

Nov. 3, 1964

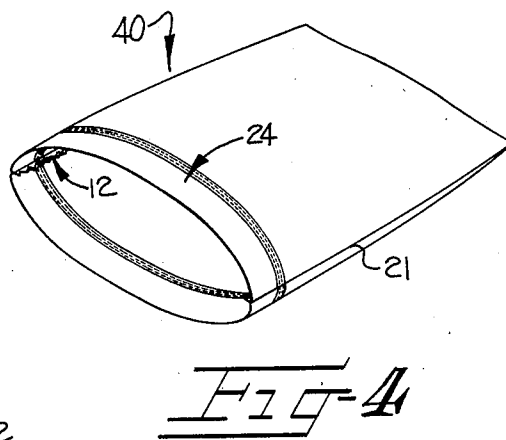
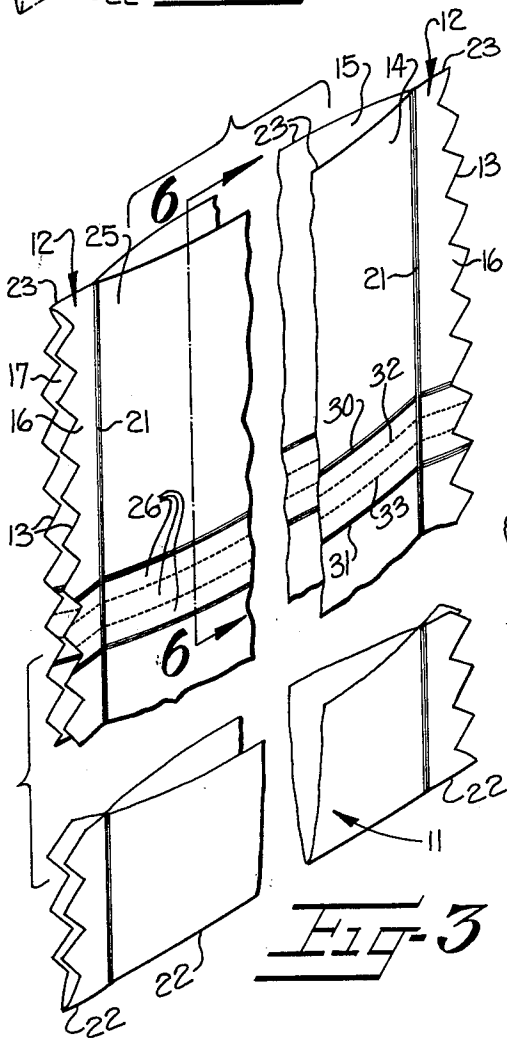
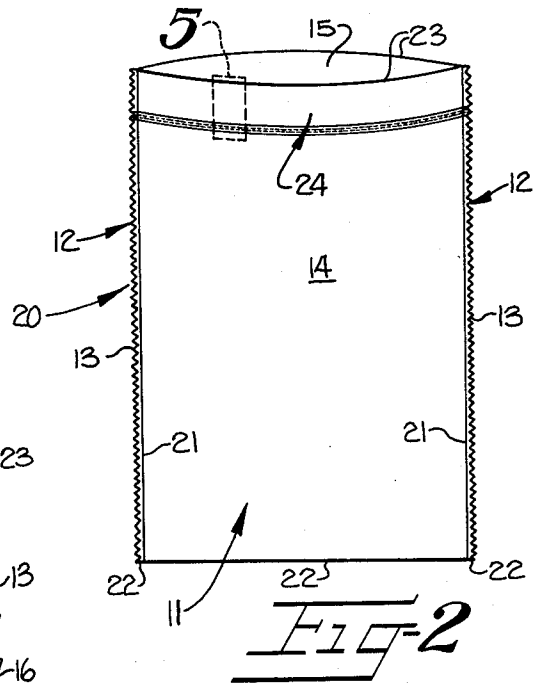
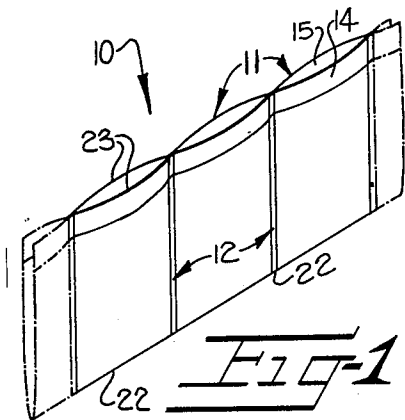
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3,155,121

