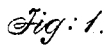


Patented Aug. 30, 1870.



INVENTOR
J. E. White
By M. M. M. C.
attorneys

United States Patent Office.

JOHN C. WHITE, OF AUBURN, NEW YORK.

Letters Patent No. 106,901, dated August 30, 1870.

IMPROVEMENT IN HEEL-ROUNDING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JOHN C. WHITE, of Auburn, in the county of Cayuga and State of New York, have invented a new and useful Improvement in Heel-rounding Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming a part of this specification.

This invention has reference to a new and improved machine for rounding the heels of boots and shoes of all sizes, whereby much labor and valuable time is saved; and

The invention consists in the construction and arrangement of parts, as hereinafter described.

Figure 1 represents a top or plan view of the machine.

Figure 2 is a side elevation.

Similar letters of reference indicate corresponding parts.

A represents the frame, which is fastened to a bed represented by B.

C is the driving-shaft, which is revolved in a sleeve-box, E, formed in the frame.

F is a bevel-pinion on the end of the shaft C.

G is a horizontal driving-wheel, which is supported on a vertical shaft, H, which shaft revolves in boxes attached to the frame, as seen at *i i*. This wheel G is both a bevel and a spur-gear wheel.

Its lower side, I, is a bevel-gear, and the wheel receives motion from the bevel-pinion F.

Its outer periphery, J, is provided with spur-wheel cogs, which engage with the pinion K on the vertical shaft L.

The top side of the horizontal wheel G has two cam-ribs projecting from it, seen in the drawing at *m m'*.

The cam *m'* operates the presser-bar N, which is connected with the slide *o* by the jointed bar *p*.

The slide *o* is provided with a friction-roll, *q*, which traverses the cam, and which has the effect of raising the press-bar N.

R is a spring, which is connected with the frame, but operates on the slide *o*, to draw down the end of the press-bar after it has been raised and after the roller has left the cam *m'*. After this roll has left the cam it traverses on the face or plane surface of the wheel G, and during this time the presser is held up from the heel and is stationary.

S is the presser, and, as seen in the drawing, it is pressing upon the leather heel T, which is being cut.

u is the bed upon the end of the upright shaft L, upon which the heel rests. This bed is removable so that a variety of them may be used.

The knife which cuts the heel is made adjustable, so that it is made to cut any-sized heel, and to cut to any desired bevel. It is attached to a carriage, V, which slides or is moved from or toward the shaft L, so as to adapt the position of the knife to any desired size or diameter of heel.

The carriage *v* slides on the bed *u* in ways like the "slide-rest" of a lathe, on which ways it may be fastened in any desired position.

The bed *u* revolves around the shaft L with an intermitting motion caused by the action of the cam *m*.

We have before referred to the spur-pinion K, which engages with the spur-cogs on the wheel G.

This spur-pinion is attached to a sleeve-coupling, *x*. *y* is a shifting frame with a friction-roll, *z*, attached to it, which roll traverses the cam *m* as the wheel G revolves, and, in doing so, it raises the coupling and pinion.

The bed *u* is attached to the other part of the coupling.

The shaft L is stationary, and both parts of the coupling revolve around it.

The bed *u* and the heel to be cut are both stationary when the machine is in operation. The knife revolves around the heel when the lower or sliding part of the coupling is raised so as to engage with the sleeve of the bed *u*, (or upper coupling.)

The action of the presser on the heel and the cutting of the knife are simultaneous, and both intermit and stand stationary at the same time, their motion and periods of rest being governed by the cams and revolutions of the wheel G.

To the presser-lever N there is a sliding stop attached, marked *f*.

This stop is supported and guided by a pin in the stand C', which supports the presser-bar N. As the bar is raised the stop is drawn back and allows the bed *u* to start.

After the bed *u* and the knife have made a revolution the slide *f* is pushed down in time to stop it, and this time is just when both of the traversing rolls have left their respective cams, and the period of rest for both the bed and the presser commences. This period of time is sufficient to allow the attendant to remove the heel that has been finished and to replace it with another to be finished by another revolution of the bed *u*.

The bevel of the knife is governed by the set-screw and nut *a'*, which screw passes through the top of the hinged frame *e*, to which the knife is attached.

The knife itself is marked *v'*.

j' is a stand which supports the coupling-shifter *y*, and

k' is a stand on the stand *j'*, which has a spring at its upper end which operates on the shifter so as to

force down the coupling x when the traversing roll leaves the cam m .

It will be noticed that the pinion K has a broad face, which allows it to be slipped up and down without being thrown out of gear with the driving-spur cogs J .

This machine may be operated by the crank C' , by hand, or by other power.

B' represents a coupling on the driving-shaft for stopping the motion of the machine whenever desired.

I claim as new and desire to secure by Letters Patent—

1. A rotary carriage, W , having clutch-sleeve thereon, sliding clutch x , broad pinion K , and spur J , all combined with the shifting frame $Y Z$ and cam m , to rotate the knife intermittently, as set forth.

2. A cam, m' , and spring retracted sliding frame $q o r$, combined with the lever N to operate the sliding stop and presser simultaneously, and at the times specified.

3. A revolving carriage, W , combined with a sliding stop, f , on the vibrating lever N , for the purpose of stopping the knife and removing the pressure on blank simultaneously, so that said blank may be removed therefrom in the manner described.

JOHN C. WHITE.

Witnesses:

HORACE T. COOK,
JNO. E. LEONARD.