

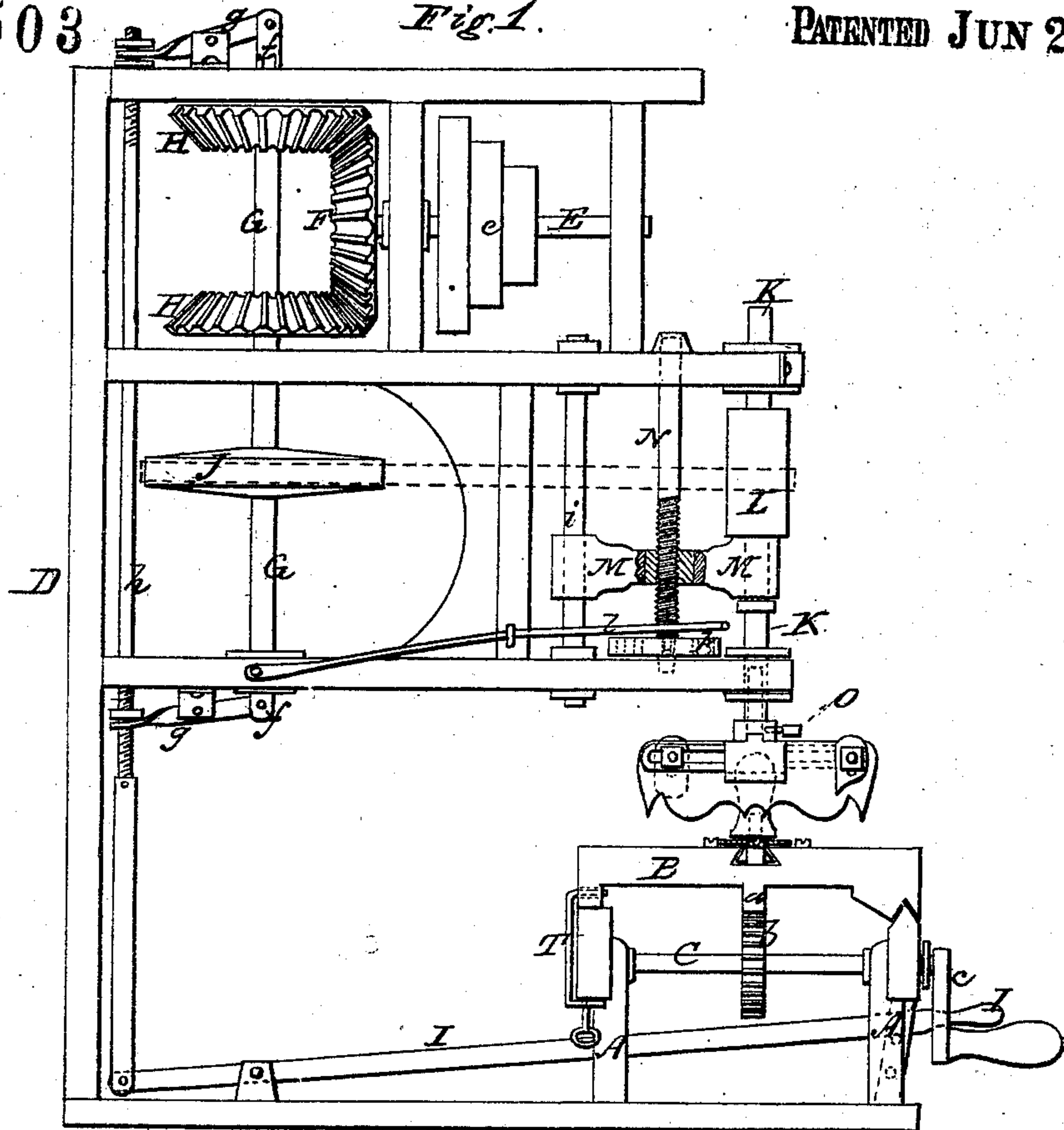
**C. SCHILLING.**

*Machine for Cutting Mouldings.*

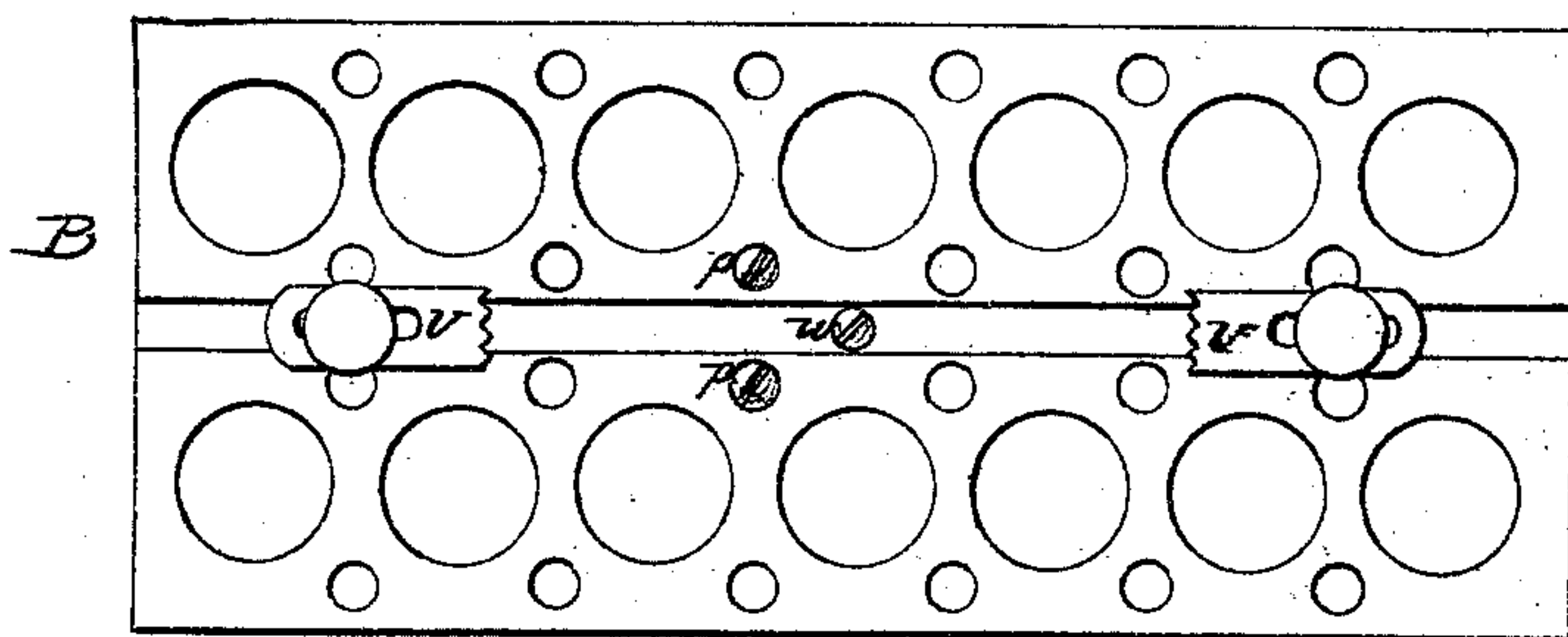
