United States Patent

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[54] **FLOOR SOCKET**
2 Claims, 4 Drawing Figs.

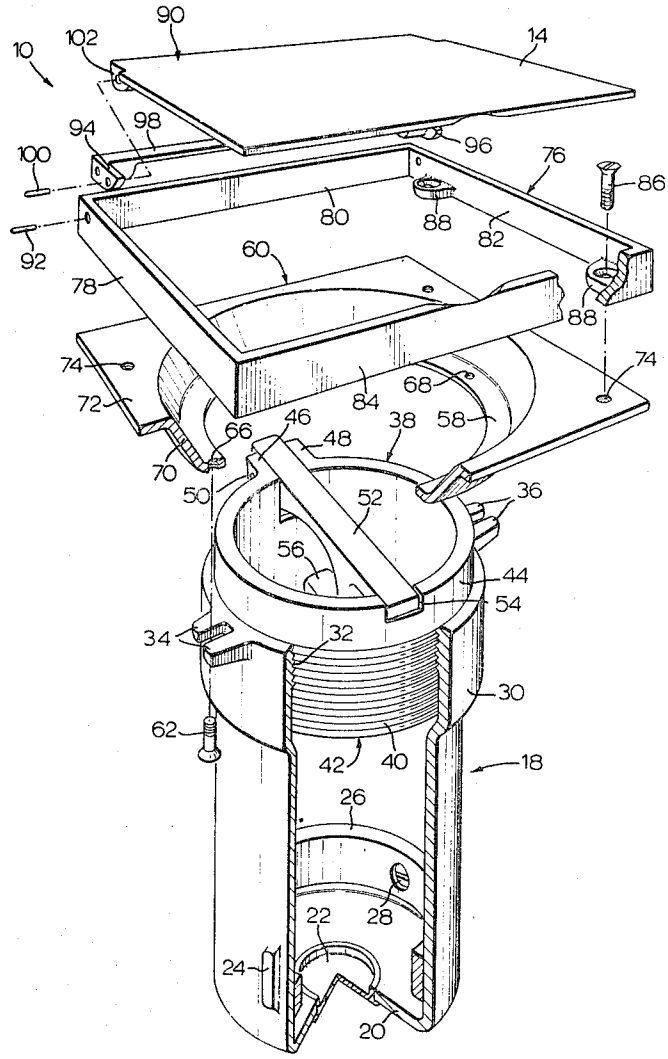
[52] **U.S. Cl.** **248/361,** 52/704
[51] **Int. Cl.** **B61d, 45/00** E02d 5/80
[50] **Field of Search** 248/361; 52/146, 704

[56] **References Cited**
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ABSTRACT: An anchor socket for a gymnasium floor is formed of a tubular well with interior threads cooperating with the exterior threads of a tubular anchor assembly rotatable in the well. The anchor assembly has a hinged hook for securing an anchor stay.



