

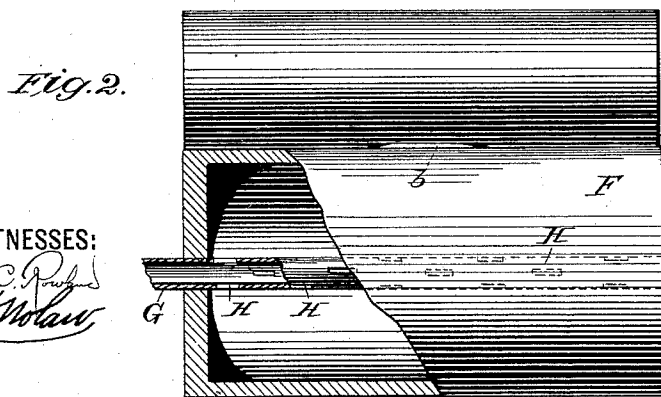
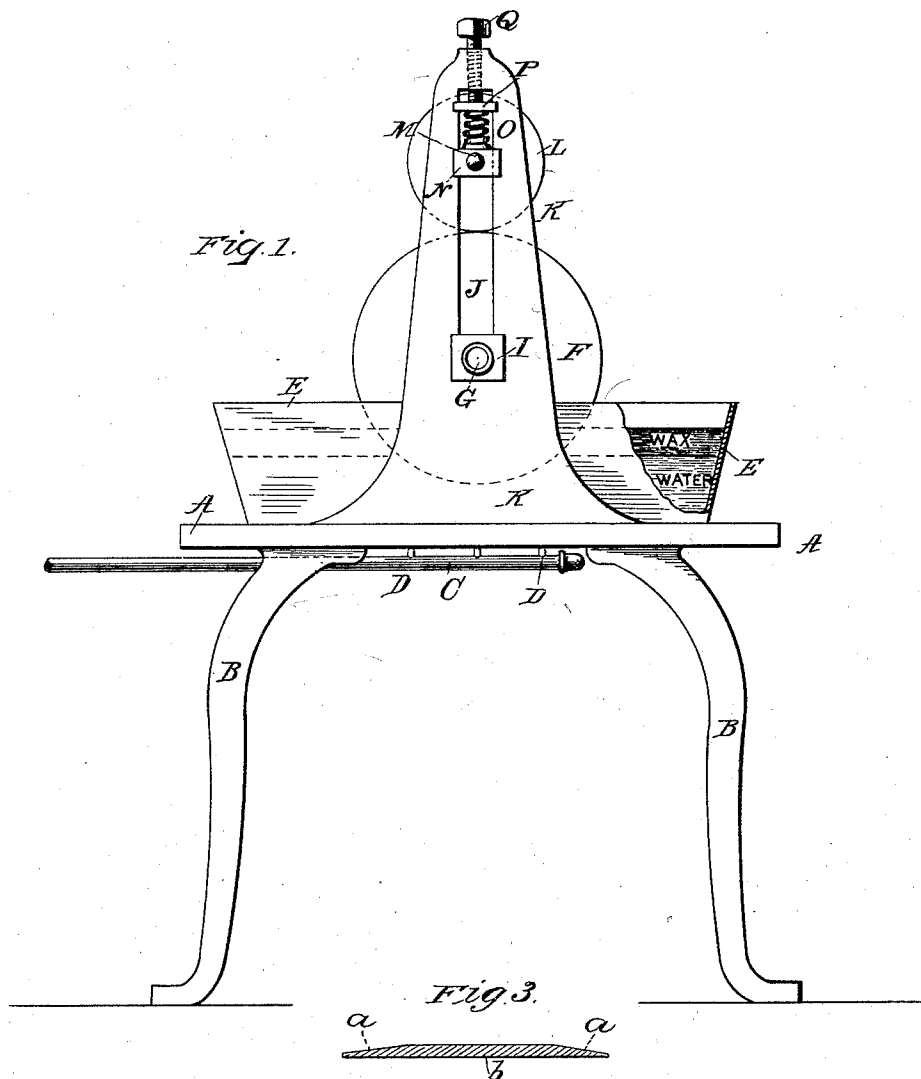
(No Model.)

G. W. HILL.

METHOD OF WAXING OR WATERPROOFING SHOE COUNTERS.

No. 474,013.

Patented May 3, 1892.



WITNESSES:

Edward C. Rouben
Thos. S. Nolan

INVENTOR

George W. Hill
BY *Phillips Abbott*
his ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE W. HILL, OF BROOKLYN, NEW YORK.

METHOD OF WAXING OR WATERPROOFING SHOE-COUNTERS.

SPECIFICATION forming part of Letters Patent No. 474,013, dated May 3, 1892.

Application filed February 11, 1892. Serial No. 421,208. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. HILL, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Method of Waxing or Waterproofing Shoe-Counters, of which the following is a specification.

