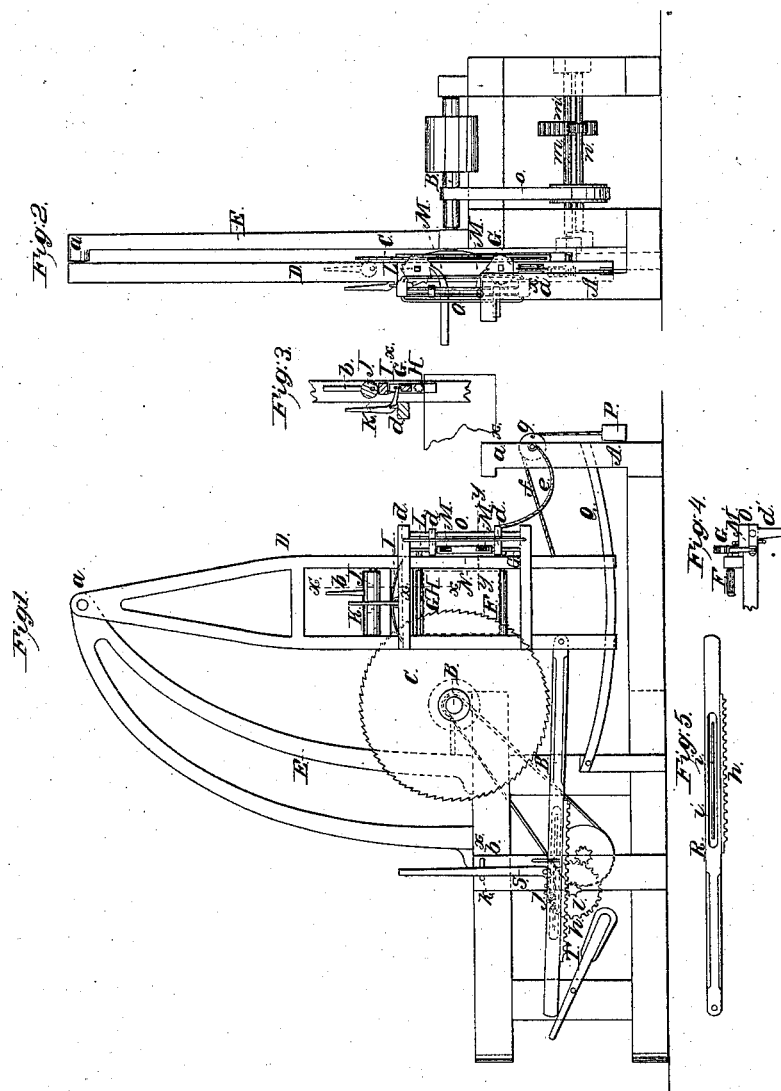


*I. N. Voris,*  
*Sawing Shingles,*  
*No. 47,672,* *Patented May 9, 1865.*



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# UNITED STATES PATENT OFFICE.

ISAAC N. VORIS, OF PESCADORA, CALIFORNIA.

## IMPROVEMENT IN SHINGLE-MACHINES.

Specification forming part of Letters Patent No. 47,672, dated May 9, 1865.

*To all whom it may concern:*

Be it known that I, ISAAC N. VORIS, of Pescadora, in the county of Santa Cruz and State of California, have invented a new and Improved Shingle-Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, an end view of the same; Fig. 3, a vertical section of a portion of the same taken in the line *x x*, Fig. 1; Fig. 4, a horizontal section of a portion of the same taken in the line *y y*, Fig. 1; Fig. 5, an inner side view of a rack-bar pertaining to the same.

Similar letters of reference indicate like parts.

This invention relates to a new and improved shingle-machine of that class in which a circular saw is used; and it consists in having the bolt from which the shingles are cut fitted in a swinging frame arranged in such relation with the saw, provided with a novel feed mechanism, and operated in such a manner that the shingles will be sawed from the bolt and the latter fed to the saw by an automatic arrangement throughout.

A represents a framing, which may be constructed in any proper manner to support the working parts; and B is a shaft placed horizontally in said framing and having a circular saw, C, upon it.

