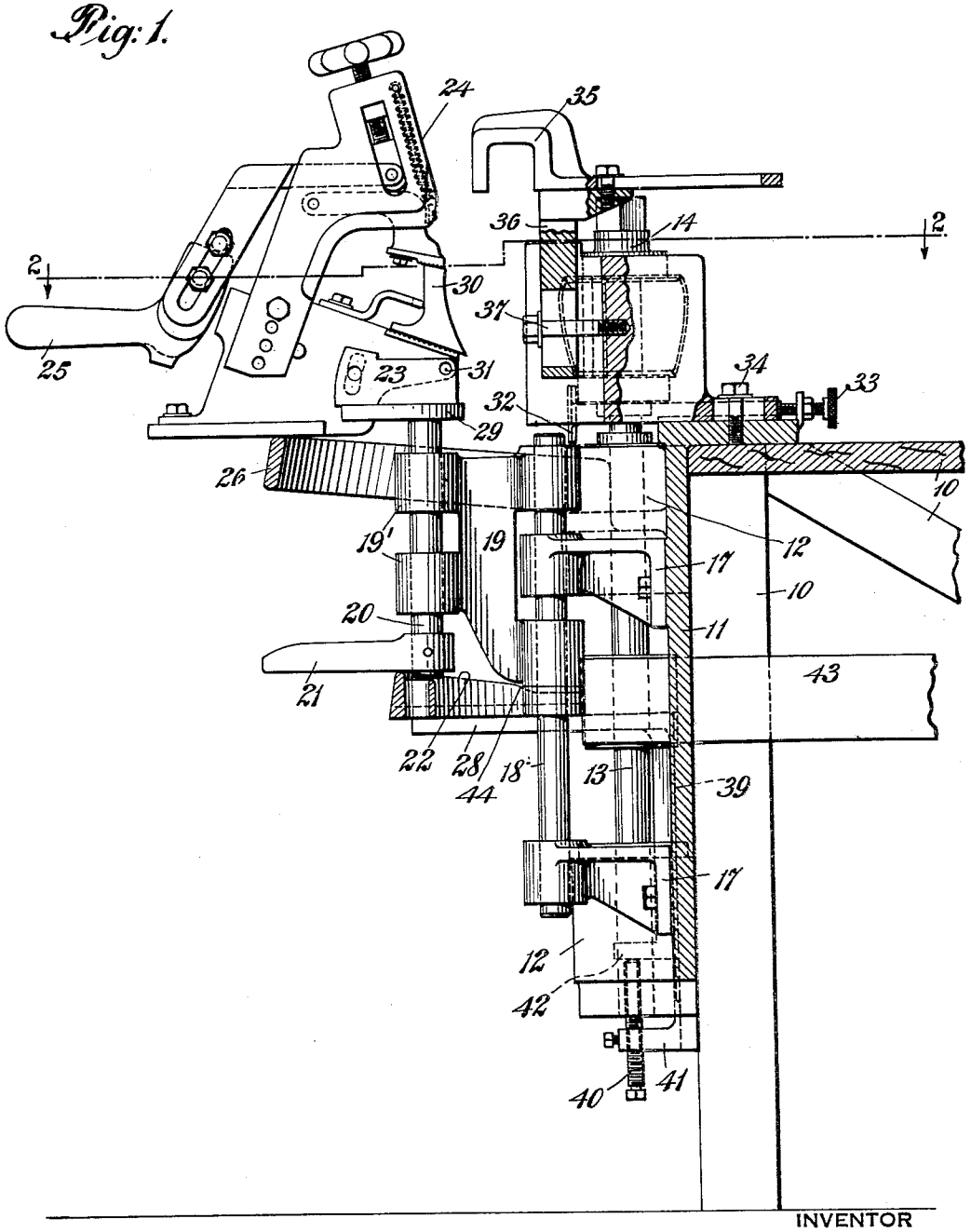
Oct. 31, 1933. J. GUIDA 1,932,818

HEEL SHAPING MACHINE

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Fig. 1.



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HEEL SHAPING MACHINE

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Fig: 2.

