

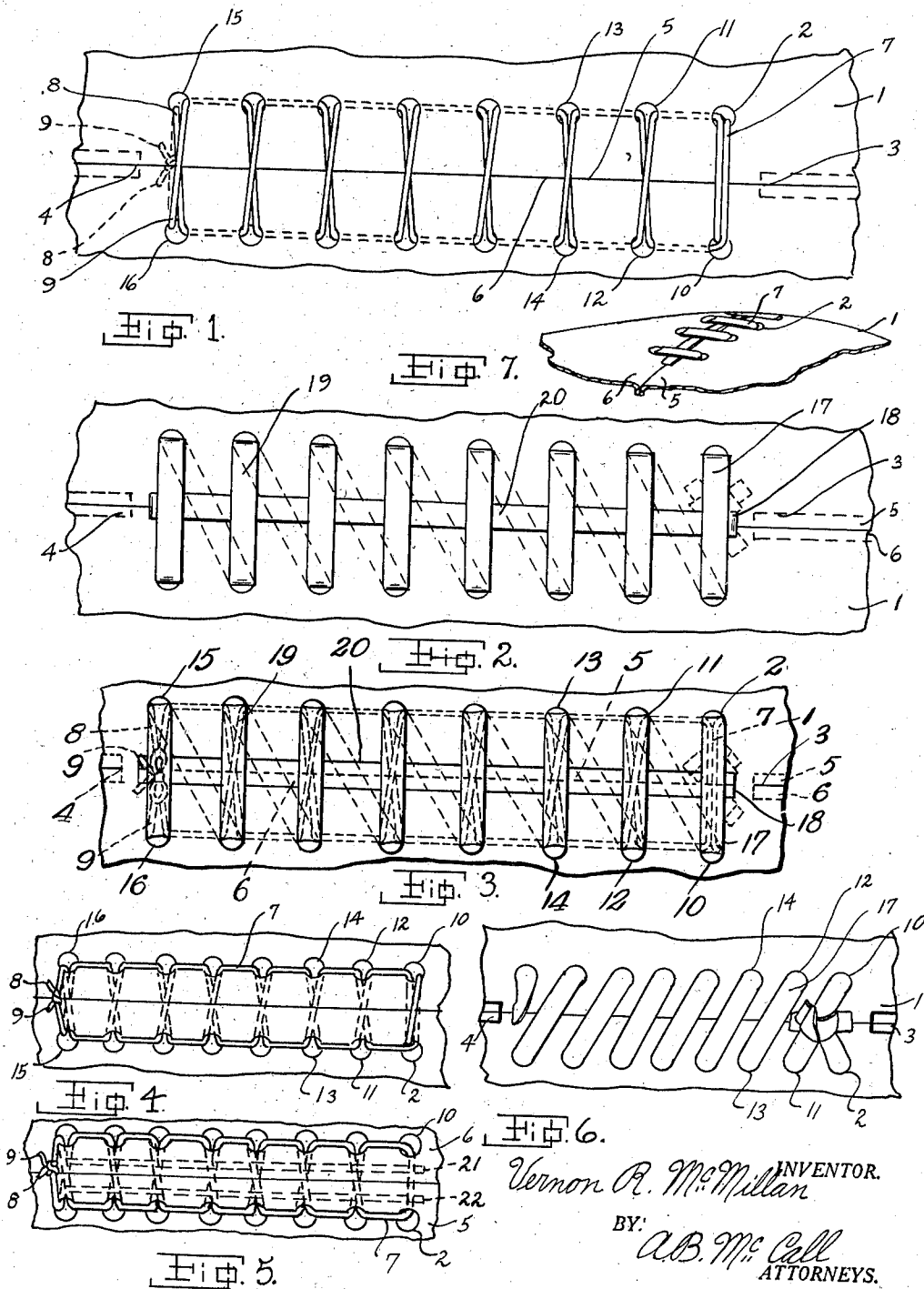
Feb. 21, 1939.

