US 20100022318A1

(19) United States

(12) Patent Application Publication

(10) Pub. No.: US 2010/0022318 A1

(43) Pub. Date: Jan. 28, 2010

Munaretto et al.

(54) GOLF PUTTING FLOOR VENT

(75) Inventors: **Robert Munaretto**, Lake in the Hills, IL (US); **Michael Lorenz**, Lake in the Hills, IL (US)

Correspondence Address:
MCDONALD HOPKINS LLC
600 Superior Avenue, East, Suite 2100
CLEVELAND, OH 44114-2653 (US)

(73) Assignee: **M. J. Munaretto & Co., Inc.**, Crystal Lake, IL (US)

(21) Appl. No.: **12/456,494**

(22) Filed: **Jun. 17, 2009**

Related U.S. Application Data

(60) Provisional application No. 61/073,053, filed on Jun. 17, 2008.

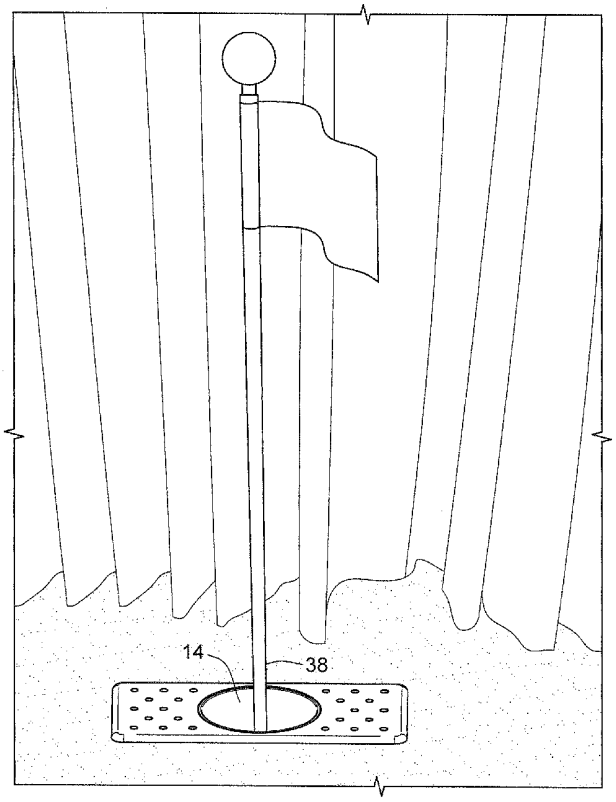
Publication Classification

(51) **Int. Cl.**
A63B 57/00 (2006.01)
A63B 69/36 (2006.01)

(52) **U.S. Cl.** **473/196**; 454/289

(57) **ABSTRACT**

A golf putting practice device adapted to serve as a substitute for a floor vent that fits into a floor duct of a forced air circulation system of a building and includes a ball receiving enclosure and at least one flat support plate member extended outwardly from the ball receiving enclosure. The front wall of the ball receiving enclosure includes a notched portion that provides a golf ball open access to the enclosure when the device is installed into a floor duct. A plurality of apertures are formed in the support plate member to allow for air flow through the plate. A floor air vent cover includes a centrally located closed bottom depression the size of a golf putting cup for receiving and retaining a putted golf ball. The opposite ends of the cover contain air passage openings having tapered sides for directing the air flow away from said depression. The present invention discloses an apparatus for golf putting practice wherein the present invention is an insert having at least one regulation size golf hole disposed therein wherein the insert is complementarily sized and shaped to be inserted into the outlet opening of a conventional heating and ventilation air conditioning (HVAC) system as might occur in the floor of a home or office building replacing a standard vent register. The insert is sized to be removably secured internal of the HVAC outlet so that it can be easily inserted and removed therefrom.