SEAMLESS PILLOWCASE AND FABRIC

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2 Sheets-Sheet 1



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2 Sheets-Sheet 2

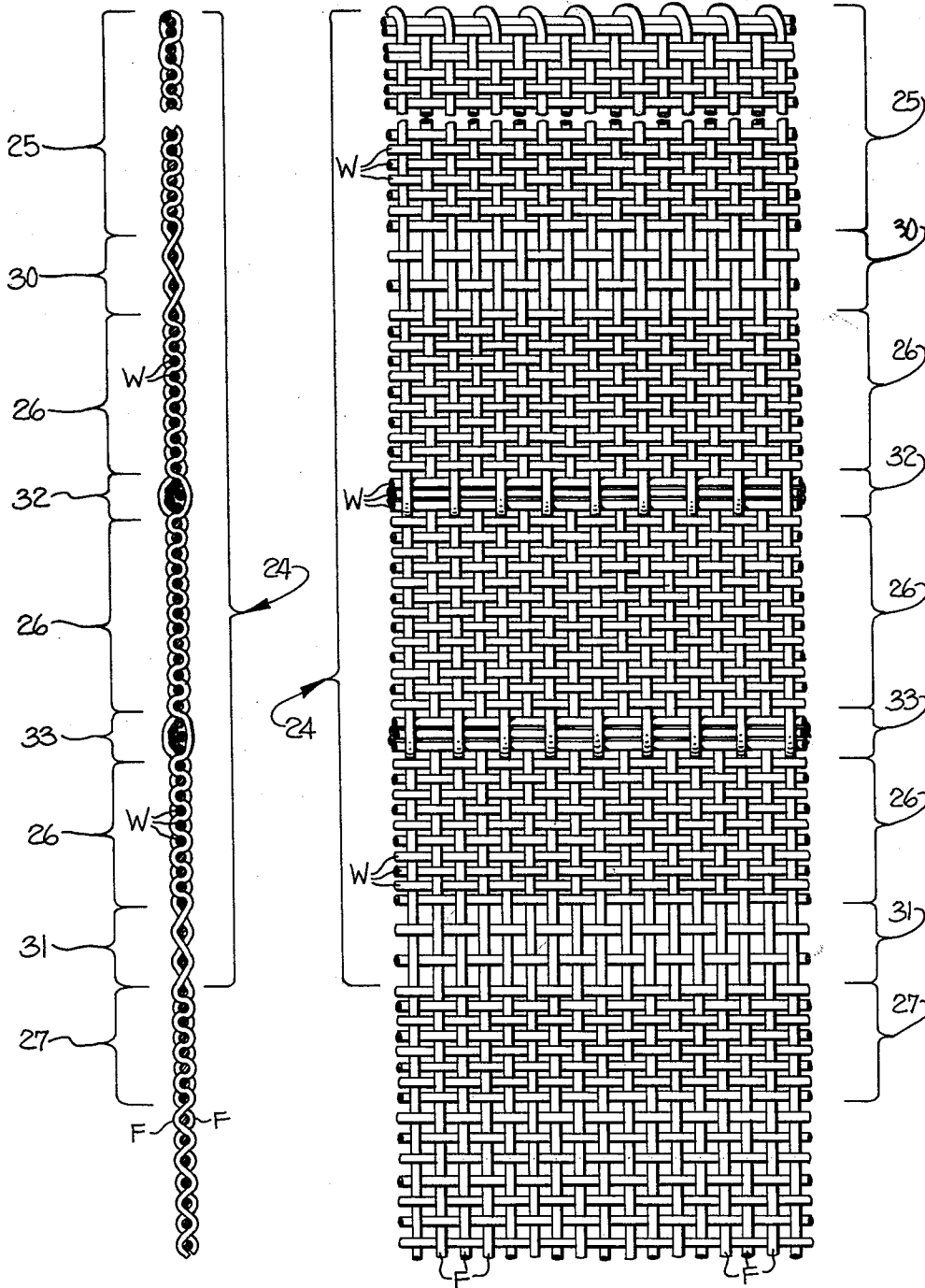


Fig-6

Fig-5

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**SEAMLESS PILLOWCASE AND FABRIC**

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The present invention relates to woven textile fabrics and more particularly to a woven textile fabric which may be formed into tubular blanks closed at one end and open at the other end merely by a severing operation, the blanks when everted being particularly adaptable as a pillowcase.