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2,148,082

INFLATED BALL AND LACING THEREFOR

Filed June 10, 1936



UNITED STATES PATENT OFFICE

2,148,082

INFLATED BALL AND LACING THEREFOR

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Application June 10, 1936, Serial No. 84,480

1 Claim. (Cl. 273-65)

My invention relates to the lacing of inflated balls such as foot balls, basket balls and the like; an object being in my invention to provide a method and means of lacing such inflated type balls to make them more dependable in play and comfortable to handle as well as to make them stay laced better and be more economical to make.

A further object of my invention is to provide a method and means of lacing inflated balls wherein there is found desirable features of a laceless ball with the convenience of a lace ball, the convenience being the possibility of economically unlacing the ball and repairing it in case of difficulty. This also obviates the inconvenience experienced in having to transport laceless balls to the factory for repairs entailing lost time when this has to be done.

A further object of my invention is to provide a method and means of lacing inflated type balls in a manner that tightly closes the ball cover opening first by means of a strong durable lace member and while drawing the closure cover edges tightly together, to lace through the opposed eyelets in a direction that will increase the surface tension and at the same time reduce the under-pull which tends to create a bulge in the ball cover about the laced closure and thus place the strain of the holding lace member transversely across the opening and forces the ball cover member to conform neatly to the general curvature of the ball.

A further purpose is to provide a relatively strong lace for pulling the cover members together tightly in all lacing operations required for holding it, to stand the strain in play without the lacing member stretching or any other developing weaknesses showing up in the holding lace. Then to cover this strong lacing arrangement with a leather lacing or other suitable covering and concealing lace member by thus being able to tightly lace the ball closure, it is possible to draw the ball cover surface to make it conform to the roundness of the ball eliminating bulges and thus preventing playing hazards where the ball rebounds.

Another purpose of my invention is to provide in this method of lacing inflated balls, a combination of strong lacing member with a second and concealing lacing member; whereas in the past one lacing member, usually leather, would not hold satisfactorily and would stretch or work loose and where inferior leather lace was found, difficulty developed requiring replacement of such lace with a good quality of leather lace.

Where the lacing closure portion of the ball occurred in the past, there was usually a bulge in the ball surface beyond the general curvature of the ball causing an unusual amount of wear at that point; and I propose to obviate this problem by my lacing method.

A further purpose of my invention is to provide a strong lacing member and a separate concealing lacing member in combination so that where a single leather lace has been used in the past for closing the cover and causing, as it did, an excessive bulge at the lacing point with the leather lace member at this point receiving excessive wear, I obviate this difficulty. In the present method of lacing, I can use a better grade of leather at less cost because not so much leather is required and the linen lace members in my invention will be of high tensile strength and a low cost material with the leather lace member put on only as a protecting surface over the holding lace member and the wear in this instance will be only on the concealing lace member and will thus permit, if desired, the cheaper grade of leather for the concealing lace member, where this would not be possible if the leather lace was to do the holding alone.

A further purpose of my invention is to provide a new and novel method of lacing inflated type balls wherein very strong lace material may be used in the lacing operations in a manner permitting a surface tension sufficient to make the closure portion of the ball cover conform to the closure of the ball surface where the lace member is drawn transversely across the ball cover opening and thus avoiding such under-pulls as have been so common in the past, and so commonly causing a bulge extending above the normal curvature of the ball surface and showing about the ball cover closure which was not neat in appearance and under the stresses of play caused inaccuracies in the rebounding of the ball.

A particular purpose of my method of lacing inflated type balls, is to be able to tightly lace the closure as above stated with a very strong and durable lace member such as strong linen and the like and then to lace through the same holes with a concealing and protecting lace member such as leather and the like, to neatly cover and protect the strong lace member from wear when the ball is in use; thus also to be able to tightly lace the ball with a first lace member and protect the same by a second lace member that looks neat and covers nicely but would not have the tightly holding characteristics of the linen or

other suitable strong retaining lace member first used.

