(No Model.) 2 Sheets—Sheet 1.

O. C. HANSON.

Shingle Sawing Machine.

No. 235,233. Patented Dec. 7, 1880.

Fig. 1.

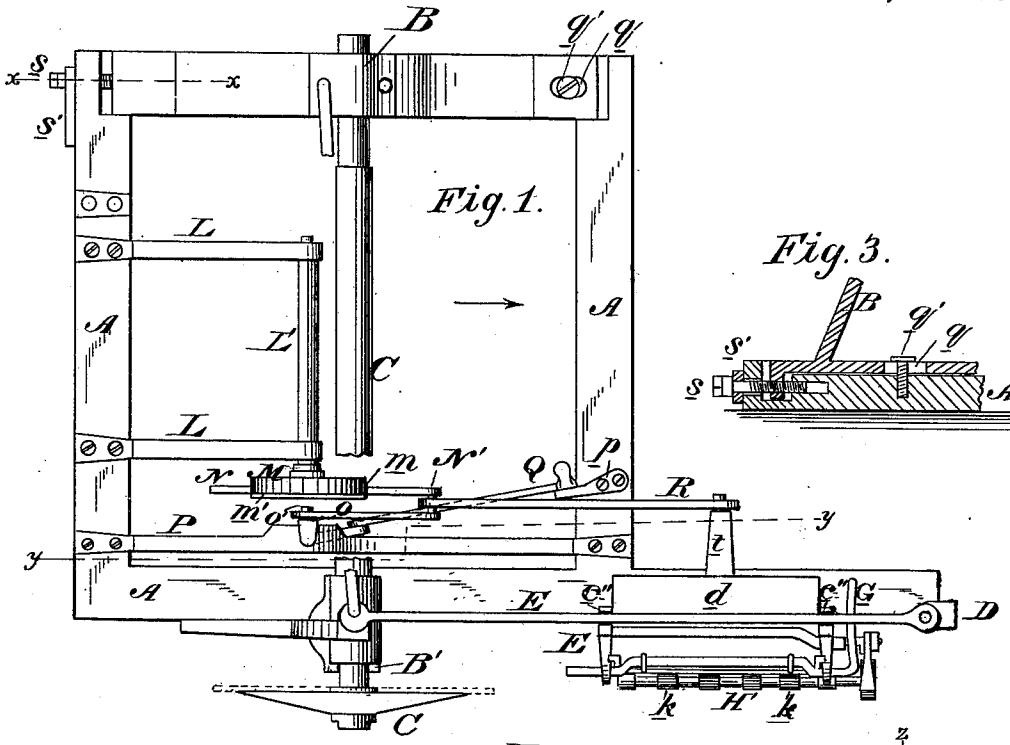
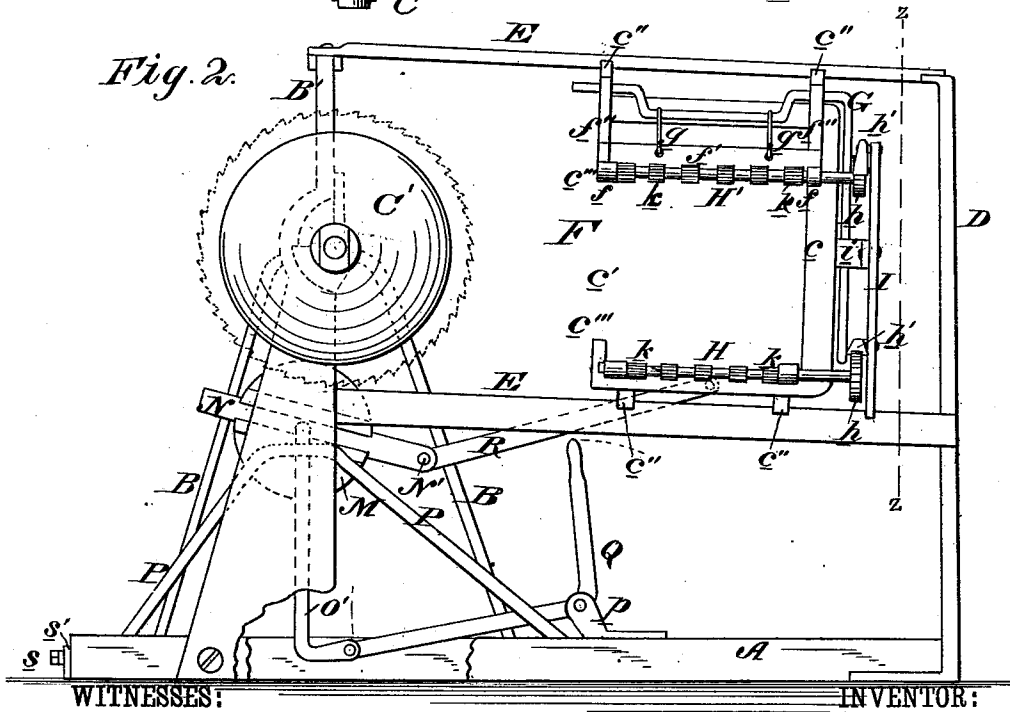


