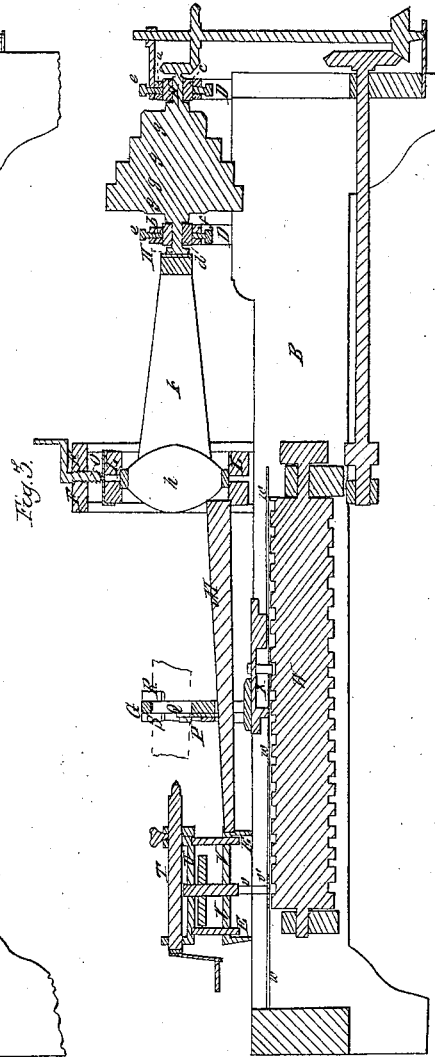
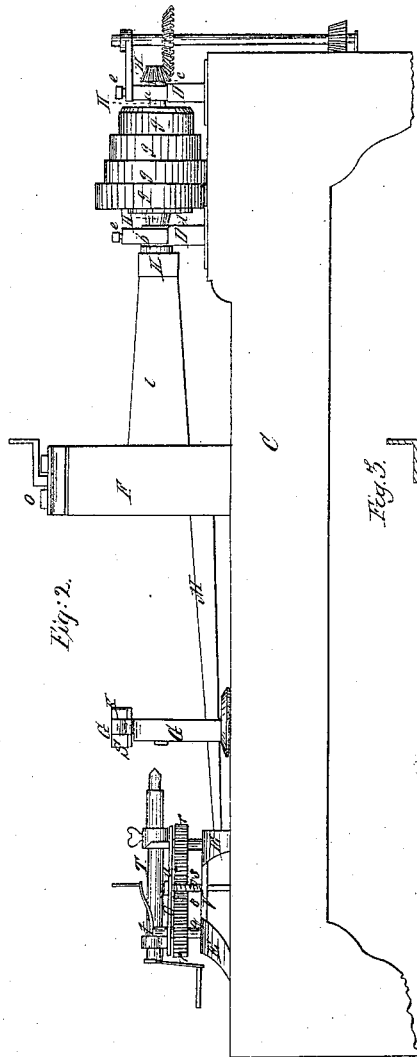
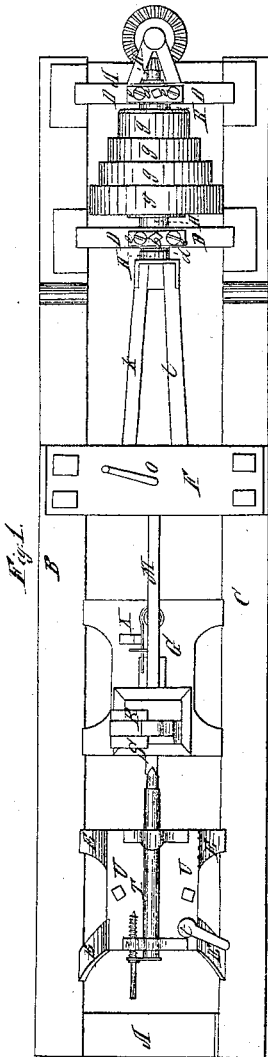
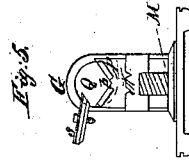
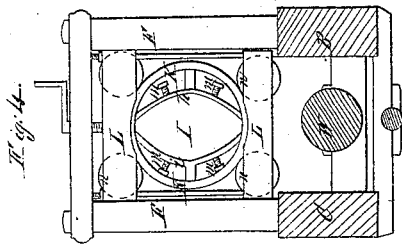


E. Page,
Turning Regular Forms.

N^o 4,325.

