J. HARTZHEIM.

Molding-Machine.

No. 161,959. Patented April 13, 1875.

Fig: 4

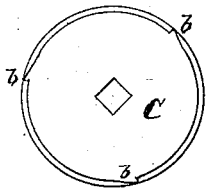


Fig: 1

Fig: 3

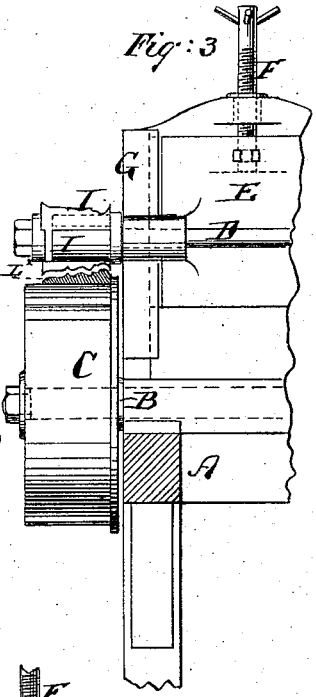


Fig: 2

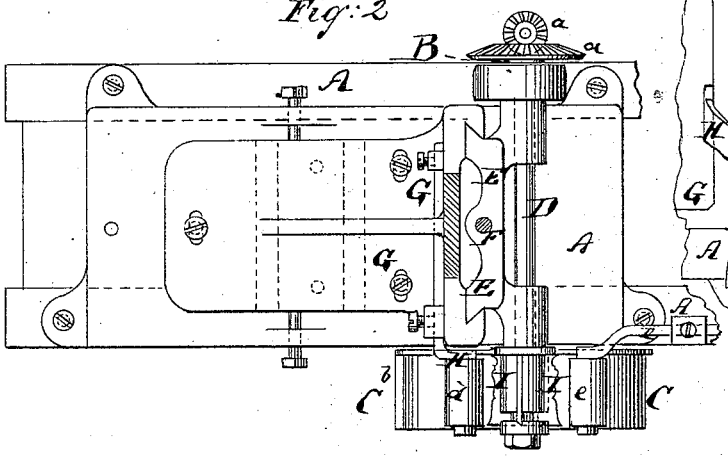
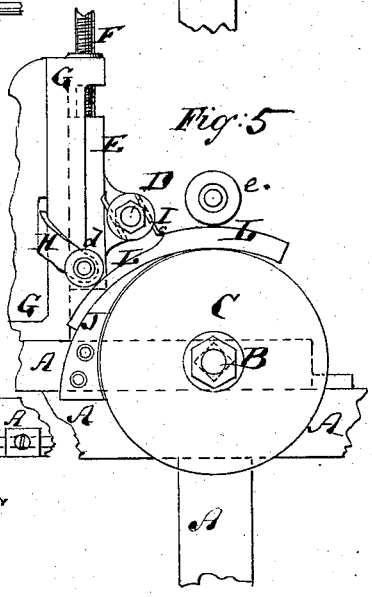


Fig: 5



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UNITED STATES PATENT OFFICE.

JOHN HARTZHEIM, OF NEW YORK, N. Y.

IMPROVEMENT IN MOLDING-MACHINES.

Specification forming part of Letters Patent No. **161,959**, dated April 13, 1875; application filed January 23, 1875.

To all whom it may concern:

Be it known that I, JOHN HARTZHEIM, of the city, county, and State of New York, have invented a new and Improved Molding-Machine, of which the following is a specification:

Figure 1 is a side elevation, partly in section, of my improved circular-feed planing and molding machine. Fig. 2 is a top view, partly in section, of the same; Fig. 3, a front view, partly in section, of the same; Fig. 4, a detail face view of the feeding-drum used thereon, and Fig. 5 a side view of a modification.

Similar letters of reference indicate corresponding parts in all the figures.

This invention has for its object to produce a machine on which curved pieces of wood can have their outer peripheries planed or formed into moldings by an action similar to that of an ordinary planing and molding mill; and the invention consists in supplying the machine with a rotary feed-drum, having in most cases the diameter of the inner circumference of the piece of wood to be molded or planed, said feed-drum serving to support the curved wood, and to gradually carry it under and expose it to the action of the rotary planing or molding knife, all as hereinafter more fully described.

In making the moldings, &c., which are used, for example, on the round corners of pianos, it was heretofore the custom to glue or otherwise connect a series of curved pieces of wood into a complete ring around a proper supporting-head, and to apply this ring so formed to a lathe, and turn it into the requisite shape in the manner in which articles are usually turned on lathes. This, of course, involved considerable labor in first preparing the wood for the lathe, and considerable loss of time in subsequently shaping the wood by the cutting-tool of the lathe—objections which I try to overcome by my invention.

