

(No Model.)

2 Sheets—Sheet 2.

E. M. WHITE.
SHOE CHANNELING MACHINE.

No. 577,543.

Patented Feb. 23, 1897.

FIG. 3.

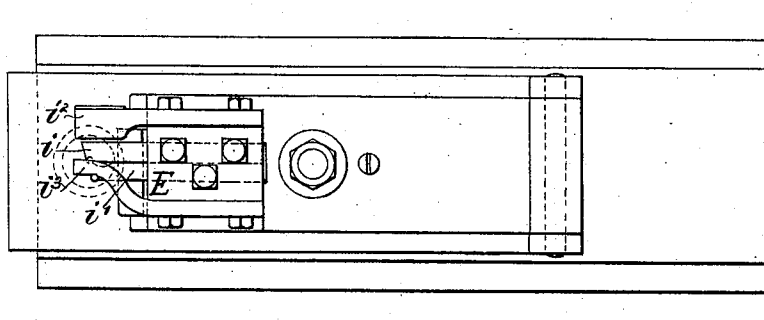


FIG. 5.

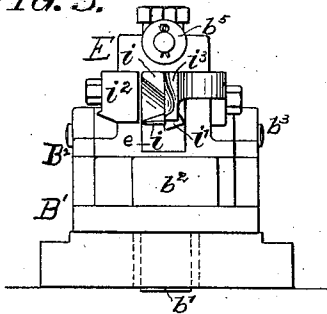


FIG. 4.

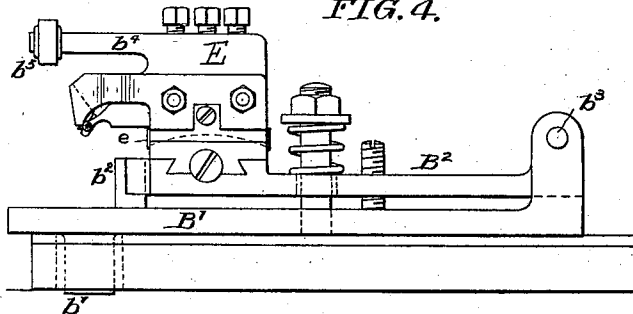


FIG. 6.

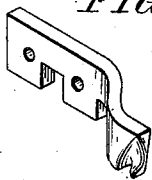
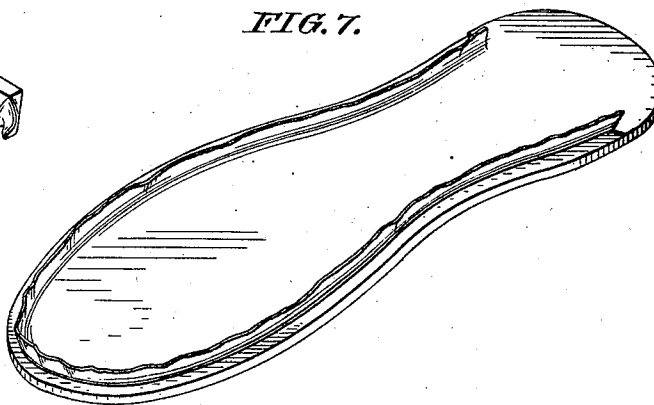


FIG. 7.



Witnesses:

H. D. Goodwin
Fred B. Benner

Inventor:
Ernest M. White
by his Attorneys

Horn & Horn

UNITED STATES PATENT OFFICE.

ERNEST M. WHITE, OF PHILADELPHIA, PENNSYLVANIA.

SHOE-CHANNELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 577,543, dated February 23, 1897.

Application filed September 3, 1895. Renewed September 30, 1896. Serial No. 607,497. (No model.)

To all whom it may concern:

Be it known that I, ERNEST M. WHITE, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain
5 Improvements in Shoe-Channeling Machines, of which the following is a specification.

My invention relates to certain improvements in shoe-channeling machines, for which application for Letters Patent was made by
10 myself and Jacob M. Sprow, Jr., on the 16th day of August, 1895, under Serial No. 560,944.

The object of my present invention is to perfect the construction of the carriage in which the tools are mounted and to so pivot
15 it that the said tools will be directly over the pivot-point.

A further object of my invention is to so construct the table or former on which the sole is mounted that the tool will be withdrawn
20 from the work as it passes around the heel; and a still further object of my invention is to so form the machine that the tool will enter the sole from above instead of at the side and be withdrawn in the same manner, as fully
25 described hereinafter.

