

R. F. GIBBS.

SAW SET.

No. 331,877.

Patented Dec. 8, 1885.

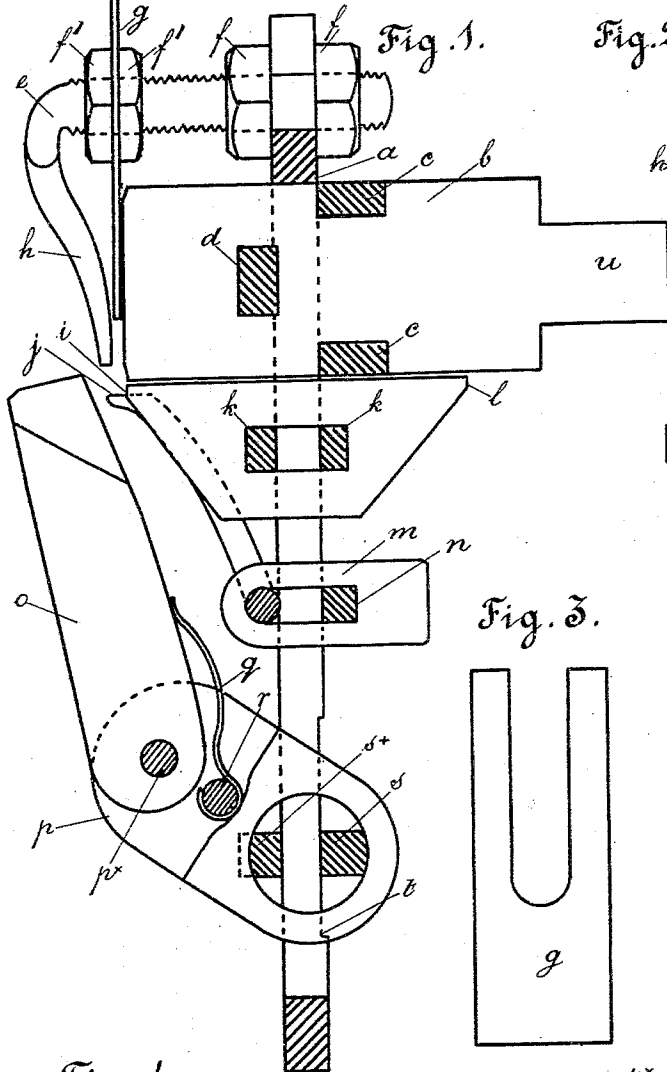


Fig. 2.

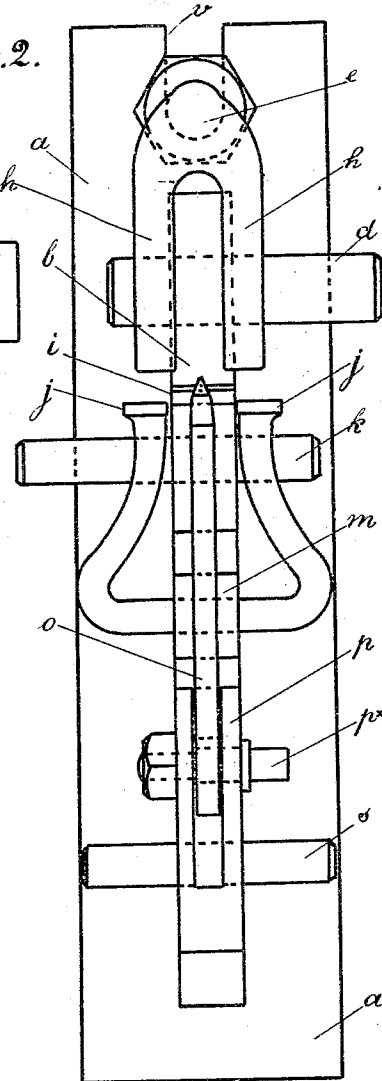


Fig. 3.

