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3,473,806

LACROSSE STICK FENCE CONSTRUCTION

Filed Dec. 30, 1966

3 Sheets-Sheet 2

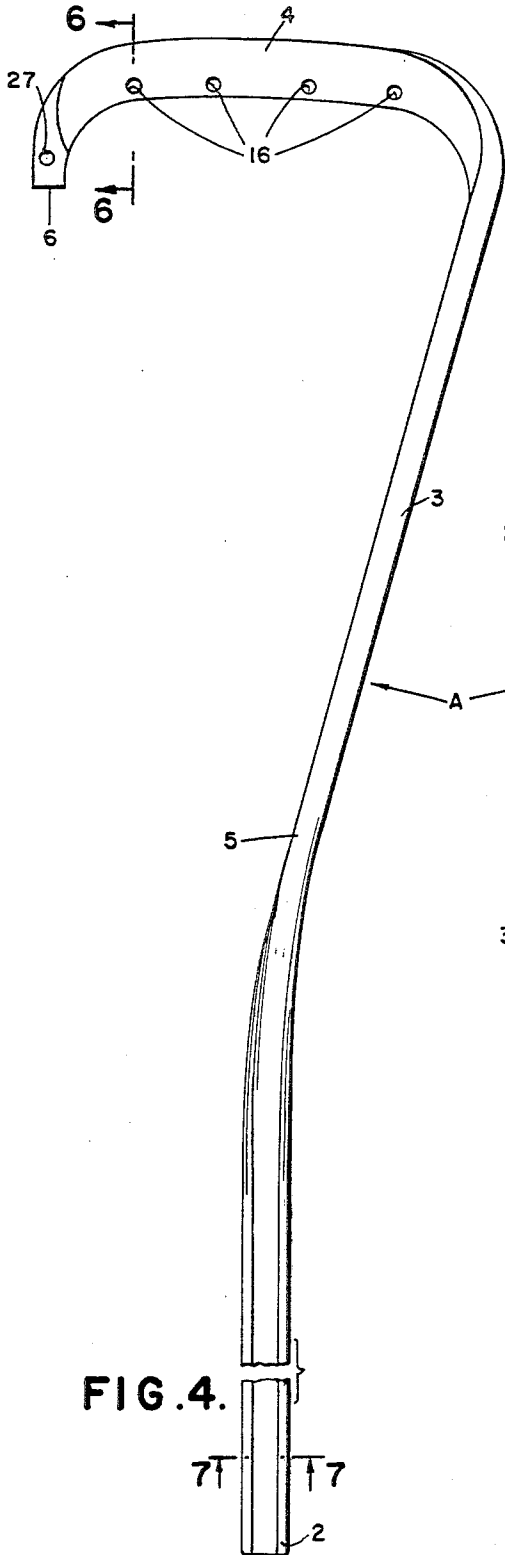


FIG. 4.

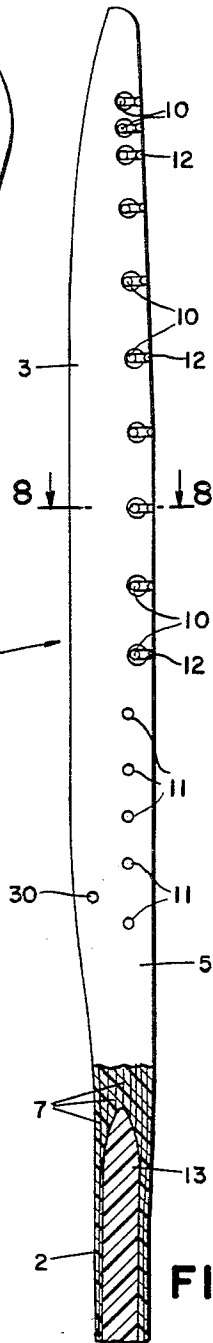


FIG. 5.

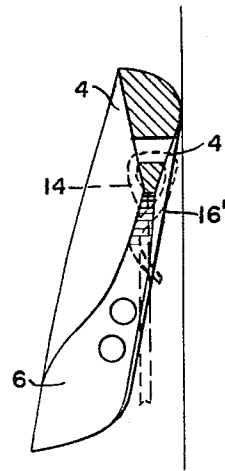


FIG. 6.

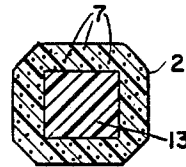


FIG. 7.

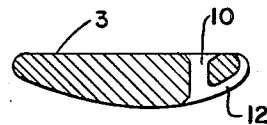


FIG. 8.

