Sept. 10, 1968 R. HARVEY 3,400,411

SEALING GASKET MEANS

Filed Aug. 16, 1966 2 Sheets-Sheet 1

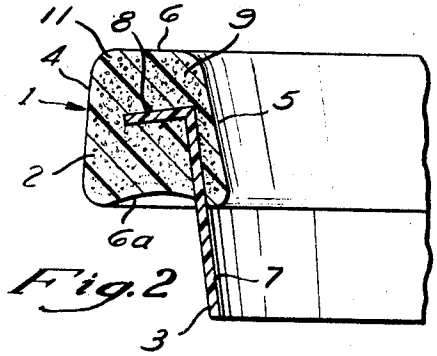


Fig. 2

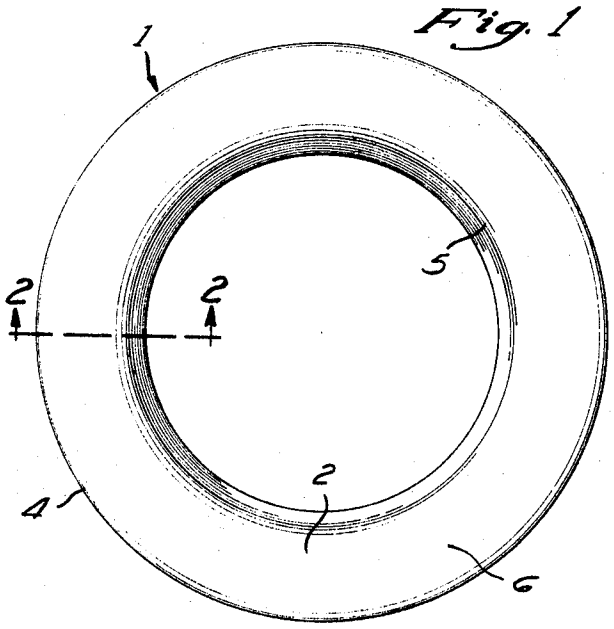


Fig. 1

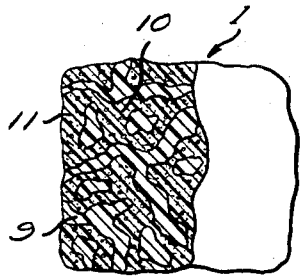


Fig. 3

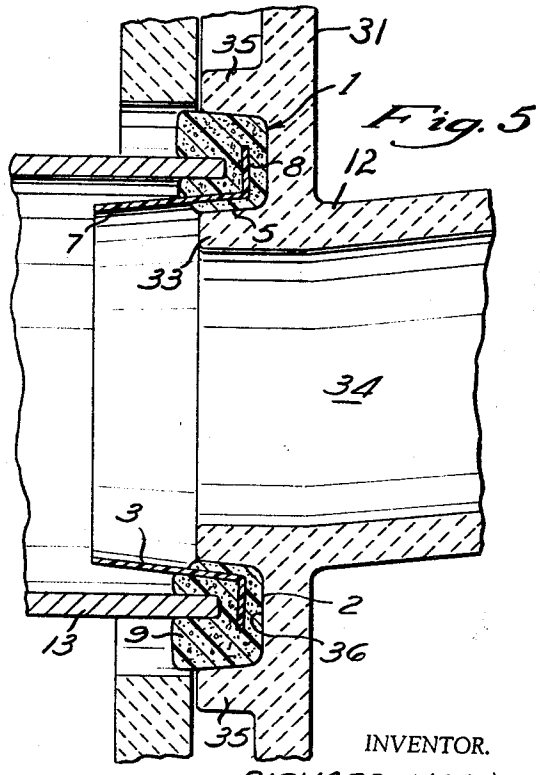


Fig. 5

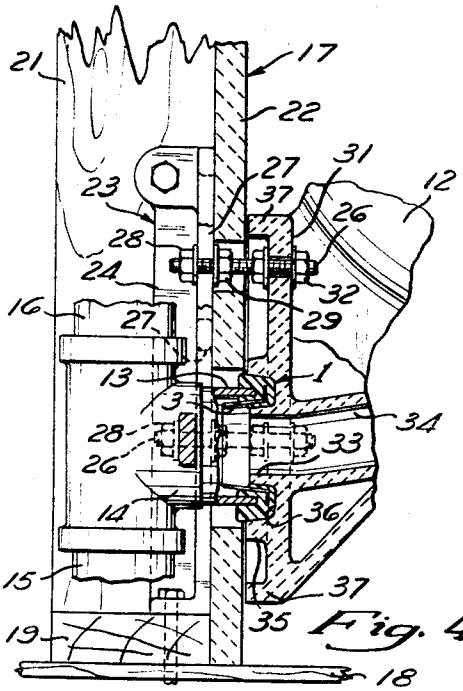


Fig. 4

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SEALING GASKET MEANS

Filed Aug. 16, 1966 2 Sheets-Sheet 2

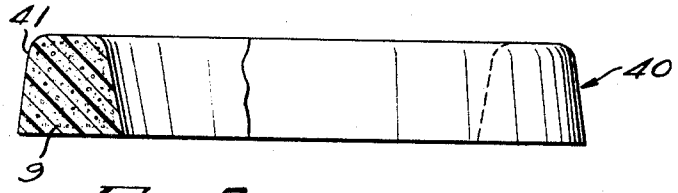


Fig. 7

Fig. 6

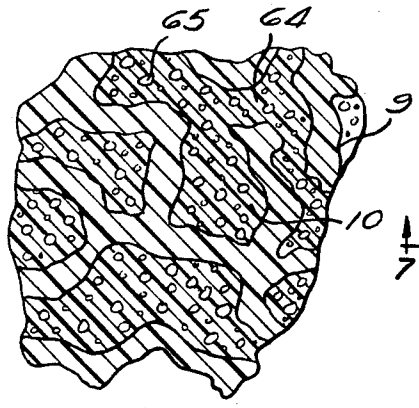
