S. A. KREWSON.

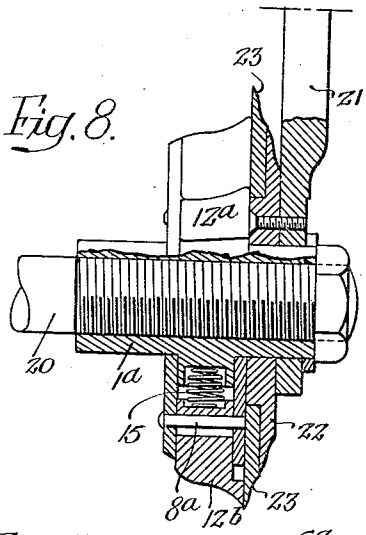
HEEL SEAT BEATER.

APPLICATION FILED APR. 19, 1912.

1,067,663.

Patented July 15, 1913.

Fig. 8.



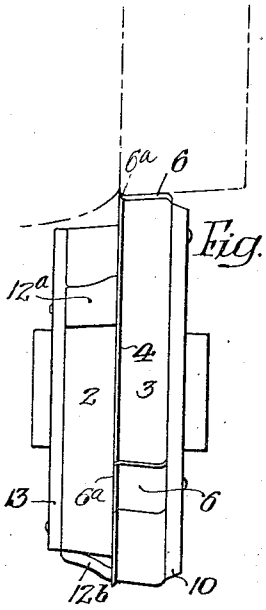


Fig. 1.

Fig. 9.

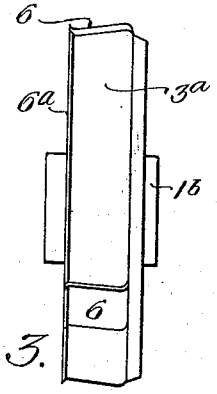
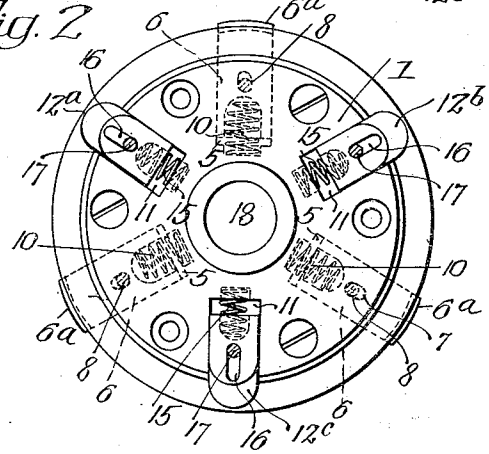


Fig. 3.

Fig. 2.



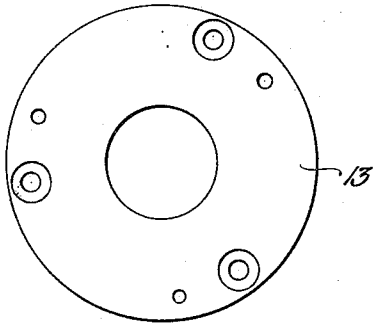


Fig. 5.

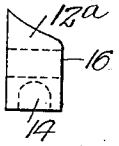


Fig. 4.

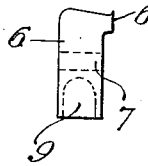


Fig. 6.



Fig. 7.



Witnesses—

William F. Mace.

Willet A. Burrows.

Inventor—

Samuel A. Krewson

by his Attorneys—

Howson & Howson

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL A. KREWSON, OF PENSAUKEN, NEW JERSEY, ASSIGNOR OF ONE-HALF TO THE KEIGHLEY COMPANY, INC., OF VINELAND, NEW JERSEY, A CORPORATION OF NEW JERSEY.

HEEL-SEAT BEATER.

1,067,663. Specification of Letters Patent. Patented July 15, 1913.

Application filed April 19, 1912. Serial No. 691,817.

To all whom it may concern:

Be it known that I, SAMUEL A. KREWSON, a citizen of the United States, residing in Pensauken, New Jersey, have invented certain Improvements in Heel-Seat Beaters, of which the following is a specification.

One object of my invention is to provide a novel form of tool for finishing the heel base, counter and crease of a shoe, the arrangement of parts being such as to effectually remove lumps and wrinkles, while making the crease of uniform width and depth.