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*Fig. 1.*

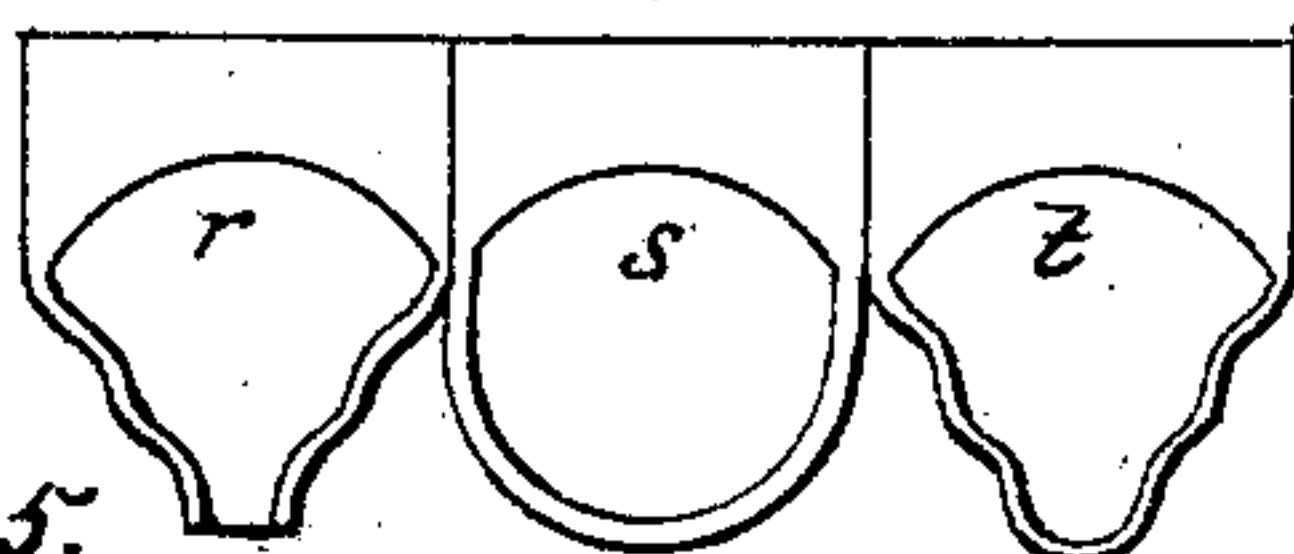
PATENTED JUN 27 1871.



