E. M. Smith,

Making Sash.

No. 27,261. Patented Feb. 21, 1860.

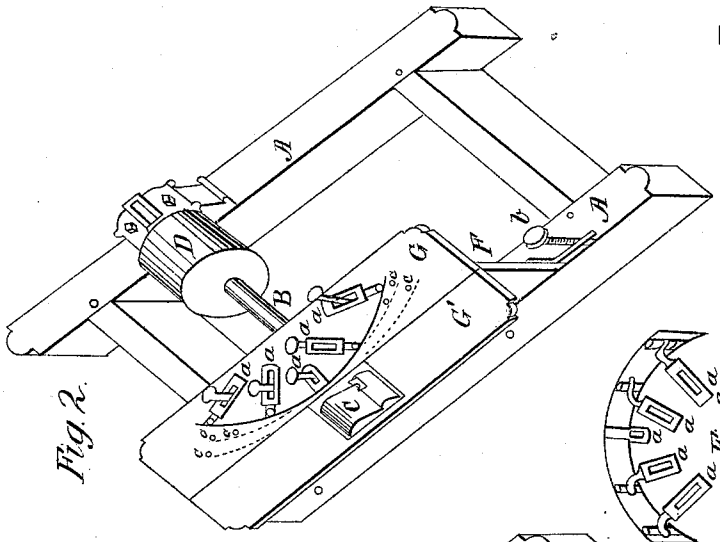

Fig. 2.

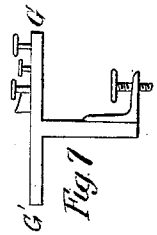

Fig. 7

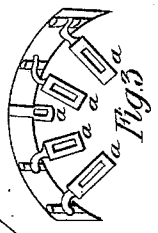

Fig. 3

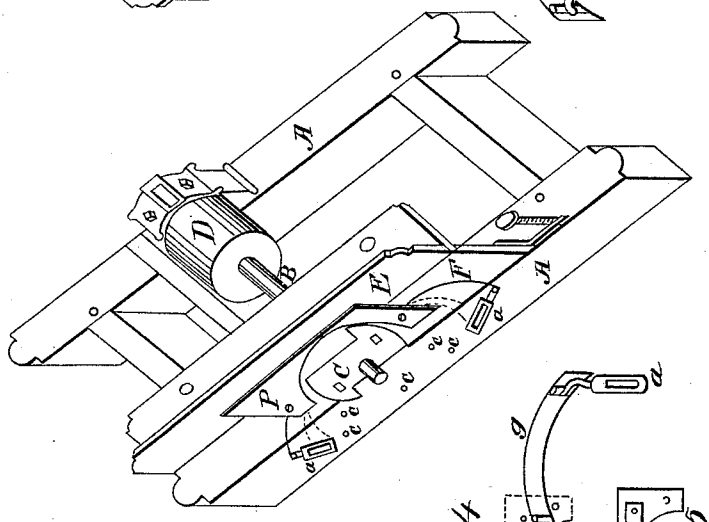

Fig. 1

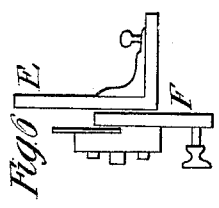

Fig. 6

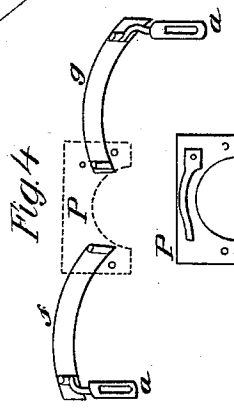

Fig. 4

Fig. 5

Witnesses

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UNITED STATES PATENT OFFICE.

ELISHA M. SMITH, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO HIMSELF, AND ELBRIDGE G. MAYHEW, OF SHELBYVILLE, INDIANA.

MOLDING-MACHINE.

Specification of Letters Patent No. 27,261, dated February 21, 1860.

To all whom it may concern:

Be it known that I, ELISHA M. SMITH, of the city of Indianapolis, county of Marion, and State of Indiana, have invented a new and useful Improvement in Circular Sash and Molding Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in providing adjustable patterns and so attaching them to any common sash planing machine as to convert said sash planer into a circular molding, or circular sand machine.

In the following description like letters refer to like parts, and Figure 1, is a perspective view of the upper portion of the frame of a common sash planer, and a part of my invention attached. Fig. 2, is the same frame and another part of my invention attached. Fig. 3, is my variable guide for working on the face of plank or stuff. Fig. 4, is a variable guide, in two sections, for working the edge of stuff. Fig. 5, is a plate for connecting the two sections of the last-mentioned guide. Fig. 6, is a section of my improvement, as it is arranged for edge work—just at the cutter, or, plane-head. Fig. 7, is a section of my improvement, as arranged for face work.

