John Ross'
Improved Heel Burnisher
for
Boots and Shoes.

116491

PATENTED JUN 27 1871

Fig. 1.

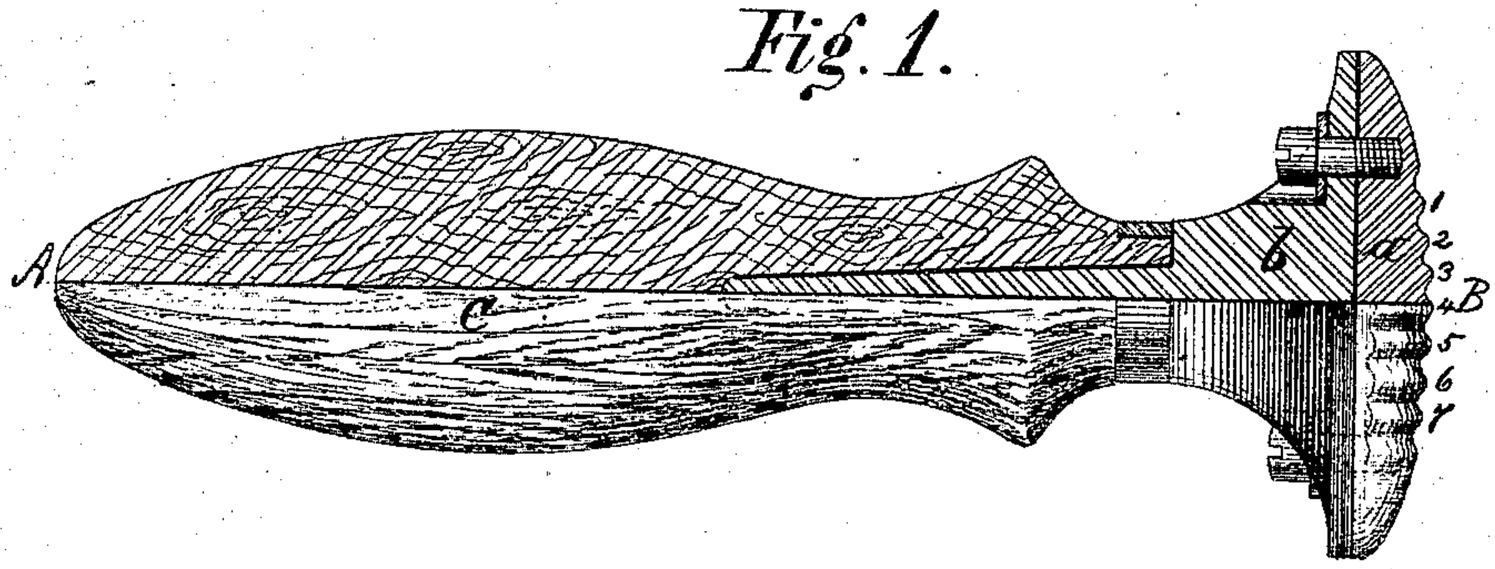
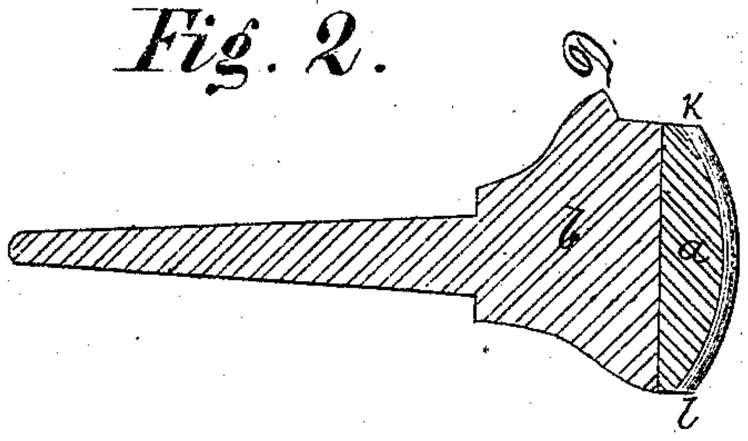


Fig. 2.