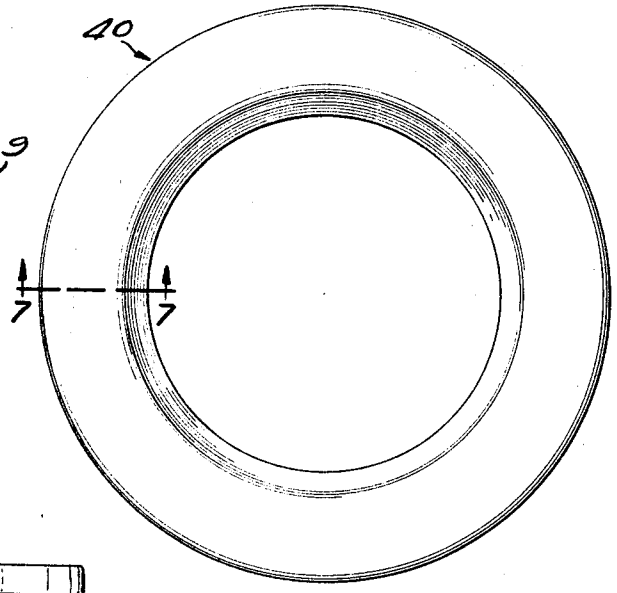


Fig. 10



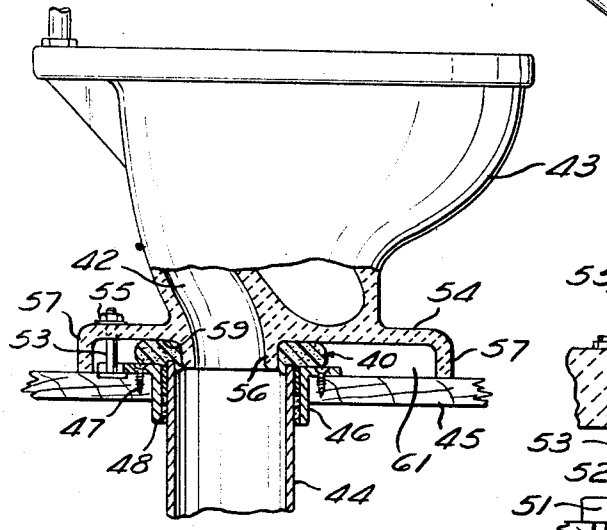


Fig. 8

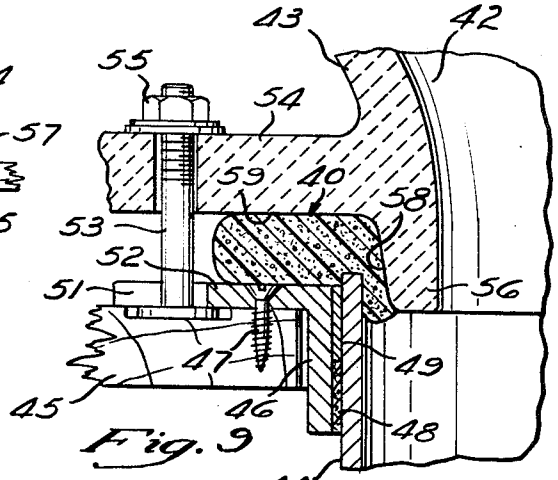


Fig. 9

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SEALING GASKET MEANS

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Filed Aug. 16, 1966, Ser. No. 572,768
19 Claims. (Cl. 4—252)

This invention relates to sealing means, and more particularly to sealing means comprising a body of wax or the like containing, and impregnated into, a plastic foam reinforcing member.