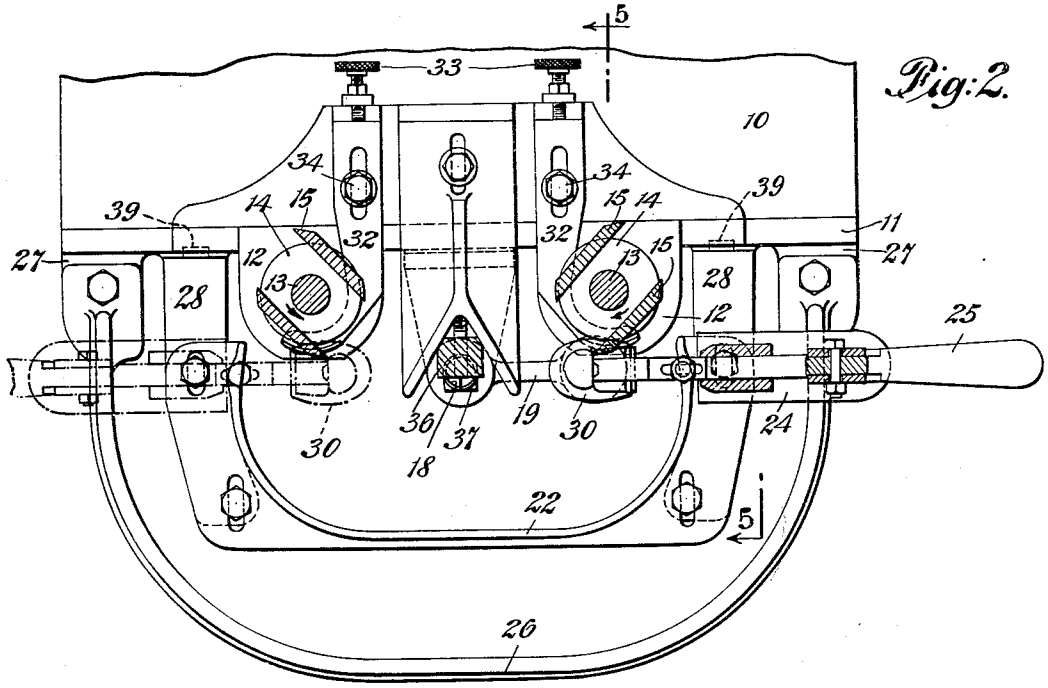


Fig: 4.

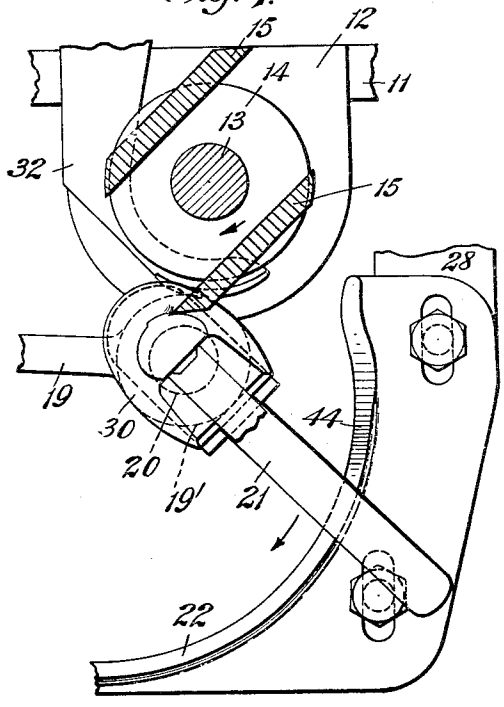
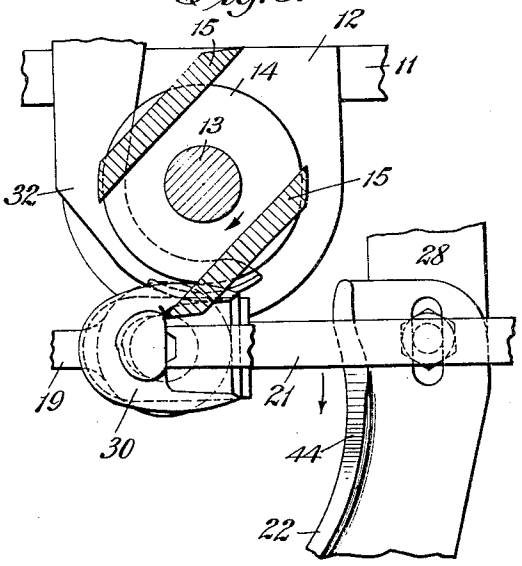


Fig: 3.



