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(54) **Displaceable interior element and methods of operating same**

(57) The invention relates to a device for displacing an interior element in a space between a stowed position and a position of use. The device comprises an interior element, lifting means attachable to the ceiling of the space and operating means for actuating the lifting means. A preferred embodiment of an interior element according to the invention is a covering for a games table, such as as for instance a billiard table or table football

game. The interior element can herein provide for instance the billiard table on which it is placed with wholly different implementations. Other options which can be provided herewith are for instance a poker table or a show table provided with different levels for displaying products.

The invention also provides methods for using the above described device.

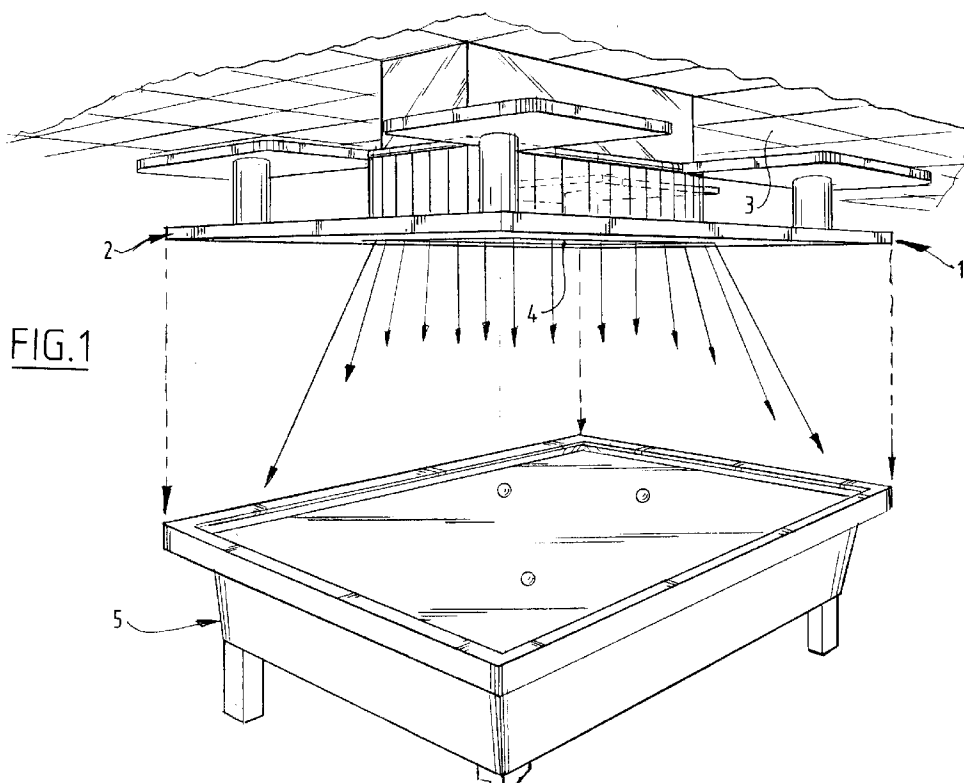


FIG.1

EP 0 788 820 A2

Description

The invention relates to a device for displacing an interior element in a space between a stowed position and a position of use. The invention also relates to a method for displacing an interior element from a stowed position to a position of use in addition to a method for displacing an interior element from a position of use to a stowed position.

In spaces which must be suitable for many uses particular interior elements can therein be very limiting for a flexible use of space. As a practical example here can be envisaged a billiard table in a bar which, when billiards is not being played, takes up a great deal of unusable space. It has only been possible heretofore to move a billiard table with a very unwieldy construction (for instance mobile jacks) but usually the billiard table is covered with for instance a cover sheet, so that the risk of damage is limited.