A, is the frame of a common straight sash planing machine *i. e.*, so much of the frame as is necessary for the attachment of the cutter head, pulleys for running it, &c., and, to which all of my improvement is affixed, as appears in the following description.

B, is the planer shaft.

D, is a pulley for driving the sash plane.

C, is the cutter-head, or plane-head.

E, is the vertical face board upon which one of the variable guides is fastened.

F, and G, are right-angle foundation pieces, upon which all the other parts of my improvement are anchored and fastened.

a, are slotted anchor arms, one end of which attach to the flexible variable guides, while the other end is allowed to swing freely.

b, is the tail-screw by means of which the depth of cut is regulated; *c*, screw holes, into which thumb-screws go, and so, make fast the guides by means of the slotted anchor arms.

e, is a variable guide, which is exhibited separately in Fig. 3, and in Fig. 2 is shown in its relation to the rest of the machine—as used for cutting concave surfaces on the face of stuff. It will be observed by the flexible nature of this guide, and the slotted anchor arms attached to one of its faces, that it can be bent and fastened to any radius which may be desired; and also, for cutting either a convex or concave surface. Another advantage by this arrangement—is—that I can, on the same piece of lumber cut a curve a portion of the distance, and then, by liberating one end of the guide and moving it out to a straight line—can cut the balance of the distance straight. This feature is peculiar to my invention, as I am not aware of any scroll, or molding machine which does such work. The advantage is appreciated in molding base-boards for the foot and landings of a stairway. The dotted lines on Fig. 2 give some idea of the various positions of this guide.

p, Fig. 5, is the face guide plate which serves the double purpose of coupling the two spring guides *f* and *g*, and also, has a spring on its working face which holds the stuff steady and close to the scribe, when it is being passed over the bit head—or, planer. This plate is reversible, and so, performs the function of a face guide for either edge—concave, or convex surface. In coupling, *f* and *g*, to this plate—*g*—is placed about the sixteenth of one inch above the line of a true curve from—*f*. This is done so that—as the stuff is passing over the planer head from, *f*, to *g*, it may still serve as a true and correct guide, or bearing, after the chip is cut from the edge of the stuff. These guides—as seen in Fig. 1,—are arranged for cutting a concave edge;—but, by their flexible nature, and with the aid of the slotted anchors *a*, and thumb-screws, they can be curved upward, and so serve as guides for cutting a mold on a concave edge.

F, and G, have been described as right-angle foundation boards—or—a base, upon which the rest of my improvement is affixed. To these, the face boards E and G′ are attached to suit the kind of work to be per-

formed. When the face of stuff is to be molded, the board G′ is attached in the position as seen in Fig. 2. When the edge of stuff is to be molded, the board E, is attached in the manner as seen in Fig. 1. Fig. 6, is a section of the latter, and Fig. 7, of the former.

The slotted anchor arms of my improvement may be made of cast iron—cast into proper shape, while the variable spring guides to which they are attached, may be made of spring steel, or, even strap iron—it is better to make them of steel; but, I wish to be understood that, while I have here indicated the most approved form, and manner of constructing my invention, I do not wish to be deprived of the benefits of constructing simple wooden patterns of all the various shapes that these guides can take, and fastening them to any common straight sash planer, or molding machine.

I have used concave and convex patterns, of every radius indicated in the foregoing description, and find them to answer every purpose, but, owing to the trouble of removing one to give place to another, for the different kinds of work, I have adopted the adjustable spring guides represented, so as to remove the necessity of such frequent changes.

In molding a curve, (a concave) with my invention attached to a common sash planing machine, it sometimes occurs, that the mold cannot all be cut from one end. In such cases (which results from snarls in the stuff) all that is necessary, is, (after working it from one end to the center,) to reverse the bits in the plane-head, and change the connecting plate Fig. 5, to the front of the bits so changed or reversed, and then pass the stuff down to the middle from the other end.

I am aware that many molding and scroll machines have been invented prior to this date, but since mine is not a machine, but simply an improved appendage to old and well known machines, the invention of it has ultimated in giving to said machine a new and specific function never before performed by any common straight sash planer. As I have described, in the preceding, that I can plane a curved and straight surface on the same stick, which no other machine can do, it will be seen that I accomplish a very "useful" and "new" work without the necessity of building a specific and entire machine—expensive in fabric—simply, by the adding of a cheap appendage, to any one of the multitude of sash planers already in use throughout the country.

Having thus fully described the construction of my invention, together with the method of using it;—and, having alluded to the existence of specific machines, constructed wholly for a specific though similar purpose to which my invention is applied, I wish it distinctly understood that I lay no claim to any of these;—but—

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

The combination of variable guides, and their necessary appendages, with a sash or molding machine, substantially as described in the foregoing specification.

ELISHA M. SMITH.

Witnesses:

E. S. Bussell,

O. F. Mayhew.