D is a frame, which is suspended at its upper end by a pivot, *a*, from a curved standard, E, on said framing. This framing D is allowed to swing freely back and forth on the pivot *a*, and within it, near its lower part, there is placed a fluted roller, F, having a ratchet-wheel, G, at one end of it. There is also within the frame D, some distance above the roller F, a sliding bar, G<sup>x</sup>, to the under side of which the bearings of a fluted roller, H, are attached the two rollers H F, being parallel with each other, as shown clearly in Fig. 1.

I is a spring which bears upon the bar G<sup>x</sup>, and has a tendency to keep the said bar pressed down in the frame to the lowest extent of the movement of the former, the ends of the bar G<sup>x</sup> being fitted in mortises in the frame D of sufficient length to admit of a

requisite movement of G<sup>x</sup>. Directly over the bar G<sup>x</sup> there is an eccentric roller, J, which has a lever, *b*, connected to it, and a lever, K, which has its fulcrum *c* on a bar, *d*, of frame D, is attached to the bar G<sup>x</sup> for the purpose of raising it when necessary. (See Fig. 3.) The roller H also has a ratchet-wheel, L, at one end of it, and pawls M M' engage with these ratchets, the pawl M working into the under side of the ratchet L and the pawl M' working into the upper side of the ratchet G. The pawls M M' are attached to a vertical bar, N, which has its bearings in arms *d d'* on an upright shaft, O, the lower arm, *d'*, being of bent or of right-angular form, and having a cord, *e*, attached to its outer end, said cord being connected at its opposite end to the framing A, as shown in Fig. 1. The frame D also has a cord, *f*, attached to it, which passes over a pulley, *g*, on the framing A, and has a weight, P, at its end. The lower end of the frame D works on a curved guide-rod, Q.

R is a bar, one end of which is attached to the lower part of the frame D, and has a rack, *h*, attached to its under side. The inner side of bar R has two parallel grooves, *i i*, made in it, the ends of which are connected or communicate with each other, as shown clearly in Fig. 5, and into these grooves a projection, *j*, at the lower end of a lever, S, is fitted. The lever S is attached to the side of the framing A, and is made, when placed beyond pin *k*, to keep the rack *h* in gear with a pinion, *l*, on a shaft, *m*, said shaft receiving its motion through gearing *m'* from a shaft, *n*, which in turn receives its motion from the saw-shaft B through the medium of a belt, *o*.

The bolt from which the shingles are sawed is clamped in the frame D between the two rollers H F, the roller H being raised to admit the bolt by actuating the lever K and roller J, and the spring I and eccentric roller J keeping said roller H down upon the bolt when the lever K is released and the roller J turned in proper position.

The bolt is fed to the saw C by means of the pinion *l* gearing into the rack *h* of bar R, said rack being kept in gear with the pinion in consequence of the projection *j* on lever S being in the upper groove, *i*, of bar R. When the bolt has nearly reached the termination of its feed movement, the cord *e* causes the pawls M M' to be drawn out free from the

ratchets G L and a loaded lever, T, which the bar R depresses during the feed movement of the bolt, throws the bar R up when the projection *j* of lever S is at the end of the upper groove *i*, and said projection enters the lower groove *i*, and the weight P draws the frame D back, the lower arm *d'* coming in contact with a post, *a*<sup>x</sup>, on frame A, and causing the pawls M M' to actuate the ratchets G L and present the bolt in such relative position with the saw that a succeeding shingle may be sawed from it. The projection *j* of the lever S passes into the upper groove *i* at the termination of the backward movement of frame D, and the rack *h* drops in gear with pinion *t*. The ratchets G L have alternate large and small notches made in them, (see Fig. 2,) the upper pawl, M, being in a small notch of its ratchet when the lower one, M', is in a large notch of its ratchet, and vice versa. Hence it will be seen that the bolt will be pre-

sented obliquely to the saw, so that shingles will be sawed from it in taper form.

By shoving the lever S forward of a pin, *b*<sup>x</sup>, on frame A the rack *h* may be released from the pinion *t* at any time.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The swinging frame D, provided with the clamp-rollers H F, arranged as shown, and operated through the medium of the rack *h* on bar R, the pinion *t*, levers S T, and the grooves *i i* in bar R, substantially as and for the purpose set forth.

2. The eccentric roller J, in combination with the spring I, sliding bar G<sup>x</sup>, lever K, and fluted rollers H F, for clamping or holding the bolt, as set forth.

Witnesses: ISAAC N. VORIS.

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