While sealing means embodying the invention may be used for a wide variety of purposes, it will be discussed hereinafter in connection with the sealing of toilet bowls to associated waste pipes, in which use it provides particular advantages. Exceptional advantages are provided by using sealing means embodying the invention to seal toilet bowls to waste pipes in off-the-floor installations of toilet bowls, since the invention makes it possible easily and inexpensively to overcome the problems that have heretofore caused difficulties in such installations.

A conventional off-the-floor installation of a toilet bowl comprises a metal frame structure, usually denominated a carrier, that is fixed as by bolting to framing members in the wall on which the toilet bowl is to be mounted and to the floor between such framing members. The carrier comprises a generally horizontal conduit connected to the portion of the waste pipe that is connected to the sewer. This conduit is also usually connected to a sleeve or coupling of a length selected to position its free end properly near the toilet bowl outlet. This coupling is thus the part of the waste pipe that is nearest the toilet bowl. The toilet bowl has a passage therein through which effluent can pass laterally and which should be connected to the interior of the coupling by an easily installed liquid- and gas-tight seal. In the conventional toilet bowl the discharge end of this passage terminates in and is surrounded by a generally circular first flange formed of the material of the toilet bowl, which flange is generally referred to as the "horn." Another generally circular second flange is usually radially spaced from the first flange to define a generally circular outwardly open annular channel in which a sealing gasket is disposed. The extreme outer rim of the base of the toilet bowl also has a flange which may intersect the second flange. In modern toilet bowls, e.g., "short horn" bowls, all flanges are essentially in the same plane so that in storage or shipping a toilet bowl can rest flat on its flanges, and thus eliminate breakage of the projecting horn as often occurred in prior practice when "long horn" bowls, i.e., those having horns which projected beyond base flanges, were used. However, when the flange surrounding the effluent passage is of the short horn type, the problem of sealing it to the coupling forming the waste pipe termination is much more difficult.

In conventional practice also, the surface of the wall is usually finished with plaster or tile adjacent which the base flange is located, and has an opening through which the toilet bowl can be bolted to the carrier to hold the bowl in place.

Heretofore, it has been difficult to achieve satisfactory seals between the effluent passage through the horn of the toilet bowl and such coupling in off-the-floor installations. Extremely close tolerances in rough-in measurements are required in conventional practice. Any irregularity in the wall surface causes misalignment of the carrier relative to the wall, which is not readily compensated for, if at all, by prior conventional gaskets. In installing the toilet bowl in conventional procedure, it is difficult to align the horn with the coupling and to install the sealing ring properly. For these and other reasons the services of highly experienced journeymen plumbers are required

successfully to install the bowls, thereby making it difficult if not impossible to for less experienced plumbers to install the bowls. Even when a conventional sealing gasket is properly installed at this location normal settling of the building tends to break the seal, and seal breakage possibilities are intensified by shocks such as can arise from earthquakes or other causes. Furthermore, since the wall-mounted toilet bowl in effect is a cantilever member, the weight of a user of the toilet bowl tends to cause some deflection or "springboard" action of the bowl and the carrier relative to the carrier conduit, which can result in substantial relative movement between the bowl horn and the carrier conduit that can cause leakage at the seal. Therefore, if the seal is to remain tight during such relative movements between the bowl and coupling arising from such or other causes, the gaskets must be substantially resilient.

Furthermore, the means used for sealing the toilet bowl to the waste pipe should not attract or promote growth of bacteria, termites or other organisms that could be deleterious to health or the structure or plumbing.