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2 Sheets-Sheet 1

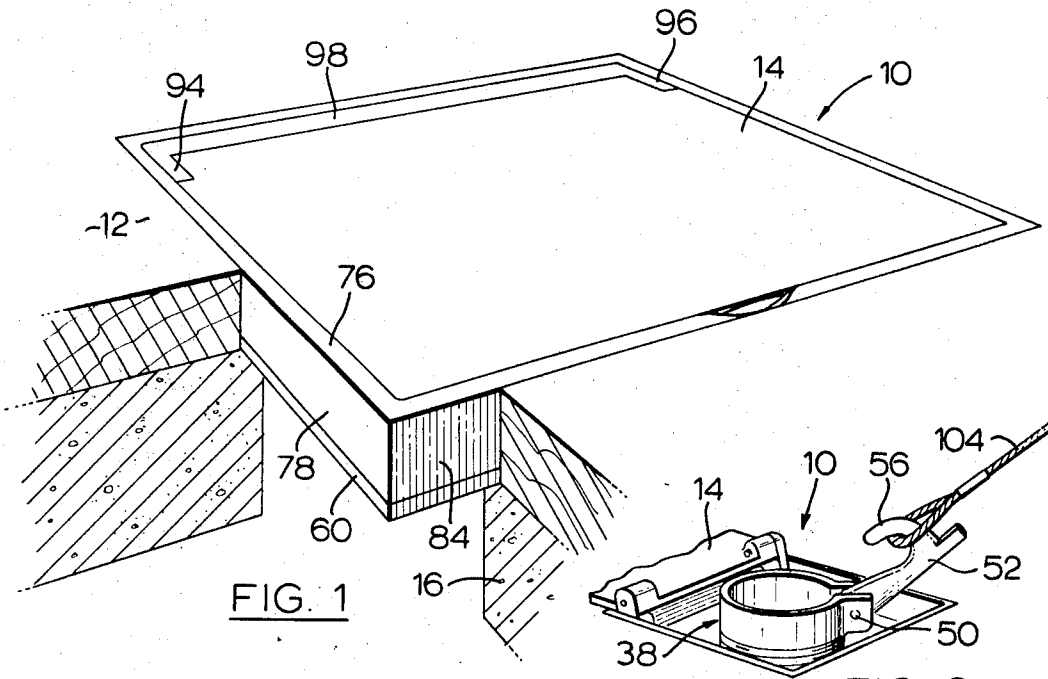


FIG. 1

FIG. 3

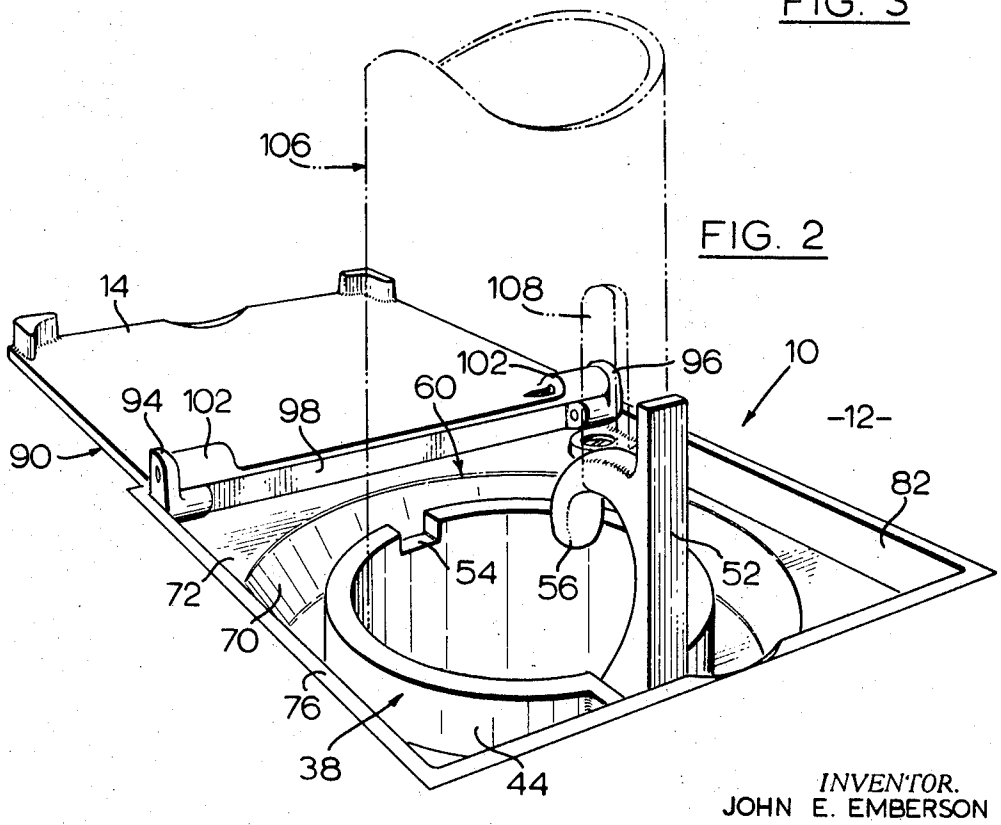


FIG. 2

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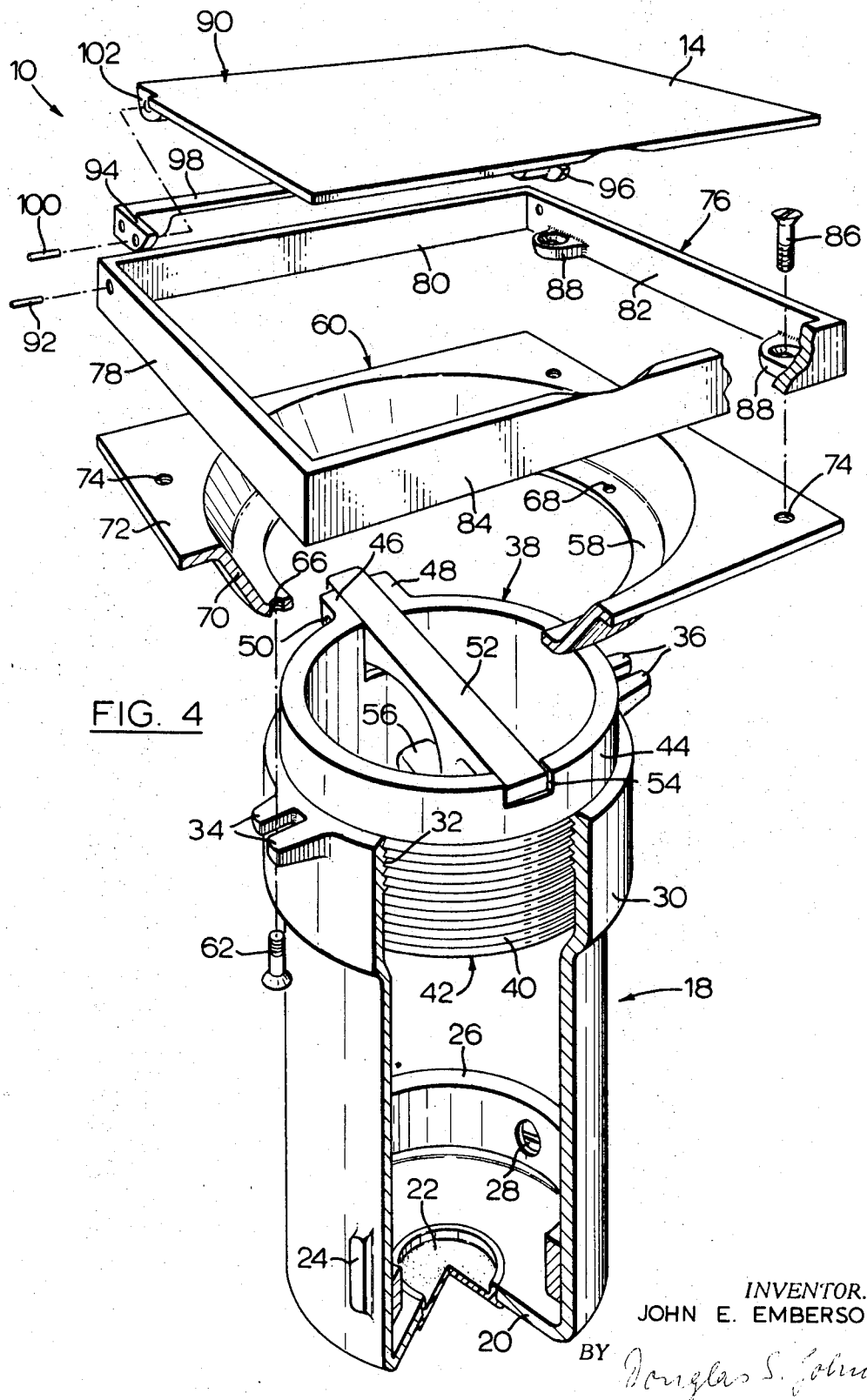


FIG. 4

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FLOOR SOCKET

FIELD OF THE INVENTION

This invention relates to floor sockets and has particular relation to a floor socket intended to be set in the floor of a gymnasium. Such floor sockets provide securing means for an anchoring cable to hold gymnastic equipment in place.

SUMMARY OF THE INVENTION

It is a feature of the floor socket constructed according to the invention that it incorporates a hook which provides for both high-bar and floor apparatus anchoring; also, the floor socket of the invention incorporates the feature of permitting complete circular swiveling of the anchor hook attached thereto so that the anchoring cable is always subjected to forces in tension and not to any forces.

It is a further feature of the floor socket constructed according to the invention that it is adapted to locate and support therein a fixed bar.

It is a further feature of the invention that the floor socket of the invention incorporates a cover which on closure is flush with the floor of the gymnasium.

DESCRIPTION OF THE DRAWINGS

The invention will now be described in relation to the accompanying drawings in which:

FIG. 1 is a perspective view, in the closed position, of a floor socket constructed according to the invention;

FIG. 2 is a partial perspective view, in the open position, of the floor socket shown in FIG. 1 and further illustrating the location of a fixed bar;

FIG. 3 is a partial perspective view showing the socket hook attached to an anchor cable;

FIG. 4 is a perspective exploded view showing the construction in detail of the floor socket shown in FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to FIG. 1, the floor socket, generally denoted by the numeral 10, is located in a gymnasium floor 12 so that the closed cover 14 of socket 10 lies flush with the floor 12. Although the cover 14 may for instance be circular, it is preferable to make it rectangular, as illustrated, in order to blend with the floor pattern, and this configuration makes it easier to install. The floor socket 10 is set in the concrete 16 which provides support for the floor 12.

As shown more particularly in FIG. 4, the floor socket 10 includes a tubular socket well 18 terminated at its lower end by a centrally apertured wall 20 which is sealed by a grout plug 22 which ensures accurate game standard height. As already mentioned, floor socket 10 is set in the concrete 16, and to ensure rigidity, anchoring lugs 24 are provided on the exterior of the socket well 18. Interior of the socket well 18, and located adjacent to the end wall 20, is a collar 26 secured in place by recessed screws 28.

