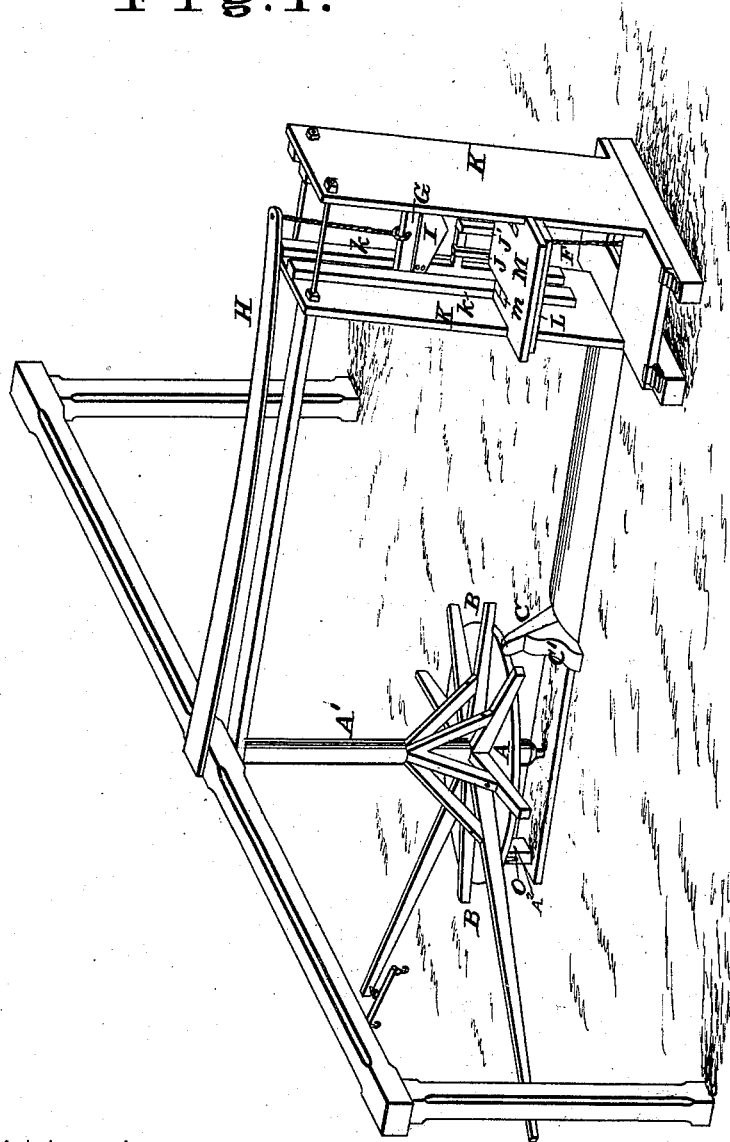


H. T. DAVIS.  
Machine for Cutting Shingles.

No. 217,204.

Patented July 8, 1879.

Fig. 1.



Attest.

*Geo. H. Knight*  
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*By Knight Bros*  
Atty.

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Fig. 3.

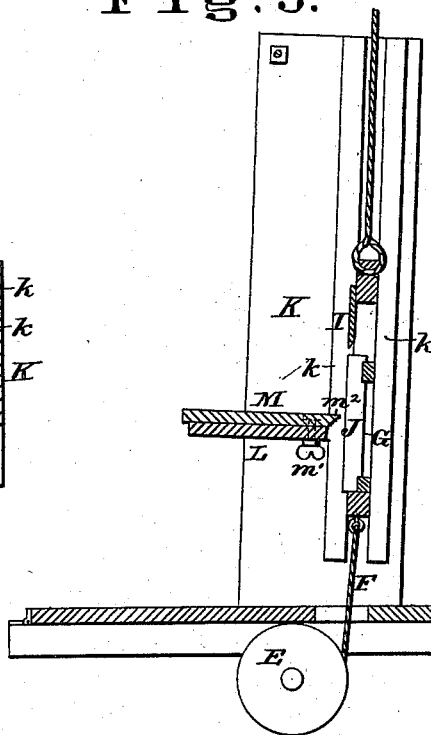


Fig. 2.

