

(No Model.)

S. F. MOORE.
CARVING MACHINE.

No. 452,144.

Patented May 12, 1891.

Fig. 1.

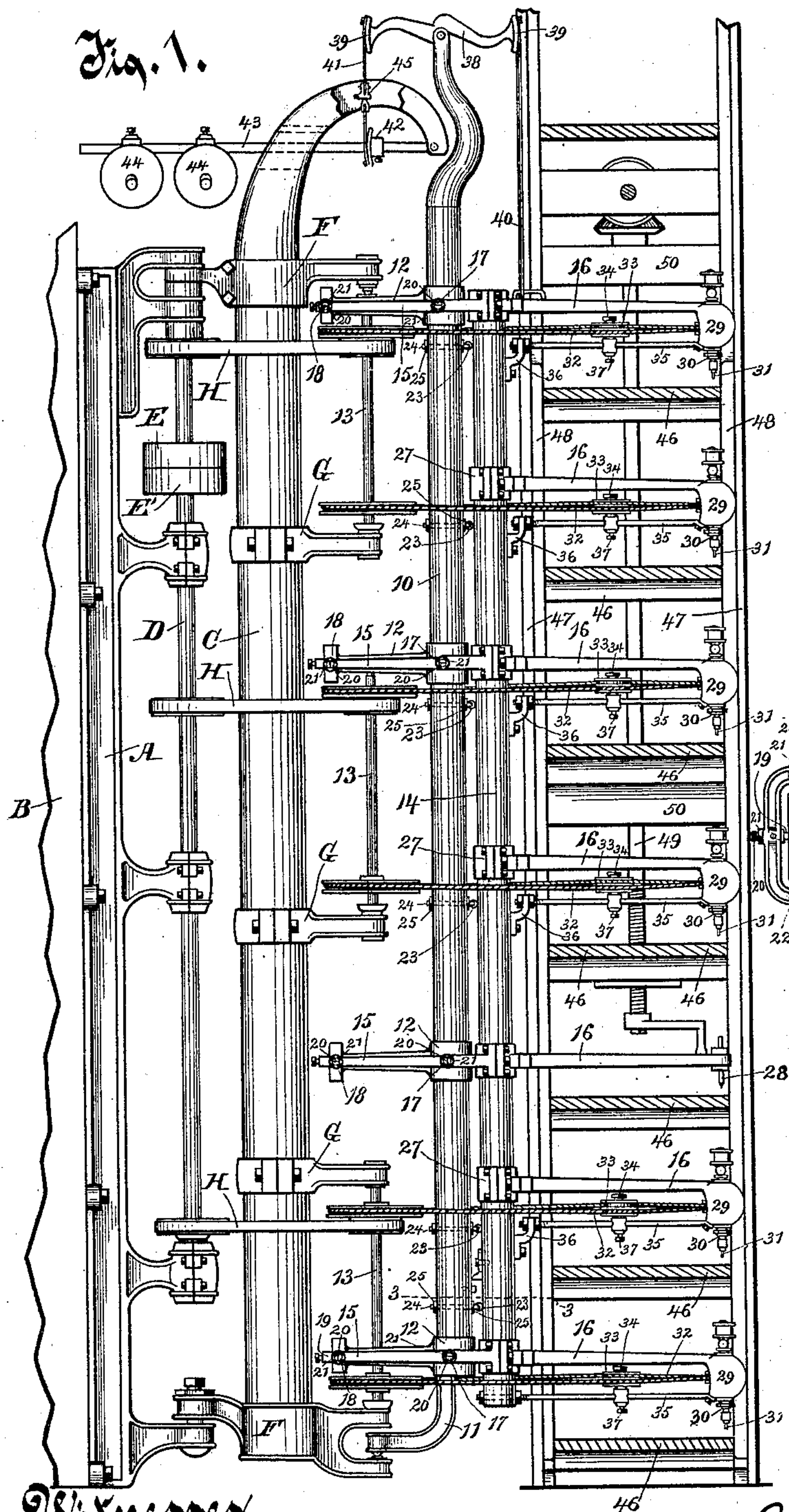


Fig. 2.

