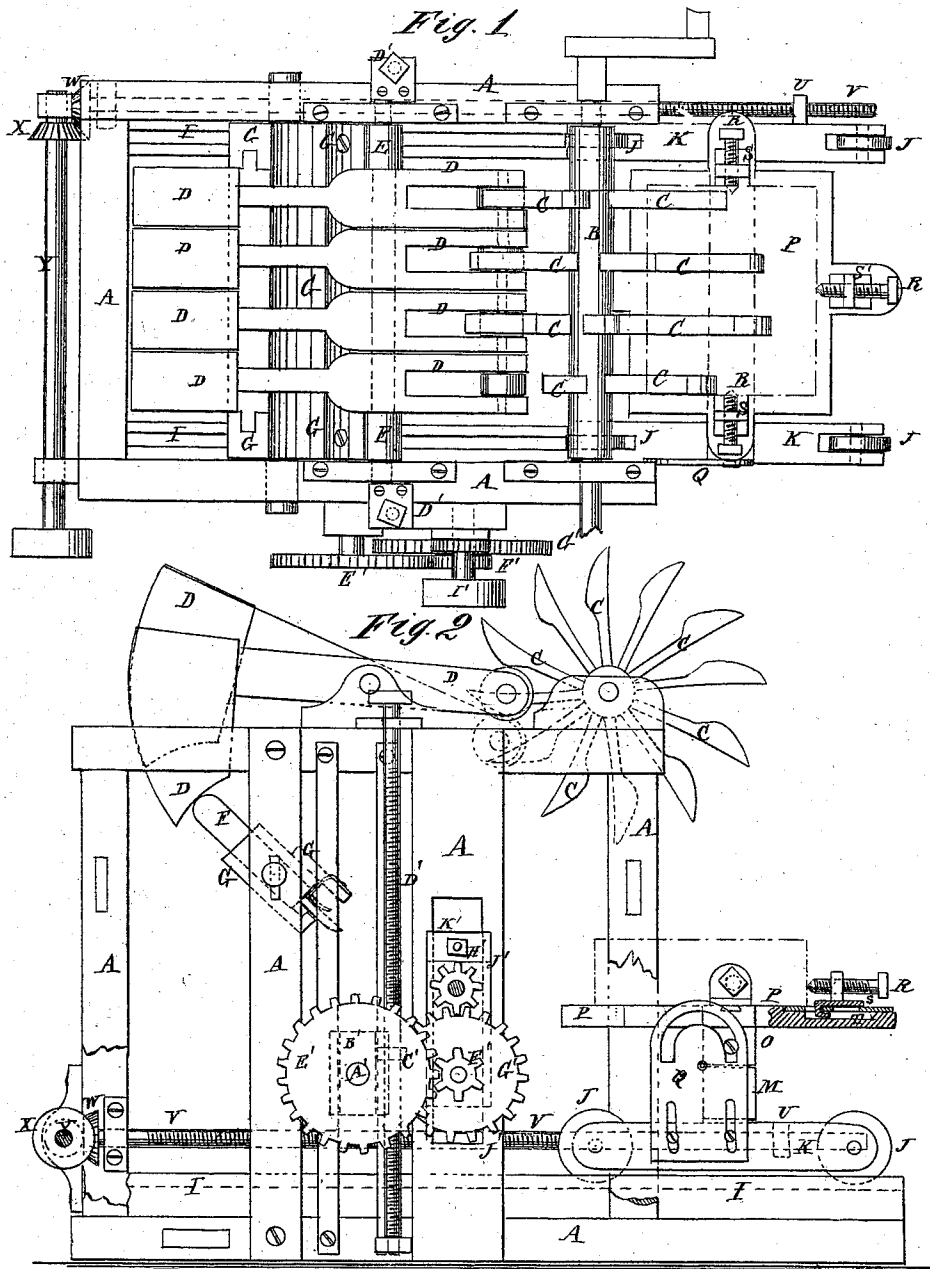


**C. E. ODGERS.**  
**Machines for Cutting Stone.**

No. 136,001.

Patented Feb. 18, 1873.



