

C. Learitt,
Cutting Shingles,
Nº 12,600,
Patented Mar. 27, 1855

Fig. 1

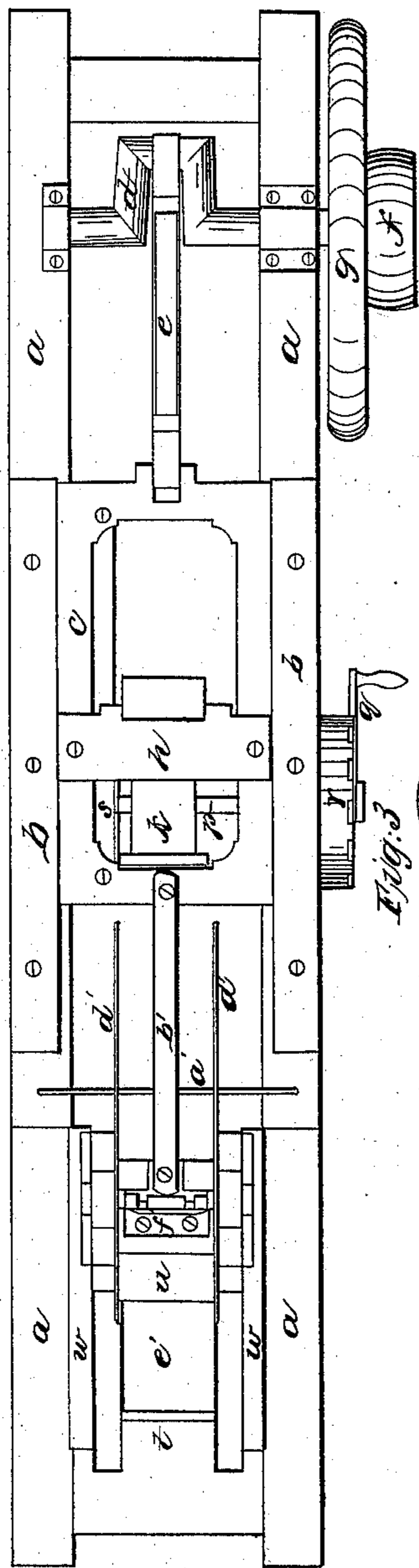


Fig. 3

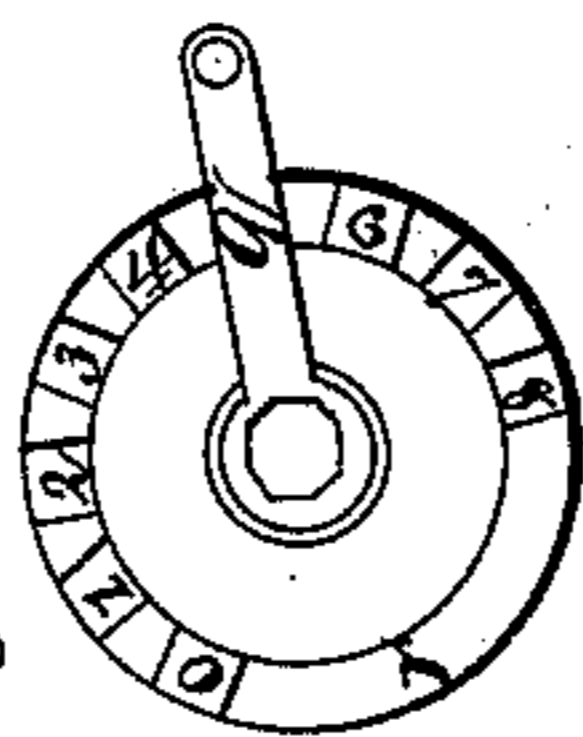
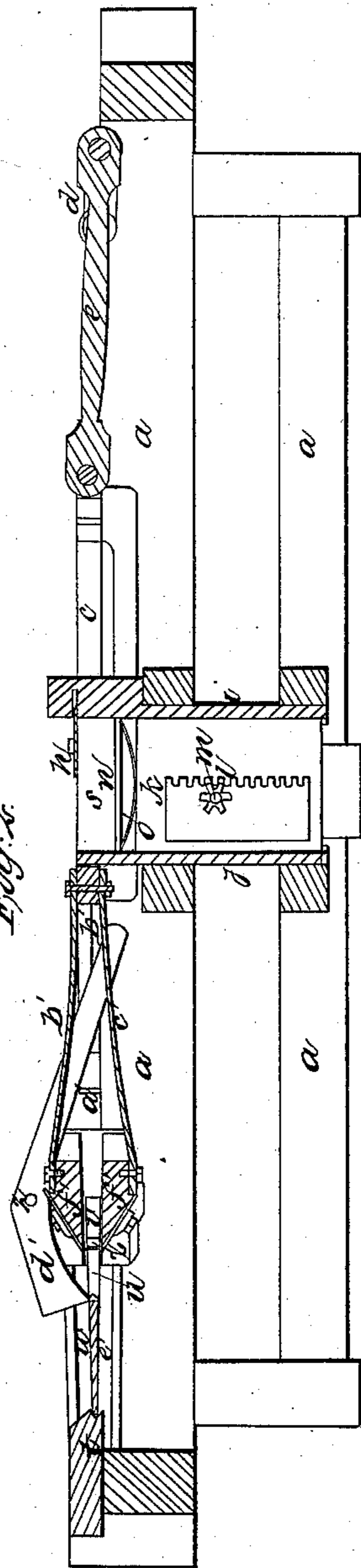


Fig. 2



UNITED STATES PATENT OFFICE.