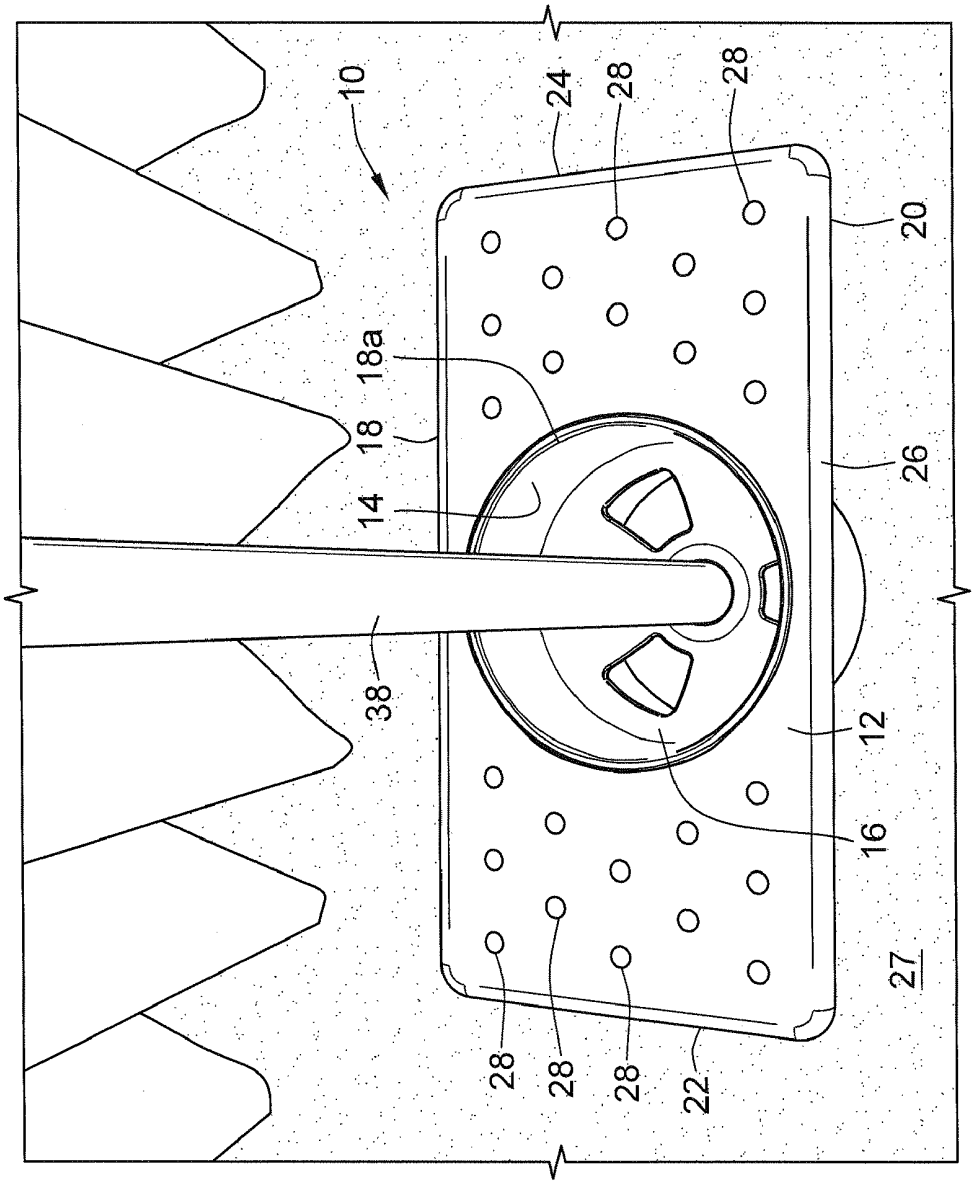


FIG. 1

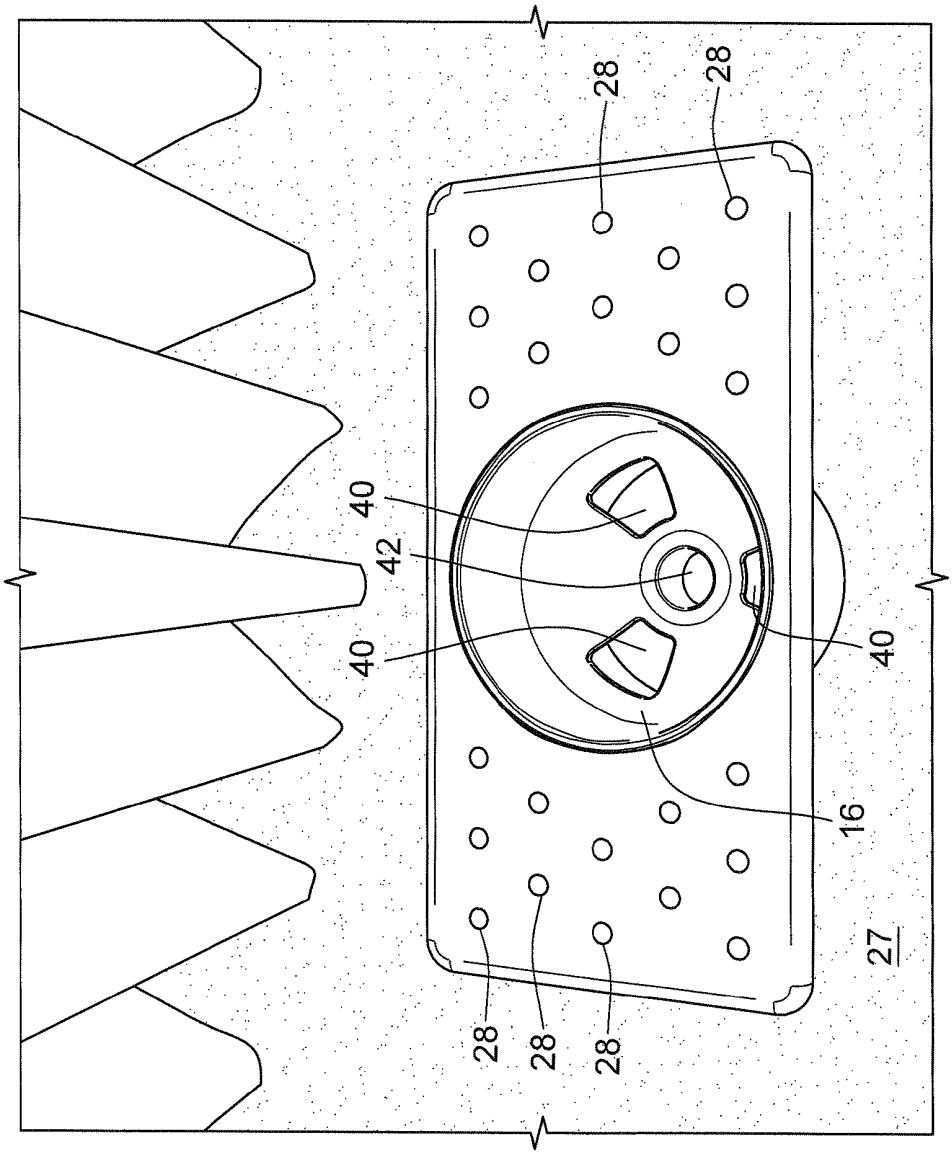


FIG. 2

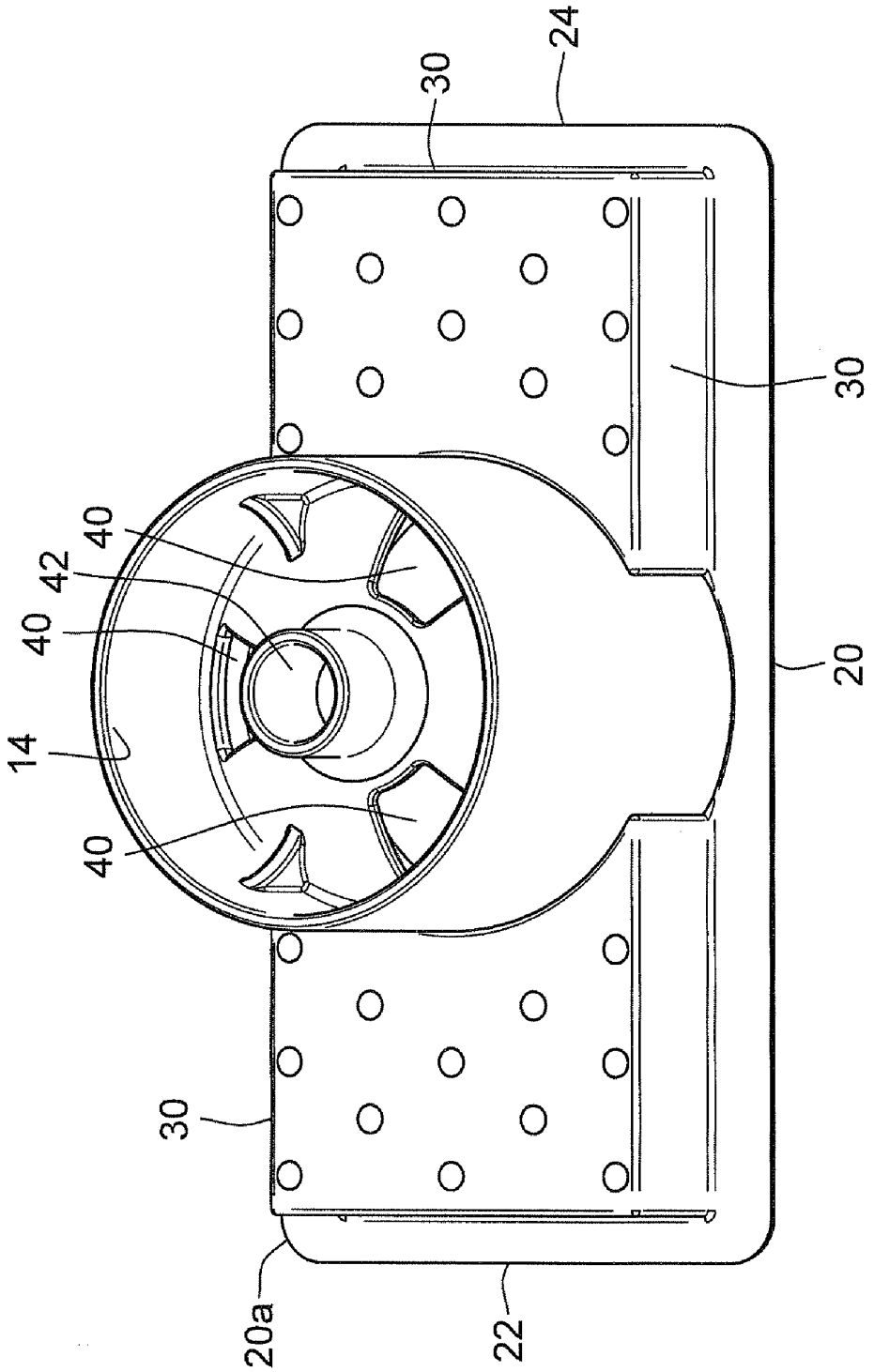


FIG. 3

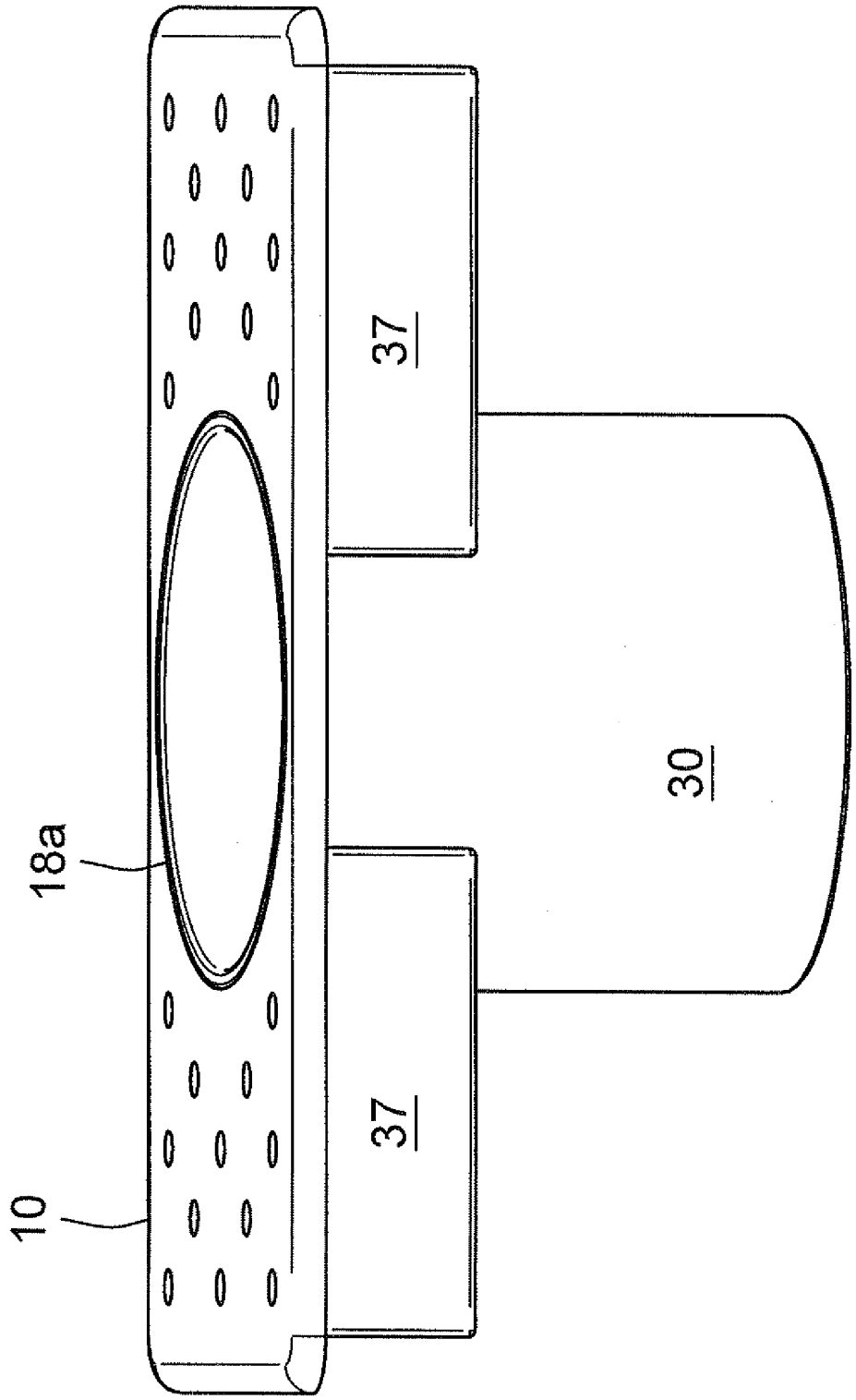


FIG. 4

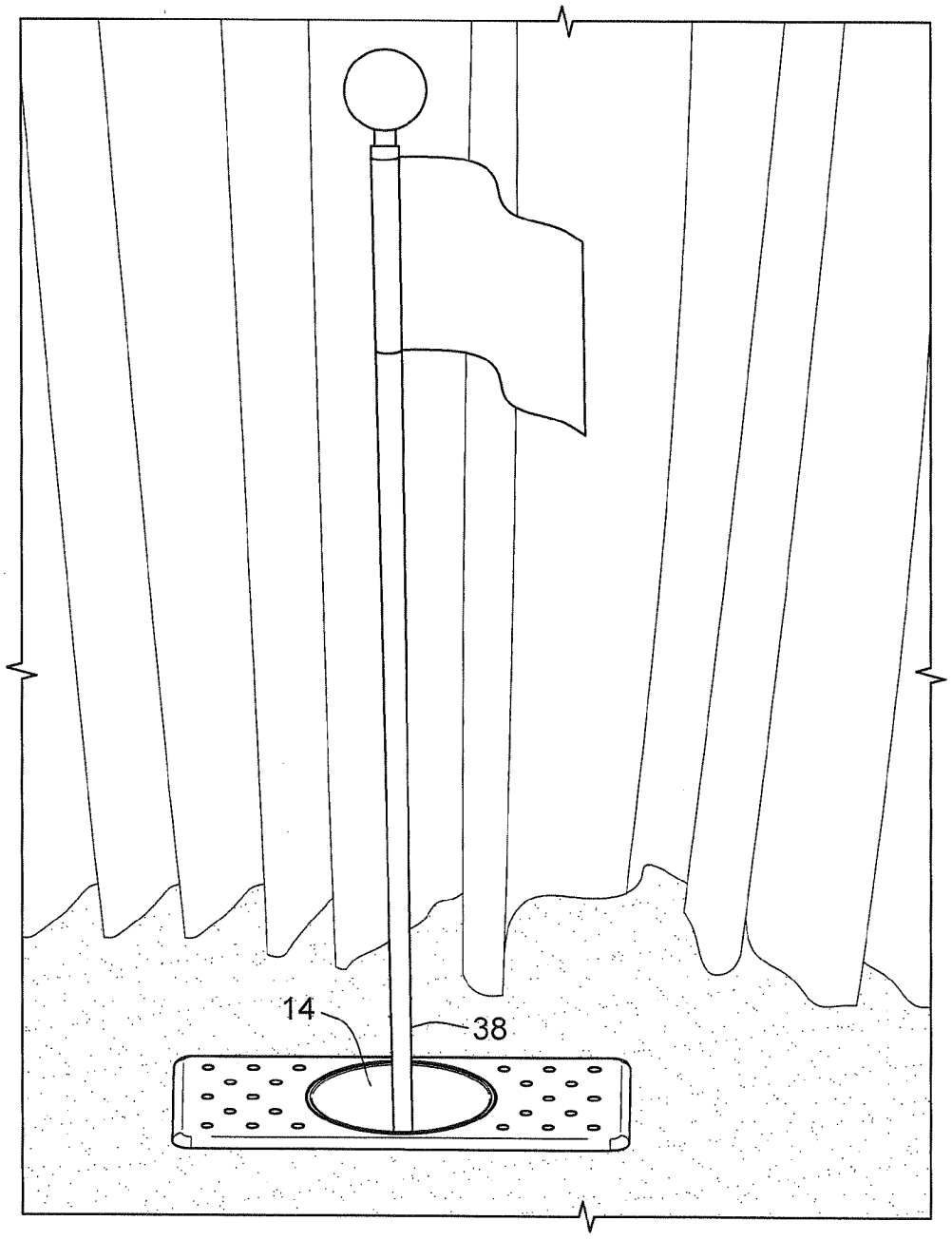


