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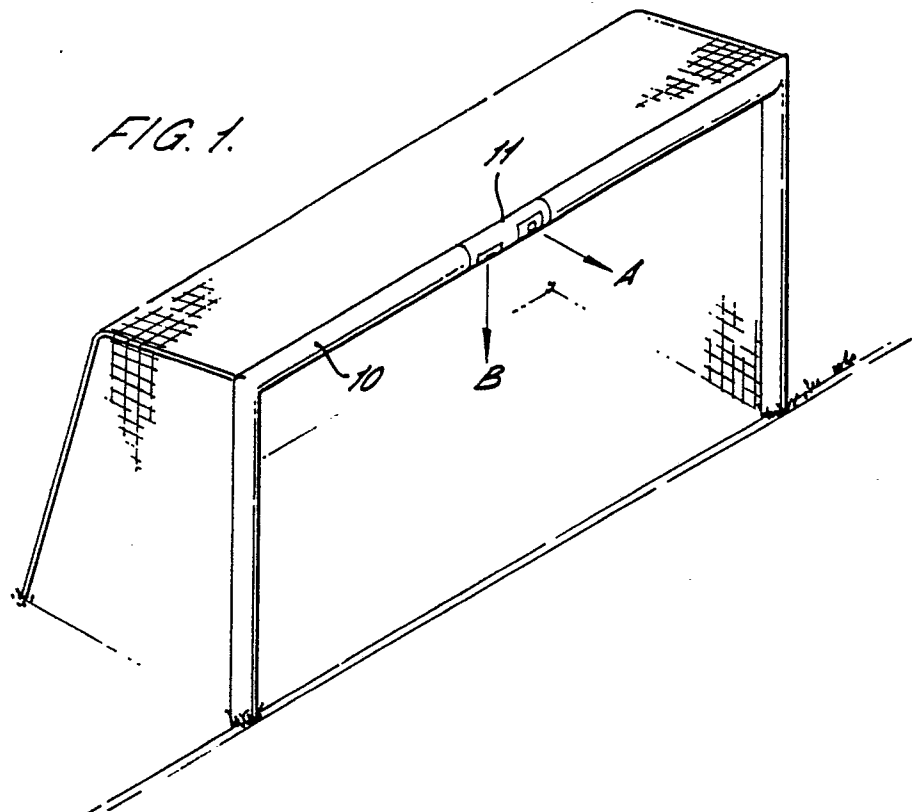
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(54) Means for mounting a camera for sports coverage.

(57) Method and apparatus for coverage of a game,  
eg football, which includes mounting a camera in the  
framework of one of the goals.



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## IMPROVEMENTS IN SPORTS COVERAGE

This invention relates to sports coverage and in particular, though not exclusively, to coverage of football matches for television.

The invention provides apparatus including a camera for taking pictures of a game, eg, a football match, in which two teams of players attack and defend their respective goals, characterised in that means is provided for mounting the camera in the framework of one of the goals.

It will be understood that the term "goal" is used herein to mean generally the object at which points are scored, and this could include for example, the goalposts for rugby, the basket for basketball or netball, the goal for water polo etc.

The camera will preferably be a TV camera and each goal will preferably have a camera.

The means for mounting the camera in the framework of the goal may comprise a housing which carries the camera and which can be incorporated into the framework of the goal. For example, the housing could conveniently be a tubular element which is fitted in and replaces a section of the crossbar of an existing framework or it may replace the entire crossbar of an existing framework. Preferably, the housing will have an outer profile which corresponds with that of a conventional framework section.

In practice, the camera will preferably be mounted statically and pointing preferably approximately horizontally in the direction of the other goal. For a wide angle picture, the camera may be arranged to view through a fish-eye type lens. If the camera is one which includes operating cables, these can conveniently be fed back from the camera through the housing and via the framework, and the framework may conveniently comprise a cable conduit for this purpose. More than one camera may be used in each goal. For example, where the goal is a football goal, a second camera may be arranged pointing straight down at the goal-line.

