

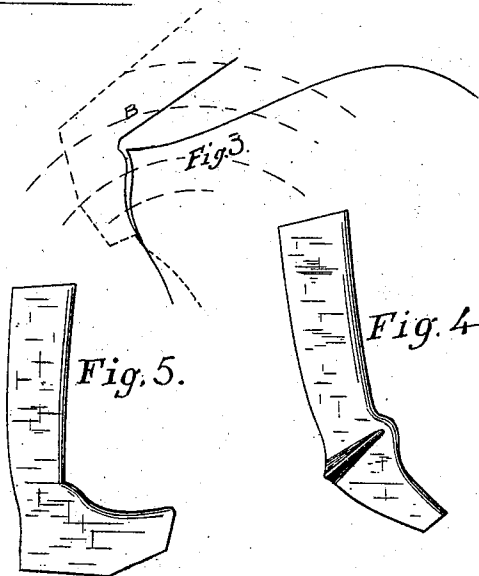
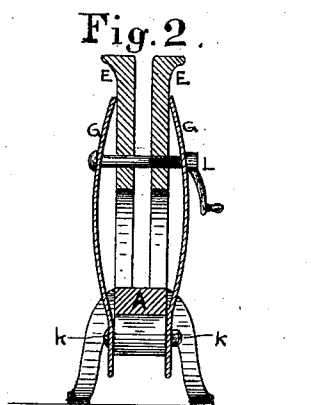
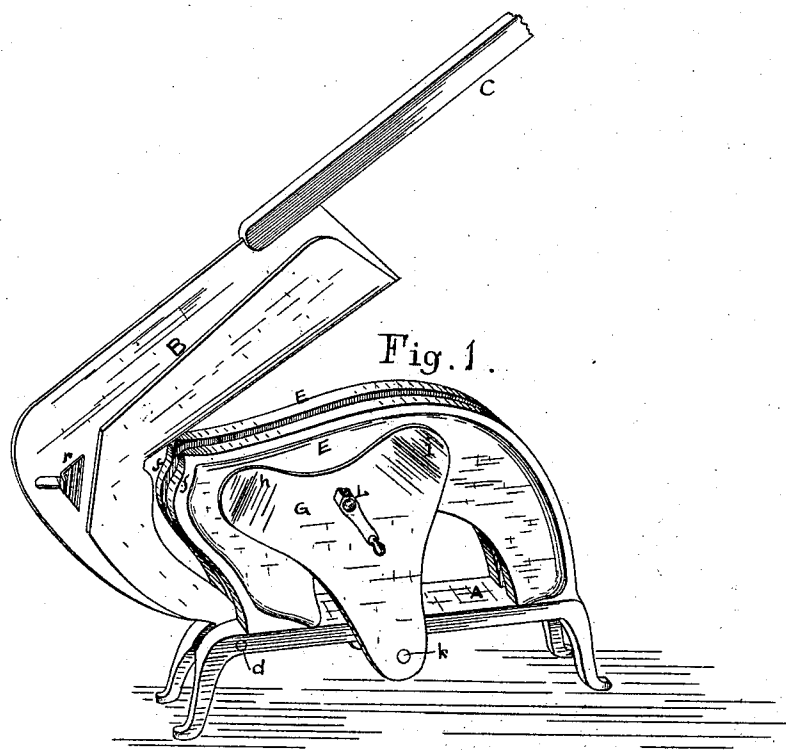
(No Model.)

L. KNETZGER.

MACHINE FOR STRETCHING AND FINISHING CRIMPED UPPERS.

No. 340,445.

Patented Apr. 20, 1886.



Witnesses

A. B. Smith
R. P. Turner

Inventor

Leonard Knetzger

By his Attorney

R. D. O. Smith

UNITED STATES PATENT OFFICE.

LEONARD KNETZGER, OF DUQUOIN, ILLINOIS.

MACHINE FOR STRETCHING AND FINISHING CRIMPED UPPERS.

SPECIFICATION forming part of Letters Patent No. 340,445, dated April 20, 1886.

Application filed September 18, 1885. Serial No. 177,483. (No model.)