FIG. 5

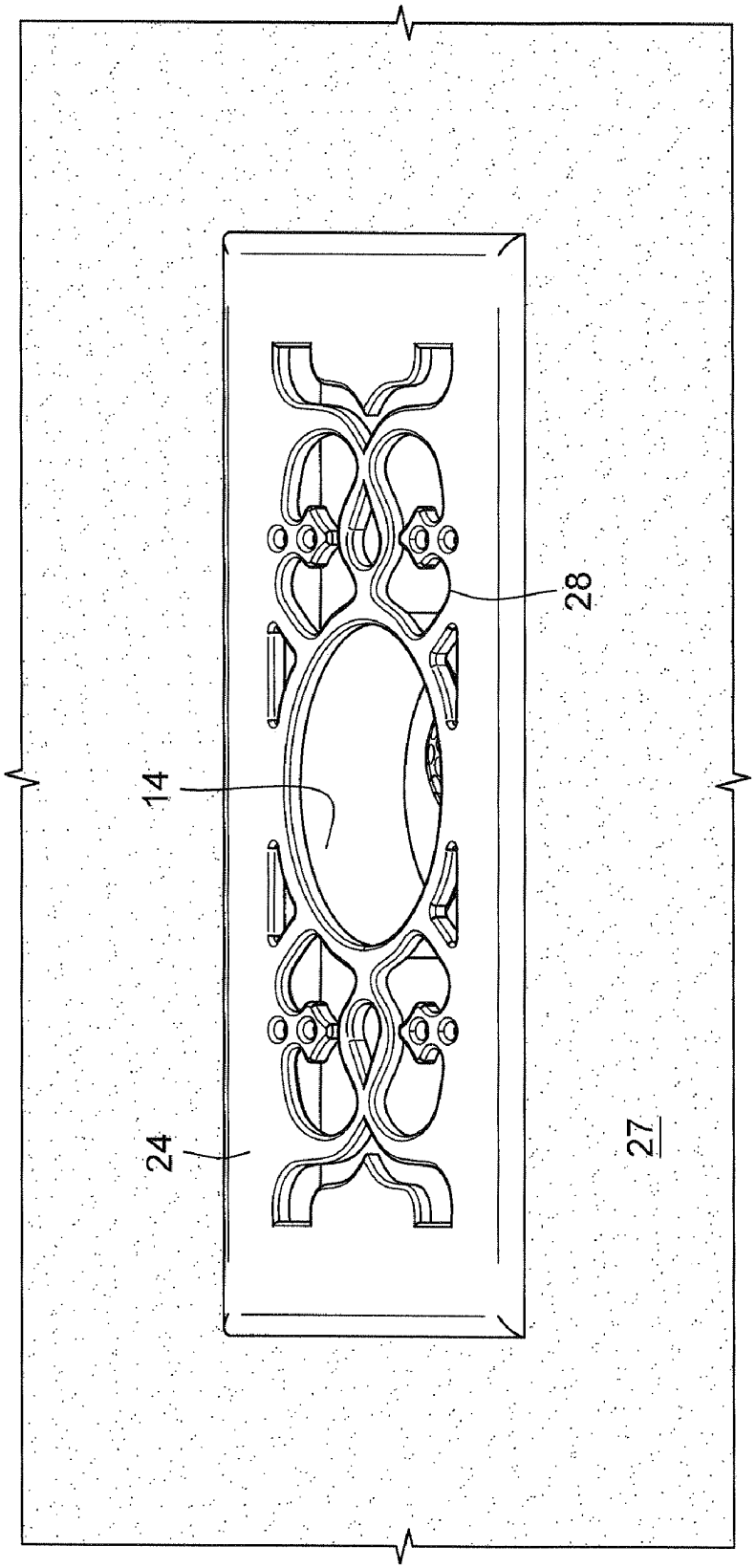


FIG. 6

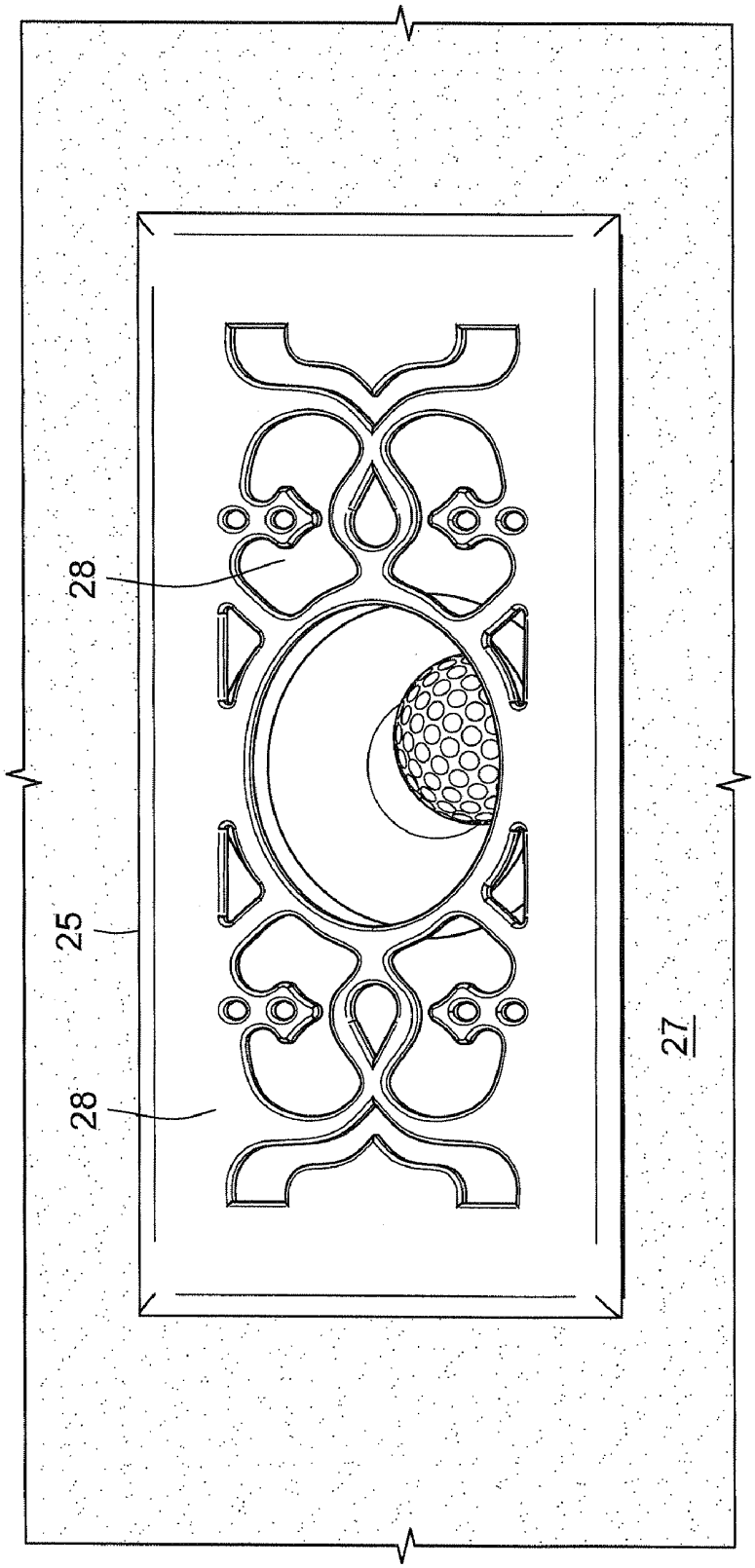


FIG. 7

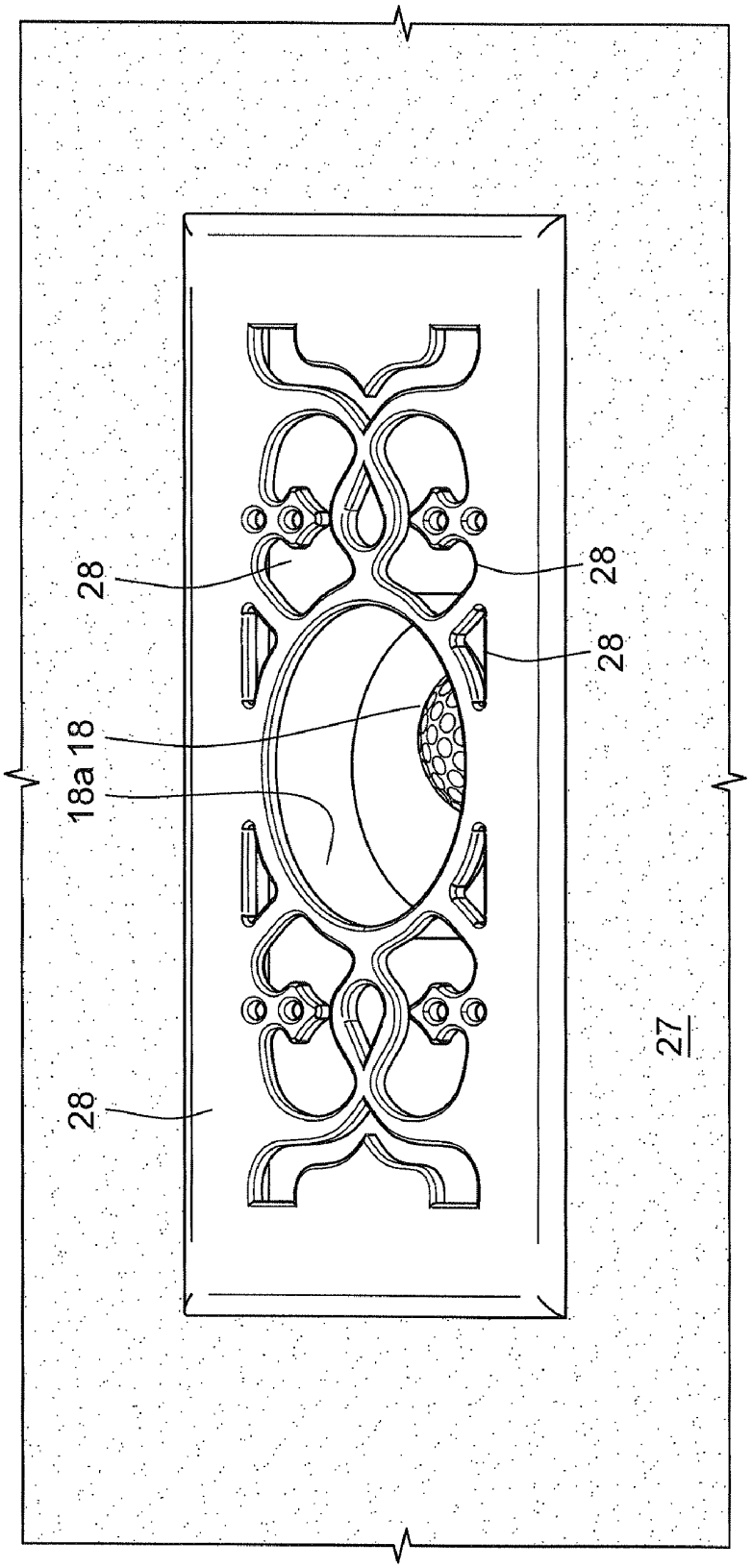


FIG. 8

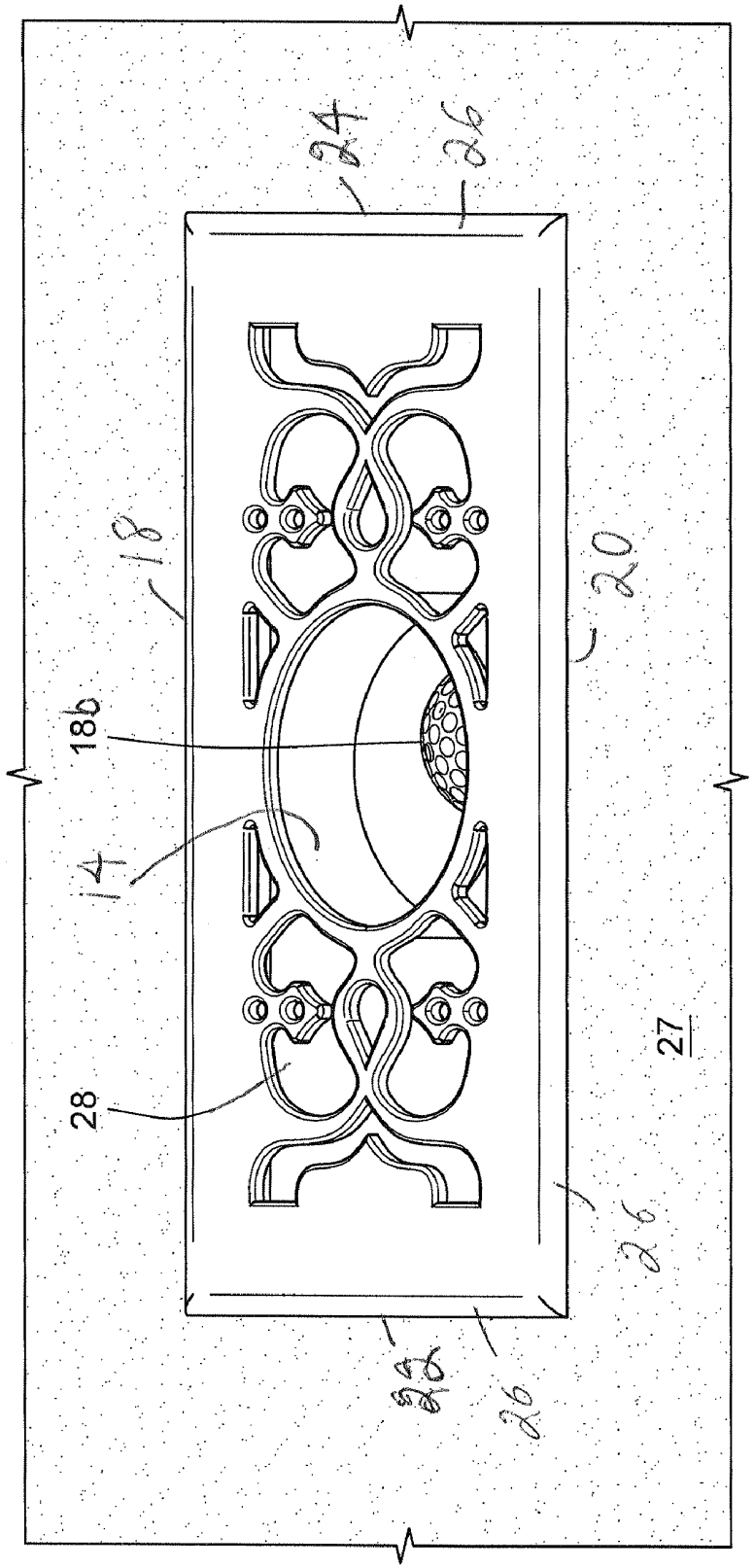


FIG. 9

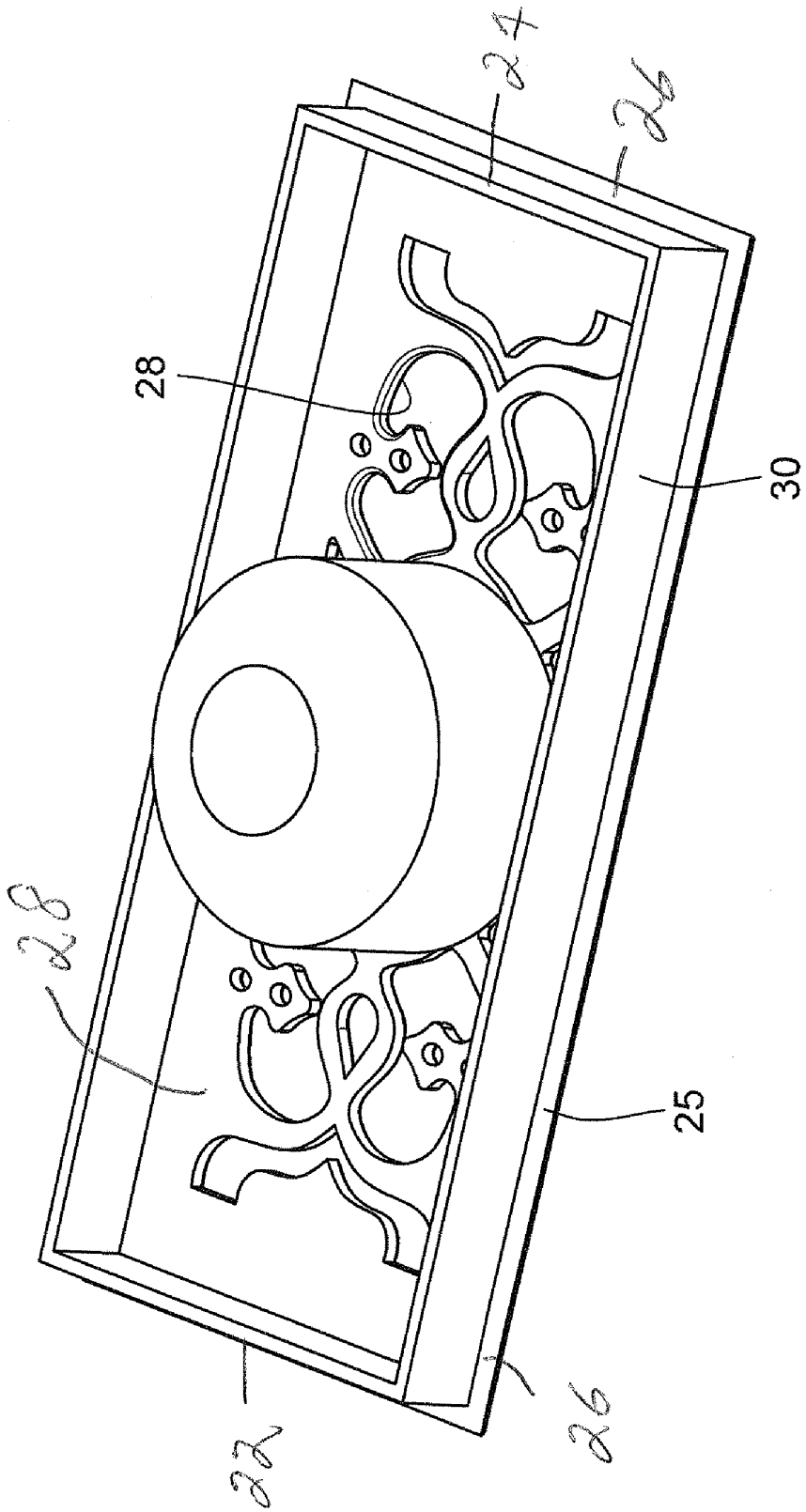


