July 20, 1954 A. E. FEGAN 2,684,106

METHOD OF MAKING COVERED PLAYING BALLS

Filed Jan. 21, 1950

Fig. 1

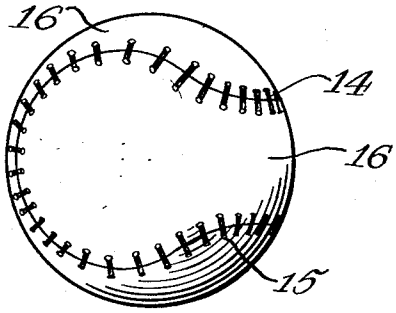


Fig. 2



Fig. 3

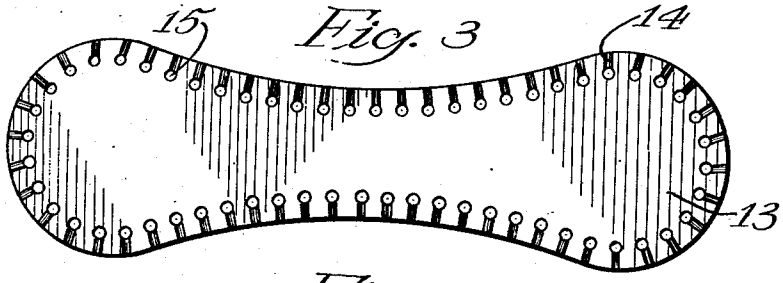
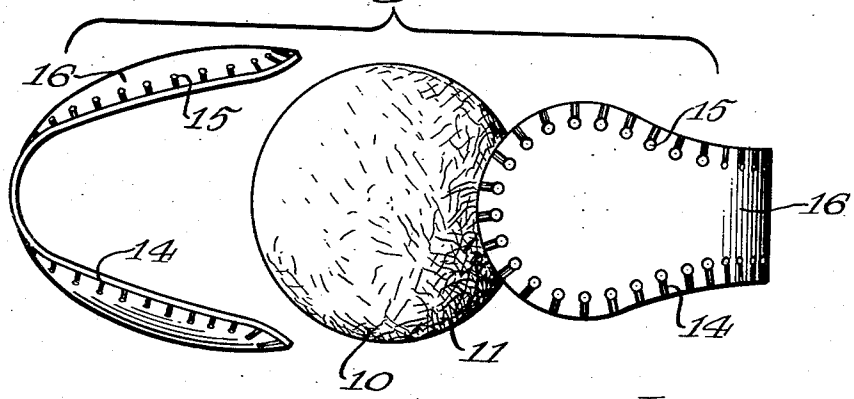


Fig. 4



Inventor
Albert E. Fegan
By John F. Brezna
Attorney

Patented July 20, 1954

2,684,106

UNITED STATES PATENT OFFICE

2,684,106

METHOD OF MAKING COVERED PLAYING BALLS

Albert E. Fegan, Oak Park, Ill.

Application January 21, 1950, Serial No. 139,920

3 Claims. (Cl. 154—16)

1

My invention relates to improvements in the art of covered balls and the like and methods of making same. More particularly my invention relates to a new method of manufacture for securing cover members on covered balls, such as baseballs, and the like, and to a new structure in such balls which eliminates the use of stitching to secure the cover members.

Prior to my invention, one of the major costs in the manufacture of balls, such as indoor baseballs or outdoor baseballs, has been the cost of the labor required for securing the ball cover members on the ball. The prior methods included the hand sewing of the cover members and it will be easily apparent that to eliminate the necessity for manually sewing the cover members together is a great stride in the art.

To my knowledge no prior device has been constructed for sewing the ball cover members together and which eliminated the necessity of the manual sewing. However, in order to solve the problem of eliminating the necessity of manual sewing, I approached the problem from a new direction and by utilizing some of the physical properties of the material of the covering members, I have been able to eliminate entirely the necessity of stitching the cover members together by sewing, either manual or mechanical.

It is an object of my invention to provide a cover for baseballs and the like which eliminates the use of stitches to secure the cover members. It is an object of my invention, therefore, to provide a new and novel means for securing covers on baseballs and the like.

It is a further object of my invention to provide a new means for mounting cover members on baseballs by employing an adhesive substance or the like to attach the cover to the core of the ball.

Other and further objects of my invention will become apparent from the following description and appended claims, reference being made to the accompanying drawings and numerals of reference thereon.

On the drawings:

Fig. 1 is an elevational view of a ball illustrating one embodiment of my invention, a portion of a cover member being broken away.

Fig. 2 is an elevational view of the cover member of Fig. 3 after it has been molded to conform to the contour of the ball.

Fig. 3 is a view of the outer surface of a conventional cover member and before molding.

Fig. 4 is an exploded view of the ball of Fig. 1.