The present invention has for its object to increase the options for use of a space by making interior elements displaceable in relatively simple manner. This is realized by the present invention with a device for displacing an interior element in a space between a stowed position and a position of use, comprising:

- an interior element,
- lifting means attachable to a ceiling of the space, which lifting means are releasably connectable to the interior element for moving the interior element between the stowed position and the position of use, and
- operating means for actuating the lifting means. The lifting means are preferably arranged in a holder fixable to the ceiling and the lifting means are preferably formed by at least one rotatable shaft, through rotation of which a cord connected to the shaft is unwound respectively wound up, which cord can be coupled to the interior element. It becomes possible using this device to place the interior element in respectively a position of use and a stowed position without having to drag the interior element about. As interior elements should be envisaged here for instance a dance floor, seat elements, partition elements etc.

The outer end of at least one cord is preferably connected to a cover element which in the raised position connects onto the holder in which the lifting means are arranged, and the cover element is preferably also provided with coupling means for connecting the cover element to the interior element. In yet another preferred embodiment the cover element is provided with at least one lighting element which is connected to an energy supply in at least the raised position of the cover element. In a position of use of the interior element the cover element makes it possible to cover the holder fixed to the ceiling such that the lifting means are hidden from

view. Due to the lighting element in the cover element the holder with cover element placed thereagainst functions as lighting fixture and, in addition to the fact that the lifting means are hidden from view, is therefore also functional. It will be apparent that the lighting function will be utilized particularly in the raised position of the cover element, wherein it is therefore also logical, in this situation in any case, for the lighting element to be connected to an energy supply.

In another preferred embodiment the interior element is provided on the underside with at least one lighting element which is connected to an energy supply at least in a stowed position fully raised by the lifting means. By also placing such a lighting element in the interior element it is also possible to illuminate the space under the interior element when the interior element is situated in the stowed position. In addition to this functional advantage this can also enable an aesthetic stowing of the interior element.

Yet another preferred embodiment is characterized in that the interior element can be placed on an object situated in the space. This interior element can for instance be provided with means for covering a game table, such as for instance a billiard table, a table football game etc. It is also possible to provide the interior element on the side facing toward the ceiling with a number of platforms situated at diverse levels and/or with a gaming table surface. In this preferred embodiment the interior element can be used to increase the options for use of large objects such as for instance a billiard table, a table football game or other large and/or heavy object. Through placing of the interior element on the object for covering the latter acquires a different function. A billiard table can thus be converted to a poker table or a show table for presenting for instance a buffet. Another example is a large reading table, the stand of which containing the reading matter can be removed as required to convert the reading table to a dining or conference table. It will be apparent that these are only examples of the countless uses of this invention.

The invention also provides a method for displacing an interior element from a stowed position to a position of use, comprising the successive steps of:

- actuating by means of operating means lifting means from which the interior element is suspended in stowed position such that the interior element descends to a position of use,
- disconnecting the lifting means and the interior element after the interior element has reached the position of use, and
- raising the lifting means so that they leave the interior element free for use, and a method for displacing an interior element from a position of use to a stowed position, comprising the successive steps of:
 - actuating lifting means by means of operating means such that the lifting means are displaced

from a raised position leaving clear the interior element to a position in which the lifting means make contact with the interior element,

- coupling the lifting means to the interior element, and
- raising the lifting means with the interior element coupled thereto until the interior element reaches the stowed position. These methods make it very simple to convert an existing interior element for other uses or to displace or remove an interior element, certainly when the operating means are mechanized by for instance an electric motor.

The present invention will be further elucidated with reference to the non-limitative embodiments shown in the following figures. Herein:

Fig. 1 shows a perspective view of a device according to the invention depicted in stowed situation above a billiard table,

Fig. 2 is a perspective view of the device according to the invention shown in fig. 1 in a position of use, wherein the interior element rests on the billiard table,

Fig. 3 is a perspective view of an alternatively embodied interior element in a position comparable to the position shown in fig. 2, and

Fig. 4 is a perspective detail view of lifting means forming part of an interior element as shown in the foregoing figures.

Fig. 1 shows a device 1 comprising an interior element 2 which is locked close to a ceiling 3 in a stowed position. The underside of interior element 2 is provided with a lighting element 4 with which a billiard table 5 placed under interior element 2 is illuminated. In the situation shown here use can be made of billiard table 5 without device 1 causing any obstruction therein.