FIG. 10

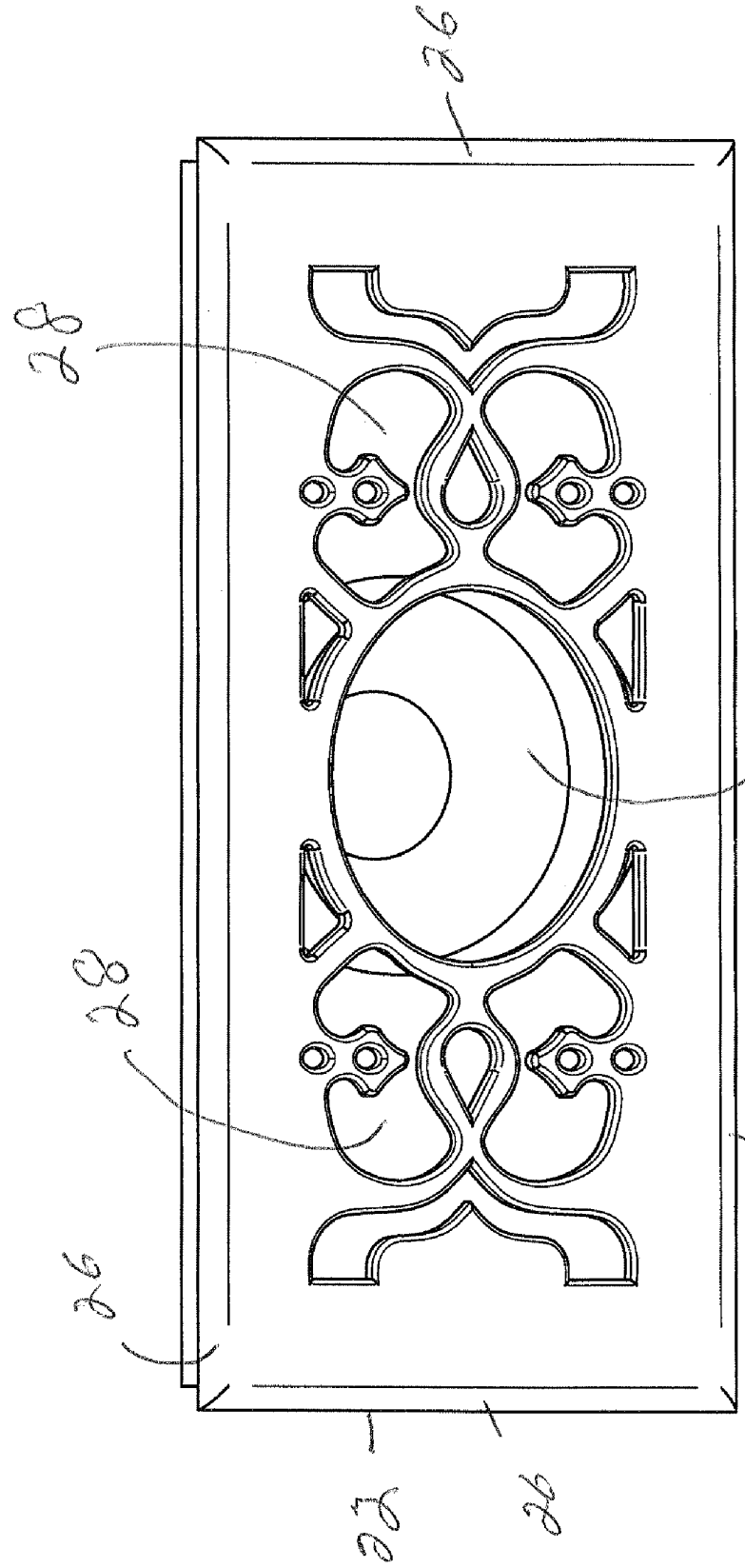


FIG. 11

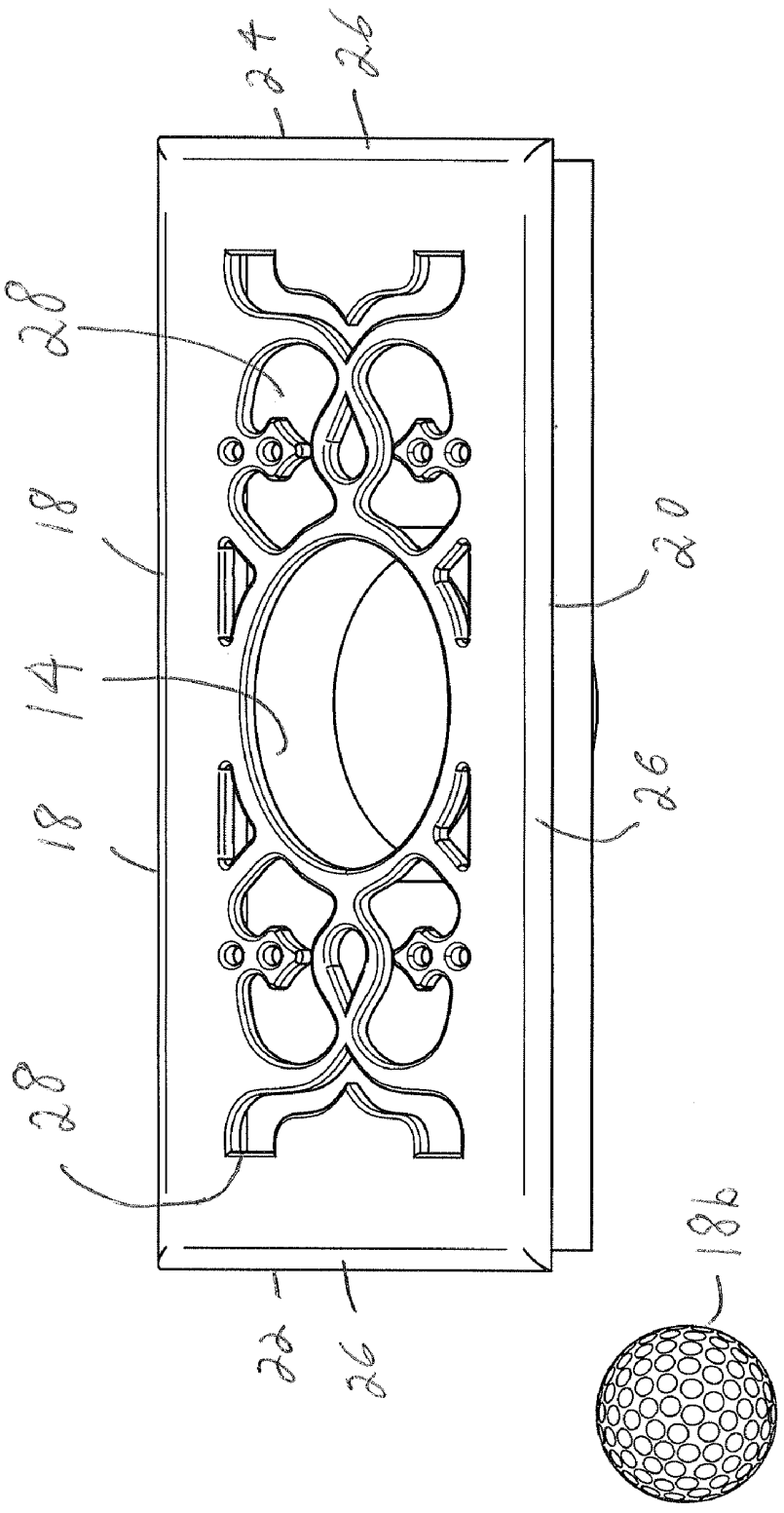


FIG. 12

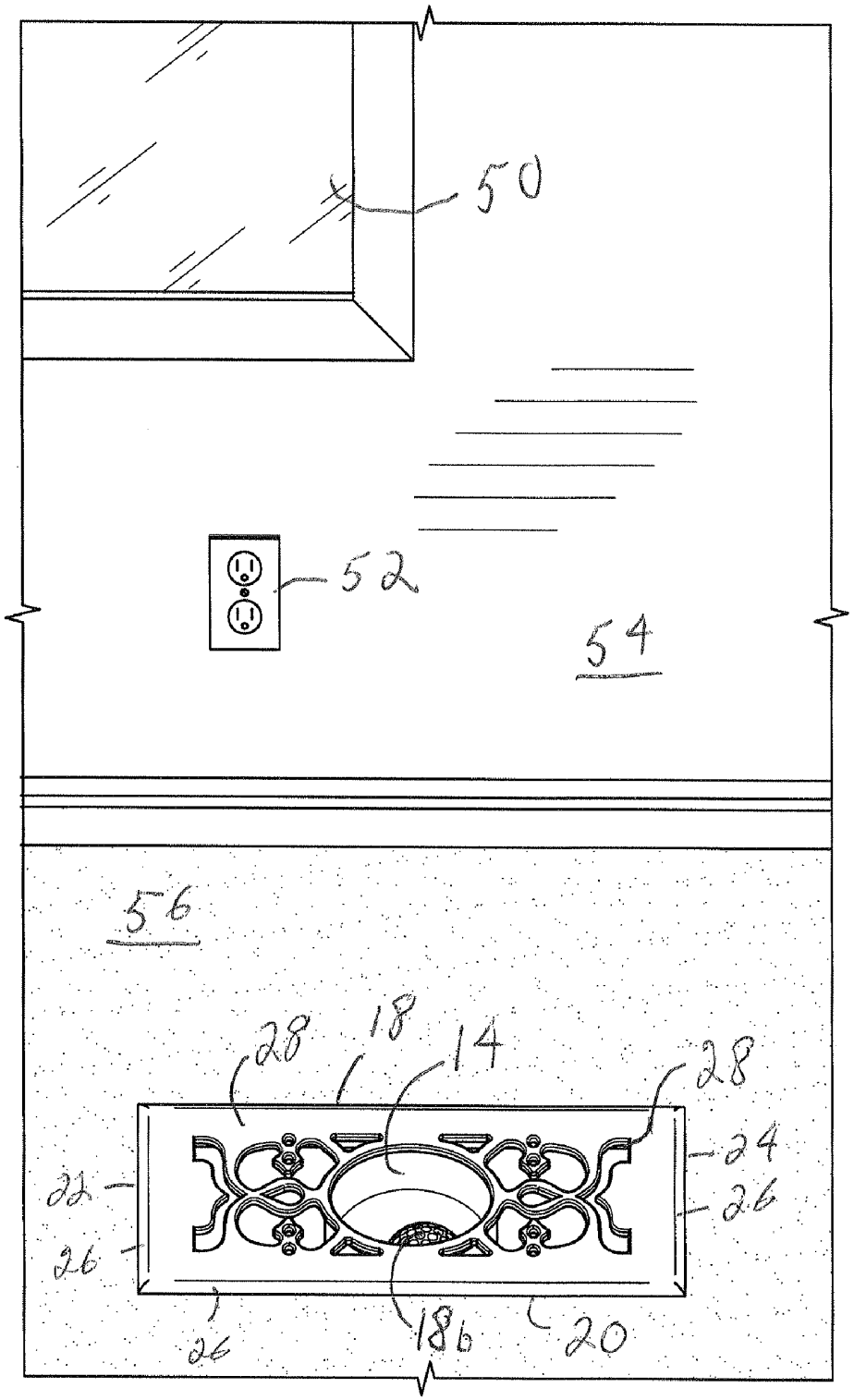


FIG. 13

GOLF PUTTING FLOOR VENT

FIELD OF INVENTION

[0001] The present invention generally relates to a golf putting floor vent and practice device and, more particularly, to such golf vent and practice device that fits into and over the floor duct of a typical forced air circulation system of a building.