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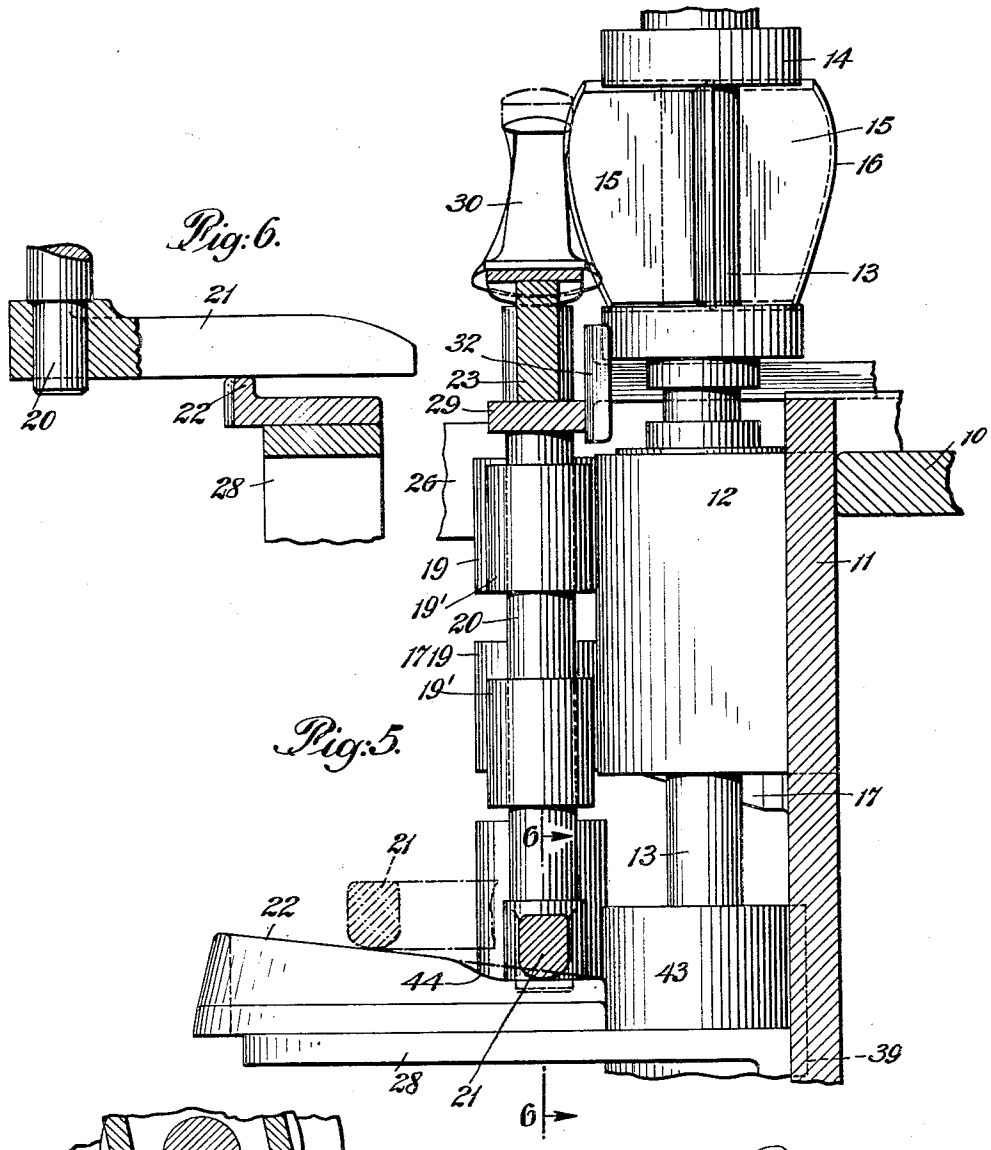


Fig:5.

Fig:6.

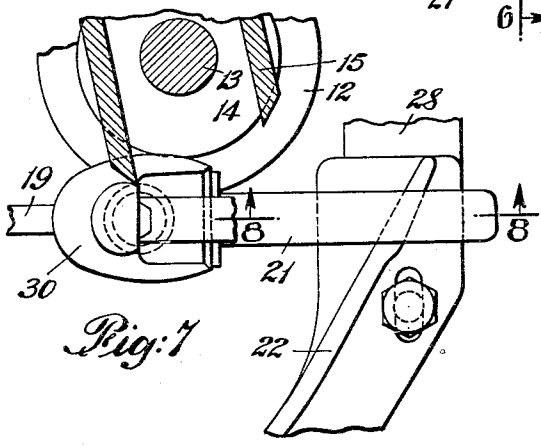


Fig:7.