In the situation shown in fig. 2 the interior element 2 is placed on billiard table 5. Interior element 2 comprises inter alia a cover plate 6 with which the billiard table 5 is covered such that there is no danger of damage to the cloth. Fixed onto the cover plate 6 are gaming tables 7 which adjoin a dice tray 8. Using interior element 2 the billiard table 5 can be converted into for instance a poker table. For the conversion the interior element 2 is placed by lifting means 9 from the ceiling onto billiard table 5. This takes place as follows. Fixed to the ceiling 3 is a holder 10 in which are situated two rotatable shafts 11. By rotating shafts 11 cords 12 shown in broken lines can be lengthened or shortened. A cover plate 13 is fastened to the underside of cords 12. This cover plate 13 can be coupled to the dice tray 8 by causing for instance locks which are not shown in this figure and which are situated on cover plate 13 to co-act with recesses 14 in dice tray 8. When cover plate 13 and interior element 2 are mutually connected it is possible by rotating shafts 11 to displace the interior element from

a position close to the ceiling 3 to a billiard table 5 and vice versa. After placing of interior element 2 in an active position as shown in this figure, the cover plate 13 can be released from interior element 2. Cover plate 13 will then be moved upward until it co-acts with holder 10. When situated in the upper position the cover plate 13' will hide from view the shafts 11, cords 12 and the drive means. It is also possible herein to place light fixtures 15 in cover plate 13 which illuminate interior element 2 when this latter is in a position of use and the cover plate 13' co-acts with holder 10. There are many alternatives for operation of drive shafts 11. It is thus possible for instance to drive the shafts 11 using electric motors. This will be elaborated further with reference to fig. 4. It is also possible however to drive shafts 11 manually using a mechanical transmission.

Fig. 3 shows an interior element 16 which differs from interior element 2 as shown in fig. 1 and 2. The interior element 16 shown here substantially comprises two platforms 17, 18 located at different heights, for instance for displaying foods. However, countless other platform constructions are also conceivable, having for instance more levels and on which articles other than said foods can be displayed.

Fig. 4 shows the lifting means 9 in detail. The lifting means are formed by a rotatable shaft 11 driven by means of a cylindrical electric motor 19. The cylindrical drive 19 causes a cylindrical casing 20 of shaft 11 to rotate round a stationary core 21. The cylindrical drive 19 is coupled to stationary core 21 and is also connected on the other side to the rotatable cylindrical casing 20. By rotating cylindrical casing 20 in counterclockwise direction, belts 22 will be extended such that dice tray 8 is detached from holder 10. The coupling of dice tray 8 to the lifting means as shown in this figure thus differs from the construction shown in fig. 1 and 2.

