

(No Model.)

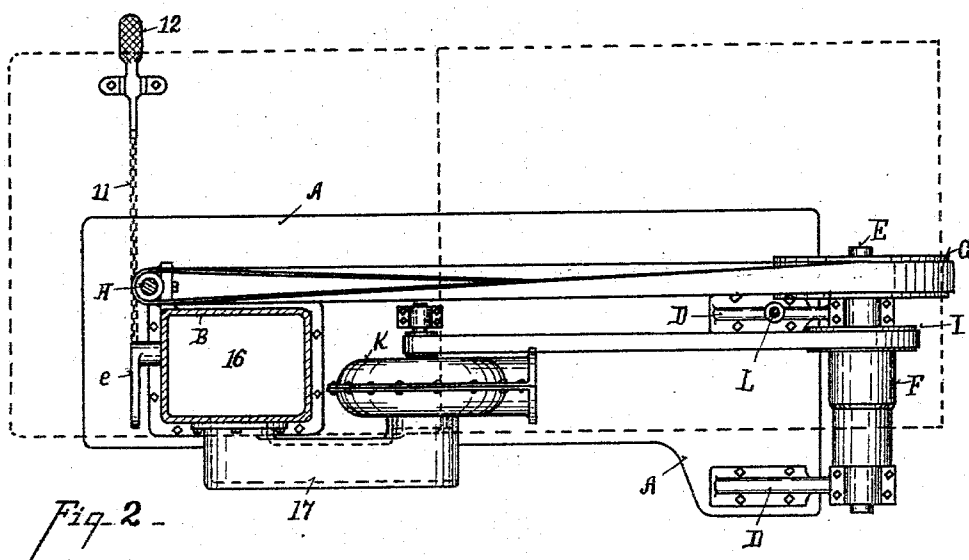
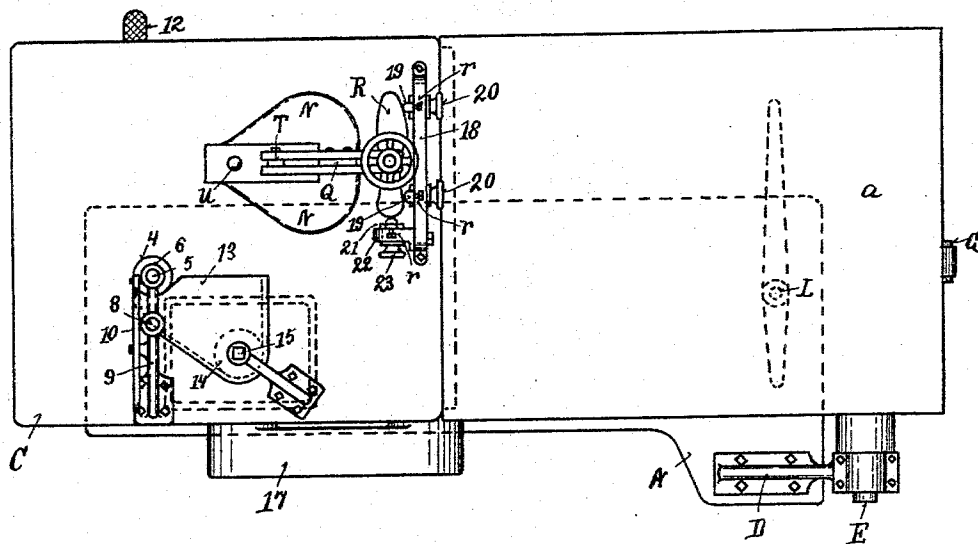
3 Sheets—Sheet 1.

S. ROSS.
LEATHER SHAPING MACHINE.

No. 515,614.

Patented Feb. 27, 1894.

Fig 1.



