No. 846,986. PATENTED MAR. 12, 1907.

F. G. EBERHART, Jr.

KNIT BOOT.

APPLICATION FILED JULY 27, 1904.

Fig. 1.

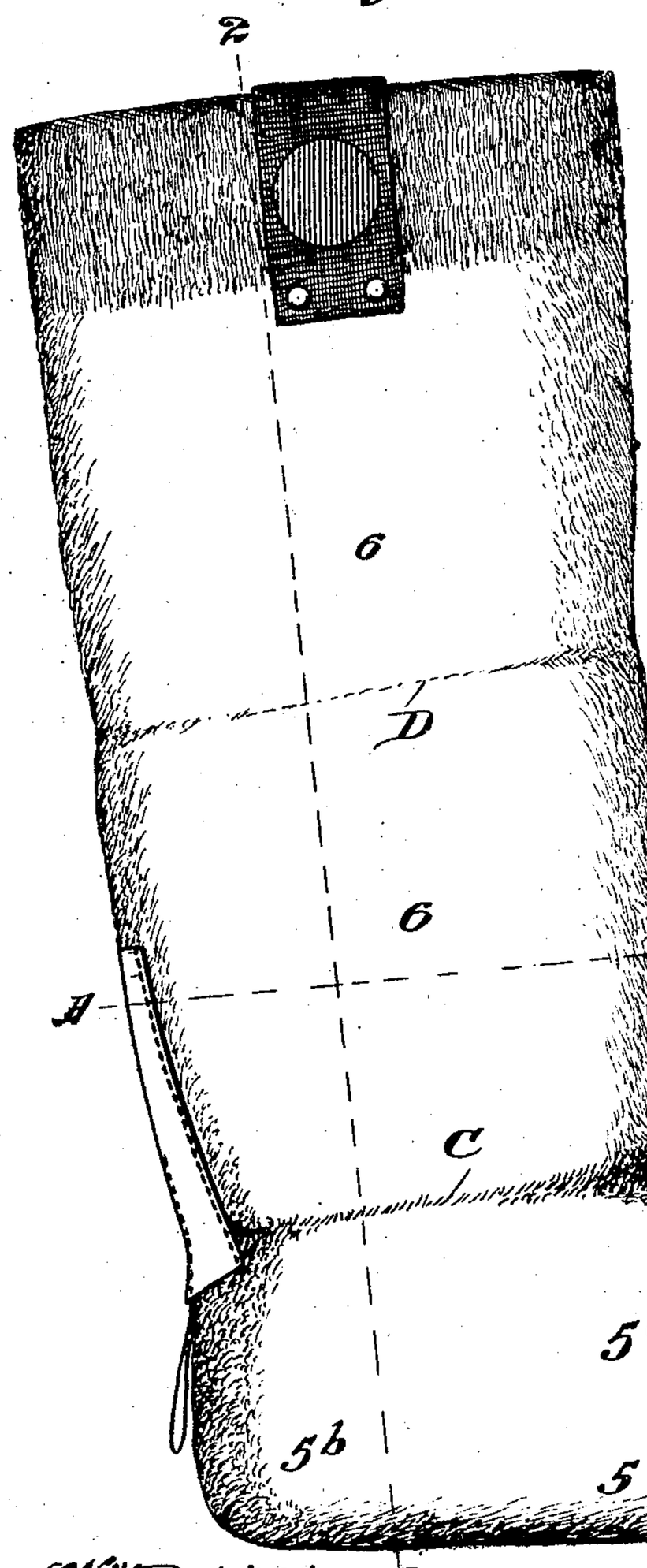
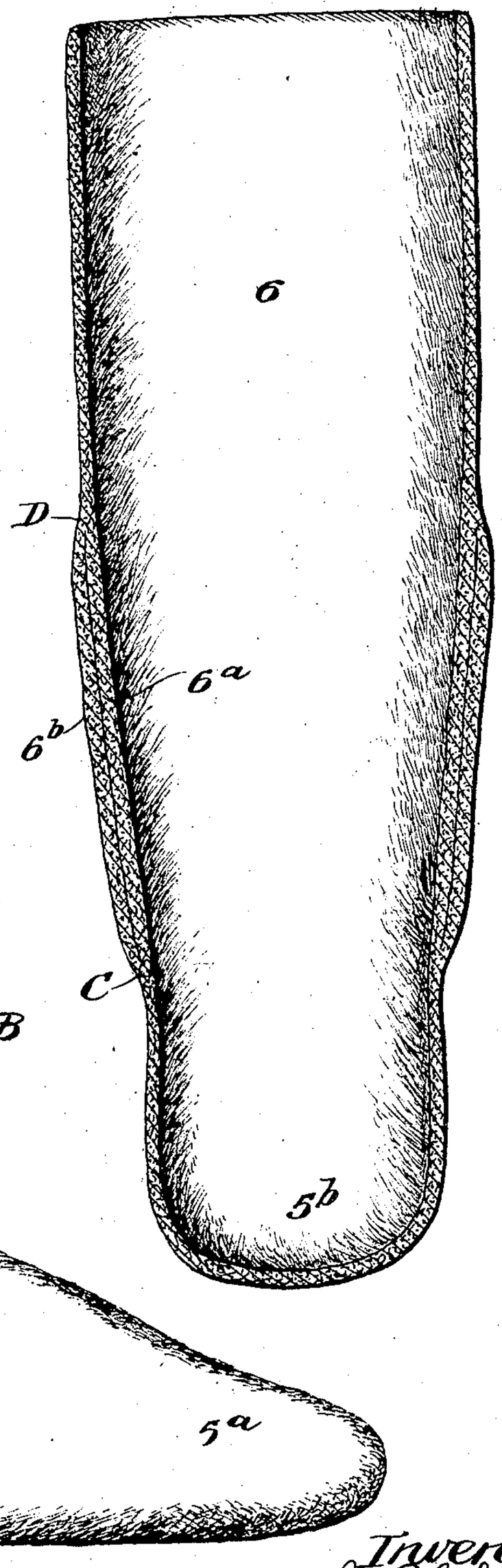


