M. C. HIESTER.
KNEE-PROTECTORS.

No. 194,871. Patented Sept. 4, 1877.

Fig 1.

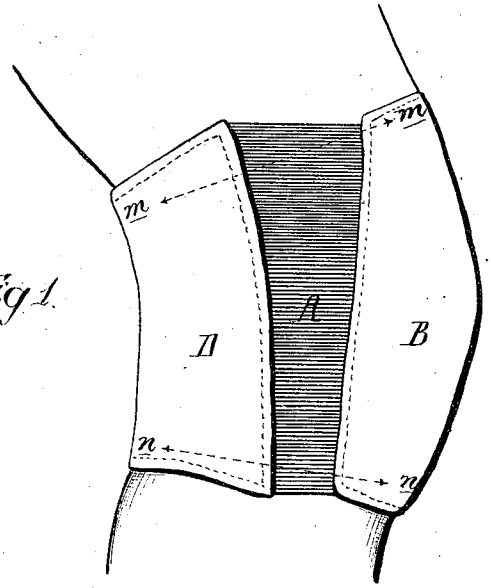



Fig 2.

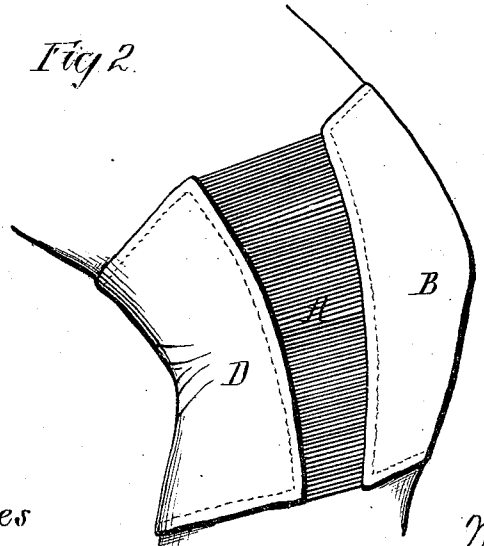
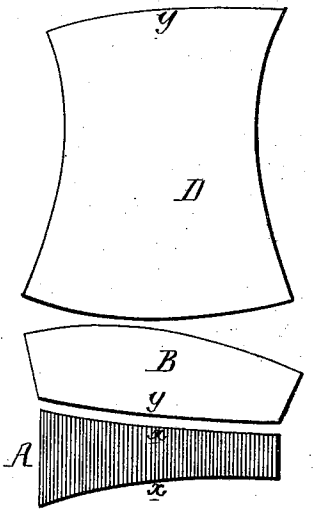



Fig 3.




Witnesses
Henry Howson Jr
Harry Smith

Inventor
Mary C. Hiester
by her Attorneys
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N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

MARY C. HIESTER, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN KNEE-PROTECTORS.

Specification forming part of Letters Patent No. **194,871**, dated September 4, 1877; application filed May 17, 1877.

*To all whom it may concern:*

Be it known that I, MARY C. HIESTER, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Knee-Protectors, of which the following is a specification:

The object of my invention is to make a protector to be applied to the knee of the child for the preservation of the stocking at that point.

In the drawings, Figures 1 and 2 are side views of the protector, and Fig. 3 a view showing a mode of constructing the same.

In the present instance, the protector consists of three main pieces, namely, the elastic web or gore A, and the two strips B and D, Figs. 3, of silk, woolen, or other suitable fabric.

The adjoining ends of the strips B and D are rounded or otherwise so formed that when stitched together the two strips will present a cavity for the knee-cap.

The elastic web is wider at the upper than at the lower end, so that when the edge *x* of the web is stitched to the edge *y* of the fabric there will be a tubular protector larger in diameter at the line *m m*, where it has to embrace the leg above the knee, than at the line *n n*, where it must embrace the leg below the knee.

The increased width of the elastic web at and near the upper end of the protector also affords increased elasticity at the point where it is most needed, for the upper end of the protector will be subjected to greater distension, when the leg is moved in the act of kneeling, (see Fig. 2,) than the lower portion of the protector.

The web must be of sufficient elasticity throughout to permit the protector to be easily drawn over the foot and calf of the leg, and should have the property of contracting sufficiently to snugly embrace the leg above and below the knee, for the retention of the protector in its proper position is dependent partly on its clinging to the leg at these points, and partly on the cavity for the knee-cap.

It is not essential in carrying out my invention that the protector should be composed of the precise pieces shown in Fig. 3. It may, for instance, consist of one piece of felt, the cavity for the knee being formed during the process of felting, or it may be made of substantial knitted fabric, with a knee-cavity made during the operation of knitting, or the front portion of the protector may be made of leather with cavity formed by embossing, the rear portion being either of leather or any suitable fabric; but in all cases the protector must be made to contract by means of the elastic gore, and cling to the leg above and below the knee, and must have a cavity for the reception of the knee-cap.

It will be evident that the protector may be made attractive in appearance by different systems of ornamentation.

I claim as my invention—

A knee-protector consisting, mainly, of a tube of non-elastic material with an elastic gore, A, and made to embrace the leg above and below the knee, and having a cavity adapted to the knee-cap, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MARY C. HIESTER.

Witnesses:

HENRY HOWSON, Jr.,

HARRY SMITH.