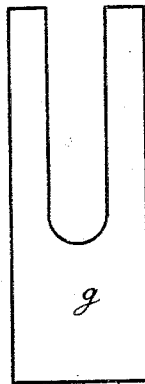


Fig. 4.

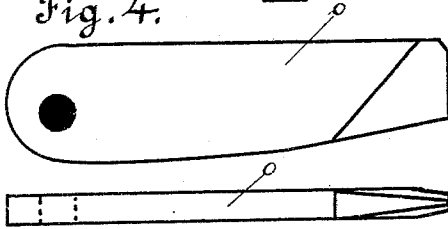


Fig. 5.

Witnesses..

S. A. Owen..

B. J. Burns..

Fig. 6.

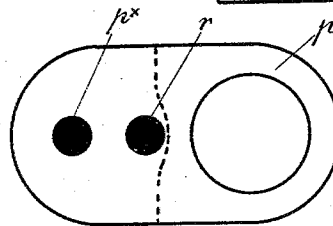
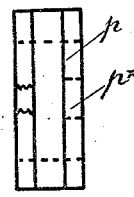


Fig. 7.



Inventor..

Ruben F. Gibbs

By his atty..

Chas. S. Smith

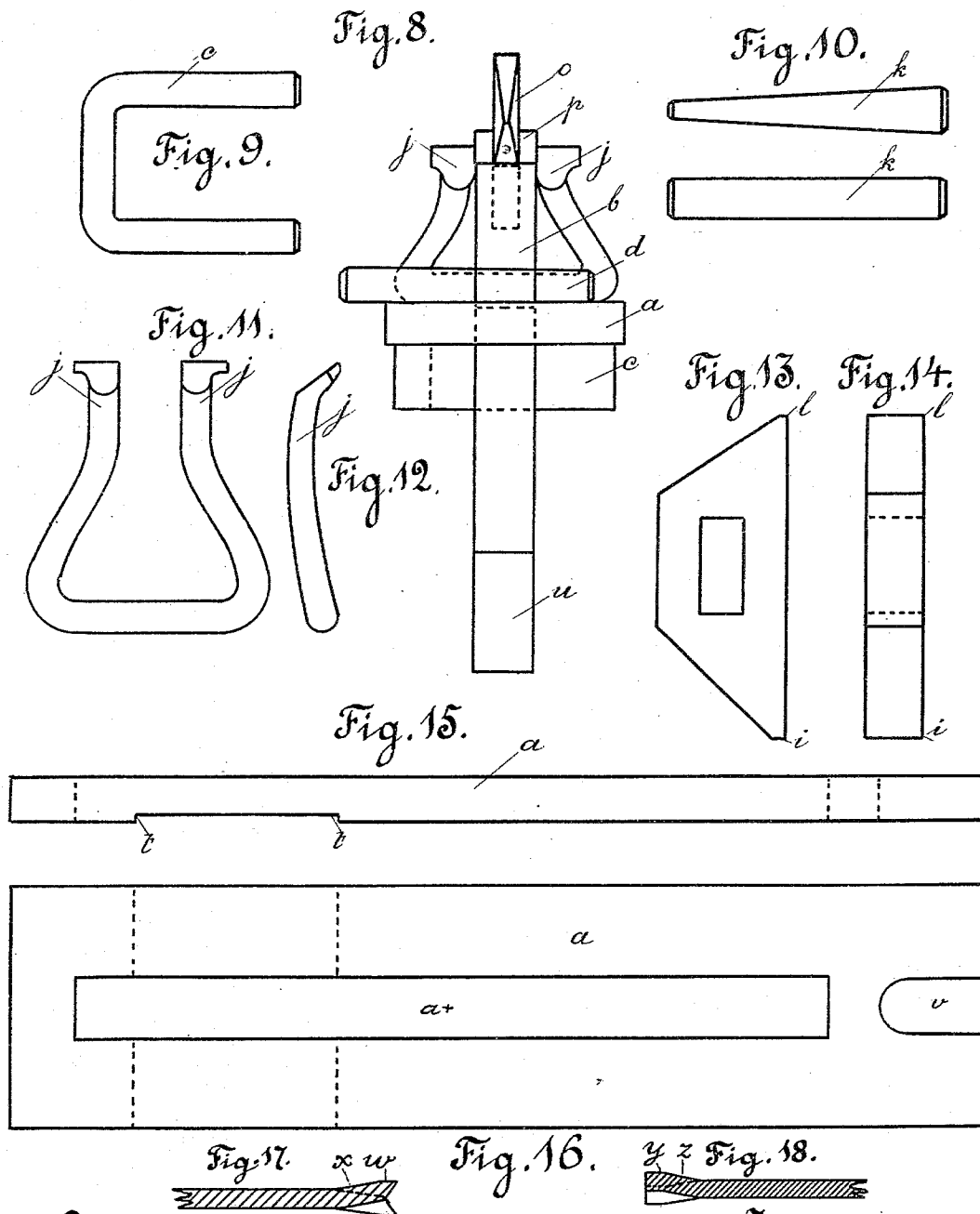
(No Model.)