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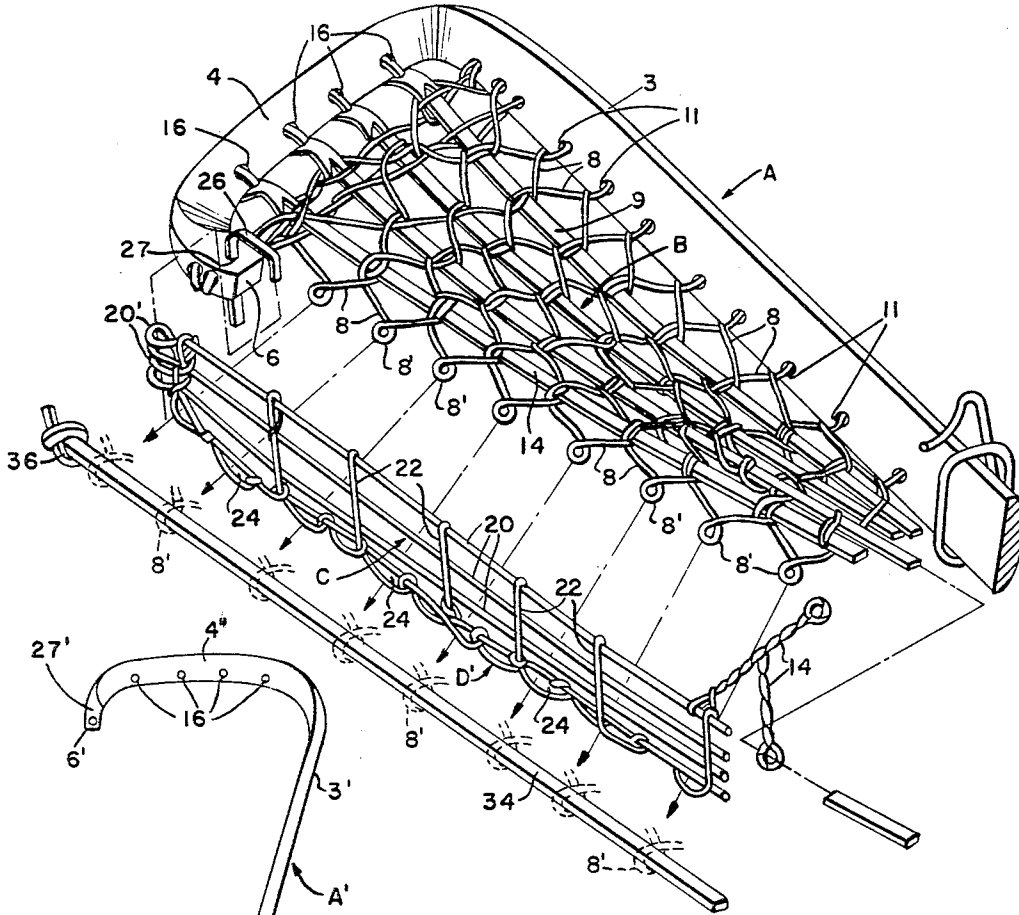


FIG. 9.

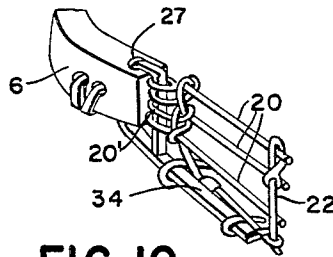


FIG. 10.

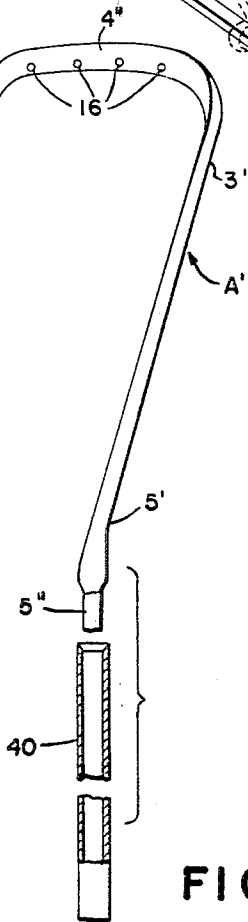


FIG. 11.

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LACROSSE STICK FENCE CONSTRUCTION

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4 Claims

ABSTRACT OF THE DISCLOSURE

A lacrosse stick in which the frame is composed of molded reinforced plastic material which is unaffected by moisture and not subject to warp and which may be provided with a core material to attain the proper weight and balance and in which the webbing has a main section and a separately attached and removable fence portion spanning the open portion of the frame from the toe portion to a point at the rear of the head section of the stick.

The present invention relates to an improvement in a racket, generally referred to as a stick, for playing the game of lacrosse, including the frame and laced netting positioned at one end of the frame and means for constructing the same.

The game of lacrosse is probably the oldest of American games and the shape of the stick and the material used in the stick and the netting have been changed only slightly in the last hundred years. Almost all stick frames for a long time have been constructed of Canadian hickory, but this wood is getting very difficult to obtain and wooden frames do have certain drawbacks in that they will warp out of shape and they are easily broken. It is with this in mind along with other improvements that the inventor has initiated the present invention.