Fig. 3.

Fig. 2.



WITNESSES:

Henry N. Miller.

C. Sedgwick

INVENTOR:

O. C. Hanson

BY Munn & Co.

ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

O. C. HANSON.

Shingle Sawing Machine.

No. 235,233. Patented Dec. 7, 1880.

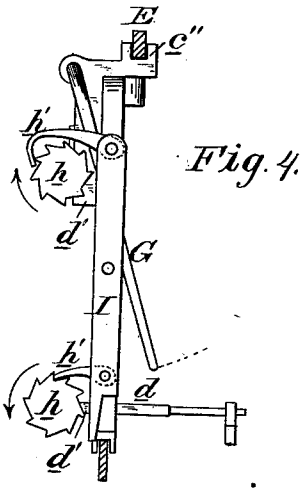


Fig. 4.

Fig. 6.

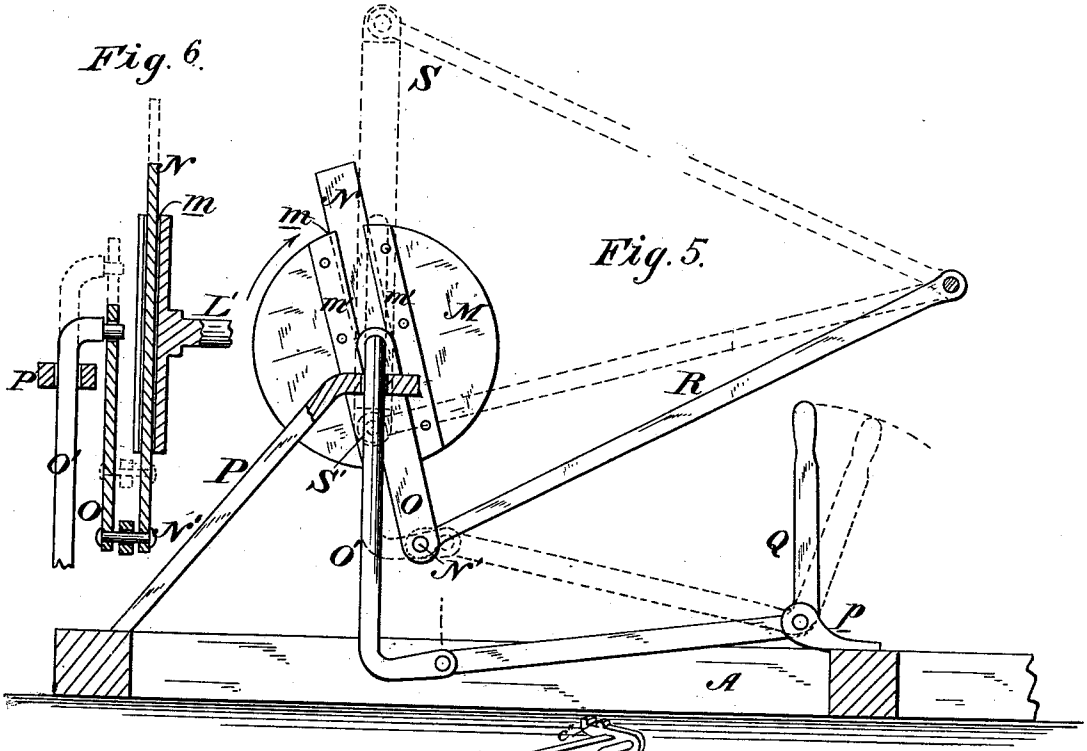
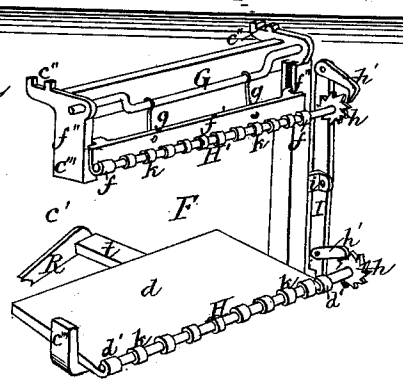


