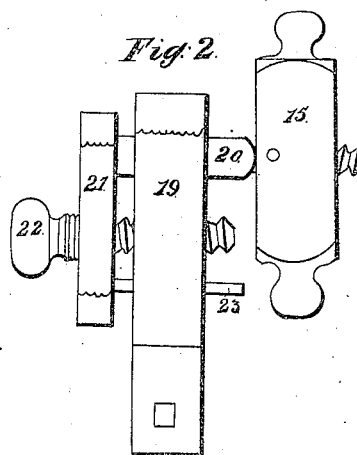
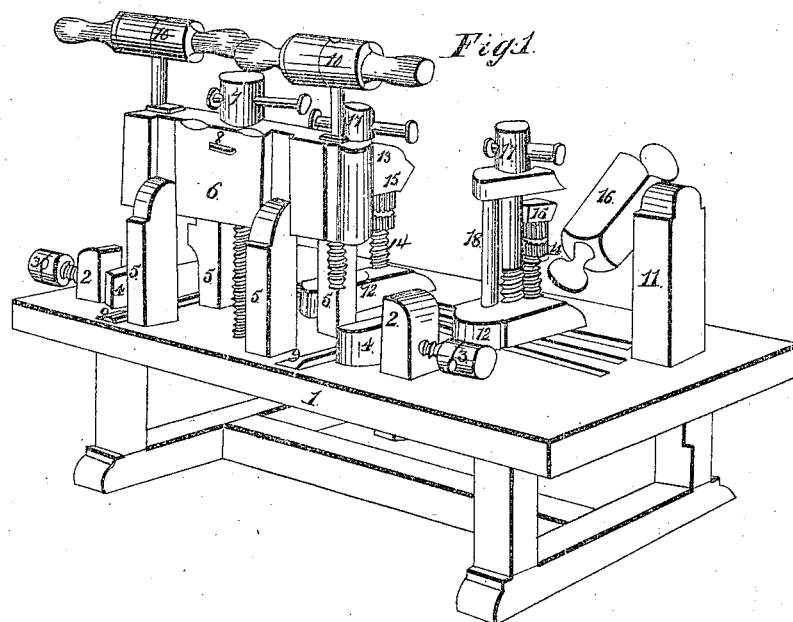


P. Williams,
Making Wooden Screws.
N^o 126. Patented Feb. 16, 1837.



Witnesses:

John Laporte
Abram Butler

Inventor:

P. Williams

UNITED STATES PATENT OFFICE.

PALMER WILLIAMS, OF TOWANDA, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR CUTTING THE SCREWS OF SCREW-BEDSTEADS.

Specification forming part of Letters Patent No. 126, dated February 16, 1837.

To all whom it may concern:

Be it known that I, PALMER WILLIAMS, of the borough of Towanda, in the county of Bradford and State of Pennsylvania, have invented a new and Improved Mode of Manufacturing the Wood-Screw Bedstead; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists of a machine of two parts. The first part is used for cutting the right and left boxes or female screws in the bedstead-posts and the second part for cutting the right and left male screws on the tenons of the rails.

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

1 is a bench four and one-half feet in length, two feet wide, and four inches thick, erected on four legs twenty inches long from the under side of the bench, and four by four inches thick. Through this bench are mortises to receive the necessary posts or standards—viz., two, in which stand two posts 2, five inches high, with one screw 3 passing through each, these screws 3 to be ten inches in length, including the heads, on the ends of which are fastened with a key two followers 4, four inches long, two inches thick, and three wide. When the screws 3 are turned, these followers force the bed-posts up against four upright posts 5, which guide the beam 6. These upright posts 5 are eleven inches high from the top of the bench 1. The space between the two end posts 2, through which the screws 3 pass to the outside of the four upright posts 5, is eight inches. The upright posts 5 are three by four inches thick, the narrowest side facing the beam 6, and the space between them crosswise the bench is four inches. The object of these upright posts is to guide the beam in raising and lowering it to bring the augers in contact with the holes bored in the bed-posts for cutting the female screws. The beam 6 is five inches thick and eight deep, with gains in each side to correspond with the four upright posts 5, so that the beam 6 can slide up and down between them. In the center of the beam 6 is a screw 7, passing perpendicularly through it down into the bench 1, which forms the box for its reception. This screw 7 has a channel in it to re-

ceive two keys 8, which pass through the beam 6, which beam is raised and lowered at pleasure by turning the screw 7. The augers 10, for cutting the female screws in the bedstead-posts, pass perpendicularly through the beam 6 and stand two inches from the outside of the gains in said beam 6. On the top of the bench 1, directly under the points of the augers, are two ovalized blocks 9, one-fourth of an inch thick, twelve long, and three wide. The use of said ovalized blocks 9 is to avoid the necessity and labor of squaring the bed-posts on more than two sides and to let the two squared sides face the beam 6 and upright posts 5, the center of the blocks 9 to lie directly under the center of the augers 10.