Conventionally, pillowcases have been formed by many different methods. One of these methods comprises the steps of severing a single layer textile fabric into blanks of a length slightly greater than the desired length of the finished pillowcase and a width substantially equal to twice the desired width of the finished pillowcase. These blanks are usually severed in stacks with a large number of blanks being formed simultaneously. One of these severed blanks is removed from the stack and a sewing machine operator folds the blank widthwise and stitches the folded fabric layers together adjacent the side edge opposite the fold line and adjacent one end. The stitched blank is then hemmed at the open end, opposite the stitched end, and everted to provide a finished pillowcase. A second method is similar to the one described above, but the blanks are severed with a length and width substantially equal to the desired length and width of a finished pillowcase and a pair of the blanks are stitched together adjacent both sides edges and adjacent one end. In this method, the stitched blanks are hemmed and then everted as in the first method described above.

A third conventional method of forming a pillowcase comprises the steps of weaving the fabric of which the pillowcase is to be formed in tubular form with a width equal to the desired width of the finished pillowcase. The tubular fabric is severed into blanks of a length slightly greater than the desired length of a finished pillowcase and the layers of the tubular blank are stitched together adjacent one end. The blank is then hemmed and everted as in the methods described above to present the same as a finished pillowcase ready for use.

To satisfactorily perform these operations, the stitching and hemming operators are necessarily required to exercise considerable care and skill in handling the blank or blanks to assure proper formation of the pillowcase with straight uniform stitching and an even hem. It is apparent that such operations are tedious and result in both mental and physical fatigue of the operator. Also, the requirement that the stitching be in a straight line and that the hem be folded over evenly necessitates using highly trained, skilled operators. It is self evident that these many tedious operations in forming conventional pillowcases account for a considerable portion of the cost thereof.

It is an object of the present invention to provide an interwoven tubular pillowcase which provides substantially the same outward appearance as a conventionally stitched and hemmed pillowcase, but wherein the manner of interweaving the pillowcase obviates the necessity of the tedious steps of stitching and hemming.

A further object of the present invention is to provide a woven pillowcase of the character last described having a relatively narrow transversely extending band adjacent the open end thereof, the band providing an appearance simulating a hem.

Another object of the present invention is to provide a woven textile fabric of indefinite length comprising a

plurality of interconnected tubular blanks which merely need to be separated from each other by a severing operation and then everted to present the same as pillowcases ready for use having substantially the same outward appearance as conventionally stitched and hemmed pillowcases.

A more specific object of the present invention is to provide a woven textile fabric of indefinite length comprising a plurality of juxtapositioned interconnected elongate panels, alternate panels being considerably wider than intervening panels, each of said panels comprising a pair of independent fabric layers, the layers of said alternate panels being interwoven only at one end and along the longitudinal edges, the layers of said intervening panels being interwoven at both ends and along the longitudinal edges, said intervening panels being adapted to be longitudinally severed in a medial portion to separate the alternate panels from each other into pillowcase blanks, said blanks when everted providing seamless pillowcases ready for use having substantially the same outward appearance as conventionally stitched and hemmed pillowcases.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds, when taken in connection with the accompanying drawings, in which—

FIGURE 1 is an isometric view of a length of fabric embodying the features of the present invention;

FIGURE 2 is an enlarged plan view of a tubular blank severed from the fabric shown in FIGURE 1;

FIGURE 3 is an enlarged isometric view of the blank shown in FIGURE 2 with portions broken away;

FIGURE 4 is an isometric view of a pillowcase ready for use formed by everting the blank shown in FIGURE 2;

FIGURE 5 is an enlarged detail with a portion broken away of the fabric within the blocked area 5 in FIGURE 2; and

FIGURE 6 is an enlarged fragmentary section taken substantially along line 6—6 in FIGURE 3 and corresponding to the detail shown in FIGURE 5.