In the accompanying drawings, Figure 1 is a view of sufficient of the machine to illustrate my invention. Fig. 2 is a side view of Fig. 1. Fig. 3 is an enlarged plan view of the carriage. Fig. 4 is a side view. Fig. 5 is an end
30 view. Fig. 6 is a perspective view of the lip-turning tool, and Fig. 7 is a perspective view of a channeled sole.

A is the former, fixed in relation to the traveling carriage B, and clamped to this former by a clamp-plate A' is a sole *x*.

C is a fixed cam having a camway *c*, in which travel rollers *b b*, projecting from the carriage B.

40 D is a traveling table driven in any suitable manner, preferably by gearing, and this table is connected to the carriage B by a link *d*, Fig. 1, so that while the carriage is conveyed around the sole by the table D its position is governed by the cam C. Pivoted to the carriage B is a swinging head B', pivoted at *b'* to the carriage directly under the cutting edges of the cutters *i i'* for channeling and grooving the sole, so that the cutters will not
50 swing away from or too far into the work when the pivoted head is turned. The head has a projection *b²*, which rests against the former A,

and the rear *a* of the former is in the shape of a cam, so that the carriage will be moved away from the sole as it passes around the heel, dispensing with any loose cams or other devices for this purpose. 55

On the clamp A' is a cam *a'*, which is for the purpose of raising the section B² of the carriage out of and clear of the sole, so as to make a cut, as clearly shown by dotted lines in Fig. 7. 60

The section B² of the carriage is pivoted at *b³* to the pivoted head B', as indicated in Fig. 2, and a projecting portion *b⁴*, having a roller *b⁵*, comes in contact with the cam *a'*. 65

Adapted to slide transversely on the portion B² of the carriage is a section E, carrying the channeling-knife *i* and the grooving-knife *i'*. These knives rest upon a block *e*, which is curved to conform to its seat in the section E, so that the knives can be adjusted. The knives are held in the present instance by set-screws. (Clearly shown in the drawings.) 75

In front of the channeling-knife *i* is a presser-foot *i²*, and at the rear of the channeler is a grooving-knife *i'*, and following this grooving-knife is a lip-turner *i³* for turning up the lip formed by the channeler, so that
80 when the sole leaves the machine it will be ready for sewing. By this means an extra machine is dispensed with.

The knives can be mounted on the head in any suitable manner without departing from my invention. In the present instance the channeling and grooving knives are mounted inside the head and the presser-foot and edge-turner are clamped to the outside of the head. 85

By the above arrangement it will be seen that the section B² of the carriage is at liberty to raise and lower as dictated by the sole, except at the point where the tool passes around the heel, and at this point it is under the control of the cam *a'*. 90

The knives are always in a correct position in respect to the work as the pivot on which the head turns is in line with the cutting edge of the knives. This construction may be used in combination with the rounding-knife of a sole-rounding machine without departing from my invention, and combining the lip-turner with the channeler one machine is dispensed with. 95 100

I claim as my invention—

1. The combination of the former having edges conforming to the shape of the sole to be channeled and enlarged at the heel portion to form a cam, a clamp for the sole, a movable carriage adapted to travel around the clamped sole and to be governed by the former, substantially as described.

2. The combination in a machine for cutting a shoe-sole, of the clamp for the sole, an overhanging former on which the sole is clamped, a cam at the heel of the former, a carriage, a slide thereon adapted to be moved toward or from the former, a head pivoted to said slide and having a projection resting against the edge of the former, the said head extending under the former, substantially as described.

3. A former for shoe-channeling machines consisting of a plate having its edges conforming to the shape of the sole to be channeled except at the heel, said heel portion being enlarged to form a cam so as to withdraw the channeling-tool from the sole as it passes around the heel, substantially as described.

4. The combination in a shoe-channeling machine, of the base upon which the sole is mounted, a clamp to clamp the sole to the base, a carriage adapted to travel around the base, tools on said carriage, said base having

a rear extension so as to throw the tools out of engagement with the sole and a cam for elevating the tools as the carriage travels around the heel, substantially as set forth.

5. The combination in a shoe-channeling machine, of the fixed former, mechanism for clamping the sole in a fixed position in relation to the former, a fixed cam having a camway, a carriage B having projections adapted to the camway, a swinging head B' pivoted to the carriage so as to swing laterally, a section B² pivoted at b³ to the swinging head, an adjusting-screw to elevate said section B², a pressure-spring to hold the said section in its adjusted position on the swinging head, laterally-adjustable section E mounted on the section B², and means for adjusting said section laterally, with a projection b⁴ on said section E, a cam on the clamp-plate for the sole acting upon said projection so as to elevate the cutting-knives carried by the section E, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERNEST M. WHITE.

Witnesses:

FRED C. BENNER,
FRANK E. BECHTOLD.