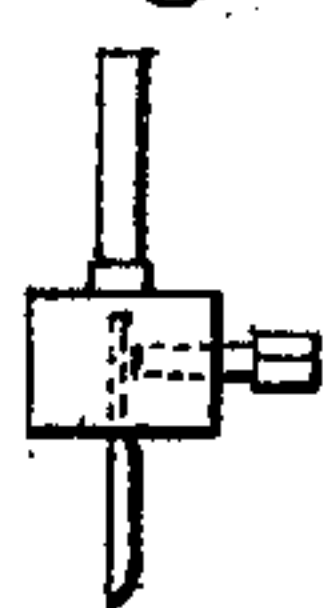
*Fig. 2.*



*Fig. 3.*



*Fig. 5.*



*Fig. 4.*



*Fig. 6.*



*Witnesses.*

*Harry King.*  
*Phil. T. Dodge.*

*Inventor.*

*C. Schilling*  
*by Dodge & Munn*  
*Atty.*



# UNITED STATES PATENT OFFICE.

CONRAD SCHILLING, OF PEKIN, ILLINOIS.

## IMPROVEMENT IN MOLDING-MACHINES.

Specification forming part of Letters Patent No. 116,503, dated June 27, 1871.

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

Be it known that I, CONRAD SCHILLING, of Pekin, in the county of Tazewell and State of Illinois, have invented certain Improvements in Machines for Cutting Moldings, &c., of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to a machine for the purpose of sinking and planing panels, cutting rosettes, molding, boring, &c.; and consists in a novel combination and arrangement of a rotary cutter with gear for operating the same and a table for supporting the work, as hereinafter described.

Figure 1 is a side elevation of my machine. Fig. 2 is a top-plan view of the bed. Figs. 3, 4, 5, and 6 are views of different forms of cutters.

In constructing my machine I arrange on a suitable base two horizontal parallel ways, A, and mount thereon a sliding bed, B, having a longitudinal rack-bar, *a*, formed on its under side, and between the ways I mount a horizontal shaft, C, provided with a pinion, *b*, gearing into rack *a*, and with a hand-crank, *c*, by turning which latter the bed may be moved to and fro on the ways. By the side of ways A I mount an upright frame, D, one side of which extends out above the bed B, as shown. In the upper part of this frame I mount a horizontal driving-shaft, E, provided with cone-pulleys *e* and a bevel-wheel, F; and in the outer side of the frame I mount an upright shaft, G, in such manner as to have a little vertical play, and on this shaft mount two bevel-wheels, H, in the positions shown, so that, by raising or lowering the shaft, one or the other of the wheels H may be thrown in gear with wheel F. In this manner the motion of shaft G may be reversed at will, as it will be turned in one direction when the upper wheel H is in gear, and in the opposite direction when the lower wheel is in gear. Each end of shaft G I mount in a socket, *f*, attached to one end of a pivoted lever, *g*, and the opposite ends of these levers I connect to a vertical rod, *h*; and the lower end of this rod I connect to a pivoted lever, I, which extends forward under the bed in such position that it may be readily grasped by the operator. When the lever I is moved it operates rod *h* and levers *g*, and reverses the motion of shaft G. On the lower part of shaft G I mount a large pulley, J, and in the frame D, above the middle of the bed B, I

