

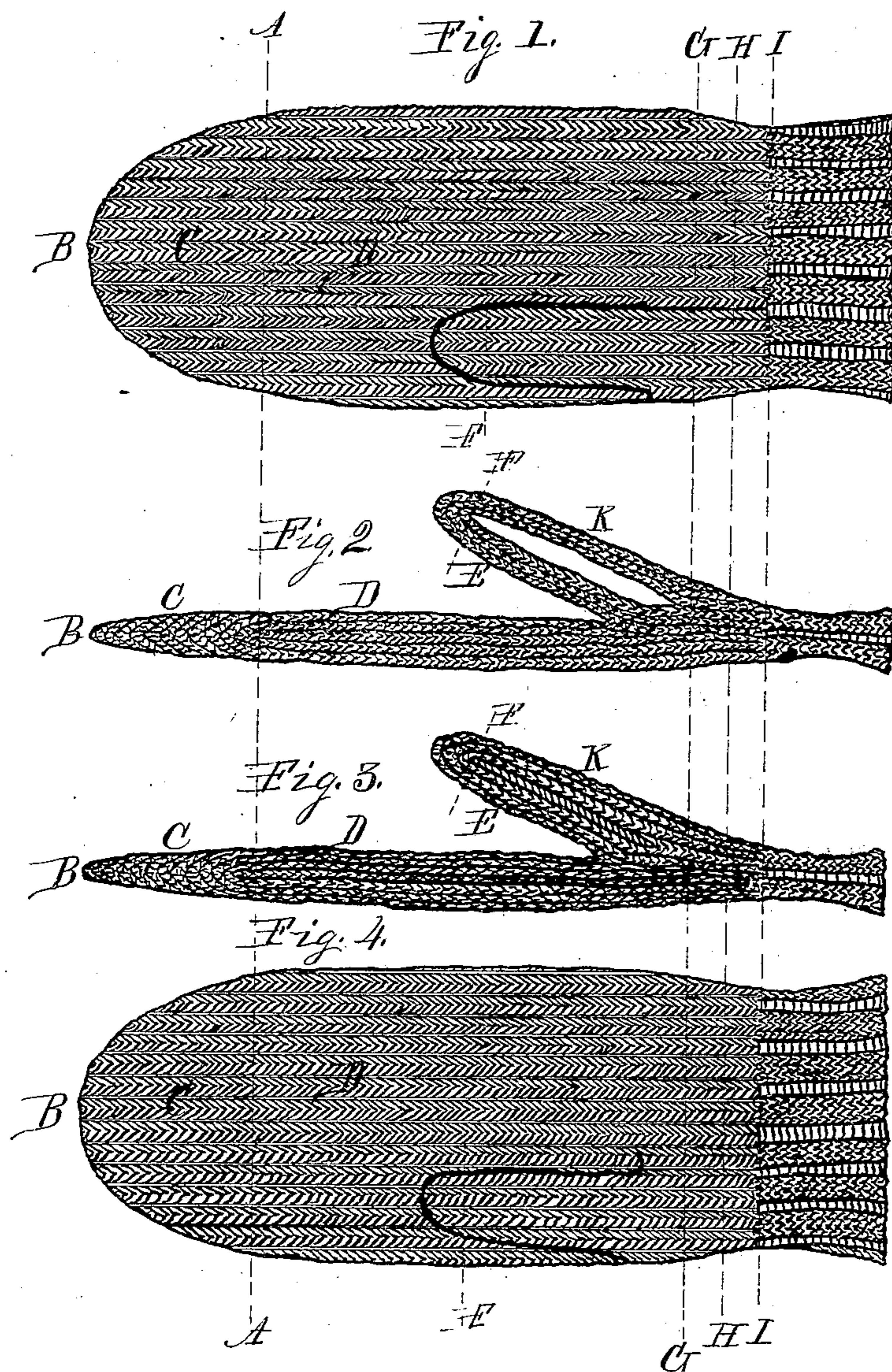
(No Model.)

