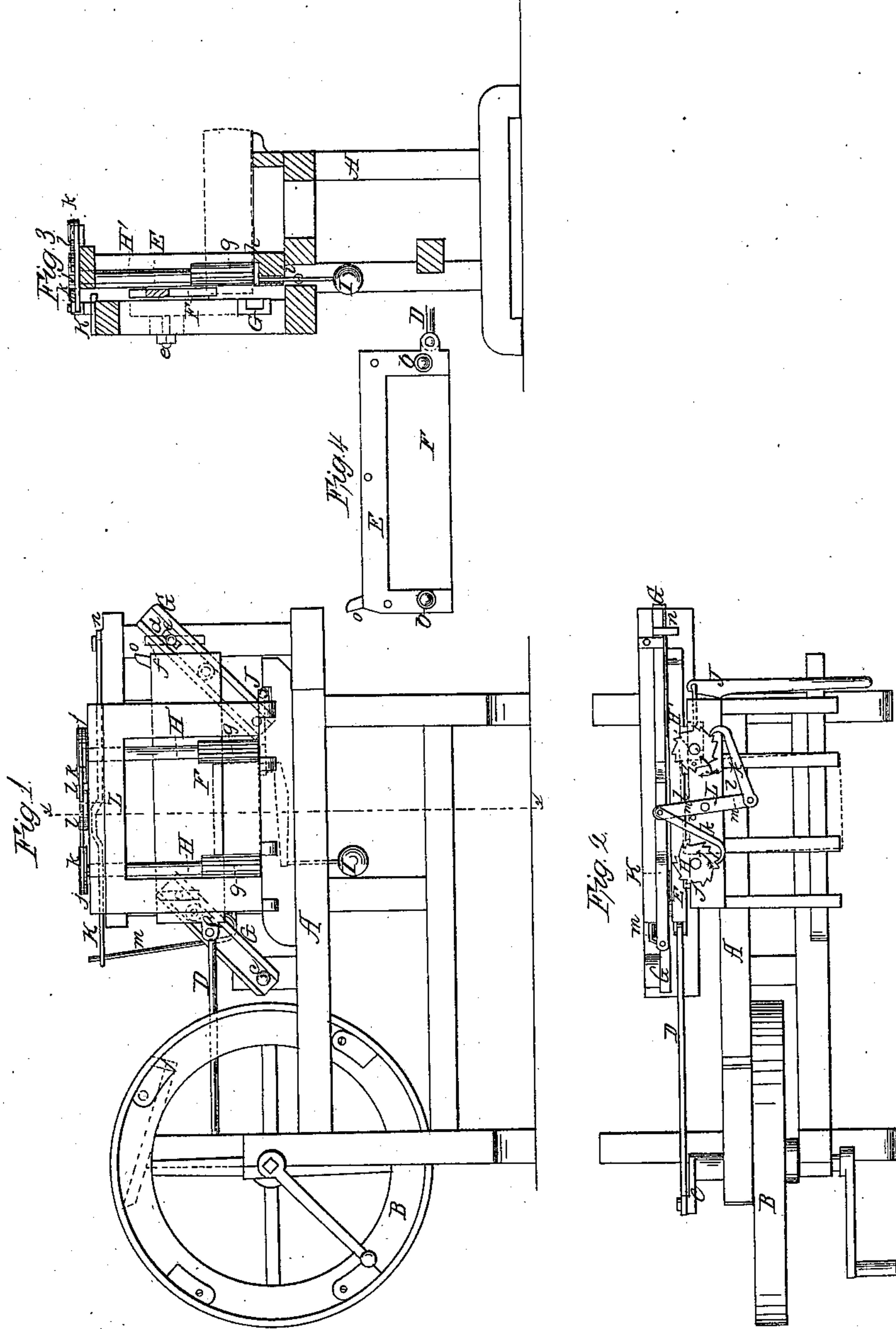


O. Stoddard,
Cutting Shingles.

N^o 26,533.

Patented Dec. 20, 1859.



Witnesses

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OREN STODDARD, OF BUSTI, NEW YORK.

DEVICE FOR FEEDING THE BOLT IN SHINGLE-MACHINES.

Specification forming part of Letters Patent No. 26,533, dated December 20, 1859; Reissued April 21, 1863, No. 1,457.

To all whom it may concern:

Be it known that I, OREN STODDARD, of Busti, in the county of Chautauqua and State of New York, have invented a new and Improved Shingle-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side view of my invention. Fig. 2, is a plan or top view of ditto. Fig. 3, is a transverse vertical section of ditto, taken in the line x, x , Fig. 1. Fig. 4, is a detached side view of the knife gate and knife.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain improvements in that class of shingle machines in which a reciprocating knife is employed for riving the shingles from the bolt.

