

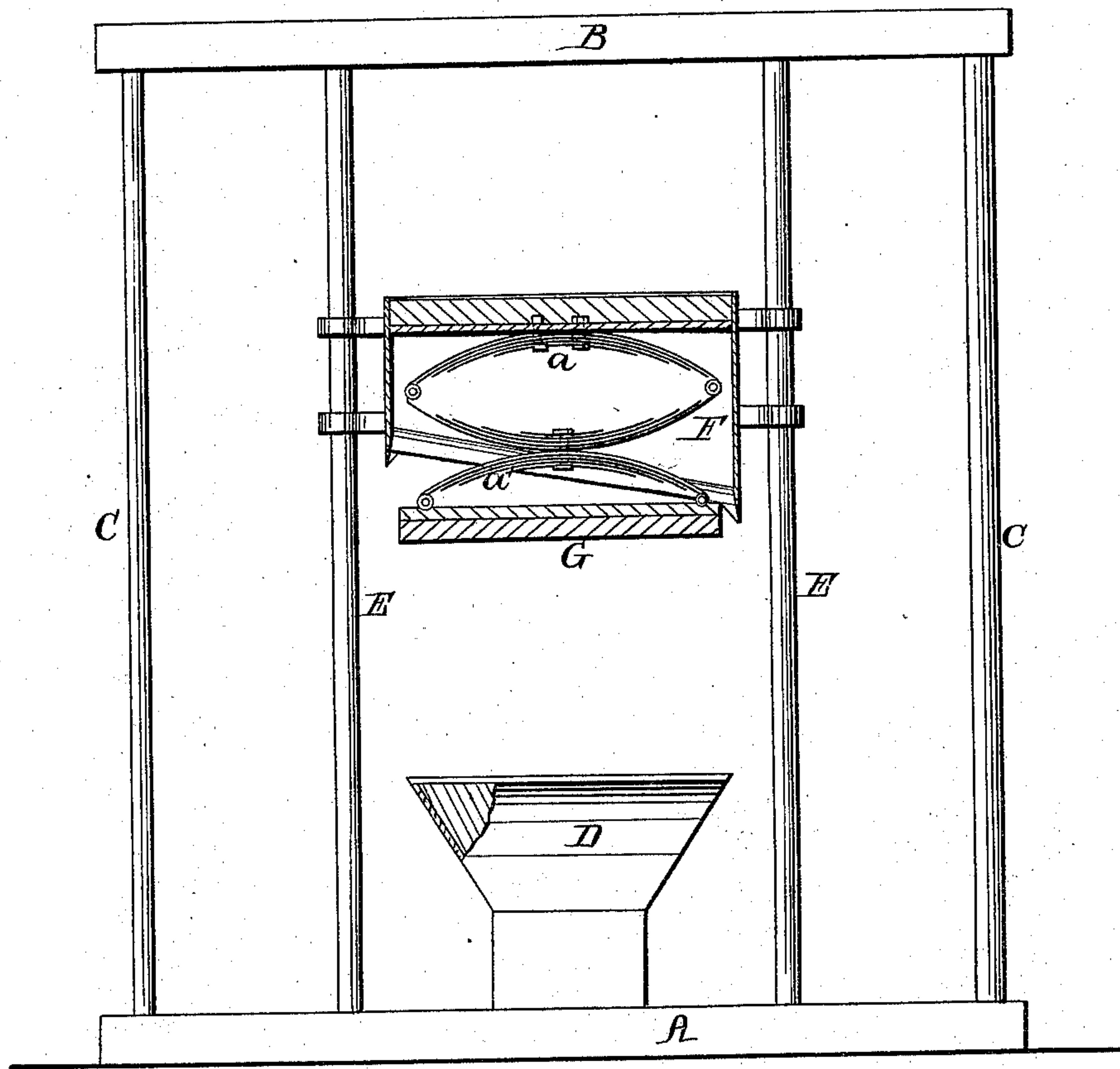
T. R. Drummond,

Cutting Slate.

N^o 67,963.

