May 25, 1965 T. F. HIRSCH 3,184,758

HEAD BANDS

Filed Nov. 1, 1962 2 Sheets-Sheet 1

FIG. 1

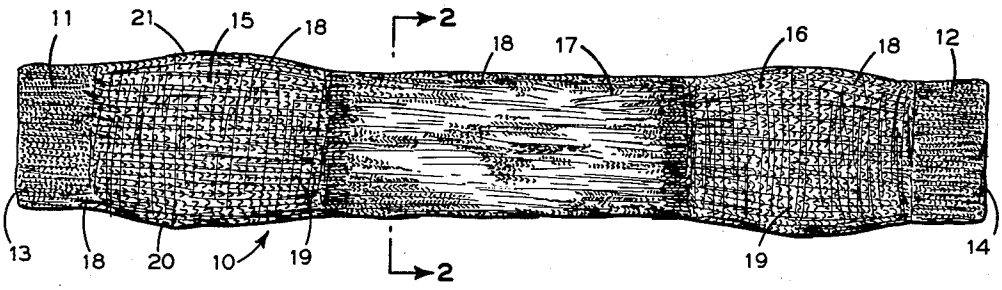


FIG. 2

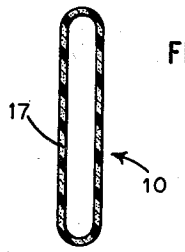


FIG. 3

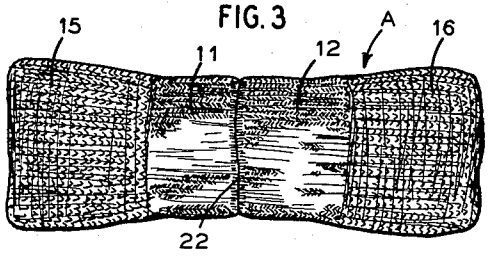
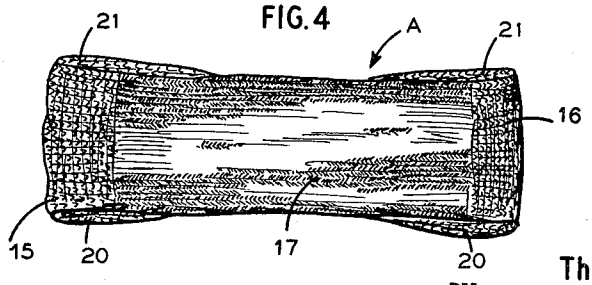


FIG. 4



INVENTOR.
Theodor F. Hirsch

BY
Irving Seidman
ATTORNEY

May 25, 1965 T. F. HIRSCH 3,184,758

HEAD BANDS

Filed Nov. 1, 1962 2 Sheets-Sheet 2

FIG. 5

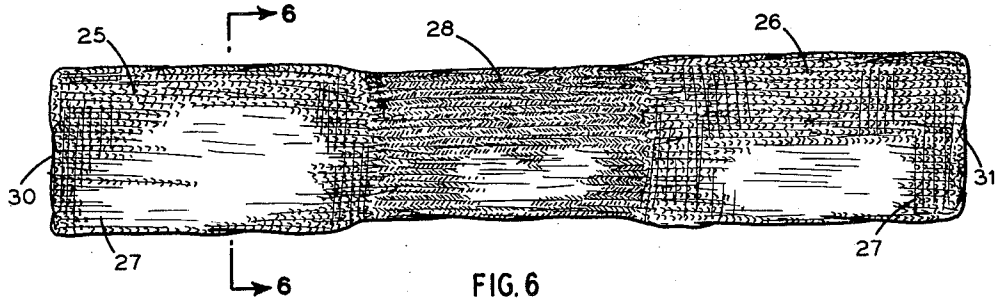


FIG. 6

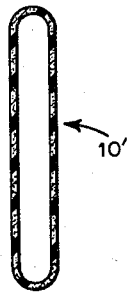


FIG. 7

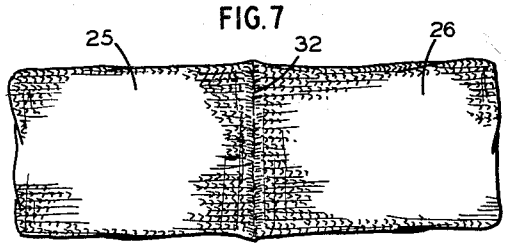
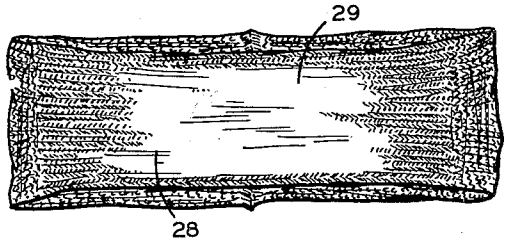


FIG. 8



INVENTOR.