Referring now to the drawings, and particularly to FIGURE 1, a woven fabric 10 is illustrated in the condition in which the same is removed from the loom. As shown, the fabric 10 comprises a plurality of elongate interconnected panels 11 and 12 serially arranged in alternation in a warpwise direction. As shown, the panels 11 and 12 extend lengthwise in a fillingwise direction and are of uniform length.

Each of the alternate panels 11 defines the body portion of a pillowcase blank 20 (FIGURE 2), and are formed of sufficient length and width to receive the desired size of pillow therein. The intervening panels 12 define pinking bar portions on opposite sides of the alternate panels 11 and are adapted to be longitudinally severed, preferably by pinking, as indicated at 13 in FIGURE 2, in a medial portion to separate alternate panels 11 from each other. Panels 12 are therefore formed of only sufficient width to allow the same to be longitudinally pinked and to provide the desired anti-ravel characteristics.

Panels 11 and 12 each comprise a pair of independent fabric layers 14, 15, and 16, 17 respectively. These fabric layers are interwoven together and to each other along the adjacent longitudinal edges of panels 11, 12 to connect the panels together along spaced lines 21. Lines 21 are preferably formed by a conventional pinch pick mechanism wherein the filling yarns, in a range of from four (4) to ten (10), with six (6) being preferred, are interwoven with all of the warp yarns which go to make up the layers 14, 15, and 16, 17.

The interweaving of layers 14, 15 together along lines

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21 serves to form alternate panel 11 into tubular form and the interweaving thereof at one end forms a closed end which obviates the necessity of a stitching operation. The layers 14, 15 at the other end remain separated to form an open end defining the opening of the pillowcase. Layers 16, 17 of intervening pinking bar panels 12 are interwoven at both ends to form closed ends to provide a reinforcement for all the corners of the pillowcase and to increase the anti-ravel characteristics.

In the preferred embodiment shown, both ends of panels 11, 12 are bounded by opposite selvages 22, 23 of fabric 10. It is contemplated, however, that two sets of panels 11, 12 may be woven simultaneously if the width of the loom being used will accommodate the same. In the fabric shown, selvege 23 preferably is formed of plied or pairs of warp yarns W, (FIGURE 5), which are interwoven with filling yarns F in a plain weave design. Opposite selvege 22 is formed in a similar manner. The open end of a panel 11 is formed by inserting two successive picks of filling yarns in layer 14 and then two successive picks in layer 15, with the shuttle initiating and terminating adjacent selvege 22 for each pair of picks. Thus, the filling yarn is changed from one layer to the other on the side of the fabric bounded by selvege 22 which forms the closed end of the panel 11.

A relatively narrow band portion 24 extends transversely or warpwise of the fabric layers adjacent the open end of the pillowcase in substantially the same relative position as a hem on a conventionally stitched and hemmed pillowcase. Band portion 24 has different characteristics from the remaining portion of the fabric layers to provide a visual appearance which simulates a conventionally formed hem. It is contemplated within the scope of the present invention that the aforementioned different characteristics may take any one or a combination of many different forms. For example, these different characteristics may be differences in the manner of interlacing of the yarns, in yarn density including a larger yarn size or a greater number of yarns per inch, or any other means which renders band 24 distinctive from the remaining portion of the fabric layers.

Preferably, band 24 comprises a first band portion 25 immediately adjacent the open end of the pillowcase, and a second band portion 26 disposed in juxtaposed relation thereto remote from the open end of the pillowcase. Second band portion 26 comprises a narrow strip of fabric delineated from first band portion 25 and the remaining portion of the fabric layers by spaced, parallel shadow lines 30, 31, respectively. Shadow lines 30, 31 preferably comprise thin places in the fabric layers and result from the omission of the warp yarns W in this area as by leaving three dents in the loom reed corresponding to this area of the fabric vacant.

A pair of spaced, parallel lines 32, 33 are provided in second band portion 26 between and parallel to shadow lines 30, 31. Lines 32, 33 are preferably formed by providing a plurality of warp yarns W, preferably five (5), bunched together and interwoven with the filling yarns F as one yarn to provide an appearance simulating spaced lines of stitching which combine with the shadow lines 30, 31, and the remaining portion of second band portion 26 to simulate a seam corresponding to the seam of a conventionally hemmed pillowcase. It is contemplated, however, that lines 32, 33 may be formed by any means which will cause the same to be visually distinctive. For example, these lines may be formed of a single warp yarn of considerable larger size than the remaining warp yarns.