Fig. 5.

Fig. 7



WITNESSES:

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UNITED STATES PATENT OFFICE.

OLEY C. HANSON, OF EUREKA, CALIFORNIA.

SHINGLE-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 235,233, dated December 7, 1880.

Application filed May 7, 1880. (No model.)

To all whom it may concern:

Be it known that I, OLEY C. HANSON, of Eureka, in the county of Humboldt and State of California, have invented a new and Improved Shingle-Sawing Machine, of which the following is a specification.

The object of my invention is to provide a shingle-machine which will be of simple construction and may be readily operated with speed and regularity; and my invention consists in a peculiarly-constructed carriage for conveying the block to the saw; and, further, of a novel sliding crank-feed mechanism, and of an improved device for changing the lead of the saw, all of which will be hereinafter fully described.

Figure 1 is a plan of the machine with a portion broken away, the better to show other parts. Fig. 2 is an elevation of the same with a small portion broken away to show other parts. Fig. 3 is a sectional detail in the line *x x* of Fig. 1, showing the connection of the standard to the frame. Fig. 4 is a sectional elevation on line 2 2 of Fig. 2, showing the carriage in detail. Fig. 5 is an enlarged sectional side elevation on line *y y* of Fig. 1, showing the sliding crank-feed mechanism. Fig. 6 is a sectional detail of the same; and Fig. 7 is a perspective view of the carriage detached.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the base or bed of the machine; B B′, the standards secured to the bed A and supporting the saw-arbor C. D is a standard secured to the bed or base A, and, in connection with the standard B′, supporting the horizontal bars or guides E E. F is the carriage for holding the block of wood that is to be cut into shingles, and G is the saw.

The carriage F consists of a square, or nearly square, open frame, *c*, cut away at *c′*, on the side toward the saw G, as shown, and provided on its upper and lower edges with forked or channeled lugs *c″*, that embrace the horizontal bars or guides E E, so that said carriage F may slide between said guides or bars E E. On the bottom of the frame *c* is secured a broad horizontal plate, *d*, which is designed to support the block of wood that is to be cut into shingles.

From the outer edge of this plate *d* project the lugs *d′ d′*, that serve as fixed bearings for the lower feed-roll, H.

The upper and adjustable feed-roll, H′, revolves in lugs *f f*, that project downward from the horizontal bar *f′*, which bar *f′* slides up and down by the engagement of its ends in the grooved guides *f″ f″*, that project from the face of the carriage F, and are designed to form part thereof. This adjustable bar *f′*, with the attached roll H′, is connected, by means of rods *g g*, with a crank-lever, G, that is journaled in the upper ends of the guides *f″ f″*, and has its handle extending downward within reach of the operator, and by means of this crank-lever G the upper roll, H′, may be raised or lowered to suit the diameter of the shingle-block.

On the rear end of each of these rolls H H′ are secured ratchet-wheels *h h*, in which wheels *h h* the pawls *h′ h′*, that are pivoted on the opposite ends of the lever I, may be made to engage, said lever I being centrally pivoted on a lug, *i*, that projects from the rear side of the carriage-frame *c*. These rolls H H′ are annularly toothed, as shown at *k k*, so that they may securely hold the shingle-block between them, and may, as they are revolved, feed said block laterally to the saw G, and they are revolved or turned for this purpose in the direction of their respective arrows, as shown in Fig. 4, by moving the lower end of the lever I to the left, when the pawls *h′ h′* are engaged in the ratchet-wheels *h h*, as represented in Fig. 4.