An object of the invention is to provide a fence or side wall as a separate element which may be easily and quickly removed and/or installed.

While an object of the invention has been set forth, other objects, uses and advantages will become more apparent as the nature of the invention is more fully disclosed as illustrated in the accompanying drawings and as pointed out in the detailed description.

In the drawings:

FIGURE 1 is a plan view of the stick frame.

FIGURE 2 is a side view of one edge of the stick frame.

FIGURE 3 is a view looking at the front end of the stick frame.

FIGURE 4 is a plan view of the frame portion of the stick frame.

FIGURE 5 is a view of the outside edge of the frame.

FIGURE 6 is a sectional view taken along line 6-6 of FIGURE 4.

FIGURE 7 is a sectional view taken along line 7-7 of FIGURE 4.

FIGURE 8 is a sectional view taken along line 8-8 of FIGURE 5.

FIGURE 9 is an exploded perspective plan view of the netted portion of the stick.

FIGURE 10 is a view in elevation, showing the portion of the frame into which the removable fence is tied.

FIGURE 11 is a plan view of a modified form of lacrosse stick frame.

In referring to the drawings like and similar numbers are used to point out like and similar parts throughout the several views.

The general shape of the stick is quite similar to the present stick now in use and deals primarily in certain improvements to both the frame and the laced netting. The frame of the stick is referred to generally by the

letter A, having a handle 2, an angled back portion 3, a front portion 4 and a toe portion 6. The back and front portions 3 and 4 of the stick frame A, including the toe 6, are generally referred to as the head section of the stick.

The lacing is in two parts, a netted or pan portion B and a separately formed flexible side wall, or fence portion C.

The netted portion of the netting B is fixed to the frame within the area defined by the back 3, the front end 4 of the frame, and the fence C. The fence extends from the toe 6 to a point 5 at the rearward portion of the head section adjacent the junction of the handle 2 and the angled portion 3 of the head.

In FIGURES 1 to 10 the frame is shown constructed of a reinforced plastic material, preferably the reinforcing material is in the form of lengths of prestressed glass, or plastic fibers 7; however, the reinforcing material may take any suitable form. The preferred frame is constructed by inserting a core 13 of a much lighter material, such as "Styro Foam" within the handle section of a mold and extending the fibers substantially throughout the mold area and about and along the core. The plastic material is then introduced into the mold cavity and left to harden. After hardening, the frame is removed and further finished as to shape and the necessary apertures for receiving the webbing are drilled about the frame as indicated in the drawings. The core may remain in the handle or it may be removed. However, it is not intended that the present invention be limited to a cored handle section, as a handle may be constructed in solid form if desirable.

A modified form of frame is shown in FIGURE 11. The head section A' is made, or molded, separately from the handle. The head is formed with the conventional angular back portion 3', a front portion 4' and a rearward portion 5'. The separately formed handle 40 in this modification is made, or extruded, separately from the head and preferably of tubular form, but it may be made of solid material and recessed at the end to be attached to the head by receiving the portion 5'' where it may be attached in any suitable manner. This construction may be utilized when it is desired to extrude, or construct, the head and handle separately and affix the handle to the head later. This may be done by a suitable sealant, or by heat sealing, or by both. In this construction the webbing may be added before the handle is attached. The head and handle in this modification may be constructed of any suitable material, e.g., the handle may be constructed of plastic, wood, metal, such as aluminum, or of a composition material of either single or multiple layers, and the same is true for the head. This method of construction has the advantage that the mold for the head, if molds are necessary, may be much smaller and less expensive; also, the handle may be made separately from long lengths of extruded or otherwise standard stock and cut to length and secured to the head by any suitable means, such as, by one of the epoxy adhesives, etc. This construction may also help to reduce the weight of a stick if a lighter stick is preferred.

The netting B is provided with cross strands 8 and longitudinal strands, or thongs 9. The cross strands are preferably directed through openings 10 in the angular portion of the frame. Extending from the opening 10 and about the outer lower portion of the frame are grooves 12 into which the strands 8 may be recessed when wrapped about the frame to prevent them from being exposed to abrasion from other sticks used by an opponent in playing the game, this is shown best in FIGURE 2. The cross strands 8 are also wrapped about each of the longitudinal thongs 9 as they are extended back and

forth across the net area. The longitudinal thong members 9 are looped through openings 16 in the front portion 4 of the frame. The front portion 4 of the frame is beveled upward from its bottom front edge toward the handle end of the frame, as shown at 4', particularly from the point of the opening 16, see FIGURE 6. This is to prevent the under portion 16' of the thong from becoming damaged when the end of the frame slides along the surface of the playing field to retrieve the ball, which is also used in playing the game.