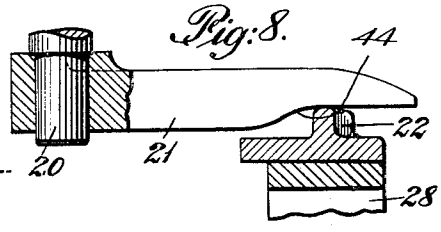


Fig:8.

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Patented Oct. 31, 1933

1,932,818

UNITED STATES PATENT OFFICE

1,932,818

HEEL SHAPING MACHINE

James Guida, Brooklyn, N. Y., assignor to Brooklyn Wood Heel Corporation, a corporation of New York

Application January 11, 1932. Serial No. 585,919

3 Claims. (Cl. 12—87)

My invention relates to machines for shaping the heels of shoes for women's wear.

The object of my invention is to provide a machine which, in the process of rounding the heel, will form curved vertical edges, such as have heretofore been spooled by hand after the heel was removed from the shaping machine, and thus insure uniformity of shape in the heels so that lifts used on the heels will always fit perfectly, and also to materially reduce the cost of manufacturing.

A further object is to provide a method of performing this spooling operation before the heel is rounded and to perform both operations on the same machine in one continuous operation.

In carrying out my invention, I modify a conventional type of heel shaping machine now in general use.

Referring to the drawings which form a part of this specification:

Fig. 1 is a side elevational view, partly in section, of a machine embodying my invention.

Fig. 2 is a plan view taken on line 2—2 of Fig. 1, showing the heel in working relation to the cutters.

Fig. 3 is a detail view in plan showing the heel in working relation to a rotary cutter and a supporting track which embodies my invention, and

Fig. 4 is a view similar to Fig. 3, showing a different relation between the heel and the rotary cutter.

Fig. 5 is a sectional view of a portion of the machine taken on line 5—5 of Fig. 2.

Fig. 6 is a sectional detail of the track and track rod taken on line 6—6 of Fig. 5.

Fig. 7 is a detail view in plan similar to Fig 4, showing a modification of the track arrangement and

Fig 8 is a fragmental view on line 8—8 of Fig. 7, showing the modified track rod used therewith.

10 indicates a bench-like frame of wood or other suitable material on which is mounted a cast metal frame 11 having journal boxes 12 formed integral therewith. 13 indicates vertically extending shafts supported in the journal boxes 12, which carry tool hubs 14, respectively, fixed thereon. 15 indicates cutting blades mounted on the hubs, the cutting edges of which extend vertically and are curved as illustrated at 16 in Fig. 5 to give the desired curvature to the sides of the finished heel. The shafts 13 are driven by belts 43, respectively, in the direction indicated by the arrows in Fig. 2.

Brackets 17, respectively (Fig. 1), are fixed to the frame 11 and support a vertically extending shaft 18 in fixed relation. Mounted on the shaft 18 in swinging relation thereto is a toggle bracket 19, having journals 19' for a short shaft 20. Fixed on the lower end of the shaft 20 is a longitudinally extending track rod 21 which rests upon and is supported by a lower track 22. The upper end of the shaft 20 supports the inner end of a frame 23 carrying the vise mechanism 24 which has a handle 25 by means of which the frame 23 and all the parts mounted thereon is moved. 26 indicates the upper track which is supported on the frame 11 as illustrated in Fig. 2.

Both tracks are U-shaped in plan, as shown, the ends of the upper track being connected to brackets 27, respectively, in adjustable relation thereto, and the ends of the lower track are adjustably held to the brackets 28, respectively. The brackets 28 are guided in vertically extending slots 39 formed in the frame 11 (shown in dotted lines in Figs. 1 and 2), and may be vertically adjusted relative to the frame 11 by means of screws 40 which extend through offset portions 41 of the frame and support similar offset portions in the brackets 28 as shown in dotted lines at 42 (Fig. 1).