CHARLES LEAVITT, OF QUINCY, ILLINOIS.

SHINGLE-MACHINE.

Specification of Letters Patent No. 12,600, dated March 27, 1855.

To all whom it may concern:

Be it known that I, CHARLES LEAVITT, of the city of Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Shingle-Machines; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a top view of the machine; Fig. 2, a longitudinal section through the center and, Fig. 3 an elevation of the notched flange.

The indicating letters refer to the same parts in the different figures wherever they occur.

The nature of my invention consists, first, in combining and arranging the various parts of a shingle machine as hereinafter described so as to enable me to split the bolt in equal parts each time after the first cut at the same time removing the sap; secondly, in the elastic holder which retains the shingle in position while planed or shaved to the proper taper; thirdly, in the use and operation of the jointing knives, which finish the edges of the shingles with a drawing cut.

I construct a frame (*a*) with suitable cross pieces, and supports in a strong and substantial manner, upon its top near the center I fix two horizontal rabbeted guides (*b*) in which slides a sash or gate (*c*) with corresponding rabbets, the gate *c*, is connected with the crank shaft *d* by the connecting rod *e* and derives a reciprocating motion therefrom by means of power applied to the pulley *f* attached to the fly wheel *g*. Upon the upper side of the gate *c* I secure a frow or splitting knife (*h*) which extends across the gate. Between the vertical guides *i* and *j* is a table (*k*) capable of being elevated or depressed by means of the internal rack *l*, operated by the pinion *m*, a cap piece (*n*) forms the upper portion of the table *k*, upon which the shingle bolt is placed. Between this cap and the lower portion is a spring *o* which renders the table elastic and allows it to give to half the thickness of the frow or more if required when the bolt splits irregularly. The shaft *p*, which carries the pinion *m*, has on one of its extremities outside of the frame, a spring crank handle

(*q*) which rests in one of the notches in the circular flange *r* which is fixed on the outside of the frame, concentric with the shaft *p*. The notches are nine in number the handle *q*, being placed in the first marked *o*, brings the table close up to the level of the frow *h*, and when in any of the others the numbers thereon from 1 to 8 indicate that it is depressed the thickness of that number of shingles. Another frow *s* is attached to the gate parallel to the side thereof which occupies vertically a space equal to a little more than that between the under side of the frow *h*, and the top of the table *k*, when brought down to its lowest point. Its vertical edge comes up close to the under side of the frow *h*, and a little back of its edge. Its object is to take off the sap wood from the portion of the bolt split off by the frow *h*.

At the opposite end of the frame to that where the crank shaft is placed, is the apparatus by which the shingles are planed or shaved to the proper taper upon both sides at once, and jointed at the same time. I use for this purpose two plane stocks *f'* of any convenient construction one for the top of the shingle, the other in a reversed position for the under side, they traverse in guides which converge to the end of their stroke. Also upon the upper plane stock two jointing knives (*d'*) one on each side, the prolonged tail pieces of which form levers having their fulcrums at the pivots *z*. These levers overbalancing the forward portions rest upon a bar *a'* extending across the frame. When the plane stock is forced forward the levers are necessarily elevated by the bar *a'*, and the cutting edges of the knives describe arcs which produces drawing cuts on the edges of the shingle *e'* which form smooth jointed edges parallel with each other.

The shingle holder consists of a wooden tail block (*t*) and two pieces *u* and *v* placed horizontally between the guides *w*, *v*, being fixed in mortises and *u*, in slots which admit of horizontal motion. Between these two pieces is a spring *x*, operating to keep *u* and *v* apart, but yielding to inequalities in the length of the shingles, or when the ends are not square, the ends of the piece *u* and tail block *t* are made with V shaped grooves in which the ends of the shingles to be planed, and jointed are placed. The plane stocks

are attached to the gate *c* by the connecting rods *b'* and *c'*, and receive their motion therefrom.

In operation the handle *q* is placed in notch No. 8 thus lowering the table *k* to its lowest point the bolt is placed on *k* and the machine is put in motion and a piece sufficient to make eight shingles is split off by the frow *h* and sapped by the frow *s*, the upper part is thrown aside, and the handle being placed in notch No. 4 the frow subdivides remaining piece in equal parts, then placing the handle in No. 6 another portion is subdivided and so on in the following rotation viz 7, 5, 2, 3 and 1 then moving the handle to zero the eight shingles are removed together.

I am aware that machines have been used that split off one shingle at a time, but their operation is defective, the wood will not split straight, and regularly unless the bolt is equally subdivided each time, this is the practice in making shingles by hand, and experience has demonstrated it to be the best mode. I have succeeded by my invention in doing this by machinery in a rapid, and effectual manner, as herein described, and with greater accuracy than can be conveniently accomplished by hand and with great saving of time and labor.

The shingle holder is simple, and convenient,

the elasticity derived from its spring allows it to hold the shingles firmly though varying in length, or irregular in form.

The motion which produces the drawing cut of the jointing knives, prevents the knife from splitting off the edge of the shingle and causes it to cut smooth.

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

1. The elastic table *k*, capable of being elevated and depressed by the means described or their equivalents in combination with the frow or splitting knife *h*, substantially in the manner set forth, and for the purposes specified.

2. The elastic shingle holder constructed and arranged substantially as described, and for the purposes specified.

3. The jointing knives *d'* pivoted to the plane stocks in combination with the bar *a'* substantially as described for the purpose of jointing the edges of the shingles with a drawing cut.

In testimony whereof I have hereunto signed my name this sixth day of January 1855.

CHARLES LEAVITT.

Witnesses:

SAML. GRUBB,
CHAS. EVERETT.