

# Hopper & Hetzell, Cutting Slate.

N<sup>o</sup> 83,634.

Patented Nov. 3, 1868.

Fig. 1

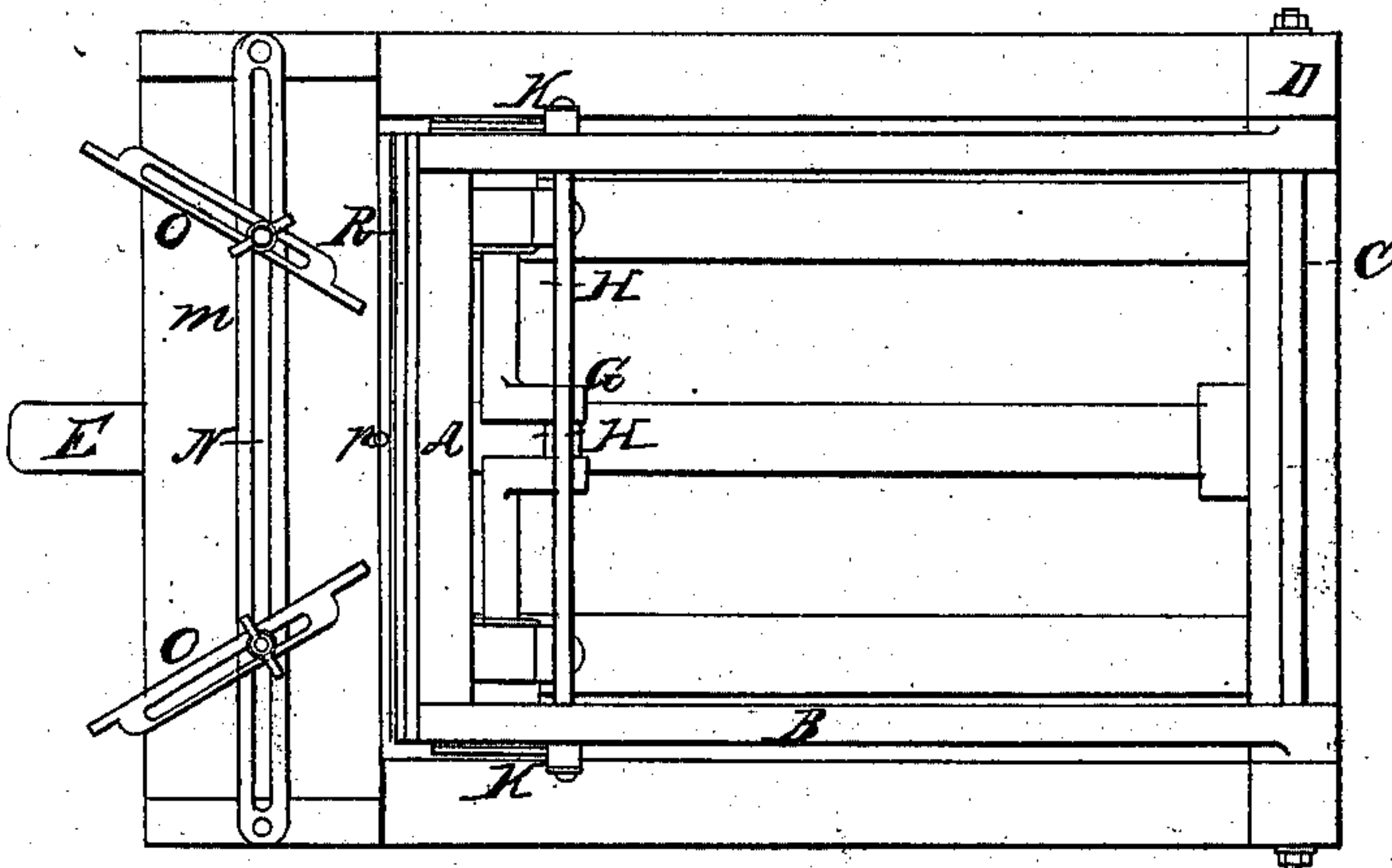


Fig. 2

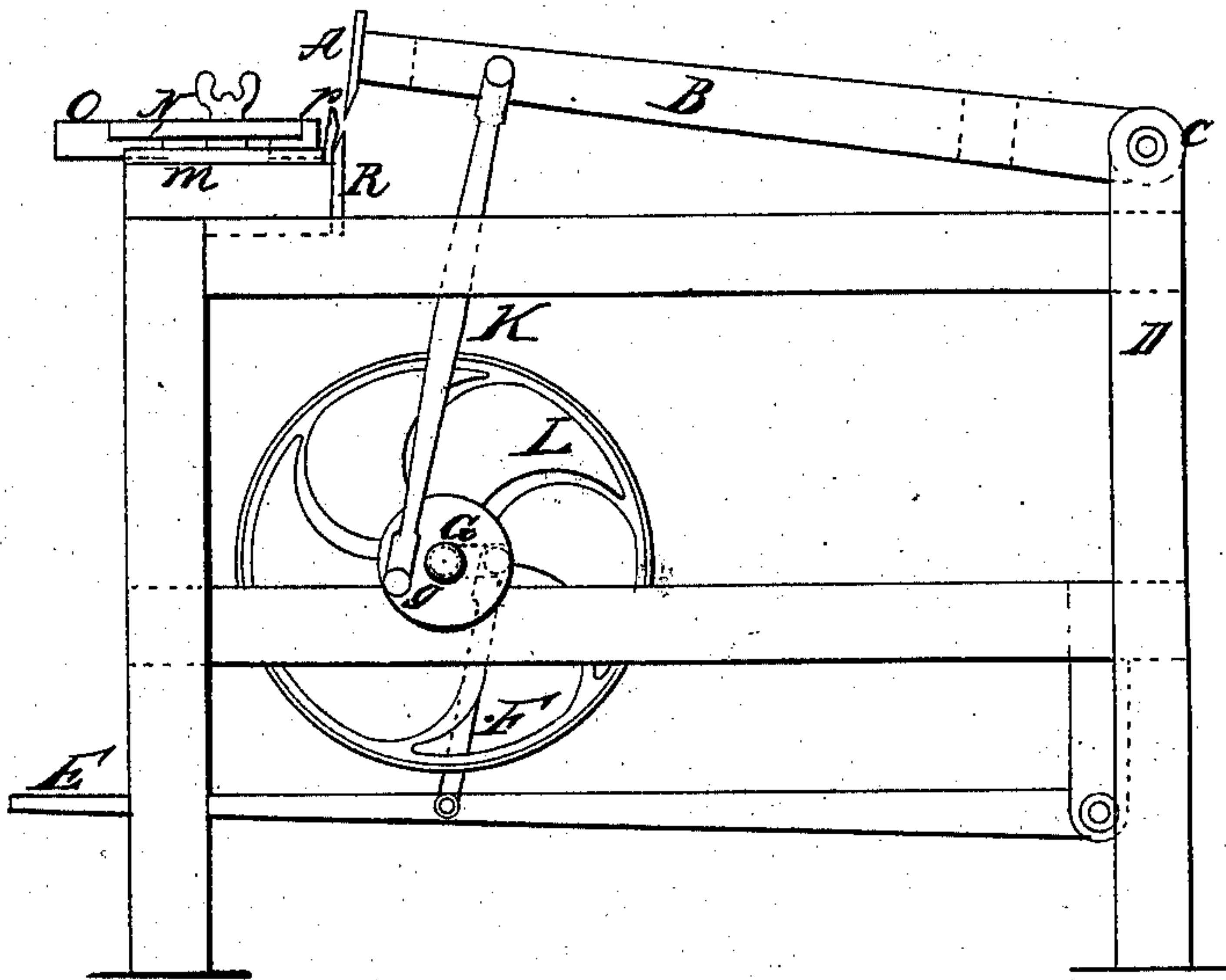
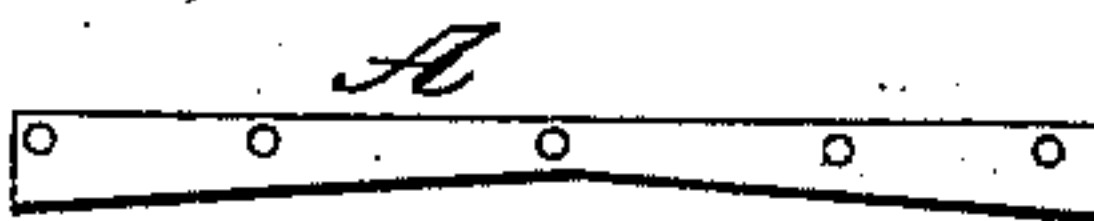


Fig. 3.



Witnesses:  
Horace Edwards  
Morris Buttrick

Inventor:  
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HATFIELD HOPPER AND JOHN G. HETZELL, OF NEWARK, NEW JERSEY

Letters Patent No. 83,634, dated November 3, 1868.

IMPROVED SLATE-CUTTER.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that we, HATFIELD HOPPER and JOHN G. HETZELL, of Newark, in the county of Essex, and State of New Jersey, have invented a new and improved Slate-Cutter; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a plan.

Figure 2 is a cut through *a-b*.

Figure 3 is a cut of the knife or cutter.

The cutter A is secured to the frame B, and this frame is hung, by means of the rod C, to the frame D.

The cutter is raised and operated by the treadle E and connecting-rod F, running from the treadle to the crank G, in the shaft H. On either end of the shaft are a wheel and crank, I I, and to each of these cranks is attached a connecting-rod, K, running up to the frame B, by which the motion of the treadle is communicated to it.

The machine may be operated by steam-power, in which case the treadle and connecting-rod F would be dispensed with.

On the shaft H is placed a balance-wheel, L, to regulate the motion.

M is a table, on which is laid the slate for cutting, resting on a strip, N, to which are attached two gauges, O O, to regulate the angle for cutting the slate.

