2 Sheets--Sheet 1.

G. W. WETMORE.

Molding-Machine.

No. 160,491 Patented March 2, 1875.

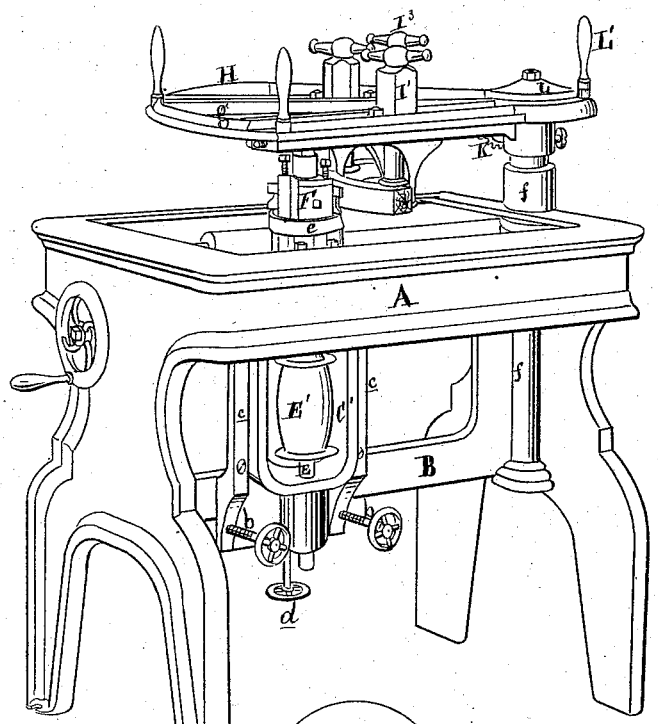

Fig. 1.

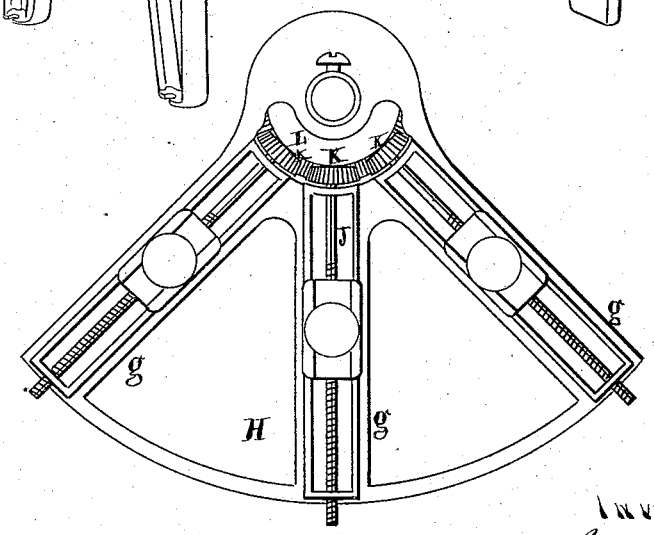

Fig. 2.

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2 Sheets--Sheet 2.

G. W. WETMORE.

Molding-Machine.

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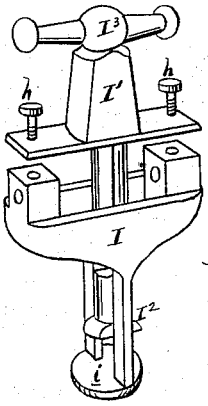

Fig. 3.

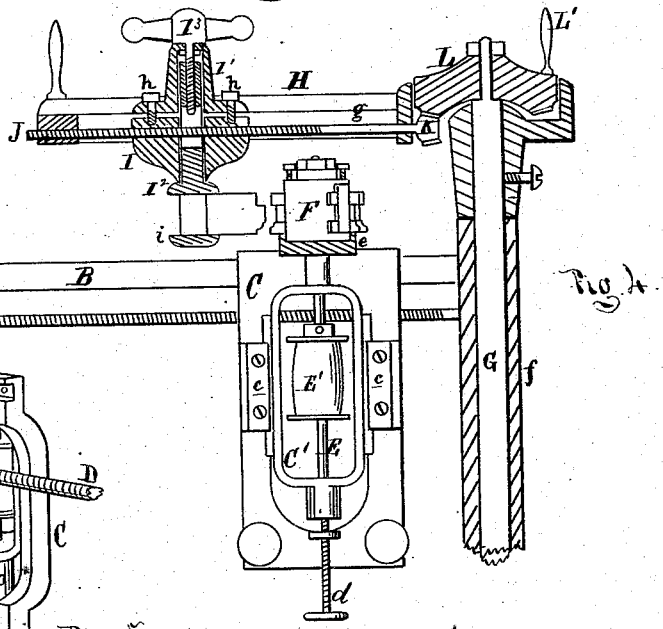

Fig. 4.

