(No Model.)

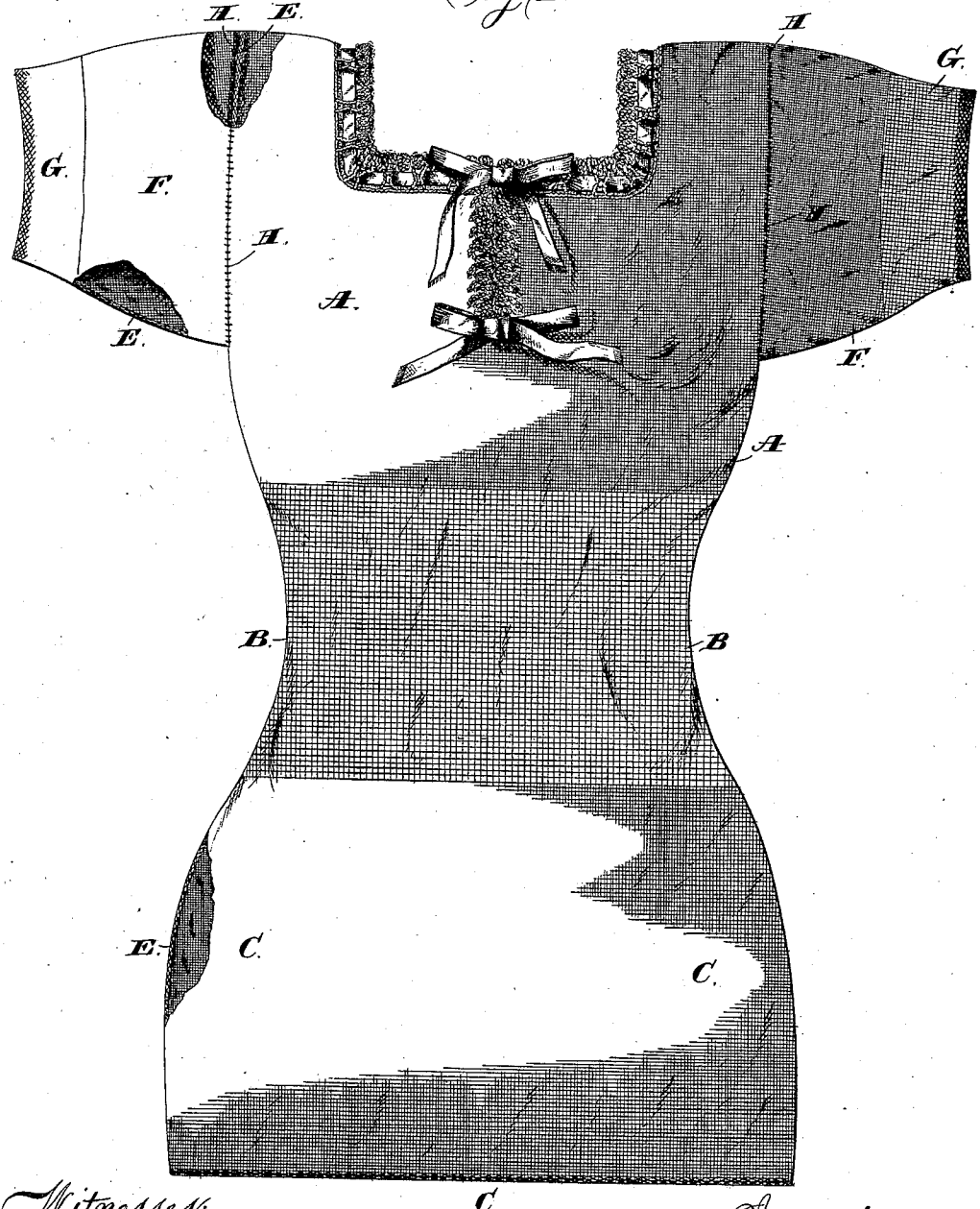
4 Sheets—Sheet 1.

T. DALBY.

UNDERSHIRT OR VEST.

No. 357,068. Patented Feb. 1, 1887.

Fig. 1.



Witnesses:
Jas. E. Hutchinson
Henry Gardner Jr

Inventor.
Thomas Dalby
By his attorney-
Chas J. Gooch

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 4 Sheets—Sheet 2.