Conventional greased felt gaskets often used in off-the-floor toilet bowl installations in general are not satisfactory because they are difficult to install with good sealing and because they do not provide the necessary resilience to maintain good sealing when the above described relative movements occur between the toilet bowl and coupling; and such felt gaskets also support undesired bacterial growth. Woven asbestos gaskets, also often used in off-the-floor toilet installations and often specified by government agencies, are undesirable since they have no adhesion and no resilience; they must be glued in place but do not have the necessary resilience to maintain good sealing when relative movements occur between the bowl and coupling; and they often support undesired bacterial growth. Wax gaskets widely used in floor-mounted toilet bowls in general are not satisfactory in off-the-floor installations since the wax does not have sufficient toughness to withstand the punching effect of the carrier conduit or sufficient resilience to maintain a seal despite the above mentioned relative movements between the carrier coupling and the toilet bowl.

Heretofore the most common installation has involved the use of neoprene rubber sponge gaskets that are cemented by an adhesive to the bowl and the carrier coupling; however, this is a time-consuming installation, and the rubber eventually deteriorates. Moreover, the bowl cannot be flushed for several days after the gasket is installed or the glue will not set and leakage will occur, which also causes delays in construction and usually callbacks for the plumber to make an inspection. Such gaskets also support undesired bacterial growth.

In on-the-floor installations, the base of the toilet bowl that rests on the floor generally has horn and base flanges the outer edges of which also are essentially coplanar. It is also necessary to form a liquid- and gas-tight seal between the passage surrounded by the horn flange and the interior of the waste pipe, which will withstand relative movements between the waste pipe and the base due to settling, etc. The service conditions are not as rigorous as those in wall-mounted installations, and in general plain wax gaskets or wax sleeve gaskets are satisfactory. However, difficulties are encountered in some cases where resilience of the wax gasket and resistance to punching are important.

An object of the present invention is to provide sealing means comprising a body of wax containing foam material, preferably plastic foam material, having a large proportion of open or interconnected cells therein, in which substantially all cells to which wax can have access are essentially filled with wax, thereby forming the wax body that has greatly increased toughness and resilience

over conventional solid wax seals. Another object is the provision of sealing means that overcomes prior disadvantages or problems in the use of wax sealing gaskets, particularly when the wax sealing gaskets lack toughness or resilience. Another object is to provide toilet bowl sealing gaskets of such material that can overcome the difficulties outline previously. Another object is the provision of toilet bowl sealing gaskets comprising a wax ring and a projecting sleeve of plastic or other material adapted to project into the soil pipe or extension thereof. A further object is to provide sealing means of this type which can be manufactured at reasonable costs.

These and other objects of the invention will become apparent from the description of two embodiments of the invention in connection with the accompanying drawings in which:

FIGURE 1 is a plan exterior view of sleeve ring gasket, suitable for toilet bowl installations, embodying the invention;

FIGURE 2 is an enlarged section along line **2—2** of FIGURE 1, showing an enlarged cross section of the ring gasket, the ring gasket comprising a wax body portion comprising impregnated foam and sleeve portions;

FIGURE 3 is an enlargement of a portion of the cross section of FIGURE 2 showing the foam impregnated with wax;

FIGURE 4 is a cross-sectional view showing a portion of a wall-mounted toilet bowl installation embodying the gasket of FIGURES 1–3;

FIGURE 5 is an enlargement of a portion of FIGURE 4 showing portions of the carrier coupling and the toilet bowl to be sealed to the coupling, and the gasket of the invention;

FIGURE 6 is a plan elevation of another ring gasket embodying the invention, this being a plain ring gasket;

FIGURE 7 is a side elevation of the ring gasket of FIGURE 6 with a part broken away along line **7—7** of FIGURE 6 to show the cross section thereof;

FIGURE 8 is a side elevation of a floor-mounted toilet bowl showing use of the gasket of FIGURES 6 and 7;

FIGURE 9 is an enlargement of a portion of FIGURE 8; and

FIGURE 10 is a portion of a modified wax-foam sealing material of the invention, to a greatly enlarged scale.

The gasket **1** shown in FIGURES 1, 2 and 3 comprises an annular ring portion **2** of circular plan configuration to which is connected a generally axially extending sleeve member **3** of circular cross section. The ring portion **2** has upwardly tapered outer and inner sidewalls **4** and **5** and generally flat top and bottom **6** and **6***a*. The sleeve comprises a generally slightly conical-shaped ferrule portion **7** terminating at its larger end in a flange portion **8**. The larger end of the ferrule portion **7** and the flange portion **8** are embedded in the ring portion **2** and the wax is firmly adherent to all portions of the sleeve member in contact therewith. The sleeve member **3** is preferably formed of molded plastic, such as polyethylene, of suitable characteristics of strength, toughness, resistance to decomposition by liquids and gases with which it comes into contact, and resistance to attack by and growth of bacteria.