Patented Dec. 26, 1845.



UNITED STATES PATENT OFFICE.

EZEKIEL PAGE, OF BARCELONA, NEW YORK.

MACHINERY FOR TURNING OARS, &c.

Specification of Letters Patent No. 4,325, dated December 26, 1845.

To all whom it may concern:

Be it known that I, EZEKIEL PAGE, of Barcelona, in the county of Chautauqua and State of New York, have invented a new and useful Improvement in Machinery for Turning Oar-Handles and Various other Articles of Variable Diameters; and I do hereby declare that the nature of my invention and the manner in which it is constructed and operates are fully set forth and represented in the following description and accompanying drawings, letters, figures, and references thereof.

Figure 1, of the aforementioned drawings, represents a top view of my improved machine. Fig. 2, denotes a side elevation of it. Fig. 3 is a central vertical and longitudinal section of it, and Fig. 4 is a transverse and vertical and central section, taken looking toward that part of the mechanism, in which the blade of the oar is sustained, as will be hereinafter described.

In the construction of my improved machine, I make use of a frame A, or two rails B, C, a fixed or stationary puppet head or frame D, and a movable puppet or frame E, very similar to those used in a common turning lathe, the said puppet heads or frames D, E, being sustained upon the said rails, as seen in the drawings. Between the said two puppets, and upon the rails, I arrange two other puppets or frames, one of which, viz. F, I fix in its position upon the rails, at about the length of the blade of an oar from the stationary puppet or frame D. The other puppet or frame (G), is calculated to be moved upon the rails from near the first named movable puppet head (B), toward the stationary frame or puppet F. A mandrel H, is sustained by the standards *a, b*, of the frame D, and in suitable boxes *c, d*, which have adjusting screws *e, e*, and counteracting adjusting screws *f, f*, by which the said boxes and mandrel may be slightly raised or lowered at pleasure. The said mandrel has a series of pulleys *g*, fixed upon it around either of which (pulleys), a belt from the driving power may be carried, so as to give motion to the mandrel. To one extremity of the mandrel, the sheath or apparatus I, which receives and sustains the blade of the oar, is secured, and revolves with, and is revolved by, the said mandrel. The said apparatus I, consists of a circular wheel K, having two lips or bearings *h, i*, cast upon and within it, as seen in the draw-

ings. Pieces of wood or metal *k, l*, connect the said lips with the mandrel as seen in Figs. 1, 2 and 3. Each of the lips of the wheel K, has two or more screws *m, m*, screwed through it, and so as to set against the oar blade, and confine it in the wheel or sheath, when placed therein. The said wheel K, rests and revolves on or against four rollers or wheels *n, n, n, n*, arranged within a frame L, which is sustained within the fixed frame E, and properly guided, so as to move up and down vertically therein, and made capable of being adjusted in position, by an adjusting screw *o*, passed through the top of the frame F, as seen in the drawings. An inclined rail or plane M, is supported on one end upon the frame L, and passes through a passage or orifice N, cut or formed through the puppet or frame G, and is sustained at its other end by the movable puppet E. Fig. 5, denotes an elevation of that side of the puppet G, which is nearest to the puppet E. In said figure, it will be seen, that the puppet G carries a small slide or frame P, which is suitably sustained thereby, so as to readily play or move up and down, in a vertical direction. The said slide has an angular notch or rest *p*, formed in its upper end, as seen in the drawings, and rests at its lower end upon the top surface of the inclined guide rail or plane M. The puppet head G, has a circular opening or passage Q, formed or made through it, in juxtaposition with the upper part of the slide P, as seen in the drawings. The said puppet head has a rounding chisel R, secured upon one side of its upper end, and a finishing chisel, S, similarly arranged upon the opposite side thereof, as denoted by the drawings. A movable center shaft T, like that used in common turning lathes, is sustained by the puppet frame E, or, in other words, it is supported upon a platform U, which rests upon the heads or upper parts of four screws *q, q, &c.*, which extend downward, and are screwed through a platform V, resting upon the rails B, C. Each of the screws *q*, has a toothed pinion *r* fixed upon it, just beneath the platform U, whose teeth engage with a connecting cogged wheel *s*, disposed vertically between the four pinions. Therefore, on turning a crank *t*, placed upon the top of one of the screws, it will move the said screw and all the others, at the same time.