mount a vertical arbor or shaft, K, provided with a pulley, L, and connect this latter pulley by a belt with pulley J, as shown. When motion is imparted to the driving-shaft E it is transmitted through the gearing to shaft G and pulley J, and thence through the belt to the arbor, the motion of which latter may be reversed by moving lever I. The arbor K I mount so as to slide vertically in its bearings, and support it by a bar, M, which slides on a fixed rod, *i*, and is moved by a vertical screw, N, so that by turning the screw the bar and the arbor may be raised or lowered as occasion requires. The screw I provide with a hand-wheel, *k*, by which to turn it, and to the frame I secure a spring-catch, *l*, so as to engage with the wheel and prevent the screw from being turned by the jar or vibration of the frame. The lower end of the arbor K I provide with a socket and set-screw, O, by means of which any desired cutter-head, knife, bit, or other tool may be attached thereto.

In operating the machine a suitable tool is secured to the arbor, and the wood laid on the bed B, and the screw turned to bring the tool down upon the wood, the latter being held stationary or moved upon or with the table, as may be required, and the motion of the cutter being reversed whenever the grain of the wood may render it necessary. I provide heads or clamps, for attachment to the arbor, of various forms and sizes, adapted for holding different knives and tools, as required on different kinds of work—one form being shown attached in Fig. 1, while another form is shown detached in Figs. 5 and 6. The knives or cutters I make of sheet-steel, concave on one side, and of any required form or outline on the edge—three forms, *r*, *s*, and *t*, being shown in Fig. 3, while Fig. 4 represents a vertical section of one of them. When the machine is to be used for sinking rosettes or other circular work of the kind, the bed B is fastened by a clamp, T, as shown in Fig. 1, and the wood secured to the bed by screw-clamps U provided for the purpose, as shown in Fig. 2. A tool or cutter having the desired outline is then attached to the arbor, the latter set in motion, and the hand-wheel turned until the tool is brought down and has cut to the desired depth.

In sinking elongated panels the wood is secured to the bed and a cutter secured to the arbor at the proper distance to one side of the cen-



ter, and then the cutter brought down and the bed moved endwise the necessary distance. When this is done the cutter forms an elongated recess or panel, terminated by semicircular ends. The cutter may be so shaped as to sink the panel and form a molding around the edges thereof at one and the same operation, or the panel may be cut with one tool and the molding formed with another. When it is not desired to sink a large surface, as in a panel, a tool, similar to that shown in Fig. 5, may be secured to the arbor, and the wood moved about so as to cause the tool to cut the desired figure or design.

When it is desired to form a molding around the inside of circular or oval picture-frames and similar articles, the bed is clamped fast and two pins, *p*, screwed into it a little to one side of the arbor, as shown in Fig. 2. The frame is then laid on the bed and pressed edgewise against the pins, and at the same time turned slowly around and the cutter brought down to form the molding. In molding the outside of frames and like articles a single pin, *w*, is screwed into the bed, and the frame drawn around the same. These pins may also be used as guides when it is desired to cut or mold both sides of a piece alike, the article being cut or molded on one side and then turned over so that the pins bear against the edges of the sunken or molded face, and turned around

while the tool cuts the second face, the pins serving to guide the wood so as to bring the second face directly opposite the first.

When not required for other purposes, the machine may be used for boring, forming tenons, or tonguing and grooving, by attaching a suitable tool to the arbor.

A machine constructed on my plan is simple, cheap, and efficient in its operation, and, being adapted to many different kinds of work, will be found of great service to wood-workers.

Having thus described my invention, what I claim is—

1. The shaft *G* provided with the two bevel gear-wheels *H*, mounted in the movable bearings *f* pivoted to the levers *g* having their opposite ends connected to the shifting-rod *h*, substantially as described.

2. The sliding shaft *K*, in combination with the bar *M*, screw *N*, perforated wheel *k*, and spring-pawl *l*, all arranged to operate substantially as described.

3. In combination with the devices last above named, the reciprocating or sliding bed *B*, arranged to operate as set forth.

CONRAD SCHILLING.

Witnesses:

JOHN W. GLASSGAM,  
JOHN WILDHACK.