M. Roberts,

Gage Lathe.

No. 9,957. Patented Aug. 23, 1853.

Fig. 1.

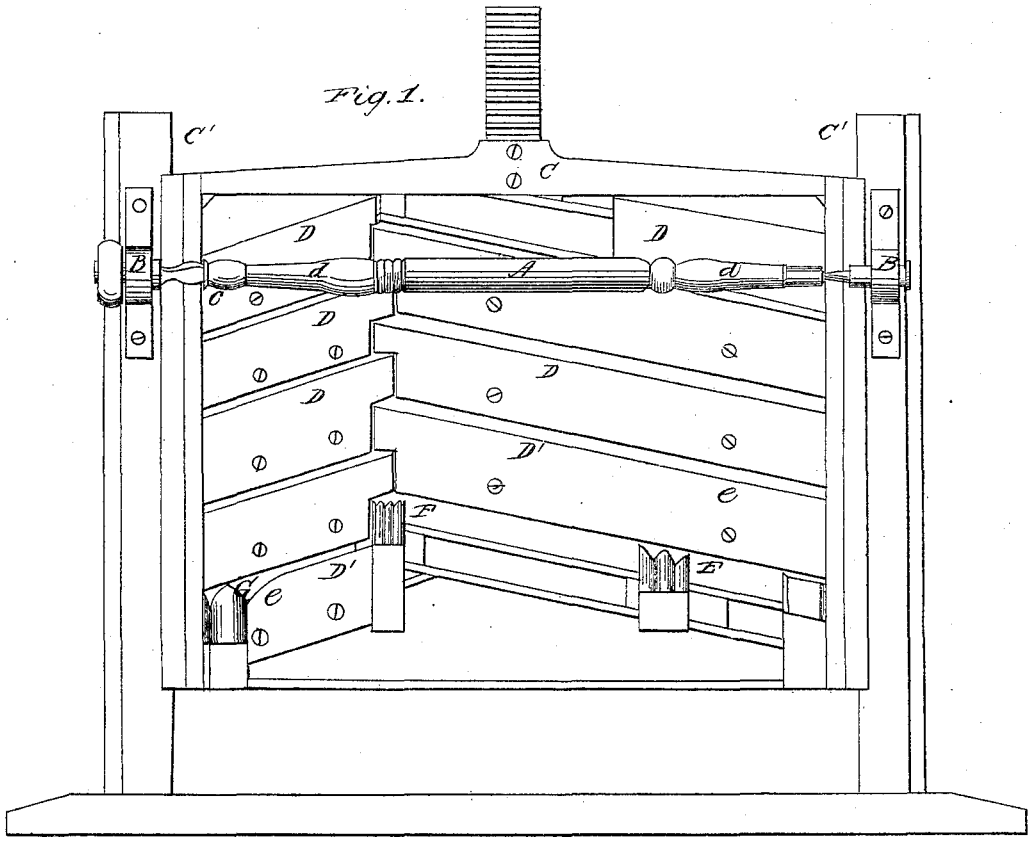


Fig. 2.

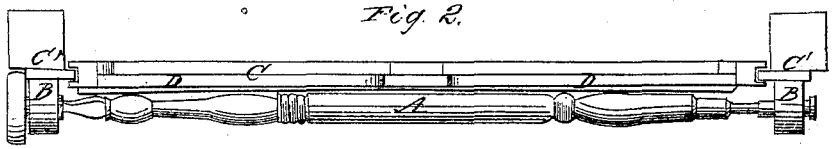


Fig. 4.

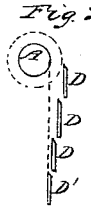
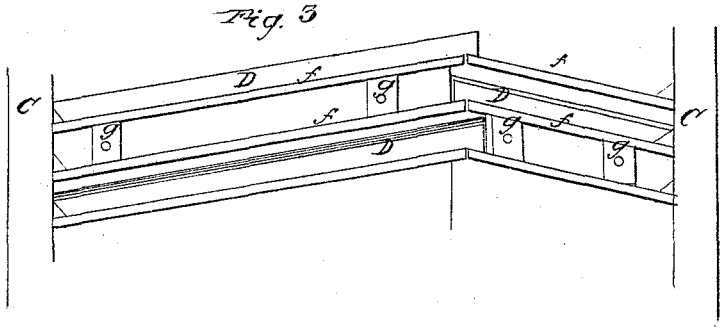


Fig. 3



UNITED STATES PATENT OFFICE.

MILTON ROBERTS, OF SOUTH LEVANT, MAINE.

ARRANGEMENT OF CUTTERS FOR TURNING.