J. NELSON.

MITTEN AND ART OF KNITTING THE SAME.

No. 252,893.

Patented Jan. 31, 1882.



Witnesses.
Sol. J. Houch
A.O. Behel.

Inventor.
John Nelson.
Per Jacob Behel.
Atty.

UNITED STATES PATENT OFFICE.

JOHN NELSON, OF ROCKFORD, ILLINOIS.

MITTEN AND THE ART OF KNITTING THE SAME.

SPECIFICATION forming part of Letters Patent No. 252,893, dated January 31, 1882.

Application filed October 6, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN NELSON, of the city of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Mittens and in the Art of Knitting the Same, of which the following is a specification.

This invention relates to the art of knitting mittens; and its object is to produce by machinery a knit mitten complete except closing the lengthwise openings on the outside and inside edges of the thumb.

My invention consists in a method of knitting mittens, which method will be hereinafter described, and specified in the claims.

My invention also consists in a mitten constituting a new article of manufacture, the peculiar features of which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a palm view of my improved mitten as produced by the machine, of which Fig. 2 is a view of the thumb edge. Fig. 3 is an edge view, and Fig. 4 a palm view, of the complete mitten.

This improved mitten is produced from yarn substantially the same as usually employed in the manufacture of such or similar goods; and my improved knitting-machine, secured in Patents numbered respectively 214,308 and 214,309, dated April 15, 1879, will be found a convenient machine on which to produce the mitten, and for which purpose it will only require the pattern drum or wheel to be fitted to the design.

In setting up the work of my improved mitten on my improved machine the required number of needles necessary to produce the full size of mitten required are employed in equal numbers on opposite sides, and both rows or sets thereof are simultaneously run up toward each other, the hook or latch ends of each set thereof crossing the plane of movement of their respective opposite sets or rows, in which position the needles of the respective rows cross each other in the form of the letter X, and the yarn, by means of a carrier, (a suitable form of which is shown and described in Patent No. 214,309, above referred to,) is delivered to the needles in the upper angle formed by their crossing, and upon the delivery of the yarn both rows or sets of needles descend,

and their hook ends engage the yarn on opposite sides and form it into zigzag loops spanning the space between the rows of needles in a suitable form to commence the knitting process at the dotted line A, at or near the point in the mitten (preferably on the back thereof) at which the taper is commenced, to produce the taper or rounded closed end thereof. From this point the knitting is proceeded with toward the point B of the mitten, the work being held on one set of needles and the knitting being performed on the opposite set, producing the back portion thereof by knitting back and forth on the same side or row of needles, and narrowing at proper intervals to produce the desired form of the back portion of the closed or finger end portion of the mitten, and when sufficiently extended commencing the work of widening, and continuing at proper intervals to produce the palm portion C of the taper or rounded end portion of the mitten in the desired form, and when this palm portion has reached the point represented by the dotted lines A the tubular portion D is commenced by continuing the knitting alternately in opposite directions on the opposite sets of needles until the point at which the thumb should be formed is reached. At this point all the needles are dropped or held out of action, except a sufficient number on one side or set to produce the forward or under portion, E, of the thumb, which is produced by the back-and-forth knitting process until the point represented by the dotted lines F is reached, at which point the narrowing and widening process, substantially the same as described in connection with the production of the closed end of the mitten, is repeated to produce the tapered or rounded closed end of the thumb, which is completed at the dotted lines F. From this point the back-and-forth knitting process is resumed and continued until the back or rear portion, K, of the thumb is produced to its base, at which point all the needles previously employed in the tubular work are again brought into action, and the tubular process hereinbefore described is resumed and continued until the wrist portion, with or without ribbing, is completed. In the process of producing the wrist portion it is desirable to reduce its size to embrace the wrist more closely, to accomplish which I prefer the employment