The socket well 18 is stepped towards its upper end, as shown in FIG. 4, to provide a terminating portion 30 having an inner and external diameter larger than that of the lower portion of the well 18. The terminating portion 30 has an internal thread 32 adjacent its upper end. The terminating portion 30 also has a pair of external, spaced-apart abutments 34 and 36, which are diametrically opposed.

An anchor hook assembly, generally denoted by the numeral 38, is rotatably engaged in the terminating portion 30 of the well 18, and this is accomplished by threads 40 provided on the exterior surface of the tubular portion 42 of the assembly 38 engaging with the threads 32 of the well 18.

The tubular portion 42 of the assembly 38 terminates in an outwardly disposed flange 44 which terminates the downward travel of the tubular portion 42 on rotation in the well 18. The flange 44 has a pair of spaced-apart, outwardly disposed abutments 46 and 48 traversed by a pin 50. An arm 52 is hinged on the pin 50 between the abutments 46 and 48. The arm 52 is of a length sufficient to span the tubular portion 42 of the assembly 38, and in this position its free end rests in a diametrically opposed slot 54 provided in the flange 44.

The arm 52 has an integral hook 56 which projects downwards and inwards with respect to the tubular portion 42 of the assembly 38 when the free end of the arm 52 rests in the slot 54.

Seated on top of the terminating portion 30 of the well 18 is the flange 58 of an annular dished plate, generally denoted by the numeral 60. The inner edge of the flange 58 is clear of the assembly 38 and is secured to the well 18 by means of screws 62 passing through the spaced-apart abutments 46 and 48, respectively, and entering threaded holes 66 and 68 in the flange 58.

The plate 60 has a wall 70 extending outwardly from the flange 58. The wall 70 terminates in a flat portion 72, the edge of which is rectangular in configuration. Threaded holes 74 are provided in the flat portion 72 adjacent each corner.

A rectangular hollow member, generally denoted by the numeral 76, having integral upstanding walls 78, 80, 82 and 84, is supported on the plate 60 and is secured thereto by means of screws 86 threaded into the individual threaded holes 74 through internal abutments 88. The edge of the hollow member 76 is contemporaneous with the edge of the flat portion 72 of the dished plate 60.

A double-hinged cover 90 is provided to the socket 10, the double hinge enabling the cover 90 to lie flat on the floor 12 in the open position. To provide the double hinge, corresponding ends of each wall 78 and 82 of the rectangular hollow member 76 carry a pin 92. The flanges 94 and 96 of a channel member 98 located adjacent the wall 80 of the hollow member 76 are pivoted on the pins 92. The flanges 94 and 96 of the channel 98 also carry another pin 100 on which in turn is pivoted the cover 90, the pins 100 passing through abutments 102 provided on the underside of the cover 90, which is stepped, as shown, above the abutments 102.

The socket 10 is set in the floor 12 so that the upper edge of the rectangular hollow member 76 is flush with the floor 12; the double-hinged cover 90 is then capable of lying flat on the floor in the open position, and in the closed position is flush with the floor 12, thus offering no impediment to movement thereon.

In the open position, the hook 56 of the arm 52 may secure an anchor cable 104, as shown in FIG. 3, in which case the anchor hook assembly 38 will rotate to a position where the arm 52 is in line with the anchor cable 104 so that the latter is in tension only and free from kinks. Alternatively, as illustrated in FIG. 2, the socket 10 may be used to locate a fixed bar 106, the lower end of which rests on the collar 26; the fixed bar 106 is provided with a vertically disposed slot 108 in which is located the hook 56 of the arm 52, the engagement of the hook 56 in the slot 108 maintaining the bar 106 in position.

I claim:

1. A floor socket consisting of an annular dished plate member secured to said floor, a hinged cover to said plate, said cover in the closed position lying flush with said floor, a tubular well aligned with the annulus of said dished plate, said well being secured to the underside of said dished plate, interior threads on said well, a tubular anchor member in said well having exterior threads cooperating with said interior threads, an upwardly pivotable arm on one side of said anchor member, said arm having a hook intermediate of its ends, the downward movement of said arm being terminated when its free end meets the opposed side of said tubular member, said anchor member due to said cooperating threads being freely swivelable both upwards to extend through said annular dished plate member and downwards to a position where its upper end and downwardly positioned pivotable arm both lie below the level of said cover when closed.

2. A floor socket according to claim 1 wherein said well has a restricted lower portion to terminate the swivelable downward movement of said anchor member.