My invention relates to a new and improved method for waxing or waterproofing shoe-counters. By my invention I use the wax in conjunction with water and so construct the apparatus that the upper roller is soft, and into which the shoe-counter is embedded during the coating operation, so that all parts of the counter, the shaved edges thereof as well as the thicker body part, come in contact with the surface of the roller, which, being coated with the wax, conveys it to the counter.

In the drawings hereof, Figure 1 represents an elevation, partly broken away, showing a section of the tank. Fig. 2 is an elevation, partly in section, of the two rollers. Fig. 3 is a cross-section of a shoe-counter.

A is a table supported upon legs B.

C is a gas-pipe provided with burners D D.

E is the tank, in which the water is placed at the bottom, as shown in Fig. 1, and the wax in melted condition floats upon the top of the water. The table A is of course hollow or open centrally, so that the gas burns directly against the bottom of the tank E, although this construction is not essential. The lumps of wax are placed in the water after the water has been heated practically to the boiling-point, or at least sufficiently heated, and as it melts it floats upon the top of the water.

F is a roller of metal or of wood. I prefer to make it of metal; and G is a hollow shaft upon which the roller F is supported. This shaft (see Fig. 2) preferably has openings H H in it, so that, when preferred, steam may be admitted through the shaft, which will heat this roller, and the roller will itself heat the water and the wax, so that the gas-flame need not be used. The steam entering the shaft at one end escapes into the hollow roller through the openings H and finds an exhaust at the other end of the roller, passing into the shaft again through the holes H at that end. The shaft G turns in a bearing I, which is fastened at the bottom or at some other desired

point in slots J, made in the standards K K, there being one at each side of the machine. Of course the roller F, if intended to be used as the means for heating the wax and water, should be made of metal; but when the heating is done by gas-jets or their equivalent—a fire of any sort—then this roller F may be made of wood or other relatively rigid material.

L is a roller placed above the roller F and supported upon a shaft M, which is supported in the boxes N, which slide in the slots J.

O is a spring. There is of course one provided at each of the standards K, which abuts at one end against the box N and at the other against a plate P, provided with an adjusting-screw Q. These means are provided so that the degree of pressure of the upper roller L upon the lower one F may be adjusted as desired and so as to compensate for wear. The upper roller L is made of some material relatively softer than the lower roller F. I prefer that the upper roller should be of rubber.

The operation is as follows: Water is first put into the tank E until the same be two-thirds full, or thereabout. The gas is then lighted or steam turned into the roller F, as the case may be. Thereupon the water becomes hot. The wax is then placed in the water, and it quickly melts and floats upon the top of the water. The rollers are then rotated. This may be done by hand and by means of a crank attached to either of the shafts of either of the rollers, or it may be done by power. I prefer, however, to drive these rollers independently of each other and both of them by belts running over pulleys attached, respectively, to the shafts G and M, and I also prefer to run the small roller L faster than the surface of the roller F, so that I may get a polishing action on the counters. Of course as the roller F revolves it brings up from the tank the melted wax floating upon the surface of the water, and just here appears one phase of my invention, to wit:

I have made a great many experiments and expended considerable time to ascertain how best to secure the proper amount of wax upon the rollers to be transferred to the shoe-counters, and I have made various compounds and mixtures of wax and have treated it in various ways to ascertain how best to do this; but

I have found that the best way is to melt the wax upon the top of water, as shown, because then the wax and the water both together are taken up by the lower roller and of course transferred to the upper one, and this results, owing to the antagonism between the water and the wax, in relatively a small amount of wax being taken up, and also the wax will readily leave the rollers and adhere to the counters as they are presented between the rollers. Thus I secure not too much wax and also its ready separation from the rollers and adhesion to the counters. The counters are presented between the rollers, preferably, with the shaved side uppermost, so that the reduced edges (see Fig. 3) at *aa* of the counter, which is shown at *b*, same figure, and also at *b* in Fig. 2, come against the soft compressible upper roller, and, as will be seen in Fig. 2, that roller is made so soft that the counter during its passage between the rollers embeds itself into the upper one. Thus the surface of the upper roller, which of course is covered with the wax deposited upon it by the lower roller, is brought in contact with not only the thick

central portion of the counter, but also with every part of the shaved or reduced edges thereof. In this way I secure complete coating of the counter in all its parts with the wax. It is not essential that the counters should be presented with the shaved edges uppermost in contact with the upper roller, although I prefer so to do, because the upper roller will ordinarily bend the counter and force the shaved edges down upon the lower roller even if presented between them in this manner.

I claim—

The method herein described of waxing or waterproofing shoe-counters, consisting in melting the wax upon the top of water, revolving a roller in the wax and the water, and passing the counter in contact with said roller, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 9th day of February, A. D. 1892.

GEORGE W. HILL.

Witnesses:

PHILLIPS ABBOTT,
THOS. A. NOLAN.