

March 9 , 1926.

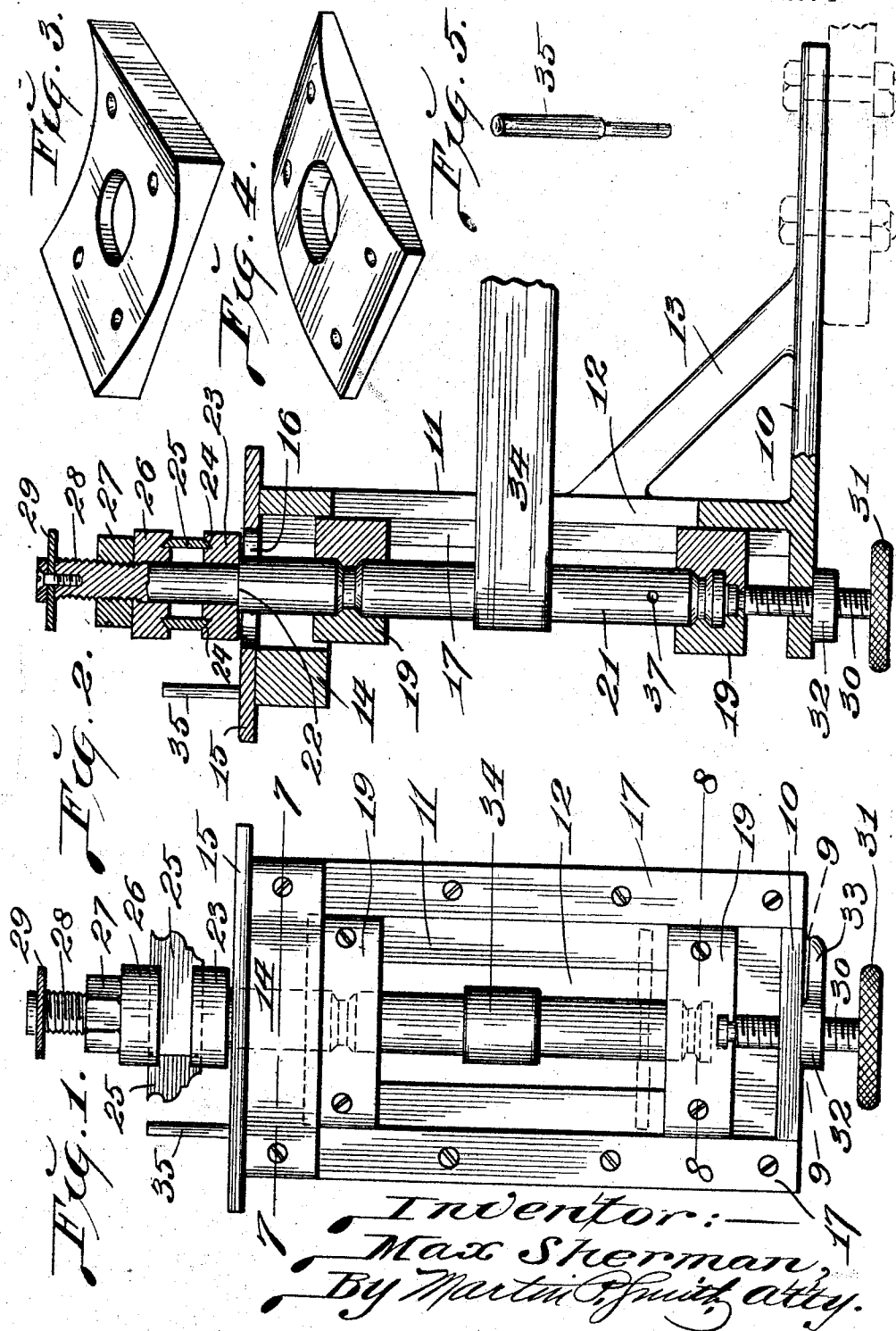
M. SHERMAN

1,576,249

PORTABLE SHAPER

Filed April 21, 1924

2 Sheets-Sheet 1



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Fig. 6.

