

F. H. PERRY.
METHOD OF MAKING BASE BALLS.
APPLICATION FILED DEC. 18, 1911.

1,048,092.

Patented Dec. 24, 1912.

3 SHEETS—SHEET 1.

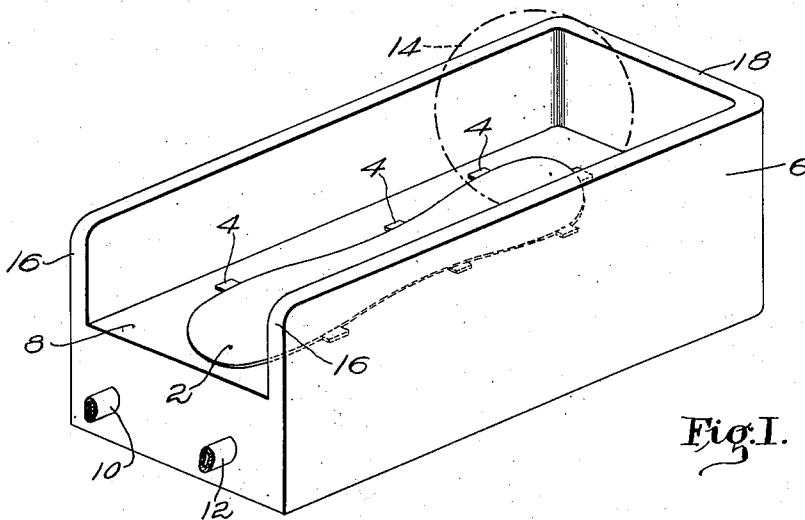


Fig. 1.

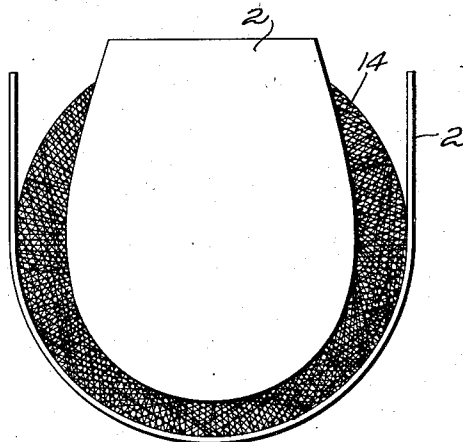


Fig. 2.

Witnesses:

Roemell F. Hatch.

George C. Stubbins.

Inventor:

Frederick H. Perry
by his Attorney
Philip Van Curen

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3 SHEETS—SHEET 2.

Fig. 3.

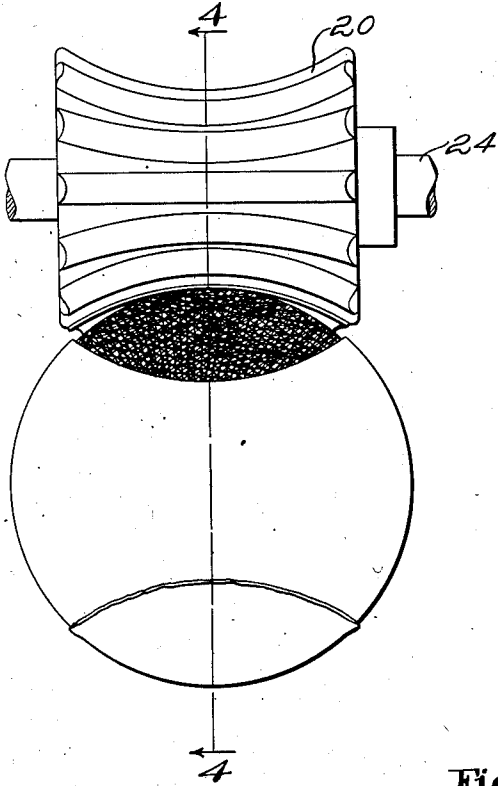


Fig. 4.