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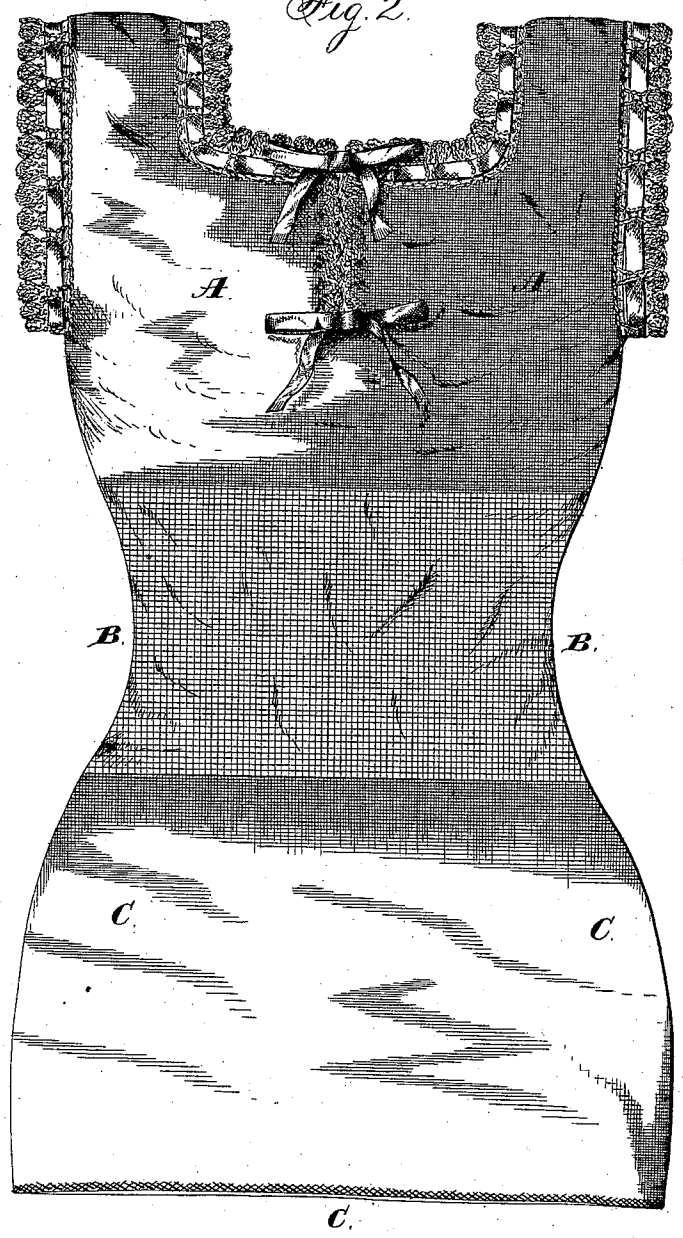
Fig. 2.



Witnesses:
Jas. E. Hutchinson.
Henry Gardner Jr.

Inventor.
Thomas Dalby
By his attorney
Chas J. Gooch.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.)