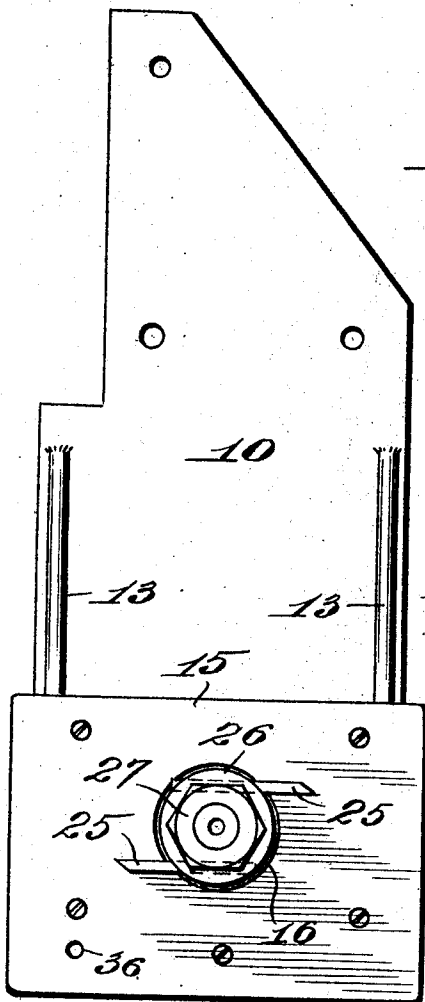


Fig. 7.

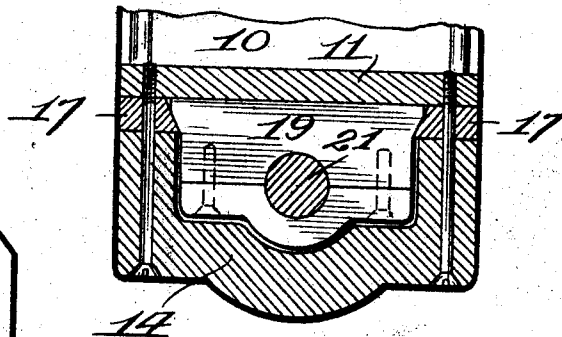


Fig. 8.

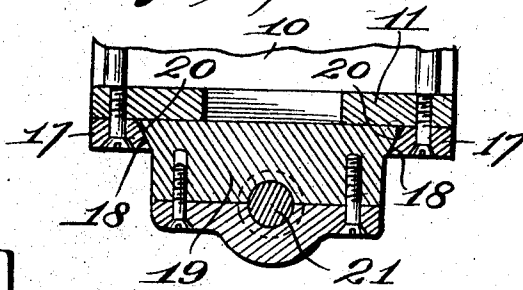
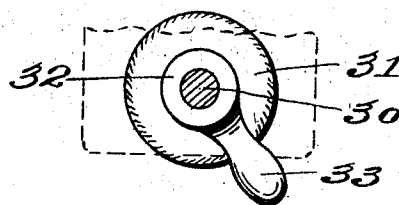


Fig. 9.



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UNITED STATES PATENT OFFICE.

MAX SHERMAN, OF LOS ANGELES, CALIFORNIA.

PORTABLE SHAPER.

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To all whom it may concern:

Be it known that I, MAX SHERMAN, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Portable Shapers, of which the following is a specification.

My invention relates generally to wood working machinery and more particularly to a shaper for producing light moldings, the principal objects of my invention being to produce a shaping or molding machine that is of relatively simple, strong and durable structure, and which is comparatively small and light in weight, thereby permitting the machine to be readily carried or shifted from one point to another; to provide a machine of the character referred to that may be very economically operated from the standpoint of power consumption; to construct the machine so that it may be readily attached to any substantial support, such as a larger machine, a work table, bench or the like and, further, to provide a relatively adjustable structure having comparatively few parts that can be advantageously used in the production of light wooden moldings.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts that will be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which—

Fig. 1 is a front elevational view of my improved molding machine.

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1.

Figs. 3 and 4 are perspective views of different forms of work supports that are used in connection with my improved machine.

Fig. 5 is a perspective view of a pin that is used as a work guide and as a shaft locking member.

Fig. 6 is a top plan view of the machine.

Fig. 7 is a horizontal section taken on the line 7—7 of Fig. 1.

Fig. 8 is a horizontal section taken on the line 8—8 of Fig. 1.

Fig. 9 is a horizontal section taken on the line 9—9 of Fig. 1.

Referring by numerals to the accompanying drawings, 10 designates a base plate of

any suitable size and shape and which is adapted to be rigidly secured to a suitable support by means of bolts or clamps, and formed integral with the forward end of said base plate is a standard 11, in which is formed a centrally arranged opening 12. Suitable braces 13 are arranged between the side portions of base 10 and standard 11.