Theodor F. Hirsch

BY Irving Seidman.

ATTORNEY

United States Patent Office

3,184,758
Patented May 25, 1965

3,184,758

HEAD BANDS

Theodor F. Hirsch, Carrollton, Ga., assignor to Maryon Hosiery Mill, Inc., Carrollton, Ga., a corporation

Filed Nov. 1, 1962, Ser. No. 234,715
6 Claims. (Cl. 2—209)

This invention relates to head bands, and more particularly concerns head bands having portions for keeping the ears of the wearer warm.

An object of this invention is to provide an improved head band construction, which is ornamental in appearance, yet incorporates unobtrusive portions which cover the ears of the wearer to keep the same warm.

Another object of this invention is to provide an improved head band of tubular knit construction, which has a substantial stretch characteristic so as to readily conform to any one of a large range of of head sizes.

A further object of this invention is to provide a head band of knit yarns with ear covering portions incorporating yarns having high insulating properties with little residual stretch and yarns having substantial residual stretch, whereby the ear covering postions may be readily stretched and conformed to the ears of the wearer.

Still another object of this invention is to provide a head band formed of knit yarns, the band comprising yarns of substantial residual stretch so that the head band may readily conform to various head sizes; the band also including in selected portions thereof yarns of a character to provide heat insulation for appropriate portions of the head of the wearer.

Other objects of this invention will in part be obvious and in part hereinafter disclosed.

In the drawing,

FIG. 1 is a side elevational view of a knitted tubular member for forming an endless head band of the instant invention;

FIG. 2 is a transverse sectional view taken on the line 2—2 of FIG. 1;

FIG. 3 is a side elevational view of the head band, looking at the rear thereof;

FIG. 4 is a view similar to that of FIG. 3, looking at the front thereof;

FIG. 5 is a side elevational view of a head band showing a modified form of the invention;

FIG. 6 is a transverse sectional view taken on the line 6—6 of FIG. 5;

FIG. 7 is a rear elevational view thereof; and

FIG. 8 is a front elevational view thereof.

The head band in one embodiment of the instant invention is in the form of a flattened tubular knit member, with the ends thereof secured by a transverse seam, wherein the member is knit of yarns having high residual stretch and yarns of high heat insulating properties; the two types of yarns being distributed in a manner to provide in the finished head band (1) high streach characteristics so that the head band conforms to a wide range of different head sizes; and (2) provides ear covering portions of good warmth retention, the ear covering portions being closely conformable to the ears of the wearer.

Thus, as shown in FIG. 1, an elongated member **10** of knit yarns is formed on tubular knitting machines to provide in flattened form a suitable width. The member **10** is knit of two types of yarns, one being of nylon with high residual stretch; the other having lesser residual stretch but being distinguished by high heat insulating characteristics, such as the polyacrylonitrile yarns known as Orlon.

The member **10** is knit to provide end sections **11**, **12** having end edges **13**, **14** respectively; ear covering sections **15**, **16** extending from end sections **11**, **12** respectively; and an intermediate section **17** connecting sections **15**, **16**. The end sections **11**, **12** and intermediate section **17** are knit entirely of the high residual stretch nylon yarns indicated at **18**; such yarns being distinguished by having a maximum linear stretch of from 200 to 350% as compared to the normal unstretched length of such yarns. Such nylon yarns are of a denier of from about 240 to about 500.

The ear covering sections **15**, **16** are knit with Orlon yarns indicated at **19**, together with a minor proportion of stretch nylon yarns **18**. The ear covering sections **15**, **16** are of somewhat extended width as indicated by the somewhat convexly curved side edge portions **20**, **21** thereof. Such sections **15**, **16** may comprise as little as 10–15% of the stretch nylon yarns **18**, although the stretch nylon yarns **18** preferably constitute 25% of the total yarns of said sections **15**, **16**; the remainder being of Orlon yarns.

The knit tubular member **10** may have a normal length of about 14", with ear covering sections **15**, **16** being about 3" long each; end sections **11**, **12** about 1½" long each and intermediate section **17** being about 5" long. However, the ear sections **15**, **16** may have a length of from about 2½ to about 5", the other sections being proportioned accordingly.

The tubular knit member **10** is converted to endless head band form, by sewing edges **13**, **14** together with stretchable thread to form a stretchable transverse seam **22**, as shown in FIG. 3. In such form, the resultant head band A may be stretched over the head of the wearer to closely conform to the same over a wide range of head sizes. In all cases, the ear covering sections **15**, **16** will now provide opposed portions at the head band for covering the ears of the wearer in close conformation thereto, the stretch yarn portion of said sections allowing the same to be stretched to attain desired conformance. The intermediate section **17** will now cover the forehead of the wearer to provide a front section of the head band while seamed end sections **11**, **12** will cover the back of the head of the wearer to provide a rear section of the head band.