A cam plate 29 (Fig. 1) is carried on the upper end of the shaft 20 and supports the frame 23 at its inner end. 30 indicates a wooden heel that has been formed, held in the vise mechanism. The frame 23 is pivoted at 31 to permit vertical movement of the shaft 20 and tilting of the frame 23. The cam plate 29 is suitably curved, depending on the shape of the heel to be produced, and rides in abutting contact against the cam elements 32, respectively, in the act of rounding the heel. The cam elements 32 may be adjusted by means of the screws 33 and held in adjusted position by the bolts 34 to change the size of the heel to be formed. 35 is an adjustable abutment for the vise 24 and is supported by a post 36 held to the frame 11 by bolt 37.

All of the above features of construction are embodied in the conventional machines in general use above referred to and are well known to those skilled in this art.

In carrying out my invention, I change the form of the lower track adjacent each end where it is supported by the brackets 28. Heretofore the surfaces of both upper and lower tracks have been contoured with even and continuously graduated surfaces as is the upper track shown in the accompanying drawings, with the result that the heels formed by their use have been likewise evenly and continuously curved, leaving

sharp vertical edges where the side curved portions of the heel terminate, and in order to provide spooled edges, it has been necessary to perform subsequent operations after the heel has been removed from the machine.

It will be noted that the tracks are extended at their ends beyond their heel rounding contour, and in order to completely form the heels with spooled vertical edges, I cut away the extended surfaces of the lower track to provide cams of sharp upward inclination adjacent its ends, as illustrated at 44 (Fig. 5).

By forming the lower track as shown in Fig. 5, the heel is initially presented to the cutters as shown in full lines and at a comparatively acute angle, thus permitting the cutter blades to start the shaping operation at a higher point on the heel and nearer to the medium line thereof, as illustrated in Fig. 3. As the shaft 20 is carried up the cam at 44 by the track rod 21, the heel blank carried by the frame 23 is guided vertically and through a small angle of arc, thus bringing the heel to the position indicated in dotted lines in Fig. 5. This initial movement forms the spooled edge. As the movement of the frame 23 continues, the heel is rounded on one side in the customary manner, after which the opposite side of the heel is presented to the other cutter, as shown in dotted lines in Fig. 2, and the movement is repeated in a reverse direction to complete the formation of the heel.

Fig. 3 shows one side of the heel completely formed and the beginning of the initial spooling operation on its opposite side. Fig. 4 shows the heel as it appears after the second spooling operation has been performed and the heel is being finally completed.

A modification of the construction designed to accomplish the same advantages is illustrated in Figs. 7 and 8, in which the track rod 21 is cut away and a sharply inclined cam is formed on its under side and the surface of the track 22 is curved on a longer radius adjacent its ends, as illustrated. This construction permits the shaft 20, the frame 23 and the heel 30 to be guided in the same movements previously described, the track rod 21 supporting the shaft 20 in its lowest position at the beginning of the operations and then riding spirally upward with it on the cam track 22, as will be readily understood.

Having thus described my invention, I claim:

1. In a heel shaping machine of the character described having a cutting tool, a curved track member, and a work holder having a member supported on the track member in riding relation, said track member being contoured whereby a heel blank carried by the holder may be guided in engagement with a cutting tool to round a heel, said track member being extended at its ends beyond its rounding contour, and an initial cam of sharp inclination on one of said members adapted to guide the blank vertically and thru a small angle of arc over the extended portion of the track member in engagement with the cutting tool preliminary to each rounding operation to spool off a sharp vertical edge of the heel.

2. In a heel shaping machine of the character described having a cutting tool, a curved track, and a work holder having a member supported on the track in riding relation, said track being coutoured whereby a heel blank carried by the holder may be guided in engagement with the cutting tool to round a heel, said track being extended at its ends beyond its rounding contour, and an initial cam of sharp inclination on each of the extended portions of the track adapted to guide the blank vertically and thru a small angle of arc in engagement with the cutting tool preliminary to each rounding operation to spool off a sharp vertical edge of the heel.

3. In a heel shaping machine of the character described having a cutting tool, a curved track, and a work holder having a member supported on the track in riding relation, said track being contoured whereby a heel blank carried by the holder may be guided in engagement with the cutting tool to round a heel, said track being extended at its ends beyond its rounding contour, and an initial cam of sharp inclination on said member adapted to ride the extended portions of the track and thereby guide the blank vertically and thru a small angle of arc in engagement with the cutting tool preliminary to each rounding operation to spool off a sharp vertical edge of the heel.

JAMES GUIDA.