In the accompanying drawing, the letter A represents the stationary frame-work of my machine, and B is a transverse horizontal shaft hung therein, to which shaft rotary motion is imparted by suitable mechanism, through bevel-gear wheels *a a*, (shown in Fig. 2,) or otherwise. Upon this shaft B is mounted a drum, C, which has the diameter of the inner curve of the curved or bent wood to be planed or molded on the machine, and which has, at suitable intervals, projecting lugs *b b*, formed on or secured to it in suitable manner, to form steps for the ends of the wood, as hereinafter more fully set forth. The arrow 1 in Fig. 1 indicates the direction in which the drum C is revolved during the operation of the machine. D is a shaft hung in a sliding frame, E, parallel to the shaft B, and above the same, the sliding frame being sustained by means of an adjusting-screw, F, in a yoke, G, that is supported on the bed of the frame A. The yoke G has also applied to it a self-adjusting presser-foot, H, terminating in a roller, *d*, that serves to hold the planed end of the molding on the drum C. The shaft D carries the cutter-head I, to which suitable molding or planing knives are secured in the customary manner. *e* is a roller hung in a projecting arm of the frame A, and bearing on the uncut portion of the wood L^{x} to be planed. To the shaft D is imparted rotary motion by suitable mechanism.

I have thus far described all the principal parts of my invention, the same being, in fact, the drum C and the cutter-head I, both rotating in the same direction. The curved wood to be planed or molded is placed on the periphery of the drum C, with its end bearing against one of the lugs *b*, and is then fed, by the rotation of the drum, under the cutter-head I, which shapes the outer circumference of such wood in the required manner, according to the shape of the cutting-edge of the knife on the head I. After one molding has thus been shaped or planed, the continued, though slow, rotation of the drum C will carry another piece of curved wood, that has been placed against the next succeeding lug *b*, under the planing or molding knives, and thus the machine can be continuously used to affect each individual piece of curved or bent wood, whatever be its length, and to impart to all the pieces the requisite shape on the outer circumferences, and possibly also on their edges. In order to adapt the machine to plane and mold curved wood of varying diameters, drums C of different diameters are to be provided, so that the one fitting the curve of the wood may be used in every case. Fig. 4 shows a smaller drum than that represented in Fig. 1. When

a smaller drum is used the sliding frame E is let down to allow the cutter to reach the wood on such small drum, and said frame is moved up in case a larger drum is used. The adjustability of the frame E is also made use of to adapt the cutter to thicker and thinner wood placed on the feed-drum. In case the machine is to be used for producing or for shaping a curved molding whose inner diameter exceeds the limits of the machine that is, where the frame E would have to be raised higher than it can be raised on the machine—I attach to the stationary frame-work A a sickle-shaped plate, J, (shown in Fig. 5,) whose smaller or inner circumference is brought close to the circumference of the drum C, so that its outer circumference will thus constitute an eccentric continuation of the circumference of the drum C, all as indicated in Fig. 5. In this case the wood, which is represented in Fig. 5 by letter L, and which is placed on the periphery of the drum C, is gradually fed over the outer edge of the sickle-plate J, so that thus the machine is adapted to molding or planing wood of large diameter. A horizontal displacement of the yoke G and its attachments will be desirable in case the sickle-plate J is used, and is, in fact, represented as having taken place in Fig. 5, as compared with the position of the same parts in Fig. 1. This adjustability can readily be produced by shifting the yoke G on the table A, and fastening it in a new position. The drum C (shown in Fig. 5) is represented to be without the projecting lugs *b*, and may, in fact, be used entirely without the same by feeding wood continuously into the machine, although, even with the sickle-plate attachment J, the projecting lugs may be used on the drum C, provided they are not as wide as the drum, and provided also that the inner part of the sickle-plate J is grooved to admit such lugs during the slow rotation of the drum C. The lugs *b* may, as stated, be formed on the drum C, or may be inserted in the periphery thereof, in the shape of projecting pins or dowels or otherwise applied. As to the friction-rollers *d e*, I do not wish to confine myself to their use; nor do I confine myself to any particular arrangement of the frame-work A E F G of the machine.

I claim as my invention—

1. In a machine for molding and planing wood having curved inner and outer edges, the combination of the perpendicular rotary feed-drum C, carrying the projecting feed-lugs *b b* on its periphery, with the parallel rotary cutter-head I, and with the parallel friction-roller *d* in front of, and the friction-roller *e* behind, the cutter-head, all arranged to operate substantially as herein shown and described.

2. The sickle-plate J, combined with the rotary feed-drum C on the circular-feed planing and molding machine, substantially as and for the purpose herein shown and described.

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