A small area 27, (FIGURE 5), of the fabric layers on the side of shadow line 31 remote from the open end of the pillowcase is formed with a greater number of warp yarns per inch than the adjacent fabric portions to strengthen the fabric in the area of the shadow line. It is noted that area 27 also serves to make shadow line 31 more distinctive.

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The band 24 is preferably formed with a greater number of warp yarns per inch than the remaining portion of the fabric to provide a greater yarn density which provides an appearance simulating the folded-over portions of a conventionally hemmed pillowcase. In this regard, the yarn count for both warp and filling yarns throughout each of the layers may be within a range of 22 to 38, with 26 being preferred for the warp yarns and 27½ being preferred for the filling yarns. The filling yarns throughout each of the fabric layers may be within a range from 45 to 85 picks per inch with 64 picks per inch being preferred. The warp yarns in the band portion of each of the layers may be within a range from 75 to 135 ends per inch with 96 ends per inch being preferred, and, in the remaining portion of each of the layers, the warp yarns may be within a range from 50 to 90 ends per inch with 72 ends per inch being preferred.

Blank 20, when separated from the other blanks embodied in fabric 10 by the longitudinal pinking of panels 12, needs only to be everted to present the same as a finished pillowcase 40, (FIGURE 4), ready for use. It is noted that, in pillowcase 40, pinked panels 12 are disposed inside the pillowcase as is clearly shown in FIGURE 4. Also, in pillowcase 40, lines 21 provide an appearance closely simulating the side stitching of a conventionally formed pillowcase and, as aforementioned, band portion 24 simulates a hem of such a conventional pillowcase.

It is therefore apparent that a novel seamless pillowcase is provided which is formed by interweaving warp and filling yarns to provide serially arranged tubular pillowcase blanks, which blanks need only to be separated by a severing operation and then everted to provide a finished seamless pillowcase ready for use having substantially the same outward appearance as a conventionally stitched and hemmed pillowcase.

In the drawings and specification there has been set forth a preferred embodiment of the invention and, although specific terms are employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being defined in the claims.

We claim:

1. A textile fabric of interwoven warp and filling yarns comprising a plurality of juxtapositioned interconnected elongate rectangular panels, said panels each comprising a pair of opposing independent fabric layers, the layers of said panels being woven together and to each other along the adjacent longitudinal edges of the panels to connect the panels to each other and to form the panels into tubular form, the layers of alternate panels being interwoven at one end to close that end of the tubular panel with the other end remaining open, the layers of intervening panels being interwoven at both ends to close both ends of these panels and to reinforce the corners of alternate panels, said intervening panels being adapted to be longitudinally severed in a medial portion thereof to separate the alternate panels into blanks which, when everted, define a seamless pillowcase ready for use.

2. A fabric of interwoven warp and filling yarns, said fabric being of predetermined length and comprising a plurality of juxtapositioned interconnected elongate rectangular panels, each of said panels extending lengthwise in the direction of the filling yarns of the fabric, alternate panels being considerably wider than intervening panels and each comprising a pair of independent fabric layers interwoven only at one end and along opposite longitudinal edges thereof, the other ends of the layers of said alternate panels terminating in selvege edges and remaining separated to define openings into said alternate panels, intervening panels each comprising a pair of independent fabric layers interwoven at both ends to reinforce the corners of the alternate panels and along opposite longitudinal edges thereof, said intervening panels being adapted to be longitudinally severed in a medial

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portion thereof to separate the alternate panels into blanks which, when everted, define a seamless pillowcase ready for use.

3. A fabric of interwoven warp and filling yarns, said fabric being of predetermined length and comprising a plurality of juxtapositioned interconnected elongate rectangular panels, alternate panels being considerably wider than intervening panels and each of said panels extending lengthwise in the direction of the filling yarns of the fabric, said alternate panels each comprising a pair of independent fabric layers interwoven only at one end and along opposite longitudinal edges thereof with the other ends of the layers terminating in salvage edges and being separated to define a tubular panel closed at one end and open at the other end, said intervening panels each comprising a pair of independent fabric layers interwoven at both ends to reinforce the corners of said alternate panels and along opposite longitudinal edges thereof, at least said alternate panel layers having a relatively narrow band extending in the direction of the warp yarns adjacent the open end of the panels, said band having different characteristics from the adjacent fabric portions to provide an appearance simulating a hem, and said intervening panels being adapted to be longitudinally pinked in a medial portion thereof to separate the alternate panels into blanks which, when everted, define a seamless pillowcase ready for use.