Attest—
C. M. Miles—
Q. Kaiser—

INVENTOR—
Simon Ross—
By *Wm. S. Boyd*—
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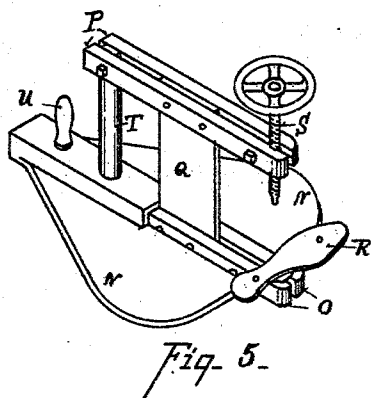
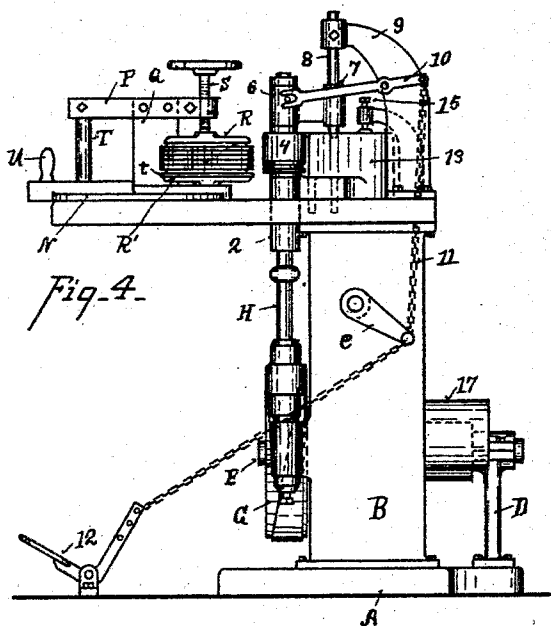
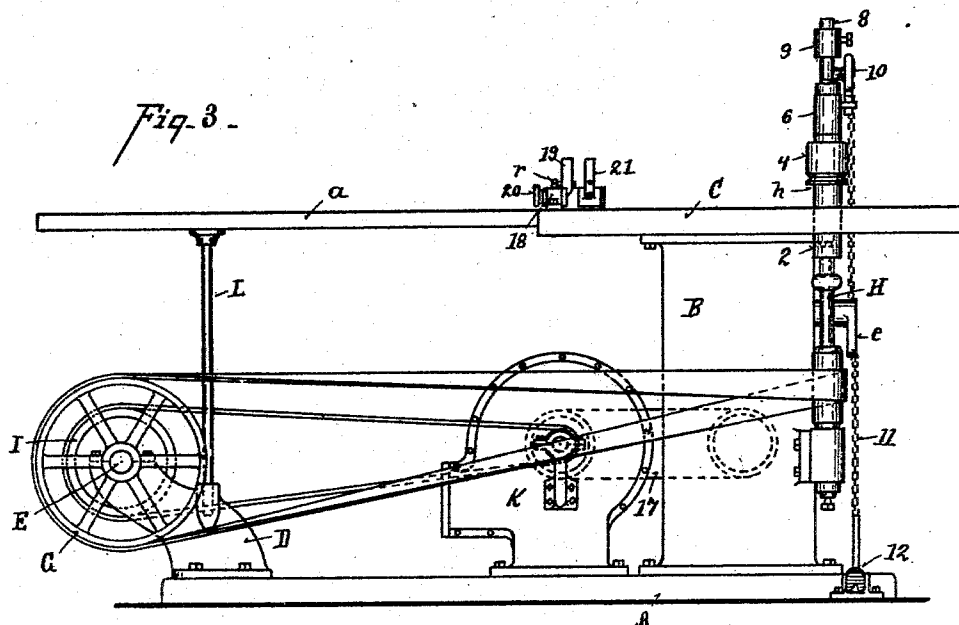
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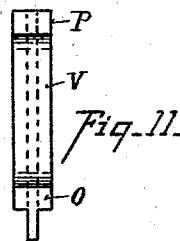
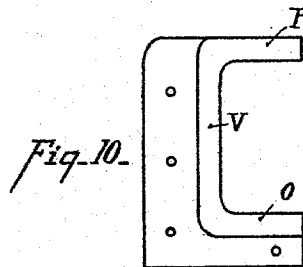
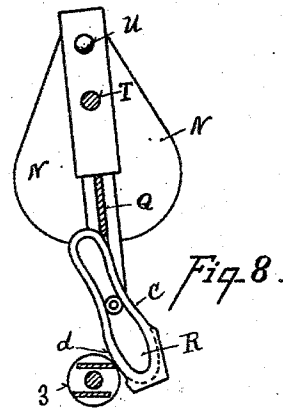
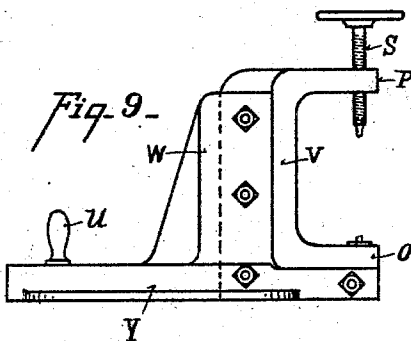
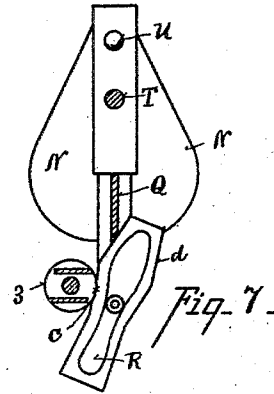
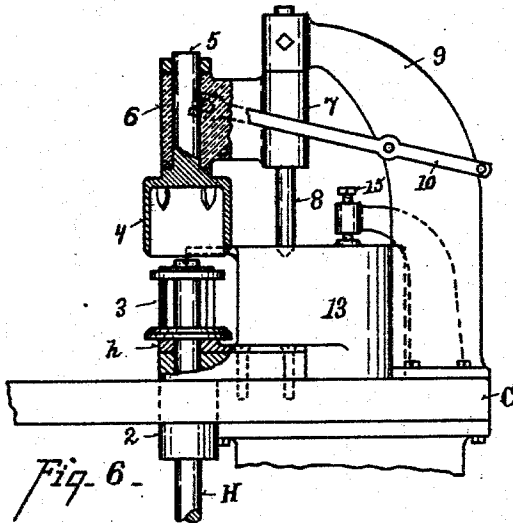
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LEATHER SHAPING MACHINE.