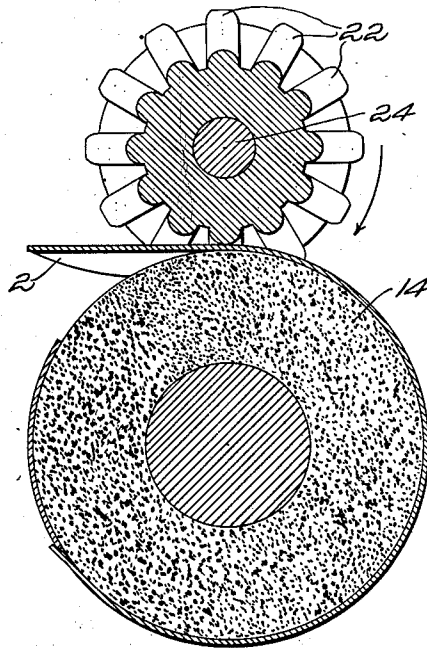
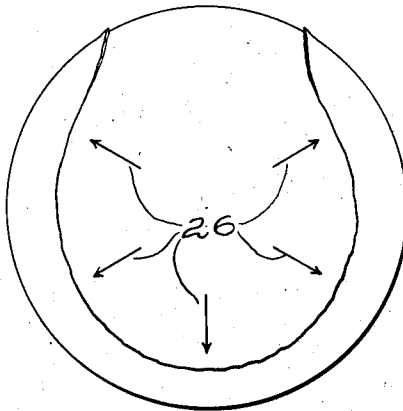


Fig. 5.



Witnesses:

Roswell F. Hatch
George L. Stebbins

Inventor:

Fredrick H. Perry
by his Attorneys
Phillips Van Dusen Fish

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3 SHEETS—SHEET 3.

Fig. 6.

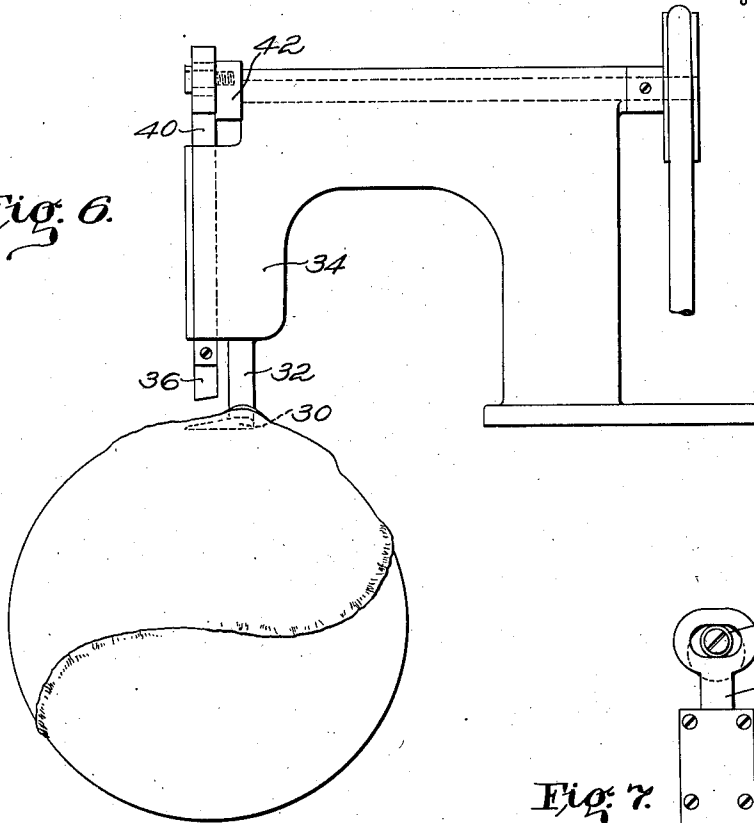


Fig. 7.

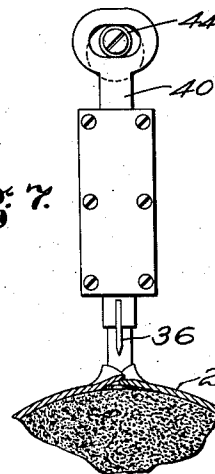


Fig. 9.

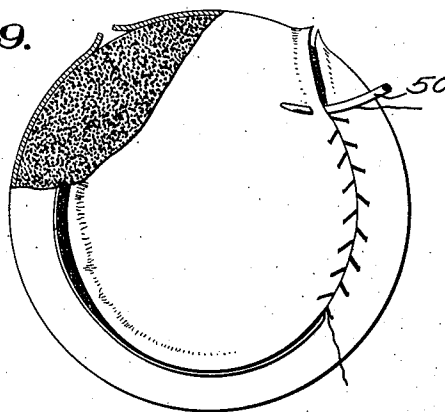


Fig. 8.

Witnesses:

Roswell F. Hatch
George E. Stubbins

Inventor:

Frank H. Perry
by his Attorneys
Phillips Van Curen & Co.

UNITED STATES PATENT OFFICE.

FREDERICK H. PERRY, OF BEVERLY, MASSACHUSETTS.