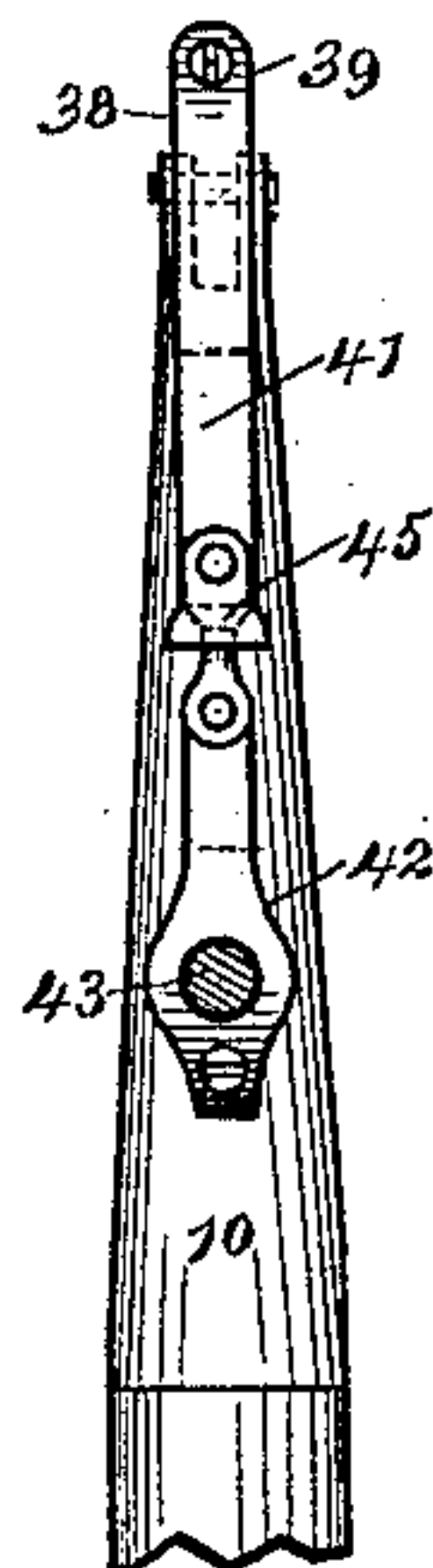


Fig. 3.

