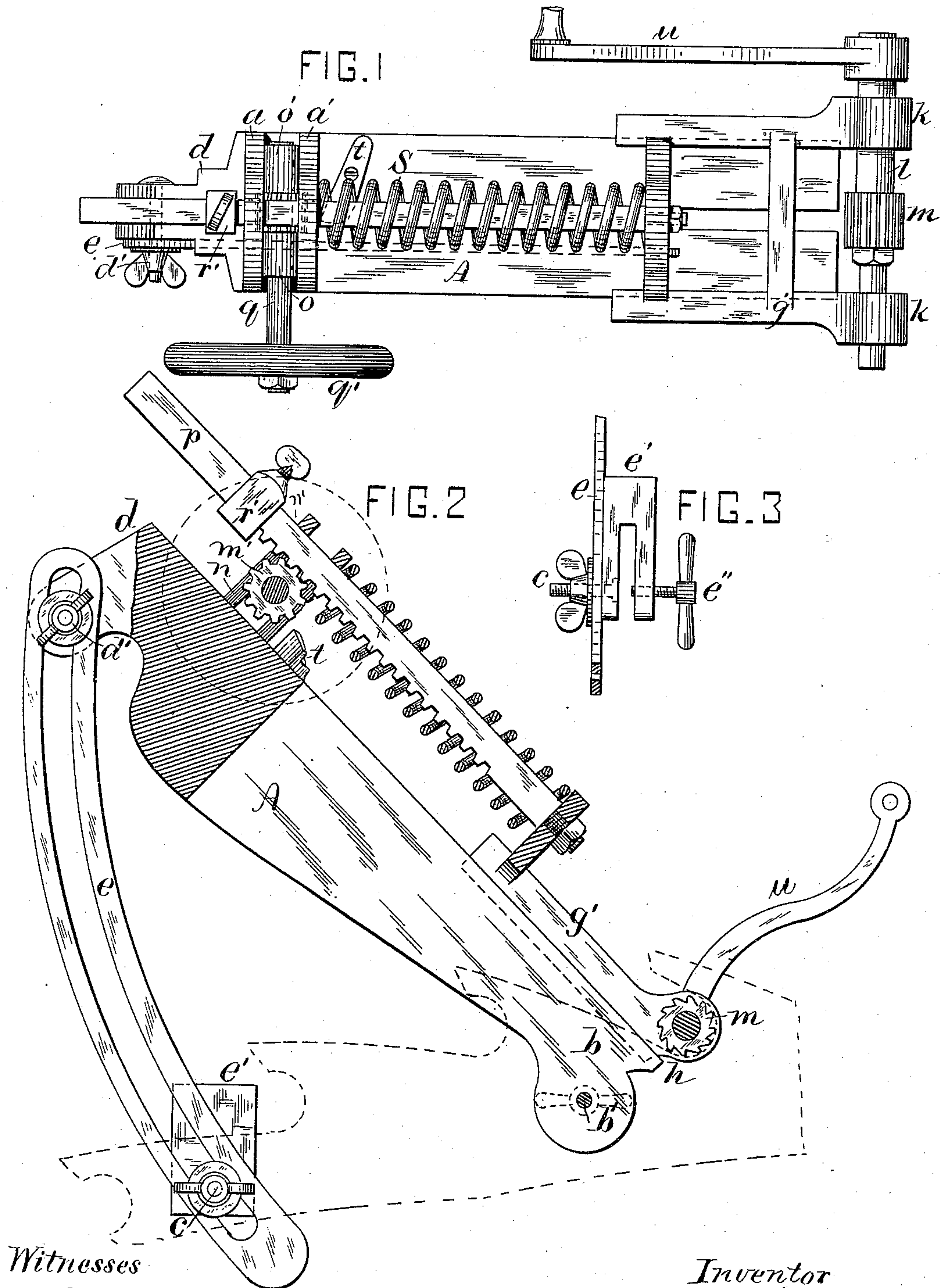


(No Model.)

H. IHSEN.
SAW GUMMER.

No. 324,028.

Patented Aug. 11, 1885.



Witnesses

Herman Ihsen
Charles J. Heitershausen

Inventor

Henry Ihsen.

UNITED STATES PATENT OFFICE.

HENRY IHSEN, OF ALLEGHENY CITY, PENNSYLVANIA.

SAW-GUMMER.

SPECIFICATION forming part of Letters Patent No. 324,023, dated August 11, 1885.

Application filed June 15, 1885. (No model.)

To all whom it may concern:

Be it known that I, HENRY IHSEN, of Allegheny City, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Saw-Gummers; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to apparatus employed for gumming or cutting a throat in the teeth of saws, generally termed a "saw-gummer," and relates specially to that class of saw-gummers which clamp or otherwise are secured to the saw, and cut a throat or gullet by means of a burr or milling tool mounted on an arbor or shaft journaled to the machine.

It consists, essentially, in a saw-gummer composed of a gummer-frame arranged to be attached to the saw and having two stationary arms or bearings, a sliding cutter-carriage, a rack-bar, a feeding-wheel, and pinion, the rack-bar being made fast to the upright of the sliding cutter-carriage, and a coiled spring that is interposed upon the rack-bar between the upright on the sliding carriage and the inner upright of the stationary frame, the cutter-carriage being advanced or quickly withdrawn by the feed-wheel, pinion, and rack-bar in gumming the saw or withdrawing the cutter.