METHOD OF MAKING BASE-BALLS.

1,048,092.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed December 18, 1911. Serial No. 666,389.

To all whom it may concern:

Be it known that I, FREDERICK H. PERRY, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Methods of Making Base-Balls; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to a method of making baseballs.

In my system of making baseballs, the edges of the covers are sewed together by a sewing machine having a needle which enters beneath the butting edges of the covers and acts to pass loops of thread through said edges to form a seam of stitches uniting the abutting edges of the covers. The preferred machine for sewing this seam is illustrated and described in my co-pending application, Serial No. 570,667, filed July 6, 1910. To properly prepare the baseballs for the operation of my sewing machine, it is necessary to form or shape the covers to the shape of the ball center and to cement them to the ball center with the edges of the covers loosened from the ball center and trimmed so that the needle of the sewing machine may pass under the edges and sew the trimmed edges together with a butting joint.

The object of the present invention is to produce a method of making baseballs whereby a better and truer ball can be produced at a less price.

With the above object in view, the present invention consists in the method of making baseballs hereinafter described and particularly pointed out in the claims.

Referring to the drawings which illustrate diagrammatically the successive steps of applying and shaping the cemented covers and of loosening, trimming and sewing their edges, and also the preferred apparatus used in practising the method of the present invention; Figure 1 is a perspective view of the box in which the cover is heated and applied to the ball center; Fig. 2 is a view of the ball after the covers are applied; Fig. 3 is a front view of the roll illustrated as shaping the ball covers and uniting them to the ball center; Fig. 4 is a cross section taken along the line 4-4 of Fig. 3; Fig. 5 is a view of the ball after the covers are molded and cemented thereto; Fig. 6 is a side view of the

trimming machine illustrated as trimming the edges of the cemented covers; Fig. 7 is a front view of the trimming machine; Fig. 8 is a detail view of the plow of the trimming machine; and Fig. 9 is a view taken partly in section showing the ball as ready for the operation of the sewing machine, and also illustrating the manner in which the needle penetrates the covers and sews their edges together.

The covers which are to be applied to the ball center are two dumbbell-shaped pieces of covering material such as leather or cloth with a coating of gutta percha cement applied to their unfinished sides. In the better grade of balls, leather such as horsehide is employed, while on cheaper balls sheep-skin and enameled cloth or imitation leather are employed. The cement with which the covers are coated is the gutta percha cement commonly employed in the arts. This cement when heated becomes tacky and remains in such tacky condition for some time after heating.

Referring to the drawings, a dumbbell-shaped piece 2 of covering material is positioned by means of gages 4 in an open ended box 6. The floor 8 upon which the cover 2 is laid is kept hot by means of a steam chest beneath the floor 8. Pipe connections 10 and 12 are shown which are adapted to be connected to a steam supply and exhaust. After the cover 2 is positioned on the hot plate, a ball center 14, indicated by the dot-dash lines on Fig. 1, is placed in the closed end of the box 6. The side walls 16 of the box are spaced apart a distance equal to the diameter of the ball center and the end wall 18 is positioned relatively to the gages 4 so that the ball center engages the center of the enlarged end or lobe of the dumbbell-shaped piece 2. The ball center 14 is rolled out of the open end of the box, the tacky cement causing the cover to be wound around the ball center. Then the second cover is placed in the box 6 and the ball again placed in and rolled out of the box to wind the second cover about it. The ball center, with the covers thus applied to it, is shown in Fig. 2. The ball center 14, as shown in Figs. 2 and 4, is a rubber-cored yarn-wound ball center such as is usually used for baseballs.

After the covers 2 are applied to the ball center, as illustrated in Fig. 2, the covers are formed to the shape of the ball and are caused to adhere to the ball center by means of a

series of wiping blows delivered against the covers by a laying roll 20. The roll 20 consists of a solid roll of metal having a curved face provided with a number of ribs 22. The radius of curvature of the face of the roll 20 is slightly greater than the radius of the ball and, as illustrated in Fig. 3, the roll curves around the ball so that when the ribs 22 beat against the ball they will contact with half an inch to an inch of the surface of the cover. The roll 20 is carried by a counter shaft 24 which runs at a comparatively high rate of speed so that when the ball is presented to the roll, the ribs 22 deliver a series of wiping blows in rapid succession against the ball. The wiping blows exert a frictional drag on the cover which draws and smooths the cover in place.