Referring to Fig. 4, it will be seen that numeral

2

10 designates a conventional ball core or the like, the outer portion of which may be formed or made of wound string or thread 11. It should be understood that my invention is not to be limited to any particular kind of core or any particular materials comprising the core. And it should be further understood that my invention is equally applicable and may be utilized in connection with hard balls or baseballs, soft balls or indoor balls, or any playing balls which have a cover member or members secured on the outside of a ball core.

As illustrated in Fig. 3, numeral 13 designates a conventional cover member which is ordinarily in the shape of a figure 8 and made of leather or the like and which is adapted to cooperate with another substantially identical member to provide a cover for a ball core 10.

In order to simulate the stitching which is present on the conventional types of prior balls, line 14 representing the stitches may optionally be stamped on the cover member in the appropriate positions as illustrated on the drawings. If desired, a plurality of holes or apertures 15 are utilized to facilitate enhanced securance of the cover members to the core 10.

The cover members in their conventional form, as illustrated in Fig. 3, are flat and do not adapt themselves to be secured by adhesion to the curved surface of the core because a great deal of manual manipulation would be required and no savings would be achieved by attempting to apply the substantially flat cover member 13 in the appropriate position on the core 10.

Inasmuch as cover members of leather or the like adapt themselves to heat treatment and may be made to assume another configuration than that of the flat member which is illustrated in Fig. 3, by heat-treating the cover member, it can be made to substantially conform to the shape of the core 10. The heat-treated and molded cover member is illustrated in side elevation in Fig. 2 and is designated as numeral 16. A wide variety of ranges of temperature and time may be used for securing the desired molding of the cover member, but I have found the most favorable temperature to be 180° to 200° Fahrenheit, such temperature giving the desired flexibility and permitting retention of the desired physical characteristics of the leather cover member.

In the molded configuration illustrated in Figs. 2 and 4, the cover members 16 may easily be assembled and secured by adhesion on the ball core 10. Any suitable means or method for causing adhesion of the molded cover members 16 to the

core 10 may be utilized. However, I have found that latex is among the better bonding or adhesive materials.

In the preferred method of assembly, the core 10 is dipped, sprayed or brushed with latex and is permitted to fully or partially set or dry. The cover members 16 are partially impregnated with an ammonia solution of latex and the ammonia solution of latex is permitted to dry or partially dry until a very slight tackiness is present on the under surface of the cover members 16. I then apply latex on the top of the core member 10, which preferably already has a coating of nearly dry latex, and assemble the molded cover members 16 and permit the latex or adhesive substance to set or dry. To speed the setting process and at the same time to insure the proper relation of the cover members 16 to the core 10, the assembled ball may be subjected to temperatures of 180° to 200° Fahrenheit and preferably in a mold. It will be appreciated that the provision of the apertures 15 provides means for achieving a greater bonding of the cover members 16, portions of the latex, cementitious or adhesive material extending into the apertures 15.

I have found that the end product which results from the use of my novel method is highly superior to priorly known balls because the bond of the cover members to the ball is so strong that the forces which tend to cause removal of the cover members from the core 10 will first effect a tearing of the leather cover member. In prior balls it is only necessary to break the stitching which secured the cover members 13 together in order to render the ball useless.

As many changes could be made in the above construction, and as many apparently widely different embodiments of my invention within the scope of the claims could be constructed without departing from the spirit and scope thereof, it is intended that all matter contained in the accompanying specification shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. In a method for making covered balls; heat molding to conform substantially to the shape of the contour of a ball core, cover members having a plurality of apertures formed therein; applying an adhesive to the outer surface of the ball core; applying an adhesive to said cover members; and then affixing the cover members to said adhesive covered core whereby adhesive extends through said apertures formed in said cover members.

2. In a method for making covered balls; heat molding to conform substantially to the shape of the contour of a ball core, cover members having a plurality of apertures formed therein; applying an adhesive to outer surface of the ball core; partially impregnating the cover members with an adhesive; applying an adhesive layer between said adhesive covered ball core and said partially impregnated cover members and allowing adhesive to extend through said apertures; and then permitting said adhesive to set.

3. In a method for making covered balls; heat molding cover members to conform substantially to the shape of the contour of a ball core; applying an adhesive to the outer surface of the ball core; applying an adhesive to said cover members; affixing the cover members to said adhesive covered ball core whereby adhesive extends through a plurality of apertures formed in said cover members; and then heat setting said adhesive in a mold.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
Re. 17,200	Reach	Jan. 22, 1929
700,656	Kempshall	May 20, 1902
711,215	Kempshall	Oct. 14, 1902
712,413	Richards	Oct. 28, 1902
1,531,162	Valero	Mar. 24, 1925
1,562,912	Penfold	Nov. 24, 1925
2,213,479	Voit et al.	Sept. 3, 1940
2,294,424	Roberts	Sept. 1, 1942
2,325,128	Grady	July 27, 1943
2,645,487	Hawes	July 14, 1953

FOREIGN PATENTS

Number	Country	Date
16,596	Great Britain	1869