4 Sheets—Sheet 3.

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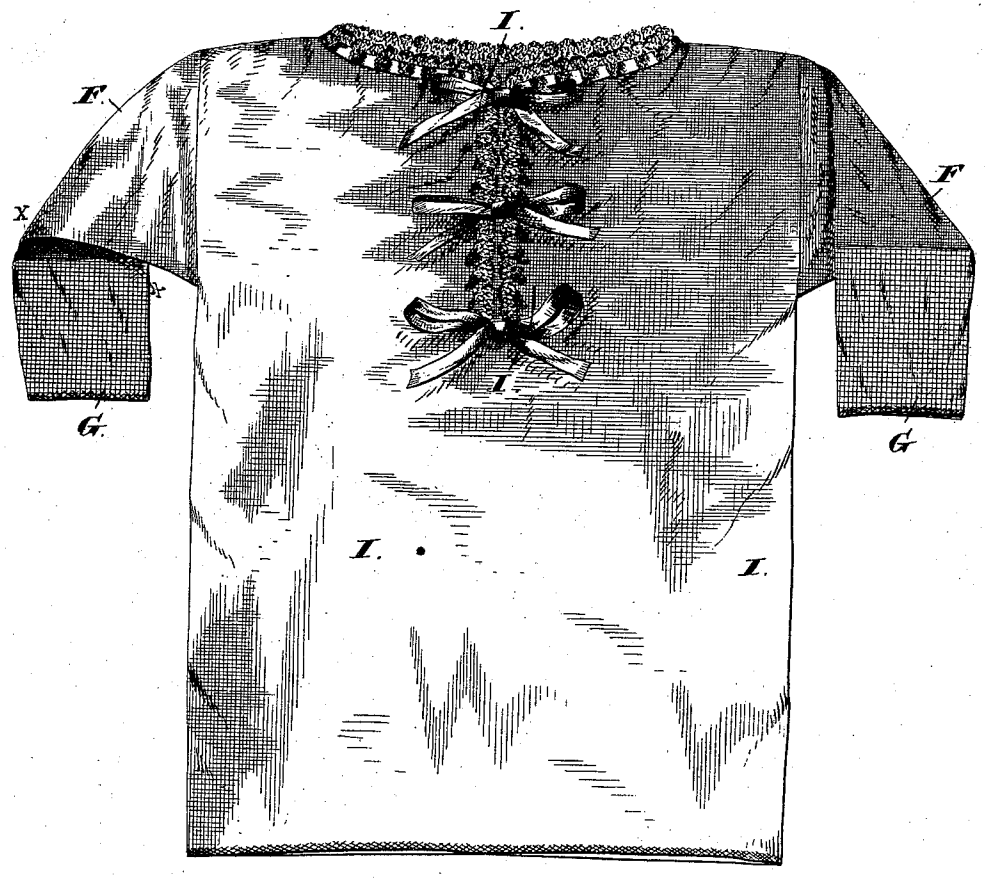
Fig. 3.



Witnesses:
Jas. E. Hutchinson.
Henry Gardner Jr.

Inventor.
Thomas Dalby
By his attorney
Chas J. Gooch.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 4 Sheets—Sheet 4.

T. DALBY.

UNDERSHIRT OR VEST.

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Fig. 4.

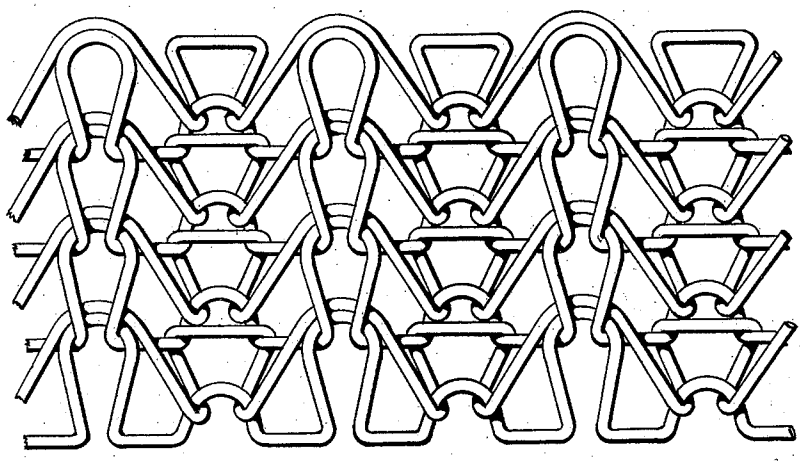
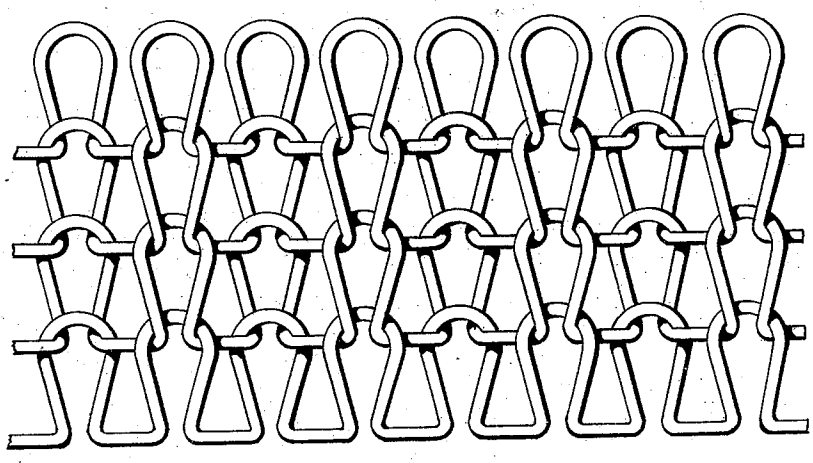


Fig. 5.