I attain the objects of my invention by the method and means shown in this specification, recited in the claim and illustrated in the accompanying drawing in which like reference numerals indicate like parts in the several figures;

Referring to the figures:

Fig. 1 is a top view of the closure portion of the ball cover showing the strong lace member in place ready for the second and concealing lace member to be applied.

Fig. 2 is a top view showing the concealing and protecting lace member in place after covering the strong lace member shown in Fig. 1.

Fig. 3 illustrates my outer lace member superimposed over the inner lace member.

Fig. 4 is a bottom view of the first or strong lacing member in place after it is tightened.

Fig. 5 is a bottom view of an additional method of lacing the strong lace member whereby the lacing, starting at one end and running to the other end of the closure is, in each instance, adapted to provide only a surface tension.

Fig. 6 is a bottom view of the finished lacing arrangement as shown in the top view in Fig. 2.

Fig. 7 is a perspective showing how it is possible by my lacing method to make the closure portion of the ball cover conform to the general curvature of the ball.

Referring now to the salient features of my method and means of lacing inflated balls, I shall point out the preferred steps thought to be best in securing the desired results.

The usual type of inflated balls on which my method of lacing would be used is the basket ball or the foot ball and this is the type of ball which I shall have in mind, as I explain my lacing method.

To those who are familiar with such athletic balls as basket balls and foot balls, it will be obvious that in my lacing operations, it will be necessary to do all the lacing of the inside and the outside lace members before the ball is inflated and that the beginning of the lacing operation for the second lace member will require a knot to be tied in the same before the first lace member is tightened and before the ball is inflated.

For instance, with reference to the drawing in the study of my method, I utilize the usual ball cover 1 and lace holes 2 for my purposes in lacing up the ball opening. This opening extending from seam end 3 to seam end 4 is defined by the abutting cover member edges 5 and 6 which are so effectively drawn together by my lacing method.

It will be borne in mind that I can use more than one lacing member in accomplishing my purposes, one member of very strong texture which for the sake of explanation of my method I shall say is linen, while the other may be a leather lace member of the usual type serving the purpose in this case of a concealing and protecting cover for the first and retaining member.

Thus, to secure the desired results in my lacing method I prefer to start with a very strong, thin lacing member 7 of, let us say, linen which is satisfactory for this lacing requirement.

I proceed as follows: I thread lace member 7 up from the bottom side of cover 1 bringing free ends 8 and 9 first up through lace holes 2 and 10 respectively. I then cross over with these two free ends of linen lace 7 to exchange holes in-

serting end 8 down through lace hole 10 and end 9 down through hole 2.

At this point I move ends 8 and 9 up to holes 11 and 12 so that end 8 will come up through hole 12 and end 9 through hole 11. Again I cross over directly to exchange holes transversely across the ball cover opening and insert end 8 down through hole 11 and end 9 down through hole 12. With ends 8 and 9 thus inserted down through holes 11 and 12 respectively I then move the lace member ends from one pair of holes, under the cover along parallel with the abutting open edges 5 and 6 to the next succeeding pair of holes 13 and 14 through which I pull up ends 8 and 9 respectively.

Between holes 13 and 14, I am again ready to cross over the lace ends 8 and 9 directly across the cover opening, and this same transverse cross over to directly opposed lace holes and parallel movement of the end from one pair of lace holes to the next is thus repeated until end holes 15 and 16 are reached where end 8 is pulled up through end hole 16 and is inserted down through end hole 15 while end 9 is pulled up through end hole 15 and inserted down through end hole 16. The entire lacing closure is then tightened firmly in a manner that will exert a direct transverse surface tension across the opening, as shown in Fig. 1.

When lace member 7 is thus tightened end 8 is inserted down through hole 15 and end 9 inserted down through hole 16 and then ends 8 and 9 of lace member 7 are pulled up through seam 4 and tied together and the knot then pushed back under cover 1, in which position these two ends are thus finally tied together where the knot may rest under ball cover 1 adjacent the end of seam 4.

