

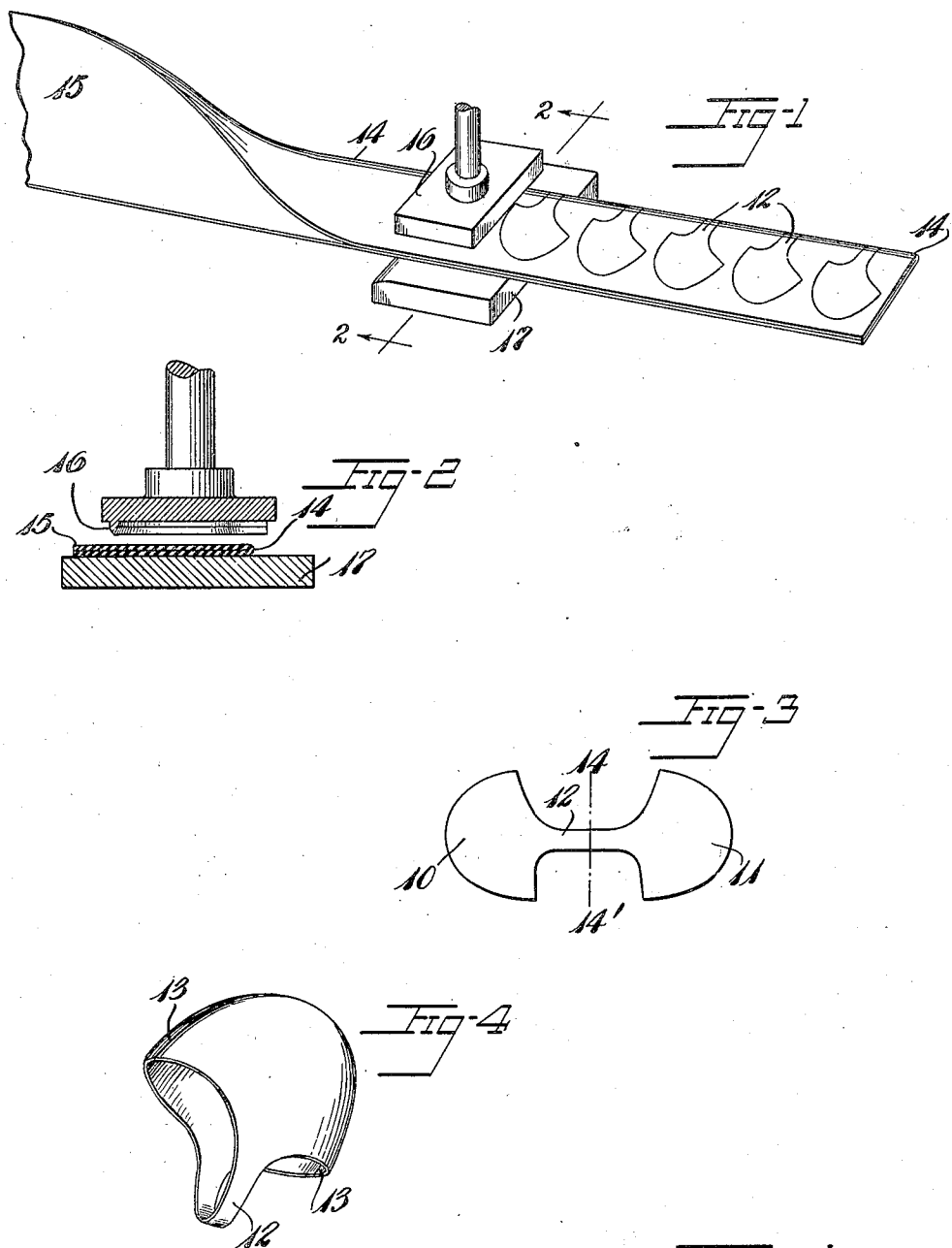
Sept. 18, 1934.

A. E. COLLINS

1,974,203

CAP AND METHOD OF MAKING THE SAME

Filed Sept. 10, 1931



INVENTOR
Arthur E. Collins
By Edwin F. Avery
Attys-

UNITED STATES PATENT OFFICE

1,974,203

CAP AND METHOD OF MAKING THE SAME

Arthur E. Collins, Cuyahoga Falls, Ohio, assignor
to The B. F. Goodrich Company, New York,
N. Y., a corporation of New York

Application September 10, 1931, Serial No. 562,062

7 Claims. (Cl. 154—42)

My invention relates to caps such as bathing caps and to procedure for the manufacture of such caps.