BACKGROUND OF THE INVENTION

[0002] Most avid golfers are familiar with the manual or battery operated putting cups trainers. The golfers use trainers in order to practice their putting skills in the office, at home or at any time that is convenient. In our busy working schedules, most avid golfers lack enough time or good weather to get out on the links everyday. Therefore, the golfers must depend on various training devices like trainer putting cups to have their skills. This training cup simply rests on the floor and includes a substantial incline to get the ball up high enough so it can then fall into the cup. Or the trainer cup may have a steep incline ramp that ends at the top with a hole having the cup suspended below the hole.

[0003] Of course, the substantial incline of the putting cup is not very representative of a typical putting situation on the green of an actual golf course. On a real golf course green, the surface of the green leading up to the hole is usually level or may have a slight incline or slope at the hole depending on where the cup is placed on the green by the green's keeper. Therefore, the putting practice that the golfer gets when putting into such a trainer cup in their home or office is probably not very useful preparation for putting on the real golf course when time or weather conditions permit play.

[0004] Also, trainer putting cups are generally in the way when the golfer is not using it. The putting cup needs to be put away when not in use. This requires the golfer to take time to set up the putting trainer device and then put it away after each use or else risk having somebody tripping over it in their home or office.

[0005] Next, the floor issue needs to be addressed when using trainer putting devices. Floors and floor coverings consist of wood, tile, marble, stone or of indoor or outdoor carpets of a low or plush nap consisting of various synthetic or wool materials. Many putting trainer devices are designed to sit on the surface of a floor whether carpeted or not for putting practice. However, such practice devices generally including the ramped sidewall or multiple teeter-totter pivoted sidewalls forming a circle around the cup. None of these training cups work well on smooth surfaces such as bare wood or tile and they also do not work well on short or plush napped carpeting.

[0006] Furthermore, the golfer needs to hit the golf ball hard enough to climb the ramped incline into the cup on carpeted floors, which does not represent the typical green put. On smooth floors, the golfer needs to hit the golf ball less hard but still hard enough to climb the ramp up into the cup. Such unusual strokes by the golfer are not natural putts. Neither of these two unusual strokes improves a golfer's putting stroke and, in fact, might actually hurt the golfers in their putting game when putting on a real golf green. Thus the ramped putting trainers cups are not truly representative of putting on a real golf green.

[0007] To overcome the problem of ramped or teeter-totter sidewalls for golf putting practice devices, prior art practice devices where adapted to fit into the floor duct of a forced air circulation system of a building such as those disclosed in U.S. patents to Birchler, et al., U.S. Pat. No. 5,120,063; Ridge, U.S. Pat. No. 5,275,405; Frotten, U.S. Pat. No. 5,620,375; and Lawlyes, U.S. Pat. No. 6,626,767. Although the golf practice trainer devices disclosed in these patents substantially eliminate the need for a ramped sidewall, they all are formed from flat support plates that surround a ball cup receiving portion of the device, which flat plates provide an edge obstruction to such cup or create a difficulty in getting a true roll of the golf ball when located underneath the floor carpet causing the ball to drop down the thickness of the carpet onto the plate and then roll into the cup. This again is not truly representative of a real putt on a green surface of any golf course.

[0008] To lessen this problem, the Frotten patent discloses a golf practice device fabricated of a resilient material so that the device can be installed within a floor heating duct by bending the support plate for insertion underneath the carpet surrounding the duct. Although such configuration is an improvement in reducing obstruction to the ball receiving portion, the Frotten practice device cannot readily be moved from one vent to another and depending on the thickness of the carpet under which it is installed, and the path to the cup is not completely level.

[0009] The Lawlyes patent discloses a golf putting floor vent with at least one United States Golf Association (USGA) sized golf cup disposed in an insert that replaces the conventional Heating and Ventilation Air Conditioning (HVAC) register. The golf vent insert is sized to be removably secured internal to the HVAC outlet so it can be easily inserted and removed therefrom with its top surface flush with the floor covering. There is an additional irregular shape opening in its top surface adjacent to the golf cup with a plurality of stationary vanes running beneath the opening to simulate a golf hazard near or even on a green surface. However, there is also a plastic pin **38** with a flag and a flag mounting boss **42** that does not represent a typical pin and flag located in the golf hole or cup on the green. The pin with flag is centered mounted within the golf cup on a golf course and is not an obstruction to the golf ball rolling on the green surface. Both the pin **38** and boss **42** provide an obstruction to the golf cup on this putting trainer device.

[0010] Still other golf putting practice devices have been described in the prior art. Many are large, bulky, and above ground level. As such, they-have a negative effect on the decor of the room in which they are installed and are removed when not in use. U.S. Pat. No. 4,783,075 to Simjian (1988) discloses just such an elongated mat that extends over an elevated frame to allow made and missed putts to be collected in a catch basin. U.S. Pat. No. 5,586,941 to Klearman (1996) discloses a complex track which can be elevated to simulate putts of different lengths on a putting green.

[0011] Still other devices have complex swing restriction means to aid in training but do not duplicate the feel of alignment and stroke control required on an actual course. U.S. Pat. No. 5,690,557 to Casillas (1997) discloses a mat with tube insert rails to define a putting path; U.S. Pat. No. 4,953,865 to Coombs (1990) describes a matted plate with cut off golf tees defining a putting path; and U.S. Pat. No. 3,572,720 to Berg (1971) has an even more elaborate putting path alignment device of flexible flaps to constrain the putter movement. None of these alignment golf putting practice

devices are representative of the typical USGA golf cup or remind the golfer of being on a green and lining up a put.

[0012] Also, none of the above listed prior art devices replicate the sound and feel of a made putt when it drops into a regulation golf cup. When the target cup or orifice is normally above floor level and consists of an orifice in a mat that is stretched over some type of retainer box as in Simjian or a net as in Klearman, the look and feel of making the putt into the golf cup is not experienced by the golfer. Some devices as in Berg and Coombs do not have a cup, but utilize a gravity return of the putted ball to the putter and U.S. Pat. No. 4,966,370 to Morris (1990) discloses a backstop that traps missed putts in a rail with latches. U.S. Pat. No. 4,906,006 to Sigunick discloses a set of shallow rings that if the ball is putted to hard it will jump out the other side. So none of these prior art golf putting trainer devices give the golfer the true sense of putting into the golf hole on a green.

[0013] Again none of these cited prior art references give the golfer the feel and touch required when actually putting on a golf course green and attempting to line up the putt to sink it in the golf cup.

SUMMARY OF THE INVENTION

[0014] The present invention provides a golf putting floor vent and/or golf practice trainer device adapted to serve as a substitute for a floor vent in a commercial store like a golf shop or adapted to serve as a golf cup in the executive suite where subtleness is more important. The golf putting floor vent or golf putting trainer replaces a typical rectangular shaped metal floor register. When the floor register is removed from the HVAC duct, the putting trainer fits over the generally rectangular cutout in the floor and extends downwardly into the floor duct of a building's HVAC system with a USGA sized golf cup. In one embodiment, an outer edge of the putting trainer in the golf shop or exhibition hall, the golf putting floor vent includes a ball retriever disc attached to the bottom of a flag stick that extends a predetermined distance above the top of the golf cup to imitate the typical flag in a golf cup hole on the golf course green.

[0015] As a novelty aspect it could include the 19^{th} hole or a number from 1 to 18 to imitate the number of a hole on an eighteen hole golf course. Protruding below the ball retriever attached to the flagstick is a post axially aligned with the flagstick that is inserted into a corresponding hole centered on the bottom of the cup to support the flagstick in a vertical position receiving cup having an inner circular wall and two opposite sidewalls, which sidewalls are each attached to flat support plate members extended perpendicularly outward from the sidewall upper portions. The front wall of the ball receiving means includes an upper notched portion that provides a golf ball open access to the receiving means and the plate members include a plurality of apertures for the passage of air therethrough.

[0016] The present invention provides a putting cup which has sides that are only slightly inclined or sloped, making it much more representative of a real golf course putting situation where there might be a gentle sloping of the green into the cup.

[0017] The present invention also eliminates the need for setting up the putting cup for each use and the need for storing the putting cup when it is not in use.

[0018] In order to accomplish these advantages, the present invention provides a putting cup which is installed in place of the floor vent cover, making it a permanent fixture of the building, and making it substantially level with the rest of the floor.

[0019] Preferably, the support plate members are generally equal in size so that the ball receiving means is located medially of the practice device. The support plate members and ball receiving means are sized so that the device generally conforms to the size of the floor duct in which it is to be installed yet meets the actual USGA specifications for the golf cup. The support plate members further include a peripheral flange that overlies the circumference of the floor duct to support the device on the floor.

[0020] The foregoing and other advantages of the present invention will appear from the following description. In the description, reference is made to the accompanying drawings, which form a part hereof, and in which there is shown by illustration, and not of limitation, a specific form in which the invention may be embodied. Such embodiment does not represent the full scope of the invention, but rather the invention may be employed in a variety of embodiments, and reference is made to the claims herein for interpreting the breadth of the invention.

[0021] In accordance with the present invention an apparatus for golf putting practice comprises at least one USGA sized golf cup disposed in an insert that replaces the conventional Heating and Ventilation Air Conditioning (HVAC) register. The insert is sized to be removably secured internal to the HVAC outlet so that it can be easily inserted and removed therefrom and the top surface is flush with the floor covering surface.

[0022] Accordingly, several objects and advantages of the present invention are: (a) to provide an apparatus for golf putting practice that is small, compact, and unobtrusive when installed in an office or home; (b) to provide an apparatus for golf putting practice in which the golf cup is sized to meet USGA regulations; (c) to provide an apparatus for golf putting practice that disposes the golf cup below floor level; (d) to provide an apparatus for golf putting practice which duplicates the unfettered nature of an actual putt; (e) to provide an apparatus for golf putting practice that replicates the sound and feel of making a putt in a USGA regulation golf cup; and (f) to provide an apparatus for golf putting practice that utilizes the existing floor covering as the putting surface with no additional mats or tracks.

[0023] Still further objects and advantages will become apparent from a consideration of the ensuing description and drawings. In the description, reference is made to the accompanying drawings, which form a part hereof, and in which are shown, by way of illustration, specific embodiments in which the invention may be practiced. These embodiments will be described in sufficient detail to enable those skilled in the art to practice the invention, and be understood that other embodiments may be utilized and that structural changes may be made without departing from the scope of the invention. The present invention is designed to provide a golf putting practice device that overcomes the deficiencies of the foregoing prior art.