As shown in FIGURES 2 and 3, the ring portion **2** of the sealing gasket comprises foam structure **9** having a large proportion of open interconnected cells **10** substantially, and preferably essentially, all of which are essentially filled with wax **11**. Preferably, as shown in FIGURE 2, the foam structure **9** extends close to or up to the outer surfaces of the ring portion **2**.

FIGURES 4 and 5 show such a gasket **1** utilized to seal an off-the-floor, wall-mounted toilet bowl **12** to the coupling **13** conventionally fixed in leakproof relation on conduit member **14** that is connected to conventional soil pipe **15** and to vent stack **16**. This toilet bowl **12**, which is of conventional construction, is mounted on the wall **17** of a building. Illustrated wall **17** is of conventional frame construction comprising a floor structure **18**, bottom plate **19**, and upright frame members or studs **21**, to which is affixed the wall covering material **22**, such as tile. The structure of FIGURE 4 also includes a conventional metal carrier **23** that comprises spaced vertical side members **24** each of which is bolted to the plate **19** and one of the vertical frame members **21**; these side members are part of a structure that includes the conduit member **14**. Each of the side members carries a plurality, at least two, of studs **26**, each of which extends through a vertical slot **27** in the side member to provide for vertical adjustment, and is clamped at the desired location in such slot by nuts **28** and **29**. The outer end of the stud projects through the wall covering **22** and through the base **31** of the toilet bowl, against which it is held by nuts **32** threaded in the usual manner.

The toilet bowl **12** has a conventional inner flange or horn **33** at the terminal portion of the effluent passage **34** of the bowl; the outer surface of such flange is generally circular in cross section and frusto-conical. A second flange **35** radially spaced from flange **33** defines an outwardly open channel **36** in the conventional manner. A third flange **37** extends around the outer edge of the base **31**.

The sealing gasket **1** of FIGURES 1–3 is mounted with its wax-foam sealing ring portion **2** fitting in the annular channel **36**, and with its sleeve member **3** extending with its smaller end projecting into the carrier coupling **13** forming part of the soil pipe structure. As apparent from FIGURE 5, the wax of the ring portion **2** extends between the inner concave surface of the sleeve member **3** and the outer convex surface of the horn **33**, between the outer surface of the flange portion of the sleeve member **3** (the upper surface of the flange in FIGURE 2) and the bottom surface of channel **36**, between the inner or concave surface of the channel **36** and the outer convex surface of coupling **13**, and between the inner concave surface of the coupling and the outer convex surface of the ferrule **7** of sleeve member **3**. The wax, of course is highly adhesive to and forms a liquid- and gas-tight seal with each surface that it contacts.

The sleeve gasket **1** is installed by mounting its ring **2** in the channel **36** around the horn **33** of the toilet bowl **12** before it is mounted in which position it remains because of adherence of the wax to the surfaces of channel **36**, and then moving the toilet bowl toward the outer end of the carrier coupling **13**, the outer end of the sleeve member **3** acting to guide the gasket and the horn until the toilet bowl is mounted on the projecting ends of the previously located and affixed studs **26**, and the horn is properly aligned with the coupling. Tightening of nuts **32** on the studs **26** forces the free end of the coupling **13** into the bottom of the ring portion **2** of the gasket against the resilience afforded by the wax-foam structure. The wax adheres firmly to all surfaces with which it is in contact and flows to form the desired sealing relation.

When the wax-foam ring portion **2** of the gasket is initially set into the channel **36**, the wax encased in the cells of the foam material is not compressed. The cells provide a light but firm bond or matrix for the wax before the ring **2** is compressed and after the ring **2** is compressed. When the toilet bowl is moved toward the coupling **13** and the coupling is in effect pushed into the ring portion of the gasket, wax begins to flow out of and through the cells of the foam material under internal compression of wax. As the coupling **13** is forced into the ring **2** of the gasket, the flange **8** of the sleeve member **3** tends to distribute the forces imparted by the edge of the coupling across a wide area in the ring **2** and reduce the possibility of punching the coupling through the gasket, as can occur with ordinary wax gaskets. Penetration of the coupling into the wax and the foam structure increases the surface area on the coupling that is sealed, thereby aiding the gasket to maintain tight seals even

through relative movements between the coupling and the toilet bowl.

As apparent from FIGURE 5, the ring portion **2** of the gasket forms liquid- and gas-tight seals with the outer surface of the horn, the bottom and both side surfaces of the channel **36**, the outer and inner surfaces of the flange portion **8** of sleeve member **3**, the outer and inner surfaces of the adjacent portion **7** of member **3**, and the outer, inner and end surfaces of the coupling **13**.