No. 515,614.

Patented Feb. 27, 1894.



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UNITED STATES PATENT OFFICE.

SIMON ROSS, OF CINCINNATI, OHIO.

LEATHER-SHAPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 515,614, dated February 27, 1894.

Application filed July 28, 1893. Serial No. 481,751. (No model.)

To all whom it may concern:

Be it known that I, SIMON ROSS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Leather-Shaping Machines, of which the following is a specification.

The object of my invention is to provide a machine for shaping leather into irregular forms, on the principle of the well known Blanchard lathe. I have shown it as primarily adapted for shaping shoe soles, but it is equally adapted to shaping other irregular forms such as shoe heels, brush backs, blinkers for bridles, and various other articles of manufacture.

The various features of my invention are fully set forth in the description of the accompanying drawings making a part of this specification, in which—

Figure 1 is a top plan view of my machine. Fig. 2 is a plan view on line *x, x*, Fig. 3. Fig. 3 is a side elevation of the machine. Fig. 4 is an end elevation of the machine and jack. Fig. 5 is a perspective view of the jack. Fig. 6 is a sectional elevation of the cutter head and guard. Figs. 7 and 8 are diagrams illustrating the method of cutting shoe soles. Fig. 9 is a side elevation showing a modified form of jack. Figs. 10 and 11 are detail views of Fig. 9.

A represents the base of the machine; B, a hollow column mounted thereon; C, a table mounted upon said column; D, brackets mounted on the opposite end of base A in which the driving shaft E is journaled.

F represents the driving pulley on the shaft E which receives power by a belt from any appropriate driver.

G represents a pulley on one end of the driving shaft E for driving the cutter shaft H.

I represents a pulley also on the shaft E for driving the blower K.