To all whom it may concern:

Be it known that I, LEONARD KNETZGER, of Duquoin, in the county of Perry and State of Illinois, have invented a new and useful
5 Improvement in a Machine for Crimping Boot and Shoe Uppers; and I do hereby declare that the following is a full and accurate description of the same.

The invention is supplemental to that for
10 which Letters Patent No. 323,815 were granted to me August 4, 1885, though, as will be more apparent hereinafter, the use of the machine is not confined to the product of the machine described in said patent, but may be employed
15 to finish uppers crimped on other machines by other methods, and is also capable of performing the entire operation of crimping, but more slowly than with the machine described in my said patent.

20 For convenience, I will confine my description herein to the use of this invention with the product of my machine patented August 4, 1885, as above stated.

Figure 1 is a perspective of my invention.
25 Fig. 2 is a vertical transverse section of the same. Fig. 3 is a diagram of relative movement. Figs. 4 and 5 show the "upper" before and after "finishing."

The upper-leather crimped on my machine
30 patented as above stated is in the form shown in Fig. 4. Fig. 5 shows the same finished with the wrinkles, &c., removed by treatment in my machine.

A is the bed-plate, supported on legs at a
35 convenient height from the floor. The blade or former B is hinged to the bed-plate at *d*, and is provided with a hand-lever, C. The matrix-plates E are placed upon the bed-plate A, and secured with dowels or other convenient means,
40 whereby their lower edges are kept firmly in place, yet with a limited latitude of movement.

The forward edge of the blade B has the usual form of a boot-crimping tree, and the matrix-plates E have their front edges, *f*,
45 fashioned with reference to the front edge of said blade, so that as the latter enters between said matrix-plates pressure upon the leather will commence over the instep portion and extend therefrom over the foot and leg, the
50 circular arrows in Fig. 3 indicating the arcs of motion and inclination of the matrix edges to said arcs.

The blade B, being impelled by manual force, may proceed at such speed continuously or intermittently as may be desired during the
55 progress of the operation. Such tooling may be applied to the leather as may be required. A certain elasticity or capacity to yield is required in the matrix-plates, because differences in the thickness of different pieces of
60 leather will require an automatic adjustment of pressure to secure approximately uniform effects. It is also true that different parts of the same piece of leather will vary in thickness, as between the foot and leg portions of a
65 boot front, and it is therefore necessary that different portions of the matrix-plates shall have an independent elasticity. I think it most convenient to secure this result by confining the matrix-plates between two similar
70 plates, G, of elastic metal, the elastic wings *h* whereof, resting against the matrix-plates E near the front and rear portions, give them an independent elasticity, yet, being derived from the general elasticity of the whole plate G, the
75 pressure of one wing will, to a certain degree, be dependent upon the pressure of the other wing, and the general pressure will thus be kept in equilibrium. This would not be practicable with independent springs. The
80 value of this equilibrated pressure may be easily understood when it is considered that all parts of the boot front will be subjected to the same uniform pressure whatever may be the relative differences in thickness of the
85 foot and leg portions.

The plates G have a fulcrum at *k* common to both of them. This fulcrum may be upon the bed-plate A, or it may be separated therefrom, and their elastic pressure may be increased or diminished by means of a screw,
90 L, which passes through both of said plates and draws them together or relaxes them.

The blade B is provided with one or more slots, *g*, having the general direction of the arc
95 of motion, and in each of said slots I place a sliding serrated grip-plate, *r*. When the blade B has descended nearly as far as desired, the grips are pushed down, entering between said blade and the leather and gripping the latter
100 firmly against the edge of the matrix-plate. The further descent of said blade therefore stretches the leather from the points where it is fastened by said grips.

Having described my invention, I claim as new—

1. In a machine for stretching and finishing crimped boot-uppers, the combination, with
5 the matrix-plates E and blade B, provided with the slots *g*, of the sliding grip *r*, to grip and arrest the edge of the leather before the blade B has completed its movement.
2. In a machine for crimping and stretching
o boot-uppers, the combination of the blade B,

matrix-plates E, and elastic plates G, having bearing-wings *h i*, and a tension-screw, L, whereby the pressure of said matrix-plates upon the leather being crimped is always in equilibrium, as set forth.

L. KNETZGER.

Witnesses:

GEO. E. PECK,
J. JOENEN.