The opposite ends of the thongs 9 are extended through the openings 11 located at the rearward end of the head.

The fence, or flexible side wall C, is shown formed separately from the portion B of the netting, see FIGURE 9. This fence, or sidewall C, is constructed as a separate member and generally comprises interwoven longitudinal strands 20 and vertical strands 22; however, the fence is not limited to this particular construction. Adjacent the bottom C' of the fence there is provided a plurality of substantially small elongated openings 24. These openings are of such size and location as to receive the ends 8' of the cross members 8, as shown best in FIGURES 9 and 10, when the fence is assembled with the netted portion B.

The fence C being a separate member is constructed independently of the remainder of the netting B, as shown in FIGURE 9, and is assembled to the netting B and the head section of the frame as shown in FIGURE 1. The fence C is constructed preferably of laced strands secured to the frame by providing the ends of the cross strands 20 with eyelets or loops 20' and extending a thong 26 through the eyelets 20' and an appropriate hole 27 within the toe 6 of the frame, as shown in FIGURES 1 and 9. The opposite end of the fence C is secured to the thongs 28 and 29, as shown in FIGURE 2, which are in turn extended through appropriate holes and held therein by a knot 32 or other appropriate means at the rear end of the head section. The fence is attached to the netting B by extending the looped ends 8' of the cross strands 8 through the openings 24 adjacent the bottom of the fence and extending a tie member 34 through the loops 8' to prevent them from being withdrawn. The tie member is kept in place by a knot 36, or other appropriate means. The tie member 34 may be of any suitable flexible material.

The primary reason for constructing a removable fence is that the fence is usually the first part of the netting to need repair, and heretofore it was necessary to remove all the netting B in order to replace the fence. With the present construction, all that is necessary to remove the fence is to snip the tie members 26, 28 and 29 and remove the loop securing member 34 and the fence is completely separated from the netting B and a new fence may then be substituted with substantially little effort and expense.

The fence C is replaced by placing the tie 26 through the loops 20' and through the opening 27 in the toe of the frame, positioning the forward end of the fence in relation to the toe and making fast, as shown in FIGURE 1. The thongs 28 and 29, which are generally already attached to the opposite end of the fence, are extended through openings 30 and the loop retaining member 26 is again placed through the loop ends 8' of the strands 8 on the outside of the fence, as shown in FIGURE 1. This is a quick and convenient way to replace the fast-wearing fence member. Placed adjacent the small tapered end of the netting is a stop 14. This stop is to prevent the ball from wedging between the fence and the rearward portion of the head where the two come together.

As to the laced netting, any suitable material may be used. At present the most popular material for the cross member 8 is a special nylon cord. The longitudinal thongs 14 are usually of leather but here again a proper type of synthetic strap may be used. In the construction of the fence, it is quite important to have a material that has a certain degree of rigidity, that is, enough rigidity to hold the fence on its edge at all times. The most favorable material at the present time is believed to be rawhide, but there may be in the near future materials that may take the place of rawhide. The retaining element 34 may be made of any suitable material such as a flexible plastic rod, rawhide, leather, etc.

While the invention has been shown and described in its preferred form, it is not intended as a limitation and the scope of the invention is best defined in the appended claims.

I claim:

1. A lacrosse stick having head and handle sections wherein the head section includes an angled back portion, a front portion, a rear portion and a toe portion, comprising:

- (a) a netting extending completely beneath the head section and attached thereto;
- (b) a flexible detachable woven fence positioned opposite the back portion of the frame having one end releasably attached to the toe thereof by separate securing means, and its opposite end adjustably secured to the rear of the head section;
- (c) means extending along the bottom edge of the fence for attaching the lower edge of the fence to the adjacent edge of the netting.

2. A lacrosse stick as claimed in claim 1 wherein the end of the fence adjacent the toe is attached thereto by a single securing means.

3. A lacrosse stick as claimed in claim 1 wherein the means for attaching the fence to the edge of the netting is in the form of a single element.

4. A detachable flexible fence for a lacrosse stick wherein the stick is provided with head and handle sections including an angled back portion, a rear portion, a toe portion and a netting extending over the said head area in a plane with the lower edge of the head including longitudinal and cross strands, comprising:

- (a) the fence being provided with a plurality of eyelets adjacent the front end thereof for receiving means for attaching the same adjacent the toe of the head;
- (b) means adjacent the rear end of the fence for adjustably securing the opposite end of the fence adjacent the rear of the head section;
- (c) the fence having a plurality of apertures adjacent its lower edge for receiving looped ends of the cross strands;
- (d) means adapted to extend along and adjacent the lower edge of the fence and extending through the said looped ends of the cross strands for securing one edge of the netting to the fence.

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P. E. SHAPIRO, Assistant Examiner