Fig. 2.



Witnesses,
F. D. Mann,
S. N. Pond

Inventor,
Frederick G. Eberhart, Jr.
By Offield, Towler & Linthicum
Attys.

UNITED STATES PATENT OFFICE.

FREDERICK G. EBERHART, JR., OF MISHAWAKA, INDIANA, ASSIGNOR TO MISHAWAKA WOOLEN MANUFACTURING COMPANY, OF MISHAWAKA, INDIANA, A CORPORATION OF INDIANA.

KNIT BOOT.

No. 846,986. Specification of Letters Patent. Patented March 12, 1907.

Application filed July 27, 1904. Serial No. 218,414.

To all whom it may concern:

Be it known that I, FREDERICK G. EBERHART, Jr., a citizen of the United States, residing at Mishawaka, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Knit Boots, of which the following is a specification.

My invention relates to boots of that general character which are designed to be worn with a rubber overshoe in cold countries as a protection against cold and snow. Boots of this character have generally been made of felted or knitted wool subsequently fulled and finished, and an objectionable characteristic almost universally exhibited by such boots is a tendency to wrinkle and in the case of felt boots to crack and break in the region opposite the upper edge of the overshoe. In the case of felt boots the felt cracks and soon breaks transversely of the leg portion at or slightly above the upper edge of the overshoe. The knit boot by reason of the greater interlocking of the fibers and the consequently greater strength and flexibility does not crack or break either at the top of the shoe or elsewhere; but in the relative bending of the leg portion to the foot portion of the boot, which occurs in service, diagonal wrinkles are formed in the leg of the boot extending across the line of contact with the top of the overshoe, and these wrinkles readily admit snow in and between the wool boot and the overshoe, which is a serious objection. Numerous expedients have been attempted to prevent this wrinkling of the leg of the boot at the part referred to—such as leather, felt, canvas, and other heterogeneous reinforcements or stays—but none of such expedients have proved practically successful. Where sufficiently thick and rigid to check the wrinkling effect, they have rendered the leg of the boot objectionably stiff and uncomfortable to the wearer.