The invention consists in a novel arrangement of the feeding device for presenting the bolt obliquely and automatically to the knife so that the shingles will be rived from the bolt in taper form.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a frame which may be constructed in any proper way to support the working parts and B, is a fly wheel placed in said frame at one end and having a crank C, at one end of its shaft. This crank C, has one end of a pitman D, connected to it, the opposite end of said pitman being connected by a joint a , to a knife gate or frame E. This knife gate or frame E, is formed of a metal bar or bars and has three sides, as shown clearly in Fig. 4, the bottom of the gate or frame being open. To this gate or frame the knife F, is attached. This knife is formed of a thin steel plate of equal thickness throughout, the cutting edge being formed by a basil as usual. The knife F, may be secured to the gate or frame by bolts or screws and it should be strained on the frame so as to render it as stiff as possible. The knife is attached to the inner side of the gate or frame.

To the outer side of the gate or frame two friction rollers b, b , are attached, one near its front and the other near its back end. These friction rollers are fitted in guides

G, G, which are attached to the frame A. The guides G, are simply metal bars grooved longitudinally to receive the rollers b , and the lower part of each guide is attached to the framing by a screw c . In the upper part of each guide an oblong slot d , is made longitudinally and through each slot d , a screw bolt e , passes, said bolts passing through vertical slots in the frame A. By this means of attaching the guides G, G, to the frame it will be seen that they may be adjusted in a more or less inclined position and either parallel with each other or not as may be desired.

In the frame A, and just back of the knife F, there are placed two vertical shafts H, H', the lower parts of which are provided with fluted sections g, g . The shaft H, is fitted in permanent bearings but the lower bearing of the shaft H', is fitted in a slide h , one end of which is connected with a bent lever i , having a weight I, attached, the opposite end of the slide being connected with a lever J. On the upper end of each shaft H, H', a ratchet j , is secured. These ratchets are each provided with alternate long and short teeth as shown clearly in Fig. 2. Into each ratchet j , a pawl k , catches, the pawls being kept engaged therewith by springs l . One pawl k , is connected directly to a slide K, the other is connected to the slide through the medium of a lever L, as shown in Fig. 2. One end of the slide K, is connected to a spring m , which has a tendency to keep the slide at the end of its movement in the direction toward the fly wheel. The opposite end of the slide K, has a lateral projection n , and the front end of the knife gate or frame has a vertical projection o .

The operation is as follows: The bolt shown in red, is placed on the frame A, and between the fluted sections g, g , of the shafts H, H', the weight I, keeping the fluted sections of the shaft H', snugly against the bolt. Motion is given the shaft of fly wheel B, by any convenient power and a reciprocating motion is given the knife F, by means of the crank C, and pitman D. The knife F, has more or less of an oblique movement relatively with the bolt and it cuts a shingle therefrom each time it descends, the obliquity of the cut being regulated by adjusting the guides G, G, as previously alluded to. The bolt is fed to the knife just

previous to the termination of its upward stroke in consequence of the projection *o*, on the gate or frame E, striking the projection *n*, on the slide K, which is thereby moved a
5 certain distance and the pawls *k*, made to actuate the ratchets *j*, *j*, and the shafts H H', and fluted sections *e*, will be turned a requisite distance to feed the bolt properly to the knife. The two ratchets *j*, *j*, are op-
10 erated simultaneously and in reverse directions as indicated by the arrows in Fig. 2, but the pawls *k*, *k*, do not both engage at the same time with corresponding teeth in the ratchets, that is to say, when the pawl *k* of
15 one ratchet is operating on a long tooth, the pawl *k*, of the other ratchet is engaged with a short tooth, consequently it will be seen that the bolt will not be fed to the knife at right angles therewith but obliquely and al-
20 ternately in opposite positions, so that the knife will cut the shingles in taper form and with the butts alternately from either side of the bolt. When the knife com-
mences its downward movement the spring
25 *m*, throws the slide K, back to its original position so that the pawls can engage with the ratchets for a succeeding operation of the feed movement as the knife ascends.

When the bolt has a straight even grain,
30 the knife F, may descend and cut the shingles with a straight drawing cut and perform smoothly, but when the grain is ir-

regular and the wood hard and compact, the knife is made to work with less power and to cut smoother by giving the knife a
35 rolling drawing cut which compound movement is obtained by adjusting the guides G, G, out of a parallel position with each other. By having the knife F, formed of a thin plate of steel secured to a gate or
40 frame E, the knife is made to cut with less power than usual and without tearing or breaking the grain, as the knife is permitted to follow or conform to the grain
45 sufficiently to prevent such a result. A smooth cut is thereby insured and the shingles by not having the grain of the wood broken or ruptured are not liable to warp or spring as those which have the cells of
50 their fiber exposed by the cutting or break- ing of the same.

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

The ratchets *j*, *j*, attached to the feed
55 shafts H, H', provided each with alternate long and short teeth and operated by the pawls *k*, *k*, and slide K, from the knife gate or frame E, in the manner specified.

OREN STODDARD.

Witnesses:

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MICH. HUGHES.