of lighter or finer yarns, varying in suitable degrees, by the employment of which in regular or irregular succession, with or without a variation of the tension on the yarn, I am enabled to give such conformation to the wristlets as may be required, to accomplish which, after having reached a proper point in the process of knitting, as at the dotted line G, I substitute for the yarn employed a lighter yarn, the employment of which reduces the size of the fabric, and at another suitable point, if required, as at H, I substitute a still lighter yarn, the employment of which reduces the size of the fabric still further. This process I continue, as at the dotted line I, until the desired size is attained, after which the knitting process may be continued until the mitten, if a short wristlet, is completed; but if a long wristlet is required it is desirable that it should be enlarged, to accomplish which I drop the lighter yarn and substitute therefor at proper intervals heavier or coarser yarns, all of which I am enabled to accomplish automatically by means of my improved yarn carrying and shifting mechanism secured in Patent No. 214,309, hereinbefore referred to; but in the production of the ordinary mitten, or mittens for ordinary purposes, the wristlet may be suitably formed from the same yarn from which the main portion of the mitten is produced by slightly increasing the tension, which will operate to reduce the size of the tubular portion and produce the curved wristlet represented in the drawings. In producing the wristlet these processes of changing the yarn and varying the tension may be employed jointly to produce the required form of the wristlet, and in the use of which the reduced portion of the wristlet, as from G to H, or any desired portion of the wristlet, may be produced by a slight increase of tension on the yarn, and at the point as at H, or at any suitable point, a finer yarn may be employed to further reduce the size of the wristlet, and the tension thereof may be varied to reduce or increase its size.

In the production of my improved mitten on my improved patented machinery hereinbefore referred to I am enabled to use various varieties and colors of yarn automatically, by which I am enabled to produce a great variety of goods without extra cost.

From the foregoing description it will be seen that the thumb is formed of a forward and rear portion, with open sides and closed end, the open sides of which I close to produce the complete thumb by crocheting, overseaming, or otherwise joining their adjacent edges by any of the usual or known methods of joining such parts.

In the manufacture of my improved mitten I usually finish the open wristlet by overseaming, crocheting, chain-looping, or by fulling or felting, or in any of the usual methods to prevent raveling; but this is not always necessary, as the use of some varieties of yarn, when closely knit, will not require any protection to prevent raveling.

As represented in the drawings, it will be seen that the thumb is formed on the side of the mitten, near its upper edge, relatively with the line on which the edges of the back and the palm portions of the tapering or rounded finger end of the mitten are joined in narrowing and widening in the process of knitting the closed forward or finger end. This arrangement enables me to produce the mittens in pairs, which feature renders them a pleasant wearing mitten, but does not prevent their use on either hand.

When the mitten is designed to be worn on either hand, either as a right or left hand mitten, I prefer to form the thumb on the edge of the mitten relatively with the line on which the edges of the back and palm portions of the forward end of the mitten are joined in the process of knitting; but by this method of producing my improved mitten the thumb may be formed on any part of the circumference or length thereof.

I claim as my invention—

1. The improved method of knitting mittens, consisting in commencing the knitting at or near the point at which the narrowing of the end portion is commenced, and by a back-and-forth knitting process and narrowing to produce one side and widening to produce the other side, then knitting the straight portion, then dropping a number of the needles, retaining only a sufficient number to produce the thumb, and by a back-and-forth knitting process produce the straight part of one side of the thumb, then narrowing and then widening to produce the opposite side of the rounded or tapered end of the thumb, and then knitting the straight portion of the other side of the thumb, then narrowing to contract that part of the mitten adjacent to the wristlet, and then knitting the wristlet, substantially as set forth.

2. As a new article of manufacture, the herein-described mitten, formed of a knit fabric, and made complete, except at the sides of the thumb, which are closed by seams, substantially as set forth.

JOHN NELSON.

Witnesses:

JACOB BEHEL,
A. O. BEHEL.