In shaping the cover to the ball, the ball is presented to the roll and then turned so that the roll will deliver a series of blows running along the ball cover from the waist to the enlarged end to curl the cover around the ball. Since the transverse curvature of the waist portion of the cover is not very great, the waist is easily shaped to the ball. In shaping the enlarged end or lobe of the cover to the ball, the ball is turned against the roll so that the roll acts to deliver a series of wiping blows in the directions indicated by the arrows 26 in Fig. 5. The frictional drag of the wiping blows acts to stretch the material of the cover so that the center part of the lobe is stretched out to allow the lobe to curl around the ball. The edge of the lobe at the ends of the arrows of Fig. 5 is stretched in the directions of the arrows and because of the stretching in the direction of the arrows there is a tendency for the material to contract at right angles to the stretching, and so fit the edge around the spherical surface of the ball. In this way the wiping blows act to drag and pound the cover into the shape of the ball. The blows not only act to wipe and pound the cover into the shape of the ball, but also act to beat the cover against the ball center so that the layer of cement between the cover and ball center is brought into intimate contact with the yarn of the ball center, and the cover is firmly held in the shape given it by the wiping blows of the laying roll.

In covering a yarn-wound ball center, the beating of the cover against the ball center to cause it to more firmly adhere to the yarn winding, is of particular advantage, since the successive blows tend to compress the surface of the yarn winding and so more thoroughly force the cement coating of the cover into the mass of yarn, so that some of the more deeply lying yarn is attached to the cover. Moreover, since the surface of the yarn mass is beaten, it will be smoothed so that in the completed ball the lines of the outer strands of yarn will not be as notice-

able through the cover as with baseballs hitherto made. After the operator has worked down the edges of the covers and shaped and firmly united the cover pieces to the ball by means of the roll, the ball will present the appearance shown in Figs. 5 and 6.

To raise the edges of the covers and to trim off the surplus material so that a butting joint will be made, the ball is presented to the trimming machine illustrated in Figs. 6, 7 and 8. The trimming machine has a substantially V-shaped plow 30. The top of the plow 30 is substantially flat at the front, rising toward the back, where the plow is secured to the end of a post 32 projecting down from the gooseneck 34 of the trimming machine. The front edge of the plow 30 is rounded so as not to cut into and catch on the yarn threads of the ball as it is run along beneath the edges of the covers. A reciprocating cutting knife 36 is arranged to cut against the top of the plow 30 on the line 38 of Fig. 8. The knife 36 is mounted on the knife carrier 40 which is driven from the driving shaft 42 of the machine by means of a roll 44 carried on a crank of the driving shaft and engaging a slot in the head of the knife carrier 40. The knife 36 cuts against the flat toe of the plow 30 before the raised portion of the plow has turned up the edges of the covers so that when the covers are brought together by the stitches of the seam, a butting joint is formed. The raised heel of the plow 30, together with the shaft 32, so turn the covers outwardly that they are left with a permanent outward set, as shown in Fig. 9, so that the curved needle 50 of the sewing machine can easily penetrate beneath the loosened and raised edges of the ball cover to pass loops of thread therethrough.

As illustrated in Fig. 9, the needle 50 presses down on the edge of one cover and passes beneath and penetrates the edge of the other cover to push a loop of thread upwardly through it to sew the edges together, as described in my application Serial No. 570,667.

While the method of the present invention has been described in connection with the use of a sewing machine of the type illustrated in my application Serial No. 570,667, it is to be understood that the method of the present invention may be practised in making baseballs whether sewn by machine or by hand, and that the term "baseball" as used in the specification and claims is intended to define a ball of the same general character as a baseball.

The present invention is not limited to the exact details of the steps hereinbefore described, but may be practised in methods embodying the broader features of the present invention as defined in the claims. Vari-

ations or changes may suggest themselves to one skilled in the art and are intended to be within the purview of the invention as defined in the following claims:—

5 1. The method of making baseballs which consists in applying two dumbbell-shaped cover pieces to a ball center with a layer of cement between the cover pieces and ball center, in delivering a series of wiping blows
10 against the cover pieces to shape them and to cause them to adhere to the ball center, and in sewing together the edges of the cover pieces, substantially as described.

15 2. The method of making baseballs which consists in applying two dumbbell-shaped cement-coated cover pieces to a ball center, in delivering a series of wiping blows against the cover pieces to shape them and cause
20 them to adhere to the ball center, and in sewing together the edges of the cover pieces, substantially as described.

25 3. The method of making baseballs which consists in heating two dumbbell-shaped cement-coated cover pieces to render the cement tacky, in applying the cover pieces to the ball center while the cement is in tacky condition, in delivering a series of wiping
30 blows against the cover pieces to shape them and cause them to adhere to the ball center, and in sewing together the edges of the cover pieces, substantially as described.