Witnesses
W. J. Sheridan
C. E. Jones

Inventor
Thomas Dalby
By his Attorney
Chas. J. Gooch

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

THOMAS DALBY, OF WATERTOWN, MASSACHUSETTS.

UNDERSHIRT OR VEST.

SPECIFICATION forming part of Letters Patent No. 357,068, dated February 1, 1887.

Application filed February 11, 1886. Serial No. 191,592. (No model.)

To all whom it may concern:

Be it known that I, THOMAS DALBY, a citizen of the United States of America, residing at Watertown, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Undershirts or Vests; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention consists, primarily, in constructing undershirts or vests so that they shall be shaped or fashioned to the body without the employment of either a narrowing or a widening machine or the cutting away of any portion of the fabric at the narrow portion of the body or the cutting out of the shape. The body of the shirt or vest is knit so as to have the same ribbed structure throughout, except that the top and bottom portions are formed of half-cardigan and the central or waist portion of Derby rib, (or, as it is also termed, "one-and-one rib,") whereby the requisite narrowing of the body is secured at the waist to conform to the shape of the body without necessitating the cutting away or cutting out of any portion of the fabric. Two connected parts thus formed, and constituting the back and front, respectively, of the shirt, are joined together by selvage edges.

The invention further consists in forming the sleeves separately from the body, the wrist portion being formed of a Derby rib, while the arm portion is formed of half-cardigan, whereby the requisite width and elasticity is secured, the arm portion being secured to the body by stitching, without the intervention of gores or gussets, all as hereinafter described.

In the accompanying drawings, Figure 1 represents a front elevation of a sleeved Jersey vest or undershirt constructed according to my improvements. Fig. 2 represents a similar view of a sleeveless Jersey vest or undershirt. Fig. 3 represents a similar view of a straight-bodied undershirt having sleeves made in accordance with this invention. Fig. 4 represents on an enlarged scale the half-cardigan stitch used in forming the top and bottom portions of a vest or undershirt and the arm of an undershirt, and Fig. 5 represents a similar view of the Derby rib (or one-and-one rib) employed in forming the waist portion of a jersey-fitting vest and the wrist portion of the sleeves thereof and of other undershirts.

It is the design of my invention to construct Jersey vests and other undershirts without raw edges at the points of jointure of the back and front breadth and without gussets or gores at the arm-holes for joining the sleeves thereto, to construct the body and arm portions of great elasticity and so as to readily conform to the different shapes and sizes of wearers, and to dispense with the employment of narrowing and widening machines, and also with the necessity of cutting out the shape.

In the illustration shown in Figs. 1 and 2 of the drawings I have represented an undershirt of the pattern known as the "Jersey vest." In constructing an article of this character I knit the back and front breadths or sections in a continuous length, commencing at the bottom and knitting from thence to the bottom of the waist-line in half-cardigan rib, then knitting the waist portion in Derby rib, then knitting the top portion of each side in half-cardigan, and then continuing the knitting to form the opposite side with a waist portion in Derby rib and the bottom portion in half-cardigan, leaving, of course, the customary openings for the neck and arm holes. The strip of fabric as thus formed is then folded over and its edges connected by their selvages. The knitting is performed by two sets of needles working at the same time and all the time. When knitting the central or waist portion of the body and the wrist portions of the sleeves, each set of needles works equally. When knitting the top and bottom portions of the body and the arm portions of the sleeves, the machine set of needles only press the stitch once to the frame set twice, thus furnishing a double supply of yarn on the machine set of needles when forming the top and bottom portions of the body and the arm portion of the sleeve.

A represents the top and C the bottom portion of the back and front, respectively, of a

jersey-fitting vest, each of which is formed of half-cardigan, while B represents the waist portion formed of Derby rib, (or one-and-one rib.) By employing two sets of needles the ribbed surface throughout the garment is the same and is of the same appearance on both sides, and two sets of stitches are produced, whereas in knitting garments of this character with only one set of needles only one set of stitches is produced. By employing two sets of needles and forming two sets of stitches therewith a considerable increase of elasticity is secured to the garment, it readily stretching to double its ordinary size, as there is more room for each stitch to move in, and when the garment is stretched the stitches pull against each other. The threads and ribs are continuous from top to bottom of the garment; but the quantity of yarn used in constructing the outwardly-curved upper and lower portions is double that employed in forming the intermediate contracted waist portion, B. Similarly, the quantity of yarn employed in forming the arm portion of the sleeves is double that employed in forming the wrist portion thereof, owing to the frame set of needles pressing the stitch twice to each single pressing of the machine set of needles when forming the top and bottom and the arm portions.