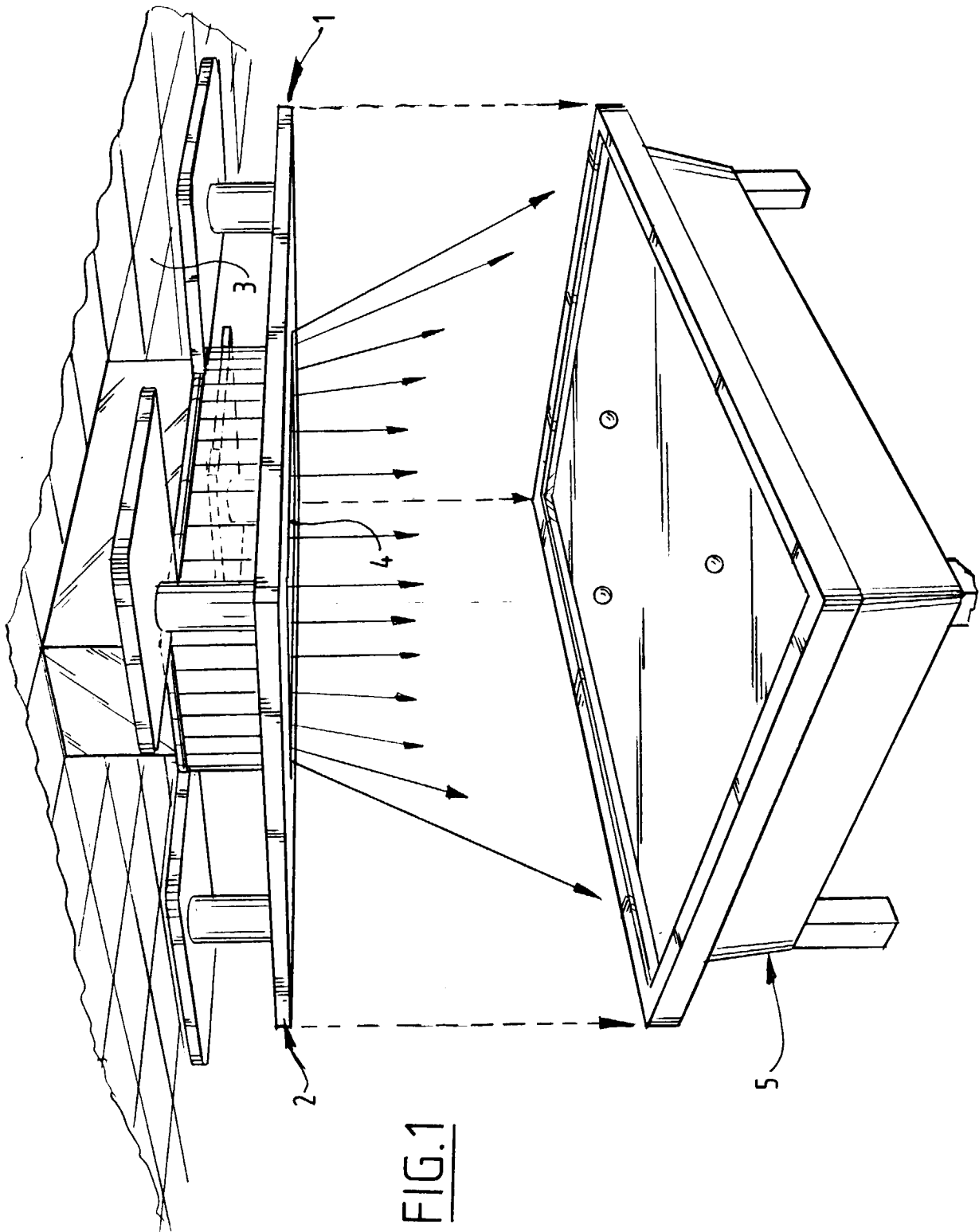
Claims

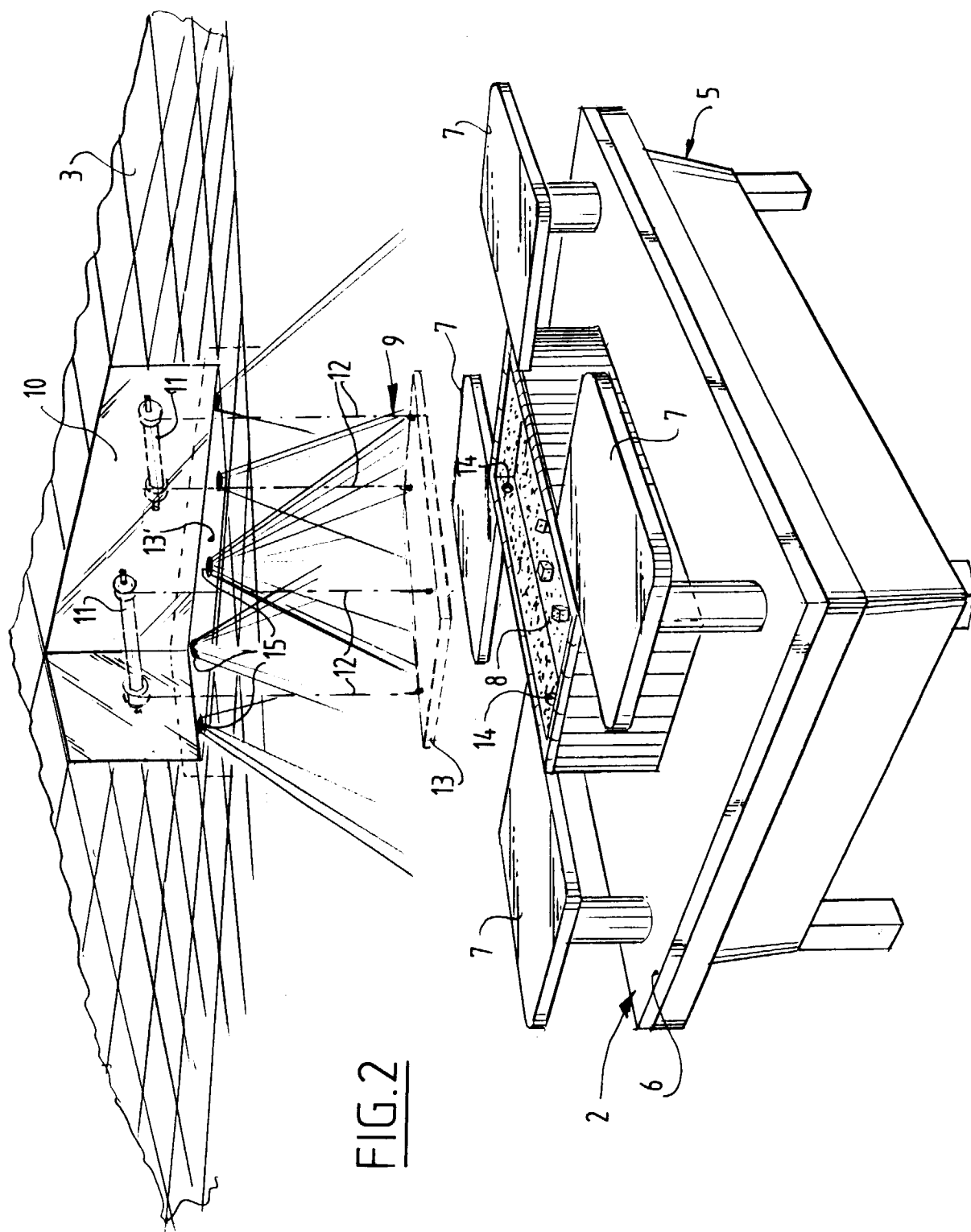
1. Device for displacing an interior element in a space between a stowed position and a position of use, comprising:
 - an interior element,
 - lifting means attachable to a ceiling of the space, which lifting means are releasably connectable to the interior element for moving the interior element between the stowed position and the position of use, and
 - operating means for actuating the lifting means.
2. Device as claimed in claim 1, wherein the lifting means are arranged in a holder fixable to the ceiling and the lifting means are formed by at least one rotatable shaft, through rotation of which a cord connected to the shaft is unwound respectively wound