The member **10** may be knit on an 84 needle machine, using about 4 ends of Orlon yarn **19** of about 1/45 worsted covering and 1 end of nylon yarn **18** of about 70/2 denier to form ear covering sections **15**, **16**, while sections **11**, **12** and **17** are knit from nylon yarns **18** of about 240 to 500 denier.

It is understood that the Orlon yarns **19** may be replaced by other yarns having similar heat retaining characteristics, such as wool, soft cotton or the like.

In another embodiment of the invention, shown in FIGS. 5–8, a tubular member **10'** is knit of stretchable nylon yarns. Member **10'** comprises elongated end portions **25**, **26** formed of yarns **27** having a denier of from about 480 to about 800, and preferably 560, and an intermediate portion **28** connecting portions **25**, **26** and formed of yarns **29** of a denier of from about 240 to about 450, and preferably about 280. The end edges **30**, **31** of end portions **25**, **26** are seamed together by stretchable thread to form the endless headband with a stretchable seam **32**.

The somewhat wider and bulkier end sections **25**, **26** are adapted to cover the ears and rear portion of the head of the wearer, while the somewhat narrower and less bulkier intermediate portion **28** covers the forehead of the wearer. Headband **10'** may be stretched to conform to a wide range of head sizes. The bulk of yarns **27** together with the tubular construction of member **10'** with the flattened opposed wall portions thereof, provide a reasonable degree of insulation against the cold for the ears and rear portion of the head of the wearer.

As various changes might be made in the embodiments of the invention herein disclosed, without departing from

the spirit thereof, it is understood that all matter herein shown or described shall be deemed illustrative and not by way of limitation, except as set forth in the appended claims.

What is claimed is:

1. A stretchable head band for encircling the head of a wearer having a front section, a rear section and a pair of oppositely disposed ear covering sections interconnecting said front and rear sections, said front and rear sections comprising throughout their extent knitted nylon yarns having substantial residual stretch, said ear covering sections comprising a mixture of knitted yarns, a major portion of the yarns of said mixture being uniformly distributed throughout the extent of said ear covering sections and being soft and heat insulating with limited residual stretch, and a minor portion of the yarns of said mixture being of nylon with substantial residual stretch, whereby said head band may be stretched to conform to a large range of head sizes and said ear covering sections may closely conform to the ears of the wearer.

2. A head band as in claim 1, wherein the major portion of the yarns of said mixture are of an acrylonitrile polymer.

3. A head band as in claim 1, wherein said head band comprises an elongated tubular knit structure and a stretchable seam interconnects the opposite ends of said tubular knit structure to provide said head band in endless form.

4. An endless stretchable head band comprising a tubular knit member and seam means joining the opposite end edges of said knit member together, said knit member comprising a front section, a rear section and a pair of oppositely disposed ear covering sections between opposed end portions of said front and rear sections, said front and rear sections comprising essentially knit linear polyamide yarns having substantial residual stretch, said ear covering sections comprising essentially knit polyacrylic yarns to provide said ear covering sections with heat insulating properties and said ear covering sections comprising about 4 ends of polyacrylic yarn to 1 end of linear polyamide yarns.

5. An endless tubular knit headband, said headband comprising knit yarns of substantially large residual stretch and having a front section, a rear section and a pair of opposed portions interconnecting said front and rear sections, the pair of opposed portions of said headband adapted to cover the ears of the wearer and having a greater denier count than said front and rear sections.

6. An endless tubular knit headband, said headband comprising a front forehead covering section and a rear ear and back of the head covering section, said sections being formed of linear polyamide yarns of relatively high residual stretch, the yarns of said rear section having a higher denier count than the yarns of said front section.

References Cited by the Examiner

UNITED STATES PATENTS

1,957,206	5/34	Goldstein	2—201
1,968,967	8/34	Snader	2—275 X
2,021,144	11/35	Beck	2—174
2,259,537	10/41	Wengen	2—201
2,405,326	8/46	Plotsky	2—209
2,487,988	11/49	Zeier	112—413
2,738,514	3/56	Gondell	2—209
2,934,923	5/60	Elwell	66—202 X
3,063,271	11/62	Faust et al.	66—169 X
3,089,147	5/63	Zimmerman	2—197

FOREIGN PATENTS

1,098,467	2/61	Germany.
111,781	12/17	Great Britain.

JORDAN FRANKLIN, *Primary Examiner.*

DAVID J. WILLIAMOWSKY, ROBERT V. SLOAN, *Examiners.*