

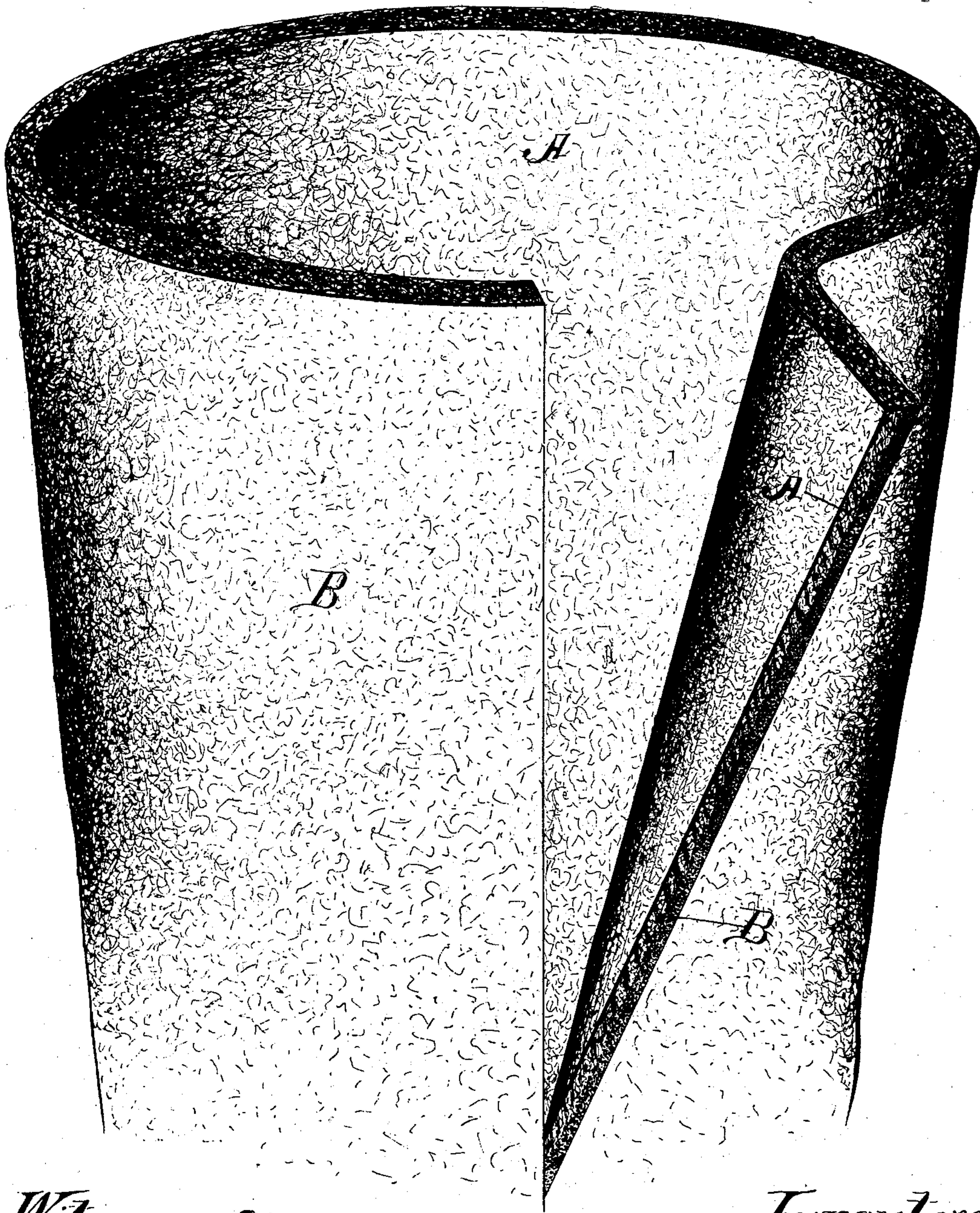
(No Model.)