[0024] In the accompanying drawings, like reference characters designate the same or similar parts throughout the several views.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0025] FIG. **1** is a perspective view of a golf practice putting device embodying the principles of the present invention with

a golf pin sticking out of its cup and acting as a floor vent cover and showing the floor vent cover installed over the HVAC vent opening;

[0026] FIG. **2** is a top perspective view of the invention of FIG. **1** without the golf pin;

[0027] FIG. **3** is a bottom perspective view of the invention of FIG. **1**;

[0028] FIG. **4** is a side perspective view of the invention of FIG. **1**;

[0029] FIG. **5** is a perspective view of the invention with an entire pin in the cup of FIG. **1**;

[0030] FIG. **6** is a perspective view of the invention incorporated into a decorative HVAC floor vent covering in accordance with the invention of FIG. **1**;

[0031] FIG. **7** is a top perspective view showing a golf ball within the cup of the invention as shown in FIG. **6**;

[0032] FIG. **8** is another top perspective view showing a golf ball within the cup of the invention as shown in FIG. **6**;

[0033] FIG. **9** is yet another top perspective view at a different angle showing a golf ball within the cup of the invention as shown in FIG. **6**;

[0034] FIG. **10** is a bottom perspective view of the invention incorporated into a decorative HVAC floor vent covering in accordance with the invention of FIG. **6**;

[0035] FIG. **11** is a top perspective view showing a cup without a golf ball and the decorative floor cover vent removed from the HVAC vent opening on the floor in accordance with the invention as shown in FIG. **6**;

[0036] FIG. **12** is a perspective view of the decorative golf cup installed in a HAVC floor vent surrounding by plush carpet with a golf ball being putted toward the cup on the carpet in accordance with the invention as shown in FIG. **6**; and

[0037] FIG. **13** is a perspective view of the decorative golf cup installed in a HAVC floor vent in an office or home setting surrounded by a plush carpet in accordance with the invention as shown in FIG. **6**.

DETAILED DESCRIPTION OF THE INVENTION

[0038] While the invention is described Referring now to the drawings and with reference first to FIG. **1**, a golf putting practice device of the present invention is shown at **10** and is adapted to serve as a substitute for a floor vent that fits into a floor duct of a forced air circulation system of a building, a part of the HVAC system. The device **10** is preferably integrally formed with a golf ball cup **12** and a generally flat rectangular support plate **14** of less than 2 millimeters thick.

[0039] Although the device **10** can be formed of plastic as shown in FIGS. **1-5**, such as in an injection molded process, it has been found that when made of flat sheet steel or other metal material, the entire device **10** can be manufactured by means of a stamp process that allows for manufacturing and production economies and advantages, and duplicates the production process of most standard floor vents in HVAC systems. Of course, one skilled in the art can envision alternate materials of and processes for constructing the golf putting practice device **10** in accordance with the present invention based upon the teachings of the present disclosure.

[0040] The golf practicing floor vent cover **10** that has the substantially flat, rectangular top surface **14**, sized to fit over the opening of a floor air vent. In the center of the top surface **12** is a cylindrical depression **14**, sized the same size as the hole on a golf course. The cylindrical depression **14** has a closed bottom end **16** and a top opening **18***a* for receiving a putted golf ball **18** and to retain the golf ball **18** therein on a made putt. The rectangular top surface **12** has two long sides **18**, **20** and two short sides **22**, **24**. A thin ramp frame **26** extends around the perimeter of the top surface **12**, providing a gradual transition from the floor to the top surface **12**. The top surface of the ramp **26** is about five degrees from the horizontal in the preferred embodiment, and should be less than fifteen degrees in order to provide a smooth transition from the floor to the vent cover **10**. A plurality of elongated openings **28** run parallel to the short sides **22**, **24** from the depression **14** to the ends **22**, **24**, and permit air to flow through the vent cover **10**. The sides of the elongated openings **28** extend at an angle in order to direct the air flow away from the central depression **14**, as shown in FIG. **3**. This prevents the air flow from affecting the movement of the ball toward the cup **14**. There are no openings from between the depression **14** and the long sides **18**, **20**, thereby providing a path free of openings through which the ball may pass. The bottom of the cup **14** may be perforated or solid. Beneath the top surface **12**, there are projected vertical legs **30**, which fit inside the vent opening with a snug fit. The vertical legs **30** preferably are connected together to form a rectangular frame, but they could be separate legs. It will be obvious to those skilled in the art that modifications may be made to the embodiment described above without departing from the scope of the present invention.

[0041] The support top plate or surface **12** is generally elongated and rectangular in shape, with a radius curve at each corner to prevent snagging or injury to the end user installing the golf practicing device **10** into a floor vent. The support plate **12** extends outwardly from the upper portions of the sidewalls **22** and **24** respectively in perpendicular fashion and as shown by FIG. **2**, the support plate **12** and the ball receiving means or golf ball cup **14** is sized so that the device **10** fits within a floor duct of a forced air circulation system, as shown in FIG. **2**. In the preferred embodiment, the support top plate **12** is of the same length so that the ball receiving means is generally centered in the support top plate **12** of device **10**. However, it would be possible to vary the location of the golf cup **14** by making the top surface plate **12** of different lengths or to have only one of the support top plate or surface **12**, thereby placing the golf cup **14** at one end of the device **10**.

[0042] Preferably, the support top plate **12** has a plurality of apertures **28** in parallel or some other predetermined alignment with one another to provide for the passage of air out of the floor duct just as a standard duct vent would do. It may also be advantageous in terms of air flow to have apertures **24** in the bottom wall **20** of the ball receiving means **11**, as shown in FIG. **3**. The support plate **12** together with the ball receiving means or depression **14** form a peripheral flange **25** around the circumference of the support top plate or surface **12** of the device **10** for forming the circumference of the floor duct to maintain the device **10** in position seated in the vent duct opening. The flange **25** is formed with a beveled lip **26** that not only adds rigidity to such flange, but also provides an aesthetically pleasing "finished" look to the final product.

[0043] In operation of the device **10**, the user merely substitutes such device for an existing floor duct vent. In a passive manner, the device **10** functions sufficiently as would the replaced vent. When users wish to practice their putting skills, the recessed portion **22** of the front wall **16** serves as a putting target and a golf ball can roll directly into the ball receiving means **14**.

[0044] Although the invention has been described with respect to a preferred embodiment thereof, it is to be understood that it is not to be so limited, since changes and modifications can be made therein which are within the full intended scope of this invention as defined by the appended claims. For example, the size of the ball receiving means can be increased or reduced in size as well as its notched front wall.

[0045] The floor vent cover **10** has a substantially flat, rectangular top surface **12**, sized to fit over the opening of a floor air vent. In the center of the top surface **12** is a cylindrical depression or golf cup **14**, sized the same size as the hole on a golf course. The cylindrical depression or golf cup **14** has a closed bottom end **16**, to retain the golf ball **18**.

[0046] The rectangular top surface **12** has two long sides **18**, **20** and two short sides **22**, **24**. A thin ramp frame **26** extends around the perimeter of the top surface **12**, providing a gradual transition from the floor to the top surface **12**. The top surface of the ramp **26** is about five degrees from the horizontal in the preferred embodiment, and should be less than fifteen degrees in order to provide a smooth transition from the floor to the vent cover **10**. A plurality of elongated openings **28** run parallel to the short sides **22**, **24** from the depression **14** to the ends **22**, **24**, and permit air to flow through the vent cover **10**. The sides of the elongated openings **28** extend at an angle in order to direct the air flow away from the central depression **14**, as shown in FIG. **3**. This prevents the air flow from affecting the movement of the ball toward the cup **14**. There are no openings from between the depression **14** and the long sides **18**, **20**, thereby providing a path free of openings through which the ball may pass. The bottom of the cup **14** may be perforated or solid.

[0047] Beneath the top surface **12** project vertical legs **30**, which fit inside the vent opening with a snug fit. The vertical legs **30** preferably are connected together to form a rectangular frame, but they could be separate legs.

[0048] In order that the invention may be more fully understood, it will now be described, by way of example, with reference to the accompanying drawings in which FIGS. **1** through **5** illustrate a preferred embodiment of the present invention wherein an apparatus for golf putting practice is disclosed and FIG. **3** disclose alternate embodiments.

[0049] A typical prior art Heating and Ventilation Air Conditioning (HVAC) vent register (not shown) has a housing containing a plurality of movable vanes and a vane control means as would be provided in the standard manner by one skilled in the art. It should be noted that the vent register has a flange for contacting a floor surface of a room (not shown) along with a lower extended wall of the housing which connects in the standard manner to an under floor outlet (not shown) of a HVAC system of a building in which the HVAC system is installed.

[0050] Turning to FIG. **2**, therein is shown the apparatus for golf putting practice **10** which is complementarily sized and shaped as vent register **12** as shown in FIG. **1**. The apparatus for golf putting practice **10** has an upper surface **12** which is sized to conform to or mate to the floor level of the room (not shown) in which the HVAC system is installed and is typically 290 mm long by 140 mm wide. The apparatus for golf putting practice **10** also has therein at least one golf cup **26** which is regulation sized as specified by the United States Golf Association (USGA) depending approximately 38 mm from the upper surface **12**. The apparatus for golf putting practice **10** also has a lower wall **28**, also depending from the upper surface **12** roughly 38 mm which supports the bottom of the golf cup **30**, and which connects in the standard manner to an under floor outlet (not-shown) of an HVAC system. The apparatus for golf putting practice **10** also has on the upper surface **12** a simulated hazard **36** formed by an irregularly shaped opening in upper surface **12** adjacent to the golf cup **26** with a plurality of stationary vanes **40** running beneath the opening of the simulated hazard **36** transverse to the long axis of the upper surface **12** between the lower walls **28**. The apparatus for golf putting practice **10** also has on upper surface **12** a flag mounting boss **42** in which a plastic pin and flag **38** may be inserted.

[0051] Turning to FIG. **13**, therein is shown the apparatus for golf putting practice **10** along with the elements previously disclosed and in addition thereto, disclosing the bottom of the golf cup **16** with a plurality of apertures **28** and also a simulated hazard **28***a* through which air from the HVAC system may flow.

[0052] Turning to FIG. **4**, therein is shown the apparatus for golf putting practice **10** along with the bottom **16** of the golf cup **14** and lower wall **31** and other elements previously disclosed.

[0053] Turning to FIG. **4**, therein is shown the apparatus for golf putting practice **10** along with a plurality of openings **28** attached perpendicularly between the lower walls **31** transverse to the long axis of the apparatus for golf practice **10** running beneath the simulated hazard **36**. Also the cup wall **34** is shown which extends from the upper surface **12** to the bottom of the cup **16** at both ends of the cup **14** and from one side of lower wall **31** to the other side of lower wall **31** on circular arc with a radius of approximately 57 mm. The bottom of the cup **30** is shown having approximately a diameter of 114 mm with either side truncated at the cord created by the intersection of the diameter of the bottom of the cup **30** and the lower walls **31**. The lower wall **31** which slips into the HVAC outlet (not shown) is sized to fit into a standard HVAC outlet and the corners are chamfered to reduce interferences with damaged HVAC outlets corners. Also the plurality of apertures **32** in the bottom of the cup **30** which allow air to flow through the apparatus for golf putting practice **10** and other elements previously disclosed are illustrated.