Another object of the invention is to provide a tool which, in addition to the above characteristics shall be capable of solidifying and making more dense the leather of the heel base, in order that it shall take a better finish; the arrangement of parts of the tool being such that it effectually finishes the shank at the points where it joins the breast of the heel.

A further object of my invention is to provide a tool capable of accomplishing the above noted ends which shall be relatively simple and substantial in construction and at the same time have its parts so arranged that they are not liable to get out of order or require repairs.

These objects and other advantageous ends I secure as hereinafter set forth, reference being had to the accompanying drawings, in which,

Figure 1, is an edge elevation of the preferred form of my invention showing it as constructed for operation on the heel and counter of a shoe; Fig. 2, is a side elevation of the tool shown in Fig. 1 with the cover plate removed; Fig. 3, is an elevation of the cover plate removed from Fig. 2; Fig. 4, is a side elevation of one of the two forms of beaters used as part of my invention; Figs. 5, 6 and 7 are side elevations of the beaters of the second set employed in my invention; Fig. 8, is a plan, partly in section, illustrating the construction of a modified form of my invention; and Fig. 9, is an edge elevation of another modification of my device.

In the above drawings, 1 represents a wheel-like casting having two parts 2 and 3 of different diameters, provided at their point of junction with a thin outwardly projecting annular rib 4. This rib is relatively sharp, and with the surface of the part 3 of the tool is designed to approximately conform to the shape of the heel crease and the adjacent portion of the heel. In this part 3 of the casting are formed a number of radially extending recesses 5, in which are mounted beaters 6, of the form shown in Figs. 2 and 4. Each of these beaters is provided with a radially extending slot 7 for the reception of a pin 8, whereby its outward movement is limited and each likewise has a recess 9 formed in its inner end for the reception of a spring 10, whereby it is at all times pressed outwardly to such an extent that its outer end projects beyond the adjacent surfaces of the portion 3 of the tool.

The outer end of each of the beaters 6 has the outline which it is desired to give to the finished heel base and crease, and all of the beaters (in this instance; three) are held from sidewise movement by a cover plate 10 retained in position by screws.

The part 2 of the casting 1 is slightly conical in form and likewise has formed in it a number of radially extending recesses 11, in which are slidably mounted a second series of beaters 12^a, 12^b, 12^c, held in place by a second cover plate 13. Each of these beaters is provided with a recess 14 in its inner end for the reception of a spring 15, and is likewise provided with a longitudinally extending slot 16 for the reception of a pin 17, whereby its outward movement is limited. The outer end of each of these beaters is inclined, so as to be practically wedge-shape in section and they lie with their sharp edges immediately adjacent the annular rib 4 of the main tool structure, from which they slope away toward the plate 13 and the center of the tool. The outer end of each of these beaters is transversely rounded as shown in Fig. 2 and I preferably so form them that the first of the series is relatively flat in outline, the second is slightly concave and the third has practically the outline of that portion of the counter immediately adjacent the heel, as shown in Figs. 5 to 7 inclusive.

When not in use the two sets of beaters 6 and 12^a, etc., project beyond the outer surfaces of the parts 3 and 2 to distances limited by the pins 8 and 17, although under conditions of use when the tool (which is provided with a central opening 18 for the reception of a driving shaft) is turned at

a high rate of speed, said beaters may be forced inwardly to a greater or less extent. When the tool is so turned, the shoe to be finished is brought toward it so that the annular rib and thereafter an extension 6^a at one edge of each of the beaters 6, lies in the plane of the heel crease; the shoe being then brought into engagement with the tool. The various beaters which are of highly polished metal, strike a rapid succession of glancing blows on the heel base thereby solidifying the leather and making the crease itself of uniform width and depth. The annular rib 4 under these conditions serves as a guide to position the shoe with regard to the tool, and the various beaters, which are slightly curved at their approaching edges, rapidly act on the heel in the desired manner, being particularly useful in giving the proper finish to the joint between the shank and the heel breast. At the same time the various beaters 12^a, 12^b, 12^c, engage that portion of the counter immediately adjacent the crease and smooth out the lumps or wrinkles therein, and gradually give it the desired form by reason of the strokes of the three differently shaped beaters 12^a 12^b, 12^c. It will be noted that these beaters are staggered or placed midway between the beaters 6, there being in the tool shown three beaters in each set, although it is obvious that more or less than this number may be employed without departing from my invention. As the shoe is pressed toward the tool the various beaters are forced inwardly against the action of their springs 10 and 15, so that the blows struck by them are of a more or less yielding nature.

