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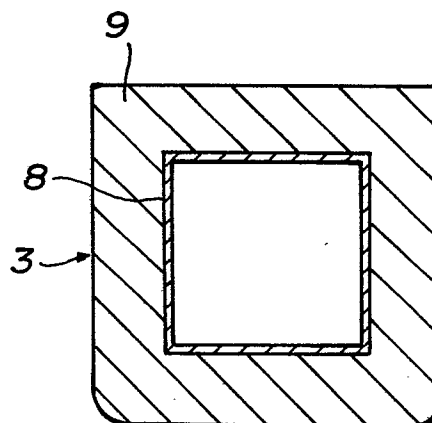
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⑤④ **A soccer goal.**

⑤⑦ A soccer goal has posts (3) each consisting of a rigid core (8) and a protector (9) surrounding and in contact with the core so that players will not be hurt seriously if they hit against the posts. The protector may be of hard rubber (hardness 48 ± 5 JISA[®]), at least 20 mm thick. The core may be of steel, and square in cross-section. The goal may comprise posts (3), crossbar (4), base portions (5, 6), a net support structure (7), and a net, and be disassemblable.



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A SOCCER GOAL

The present invention relates to a soccer goal.

Soccer is a game which requires quick and rather violent movements on the part of the player. Quite often, rush of players toward and jostling near the goal posts tend to cause them to bump against such posts. Since conventional posts are made of hard materials such as iron and wood, and that such posts are square in shape, the afore-said bumping results in injuring the players, sometimes very severely. As soccer is becoming more and more popular even among school children and girls, it has been felt urgent that some protective measures must be developed.

The objective of the present invention is to provide a soccer goal having safe goal posts which will minimize such injuries.

Conventional goal posts are either metals or wood, and they have square cross sections in shape. The hardness of the materials and the square corners of the goal posts have been the main causes for the injuries.

The Federation Internationale de Football Association has strict rules on the soccer goal and the difficulty involved in developing new, safe goal posts has resided in the fact that such posts must be in strict conformity with the Federation rules.

The soccer goal posts of the present invention are much safer than the conventional ones and at the same time satisfy the Federation rules.

Each of the left and right goal posts of the present invention has a rigid core and a hard rubber protector is coated over said core so that the inside of said protector may be in direct contact with said core.

An embodiment of the present invention is shown in the attached drawings.

Fig. 1 is a perspective view of the soccer goal having safe goal posts of the present invention;

Fig. 2 is a cross section at A-A in Fig. 3; and

Fig. 3 is a front view of the goal post.

According to the embodiment, the soccer goal frame has left and right posts 3, a transverse front bar 4 which extends between the top ends of both posts, and side bases 5 which connect with the posts at the front ends and with support arms 7 at the rear ends and the other ends of said support arms connect with the top ends of the goal posts. A rear base 6 extends between the rear ends of said side bases. The goal frame is covered by a net 2 except the front when in use.

Each goal post 3 has a rigid steel core 8 having a square cross section which is coated with a hard rubber protector 9. The core is preferably made of steel, but other rigid materials such as plastic and wood may also be used.

In the above-mentioned embodiment, a core of 60 mm in width was used and the rubber protector was 20 mm thick. As the width of each side of the goal post measures 100 mm, the thickness of

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the rubber protector is consequently determined by the size of the core. However, the desirable thickness of the rubber protector is about 20 mm or more. The thickness of the protector is correlated with the hardness of rubber to a certain extent in order to obtain a rubber protector that efficiently minimizes the impact given to a player. The rubber protector must be hard enough to absorb the shock a player may receive to a maximum degree, but it must not be so hard that the hardness of itself gives a harmful impact to a player.

Tests of physical properties of a preferable hard rubber protector have indicated the following results:

<u>Types of Tests</u>	<u>Test Items</u>	<u>Results</u>
Tension test	Tensile strength kgf/cm ²	60 or more
Tension test	Elongation %	300 or more
Hardness test	Hardness JISA ^O	48 $\pm$ 5
Permanent elongation test	Permanent elongation %	30 or less
Impact resilience test	Impact resilience	40 or more
Measurement of specific gravity	Specific gravity	1.37 $\pm$ 0.03

It is desirable to make at least both front corners of the rubber protector round which will somewhat improve safety.

It is also desirable to coat the surface of the hard rubber protector with paints which will protect the rubber from air, dust, sunlight or other harmful causes for deterioration.

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An advantage of the soccer goal frame of the present invention other than the safety is that it is quite easy to assemble or disassemble, ready for transportation from one place to another. In other words, said soccer goal frame is useful as a portable one.

While a preferred embodiment of the present invention has been described above, it should be understood that various changes, adaptations and modifications may be made therein without departing from the spirit of the invention.

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CLAIMS.

1. A soccer goal comprising left and right goal posts (3) connected at their upper regions by a crossbar (4), characterised in that at least each of said posts (3) has a rigid core (8) surrounded by a protector (9) of firm, resilient material, the protector being of such dimensions and resilient properties as substantially to reduce the risk of injury to a person colliding therewith.