[0054] In FIG. **3**, therein is shown an alternative embodiment as in FIG. **3** except with the addition of a second golf cup **44** disposed adjacent to golf cup **26** in place of the simulated hazard **36** and the pin and flag **38** and the pin and flag mounting boss **42** are eliminated.

[0055] In FIG. **3**B, therein is shown another alternate embodiment as in FIG. **3** except the opening in upper top surface **12** for golf cup **14** is centered in the upper surface and the simulated hazard **36** and the pin and flag **38** and pin and flag mounting boss **42** are eliminated.

[0056] In the preferred embodiment of the apparatus for golf putting practice **10**, the upper surface **12**, the simulated hazard **36**, a plurality of stationary vanes **40**, the lower wall **31**, the flag mounting boss **42**, and the golf cup **14** are all molded in one integral shot of an injection grade thermoplastic material such as acetal. However the assembly could be molded of any plastic material that is injection grade, can withstand the fluctuating temperatures of a standard home heating and air conditioning duct, and that can be green in color to simulate a grass surface such as polypropylene, ABS (AcrylonitrileButadieneStyrene) or nylon. The upper surface **12** may also be textured to simulate putting green grass.

[0057] The apparatus for golf putting practice may also be made of stamped and drawn metal as would be done in the standard manner by someone skilled in the art and the upper top surface **12** may be coated in such a manner as to simulate a putting green surface.

[0058] The manner of using the apparatus for golf putting practice **10** is to remove one of the floor mounted vent registers **12** in an office or home and replace it with the apparatus for golf putting practice **10**, inserting the apparatus for golf putting practice **10** deep enough into the HVAC outlet opening (not shown) such that the top surface **12** is parallel with the top of the floor covering carpet (not shown). This assures a smooth transition between the carpet and the upper top surface **12**, allowing a putted golf ball **18** to roll unimpeded toward the golf cup **14**.

[0059] As in a regular putting contest, golfers wanting to practice their putting may stand at varying distance from the apparatus for golf putting practice and strike regulation golf balls (not shown) with a regular golf putter (not shown) in the direction of the golf cup **14**, suspended below the upper top surface **12**.

[0060] The apparatus for golf putting practice may be removed and stored easily and the original vent register **12** reinstalled when the practice activity is completed. However, this is not necessary as the apparatus for golf putting practice **10** is unobtrusive and contains sufficient openings for air flow as to not disrupt the heating or cooling of the room in which it is installed.

[0061] A two golf cup embodiment (not shown) and the single cup embodiment as shown in FIG. **3** are utilized in the same manner as the preferred embodiment just described. The second golf cup is disposed adjacent to the first golf cup **14** can be used either by a second golfer or to give the single golfer two different golf cups to putt towards on slightly different lines.

[0062] Accordingly, the apparatus for golf putting practice provides: (a) an apparatus for golf putting practice that is small, compact, and unobtrusive when installed in an office or home floor air vent duct; (b) an apparatus for golf putting practice in which the golf cup is sized to meet United States Golf Association (USGA) regulations; (c) an apparatus for golf putting practice that disposes the golf cup below floor level; (d) an apparatus for golf putting practice which duplicates the unfettered nature of an actual putt; (e) an apparatus for golf putting practice that replicates the sound and feel of making a putt in a USGA regulation golf cup; and (f) an apparatus for golf putting practice that utilizes the existing floor covering as the putting surface with no additional mats or tracks.

[0063] While I have explained my invention in detail with the aid of exemplary embodiment thereof, it will be understood that the invention is not limited to the specific constructional details shown and described by way of example, which may be departed from without departing from the scope and spirit of the invention.

[0064] It will be obvious to those skilled in the art that modifications may be made to the embodiment described above without departing from the scope of the present invention.

Having thus described the invention, I claim:

1. A golf putting practice device **10** adapted to serve as a substitute for a floor vent that fits into a floor duct of a forced air circulation system of a building, said device **10** comprising:

(a) a substantially flat, rectangular top surface plate **12**, sized to fit over the opening of a floor air vent and having a thin ramp outer edge **26** between 5° to 15° to provide a gradual transition from the floor to the top surface **26** for a golf ball **18** extending around the perimeter of the top surface **12** of;

(b) a cylindrical depression **14** having a circumference generally matching a golf cup on a golf course with a generally closed bottom end **16** to retain the golf ball **18** therein and a top opening **18***a* generally flush with the rectangular top surface **12** and centrally located therein;

(c) a plurality of predetermined openings **28** run across and through the top surface **12** surrounding the golf cup **14** to permit air to flow through the top surface **12** of the practice device **10**; and

(d) a plurality of support side walls or legs **30** extending generally vertically downward and inset a predetermined distance from the perimeter of the bottom of the top surface **12** to fit inside the vent opening with a snug fit, said vertical legs **30** connect together to form a generally rectangular frame corresponding to the opening of a floor vent to secure the golf practice device within the floor vent.

2. The golf putting practice device of claim **1**, wherein the support plate **12** with the inset support walls corresponding to the floor vent opening overlaps outwardly from the floor vent opening to suspend the golf cup in a generally vertical position for receiving a putted golf ball **18** therein during use of the device **10**, said overlap forming a peripheral flange that rests upon the floor surrounding the circumference of a floor duct opening.

3. The golf putting device of claim **1**, wherein said support plate **12** and the location of the golf cup **14** places the golf cup **14** generally centered in the floor vent opening.

4. A golf putting practice device as recited in claim **1** wherein said golf ball cup **14** and support plate **12** are sized according to the size of a floor duct vent opening into which said device **10** fits.

5. A golf putting practice device as recited in claim **1**, wherein said plate **12** and the open top **18***a* of said ball cup **14** lie in the same plane.

6. A golf putting practice device as recited in claim **1**, wherein said cylindrical depression **14** is of a generally cup shaped configuration corresponding to a regulation golf cup on a golf course.

7. A golf putting practice device adapted to serve as a substitute for a floor vent that fits into a floor duct of a forced air circulation system of a building, said device comprising:

(a) a ball receiving means having a front and rear wall, opposing sidewalls, a closed bottom and a substantially open top;

(b) at least one flat support plate member extended perpendicularly from an upper portion of at least one opposing sidewall, said plate member having a plurality of apertures for the passage of air therethrough; and

(c) said front wall of the ball receiving means having an upper notched portion that provides a golf ball open access to said ball receiving means when the device is installed into a floor duct.

8. A golf putting device as recited in claim **7**, wherein said closed bottom of the ball receiving means has at least one aperture for the passage of air therethrough.

9. A golf practice floor air vent cover, comprising: a substantially flat top surface including a centrally located with respect to the top surface and closed bottom depression for receiving and retaining a golf ball, said depression being sized substantially the same size as a green hole on a golf course, said top surface defining a plurality of openings therethrough permitting air to flow through the top surface, said openings having tapered inwardly slope surfaces and being outside the area of said depression so as to leave an uninterrupted path for a golf ball to travel from the outer edge of said top surface to said depression and to direct the air flow away from said depression, said top surface having downwardly projecting support surfaces corresponding to the opening of the floor vent to secure the golf practice cover.

10. A golf floor air vent cover as recited in claim **9**, and further comprising vertical legs projecting downward from said tops surface, said vertical legs being sized to fit a floor vent opening with a snug fit.

11. A golf floor air vent cover as recited in claim **9**, and further comprising a rim extending outwardly from said top surface, said rim being inclined downward from said top surface at an angle of less than 15 degrees so as to provide a gradual transition onto the vent cover from the floor for the golf ball into the.

12. A golf floor vent air vent cover as recited in claim **11**, wherein said rim forms a frame around said top surface and defines the outer edge of the vent cover; and wherein said depression for receiving a golf ball is located approximately in the center of said top surface; and wherein said openings through the top surface are located so as to provide an unobstructed path from the outer edge of said vent cover top surface to said depression on at least one side of said vent cover top surface.

13. A golf floor air vent cover as recited in claim **12** including at least one outer edge or rim that forms a generally straight line edge.

14. An apparatus for golf putting practice that will enable a golfer to practice putting in a home or office which is mounted in place of a standard floor mounted heater and ventilation air conditioning register in a heater and ventilation air conditioning system outlet for said home or office; the apparatus including: a rectangular shaped upper surface that is larger than the dimensions of said heater and ventilation air conditioning outlet; a lower wall which extends far enough below said upper surface and inset from the perimeter of said rectangular upper surface a distance that enables insertion of said lower wall into said outlet of the heater and ventilation air conditioning system and supports a bottom of a golf cup; an irregular shaped opening in said upper surface forming a simulated hazard wherein said irregular shaped opening is smaller than the distance between opposing sides of said lower wall; a plurality of stationary vanes running beneath said irregularly shaped opening with said stationary vanes attached perpendicularly to opposing sides of said lower walls transverse to the long axis of said rectangular shaped upper surface; a United States Golf Association regulation sized golf cup suspended beneath a matching diameter opening in said upper surface, disposed adjacent to said simulated hazard and centered between said opposing lower walls along the long axis of said upper surface, which is formed by two cup walls of said golf cup extending from the under side of said upper surface to said bottom of the golf cup and extending on a matching radius between the intersections of said opposing lower walls and the matching radius of said cup walls of said golf cup, supporting said bottom of golf cup with either side of said bottom of golf cup truncated at the cord created by the intersection of the diameter of said bottom of golf cup and said opposing lower walls, with said bottom of the golf cup having a plurality of apertures which enable air flow from said heater and ventilation air conditioning system through said bottom of golf cup.

15. The apparatus of claim **14** wherein said apparatus is formed as an integral molded piece from a standard injection grade thermoplastic material which is green in color and said upper surface is textured, simulating a closely sheared grass surface.

16. The apparatus of claim **14** wherein said apparatus is formed as a stamped and drawn sheet metal part with said upper surface coated in such a manner as to simulate a putting green surface.

17. The apparatus of claim **14** including: a pin with a flag mounted to a top section of the pin; a pin and flag mounting boss on said upper surface, disposed between said golf cup and said simulated hazard in the area between the perimeter of said upper surface and the lower wall, extending up from said upper surface a sufficient height to enable inserting said pin and flag.

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