The ferrule portion **7** of sleeve member **3** that projects into the coupling **13** serves to deflect liquid flow away from the ring portion of the gasket during the violent turbulence of discharging effluent that occurs in wall mounted toilet bowls, and eliminates any possible erosion effects on the gasket.

In addition to previously mentioned functions, the sleeve also reinforces the gasket and increases the internal pressure of the wax-foam structure at locations requiring the greatest sealing forces such as the locations between the outer surfaces of the sleeve and the inner surfaces of the coupling.

Even though, after the toilet bowl has been permanently mounted, there is relative movement between the bowl and the coupling **13**, as previously indicated, ring portion **2** of the gasket tends to recover its original shape because of the foam structure in the ring. This provides the resilience required to maintain the seals between the ring portion **2** of the gasket and the surfaces it contacts regardless of joint movements. Sealing is effective immediately without any delay for drying of glue, since no cement is used. The wax does not decompose in use and retains its adherence and plasticity, while the foam, if made of one of the materials indicated hereafter, does not decompose appreciably if at all. The gasket does not attract or promote growth of bacteria, termites or other undesirable organisms. As indicated, the ring can be easily installed without the necessity of using services of highly experienced plumbers.

The sealing gasket **40** illustrated in FIGURES 6 and 7 is essentially similar to that of FIGURES 1–3, inclusive, except that it has no sleeve member. It also, however, comprises a wax body **41** containing foam structure **9** as in FIGURES 1–3, having a large proportion of open interconnected cells substantially, preferably essentially, all of which are essentially filled with wax.

This gasket is shown in FIGURES 8 and 9 as used to form a seal between the effluent discharge passage **42** of a conventional floor-mounted toilet bowl **43** and a waste pipe taking the form of a conventional soil pipe **44** through a conventional floor structure **45**. A flanged mounting ring or collar **46** of conventional type surrounds the upper end of the soil pipe and is fixed to the floor in conventional manner, as by wood screws **47**. The collar **46** is joined to the soil pipe **44** in a conventional manner by oakum packing **48** and by solidified poured lead **49**, to locate the upper end of the soil pipe relative to the collar and form between them a fluid-tight connection. The collar **46** as is conventional, has several peripheral recesses or slots **51** in its flange **52** to receive fastening studs **53** that extend upwardly through the slots and through the base **54** of the toilet bowl **43**. Nuts **55** threaded on the upper ends of the studs hold the toilet bowl to the floor in conventional manner.

The toilet bowl **43** has a conventional flange or horn **56** of generally circular exterior cross section that is aligned with and projects into the upper end of the soil pipe **44**. The edge of the horn is essentially coplanar with the edge of flange **57** at the outer edge of the base **54** of the toilet bowl, on which the bowl is supported from the floor.

After installation, the body **41** of gasket **40** is in liquid- and gas-tight contact with the outer surface **58** of the horn, the bottom surface **59** of the toilet bowl within the recess **61** between the horn and flange **57**. It also is in liquid- and gas-tight contact with the inner and outer surfaces and end of the upper end portion of the soil pipe **44**, and with the upper surfaces of the collar **46**. The ring thus seals all surfaces through which there could be leakage of gas or liquid.

The tough resilient structure of the ring caused by the impregnated foam structure core **9** aids in causing the wax to adhere to all of these surfaces by forcing it against the surfaces despite relative movements between the toilet bowl and the soil pipe as might occur during settling or for other reasons. The gasket **40** can be easily installed in the same manner as conventional wax gaskets.

The foam structure or core **9** of the above embodiments may be formed of any one of several types of plastic foams available on the market. The foam should be such that it has a highly porous structure defined by thin walls made up of relatively small cells of the foam materials, of which cells a large proportion and preferably substantially all cells are open and interconnected. The foam should be made of such material that the foam is permanent, tough and resilient under room temperatures both before and after impregnation with wax, that is not attacked or decomposed by the wax either during or after impregnation, that will withstand the temperatures of impregnation, which may be up to about 200° F., and that does not decompose when exposed to the liquids and gases to which it may be subjected in use over long periods.

Examples of foams that may be used are commercially available polyurethane foams, polyvinyl chloride foams, or polyethylene foams; polyurethane foams in general are desired because of exceptionally low cost, availability, toughness and inertness to a wide range of conditions to which the sealing material embodying the invention might be exposed.