With these faults and difficulties in view my invention has had for its object to provide a construction of knit boot which shall obviate the objections above noted without at the same time lessening the general flexibility of the boot as a whole and the ease and comfort with which the same may be worn, and I have discovered a solution of this problem so far as the same relates to a knit boot by the comparatively simple expedient of knitting that portion of the leg of the boot extending from the ankle region upwardly to a point somewhat above the upper edge of the overshoe of double thickness of homogeneous material, the upper and lower edges of the webs forming the double thickness being merged into the web of the boot at the points specified.

A knitted wool boot illustrating an embodiment of my invention is shown in the accompanying drawing, wherein—

Figure 1 is a side elevational view of the complete boot, and Fig. 2 is a vertical section of the same on the line 2 2 of Fig. 1.

Referring to the drawing, 5 designates as an entirety the foot of the boot, which may be said to comprise the toe portion 5^a, the heel portion 5^b, and the instep portion 5^c.

6 designates as an entirety the leg of the boot. The dotted line A B, drawn across the leg of the boot, indicates approximately the position relatively thereto occupied by the upper edge of the rubber overshoe usually worn with boots of this character. That portion of the leg 6 extending from the junction of the leg with the foot opposite the ankle region (indicated at C) upwardly to some distance above the upper edge of the overshoe—say to the height indicated by the line D—is, as shown more particularly in the sectional view, Fig. 2, knitted of double thickness, comprising an inner web 6^a and an outer web 6^b, which webs at their lower edges merge into the single-thickness web of the ankle and foot portion and at their upper edges merge into the single-thickness web of the upper leg portion.

In the practical manufacture of the boot shown and described I first knit the outer web 6^b of the desired length of the double section of the boot-leg, represented by the distance between the transverse lines C and D, and I then remove it from the machine. I then begin a boot, preferably at the toe 5^a, knit the toe of the boot, then the intermediate instep portion, and then the heel and ankle portions, up to the ankle region where the leg portion joins the foot corresponding with the line C. At this point I transfer or loop the stitches of the lower end of the previously-knit web 6^b onto the machine with-

out removing the foot portion therefrom, thereby merging one end of the previously-knit web and the boot-leg proper just above the heel of the boot. I then continue knitting the inner section 6^a of the boot-leg to a length equal to the web 6^b previously transferred on, then transfer the remaining or upper end of the web 6^b onto the machine, thereby merging such upper end of the latter with the boot-leg proper, and then continue knitting the upper single portion of the boot-leg to the desired length. After the knitting operation has been completed, as above described, the boot goes through the usual fulling and finishing operations and is ready for service.

I have found as a result of numerous tests that the above-described improvement in the manner of forming the boot-leg obviates the trouble hereinabove referred to in connection with knit boots, since the double-knit portion of the leg does not wrinkle or fold, but causes the wrinkling or bending to occur entirely below the double section down inside the rubber overshoe where it can do no harm or mischief in the way of admitting snow and consequent moisture to the foot of the wearer. On both the outside and inside the boot presents simply a smooth plain surface with nothing to catch or fray. So much of the boot-leg as is visible above the overshoe stands up firmly and without wrinkles, although possessing sufficient uniformly-distributed elasticity to make the boot-leg entirely comfortable to the wearer. Such slight chafing as occurs between the top of the shoe and the boot-leg is well distributed and never located in one spot or line, as is the case in a felt boot, no matter how thick.

I claim—

A fulled knit boot of the character described having the leg portion opposite and for a part of the distance above the ankle portion knitted of double thickness of homogeneous material, the two thicknesses being united and merged into the web of the boot at their upper and lower edges, substantially as and for the purposes described.

FREDERICK G. EBERHART, JR.

Witnesses:

H. M. MECKELNBURG,

JNO. C. SERVICE.