P is a centre-pin, preventing the slate from moving too far under the cutter.

The lower edge of the cutter is bevelled downward, right and left, from the centre, to allow the slate to be cut from the outer edge. In cutting work square, a straight cutter only is used, one end being raised above

the level of the other, to cause it to cut with the order of shears.

R is a straight stationary knife, made fast to the table M, in connection with which the cutter operates, as with the counterpart of shears.

The gauges O O may be put upon the table direct, and in that case the strip N would not be required.

The cutter, instead of being hung on the frame B, may be put in a gate, sliding up and down, in the frame C, operated by the cranks and connecting-rods, the same as the frame B.

We are aware that a curved and bevelled rotary knife has been used in connection with a fixed cutter for trimming slate, but as this forms no part of our invention, we do not wish to claim it.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination of fixed knife R with bevelled cutter A, when the latter is operated by means of an up-and-down motion, in the manner substantially as described.

2. The gauges O O and the centre-pin P, substantially as described, and for the purpose named.

3. The frame B, hinged at C, carrying the bevelled cutter A, when operated by means of the treadle E, through the media of the connecting-rods F K, and crank-shaft H, carrying fly-wheel L, all constructed and arranged to operate in the manner and for the purpose substantially as described.

HATFIELD HOPPER.  
J. G. HETZELL.

Witnesses:

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