L represents a post mounted upon one of the brackets D for supporting a supplemental table *a*.

H represents a vertical cutter shaft supported in bearings 1, 2.

3 represents a cutter head which is constructed substantially as shown in Letters Patent No. 489,876, granted me January 10, 1893.

4 represents a cutter guard carried by the lower end of a vertical shaft 5 that is journaled in a sleeve 6 connected with a sleeve 7 mounted on a vertical shaft 8 that is supported in a bracket 9 with which the table C is provided.

10 represents a lever the forked end of which engages with the pin on sleeve 6; it is operated by the chain 11 which passes over crank *e* and thence to foot lever 12 which is depressed to raise the guard 4, exposing more or less of the cutter head 3.

13 represents a blower pipe the open mouth of which is opposite the cutter head 3; this blower pipe is detachably connected to the table which is pierced with an orifice 14, as shown in dotted lines Fig. 1. 15 represents a set screw for holding said blower pipe in position. I have shown the point of shaft 8 as stepped in the top of the blower pipe 13 to assist in holding it in position.

16 represents the opening in the hollow column B. 17 represents a branch pipe connecting said hollow column with the blower K. By means of the arrangement of these parts the dust and shavings are drawn off the table and away from the knife through the hollow column and the blower.

One of the primary objects of my invention is to provide a horizontally movable jack carrying clamping plates; said jack rests loosely on the table and is manipulated by the operator for reducing the stock.

In Figs. 4 and 5 I have shown the preferred construction of jack which consists in a broad base N, sectional arms O, P, at top and bottom, brace Q connecting said arms, and the clamping plates R R'; said clamping plate R' swivels in the arm O, and clamp plate R swivels on the point of screw S, which engages in the nut in the arm P. T represents a secondary brace connecting the arms O, P. U represents a handle fixed in the base of the jack to enable the operator to move the same upon the table at will.

In Figs. 9 and 10 I have shown another form of jack in which the base and upright are made of cast metal and the arms O, P, are made integral with the shank V and bolted to the upright W, and base Y. I do not wish to limit myself to the sectional stock jack except in the clauses of the claim where the sec-

tional form is made an element. 18 represents a gage frame rigidly secured to the table C; it is slotted to receive the slides 19. 20 represents clamping screws; *r* represents screws the points of which project through the slides 19 and serve as guides for centering the stock. By loosening the screws 20 the slides 19 may be adjusted to or from each other to suit different sizes of stock. 21 represents a slide on the end of the gage 22. 23 represents a clamping screw by which the slide 21 is adjusted laterally to and from the frame 18 to fit different sizes and widths of stock.

15 Mode of operation: The pattern is placed upon the clamp R', the usual spacing plate is placed on the pattern and the stock is placed thereon; it is centered by means of the gage, as shown in Fig. 1; the upper clamp R is then placed on top of the stock and the screw S
20 turned to clamp it. The clamp plates carrying the stock are then turned so as to rest against the brace Q, as shown in Fig. 7; the cutter guard 4 is raised by the foot treadle 12 high enough to receive the stock between the
25 guard and cutter disk; the guard is then released and the jack moved, the pattern *t* bearing against the form *h*, to present the stock to the cutter. By manipulating the jack the stock will be first trimmed from the point
30 *c* to point *d*; the jack is then moved away from the cutter and the clamps turned on the swivel until the opposite side at the heel is brought against the brace Q, as shown in Fig. 8, when it is again presented to the
35 knife and the remaining portion of the stock trimmed away. I have shown the machine as adapted to turn shoe soles, but in trimming heels and blinkers the entire round portion of the cut may be taken without adjusting
40 the clamp plates. By employing a vertical cutter head, and jack carrying clamps, moved horizontally upon a table, several advantages are obtained; first, the clamps and
45 pattern are brought close to the operator who overlooks the jack and readily adjusts the stock to the pattern; second, the horizontal table on which the parts are mounted is convenient to hold the stock, pattern, forms, &c.,
50 so that the work is more convenient to the operator than with a horizontally arranged cutter head and a vertical jack; third, the stock is trimmed solely by the manipulation of the jack in the hands of the operator who
55 presents the stock to the cutter at the appropriate speed for proper reduction, so that small stock may be trimmed much more rapidly than larger stock; fourth, by employing the brace Q the stock may be supported at
60 two points, namely, by the pattern *t* resting against the form *h*, and by the pattern or stock resting against the brace Q, thereby holding the stock firmly to the action of the knife and avoiding tremor of the clamps due
65 to the vibration of the rapidly revolving knife when the pattern alone is used as a guide and support. Vibration sometimes causes

