(No Model.)

C. H. HELMS.

Edge Trimming Machine for Boots and Shoes.

No. 241,982. **Patented May 24, 1881.**

Fig. 1.

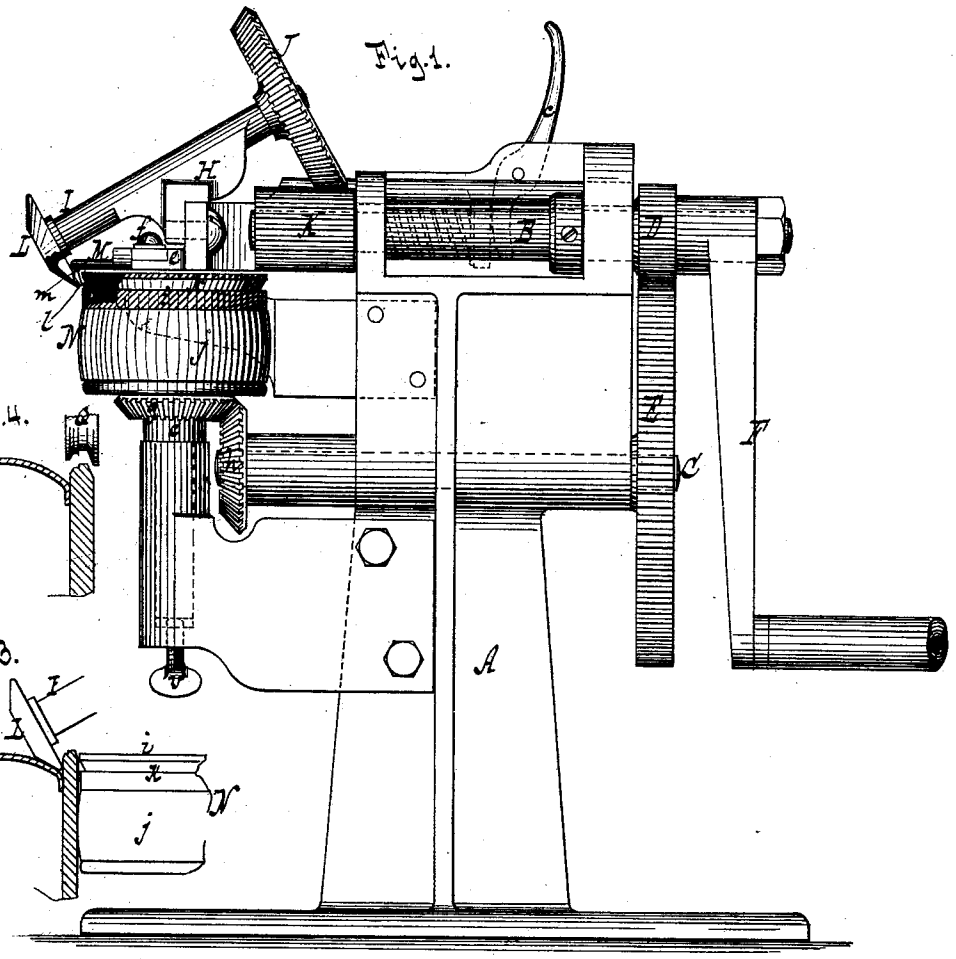
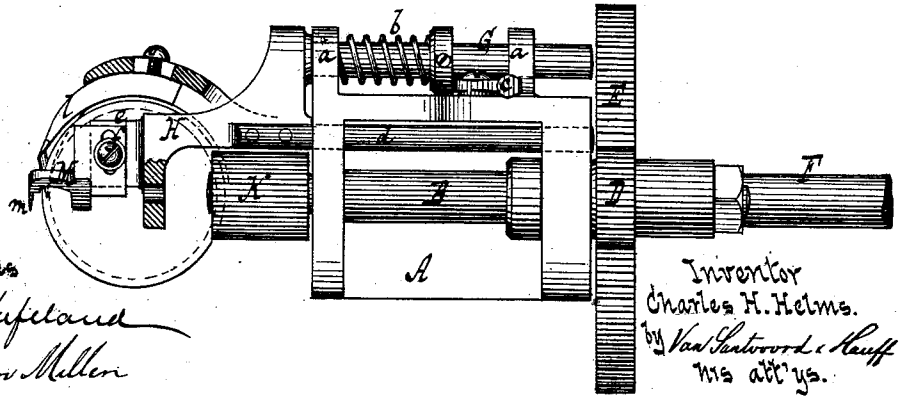


Fig. 4.

Fig. 3.

Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES H. HELMS, OF POUGHKEEPSIE, NEW YORK.

EDGE-TRIMMING MACHINE FOR BOOTS AND SHOES.

SPECIFICATION forming part of Letters Patent No. 241,982, dated May 24, 1881.