4. A fabric of interwoven warp and filling yarns, said fabric being of predetermined length and comprising a plurality of juxtapositioned interconnected elongate rectangular panels, each of said panels extending lengthwise in the direction of the filling yarns of the fabric, alternate panels each comprising a pair of independent fabric layers interwoven only at one end and along opposite longitudinal edges thereof with the other ends of the layers terminating in salvage edges and being separated to define a tubular panel closed at one end and open at the other end, intervening panels each comprising a pair of independent fabric layers interwoven at both ends to reinforce the corners of said alternate panels and along opposite longitudinal edges thereof, at least said alternate panel layers having a relatively narrow band extending in the direction of the warp yarns adjacent the open end of the panels, said band having a greater number of warp yarns per inch than the adjacent fabric portions to provide an appearance simulating a hem, and said intervening panels being adapted to be longitudinally pinked in a medial portion thereof to separate the alternate panels into blanks which, when everted, define a seamless pillowcase ready for use.

5. A seamless pillowcase comprising opposing elongate layers of fabric interwoven with each other at one end and adjacent their longitudinal edges, the other ends of the layers being separated from each other to define the opening of the pillowcase and each of said layers having a transversely extending relatively narrow band adjacent the open end of the pillowcase providing an appearance simulating a hem, said band comprising a first band portion immediately adjacent the open end of the pillowcase and a second band portion disposed in juxtaposed relation to said first band portion on the side thereof remote from the open end, said second band portion comprising a narrow strip of fabric delineated from said first band portion and from the remaining portion of the layers by shadow lines comprising thin places in the fabric on opposite sides of said narrow strip and said narrow strip having a pair of spaced parallel lines disposed between the shadow lines providing an appearance which simulates lines of stitching, said second band portion thereby providing an appearance simulating the seam of the simulated hem.

6. A seamless pillowcase comprising opposing elongate layers of fabric of interwoven warp and filling yarns, said layers being interwoven with each other at one end and adjacent the longitudinal edges thereof, the

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other ends of the layers being separated from each other to define the opening of the pillowcase and each of said layers having a transversely extending relatively narrow band adjacent the open end of the pillowcase providing an appearance simulating a hem, said band comprising a first band portion immediately adjacent the open end of the pillowcase and a second band portion disposed in juxtaposed relation to said first band portion on the side thereof remote from the open end of the pillowcase, said second band portion comprising a narrow strip of fabric delineated from said first band portion and from the remaining portion of the layers by shadow lines disposed on opposite sides thereof, and said narrow strip having a pair of spaced parallel lines disposed between the shadow lines and parallel thereto comprising a plurality of bunched together yarns interwoven as one providing an appearance simulating lines of stitching, said second band portion thereby providing an appearance simulating the seam of the simulated hem.

7. A seamless pillowcase comprising opposing elongate layers of fabric of interwoven warp and filling yarns, said layers being interwoven with each other at one end and adjacent the longitudinal edges thereof, the other ends of the layers being separated from each other to define the opening of the pillowcase and each of said layers having a transversely extending relatively narrow band adjacent the open end of the pillowcase providing an appearance simulating a hem, said band comprising a first band portion immediately adjacent the open end of the pillowcase and a second band portion disposed in juxtaposed relation to said first band portion on the side thereof remote from the open end of the pillowcase, said second band portion being woven to provide an appearance simulating the seam of the simulated hem and comprising a narrow strip of fabric delineated from said first band portion and from the remaining portion of the layers by a shadow line woven therein on each side of said narrow strip, and said narrow strip having a pair of spaced parallel lines disposed between said shadow lines providing an appearance which simulates lines of stitching.