**Witnesses:**  
*A. W. Almquist*  
*C. Edqvist*

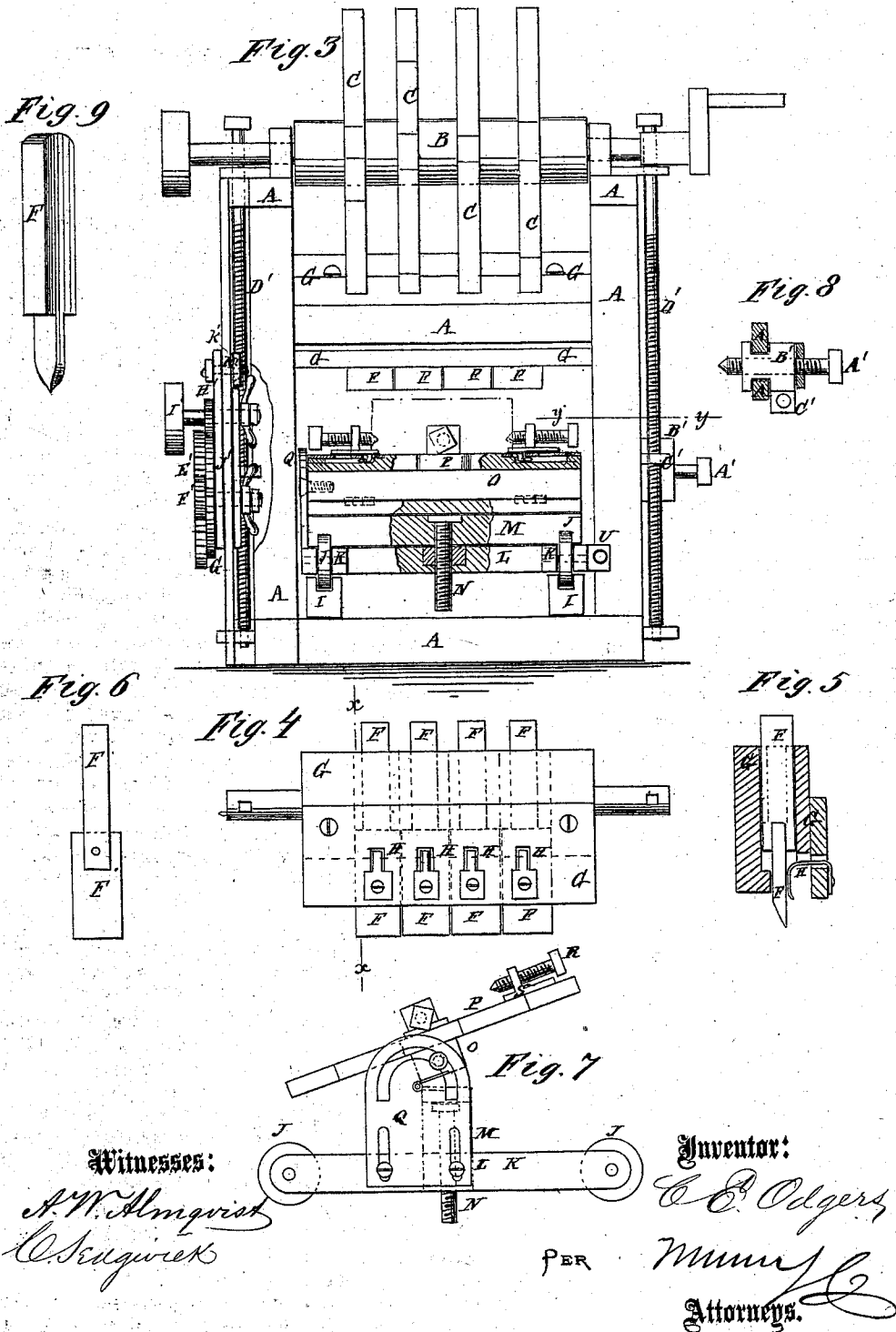
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*C. E. Odgers*  
**PER** *Munn & Co.*  
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# UNITED STATES PATENT OFFICE.

CHRISTOPHER E. ODGERS, OF BLOOMFIELD, NEW JERSEY.

## IMPROVEMENT IN MACHINES FOR CUTTING STONE.

Specification forming part of Letters Patent No. 136,001, dated February 18, 1873.

