the outer end of the arm B is secured a depending vertical spindle, L, the upper end of which is screw-threaded, and passes through the outer end of the slot E, and has a clamping-nut, M, which secures the spindle rigidly to the arm.

O represents an annular cup, which is open on its upper side, and is provided with a central opening. Through this opening, and downwardly through the slot E, extends the lower reduced end of a bolt, R, the lower end of which is screw-threaded, and is provided with a clamping-nut, S, by means of which the bolt and the cup O may be firmly secured to the

arm D. By means of the slot E, which is made in the said arm, the cup and the bolt may be moved in or out on the arm, and secured there- to at any desired point.

T represents a sleeve, which fits on the upper end of the bolt R, and is vertically movable thereon. The upper end of this sleeve has a reduced cylindrical portion, t, and the lower end thereof forms the frustum of a cone, t', the lower end of which fits in the cup O. A coiled spring, V, is placed on the bolt R, and the upper portion of this spring enters an enlarged opening, through which the bolt passes, and bears against the sleeve T, so as to normally raise the latter to the upper end of the bolt.

In the head A, at the inner end of the anvil, is a vertical mortise, W, in which works the lower end of the vertical swage X, the head of which is beveled on its under side to correspond with the beveled portion C of the anvil. A spring, Z, bears under the swage X, so as to raise the latter normally to the position shown in Fig. 2.

The operation of my invention is as follows: The circular saw a is pivoted on the sleeve T. As the openings in the center of circular saws are of various sizes in different saws, I provide the sleeve T with the conical portion t', as previously described, so as to cause it to fit the opening in any saw. The lower side of one edge of the saw bears on the upper side of the arm or anvil B, and the bolt R is moved in or out upon the arm D, so as to adjust the saw with relation to the swage X, in order to cause the swage to act upon all of the teeth alike. The head of the swage is struck with the hammer, and thereby forced down, which bends the tooth of the saw down against the beveled portion C of the anvil, and thereby sets it at the required angle. By moving the bolt R in or out on the arm D any desired portion of the outer end of each saw-tooth may be bent or set at will. By pivoting the arm D to the arm B the former may be moved at any desired angle with relation to the arm B to correspond with the angle of saw-teeth which are formed tangentially on the saw and not radially thereon. By this construction my saw-set is adapted for setting the teeth of varying sizes and makes of circular saws.

In Fig. 3 I show my invention adapted for

use in grinding the teeth of circular saws, in which position the arm D is detached from the head A, and the spindle L is inserted in the vertical opening *d* in a bracket, *e*, which is secured to a table or any suitable support. When thus secured, the teeth of the saw may be presented successively to an emery-wheel, *f*, which may be rotated by any suitable means, and thereby grind the teeth.

g represents a gage-bolt, which passes through the slotted arm D, and has a nut, *h*, on its lower threaded end. This bolt is adjusted to the necessary distance from the outer end of the arm D, and then set or clamped thereto, and serves as a gage for the bolt R when the latter is moved in and out on the slotted arm, in order to present the teeth of the saw successively to the edge of the emery-wheel, and thereby cause the latter to grind all of the saw-teeth to the same depth.

Having thus described my invention, I claim—

1. In a saw-set for circular saws, the movable sleeve T, having the inclined sides *t'*, and the spring bearing under the sleeve T, for the purpose set forth, substantially as described.

2. In a saw-set for circular saws, the combination of the arm D, the cup O, the bolt R, the sleeve T on the upper end of the bolt, and having the inclined sides *t'*, and the spring for raising the sleeve normally, substantially as described.

3. The combination, in a saw-set for circular saws, of the head A, the swage, the arm D, pivoted to the head A, and having the segmental slot H, and the bolt I and clamping-nut K, passing through the slot and through an opening in the head, for securing the arm D at any desired angle, substantially as described.

4. The combination of the slotted arm D with the spring-actuated sleeve T, forming the pivot for the circular saw, and movable in or out on the arm D, and means for clamping the said sleeve to the arm at any desired adjustment, substantially as described.

5. The combination of the arm D, the sleeve T, forming the pivot for the circular saw and movable in or out on the arm, and the movable gage G on the said arm, for the purpose set forth, substantially as described.

6. The combination of the arm D, having the spindle L, and the movable gage G and the movable sleeve T, forming the pivot for the circular saw, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CHARLES JOSEPH BALCH.

Witnesses:

L. O. ROOT,
GEORGE G. TIRRELL.