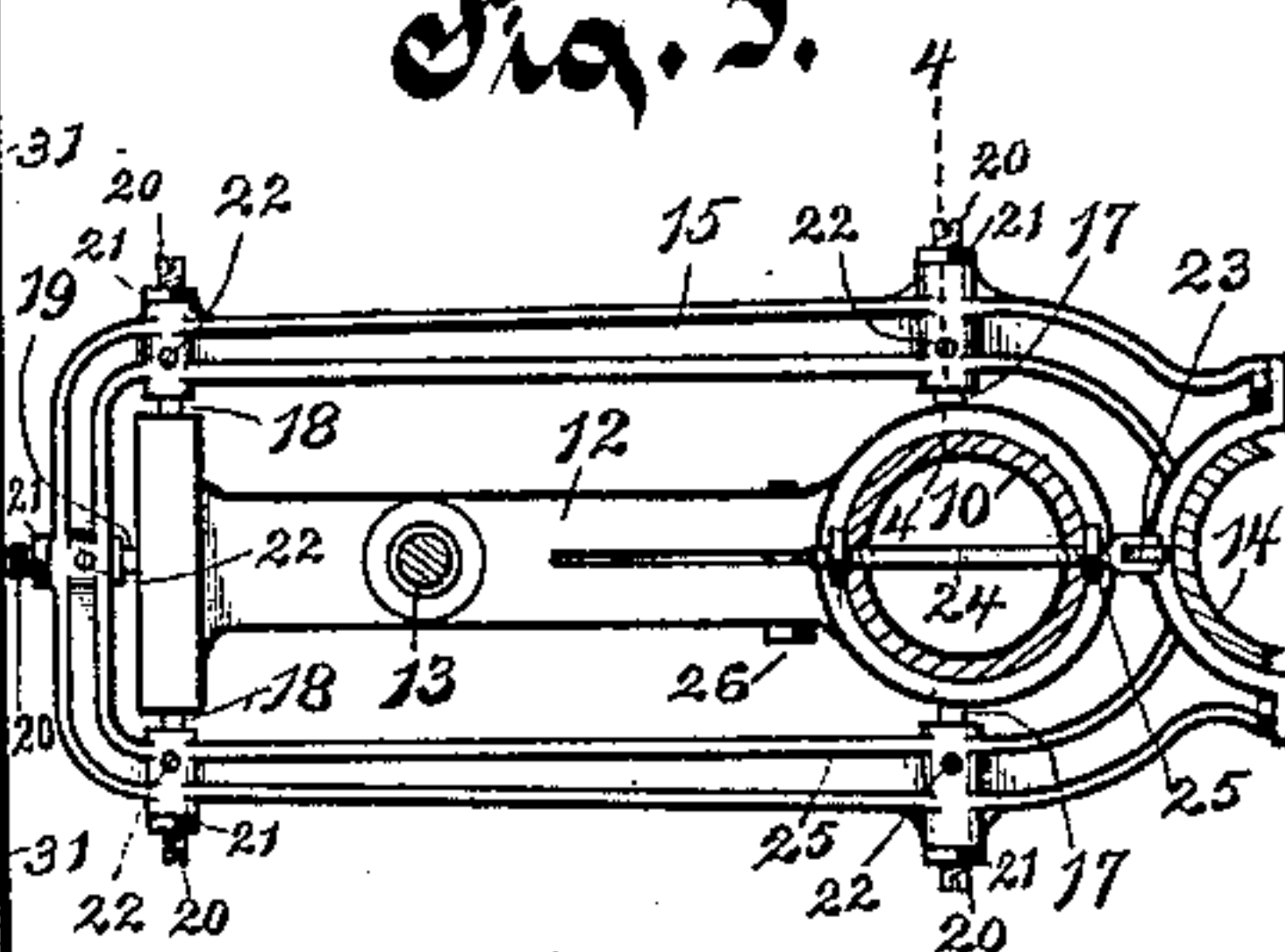
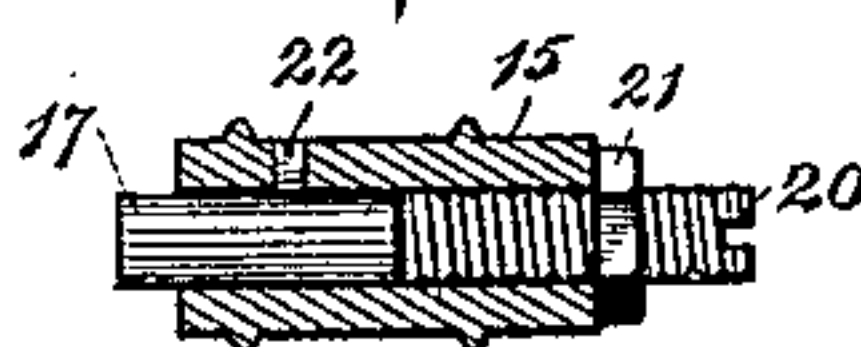


Fig. 4.



Witnesses.

W. H. Keeney.
George J. Faust.

Inventor.

Stephen F. Moore
Arthur W. Benedict
Attorney.

UNITED STATES PATENT OFFICE.

STEPHEN F. MOORE, OF MILWAUKEE, WISCONSIN.

CARVING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 452,144, dated May 12, 1891.

