

PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

A Ball for Games.

I, PAUL DROHNN, of No. 15, Schlossplatz, Wolfenbüttel, Germany, of German Nationality, do hereby declare the nature of this invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a ball for games of a type in which the case is formed of a plurality of leather parts connected at their edges. According to the invention cases of this type are completely closed over a bladder, the automatic closing inflating plug of which can be pierced by a pointed hollow needle through the case wall so that no apertures which can be opened for removing the bladder and no open holes or slots for lacing the case are present.

Thus, it is not possible for moisture or dirt to penetrate into the case and to exert a destructive effect on the sewing threads, the bladder or the inner surface of the case. The life of the bladder, which is inaccessible from the outer side, is thus increased and the necessity of removing same from the case for repairs is obviated. Moreover, an advantage of the ball according to the invention is, that it has no bulge-like raised portions like the cases with laced aperture through which the bladder is removed and replaced.

An embodiment of the invention is illustrated in the accompanying drawing in which:—

Fig. 1 shows the ball in elevation.

Fig. 2 shows a portion of the ball in section with arrangement for inflation.

Fig. 3 is a part view showing the sewing thread in preparation for closing the open portion of the seam connecting two parts of the case.

Fig. 4 shows a joint between two parts of the case after stretching of the sewing thread.

Fig. 5 shows the joint between two parts filled with an adhesive substance.

On the ball case, the parts *a*, *a*¹, *b*, *b*¹, *c*, *c*¹, *d*, *d*¹ of which are connected at their edges by sewing, a seam *e* is not completely closed so that the case made with the inside turned outwards can be re-

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versed in known manner through the open portion *e* of the seam shown in dotted lines in Fig. 1. A bladder *f* is then inserted in the case. The bladder has instead of a valve a rubber plug *g* (Fig. 2) of suitable shape, a bore of the plug extending upwards from the bottom face being filled with an automatic closing filling material *h*. The rubber wall *i* of the filling is to be pierced by means of a hollow needle *y* stuck through the wall of the case. When the needle is pulled out the plug closes automatically. After fixing the bladder on the inner wall of the case by cementing or the like, preferably near the valve, the seam *e* is closed in the manner illustrated in Fig. 3. In the edges *l* and *m* of the case parts *a* and *a*¹ the sewing thread *q* is threaded from the two sides in each stitch point *o* in preparation for the closing. After each stitch the thread is pulled out of the case by an auxiliary hole *p* pierced by the pointed sewing needle at a different point of the case wall and then returned through the same hole into the case so that a thread loop *s* remains on the outer side of the case. The sewing thread *q* is allowed to hang between the subsequently registering stitch holes *o* of the edges *l* and *m* in loops *r* becoming larger towards the middle of the aperture. Between the loops *r* the bladder is inserted into the case. The aperture is then closed from one end of the aperture by gripping the loops *s* by hand and pulling the loops *r*. Thus, as the closing of the seam progresses, the loops *s* are pulled into the ball case from one pierced hole *p* to the next pierced hole *p*, without leaving any traces of these holes in the outer wall of the ball. As the holes *p* are produced with a point needle the material of the leather wall is only displaced and the leather is sufficiently elastic to close these holes practically completely, contrary to punched holes where material is removed from the wall. The extreme stitches or loops placed ready on the outside of the case are likewise pulled into the case in this manner. The auxiliary loops *s* might also be omitted and the seam closed

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by successively pulling the loops *r* which in this case are placed on the outer side of the case. It is evident that the last stitches near the finishing off point must be auxiliary loops or the ends of the thread must be fixed without knotting backstitching.

As, even with the best execution of the inner seams, the thread will always stretch under the tension of the ball so that it is slightly exposed on the outer side of the case, as indicated in Fig. 4, it is proposed to smear the edges *l* and *m* with an adhesive material which is caused to set only after the sewing thread *q* has been pulled together and which, after drying, prevents gaping of the seam and partial exposure of the thread as indicated in Fig. 5.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1.—A ball for games formed of leather parts connected at their edges by an inner seam, characterized in that after the insertion of the bladder in the case in which an aperture is left along one of the seams for this purpose, this aperture is closed from the outer side of the case forming a seam on the inner side of the case identical to the seams connecting the other parts of the case.

2.—A ball for games as specified in claim 1, characterized in that the bladder is provided with a known automatically closing inflating plug adapted for the purpose of inflating the bladder to be pierced by a hollow needle through the leather case, the hole pierced by the needle in the casing likewise closing automatically after the removal of the needle.

3.—A method for producing balls as claimed in claim 1, characterized in that the thread is preparatorily sewn into the case with a pointed needle so that loops project from the needle pricks in the case and are successively pulled and disappear into the interior of the case, without leaving open holes at the points pierced by the needle.

4.—A ball as claimed in claims 1 and 3, characterized in that the edges of the case parts are smeared with an adhesive substance before being sewn together.

5.—A ball for games substantially as described and illustrated.

Dated this 6th day of June, 1932.

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[This Drawing is a reproduction of the Original on a reduced scale.]