By employing half-cardigan work in forming the upper and lower portions I gain a sufficient increase in the width of the garment at those parts to avoid the necessity of using a widening-machine, and I also secure a great and increased elasticity of the garment at those parts, which adapts it to readily conform to bodies of different shapes and sizes and to snugly fit the same. By forming the waist portion of Derby-rib stitch I secure the necessary shaping and inward curvature of the garment without necessitating either the employment of a narrowing-machine or the cutting away of any portion of the fabric. When the two parts, back and front, are thus formed, I connect their respective edges together by selvaged edges E, whereby raw edges are avoided, and there are no rough or protruding edges to come in contact with and chafe the body of the wearer. In Fig. 2 of the drawings such a garment as I have just described is shown. In this condition it is sleeveless, and may so be worn. When, however, it is desired to produce a sleeved garment, such as is represented in Fig. 1 of the drawings, I knit the arm portion F half-cardigan and the wrist portion G in Derby rib—or one-and-one rib—in the manner above described, and attach the sleeves directly to the armholes by stitching the same thereto with silk or other threads H, thereby dispensing with gores or gussets. This I readily accomplish by reason of the superior elasticity secured by forming the arm portion F of half-cardigan, as thereby not only is the sleeve adapted to receive arms of different thicknesses, but it and that portion of the body of the garment adjacent thereto is sufficiently elastic to allow of as free a movement of the arm as if a gusset joined the sleeve and body. The sleeves represented in the drawings are each knit in a single flat piece and the respective edges thereof are joined together by selvage or seam, as represented at *x*.

In Fig. 3 of the drawings I have represented a straight-bodied undershirt. In this instance the body portion I is formed of half-cardigan work, the back and front parts being connected together by selvaged edges, in the manner heretofore described with respect to the shape illustrated in Figs. 1 and 2, and the sleeves are similarly formed with an arm portion of half-cardigan and a wrist portion in Derby rib, said arms being also stitched directly to the body of the garment, without the intervention of gussets or gores, in the manner before mentioned, the construction of this form of undershirt being precisely similar to that heretofore described, except that the Derby-ribbed waist portion is omitted.

I am aware that it has been proposed to make an undershirt with the top and bottom portions thereof tuck-knitted and the waist portion of plain stitch or knitting, tuck-stitching being formed by supplying one half of the needles, or every other needle employed, with a single thread, and the balance or alternate needles with a double thread, it being stated in the description of such a shirt so formed, as referred to, that where a part of such shirt is made with widely-separated tuck-stitches a slight degree of elasticity is imparted to that part. By forming shirts, &c., in the manner described by me—*i. e.*, by using two sets of needles and forming alternate half-cardigan and Derby rib work, as described herein—I very materially increase the elasticity of the garment, rendering it so elastic as to permit of its readily stretching to double its ordinary width, whereby it readily adapts itself and readily conforms to different sized and shaped bodies, avoids the necessity of forming pockets in the garment, and avoids the filling out of the superposed garment caused when the shirt is made partly in tuck-stitch.

I am also aware that a stocking has been made with a portion in tuck-stitch and a portion in plain stitch. Such devices, however, I do not claim; but,

Having thus described my invention, what I claim is—

1. As an article of manufacture, a knit undershirt or vest formed of alternate half-cardigan and Derby or one-and-one ribs, as described.

2. As an article of manufacture, an undershirt or vest having the body of alternate half-cardigan and Derby ribs, and sleeves having the arm portion of half-cardigan and the wrist portion of Derby rib, said arms being connected directly to the armholes, as described.

3. An undershirt or vest having sleeves the

arm portions of which are formed of half-cardigan and the wrist portions of Derby or one-and-one rib, the edges of each sleeve being united by a seam at *x*, and the arm portion stitched to the body of the garment, substantially as described.

4. An undershirt or vest woven in two parts, back and front, and in alternate half-cardigan and Derby ribs, the respective breadths or sections being connected together by selvaged edges, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS DALBY.

Witnesses:
JAMES R. GRISWOLD,
WM. H. INGRAHAM.