The objects of the invention are to provide an integral cap and chin band from a single blank of sheet material, to assemble such a blank to form a complete article having a single seam so located as to provide the greatest strength, and to provide improved procedure in cap manufacture.

In the drawing:

Fig. 1 is a perspective view of a set of die members used in cutting and seaming the caps from a folded sheet, showing the bathing cap material in place between the dies, the mechanism for feeding the material and for operating the dies not being shown, as such mechanism is well known in the art.

Fig. 2 is a cross-sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a plan view of a blank suitable for producing a cap according to the invention.

Fig. 4 is a perspective view of the finished cap.

The cap, which as here shown is of the helmet type, may be formed from a single sheet of material and may be made of a blank, such as that illustrated in Fig. 3, of dumb-bell shape comprising side members 10 and 11 of substantially semi-circular shape connected by an integral chin strap 12. The said members 10 and 11 are united along their convex margins to form a seam 13 extending across the crown of the cap.

The cap formed in this manner may be made from very thin material, but due to the absence of seams, except for a single seam which occurs at the widest part of the article, the cap is of exceptional strength. The chin band is free from seams and is therefore of such strength as to withstand stretching. Where the blank from which the cap is made is symmetrical about an axis 14—14', as is usually the case, the material from which the blank is to be cut may be folded on the axis 14—14' and the doubled material cut at a single operation. This operation is illustrated in Figs. 1 and 2, where a single sheet of material 15 is folded on its longitudinal center line 14—14' and is then passed between a cutting die 16 and an anvil or cutting block 17. The anvil 17 is stationary but the die 16 may be reciprocated by any well known means, such as a punch-press, toward and away from the anvil 17, making successive cuts on the material, which is intermittently advanced between the die and the anvil during the intervals between cutting operations.

When the caps are to be made of vulcanizable plastic material, as in the manufacture of bathing caps, the die members may be used to simultaneously seam the convex margins of the side members 10 and 11. This is accomplished by so forming the die that the convex margins are cut and pressed into adhering and permanent contact by relatively dull portions of the die 16 while the concave margins and chin strap are cut by sharp portions of the die 16, as is well understood in the rubber working art.

In the manufacture of bathing caps formed of rubber, the articles having been cut and seamed as described herein are then subjected to vulcanization.

The seam 13 may be additionally reinforced if desired, as by the application of a reinforcing tape placed over the seam, but this is usually unnecessary in view of the fact that the seam is of such length and is so positioned as to extend crosswise of the direction of greatest strain.

I claim:

1. A cap comprising two side members and a chin strap formed of a single sheet of plastic material, the side members being joined by a single seam extending across the crown of the cap.

2. A cap comprising two side members and a chin strap formed of a single sheet of rubber material, the side members being joined by a die-cut seam extending across the crown of the cap.

3. A cap comprising a single sheet of plastic material folded upon itself to provide two crown-forming sections and a connecting chin strap, said material being united along marginal portions in a seam extending across the crown of the cap.

4. A cap comprising a single sheet of plastic material of approximately dumb-bell shape including two crown forming sections and a connecting chin strap, said crown forming sections being united along marginal portions thereof in a single seam.

5. The method of making caps which comprises folding a sheet of material on itself to form a doubled sheet, cutting a blank having a crown portion formed from each leaf of the sheet and a connecting strap portion extending across the fold of the sheet from said doubled sheet in a single operation, and seaming together the two sheets around the crown portions of the blank.

6. The method of making caps which comprises folding a sheet of material on itself to form a doubled sheet, die-cutting a blank from said

doubled sheet to provide two sides of a crown member and a chin strap extending therebetween across the line of fold, and simultaneously seaming together a margin of the side members of the blank to form a crown.

prises forming a one-piece blank of unseamed sheet material comprising two crown portions connected integrally by a strap portion, and uniting the margins of the two crown portions to provide an integral crown and chin strap.

ARTHUR E. COLLINS.

5	80
7. The method of making a cap which com-	
10	85
15	90
20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150