In the meantime it will be observed in Fig. 7 that by thus drawing lace member 7 tightly as it engages the lace holes for a transverse tensile strain across the ball cover opening then the surface tension will cause the lacing closure to conform neatly and effectively to the curvature of the ball surface.

However, in athletic games such inflated balls are subjected to usages tending to exert wearing strains upon the lacing member texture. It is thus obvious that the very lacing material which may admirably serve as a strong holding or retaining lacing agent may not possess such characteristics in texture as would permit it to last very long under frictional and wearing stresses. It is thus found advisable under such circumstances to use first a strong and durable retaining lace member and then conceal and protect the same by means of a second lace member which will possess wearing qualities.

For instance, it will be obvious to those who are experienced in using such inflated ball lacings that a medium or poor grade of leather may well serve the purpose required of the second lace member where it would easily stand the demands for wearing quality where it would never be able to hold under the tensile stresses subjected to the retaining lace member.

In a study of Fig. 2 it will be observed that the second or concealing and protecting lace member 17 is next preferably started at one end of the lacing closure and is run through the lacing holes thus indicated in this Fig. 2 before inflating the ball in a manner which successfully conceals the first lace member which has to stand the tensile stresses required to hold the ball in laced condition through all the playing hazards while at the same

time this second and concealing lace member completely protects the first and retaining lace member from the wearing strains of athletic games by completely covering the various strands of the first lace member.

It will be noted in Fig. 2 that the concealing lace member 17 is threaded in a manner which amply covers all of the transverse strands of the retaining lace member which are primarily adapted to create surface tension about the closure of the ball cover, with the resulting tendency not only to eliminate the usual bulge about the laced closure of the ball cover but instead (see Fig. 7) will tend to hold the laced portion of the cover in a position to very successfully conform to the general surface curvature of the ball.

It will be noted in Fig. 6 that when lacing the second and concealing lace member 17 the bottom strands are carried in each case, diagonally over from one lacing hole when it is laced from one end toward the other. This Fig. 6 illustrates a bottom view under the ball cover where Fig. 2 shows the top view above the ball cover.

Fig. 1 in illustrating the retaining lace member with its several strands in tightened position may be studied in its relative relation to Fig. 4 which shows a bottom view of the same lace member when tightened up.

It will also be observed that when the concealing lace member 17 has been snugly drawn and laced through the several lace holes then the free end 18 thereof is preferably drawn back under the cross strands 19 of this lace member where it lays as a neat and protecting concealment for the abutting edges 5 and 6 of the open part of the ball cover 1. Thus, in the finish of the lacing operation the free end 18 drawn under cross strands 19 provides a neat cover 20 for the closure portion of the laced ball cover.

It will be noted in Fig. 5 that I have illustrated in a bottom view of the closure lace structure one manner of creating a desirable surface tension with a strong lacing member 7 which may be started through end holes 2 and 10 with the move from one pair of lacing holes to the next in parallel with the abutting edges of the closure and with the lacing member crossed over in each case on the top surface with this operation repeated until the opposite end is reached where the free ends 8 and 9 of lace member 7 are tied, in a manner adapted to conceal the member beneath the ball cover down between the abutting edges thereof. It will be further noted that if desired, it would be practical in connection with this lacing operation to utilize a pair of protecting ribs 21 and 22 adjacent the abutting edges of the cover, at the closure to avoid wearing on the cover where the transverse strands of the lacing members rest against that portion of the cover existing between the opposing lace holes on the opposite sides of the laced cover opening.

Having thus described the nature of my invention what I claim is:

A playball provided with a lacing type closure having a substantial slit in the cover member and a plurality of opposed lacing perforations located respectively along the adjacent edges of said slit, a pair of lace members the first and lower one of which is made of relatively tough, strong material and engaging said opposite lace holes in a position exerting the pulling strain of the lace operation across said slit and the second lace member engaging said lacing holes in a manner well covering all exposed strands of the first lacing member and made of material possessing substantial wear resistance against the stresses of play and completely protecting the strands of the first lacing member.

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