In the alternative, it may be possible to mount the camera in such a way that it can travel within the crossbar, eg on tracks, and view through a transparent slot at any location along the crossbar.

The invention also provides a method for providing coverage of game, eg, a football match, in which two teams of players attack and defend their respective goals, which method includes providing a camera for taking pictures of the game, and providing means for mounting the camera in the framework of one of the goals.

The invention further provides live or recorded coverage from a game provided or obtained using the apparatus defined herein or in accordance with the method defined herein.

By way of example, an embodiment of the invention will be described with reference to the accompanying drawings, in which:

FIG. 1 illustrates the framework of a goal incorporating apparatus according to the invention, and

FIG. 2 is a detail of the apparatus of FIG. 1.

There is seen in Figure 1 the framework of a football goal 10 incorporating a housing 11. The housing 11 has mounted within it two concealed cameras 12 and 13, one of which (12) points approximately horizontally in the direction of arrow A towards the other goal and the other (13) points straight down at the goal line. The cameras 12 and 13 here are television cameras. The housing 11 is seen in more detail in Figure 2.

The housing 11 is a tubular member having the same profile as the crossbar section, in this case, round. The housing 11 can be connected into the crossbar of a conventional framework by any suitable means. The housing 11 has internal stiffening ribs 14 for strength. The housing 11 could alternatively form the entire crossbar.

The two cameras 12 and 13 are mounted in fixed positions, ie, statically within the housing 11. Removable inspection covers 15 and 16 are provided for maintenance and repair of the cameras 12 and 13. A fish-eye type lens 17 is arranged for one camera (12) to view through to provide a wide angle picture of goal mouth incidents. Cables 18 and 19 extending from the cameras 12 and 13 lead away through the housing 11 and via the framework, which can conveniently comprise a cable conduit for this purpose, to a station in which the picture can be transmitted, recorded etc.

It will be appreciated that sports other than football can be covered using the method and/or apparatus according to the invention, including for example, rugby, hockey, ice hockey, polo, etc.

One of the advantages which the invention allows is the possibility to obtain pictures from much closer to the action than has hitherto been possible.

### Claims

1. Apparatus including a camera for taking pictures of a game such as a football match in which two teams of players attack and defend their respective goals, wherein means is provided for mounting the camera in the framework of one of the goals.

2. Apparatus as claimed in claim 1 wherein said means for mounting the camera comprises a housing which carries the camera and which can be incorporated into the framework of the goal.

3. Apparatus as claimed in claim 2 wherein the housing has an outer profile which corresponds with that of said framework in which the housing is incorporated.

4. Apparatus as claimed in any preceding claim and further including conduit means for feeding operating cables for the camera via the framework to a remote location.

5. Apparatus as claimed in claim 1, claim 2 or claim 3 wherein the camera is a remote-controlled camera, ie without operating cables.

6. Apparatus as claimed in any one of claims 2 to 5 wherein said housing includes means for mounting a second camera.

7. Apparatus as claimed in claim 6 wherein the second camera is trained to view the goal line.

8. Apparatus as claimed in any preceding claim wherein the first mentioned camera is mounted statically pointing generally horizontally in the direction of the other goal.

9. A method for providing coverage of a game such as a football match in which two teams of players attack and defend their respective goals, which method includes providing a camera for taking pictures of the game, and providing means for mounting the camera in the framework of one of the goals.

