

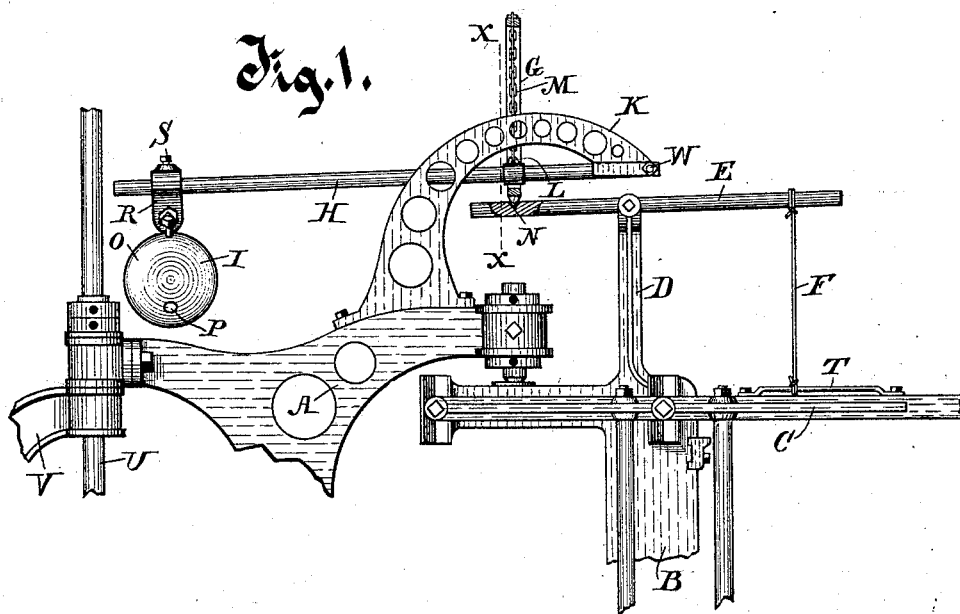
(No Model.)

2 Sheets—Sheet 1.

S. F. MOORE.
CARVING MACHINE.

No. 418,416.

Patented Dec. 31, 1889.



Witnesses.

C. H. Keeney.

Emma Faust.

Inventor.

Stephen F Moore
By Erwin Benedick
Attorneys.

(No Model.)

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Fig. 3.

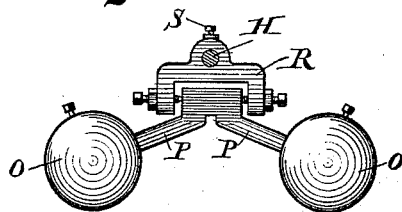
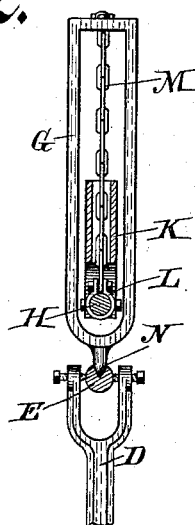


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

STEPHEN F. MOORE, OF MILWAUKEE, WISCONSIN.

CARVING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 418,416, dated December 31, 1889.

Application filed July 13, 1889. Serial No. 317,387. (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 new and useful Improvements in Carving-Machines; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in the carving-machine on which Letters Patent of the United States Nos. 384,995 and 394,710 were issued to me on June 26, 1888, and December 18, 1888, respectively.

This invention is of a device serving for a counterpoise for supporting adjustably the tool-carrying frame.

In the drawings, Figure 1 is a perspective of my complete device with such portions of the carving-machine to which it is attached as are necessary to show its relation thereto. Fig. 2 is a transverse section of the device on line X X of Fig. 1, looking toward the right. Fig. 3 is an end view of the weights used as a counterpoise, showing the manner in which they are supported and made adjustable on the supporting-arm.

A is a portion of the bracket of the carving-machine, which bracket is hinged on a vertical shaft U, supported in a fixed bracket V, and has a swinging motion horizontally.

B is an upright standard pivoted in the outer ends of the arms of the bracket A, and has also a swinging movement horizontally on the bracket.