Specification of Letters Patent No. 9,957, dated August 23, 1853.

To all whom it may concern:

Be it known that I, MILTON ROBERTS, of South Levant, in the county of Penobscot and State of Maine, have invented a new and useful attachment to be applied to turning-lathes for the purpose of producing articles of regular form, either plain or beaded, such as bedstead-posts, chair stuffs, &c.; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a face view of the improvement, applied to a turning lathe. Fig. 2, is a top view or plan of same. Fig. 3, is a back view of a portion of the improvement. Fig. 4, is a section showing an end view of the stick and knives or cutters.

Similar letters of reference indicate corresponding parts in each of the several figures.

This invention relates to an improved lathe attachment for turning bedstead posts, chair stuff and the like; and consists in placing a series of knives or cutters and beading tools, one or both being used, in a suitable frame, said frame being moved in a direction transversely of the stick to be turned, the stick is centered in an ordinary lathe, and the frame, with its guides are so attached to the lathe as to allow the knives to come in contact with the stick as the frame is moved. The knives operating upon the stick sufficiently to give it the required form during a single stroke or vibration of the frame.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, Figs. 1 and 2, represents a chair post centered between the two heads B, B, of an ordinary lathe.

C, represents a rectangular frame which works on guides C′, C′, which are attached to the lathe or lathe bed in any suitable manner, said frame and guides being attached vertically to the lathe.

D, represents a series of knives or cutters which are placed within the frame C, in an inclined position. The knives it will be seen by referring to Fig. 1, are inclined in the frame and the ends meet or join each other, there being two sets of knives one set rather longer than the other. By this arrangement the knives act with a drawing cut upon the stick. The inner ends of both sets of knives incline upward. The inner ends of the knives are also a little farther from the stick than the outer ends, as will be seen by referring to Fig. 2. (See blue tint.) This position of the knives causes them to cut in a direction rather obliquely of the fibers of the stick, consequently they will perform smooth work. The two upper knives are placed in the frame C, in a line farther from the stick than either of the other knives. The knives immediately below are placed rather nearer, and so on, the lowest knives finish the work, and consequently are nearest the stick. See Fig. 4. There are three positions then, it will be understood of the knives: 1st, the inclined position, the inner ends being elevated and meeting or joining as seen in Fig. 1, by which the knives act with a drawing cut; 2d, the inner ends being out of line with the outer ends, or the inner ends being farther from the stick to be turned, than the outer ends, by which the knives cut rather obliquely of the fibers, and consequently cut smooth, and 3d, the position as seen in Fig. 4, the upper knives being placed farther from the center of the stick and the lower ones being placed gradually nearer, the lowest ones of all being the nearest to the stick and finishing the work.

E, F, G, are beading tools attached to the lower part of the frame. These tools cut the beads on the stick.

In Figs. 1 and 2 the stick is represented as finished or turned and is a chair post. The tool E, cuts the bead (*a*), the tool F, cuts the bead (*b*) and the tool G, cuts the bead (*c*). The beading tools may be made or so constructed as to cut any desired form of bead. The lowest knives or cutters are so shaped as to cut the stick the required shape, for instance in the chair post A, represented, the two ends (*d*) (*d*) are somewhat taper and the two lowest knives which I will designate by D′, project out a little at the shaded parts represented by (*e*) Fig. 1, and thereby the stick is cut of the form represented.

The operation will be readily seen. The stick is adjusted between the heads B, B, and motion communicated to it in the ordinary way. The frame C, which has a reciprocating motion is then moved upward,

and the upper knives "rough off" the stick, the next lower knives take off a little more wood, and so on, till the lowest or finishing knives D′, and the beading tools E, F, G, complete the work. The stick being completed in one vibration or stroke of the frame motion may be communicated to the frame in any proper manner.

Fig. 3 shows the manner in which the knives or cutters D, are secured in the frame. (*f*) are strips which are attached to the frame and run in the same direction as the knives. These strips have cleats or studs (*g*) between them and to those cleats or studs the knives are secured by screws. The frame C, may be attached to any ordinary turning lathe with but little trouble or expense. In practice the attachment works well, performing even work, every stick being turned precisely similar.

Having thus described the nature and operation of my invention, what I claim as new and desire to secure by Letters Patent, is—

Arranging straight edged and grooved cutters, on a frame, moving parallelly to the axis of the lathe, when said cutters are placed in pairs obliquely to the piece to be turned, each set forming salient angles with each other in the frame; by which arrangement each set acts by a gradual drawing cut upon the piece, the grooved tools following to finish the work.

MILTON ROBERTS.

Witnesses:
GREENLIEF WING,
OCTAVIA A. WING.