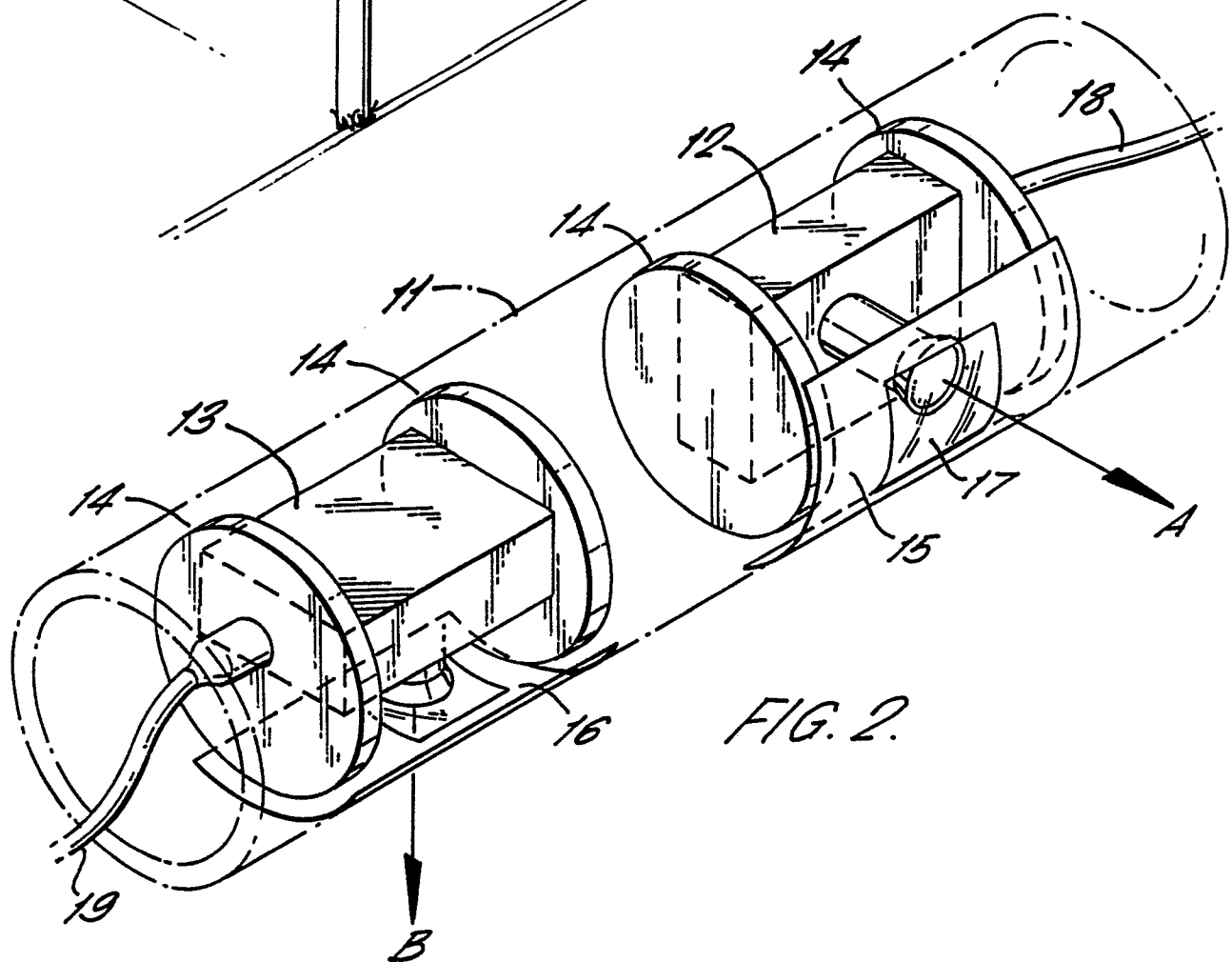
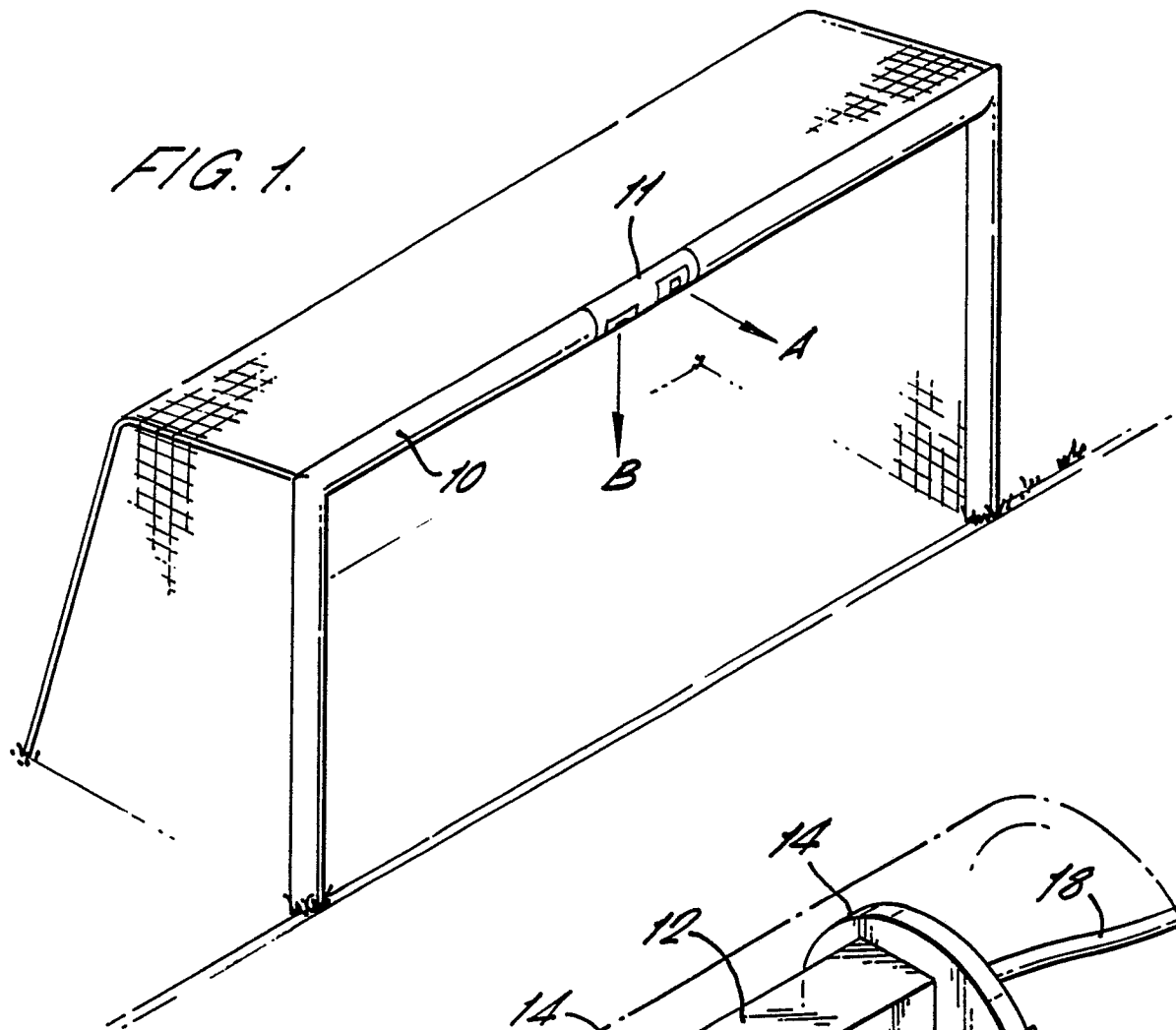
10. Live or recorded coverage from a game provided or obtained using the apparatus claimed in any one of claims 1 to 8 or in accordance with the method claimed in claim 9.

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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.4)
A	CH-A- 628 192 (H. KRUSE) * Abstract * ---	1,9,10	A 63 B 63/00 G 08 B 13/18
A	US-A-3 825 261 (N.G. ZAPOS) * Column 1, line 61 - column 2, line 4 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			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 04-09-1989	Examiner GERARD B.E.
<b>CATEGORY OF CITED DOCUMENTS</b> 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			