Application filed April 11, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. HELMS, a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented new and useful Improvements in Machines for Trimming the Edges of Soles of Boots and Shoes, of which the following is a specification.

This invention relates to machines for trimming the edges of the soles of boots and shoes after said soles have been secured to the upper; and it consists, essentially, of a revolving feed-wheel, a revolving presser, which acts on that part of the sole forming a rim that projects beyond the upper and presses the outer surface of the sole up against the feed-wheel, a trimming-knife, and suitable mechanism for imparting motion to the feed-wheel and to the presser. The presser is made in the form of a hollow truncated cone, and from the trimming-knife extends a sharp-edged projection into the hollow part of the presser, to be in position for removing the feather edge of the sole. An additional knife extends into a cavity of the feed-wheel for beveling the outer edge of the sole. The feed-wheel is constructed of a metallic section, the circumference of which is roughened, and of a soft elastic section, made of india-rubber or analogous material, which latter section acts on the middle section of the sole and assists in propelling the same without producing any roughness on the sole.

My invention is illustrated in the accompanying drawings, in which Figure 1 represents a side view, partly in section. Fig. 2 is a plan or top view, partly in section. Fig. 3 is a side elevation of the feed-wheel, the presser showing the sole to be trimmed in position between said parts. Fig. 4 is a section of the sole when finished by my machine.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates a frame or support, which forms the bearings for the driving-shaft B and for the counter-shaft C, which are geared together by two cog-wheels, D E. A hand-crank, F, serves to impart motion to the driving-shaft.

Parallel with the driving-shaft is a rod, G, which slides in lugs *a a*, projecting from the main frame A, and which is subjected to the action of a spring, *b*, that has a tendency to force it backward. A knuckle-lever, *c*, serves to force said rod forward against the action of its spring. From the forward end of this rod extends an oblique arm, H, which forms the bearing for a shaft, I, on the rear end of which is mounted a bevel-wheel, J, that gears in a long cylindrical wheel, K, mounted on the driving-shaft B. An additional guide-rod, *d*, serves to keep the arm H and its shaft in the required position.

On the forward end of the oblique shaft I is mounted the presser L, which is made in the form of a truncated cone, and by preference hollow, the object of which will be hereinafter more fully described. From the forward end of the oblique arm H extends a platform, *e*, on which is secured the knife M by a set-screw, *f*, and a slot in the knife allows of adjusting the same. The cutting-edge of this knife is in close proximity to the upper surface of the feed-wheel N, which is mounted on a vertical shaft, O, which can be adjusted up and down by a set-screw, *v*, and has its bearing in a bracket secured to the main frame, and is geared together with the counter-shaft C by bevel-wheels *g h*. Said feed-wheel is made of an upper metallic section, *i*, and a lower soft and elastic section, *j*, made of india-rubber or other analogous material. The metallic section is roughened on its circumference, and it is provided with a circular groove, *k*, into which extends the front end of a knife, *l*.

From the trimming-knife M extends a projection, *m*, into the hollow part of the presser L, and this projection is bent downward and provided with a cutting-edge. By pressing against the knuckle-lever *c* the presser L can be moved forward away from the feed-wheel, and after the sole of a shoe has been placed against the feed-wheel the presser is allowed to recede, so as to clamp the sole against the feed-wheel, as shown in Fig. 3. From this figure it will be seen that the presser acts on that part of the sole which forms a rim projecting beyond the upper. By turning the driving-shaft the sole is then moved against the knife M and its edge is trimmed, while at the same time the projection *m* removes the feather from the inner edge of the sole, and the secondary knife *l* serves to bevel the outer edge, so as to impart to the edge of the sole the form shown in Fig. 4, ready

to be exposed to the burnishing-tool Q. By making the lower section of the feed of a soft and elastic material the sole is fed forward steadily, and its main portion is not roughened, as it would be if the entire feed-wheel were made of metal with a roughened periphery.

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

1. The combination, substantially as herein-before described, of the feed-wheel, the presser mounted on an oblique shaft and drawn up toward the feed-wheel by a spring, and the knife, and means for revolving the feed-wheel and the presser.

2. The combination, substantially as herein-before described, of the feed-wheel, the presser mounted on an oblique shaft, the spring which acts on the frame or arm supporting this oblique shaft, the platform extending from said arm, and the knife secured to said platform.

3. The combination, substantially as herein before described, of the feed-wheel, the presser made in the form of a hollow truncated cone, mechanism for drawing the presser up against the feed-wheel, the knife M, and the projection *m*, extending from said knife into the hollow part of the presser.

4. The combination, substantially as herein-before described, of the feed-wheel, the presser, mechanism for drawing the presser up toward the feed-wheel, the trimming-knife M, and the secondary knife *l*.

5. The feed-wheel N, constructed of a metallic section, *i*, and a soft and elastic section, *j*, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

CHARLES H. HELMS. [L. S.]

Witnesses:

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E. F. KASTENHUBER.