2. A goal according to Claim 1 further including: a base portion comprising left and right side base portions (5) extending rearwardly from lower regions of respective ones of the posts (3), and a rear base portion (6) connecting rearward end portions of the side base portions; and a net support structure (7) extending rearwardly from the crossbar and upwardly from the base portion.

3. A goal according to Claim 2, wherein the posts (3), crossbar (4) base portion (5, 6) and net support structure (7) can be disassembled.

4. A goal according to any one of the preceding claims, wherein each said protector (9) comprises a hard rubber material which is in contact with the respective core (8).

5. A goal according to Claim 4, wherein each said protector (9) is substantially at least 20 mm thick and

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comprises a rubber material of hardness substantially in the range 4.3 - 5.3JISA⁰.

6. A goal according to Claim 5, wherein said rubber material has a protective paint coating.

7. A goal according to any one of the preceding claims, wherein said rigid cores (8) are of steel.

8. A goal according to any one of the preceding claims, is further including a net (2).

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FIG. 1

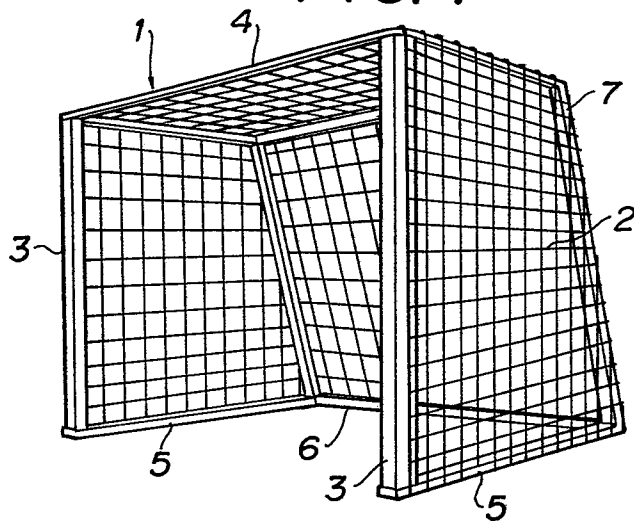


FIG. 2

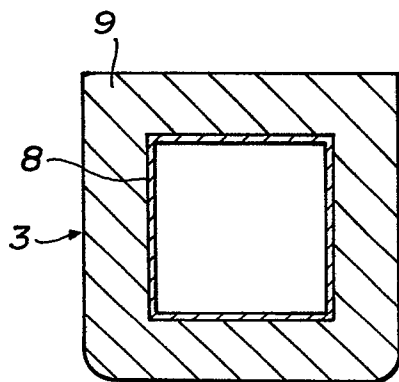
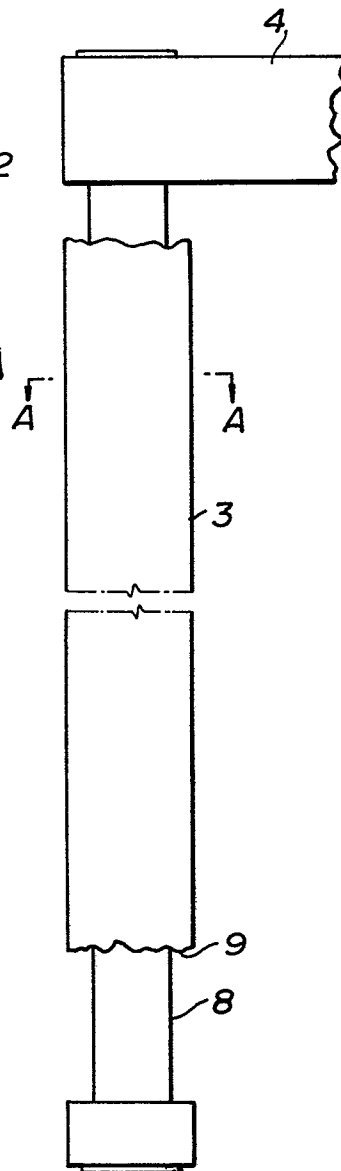


FIG. 3



0083382



European Patent
Office

EUROPEAN SEARCH REPORT

Application number

EP 81 30 6147

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
X	DE-A-2 247 920 (HUBERT FEIN) *The whole document*	1,4,7	A 63 B 63/00
Y		2,3,8	
Y	--- US-A-4 116 446 (THOMPSON) *The whole document*	3,8	
Y	--- DE-A-2 335 693 (J.KÖHLER) *The whole document*	2,8	
A	--- US-A-3 642 282 (FRISCHMAN)		
A	--- US-A-3 104 875 (L.A.DOYLE)		
A	--- US-A-3 782 724 (ROTTMAN et al.) -----		TECHNICAL FIELDS SEARCHED (Int. Cl. 3) A 63 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28-03-1983	Examiner FERGUSON J.R.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			