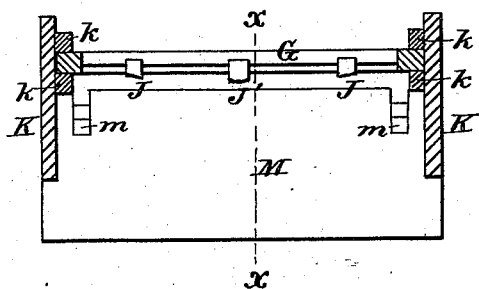
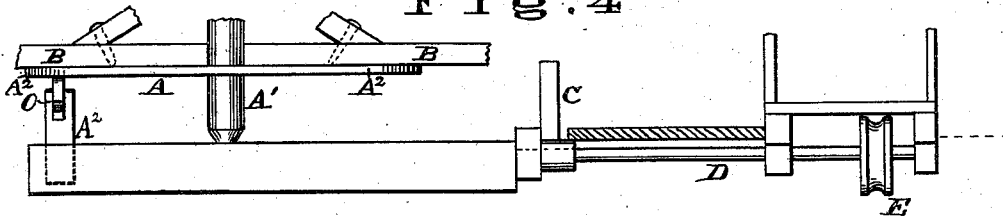


Fig. 4



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# UNITED STATES PATENT OFFICE.

HENRY T. DAVIS, OF SHERMAN, TEXAS.

## IMPROVEMENT IN MACHINES FOR CUTTING SHINGLES.

Specification forming part of Letters Patent No. **217,204**, dated July 8, 1879; application filed April 24, 1879.

### *To all whom it may concern:*

Be it known that I, HENRY T. DAVIS, of Sherman, in the county of Grayson and State of Texas, have invented a certain new and useful Improvement in Shingle-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My improvement relates to that class of shingle-machines which form the shingles by means of a knife working sidewise with the grain, and operated by a horse-power wheel, with arms acting on the arm of a rock-shaft, carrying a wheel or segment connected to the sash-frame by a cord, chain, or belt, to draw down the sash and knife, the sash being drawn up by a spring.

My improvement consists, in part, in providing the sash with guide-bars, to regulate the position of the block when presented to the knife, said bars being three in number, and the middle one made more prominent than the others, so that the block can be rocked from side to side to give the proper bevel to the shingles without the interposition of a rocking gage.

My improvements further consist in the combination, with a vertically-reciprocating shingle-cutter, of a horse-power and a lever-arm and rock-shaft for communicating motion to the cutter, a stop or bumper for arresting the back movement of the lever-arm and steadying it prior to the contact of the next horse-power tappet, as hereinafter described.

My improvements further consist in combining, with a vertically-reciprocating shingle-cutter, a horizontal rock-shaft and lever, and a tappet-wheel for operating the same, a steadying-roller to support the rear side of the wheel at the time the tappets are acting on the inclined lever of the rock-shaft, so as to hold said tappets to their work and prevent a misstroke as the knife goes through the block.

In the drawings, Figure 1 is a perspective view of my apparatus. Fig. 2 is a horizontal transverse section of the knife-sash. Fig. 3 is a vertical section through the sash and table at *xx*, Fig. 2. Fig. 4 is a detailed view, showing the power-wheel and rock-shaft which

carries the cord-pulley connected to the knife-sash to cause its descent.

A is a horse-power wheel, having arms B projecting radially from the upright wheel-shaft A<sup>1</sup>. The shaft A<sup>1</sup> turns in any suitable bearings at top and bottom.

One or more of the arms B may be made of greater length than the others, for the attachment of the horse by which the wheel is turned.