M. V. BEIGER.

FABRIC BOOT AND MANUFACTURE OF THE SAME.

No. 374,338.

Patented Dec. 6, 1887.



Witnesses:

J. B. McGinn

Edward Sturtevant

Inventor:

M. V. Beiger

By his atty

R. D. Smith

UNITED STATES PATENT OFFICE.

MARTIN V. BEIGER, OF MISHAWAKA, INDIANA.

FABRIC BOOT AND MANUFACTURE OF SAME.

SPECIFICATION forming part of Letters Patent No. 374,338, dated December 6, 1887.

Application filed September 2, 1887. Serial No. 248,651. (No model.)

To all whom it may concern:

Be it known that I, MARTIN V. BEIGER, of Mishawaka, in the county of St. Joseph and State of Indiana, have invented new and useful Improvements in Fabric Boots; and I do hereby declare that the following is a full and accurate description of the same.

This class of boots—*i. e.*, made from wool—is first formed very much larger than the final size, and reduced by fulling and felting to the desired size, and thereby thickened, stiffened, and consolidated. These boots are used in vast numbers in the colder parts of the country, being much warmer than leather boots. I have discovered that such boots may be made practically wind and water proof by filling the minute interstices between the fibers of wool with wool-dust, known as “flock.” Flock is wool fiber divided so finely that it will not mat together and felt, yet it has power to work into and be imprisoned in the body of the felted or knit fabric, filling the interstices of the same.

I am aware that woven cloths have for a long time been treated with flock for the purpose of improving the “woolliness” of the surface; but no one, so far as I am aware, has ever applied flock to any knitted fabric, and especially to any fabric boot or shoe. Therefore I do not claim any discovery as to the process of flocking, but limit my discovery to the fact set forth—to wit., that a fabric boot can be rendered practically wind and water proof by impregnating its substance with flock.

That others may fully understand my improvement, I will particularly describe the course of procedure in that part of the manufacture of a fabric boot which includes the introduction of the flock.

In the accompanying drawing I have shown a portion of a fabric boot embodying my invention, in which drawing A indicates the body or felt portion of the boot, and B the flock secured thereto.

The boot is first formed very much larger than the final size and very loose in texture. It may be knit or made of bat. It is then submitted to a process of fulling to shrink and consolidate the fabric and reduce it to the de-

sired size. A quantity of flock is put in the fulling-machine along with the boots under treatment. The fibrous structure being still somewhat open, the flock easily penetrates and works into the same, and as the fabric shrinks upon the imprisoned flock it becomes firmly locked in and renders the mass more solid than would otherwise be possible.

A boot made without flock and another made in all respects exactly the same, except that flock was added, as above described, were placed in a vessel of water at the same time. At the end of three hours the unflocked boot was saturated and water was inside; but at the end of six hours the flocked boot was barely damp on its inner surface. This is practically water-proof.

It is not desirable to continue the flocking long enough to cause it to impregnate the whole thickness of the fabric, because it is desirable that the inner surface of the boot shall continue to be somewhat porous and absorbent to take up the perspiration from the foot and stocking, while the external face should be as dense and impervious as possible. In practice, the boot being a tube open at one end only, the flock does not enter at the open end, but only penetrates from the exterior surface.

Having described my invention, I claim—

1. The process of forming and increasing the solidity and imperviousness of fabric boots, which consists, essentially, in first forming the boot of a size considerably larger than that finally desired, applying wool flock to the formed boot, and then working the flock into the fabric of the boot and reducing the latter to the required size, substantially as described.

2. A fabric boot whereof the natural interstices in the fibrous fabric are stuffed with flock, substantially as set forth.

3. A fabric boot having its inner surface porous and absorbent and its outer surface stuffed with flock, and thereby rendered practically impervious, as set forth.

MARTIN V. BEIGER.

Witnesses:

F. G. PERKINS,
D. H. SMITH.