For the purpose of cutting one right and one left female screw the augers 10 are both to be turned toward the center of the machine. The foot of the bed-post when placed in the machine is always to be put in from and the top toward the workman. After cutting the first female screws in the bed-posts the bed-posts are then to be shifted so as to change places with each other, in order to make a right and a left box or female screw in each bed-post. By this operation the end and side rails are, in putting them together, made to turn toward the center. The shanks of the augers 10 are eleven and the screw five inches in length and two inches in diameter and the pipe is one and one-half inch in diameter. The lip or cut of the auger commences one-half an inch from the end of the pipe, the auger to be hollow and the chip to pass through the cut into the hollow of the auger, which hollow is one and one-fourth inch in diameter; the bed-post to be tapped with an inch-and-a-half auger two inches from the work side, and the hole for the side rail to be two inches lower down than the hole which receives the end rail.

The second part of the machine may with the other part occupy the same bench by constructing it ten feet long, four feet instead of two feet wide, as shown in the the drawings. Three gains are to be cut lengthwise through the bench two and one-fourth inches wide and eight feet long to receive the puppet-heads 11 and bed-pieces 12 of the vises 13, the first gain to be four inches from the edge of the bench, the second gain six inches from

the first, and the third gain eight inches from the second, the bed-pieces of the vises to be six inches wide, three thick, and twenty long and to lie crosswise the bench. On the under side of the bed-pieces there is mortised a piece of wood, which passes through the first gain and receives a key, by which the bed-piece may be secured at any point to which it is removed. In these bed-pieces 12 stand two screws 14, passing perpendicularly through the first gain by the side of the keyed pieces which confine the bed-pieces of the vises. On the heads of these screws 14 are tenons two inches long and one and one-half inch in diameter, which are inserted into two blocks hollowed out at the top to receive the rails of the bed-posts. These blocks 15 are six inches long and four by four thick, with a hole in the center to receive the tenons on the heads of the screws 14. As the rails vary in size, by turning the screws 14, the tenons will be brought to correspond with the V-blocks 16. Screws 17 pass through the bed-piece of the vise into the second gain. The back piece of the vise 18 passes through the bed-piece of the vise and the third gain. Screws 17 and back piece 18 are attached to the jaws of the vises and extend horizontally over the rail. The length of the vise-jaw 13 is eighteen inches long and four by four thick. In the vise-jaws 13 keys are to be placed to meet the channels in the screws 17. As the screws 17 are turned the vise-jaws 13 are made to rise and fall.

The left-hand puppet-head 19 is shown separately in Fig. 2. Its place is directly opposite to that marked 11 at the other end of the table, where it cannot be represented, being hidden by other parts of the machinery in Fig. 1. The screw which secures the V-block on the puppet-head 11 is firmly attached to it, while that on the puppet-head 19 is cut upon a sliding shaft 20, which is two inches square, and slides through a mortise in 19, being firmly affixed to the block 21, which is twelve inches long, four wide, and three thick. A screw 22 passes centrally through this block and into the puppet-head, there being a sliding piece 23, one and one-half inch thick, to guide it correctly. The screws which receive the two V-blocks must one of them be a right and the other a left handed screw. The tenons of the rails must be sawed to one length and be two inches from the shoulder. As the rails vary in length between the shoulders, the tenons may not hit the V-block shafts, and the machine must therefore in such case be altered to

your right by the center screw, which passes through the puppet-head. The puppet-head on the left of the bench is to remain stationary. These puppet-heads 11 are four inches square and fastened with a key on the under side of the bench.

To fit the machine for use, screw the V-blocks 16 onto the shaft mortised through the puppet-heads and place them parallel with each other, and then saw off the shafts in front of and close up to the V-blocks. Then put the rail into the machine—the tenons to come in contact with the V-block shafts—and turn on the V-blocks up to the shoulders of the rail and the V will cut the male screws, the thread of which on the ends of the rails to be trimmed off until you come round to where the thread is of the full size. By so doing the tenons of the rails will enter the bed-posts both at once. If either joint should be open, saw off the V-block shaft of the open joint, which will cause the V-block to commence the screw quicker and the shoulders to hit the posts both at once and form a perfect joint. The V-blocks are four by four inches in thickness and fourteen inches in length, with a short handle turned on each end, in the face of which is inserted the V to correspond with the thread of the augers 10.

Having thus fully described my machinery for manufacturing bedsteads which are to be put together by right and left handed wood-screws, I hereby declare that I do not claim as my invention any of the individual parts of the said machinery taken alone; but

What I do claim is—

The particular manner in which those parts are combined together, as herein described, so as to cut the male and female screws in such a manner as to adapt the right and left handed male screws on the opposite ends of the rails to the female screws in the posts, causing them to enter and come up to the shoulder correctly under all their variations of size or length; and I do further declare that although I have given certain specific admeasurements and proportion of parts I have done this for the purpose of exemplification only, without intending thereby to limit myself in these particulars, but to vary them as I may think proper while the machine remains substantially the same.

Washington, December 30, 1836.

PALMER WILLIAMS.

Witnesses:

JOHN LAPORTE,
ABRAHAM BUTLER.