Secured on the bed A are the standards L L, that support the shaft L′, on the end of which shaft L′ is centrally keyed the disk M, that is provided with a groove, *m*, extending centrally across its face from one edge to the other; and on either side of this groove *m* are secured the flanges *m′*, whose edges extend slightly over said groove, so as to hold the slide N, that is fitted into said groove *m*. The crank-pin N′ connects one end of this slide N with one end of the connecting-rod O, whose other end swivels on the bent end of the crank-pin O′, which crank-pin O′ is supported in an adjustable up-

right position by the standard P, that is fastened upon the bed A. The lower end of this crank-pin O′ is fastened to an arm of the rectangular lever Q, which lever is fulcrumed on the lug *p* on the bed A of the machine, the other arm of said lever Q extending upward within reach of the operator.

The pitman R connects the crank-pin N′ with the ear *t*, that projects rearward from the rear edge of the carriage F. This shaft L′ and its connections, therein described, constitute the feeding mechanism of the machine for moving the carriage F back and forth for feeding the shingle-block up to the saw G.

It is desirable, in running a shingle-machine, to feed the block slowly to the saw and to move the carriage quickly back, and these objects are readily accomplished by this novel feeding mechanism.

The disk M revolves in the direction of the arrow shown in Fig. 5, and in revolving reciprocates the carriage F back and forth by means of its connections therewith, and with like speed in either direction when the lever Q and crank-pin O′ are in their normal positions, as shown in full lines, Fig. 5; but in order to decrease the speed of the forward movements and to accelerate the backward movements of the carriage F the operator pulls the handle of the lever Q backward to the position shown in dotted lines in Fig. 5, thereby elevating the crank-pin O′ and the end of the connecting-rod O at which it is connected, so that at the middle of the backward movement of the carriage F the said crank-pin O′ and its connections are in the position indicated at S in dotted lines, Fig. 5, whereby the slide N is drawn farther out of the groove *m*, and the sweep of the said slide N, crank-pin N′, and pitman R extended, so that as the disk M revolves the carriage F is pushed rapidly backward from the saw in the next quarter-revolution, while with the lever Q and crank-pin O′ still held in the same position the sweep or throw of the slide N, crank-pin N′, and pitman R are, in the forward movement of the carriage F, proportionately diminished, as indicated at S′ in dotted lines, Fig. 5; and it is evident that any desired degree of difference in the backward and forward movement of the carriage between the extremes herein indicated may be assured by this mechanism, which I call a "new mechanical sliding crank-motion."

It will be seen that the carriage F is open at one side, as shown at C′, leaving downward and upward projecting points *c‴*, which points prevent the operator from setting the shingle-block so far forward as to interfere with the completion of the forward stroke or movement of the said carriage F.

The standard B has its base slotted, as shown at *q*, and is secured to the bed A by the screws *q′* passing through said slots. An adjusting-screw, *s*, entered through the plate *s′*, that is fixed to a side of the bed A, bears against the end of the base of this standard B, and by means of this screw *s* the said standard B can be, when the screws *q* are loosened, moved longitudinally, carrying with it the rear end of the saw-arbor C, and thereby the lead of the saw G can be readily changed at will, and this adjustable device makes it possible to run curved, straight, or concave saws without trouble.

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

1. The combination, with the shaft L, of the grooved disk M, slide N, and crank-pin N′, connecting-rod O, crank-pin O′, and pitman R, substantially as herein shown and described, whereby the throw and sweep of the said pitman are extended and restricted, as set forth.

2. The combination of the shaft L, grooved disk M, slide N, crank-pin N′, connecting-rod O, crank-pin O′, pitman R, and operating-lever Z, substantially as herein shown and described.

3. In a shingle-machine, the combination, with the base A, the standard B, for supporting the rear end of saw-arbor *c*, provided with slot *q* and set-screw *q′*, of the adjusting-screw S, that passes through a flange in the standard B′ and screws into the frame, whereby the standard and rear end of the shaft may be shifted to change the lead of the saw, substantially as herein described.

OLEY CHRISTIAN HANSON.

Witnesses:
ARTHUR HOWATT,
JOHN S. MURRAY, Jr.