Secured to the upper portion of standard 11 is a horizontally disposed forwardly projecting bracket 14 and detachably secured on the top thereof and to the top of the standard is a flat work supporting table 15 in the center of which is formed an opening 16.

Secured on top the front face of standard 11 and adjacent to the side edges thereof are vertically disposed parallel rails 17 having undercut or bevelled inner edges 18.

Arranged for sliding movement between the rails 17 is a pair of bearing blocks or boxes 19 that are spaced apart and the ends of said blocks are provided with bevelled faces 20 that engage beneath the bevelled faces 18 on rails 17.

These bearing blocks may be of any desired construction and to minimize friction they may be provided with suitable ball or roller bearings.

Journalled in the bearing blocks 19 is a vertically disposed shaft 21, the upper portion of which projects through opening 16 and said upper portion being provided with a shoulder 22.

Adapted to rest on shoulder 22 is a collar 23, the upper face of which is grooved as designated by 24, in order to receive the lower edges of a pair of mold cutting knives such as 25.

Arranged on top of these knives is a second collar 26, grooved in its under face to receive the upper edge of the knives and, to clamp the knives between the collars, and the lower collar 22, a nut 27 is screw seated on the threaded upper end 28 of the shaft.

In order to cut grooves or channels in molding strips or the like, a small saw or cutting disc such as 29 may be detachably mounted on the upper end of shaft 21.

Shaft 21 and its bearings 19 are adapted to be adjusted vertically to position the cutting blades 25 in different planes above the table 15, by a screw 30 that is seated in the forward end of base 10, the lower end of said

screw having a hand wheel 31 and the upper end being rotatably connected to lower bearing block 19.

Means for locking screw 30 and associated parts in their adjusted positions comprises a lock nut 32 that is seated on said screw below base 10 and said lock nut being provided with a handle 33.

Shaft 21 may be driven in any suitable manner, preferably by means of a belt 34 that passes through opening 12 and engages said shaft between the bearings 19.

To form a bearing against which the work is placed when first moved into engagement with the cutting head, a pin such as 35 is detachably seated in an aperture 36 in table 15.

This pin may also be inserted in an aperture 37 in the lower portion of shaft 21 and bear against standard 11 to hold the shaft against rotation when a wrench is applied to nut 27 for the purpose of tightening or unscrewing same.

To provide a convenient support for curved pieces that are cut into moldings on my improved machine, table 15 may be removed and a convex table of the form illustrated in Fig. 3 or a concave table as illustrated in Fig. 4 may be secured on bracket 14 and standard 11.

In the use of my improved shaper or molding machine, the proper cutting blades are clamped between collars 24 and 26 and screw 30 is then manipulated to move shaft 21 and carried parts vertically so as to locate the rotary cutting head the proper distance above table 15.

Opening 16 is large enough to accommodate the lower collar 23 and thus the shaft and parts carried thereby may be lowered until blades 25 occupy a position just above table 15.

When proper adjustment has been made, shaft 21 is rotated by driving belt 34 and the

work positioned on table 15, is manipulated so as to be engaged by the cutting edges of blades 25.

A shaper or molding machine of my improved construction is comparatively simple, may be readily shifted from one position to another, and as the machine requires little power in its operation, it can be advantageously and economically employed in the production of all forms of light moldings.

It will be understood that minor changes in the size, form and construction of the various parts of my improved portable shaper may be made and substituted for those herein described without departing from the spirit of the invention, the scope of which is set forth in the appended claim.

I claim as my invention:

In a portable shaper, an upright frame, parallel rails arranged vertically on the front face of said frame, a horizontally disposed U-shaped frame secured to the front face of the upright frame at the upper end thereof, a table arranged on top of the horizontally disposed U-shaped frame and provided at its center with an opening, bearings arranged to slide on the upright frame between the parallel rails thereon, the space between the horizontally disposed U-shaped frame and the upright frame being of sufficient size to accommodate the upper one of the sliding bearings, a shaft journaled in the bearings, cutter clamping means on the upper end of said shaft, which clamping means includes a pair of discs, the lower one of the latter being adapted to move freely through the opening in the table when the shaft is adjusted vertically and an adjusting screw seated in the lower front portion of the upright frame, and swivelled to the lower one of the sliding bearings.

In testimony whereof I affix my signature.

MAX SHERMAN.