UNITED STATES PATENT OFFICE.

CHARLES D. JILLSON AND HUDSON SMITH, OF PROVIDENCE, R. I.

IMPROVEMENT IN LAPPING FOR PRINTING-MACHINES.

Specification forming part of Letters Patent No. **202,826**, dated April 23, 1878; application filed October 16, 1877.

To all whom it may concern:

Be it known that we, CHARLES D. JILLSON and HUDSON SMITH, both of the city and county of Providence, in the State of Rhode Island, have invented certain new and useful Improvements in Lapping for Printing-Machines; and we do hereby declare that the following specification is a true, clear, and complete description of our invention.

Heretofore the most approved lapping used in machines for printing textile fabrics has been composed of cotton or linen and wool, separately spun, and so woven that one surface is mainly wool and the other of cotton or linen, as the case may be, although this latter material is most generally employed.

The woolen portion of the fabric is relied upon for its elasticity, and the cotton or linen portion secures the tensile strength requisite for the proper performance of service on the printing-cylinder.

In practice the cylinder of the printing-machine is clothed with numerous thicknesses of lapping applied in one length, the initial end being pasted or otherwise secured to the surface of the cylinder, the terminal end being left free, so that the increased length incident to the stretching of the lapping resultant from its operation may be readily self-adjusted with relation to the inner thicknesses and to the working periphery of the covered cylinder.

Our invention consists in lapping which is composed of the complex fabric of wool and cotton or linen and separately-woven cotton or linen fabric, with an intermediate cushion or layer of elastic vulcanizable gum.

Our improved lapping admits of the attainment of better results in the way of fine lines and clear printing than have heretofore been attained by the use of any lapping of which we are cognizant.

There is a peculiar elasticity of the closely-laid thicknesses in our improved lapping, in that while it is sufficiently elastic to afford a desirable foundation for the endless blanket and the fabrics passing through the printing-machine, it has also a desirable degree of solidity, which positively secures the perfect development of fine lines and small figures.

Our novel lapping has been fully tested, and we have repeatedly proven its capacity to produce improved results in printing, both as to details in figure and in color. It is of great durability, presents an even and reliable blanket-face, and the facility with which the free end of the lapping becomes embedded in the underlying thickness obviates that liability of imperfect printing at that point at each revolution of the cylinder which is objectionably incident to the use of lapping as heretofore made.

It is well known that "printers' blankets" are expensive items in printing, and that their slipping on the lapping results in flocking the blanket and rendering it useless for good service.

With our improved lapping the blanket seldom slips, and its useful life is therefore largely prolonged.

The cylinder is revolved solely by the copper printing-rolls, which are in contact with the blanket interposed between the rolls and the lapping-clad cylinder, and with lapping as heretofore made more or less lost motion is liable to occur as between the printing-rolls and blanket, resulting in bad printing.

With our improved lapping a firm gripe is attained between it and the blanket, and therefore the liability of lost motion is reduced to a minimum.

In testing our lapping side by side with other of the most approved kinds of lapping as heretofore made, several cylinders have been clothed on the same day, and subjected to equal conditions of service, and when the other lapping was worn out and worthless our improved lapping exhibited no evidences of wear or loss of working value.

The method of uniting the fabrics with the thin layer of vulcanizable gum or gum compound and vulcanizing the same involves no novelty, and persons skilled in the art of rubber-working, by the aid of machinery long in use and modes of operation long practiced, will be competent to perform this service.

We are aware that it has heretofore been proposed to make endless lapping of one or more pile fabrics, and also of several layers of woven fabric united with rubber; but we are not aware that prior to our invention lapping was ever made which was composed of a com-

plex woven fabric with a woolen face, as herein described, a thin fabric of woven cotton or linen, and the intermediate layer of vulcanized gum.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

Printers' lapping composed of a woolen-faced fabric, a thin cotton or linen fabric, and an intervening layer of vulcanized gum, substantially as described.

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Witnesses:
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