The upper platform and the puppet E, are

held in position or rendered immovable upon the rails B, C, by screw nuts, *u, u*, and screws *v, v*, which pass upward from a cross bar *v'*, each of whose ends rests and moves in a groove *w*, cut horizontally in the inner face of each rail timber B or C, of the frame A. A feeding screw W is arranged beneath the puppet head G as seen in the drawings, the said puppet head having a small stud or projection X, extending downward from it, and entering between two consecutive threads of the screw. The said screw is revolved by a suitable combination of mechanism intervening between it and the mandrel H.

The oar, whose handle is to be turned around, has its blade inserted and confined in the jaws of the wheel K. The shaft or shank, passes through the circular opening *e* of the puppet head G, and rests within the angular notch or rest *p*, of the slide P, which in consequence of the slide P resting and moving upon the rail M, always keeps it upward against the top of the opening Q, and prevents it from springing downward, while the cutters are in action. The handle end of the oar is sustained in position by the center pin T.

In the act of turning the shaft of an oar, the cutters and upper edge or part of the opening Q, move in a horizontal line. Consequently, in order to turn the shaft tapering or, larger at the handle end than it is at or near its junction with the blade, its axis must make an angle with the horizon, or with the horizontal line through which the upper edge or part of the opening Q moves. In order to bring the handle end of the axis into the correct position, in order to be able to turn the oar shaft tapering, it becomes necessary that the center pin T, should have a mechanical contrivance or contrivances, by which its height, with regard to the top of the opening Q, may be adjusted; that is to say; so that the vertical distance of the point of the center pin, from the top of the opening Q, shall be equal to the greatest semi-diameter of the oar shaft. It is with this view that the center pin is

arranged upon a platform V, whose height may be adjusted by regulating screws or other proper mechanical equivalents. It also becomes necessary to provide the ring or wheel K, with some mechanism by which its axis may be arranged at a vertical distance from the horizontal line, through which the top of the opening Q travels, which shall be equal to the least or smallest semidiameter of the oar shaft. Furthermore, in order that the oar may truly or properly revolve on its axis, it is requisite that the boxes in which the mandrel H is supported, should have adjusting screws applied to them, as hereinbefore described. By the same, the axis of the mandrel may be brought into line of the axis of the oar produced. When the oar blank is thus adjusted in the machine, and motion is given to the mechanism, the cutters of the puppet G will remove the superfluous wood, and turn the shaft down to a regular tapering form. The inclination or form of the top surface of the bar or rail M, should be such as to cause the angular notch or seat of the slide which rests upon it, to always keep the shaft of the oar up in its place, against the top of the opening Q, or, in other words, to prevent it from springing away therefrom.

The inclined rail M, does not serve the purpose of a pattern to guide the cutters, or the wood or shaft to be cut, but, in connection with the slide rest P, always keeps the oar blank in its proper position, with respect to the cutters.

I therefore claim—

The said inclined rail (M) and slide (P), as combined with the opening (Q), of the puppet head G, the same being for the object as above set forth.

In testimony whereof, I have hereto set my signature, this twenty-eighth day of August, A. D. 1845.

EZEKIEL PAGE.

Witnesses:

R. H. EDDY,
GEO. H. BAILEY.