R. F. COOK.

Saw-Sets.

No. 145,724. Patented Dec. 23, 1873.

Fig. 1.

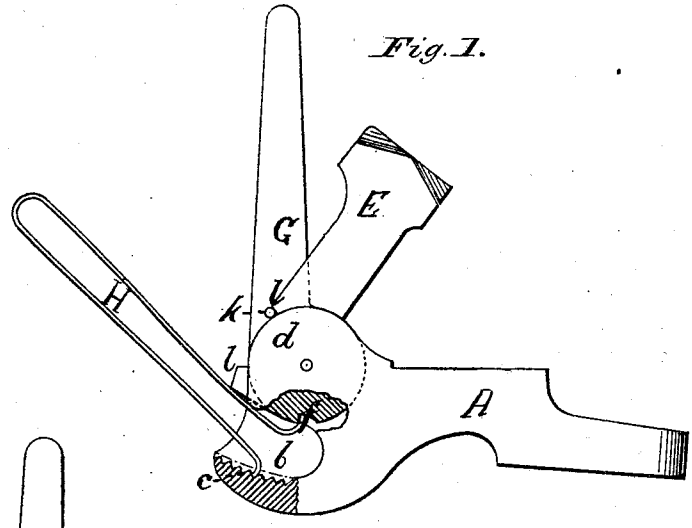
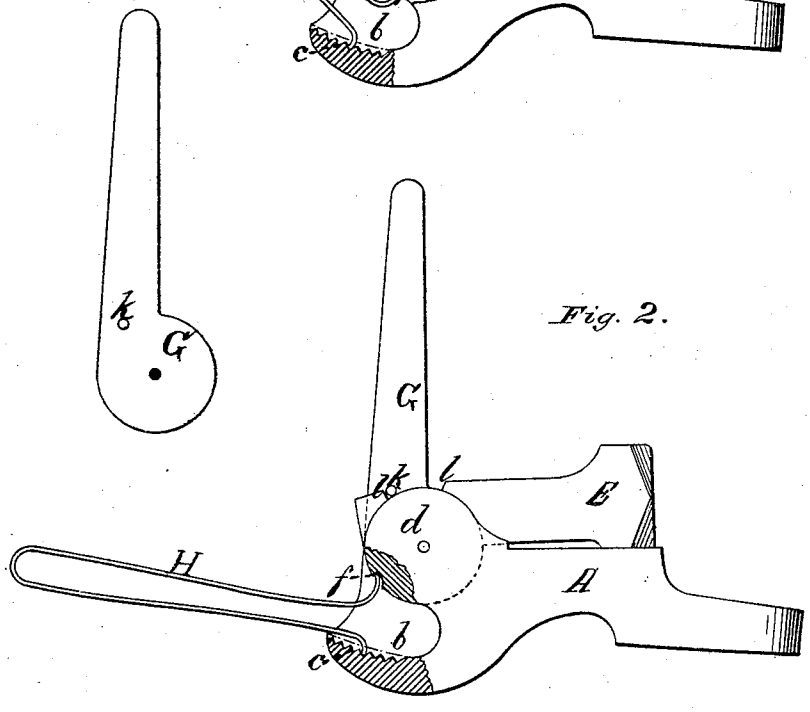
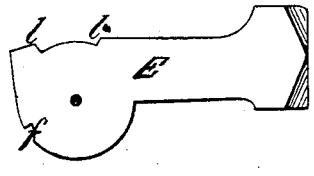


Fig. 2.





Witnesses:
N. F. DeKamel
Thomas. Byrne

Inventor:
R. F. Cook
Per H. C. Abbot
attorney.

UNITED STATES PATENT OFFICE.

ROSWELL F. COOK, OF WEST POTSDAM, NEW YORK.

IMPROVEMENT IN SAW-SETS.

Specification forming part of Letters Patent No. **145,724**, dated December 23, 1873; application filed October 9, 1873.

To all whom it may concern:

Be it known that I, R. F. COOK, of West Potsdam, county of St. Lawrence and State of New York, have invented certain new and useful Improvements in Saw-Sets, of which the following is a specification:

In the accompanying drawing, Figure 1 is a side view of my improved saw-set, showing the hammer raised and the lever in position for starting it downward. Fig. 2 is another side view, showing the hammer down and the lever in position for raising it.

A represents the frame or holder, which may be attached to the bench, or may be so constructed as to be held in the hand. In the rear lower portion of the holder is a recess, *b*, in the lower side of which is a series of notches, *c*. In the rear upper portion of the holder lugs *d* are formed, and between these lugs the hammer E and lever G are pivoted. In the heel of the hammer is a notch, *f*, which engages with one end of the spring H, the other end of which engages with one of the series of notches *c* in the recess *b*. The spring H consists of a flat strip of metal, bent midway of its length, so as to form a resemblance to the letter V with its point rounded, and having its ends bent outward for engagement with the notches.

It will be seen that when the spring is thus attached to the parts, as the hammer rises the rear or central bent portion of the spring rises toward the hammer; and, as the hammer falls the spring falls in an opposite direction, thus oscillating in an arc of a circle, of which the lower end of the spring forms the center.

By moving the lower end of the spring farther into the recess, the force of the hammer is increased, and by moving it farther out the force is diminished, as the distance traveled and the consequent power exerted by the spring depends upon the position of its lower end, which forms the center of oscillation. Thus the force of the blow of the hammer may be regulated at pleasure by simply moving the lower end of the spring from one to another of the notches *c*.

By this construction and arrangement the spring is readily removed and replaced, springs of different degrees of tension may be used when desired, and a new spring may be inserted in place of a broken one without the use of tools, and without loss of time.

The lever G has its fulcrum on the same pivot with the hammer, and engages with the hammer at a point between the fulcrum and the long arm by means of a pin or stud, *k*, working between two shoulders or projections, *l l*, on the upper portion of the heel of the hammer.

By this arrangement the manipulation of the lever is facilitated, as the lever is in nearly an upright position, and consequently more out of the way of the hammer than when in a nearly horizontal position, the parts are more easily inserted in place, and more power is acquired than if the point of engagement were beyond or below the fulcrum. By the oscillation of the spring on the lower end as a center, the upper end, or the end which operates the hammer, travels a distance three times as great, and thus acquires more power than a spring which has one end fixed; and, by having the spring so arranged as to rise toward the hammer as the hammer rises, it forms a bearing for the heel of the hammer and holds it in a raised position. When the lever is moved back it raises the hammer until it passes the dead-point, when the hammer springs farther back, so that its heel comes in contact with the flat portion of the spring, and is held in a raised position. A slight forward movement of the lever starts the hammer downward again until it passes the dead-point, when the spring completes the downstroke with a sudden blow.

I claim as new and desire to secure by Letters Patent—

The combination, substantially as described, in a saw-set, of a notched frame and lever with a hammer having an oscillating spring for operating the same.

In testimony that I claim the foregoing as my invention, I hereunto affix my signature this 4th day of October, 1873.

ROSWELL F. COOK.

Witnesses:

AMOS BLOOD,

DANIEL LANE.