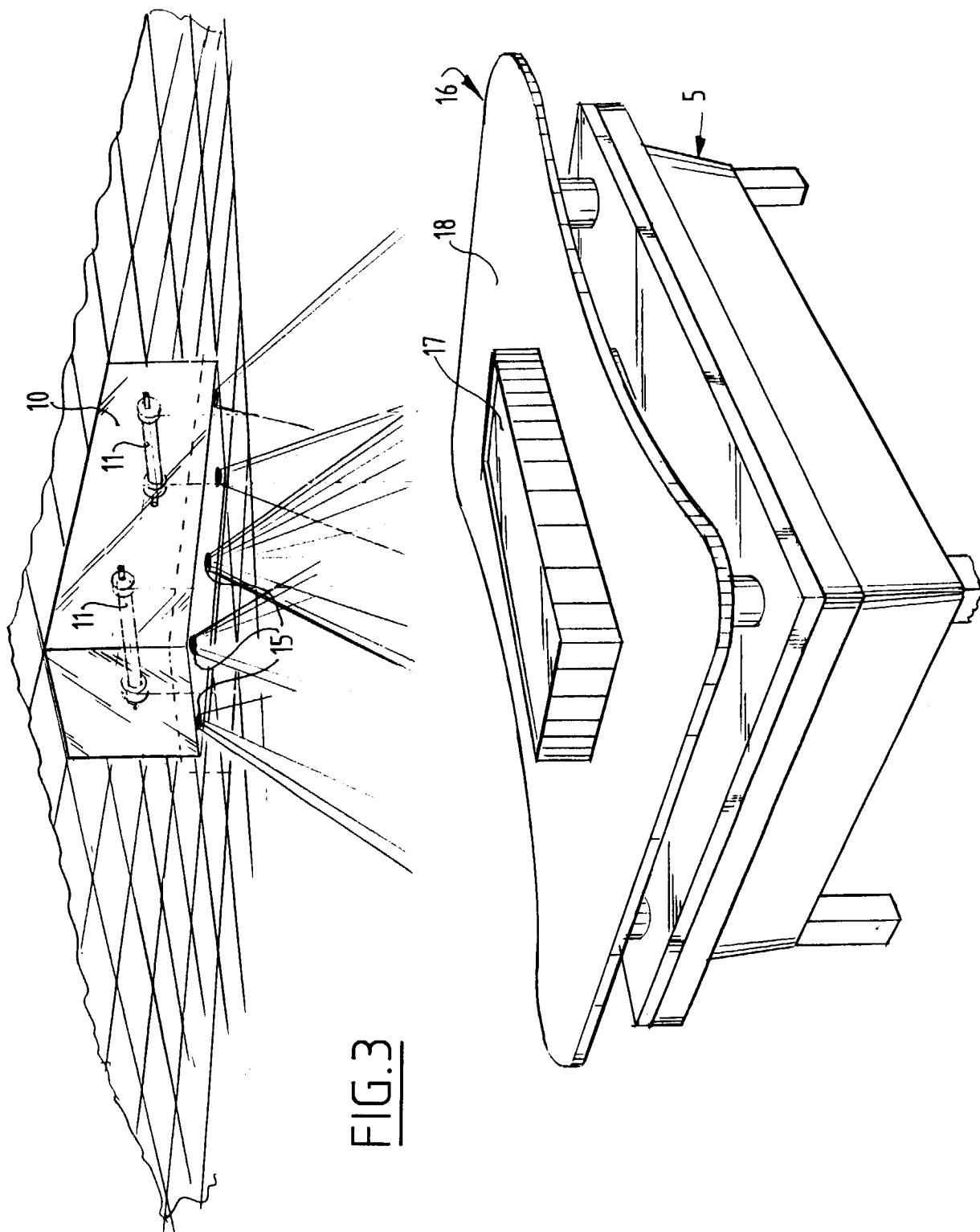
up, which cord can be coupled to the interior element.

3. Device as claimed in claim 2, wherein the outer end of at least one cord is connected to a cover element which in the raised position connects onto the holder in which the lifting means are arranged, and the cover element is provided with coupling means for connecting the cover element to the interior element. 5
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4. Device as claimed in claim 3, wherein the cover element is provided with at least one lighting element which is connected to an energy supply at least in the raised position of the cover element. 15
5. Device as claimed in any of the foregoing claims, wherein the interior element is provided on the underside with at least one lighting element which is connected to an energy supply at least in a stowed position fully raised by the lifting means. 20
6. Device as claimed in any of the foregoing claims, wherein the interior element can be placed on an object situated in the space. 25
7. Device as claimed in claim 6, wherein the interior element is provided with means for covering a games table, such as for instance a billiard table, a table football game etc. 30
8. Device as claimed in any of the foregoing claims, wherein the interior element is provided on the side facing toward the ceiling with a number of platforms situated at diverse levels. 35
9. Device as claimed in any of the foregoing claims, wherein the interior element is provided on the side facing toward the ceiling with a gaming table surface. 40
10. Method for displacing an interior element from a stowed position to a position of use, comprising the successive steps of: 45
 - actuating by means of operating means lifting means from which the interior element is suspended in stowed position such that the interior element descends to a position of use,
 - disconnecting the lifting means and the interior element after the interior element has reached the position of use, and
 - raising the lifting means so that they leave the interior element free for use. 50
11. Method for displacing an interior element from a position of use to a stowed position, comprising the successive steps of: 55

- actuating lifting means by means of operating means such that the lifting means are displaced from a raised position leaving clear the interior element to a position in which the lifting means make contact with the interior element,
- coupling the lifting means to the interior element, and
- raising the lifting means with the interior element coupled thereto until the interior element reaches the stowed position.