C is a part of the tool-carrying frame, which is supported and travels vertically in ways on the standard B. My improved device is adapted to serve as a counterpoise for this frame C, and is constructed so as to obviate, as far as is possible, the force on the frame C of the inertia of the counterpoise arising from the starting, stopping, or changing of motion of the standard B and bracket A, swinging horizontally. A small post D projects upwardly integrally from the standard B, and a rod E is pivoted centrally on the post D, which rod is connected at its outer end to the frame C by a cord F, and at the other end

this rod E furnishes a bearing for the bifurcate bracket G, on which bracket the arm H is supported, which arm H carries the gravity weight or counterpoise I thereon. The arm H at its outer end is pivoted at W to a bracket K, which bracket is rigid on and forms a part of the bracket A. A shackle L is fixed about the arm H and is connected by a chain M to the top of the bracket G, whereby the counterpoise-arm H is supported in the bracket G, and is permitted to have such movement therein as is required for the oscillation of the gravity-weight I vertically as the frame C is moved up and down. The bracket G at its lower end terminates in a point N, which is received in a recess therefor in the rod E. This bearing-point N is in the line of the axis of the pivotal connection of the standard B with the bracket A. It will be seen that by this construction the gravity-weight I has only such horizontal movement as it obtains in harmony with the movement of the bracket A, to which it is connected, and that as the gravity-weight is supported on the arm H as near as possible to the shaft U, on which the supporting-bracket A swings, there is not very much movement, horizontally, given to the counterpoise by the swinging of the bracket on its shaft. The counterpoise I is preferably constructed in two parts O O, of equal weight, secured adjustably at a distance apart on laterally-extending arms P P, the arms being connected rigidly together and pivoted in a bracket R, which bracket is provided with an aperture through which the arm H passes, the bracket R being movable on the arm H and being secured adjustably in any locality by the set-screw S therethrough against the arm. By thus supporting the counterpoise pivotally on the arm H the equipoise of the frame C is very perfectly and accurately preserved, as the weights O O always hang vertically from the rod H whatever position it may assume by reason of being raised or lowered by the raising or lowering of the frame C, and by thus constructing the counterpoise with two weights O O, which are adjustable on the laterally-extending arms P P, the counterpoise may be nicely adjusted, so as to exert its gravity with precision perpendicularly, while the counterpoise is adapt-

ed to straddle the swinging bracket A when, by reason of a low ceiling in the shop where the machine is to be located, the machine has to be somewhat lowered in height, bringing 5 the parts more compactly together, which form is frequently used in the construction of the machine, though not shown in the drawings.

For conveniently attaching the cord F to 10 the frame C, I use a rod or bracket T, secured at both ends to the frame, to which bracket the cord F is tied. Any equivalent means, however, would serve as well for this purpose.

What I claim as new, and desire to secure 15 by Letters Patent, is—

1. In a carving-machine, the combination, with a swinging bracket, a thereon-pivoted and swinging standard, and a thereon-supported and vertically-moving tool-carrying 20 frame, of an oscillating bar centrally pivoted on the standard and connected at one end to the vertically-moving tool-carrying frame and at the other end having a bearing for a supporting-post of a counterpoise-arm, a counterpoise-arm pivoted at one end on the swing- 25 ing bracket of the machine and supported at a distance from the pivoted point by a post bearing on the oscillating bar, and a counterpoise on the arm, substantially as described.

30 2. In a carving-machine, the combination of the swinging bracket A and a counterpoise I, supported on an arm pivoted at one end on the bracket A, with a standard B, swinging

on bracket A, a tool-holding frame C, having vertical movement on standard B, an oscillat- 35 ing rod E, pivoted centrally on a post D, integral with standard B, the outer arm of the rod being connected by a flexible cord to the frame C, and a bracket G, supporting the arm H at a distance from its pivoted end on the 40 inner end of the rod E, the point of bearing of the post G on the rod E being in line of the axis of oscillation of the standard B on the bracket A, substantially as described.

3. In a carving-machine, a counterpoise-arm 45 H, pivoted at one end on a swinging bracket and supported at a distance from the end in a bifurcate post G by a chain M, attached to the arm and to the top of the post, in combination with an oscillating bar E, on one arm 50 of which bar the post G is supported, substantially as described.

4. The combination, with a laterally-swing- ing bracket A and a thereon-pivoted arm 55 H, capable of vertical oscillation, of double gravity-weights O O, secured adjustably at a distance apart on laterally-extending arms P P, pivoted in a bracket R, supported and adjustable on arm H, substantially as de- 60 scribed.

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

STEPHEN F. MOORE.

Witnesses:

C. T. BENEDICT,
ANNA FAUST.