Foams of the above types which are execptionally beneficial for use in the present invention are those having densities from and between substantially one and one-half to substantially three pounds per cubic foot; particularly good results are obtained when the foam has a density of about two pounds per cubic foot. Preferably the foam should have about 10 to about 100 cells per linear inch.

Various types of waxes may be used, but that found most desirable is the type of wax that is generally used for toilet bowl seals. This is a microcrystalline wax that is a byproduct of the petroleum industry. It is solid, somewhat tacky, has high adherence at room temperatures to solid surfaces, and has a relatively low melting point.

A wax falling within the following range of characteristics has been found to be preferable.

Microcrystalline wax:

Melting point ASTM, ° F.	145–165
Penetration @ 77°, ASTM D937	55–60
SSU viscosity @ 210° F.	60–75
Flash point, ° F., min.	440
Color, ASTM	2–2½

One way in which the gasket of FIGURES 6 and 7 could be made is as follows. A unitary body of foam is cut to the desired shape; for the gasket of FIGURES 6 and 7 it would preferably be a one-piece annular body having an inner diameter slightly larger than the inner surface of the wax gasket before installation, and an outer diameter slightly smaller than the outer surface of the wax gasket before installation and somewhat thinner than the thickness of the gasket before installation. A mold is selected having the desired shape of the wax gasket before its installation. The foam ring is inserted into the mold, which has the shape of the cross section shown in FIGURE 6 except that its wider end is open and extends upwardly. The foam ring inserted into the mold is held in place by a metal retaining ring. The assembly of the mold containing the foam ring and retaining ring is then placed in the container containing wax heated to about 30° F. above its melting point, as at about 180° F., and submerged in the wax. The assembly is held in place until undesired air bubbles escape

from the foam and the wax, after which the mold containing the foam and the wax is lifted out of the tank of molten wax, the retaining ring serving to hold the foam in the wax. The assemblage is cooled either by air or water, after which the retaining ring is removed. The mold and wax are then submerged in a water tank and the wax-foam structure caused to float out of the mold.

To form a gasket of the type shown in FIGURES 1–3, inclusive, a similar process may be used. However, in order to permit the use of the sleeve member **3**, the foam ring can be slit from its inner edge outwardly for part of the width of the ring sufficiently to receive the flange **8** of the sleeve member; alternatively, two foam rings can be used, one to fit below the flange and one to fit above the flange. The assembly of foam ring or rings and sleeve member can then be inserted into a mold in the proper position, a retaining ring placed around the sleeve member to hold the foam in place, and the whole assembly inserted into a tank of molten wax at the temperature indicated above. The procedure can then be essentially the same as that described above.

Of course, various modifications may be made in this procedure. For example, while preferably a continuous one-piece ring of foam material is used in either of the above gaskets, benefits can also be obtained if the foam core is made up of smaller pieces, such as fragments or scraps of foam, although in such case the wax ring may not have the tensile strength of one in which the foam is a continuous ring.

If desired, suitable modifying agents or fillers could be introduced into the wax. Moreover, air or an inert gas can be introduced into and beaten or otherwise mixed with the molten wax to form fine bubbles in the wax before impregnation, to cause the solidified wax after impregnation into the foam to have a substantial degree of porosity formed by fine closed gas-containing cells in the wax, so that there is preferably about a one-to-one ratio by volume of gas to wax in the porous wax. When the wax is porous, it is desirable to use foam having larger cells than when solid wax is used as the impregnant. The resulting wax-foam sealing material, as shown in FIGURE 10, comprises a foam structure **9**, the cells **10** of which are filled with solidified wax **64** containing pores or cells **65** substantially all of which are closed; the material is considerably lighter than one in which the wax is not porous. Yet after installation and compression of the wax-foam sealing material, the wax cells exposed to pressure are closed by pressure and the sealing material has the leakproof and other properties of the sealing material having solid wax impregnated into the foam.

In the wax-foam sealing materials previously described, there is about 10 to 30 parts of wax per part of foam, by weight; particularly good results are attained when the wax-foam ratio is about 22 to 1. It is preferable that in the wax-foam portion of the sealing means, the foam material thus constitutes from about 3% to about 10% of the total weight of the wax-foam portion.

While the invention has been disclosed in connection with its application to toilet bowl sealing ring gaskets, sealing means embodying the invention can be formed in other shapes such as strips, etc., and can be use for other purposes, such as air conditioning duct seals, for sealing joints of metal buildings, for sealing water tanks such as those used for agricultural purposes, for sealing cracks or joints in roofs, for sealing well coverings, for watertight joints, and indeed for any sealing purposes where its characteristics are suitable and where it is not exposed to temperatures outside the range of about 0° F. to about 120° F., or to pressures of greater than about 100 p.s.i.