Application filed December 1, 1890. Serial No. 373,249. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN F. MOORE, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Carving-Machines, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improvements in carving-machines adapted for carving several pieces of material of a particular design existing in a model or pattern.

The object of my invention is to improve the strength and enlarge the capability of the machine and at the same time to secure more satisfactory adjustments and reliability of operation in the machine than has heretofore been obtained.

In the drawings, Figure 1 is a side elevation of my machine, parts being broken away and other portions being shown in section for better illustration. Fig. 2 is a detail of the weight-supporting device in the counterpoise mechanism. Fig. 3 is a top plan view of a portion of the mechanism, the view being taken on line 3 3 of Fig. 1, looking downwardly. Fig. 4 is a detail section on line 4 4 of Fig. 3.

A bracket A is secured rigidly to the pillar or prominent structure B. A vertical post C is hinged so as to swing horizontally on the bracket A. A driving-shaft D has its bearings in the bracket A in the vertical line of the axis of the post C on the bracket. The driving-shaft is provided with fast and loose pulleys E E' for carrying the power-supplying belt. A standard 10 is hinged on the post C on the side opposite to its connection with the bracket A by and through the arm 11 and the upper arm 12, fixed on the standard 10 and having bearings at a distance therefrom in brackets F F, secured rigidly to the post C. Counter-shafts 13 are located in the axial line of the standard 10 on the post C and have their bearings in the brackets F F and G G, fixed on the post C or in the arms 12, or in both, as is most convenient for construction. These counter-shafts are driven by belts H, running on pulleys thereon and on the driving-shaft D. A rod 14 is connected, movable vertically, to the standard 10 by means of frames 15, which are clamped

about the rod 14 by being clamped to tool-holding arms 16. The several frames 15 extend rearwardly on both sides of the standard 10 and alongside and at the rear of the arms 12. The frames 15 are each provided with pins 17 17, 18 18, and 19, which several pins are inserted in sockets therefor in the frame and bear, respectively, against an arm 12. The pins 17 bear against the arm 12 opposite the standard 10. The pins 18 bear against the ends of a cross-head end of the arm 12, and the pin 19 bears against the rear end of the arm 12, all these pins being held up to their work by screws 20 turning in the frame against the outer ends of the pins, the screws being locked in place by jam-nuts 21. A small set-screw 22 turns against the movable bearing-pin to lock it against rotation. These several frames 15, by and through the bearing-pins 17, 18, and 19, are movable vertically to a limited extent on the standard 10. Small anti-friction bearing-wheels 23 are journaled in bolts 24, which bolts pass through apertures therefor in the standard 10 and are secured thereto by nuts 25 25. These wheels 23 bear against and travel on the rod 14, forming a bearing in opposition to the pin 19 for holding the frame 15 in its proper relative position to the standard 10 and its arms 12 12. The inner ends of the arms 12 are slotted and made bifurcate and formed into bands, which fit about the standard 10 and are clamped thereto by bolts 26 through the bifurcate parts of the arms.

The tool-holding arms 16, projecting toward the front from the rod 14, are attached rigidly thereto, part of them by being bolted to frames 15, which, with the arms, encompass and clamp the post and others of them by being bolted to complementary clamps 27, which also clasp the rod 14. One of the arms 16 carries the guide 28 in its outer end and the other arms 16 terminate in a hollow globe-formed shield 29, in which the vertical tool-holding spindles 30 are journaled. These spindles and their cutting-tools 31, set therein, are arranged in a vertical line, in which the guide 28 is also located. Belts 32 run on pulleys on the counter-shafts 13 and on pulleys on the spindles 30. These belts 32 are guided and tightened by running on the intermediate idle-pulleys 33, journaled on arbors 34,

supported and adjustable on brace-rods 35, secured at one end to the lower part of the shields 29 and at the other end to brackets 36, fixed on the rod 14. The arbors 34 are
 5 movable on the brace-rods 35 and are secured adjustably thereto by means of set-screws 37.

