

# UNITED STATES PATENT OFFICE.

DAVOUST KERN, OF YORK, PENNSYLVANIA.

IMPROVED PROCESS FOR PREPARING THE FLANKING OF LEATHER FOR SOLING, &c.

Specification forming part of Letters Patent No. **32,628**, dated June 25, 1861.

*To all whom it may concern:*

Be it known that I, DAVOUST KERN, of York, county of York, State of Pennsylvania, have invented a new and improved mode of treating or preparing the flanking of all and every kind of leather used for the soling of boots, shoes, &c., also for belting for mechanical, factory, milling, and card purposes; and I do declare that the following is a full and exact description thereof.

I first cut the flanking of leather into strips or pieces of any desirable size or shape. I put them in water heated to a temperature varying from 110° to 130° of Fahrenheit's thermometer, and when thoroughly softened I take them out one at a time and rub or work them until thoroughly softened or uniformly. I then take two metallic plates with regular surfaces and heat them to a temperature varying from 115° to 135° Fahrenheit thermometer. I then place the leather thus softened between these plates and place them in a press, where I apply pressure to any degree, according to the thickness of the leather and the purpose intended. By this process the heat of the plates enters and diffuses through the fibers of the leather, and, aided by the softening in the warm water, renders the fibers susceptible of packing and compression, but not spreading, and become solid, with uniform surfaces. I leave them in press for some minutes until the plates cool, not necessarily cold, or, if needed soon, gently cool the plates by sprinkling cool water, when I remove the leather, and if needed for immediate use, cool it with cold water, or, if not immediately required, may cool at leisure. If intended for belting purposes, the piece or strip must undergo the same process until the whole length has undergone the change. The same also applies to the card-pieces.

The nature of the invention is as follows: The object of the soaking in the warm water is that as the heat diffuses itself through the material the water or moisture will penetrate, softening the fibers, rendering them very plastic; but with the view of rendering all uniformly in such a condition, it must be examined

and even rubbed. The heat prepares the fibers for packing and condensing by its softening influence, and as the water-soaking swells and expands the leather, it must be better and more duly prepared for the compression; and now, as I place it between the metallic plates, the heat of the plates aids in increasing the already-softened particles or fibers of the leather and increases the susceptibility to pressure and packing; but the plates, being flat and regular, confine the surface as the pressure is applied, and as it increases, as the fibers were duly softened and prepared for the compression, they mutually pack, and, yielding to the increased pressure, become so compact and condensed as to leave no pores, and even the flesh side or surface becomes so close and solid as to assume the condition of the solid, and even contributes to the addition of the thickness, and when heat expands or fixes any porous or fibrous or flexible article it cannot be altered without the aid of heat, to prevent the breaking or cracking of the fibers. For instance, heat wood by steam or warm water, and it will receive and retain any shape; but you must heat again if you wish to restore it.

I do not claim the soaking of leather in warm or tepid water to soften it for hammering, as that has been done, and may still be employed as a convenience in cold weather or latitudes. Neither do I claim the application of pressure to the leather, as this is employed as a facility in preparing leather for the last. Neither do I claim the pressing of leather into form with the last; but

I do claim—

The prescribed manner or process of treating or preparing the flanking of all and every kind of leather used for soling boots, shoes, &c., also for belting, likewise for cards, whether machine, hand, or otherwise, thereby rendering it useful, substantially in the manner specified, described, and set forth.

DAVOUST KERN.

Witnesses:

GEORGE M. SHETTER,  
A. W. SHETTER.