35 4. The method of making baseballs which consists in applying two dumbbell-shaped cover pieces to a ball center with a layer of cement between the cover pieces and the ball center, in delivering a series of wiping blows against the cover pieces to shape them and
40 cause them to adhere to the ball center, in trimming the edges of the cover pieces, and in sewing together the trimmed edges of the cover pieces, substantially as described.

45 5. The method of making baseballs which consists in applying two dumbbell-shaped cover pieces to a ball center with a layer of cement between the cover pieces and ball center, in delivering a series of wiping blows against the cover pieces to shape them and
50 cause them to adhere to the ball center, in loosening the edges of the cover pieces from the ball center in trimming the edges of the cover pieces, and in sewing together the trimmed edges of the cover pieces, substantially as described.

55 6. The method of making baseballs which consists in applying two dumbbell-shaped cover pieces to a ball center with a layer of cement between the cover pieces and ball center, in delivering a series of wiping blows against the cover pieces to shape them and
60 cause them to adhere to the ball center, in loosening the edges of the cover pieces from the ball center, in trimming the edges of the cover pieces, and in sewing together the trimmed edges of the cover pieces, substantially
65 as described.

7. The method of making baseballs which consists in applying two dumbbell-shaped cover pieces to a ball center with a layer of cement between the cover pieces and the ball center, in shaping the cover pieces and causing
70 them to adhere to the ball center, in loosening the edges of the cover pieces from the ball center, in trimming the edges of the cover pieces and turning them outward from the ball center, and in sewing together the
75 trimmed edges of the cover pieces, substantially as described.

8. The method of making baseballs which consists in heating two dumbbell-shaped cement-coated cover pieces to render the cement tacky, in applying the cover pieces to a ball center while the cement is in tacky condition, in delivering a series of wiping blows
80 against the cover pieces to shape them and cause them to adhere to the ball center, in loosening the edges of the cover pieces from the ball center, in trimming the edges of the cover pieces and turning them outward from the ball center and in sewing together
85 the trimmed edges of the cover pieces, substantially as described.

9. The method of making baseballs which consists in applying pieces of covering material to a ball center with a layer of cement between the cover pieces and ball center, in delivering a series of wiping blows against
90 the cover pieces to shape them and cause them to adhere to the ball center, and in sewing together the edges of the cover pieces, substantially as described.

10. The method of making baseballs which consists in applying pieces of covering material to a ball center with a layer of cement between the cover pieces and ball center, in delivering a series of wiping blows against
105 the cover pieces to shape them and cause them to adhere to the ball center, in loosening the edges of the cover pieces from the ball center, in trimming the edges of the cover pieces, and in sewing together the trimmed edges of the cover pieces, substantially
110 as described.

11. The method of making baseballs which consists in applying pieces of cement-coated covering material to a ball center, in delivering a series of wiping blows against the
115 cover pieces to shape them and cause them to adhere to the ball center, and in sewing together the edges of the cover pieces, substantially as described.

12. The method of making baseballs which consists in heating pieces of cement-coated covering material to render the cement tacky, in applying the cover pieces to a ball center while the cement is in tacky condition, in delivering a series of wiping blows
120 against the cover pieces to shape them and cause them to adhere to the ball center, and in sewing together the edges of the cover pieces, substantially as described.

13. The method of making baseballs which consists in applying two cement-coated dumbbell-shaped cover pieces to a yarn-wound center, in drawing and smoothing
5 the cover pieces snugly to the surface of the yarn-wound center and at the same time exerting a pressure upon the surface of the cover pieces to cause the cement to attach the cover not only to the superficial yarn but
10 also to some of the more deeply lying yarn, and in sewing together the edges of the cover pieces, substantially as described.

14. The method of making baseballs which consists in applying two cement-coated
15 dumbbell-shaped cover pieces to a yarn-wound center, in delivering wiping blows to the surface of the cover pieces applied in the

direction of the edges of the cover pieces whereby the cover pieces are drawn snugly to the surface of the yarn-wound center, the
20 center portion of the lobes of the cover pieces being stretched and the edges being contracted, and the cement is caused to attach not only the superficial yarn but also
25 some of the more deeply lying yarn to the cover pieces, thereby making a smooth and uniformly surfaced ball, and in sewing together the edges of the cover pieces, substantially as described.

FREDERICK H. PERRY.

Witnesses:

ALICE ACKROYD,

GEORGE E. STEBBINS.