It also consists in certain improvements in holding the carriage against the pressure of the spring when the cutter is withdrawn, and, finally, in the means for adjusting the frame to the proper angle at which it is desired to feed the cutter.

In the drawings, Figure 1 is a top view of my improved gummer; Fig. 2, a longitudinal section showing a portion of the saw in dotted lines to illustrate its operation; and Fig. 3 is a side view of the tail-clamp.

A is the gummer-frame, and is provided with the clamping-arms *b*, through a threaded hole in one of which the clamping-screw *b'* passes, and by means of which the forward part of the gummer is secured to the saw. At the back of the frame is the tail *d*, to which the slotted tail-support *e* is adjustably secured by means of the slot and the screw and the thumb-nut *d'*. The tail-support is slotted its entire length, and to its lower end, shown in the position at which the gummer is set, is secured the tail-clamp *e'*. It consists of a slot-

ted block, one leg of which is adjustably secured to the tail-support by a screw and thumb-nut, *c'*, and the other leg is provided with a clamping-screw, *e''*, for securing the tail-clamp to the saw. This construction of supporting-piece and tail-clamp enables me to adjust the supporting-piece radially and vertically with relation to the tail-piece and the tail-clamp, whereby the gummer may be adjusted to any saw. The cutter-carriage *g* is mounted on slides *h* on frame A, and is advanced and retracted on the frame in gumming the saw, as hereinafter described. At the end of the cutter-carriage are the bearings *k*, in which the shaft or arbor *l*, carrying the cutter *m*, is journaled. These parts are of the usual or approved construction.

At the rear of the frame A are the stationary arms *a a'*, which are usually cast with the frame, which has rectangular openings *n*, of sufficient size to pass the pinion *m'* through them, and similar openings, *n'*, above them for retaining and guiding the rack-bar *p*, the lower end of the rack-bar being secured to the cutter-carriage.

Between the arms *a a'* are journals *o o'* for supporting the shaft *q*, upon which is mounted the pinion *m'* for reciprocating the rack-bar. To the end of the shaft is attached hand-wheel *q'*, by the movement of which the cutter is advanced or retracted. Between the upright on the carriage, and the stationary upright *a'* on the frame, and surrounding the rack-bar, is placed a spring, *s*, which is of sufficient strength to feed the cutter. Upon the outer end of the rack-bar is an adjustable collar, *r'*. By its adjustment the depth of the cut is gaged, the collar coming in contact with the stationary upright *a* of the frame.

When shifting the gummer to set it to cut the next tooth, the cutter should be retracted and held against the action of the spring until the gummer is clamped in position. This I accomplish by a pivoted catch, *t*, secured to the frame A, which upon being moved in the proper direction will engage with one of the teeth of the pinion.

The operation of the gummer is as follows: Before placing the gummer upon the saw, by turning the hand-wheel the cutter-carriage is drawn back as far as the spring will allow it. The pivoted catch is then moved to engage with

a tooth on the pinion, which prevents the retraction of the carriage. The gummer is then placed upon the saw, the cutter resting on the back of the tooth that is to be gummed, and by
 5 means of adjustable tail-support and adjustable tail-clamp, the gummer is set at the angle the cut is to be made. The clamping-screws *b'*, *c*, *d'*, and *e''* are then tightened up, and the gummer thus firmly secured on the saw. The
 10 catch *t* is then moved, whereby the carriage is permitted to move forward with the cutter by the action of the spring. Should it be desirable, the hand-wheel could be operated to feed the cutter. The cutter *m* is then rotated by means
 15 of the crank *n* on the arbor *l*, and the spring slowly feeds the cutter forward, or the hand-wheel may be turned to perform the same function.

To move the gummer to the next tooth, the
 20 carriage is drawn back by means of the hand-wheel. To retract the spring, the catch is made to engage with the pinion, and the clamp-screws *b' e''* are loosened and the gummer lifted off, and, without altering the adjustment, placed
 25 upon the saw so that the cutter rests against the back of the next tooth to be gummed, and the operation is repeated, each tooth being thus gummed at the same angle and the same depth.

30 I am aware of a saw-gummer that feeds the cutter by means of a rack and pinion, but do not know of one in which the cutter is fed by a spring and retracted by a rack and pinion; and I am also aware of a gummer whose sup-
 35 port for the tail-piece has but one adjustment,

and whose tail-clamp has but one adjustment independent of the tail-piece support, but I am not aware of a tail-piece support which can be adjusted radially and vertically with relation to the tail-piece, nor whose tail
 40 clamp has a similar adjustment.

What I claim is—

1. In a saw-gummer, the combination of the frame with the carriage, the rack-bar, the spring, and the pinion, substantially as shown
 45 and described.

2. In a saw-gummer, the combination of the frame with the carriage, the rack-bar, the pinion, the spring, and adjustable collar on the bar, substantially as shown and described. 50

3. In a saw-gummer, the combination of the frame with the carriage, the rack-bar, the pinion, the spring, and the catch, substantially as shown and described.

4. In a saw-gummer, the combination of the
 55 frame with the slotted support for the tail-piece, the tail-clamp, and their clamping-nuts and screws, whereby the supporting-piece may be adjusted at either end, substantially as
 60 shown and described.

5. In a saw-gummer, the combination of the frame with the cutter-carriage, the rack-bar, the pinion, the spring, the slotted support for the tail-piece, the tail-clamp, and their clamping
 65 nuts and screws, substantially as shown and described.

HENRY IHSEN.

Witnesses:

CONRAD IHSEN,
 WM. EHRENSING.