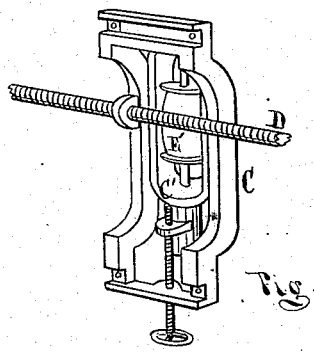

Fig. 5.

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UNITED STATES PATENT OFFICE.

GEORGE W. WETMORE, OF STURGIS, MICHIGAN.

IMPROVEMENT IN MOLDING-MACHINES.

Specification forming part of Letters Patent No. **160,491**, dated March 2, 1875; application filed February 4, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. WETMORE, of Sturgis, in the county of St. Joseph and State of Michigan, have invented a new and useful Improvement in a Segment-Molding Machine; and I do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1, Sheet 1, is a persective view of the machine as when molding a segment. Fig. 2 is a bottom plan of the quadrant. Fig. 3, Sheet 2, is a detached perspective view of one of the radially-adjustable clamps. Fig. 4, Sheet 2, is a cross-section on *x x* in Fig. 1. Fig. 5 is a detached perspective view of the mandrel-gate.

This invention relates to an improvement in wood-shaping machines, and an attachment thereto whereby segments of varying radiuses may be molded on their edges; and it consists in the peculiar construction and arrangement of its principal operative parts, as more fully hereinafter set forth.

In the drawing, A represents the frame of my improved shaper, extending across which is a pair of ways, B, the one above the other, and on them a cross-head, C, slides, and which is moved to or fro by a traverse-screw, D, having a hand-wheel on the outer side of the frame, through which it is journaled. An angular gib lies in the flange of the lower edge of the cross-head to embrace the lower edge of the lower way, against which it is compressed by two set-screws, *b*, tapped through the cross-head whenever it is desired to secure the latter in place. C′ is a gate in the general from of an oval frame, gibbed in vertical ways *c* in the side of the cross-head, in which it is moved up or down by a lifter-screw, *d*, tapped through a lug in the cross-head, its end engaging with a lug on the inner face of the gate. E is the mandrel, vertically journaled through the gate-top, carrying at its upper end the cutter-head F. A pulley, E′, upon the mandrel gives it the required motion through a quarter-turn belt from a drum on a counter-shaft (not shown) in the usual way. The base of the cutter-head rotates in close proximity to the stationary or still collar *e* at the top of the gate.

If the cutter-head be brought to the center of the frame, and a table be now placed upon the latter, through which the cutter-head and still collar be raised, the machine can be used as an ordinary wood-shaper or universal molder, the work being fastened on formers, which are passed in contact with the still collar in the usual manner.

To mold the edges of segments, the following devices are employed: The table above referred to is removed from the frame, in the center of the back end of which a vertical socket, *f*, is formed, in which is inserted a spindle, G, carrying a cast-iron quadrant, H, from whose hub three pairs of open ways, *g*, radiate at equal angles, in each of which slides an open or skeleton cross-head, I, in two parts, the upper part I^1 resting on the flanges of the ways, and being secured to the lower part by two screws, *h*. The foot of the part I is a T-shaped lug, *i*, on which the segment to be molded rests. Within the part I a T-footed clamp, I^2, has a vertical movement imparted to it by a screw, I^3, tapped through the top of the part I^1. The clamp has a vertical slot in the plane of the ways formed in it, through which passes a feed-screw, J, which is threaded in screw-holes tapped through the cross-head I. The outer end of each screw is journaled through the rim of the quadrant, and the inner end through the flange of the hub, where it carries a bevel-pinion, K, with which engages a bevel-gear, L, journaled on the top end of the spindle G, and which is provided with a crank, L′, to rotate it. As the bevel-gear L meshes with all three of the feed-screw pinions, it follows that the three clamps will be moved in or out simultaneously and uniformly with the rotation of the wheel L. The work is clamped between the lug *i* of the part I and the foot of the clamp I^2. The clamps may be secured at any point in their ways by clamping the slides between the parts I and I^1 by drawing the latter together forcibly by their screws *h*.

The wooden segment being clamped to place under the quadrant, and the latter swung to one side of the frame, the cutter-head frame

is moved toward the hub until the desired radius is reached and secured, when the quadrant may be swung around past the cutter-head, which at once molds the segment on the outer or inner edge, according to whether it is clamped on the inner or outer edge.

The uppermost way B is laid off to a scale of inches, giving the radial distance of the inner and outer edges of the cutter-head from the quadrant-spindle.

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

1. In combination with the frame of a shaping-machine having a traversing cutter-head, the spindle G, quadrant H, provided with the ways *g g g*, the several clamping devices I I^1 I^2 I^3, each moving in one of the ways *g*, substantially as shown, and for the purpose set forth.

2. The combination, with the quadrant H and the several-cross-heads and clamps I, of the feed-screws J, pinions K, and gear L, for simultaneously giving the said cross-heads I a radial adjustment with relation to the spindle G, as shown and set forth.

GEO. W. WETMORE.

Witnesses:
H. S. SPRAGUE,
CHAS. E. HUESTIS.