(No Model.)

W. H. PEPPER.

ART OF MAKING CUT STOCKINGS.

No. 372,170. Patented Oct. 25, 1887.

Fig. 1.

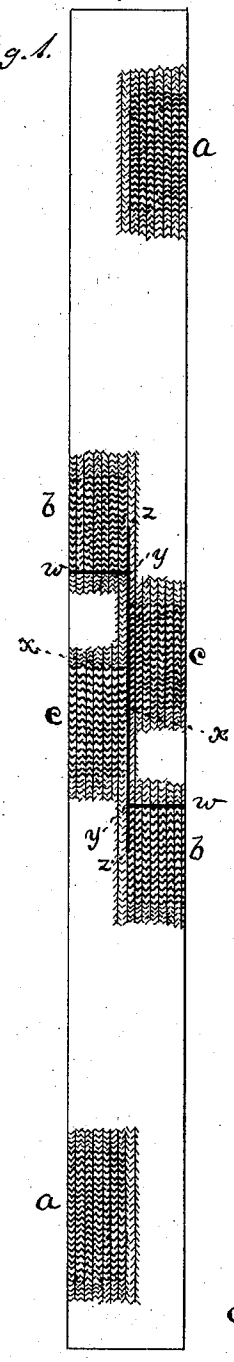


Fig. 2.

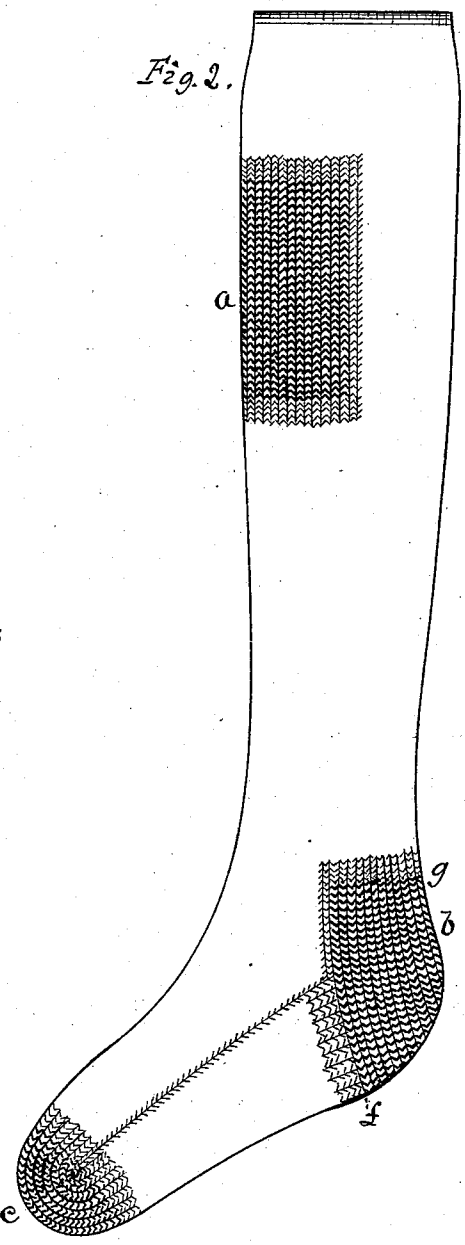
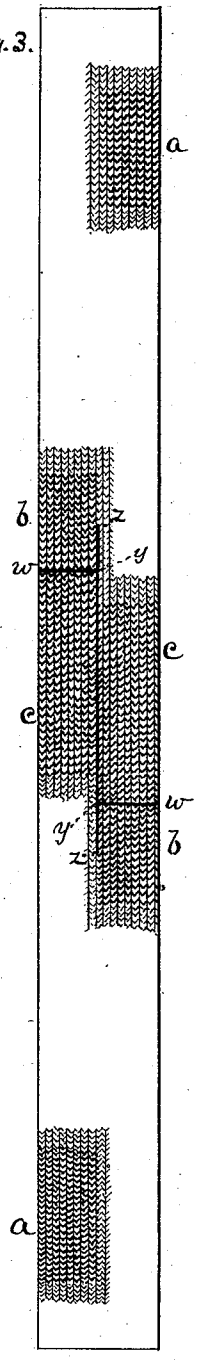


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ART OF MAKING CUT STOCKINGS.

SPECIFICATION forming part of Letters Patent No. 372,170, dated October 25, 1887.

Application filed October 6, 1885. Serial No. 179,144. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. PEPPER, of Lake Village, in the county of Belknap and State of New Hampshire, have invented an Improved Art of Making Cut Stockings; 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.