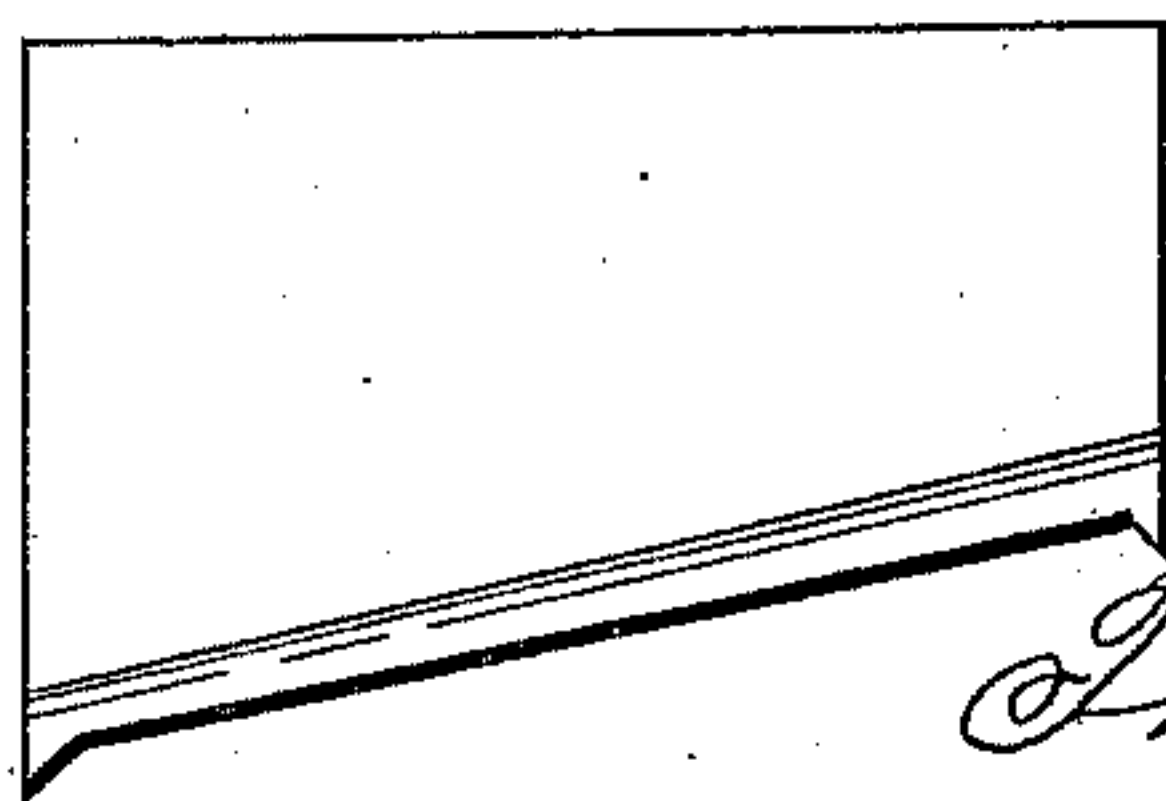
Patented Aug. 20, 1867.

Fig; 1.



Fig; 2.

Witnesses;
Theo Fische
J. A. Service



Inventor;

Thos. R. Drummond
Per Munn & Co
Attorneys

United States Patent Office.

THOMAS R. DRUMMOND, OF HARTFORD, CONNECTICUT.

Letters Patent No. 67,963, dated August 20, 1867.

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 I, THOMAS R. DRUMMOND, of Hartford, in the county of Hartford, and State of Connecticut, have invented a new and improved Slate-Cutter; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and improved method of cutting slate; and the invention consists in forming and using a box-knife, or a series of knives, attached to the lower edge of a box, and of a form to correspond with the shape of the slate, and in using, in connection therewith, elastic blocks or cushions, as will be hereinafter described.

Figure 1 represents a side elevation of the machine, showing the frame by which it is supported, and the cutting-block.

Figure 2 is a view of one side of the cutter-box.

Similar letters of reference indicate corresponding parts.

A is a platform, or the base of the frame, and B is a cap-piece, occupying a horizontal position parallel with the base, and connected with it by vertical rods at the four corners, which rods are marked C. This frame is rectangular in form, and of suitable height. Near the centre of the platform A stands the cutter-block, marked D, surrounding which are four more upright rods, marked E. These rods E are guides or ways, which govern the descent of the cutter-box. The cutter-box is marked F, and is shown in section in the drawing.

In holding slate to be cut, it requires yielding surfaces to come in contact with it, otherwise the slate will often be broken. I have found that elliptic or carriage springs $a a'$, arranged as shown in the drawing, answer a good purpose. Attached to these springs, or directly to the lower one a' , I have an elastic block, G. This block, as the cutting-box descends, strikes the slate, which lies upon the block D, (represented in red,) and is thereby forced up into the box, allowing the edge of the cutting-box, or the knives, to cut the slate. This box F, or its lower edges, (or sides and ends,) are knives or cutters placed at different angles, with sharp right-angled punches at each corner, for the purpose of cutting the angles of the slate and giving a start to the cutters. The upper edges of the cutter-block D form cutters, so that when the box and knives are brought down on to the slate the knives surround the block, and the slate is cut over the edges of the block. Within the edge surrounding the cutter-block, or over the surface of the block, within the cutters, there is an elastic cushion, on to which the piece of slate is pressed by the elastic block G and the force of the springs above it. Springs may also be used on the block D. The cushion within the cutters on the block D must stand a half inch or so above the cutters, in order that the slate may receive the descending block and be pressed between the two elastic surfaces before the knives touch it. The box-knife, as well as the cutters on the block D, are made of hardened cast steel. Rubber or any other suitable elastic material may be used for the block G and the cushion on the block D.

By this arrangement I am enabled to cut a piece of slate entire at a single blow or motion, instead of cutting the four sides at different times, as is the usual practice, thereby saving much valuable time, besides performing the work in a much more perfect and satisfactory manner.

What I claim, and desire to secure by Letters Patent, is—

1. The four-sided box-knife F, the elastic block G, and the cushion within the cutters on the block D, arranged and operating substantially as described, for the purposes set forth.
2. In combination with the cutter-box knife F, I claim the springs $a a'$, or their equivalents, and also the use of springs under the cushion of the block D, substantially as and for the purpose set forth.

Witnesses:

THOMAS S. JONES,
JOHN GEMMILL.

THOMAS R. DRUMMOND.