8. A structure according to claim 7 wherein each of said parallel lines comprises a plurality of yarns bunched together.

9. A seamless pillowcase comprising an elongate body portion and a pair of elongate pinking bar portions disposed in juxtaposed relation to said body portion, said body and pinking bar portions comprising opposing independent layers of fabric woven together and to each other along adjacent longitudinal edges to connect the body and pinking bar portions to each other and to make the body portion into tubular form, the layers of the body portion being interwoven at one end to form a closed end with the other end remaining open, the layers of said pinking bar portions being interwoven at least at the ends thereof corresponding to the open end of said body portion to reinforce the pillowcase at opposite sides of the open end thereof, the outer longitudinal edges of said pinking bar portions being pinked to provide anti-ravel characteristics, and at least the layers of said body portion having a relatively narrow transverse band adjacent the open end thereof which has different characteristics from the adjacent fabric portions to provide an appearance simulating a hem.

10. A seamless pillowcase of interwoven warp and filling yarns comprising an elongate body portion and a pair of elongate, parallel pinking bar portions extending lengthwise in the direction of the filling yarns, said pinking bar portions being disposed in juxtaposed relation to said body portion, said body and pinking bar portions comprising opposing independent fabric layers woven together and to each other along adjacent longitudinal edges to connect the body and pinking bar portions to each other, the layers of the body portion being interwoven at one end to form a closed end with the other end remaining

open and defining the opening of the pillowcase, the layers of the pinking bar portions being interwoven at both ends and pinked along the outer longitudinal edges thereof to provide anti-ravel characteristics, each of the body portion layers having a relatively narrow warpwise extending band adjacent the open end of the pillowcase, said band comprising a first band portion immediately adjacent the open end and a second band portion disposed in juxtaposed relation to said first band portion remote from the open end of the pillowcase, said first band portion having a greater number of warp yarns per inch than the fabric portions other than said band, said second band portion comprising a narrow strip of fabric delineated from said first band portion and the remaining fabric portion by a shadow line woven on each side of the narrow strip, the shadow lines comprising thin places in the fabric, said narrow strip having a pair of spaced parallel lines between the shadow lines and parallel thereto, each of said spaced lines comprising a plurality of warp yarns bunched together and interwoven as one, and said first and second band portions combining to provide an appearance simulating a hem.

11. A seamless pillowcase of interwoven warp and filling yarns comprising an elongate body portion and a pair of elongate, parallel pinking bar portions on opposite sides of said elongate body portion, said body and pinking bar portions comprising opposing independent fabric layers woven together and to each other along adjacent longitudinal edges to connect the body and pinking bar portions together, the layers of the body portion being interwoven at one end to form a closed end with the other end remaining open and defining the opening of the pillowcase, said pinking bar portions being pinked along the outer longitudinal edges thereof to provide

anti-ravel characteristics, at least the layers of said body portion having a relatively narrow transversely extending band adjacent the open end of the pillowcase, said band comprising a first band portion immediately adjacent the open end and a second band portion disposed in juxtaposed relation to said first band portion remote from the open end of the pillowcase, said band portions having a different yarn density than the fabric portions other than said band, said second band portion comprising a narrow strip of fabric delineated from said first band portion and the remaining fabric portion by a shadow line woven therein on each side of the narrow strip, said narrow strip having a pair of spaced parallel lines between the shadow lines and parallel thereto simulating lines of stitching so that said second band portion provides an appearance simulating a seam, and said first and second band portions combining to provide an appearance simulating a hem at the open end of the pillowcase.

## References Cited in the file of this patent

## UNITED STATES PATENTS

|           |                      |               |
|-----------|----------------------|---------------|
| 592,057   | Knight .....         | Oct. 19, 1897 |
| 1,423,524 | Hill et al. ....     | July 25, 1922 |
| 1,564,255 | Lea .....            | Dec. 8, 1925  |
| 1,983,451 | Gwaltney .....       | Dec. 4, 1934  |
| 2,208,256 | Goldsmith .....      | July 16, 1940 |
| 2,250,261 | Goldsmith .....      | July 22, 1941 |
| 2,349,206 | Stohlman et al. .... | May 16, 1944  |
| 2,471,380 | Wallwork .....       | May 24, 1949  |

## FOREIGN PATENTS

|       |               |               |
|-------|---------------|---------------|
| 8,282 | Austria ..... | July 10, 1902 |
|-------|---------------|---------------|