*To all whom it may concern:*

Be it known that I, CHRISTOPHER E. ODGERS, of Bloomfield, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Stone-Cutter, of which the following is a specification:

Figure 1, Sheet I, is a top view of my improved machine. Fig. 2, Sheet I, is a side view of the same, parts being broken away to show the construction. Fig. 3, Sheet II, is an end view of the same, parts being broken away to show the construction. Fig. 4, Sheet II, is a detail view of the cutter-holder. Fig. 5, Sheet II, is a detail section of the same taken through the line *xx*, Fig. 4. Fig. 6, Sheet II, is a detail view of one of the cutters. Fig. 7, Sheet II, is a detail side view of the carriage. Fig. 8, Sheet II, is a detail section taken through the line *yy*, Fig. 3. Fig. 9, Sheet II, is a detail view of one of the cutters.

Similar letters of reference indicate corresponding parts.

The invention consists in improving stone-cutting machines, as hereinafter fully described and subsequently pointed out in the claims.

A represents the frame of the machine, to the top of which, near one end, is pivoted a shaft, B, to which are attached radial arms C, upon the outer ends of which are formed cams or curved faces to operate the hammers D, said arms C being so arranged that each hammer D may be operated four times at each revolution of the shaft B, and that no two adjacent hammers may be operated at exactly the same time. The shaft B is driven from any convenient power by a belt or other suitable means. The hammers D are pivoted to a shaft, E, connected with the upper part of the frame A, and their rear ends are slotted and have a friction-roller pivoted in the outer end of said slot for the cam-arms C to operate upon. The faces of the heads of the hammers D are concaved, as shown in Fig. 2, so that they may strike fairly upon the ends of the chisels or cutters F, however said cutters may be adjusted. G is the cutter-holder, the journals of which are secured to the frame A by wedge-keys or other convenient means, so that the holder may be conveniently adjusted to hold the cutter F at any desired inclination, and, when adjusted, may be held securely in place. The cutters or chisels F are made with a shoul-

der upon their upper and upon their lower side, and are placed in slots or recesses in the holder G, which recesses are made with a shoulder to receive the lower shoulder of the chisels, to prevent the possibility of the chisels descending too far. The cutters F are raised to receive the blow of the hammers by springs H attached to the holder G, and which bear against the upper shoulders of the cutters F, as shown in Figs. 2, 4, and 5. The faces or cutting-edges of the cutters F are made of any desired shape, according to the character of the work to be done or the form to be given to the stone. By this construction the work will be done in a manner very similar to hand-work. To the base of the frame A is secured a track, I, along which roll the wheels J pivoted to the front and rear ends of the side bars K of the carriage-frame, the middle parts of which are connected by a cross-bar, L. Upon the bar L is placed a bar, M, to the center of which is rigidly attached a screw, N, which passes through a nut let into and secured to the cross-bar L, so that the bar M may be raised and lowered by turning it in one or the other direction. To the bar M is hinged a similar parallel bar, O, to the center of which is swiveled the platform P, upon which the stone is placed to be operated upon. To one of the side bars K is secured a plate, Q, by screws or bolts which pass through slots in the said plate Q, so that it may be raised and lowered to adjust it according to the adjustment of the bar M. In the upper part of the plate Q is formed a slot curved in the arc of a circle having its center in the axis of the hinges that hinge the bar O to the bar M, and through which slot passes a screw which screws into the end of the said bar and holds the bar securely in any position into which it may be turned upon its hinges. The stone to be operated upon is secured in place upon the platform P by pointed screws R, which pass through nuts attached to hook-plates S, which hook upon slotted plates T attached to the platform P, so that the holding device may be readily adjusted to different-sized and different-shaped stones. To one of the side bars K of the carriage-frame is attached a nut, U, through which passes a screw, V, which is swiveled to the frame A, and to one end of which is attached a bevel-gear wheel, W, the teeth of which mesh into the

teeth of the bevel-gear wheel X attached to the shaft Y. The shaft Y revolves in bearings attached to the frame A, and has a pulley attached to it to receive the belt, by which it is driven from a pulley attached to the cam-shaft B, so that the stone may be drawn forward beneath the cutters automatically.

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

1. The combination, with carriage-frame and platform P, of bar M, screw N, nut in cross-bar

L, and hinged bar O, arranged as and for the purpose described.

2. The plate Q, secured to side bar K and having a slot curved in the arc of a circle whose center is the axis of the hinge that connects bars O and M, as and for the purpose specified.

CHRISTOPHER E. ODGERS.

Witnesses:

JAMES T. GRAHAM,  
ALEX. F. ROBERTS.