The arms B, as the wheel turns, come in contact with the arm C upon a rock-shaft, D, extending beneath the horse-track, and having on its other end a pulley or segment, E, attached to and coiled upon which is a cord, chain, or belt, F, whose upper end is attached to the knife-sash G. The knife-sash is connected at the upper part to a lifting-spring, H. The construction is such that as the arm C is carried over by the arms B the knife-sash is drawn down, and as soon as the arm B has passed the arm C the spring-board H draws the sash up and draws back the arm C into the position shown, resting steadily in fixed position in contact with the bumper or back-stop C', which may be cushioned with any soft substance to prevent noise, ready to be acted on by the next arm B, to again draw down the sash and shave off another shingle from the block.

I is the knife. I prefer to make this angular, as shown, because it works with greater certainty and ease, and has less tendency to render the shingles "shaky." Beneath the knife, upon the sash, are three guide-bars, J J J'. The two side bars are lettered J, and the central one J'. The latter projects farther than the side bars, so that when the face of the block is in contact with the central bar and one of the side bars, its face is slightly oblique to the knife, and the shingle cut from it will be thicker at one end than at the other. Then, before the knife descends to cut off another shingle, the block, while kept in contact with the central bar, is rocked horizontally, so as to bring it in contact with the other side bar, and so the shingles are cut from the block with the thick and thin ends alternating, as described.

I claim no novelty in this way of cutting shingles from a block, but only in the con-

struction and arrangement of the sash-bars J J J' as a means for the accomplishment of this purpose.

The rigid guide-bars dispense with the need of a rocking gage, and are greatly superior to a rocking gage in several respects, one of the most important of which is, that no harbor is afforded for chips, which are liable to fall behind the gage and obstruct its motion.

The uprights in which the sash works are shown at K, and *k k* indicate the sash-guides. These guides are set at such inclination that the shingles will tend to fall away from the block, as shown.

The table is preferably inclined at right angles to the inclined guides *k k*, and consists of two parts, L M. The part L is fixed to the uprights K; but the part M is made adjustable to and from the sash, and also vertically. The part M is secured upon that L by set-screws, which pass through slots *m* in it, and which also extend through holes in the part L, beneath which they carry thumb-nuts *m*<sup>1</sup>.

It will be seen that the slots allow adjustment of the part M to or from the knife.

The edge *m*<sup>2</sup> of the part M which is next the knife is beveled, so as to leave an acute angle at the upper side, to insure support to the under side of the block in close proximity to the cut of the knife as it issues from the block, and prevent the splintering of the block and shingle.

The operation is as follows: The rotation of the wheel A brings the arms B, one after another, in contact with the arm C of the rock-shaft. The arms B carry the arm C a certain

distance, (sufficient to cause the knife to pass through the shingle-block upon the table L M,) and then the arm C escapes from the arm B, and is thrown back by the spring H, as described, against the bumper or back-stop C', where it rests steadily in readiness for the stroke of the next of the tappet-arms B.

It will be seen that as the arms B are acting on the arm C the tendency will be to lift the side of the wheel A which is contiguous to the arm C. To prevent this tilting of the wheel, I form upon it a circular bearing, A<sup>2</sup>, which runs around upon one or more rollers, O, beneath the bearing at the side opposite the arm C.

I claim as my invention—

1. The combination, with the knife I and sash G, of the rigid guide or gage bars J J and J', constructed and applied as and for the purposes set forth.

2. The combination of the vertically-reciprocating cutter G I, rock-shaft D, pulley E, chain F, lever C, tappet-wheel A B, and the back-stop or bumper C', substantially as and for the purposes specified.

3. In combination with a vertically-reciprocating cutter, a tappet-wheel, and a rock-shaft and lever for communicating motion from one to the other, the supporting-roller O, for bracing the tappet-wheel against the deflecting vertical pressure of the inclined lever as the knife goes through the block.

HENRY T. DAVIS.

Witnesses:

J. E. PERRY,  
PETER RUGER.