the knife to dig in and spoil the stock, but by means of the support provided in my jack this is entirely avoided.

I have shown the clamping device for holding the articles rigidly between the clamps as composed of a screw which is the simplest and best, but I do not desire to limit myself to this particular clamping mechanism except where the same is made a specific element by the terms of claims herein. It will be observed that the base of the jack at the forward end is enlarged so as to be very wide just in rear of the clamps, by means of which the jack is maintained in perfect horizontal plane, and is not inclined to be tilted by the operator sliding it over the table to present the stock to the cutter in varying curves and angles.

Having described my invention, what I claim is—

1. The combination with a leather shaping machine containing the table C, and the vertical cutter-head rotating above the table, of a jack resting upon a plane base independent of the table and free to move in all directions over the surface thereof, an arm O rigidly secured to the base and provided with a swivel step, an arm P carrying clamping mechanism, and clamping plates swiveled between said arms, substantially as specified.

2. The combination with a leather shaping machine containing the table C, and a vertical cutter-head rotating above the table, of a jack having a plane base independent of and free to move over the surface of the table, an arm O secured to said base and provided with a swivel step, an arm P mounted upon a vertical supporting brace, clamping mechanism attached thereto, and clamping plates swiveled between said arms, substantially as specified.

3. In a leather shaping machine, the combination of the table C, the vertical cutter-head 3, and a horizontally movable jack provided with a broad flat base and carrying the swiveling clamping plates R R' and clamping screw S, substantially as shown and described.

4. In a leather shaping machine, the combination of the table C, the vertical cutter-shaft H provided above the table with vertical cutter head 3, and a horizontally movable jack having a broad flat base and carrying the swiveling clamping plates R R' clamping screw S and vertical brace Q, substantially as shown and described.

5. In a leather shaping machine, the combination of the table C, the vertical cutter-head 3 rotating above the table, a horizontally movable jack provided with a broad flat base and swiveling clamping plates R R' and the horizontal gage 18 secured to the table in planes parallel with the clamping plates, substantially as shown and described.

6. In a leather shaping machine, the combination of the table C, the vertical cutter-head 3 and a horizontally movable jack composed of the base N, sectional arms O P, braces

Q T swiveling clamping plates R R' and clamping screw S, substantially as shown and described.

5 7. In a leather shaping machine, the combination of the table C, the vertical cutter head 3 rotating above the table, the horizontally movable jack mounted on the table and provided with brace Q, swiveling clamping plates R R', pattern *t*, and form *h*, and the
10 horizontal gage 18 secured to the table in planes parallel with the clamping plates, substantially as shown and described.

15 8. In a leather shaping machine, the combination with the base A, the hollow column B supported on said base, the table C mounted on the hollow column, the vertical cutter shaft H provided with cutter-head 3, the blower K provided with the pipe 13 having its open mouth opposite the cutter head and the pipe

17 connecting the blower with the interior of the hollow column, substantially as and for the purpose described.

9. In a leather shaping machine, the combination with the vertical cutter-shaft H and cutter-head 3, of the independent vertical shaft 8 provided with the sleeve 7, the vertically movable guard 4 supported from the sleeve 7 on the independent shaft and adapted to overhang the cutter head, and mechanism for moving said overhanging guard 4 to and from the cutter-head, substantially as specified.

In testimony whereof I have hereunto set my hand.

SIMON ROSS.

Witnesses:

T. SIMMONS,
C. W. MILES.