Various other modifications may be made in the illustrated embodiments and the invention may be used for various uses other than those indicated without departing from the spirit of the invention. It is intended that the patent shall cover, by suitable expression in the appended claims, whatever features of patentable novelty reside in the invention.

What is claimed is:

1. Sealing means comprising resilient permanent foam means defined by thin walls around open interconnected cells, a substantial proportion of which cells are substantially completely filled by wax.

2. The sealing means of claim **1**, in which said foam means is embedded in a body of wax.

3. The sealing means of claim **1** in which said foam means is polyurethane foam.

4. The sealing means of claim **1** in which said wax is microcrystalline wax that is substantially solid at room temperature.

5. The sealing means of claim **1** in which said wax is porous.

6. Sealing means of claim **1** in which said foam means is polyurethane foam and said wax is microcrystalline wax that is substantially solid at room temperature.

7. The sealing means of claim **2** in which said foam means is polyurethane foam.

8. The sealing means of claim **2** in which said wax is microcrystalline wax that is substantially solid at room temperature.

9. A sealing gasket comprising a body of wax generally in the shape of an annulus, said body of wax containing resilient permanent foam means defined by thin walls having open interconnected cells a substantial proportion of which are substantially completely filled by wax.

10. A sealing gasket comprising a body of wax generally in the shape of an annulus, said body of wax containing resilient permanent foam means defined by thin walls having open interconnected cells a substantial proportion of which cells are substantially completely filled by wax, and sleeve means connected to said annular wax body and projecting from one side thereof.

11. The sealing gasket of claim **10** in which said sleeve member comprises a flange portion that is embedded in said annular body.

12. The sealing gasket of claim **11** in which said flange portion of said sleeve member extends laterally outwardly of said sleeve member into said annular body between said foam means on both sides of said flange portion.

13. A sealing gasket for sealing the connection between the outlet of a toilet bowl or the like and a waste pipe, comprising an annular ring member comprising a body of wax containing resilient permanent foam means defined by thin walls around open interconnected cells, a substantial proportion of which cells are substantially completely filled by wax, which foam means is completely embedded in said wax, said ring member having its inner diameter less than the inner diameter of the waste pipe and its outer diameter substantially in excess of the outer diameter of said waste pipe; a sleeve member of generally circular cross section having one end thereof embedded in said annular ring member firmly to locate said sleeve member relative to said ring member and having the other end thereof of a diameter small enough to project into said waste pipe, whereby when said ring member is mounted around said toilet bowl outlet or the like with its sleeve portion projecting away from the toilet bowl, and said free end of said sleeve member is inserted into said waste pipe, said ring member is forced into compressive sealing engagement with the flange around the outlet of said toilet bowl or the like and the surface of the toilet bowl or the like adjacent said flange, and with the inner and outer and end surfaces of said waste pipe, thereby sealing said waste pipe to said toilet bowl or the like in fluid-tight relation and maintaining said sealing relation even though there should be limited movement of the toilet bowl or the like relative to the waste pipe.

14. The sealing gasket of claim **13** in which the end of said sleeve member embedded in said annular ring member has an outwardly extending flange portion that

is embedded in said annular ring member between wax impregnated foam portions.

15. The sealing gasket of claim **13** in which the free end of said sleeve member is of smaller diameter than a portion of said sleeve member located inwardly of said free end toward said ring member.

16. The sealing gasket of claim **14** in which the free end of said sleeve member is of smaller diameter than the portion of said sleeve member located inwardly of said free end toward said ring member.

17. The sealing gasket of claim **10** in which said sleeve means comprises a sleeve portion and a flange portion extending laterally outwardly of said sleeve portion so said sleeve portion projects from a side of said flange portion, in which gasket said flange portion extends laterally into said annular body of wax, and in which gasket foam means is located in said annular body of wax at the side of said flange portion from which said sleeve portion projects.

18. The sealing gasket of claim **13** in which the said

one end of said sleeve member embedded in said annular ring member comprises a flange portion that is embedded in said ring member.

19. The sealing gasket of claim **13** in which said sleeve member comprises a sleeve portion and a flange portion extending laterally outwardly of said sleeve portion so said sleeve portion projects from a side of said flange portion, in which gasket said flange portion extends laterally into said body of wax, and in which gasket foam means is located in said body of wax at the side of said flange portion from which said sleeve portion projects.

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