Witnesses.
Chas. E. Parsons
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AM. PHOTO-LITHOGRAPHIC CO N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

JOHN G. ROSS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HAND-BURNISHERS FOR BOOTS AND SHOES.

Specification forming part of Letters Patent No. 116,491, dated June 27, 1871.

To all whom it may concern:

Be it known that I, JOHN G. ROSS, of Philadelphia, in the county of Philadelphia and in the State of Pennsylvania, have invented certain new and useful Improvements in Hand-Burnishers for the Heels of Boots and Shoes; and do hereby declare that the following description, taken in connection with the accompanying drawing, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvement, by which my invention may be distinguished from others of a similar class, together with such parts as I claim and desire to secure by Letters Patent.

The objects of my invention are, first, the production of a burnisher which will do its work better and quicker than the ordinary burnisher, by reason of a better burnishing surface; and, second, to have the burnishing surface detachable, so that it can be renewed when it is worn out by use.

The burnishing of leather is accomplished by compressing it to a greater density, and at the same time rubbing the compressed part with a polished piece of metal or other hard substance. It is well known that (the power applied being equal) the compression of a substance is inversely as the surface pressed. A force of one hundred pounds, for example, when acting upon a surface of two square inches, will not penetrate into a substance as far as when it is acting only on one square inch of the same substance.

It will now be readily understood that to make a perfect burnisher it is necessary that it should act upon the leather with small rounded surfaces—small, for the purpose of sinking freely into the leather, as required, and rounded, so as not to cut when passing over it. By experiments I have found the periphery of a rod from about one-eighth to one-quarter of an inch diameter to present such a surface; but the objections to the use of such a rod as a burnisher are, first, that it would sink into the leather with less power than a man's hand is capable of exerting; second, that it would not be compact and strong enough for the purpose; and, third, that it would be inconvenient to use. The objections are overcome by first increasing the number of rods until sufficient surface for a man's hand-power is obtained; second, by attaching the rod to a firm support, or by forming the polishing-surface on a plate, retaining all the essential features of the said surfaces of rods, as shown in Fig. 1, by the corrugations 1, 2, 3, &c.; and, third, by providing the whole with a suitable handle. Another, and the most important advantage of having a number of small surfaces acting upon the leather, instead of one large surface, is, that in burnishing rough irregular surfaces the large-surfaced burnisher will rest on two adjacent prominences, leaving the surface between unpolished; whereas, the burnisher with the narrow faces will enter between the prominences and polish the whole surface alike.

My improved burnisher is shown in Figure 1, one half of which represents a longitudinal section, and the other half an outside view. Fig. 2 represents a longitudinal section of the burnisher (handle removed) through the line A B, Fig. 1.

My improved burnisher consists of three essential parts: the piece *a*, on which the burnishing-surface is formed; the support *b*, and the handle *c*. The corrugations 1, 2, 3, &c., may be considered arcs of the circumferences of cylindrical rods, as before explained, the pitch of the corrugations being about one-eighth to one-fourth of an inch, which I found to give the best results. The plate *a*, on which the corrugations 1, 2, 3, &c., are formed, is fastened, by screws *d d*, or other well-known means, to the support *b*, so that after the corrugations are worn out a new plate may be readily attached to *b*. The handle *c* is attached to *b*, similar to those of files, knives and forks, &c. From Fig. 2 it will be seen that the burnishing-surface is curved also at right angles to the curvature of the corrugations, as from *k* to *l*, in order to still more readily touch the depressions of uneven leather, and thus produce a uniform polished surface.

I do not claim as my invention anything that is not contained in the following claim:

I claim—

A hand-burnisher, consisting of the handle *c*, shank *b* with its projection D, and corrugated detachable cap *a*, all constructed and operating together as described.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of August, 1870.

JOHN G. ROSS.

Witnesses:

CHAS. E. PANCOAST,

THOMAS L. MILLER.