2 Sheets—Sheet 2.

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Witnesses..

J. A. Owens

B. J. Burns.

Fig. 16.

By his Atty.,

Fig. 18.

Inventor..  
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# UNITED STATES PATENT OFFICE

REUBEN F. GIBBS, OF SAN FRANCISCO, CALIFORNIA.

## SAW-SET.

SPECIFICATION forming part of Letters Patent No. 331,877, dated December 8, 1885.

Application filed April 2, 1885. Serial No. 161,065. (No model.)

*To all whom it may concern:*

Be it known that I, REUBEN F. GIBBS, a resident of the city and county of San Francisco, State of California, have invented a new and useful Adjustable Side-Cut Saw-Set; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

My invention relates to an improvement in the class of saw-sets known as "anvil" saw-sets, and by its use the teeth of saws are set in a novel and thorough manner.

The following description fully explains the nature of my said invention, and the manner in which I proceed to construct, apply, and use the same, the accompanying drawings being referred to by figures and letters.

Figure 1 represents a general longitudinal section through the middle of the machine. Fig. 2 is a plan view of the machine. Fig. 3 is a view of the back-holder for band-saw. Fig. 4 represents an elevation of the hammer. Fig. 5 is an inverted plan view of the hammer. Fig. 6 represents an elevation of the movable arm. Fig. 7 is a plan view of the movable arm. Fig. 8 is an end view of the machine. Fig. 9 is a plan view of the clamp for holding the anvil. Fig. 10 is an elevation and a plan view of adjustable wedges for saw-set. Fig. 11 is a plan view of the regulator-guide. Fig. 12 is a side view of the same. Fig. 13 represents an elevation of the saw-set regulator. Fig. 14 is an end view of the same. Fig. 15 represents an elevation of the frame-plate. Fig. 16 is a plan view of the same. Fig. 17 is an enlarged section of crosscut-saw tooth. Fig. 18 is an enlarged section of rip-saw tooth.

The basis of my device is the frame-plate *a*, having a longitudinal slot, *a*<sup>x</sup>, and a curved cut, *v*, at the end. The anvil *b*, with its regulating-key *d*, is inserted in this slot. The sides of the anvil, below the plate, are cut in for the clasp of the clamp *c*, which, with the regulating-key *d*, confines the anvil to the plate. The upper corners of the anvil are beveled, one bevel being less than the other, and by reversing the anvil it may be adapted to the set of saws of different sizes. At the end of the anvil is a step for attaching to bench or vise. The reversible side-cut regulator, Fig. 1, *l i* passes through the slot in the frame-plate, and is held

in place by two tapering keys, *k*, one above and the other below the plate, the keys passing through the regulator from reverse sides. By the action of these adjusting-keys the regulator may be moved backward and forward on the plate by the operator and upward and downward, as the size of the saw-tooth may require.