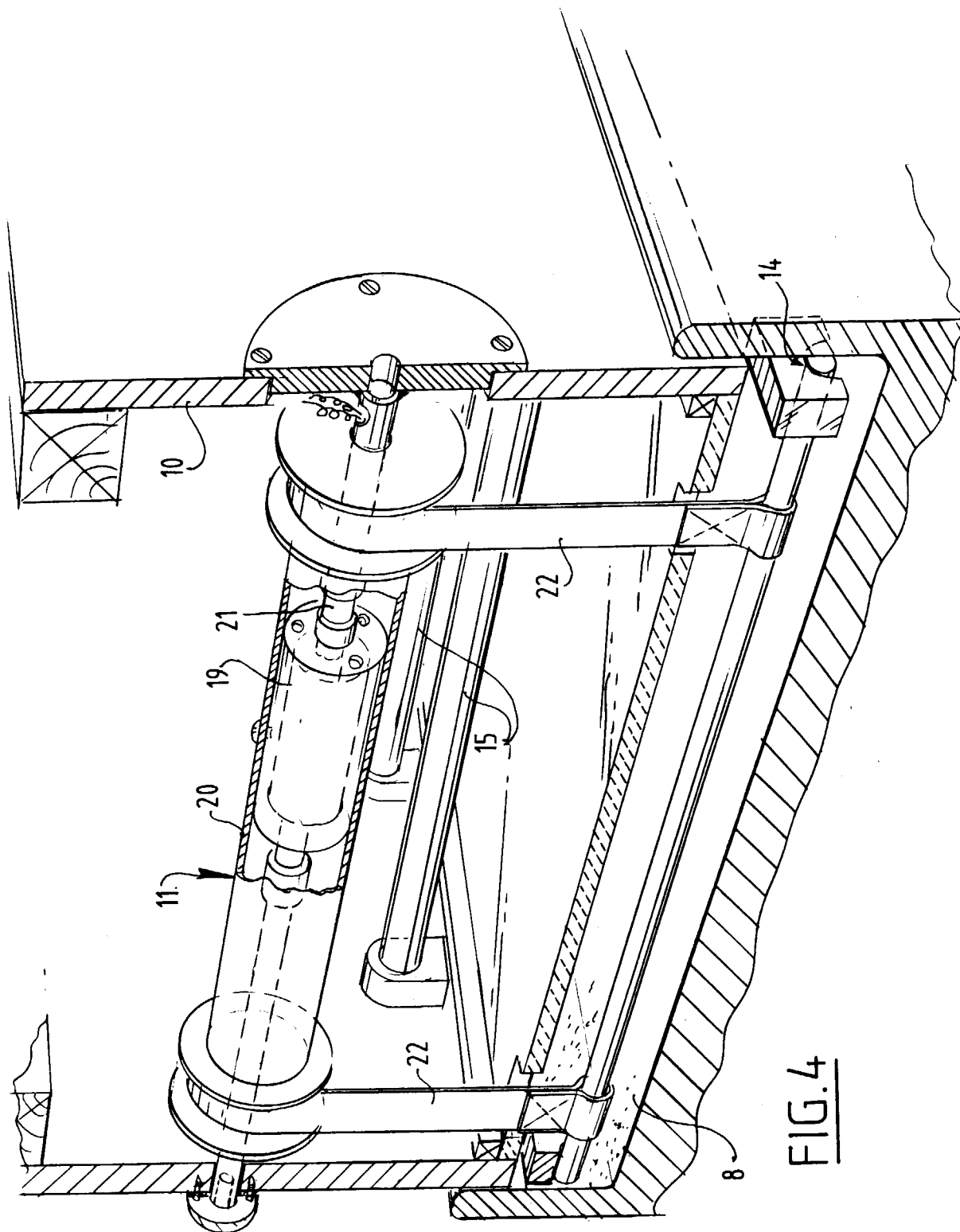


FIG. 4