The rod 14 and the mechanism attached directly thereto are supported in a balanced or counterpoised position on the standard 10 by
 10 means of a tilting lever 38, fulcrumed medially on the standard 10, which lever at its outer ends terminates in vertically-segmental heads 39, to the upper edge of one of which heads a strap 40 is secured, which strap at
 15 its outer extremity is made fast to the upper arm 16, and a strap 41 is made fast to the upper edge of the other segmental head 39, which strap at its lower end is made fast to the lower edge of a segmental head on a sleeve
 20 42, adjustable on an arm 43, pivoted at one end to the recurved upper end of the post C and carrying on its other extremity the weight or weights 44. The weights 44 are adjustable on the arm 43 toward and from its piv-
 25 oted extremity, but are located nearly over the axis of the post C on the bracket A. The arm 43 passes through a slot therefor in the post C at a little distance from its outer or weight-supporting end, in which slot it has
 30 vertical movement, but is held against horizontal motion. The strap 41 passes through a slot therefor in the curved top of the post C and is provided with a swivel 45 to accom-
 35 modate the horizontal swinging movement of the rod 14 on the post 10. This trap is located in the continuation of the axis of the counter-shafts 13.

A series of tables 46, supported in a frame having posts 47, are arranged to receive and
 40 support the material to be carved, one table being used to support the pattern over which the guide 28 is moved. The table-supporting frame is movable vertically in ways therefor in the fixed rails or standards 48. The table-
 45 supporting frame is adjustable vertically by means of screw-threaded rods 49, supported and having their bearings in cross-rails 50 and turning by a screw-thread through a bracket secured to the table-supporting frame.

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

1. In a carving-machine, the combination, substantially as described, of a swinging post,
 55 post, a vertically-moving rod supporting tool-

carrying arms, a lever pivoted medially on an upward continuation of the standard, from the outer arm of which lever the vertically-moving tool-carrying rod is suspended, a counterpoise-arm located below the lever aforesaid
 60 and pivoted at one end in a recurved part of the post near the standard, a strap attached to and depending from the outer arm of the medially-pivoted lever, which strap is pro-
 65 vided with a swivel and is attached at its lower end to the counterpoise-arm medially, the strap being in the pivotal line of connection of the standard with the post, and weights on the counterpoise-arm located above and
 70 substantially in the pivotal line of support of the post.

2. In a carving-machine, the combination of a horizontal swinging post, as C, having a recurved upper portion, a standard 10, hinged
 75 and swinging horizontally on the post C, and a rod, as 14, having tool-carrying arms fixed thereon, a tilting lever, as 38, pivoted medially on the standard 10, from one arm of which
 80 lever the rod 14 and the tool-carrying arms thereon are suspended, a counterpoise-arm, as 43, pivoted at one end in the extremity of the recurved end of the post C, a slot in the
 85 post, through which the arm passes and is guided movable vertically, and a strap having a swivel located in the continuation of the
 90 axis of the standard 10 on the post C, which strap is attached medially to the arm 43 and to an arm of the lever 38 on segmental faces at both extremities, whereby the arm 43 is
 95 suspended from the lever, substantially as described.

3. In a carving-machine, the combination, with a horizontally-swinging standard, as 10, and thereto affixed rearwardly-extending
 100 arms 12, of vertically-movable frames, as 15, located alongside and at the rear of the standard 10 and the arms 12, to which frames are affixed a frame-connecting rod 14, supporting the tool-carrying arms, pins 17 and 18, ar-
 105 ranged in pairs and bearing opposite each other against the arms 12, pins 19, and bearing-wheels 23, interposed between the stand-
 110 ard and rod and opposing the bearing of the pins 19, substantially as described.

In testimony whereof I affix my signature in
 115 presence of two witnesses.

STEPHEN F. MOORE.

Witnesses:

C. T. BENEDICT,
 ANNA FAUST.