By the use of my tool, I am enabled to simultaneously finish the heel, the counter and the crease of a shoe, although in some cases it may be advisable to do the same work in two or more operations. For this purpose, I may make the tool shown in Fig. 1 in two separate and independent parts, of which that for operating on the counter of a shoe would preferably be made as shown in Fig. 8. In said figure, the supporting and operating shaft 20 has screwed or otherwise fixed to it the main supporting casting 1^a, whose body has the general form of the part 2 of Fig. 1. As before, there are in said body a series of radial slots in which are slidably mounted beaters 12^a, 12^b of progressively differing shapes, although, if desired, they may be all of the same shape without departing from my invention. In this instance, I provide a fixed arm 21, supported in any suitable manner, and having an opening for the reception of the hub portion of the body 1^a. Fixed in any suitable manner to said arm is a disk 22, providing a journal for a freely rotatable guiding disk 23, supported between it and the body 1^a with its beaters. This disk is slightly greater in diameter than that of the circle described by the beaters 12, and is designed to enter the heel crease so as to serve as a guide for the shoe while its counter is being acted on by the beaters. As before, said beaters are normally pressed outward by springs 15, and the outward movement of said beaters is limited by pins, of which one is shown at 8^a.

Under conditions of use, the disk 23 is entered in the crease of a shoe to be operated on, and as it is free to turn loosely between the rotatable tool with its beaters and the plate 22 fixed to the arm 21, it effectually guides the shoe so as to insure the beaters engaging the desired portions of the counter.

For operating on the heel of the shoe independently of the remainder, I may provide the structure shown in Fig. 9, which has a hub portion 1^b integral with or fixed to a body 3^a, in which are mounted beaters 6, in every way similar to those employed as part of the device illustrated in Fig. 1. As before, this body is used to smooth and compact as well as to give proper form to, the heel seat and adjacent portions of the heel of the shoe, as hitherto explained.

I claim—

1. The combination in a shoe finishing tool of a rotatable structure; and two sets of beaters movably mounted thereon, the work engaging portions of the beaters of one set having the outline of a part of the heel, and those of the other set having approximately the outline of a part of the counter of a shoe; and an annular rib projecting from the rotatable structure between the sets of beaters and forming a crease guide.

2. The combination in a shoe finishing tool of a rotatable structure; two sets of beaters mounted thereon so as to be movable in different planes, the beaters of one set being staggered relatively to those of the other set and the work engaging portions of the beaters of one set having approximately the outline of a part of the counter of a shoe, and a crease guide located between said sets of beaters.

3. The combination in a shoe finishing tool of a rotatable structure having two parts separated by an annular guiding rib and each provided with recesses; a set of beaters mounted in one set of the recesses and each having a rib in substantial alinement with the annular rib; with a second set of beaters in the remaining set of recesses.

4. The combination in a shoe finishing tool of a rotatable structure having two parts of different diameters with an annular rib forming a crease guide between them and each provided with radial recesses; a set of beaters in the recesses of one part

having their work engaging portions formed to correspond in outline with the outline of a portion of the heel and provided with ribs lying in the plane of the annular rib; a second set of beaters in the recesses of the other part having their work engaging portions formed to correspond approximately in outline with the outline of the counter of a shoe; means for yieldingly pressing said beaters outwardly; and means for limiting the outward movement of the beaters.

5. The combination in a shoe finishing tool, of a rotatable structure having a series of recesses; spring-pressed beaters mounted in said recesses of which two beaters have work engaging portions of different outlines and another between said first beaters has its work engaging portion formed with an outline intermediate those of said other beaters; and means for limiting the outward movement of the beaters.

6. The combination in a shoe finishing tool of a rotatable structure provided with an annular rib, and having a series of substantially radial recesses; with a series of spring-pressed beaters mounted in the recesses; said beaters having shoe engaging portions successively varying in outline so as to gradually shape the part of the shoe with which they engage.

7. The combination in a shoe finishing tool, of a rotatable structure having a series of substantially radial recesses and provided with an annular guiding rib; with a series of beaters mounted in said recesses and each having a projecting rib extending into the plane of the rib of the rotatable structure.

8. The combination in a shoe finishing tool of a rotatable structure having an annular guiding rib; with a series of beaters movably mounted on said structure and each having a projecting rib extending into the plane of the rib of the structure.

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

SAMUEL A. KREWSON.

Witnesses:
WILLIAM E. BRADLEY,
WM. A. BARR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."