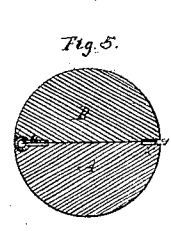
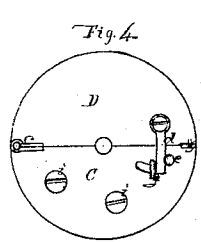
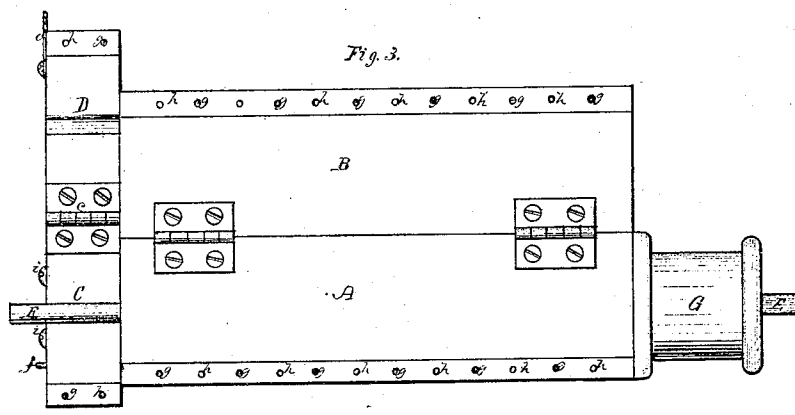
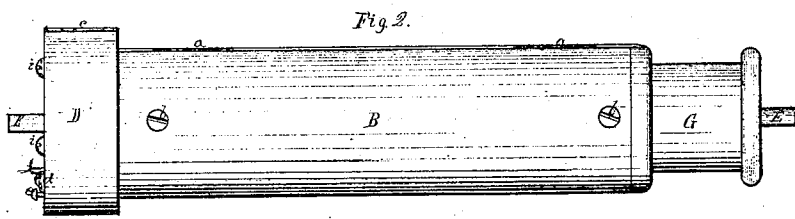
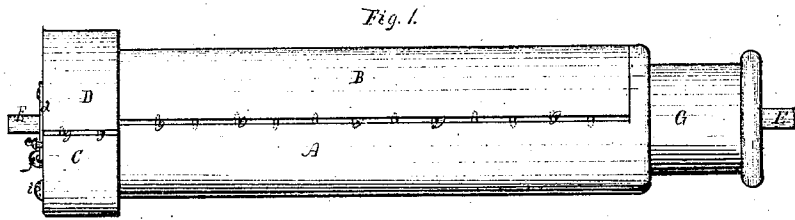


*H.L. Willis,*  
*Sole Machine.*  
*No. 100,229.                      Patented Feb. 22. 1870.*



Witnesses:  
*D. J. Brown*  
*C. J. Hartness*

*Herbert L. Willis*  
*Proprietor*  
*J. Brown*

# UNITED STATES PATENT OFFICE.

HERBERT L. WILLIS, OF SOUTH EASTON, MASSACHUSETTS.

IMPROVED SAND-PAPER HOLDER FOR FINISHING THE SOLES OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. **100,229**, dated February 22, 1870.

*To all whom it may concern:*

Be it known that I, HERBERT L. WILLIS, of South Easton, in the county of Bristol and State of Massachusetts, have invented an Improved Sand-Paper and Emery-Cloth Holder for Finishing the Soles of Boots and Shoes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a side view of the holder; Fig. 2, a side view thereof at right angles to the view in Fig. 1; Fig. 3, a view showing the parts spread open; Fig. 4, an end view of the holder; Fig. 5, a transverse section thereof.

Like letters designate corresponding parts in all of the figures.

The usual mode of fastening the sand-paper to the holder for this purpose is simply to lap the edges of the paper wound around the roller and to fasten them together to the roller by tacks. This mode is very imperfect, there being several serious objections to it. First, the lapping of the edges of the paper makes the surface irregular, causing unequal wear and not smoothing the soles perfectly, besides rendering the paper liable to be torn off; second, the frequent driving of the fastening-tacks into the roller soon cuts up and destroys the surface thereof, especially if the wood is soft, or, if the wood is hard, the tacks are often broken, and it is difficult to draw them out; third, the labor and time required to make the frequent renewals of paper are considerable; fourth, the unevenness of the lapped paper causes jarring and unsteadiness in operation.

My invention perfectly obviates all of these imperfections. Its construction is as follows:

First. The holding cylinder or roller is formed in two parts, A and B, hinged together at one edge by hinges *a a*. The two parts or halves are shut together and fastened by screws *b b*, Fig. 2, passing through one part into the other, or by equivalent means, the open edges having, when the parts are shut together, space between them to receive the two edges of the paper wound around the cylinder.

Second. The opening or free edges of the two

parts A B are provided with short pins, *g g*, projecting from the inner surface of one near the edge and entering a little into holes *h h* in opposite positions in the adjacent surface of the other part when the two are shut together. The pins *g g* may be all in one part, and the holes *h h* all in the other part; but it is preferable to have one part provided with alternate pins and holes, while the other part has holes and pins respectively opposite to its pins and holes, as shown in Fig. 3. These pins puncture and hold the edges of the sand-paper or emery-cloth when the parts are closed together, as shown in Fig. 5. By this construction the edges of the sand-paper do not lap on the surface of the cylinder, thus leaving the surface perfectly regular and concentric as the holder revolves. The paper, also, is held more securely, and wears evenly, doing good work, and the sheets are quickly taken off and replaced.

I add another short cylinder, of larger diameter, to the main holder, for the purpose of finishing under the instep near the heel by working crosswise thereof. It is also composed of two parts or halves, C D, hinged together at one edge, at *c*, and provided with pins *g g* and holes *h h* at the other edge, the same as for the main holder, as above described. These parts may be secured together at the outer end by a hook, *d*, on one, and an eye, *f*, on the other. A pin, *e*, driven into the cylinder near the back of the hook, as shown in Fig. 4, serves to prevent the hook from working out of the eye by the revolution of the holder. This cylinder may be constructed separate from the main cylinder, and be secured thereto by screws *i i* passed through one part, C, into one part, A, of the main cylinder.

The journals E E are secured to one part, A and C, respectively, of the two cylinders, and the pulley G, to receive the belt for revolving the holder, is secured, with the journal, to one of the cylinders, or is formed with it.

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

1. A sand-paper holder for finishing the soles of boots and shoes, composed of two parts, A

B, hinged together at one edge and fastened together by screws or the equivalent thereof, with or without the enlarged holder composed of hinged parts C D, similarly arranged, substantially as herein specified.

2. The pins *g g* and holes *h h* in the opening edge of the parts A B and C D of the holder, for the purpose set forth.

This specification signed by me this 11th day of October, 1869.

HERBERT L. WILLIS.

Witnesses:

ALLEN L. RAYMOND,  
CALISTA E. MITCHELL.