My art or method of manufacturing stockings relates to the class of stockings and hose known in the trade as "cut goods" or "cut stockings," which are first entirely knit in a continuous tubular web, and the feet of which are then formed by splitting a portion of the tubular web endwise, turning the part which forms the bottom of the foot backward, shaping the toe by cutting the edges of the web, and joining the cut edges by sewing on a sewing-machine or by hand.

By my improved method I knit the tubular web with an additional thread knit therein at the proper intervals and to the desired extent, so as to re-enforce the stocking at the knee, at the heel, and at the toe, and, if desired, also along the whole bottom of the foot, thus making all the re-enforcing parts in the regular course of knitting and without interrupting the same. The re-enforcement of the heel by this method is preferably also made to extend upward to the ankle, so as to provide against the wear of the stocking on the back part of the stocking, even above the heel proper, where even the greatest wear ordinarily takes place by coming in contact with the counter of the boot or shoe, and is not provided against by the ordinary re-enforced or thickened heels.

My invention consists in making re-enforced cut stockings by knitting alternate stockings of a continuous tubular web in opposite positions, and the foot portions of adjacent stockings in lapped half-tubes, knitting in the knee-re-enforces of the desired widths alternately on opposite sides of the web, knitting in the heel, ankle, and toe re-enforces of the respective stockings in half tubular portions of the web, and where the said half-tubular webs coincide knitting in the re-enforce entirely around the web, then cutting apart the two portions of the web between the foot and heel parts thereof, and finally uniting the cut edges of the respective stockings in the proper form.

In the accompanying drawings, Figure 1 represents a portion of a tubular knit web knit by my improved method, the part shown being sufficient for a pair of stockings; Fig. 2, a side view of a finished stocking formed from such a web; Fig. 3, a portion of a tubular web corresponding to the web shown in Fig. 1, but showing the additional thread knit into the web for re-enforcing the entire bottom of the foot.

Like letters designate corresponding parts in all of the figures.

The additional thread for re-enforcing the tubular web at the places required is laid upon the needles of the knitting-machine by a suitable thread-carrier along with the regular thread and is knit into the web therewith, and the courses of stitches generally have the re-enforcing thread extending only a part way around the web—say one-half. Ordinarily the re-enforced part does not extend more than half-way round the web, except where two half-way re-enforces lap by each other, as where the foot-laps of the web are formed, in which case the two re enforces embrace the entire circumference of the web. Thus, referring to Fig. 1, the knee re-enforces *a a* extend half-way around the web, those of the adjacent stockings being on opposite sides of the web, as shown in Figs. 1 and 3, the alternate stockings being, as shown, knit in opposite positions, as also the heel re-enforces *b b*. The two toe re enforces *c c*, each extending half-way around the web, lap each other between the points *x x*. Where these re-enforces for the two stockings thus lap each other the re-enforce is knit entirely around the web. In Fig. 3 the toe re-enforces *c c* extend onward to the heel re-enforces *b b*, so as to form re-enforces for the bottoms of the feet. In both of the said figures the positions of the several re-enforced portions for each adjacent pair of stockings are clearly shown and referred to by letters, so that the method of forming the web is clearly seen and will be readily understood. In the completed stocking, as shown in Fig. 2, it is seen that the heel re-enforces *b b* extend upward beyond the under half of the foot, joined thereto at the seam *f*, and thus above the heel proper as far up as the ankle. (Marked by the line *g*.) In the web, as shown in Figs. 1 and 3, the feet parts

of the web are separated along the cross-lines *w y w y* and the longitudinal line *y y*, and the web is further split on the lines *y z y z* to separate the heel from the upper part of the foot of each stocking.

The re-enforcing thread is woven into the regular tubular web by an ordinary circular-knitting machine provided with a suitable additional thread-carrier, which at proper intervals is made to bring the additional thread to the needles. Such a machine is shown and described in my application for Letters Patent for an improved knitting-machine filed August 29, 1885, and numbered 175,658.

Stockings made by the above method are much superior to other stockings of the class, and they cost only the value of the additional re-enforcing thread used more than the ordinary stockings of the class. The re-enforced portions do not lengthen nor bulge the web, but simply thicken the web, rendering the same warmer and more durable at those places.

I claim as my invention—

The art or method of making re-enforced cut stockings, which consists in knitting the alternate stockings of the web in opposite positions and the foot portions of the two in lapped half-tubes, knitting in the knee re-enforces of any width alternately on opposite sides of the web, knitting in the heel, ankle, and toe re-enforces of the respective stockings in half-tubular portions of the web, and where the said half-tubular webs coincide knitting in the re-enforce entirely around the web, then cutting apart the two portions of the web between the foot and heel parts thereof, and finally securing the cut edges of the respective stockings together in the proper form, substantially as herein specified.

WM. H. PEPPER.

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