The regulator is placed behind the anvil directly under the hammer *o*, and between the points of the stirrup-shaped guide *j*. This regulator is intended to receive the outside edge of the tooth, and give it a shape such as shown at *w*, Fig. 17, or *y*, Fig. 18, according to the shape of the ends *l* or *i* of the regulator. The forked guide *j* is intended to form an abutment for the ends of the teeth, and guide the saw evenly over the anvil and regulator. Said guide is made of forged steel or large wire, and passes through the movable bar *m*, which is adjusted by the key *n* in the slot in the plate. The hammer *o* of the setting device enters the mortise in the upper edge of the movable and adjustable arm *p*, to which it is connected by the pin *p*<sup>x</sup>. The hammer rests on adjustable spring *g*, which is held in place by an adjustable tapering pin, *r*, passing through the movable arm *p*. This movable arm, holding hammer and spring, passes through the slot in the frame-plate behind the movable bar *m*, and is adjustable by key *s*, passing through it below the plate, and resting on the plate a small bar, *s*<sup>x</sup>, cut in at the center, receives the arm. The arm is moved forward and backward and upward and downward by the action of the adjusting-key *s*. The horseshoe-shaped band-saw-top holder is placed in front of the hammer and over the anvil, and is connected with the frame-plate by threaded bolt *e*, which passes through the plate, and is raised or lowered by adjusting-nuts *f f*, one of which is placed above and the other below the plate. The points of the band-saw-top holder project toward the guide *j*, and the hammer in its upward and downward motion passes between them. Attached to the upper end of threaded bolt *e* is the band-saw-back holder *g* for holding the saw to the guide *j*. It is adjustable by the nuts *f' f'* by the action of which it may be applied to small or large band-saws, and be raised and lowered. It is confined between the upper nuts, *f' f'*,

and when in use is between the top holder and the anvil.

In setting circular saws the band-saw holders are removed, and an arm or rest is attached in their place to the frame-plate. This arm may be a plate having a slot nearly its entire length, in which is placed a bolt cone-shaped at its upper end above the arm and held in place in the slot by two nuts similar to nuts  $f' f'$  in the band-saw-back holder. The arm at its end is bent at a right angle, the point of which forms a screw, which passes through the curved cut at the end of the frame-plate, and is held in place by nuts similar to those in the band-saw-back holder.

The operation of my machine is as follows: By the adjusting of the side-cut regulator  $l$ , and in combination with guide  $j$  and adjustable movable arm  $m$ , a side cut is given to the saw-tooth by the action of the hammer  $o$ , in connection with the adjustable arm  $p$  and spring  $q$ . The hammer  $o$ , in combination with the anvil  $b$ , produces a downward curvature in the tooth, and in combination with the side-cut regulator it produces an upward curvature. This action gives a swaged form to the tooth, a result which is not obtainable from any other method or device in use. In setting circular saws it obviates the necessity for swaging. It dispenses with filing, which takes time and wastes metal.

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

1. In a saw-set, the adjustable side-cut regulator  $l$ , in combination with adjusting-keys  $k$ , guide  $j$ , and movable arm  $m$ , with its adjusting-key  $n$ , substantially as described, and for the purpose set forth.

2. In a saw-set, the adjustable hammer  $o$ , in combination with the movable and adjustable arm  $p$ , adjusting-key  $s$ , and adjustable spring  $q$ , substantially as described, and for the purpose set forth.

3. In a saw-set, the regulating and adjustable band saw-top holder  $h$ , in combination with band-saw-back holder  $g$ , screw-bolt  $e$ , and adjusting-nuts  $f f$  and  $f' f'$ , substantially as described, and for the purpose set forth.

4. In a saw-set, the frame-plate  $a$ , in combination with anvil  $b$ , with its clamp  $c$ , and tapering key  $d$ , substantially as described, and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal.

REUBEN F. GIBBS. [L. S.]

Witnesses:

A. B. SMITH,  
WM. PATTERSON.