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2,185,169

TOILET SEAT

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Fig. 1

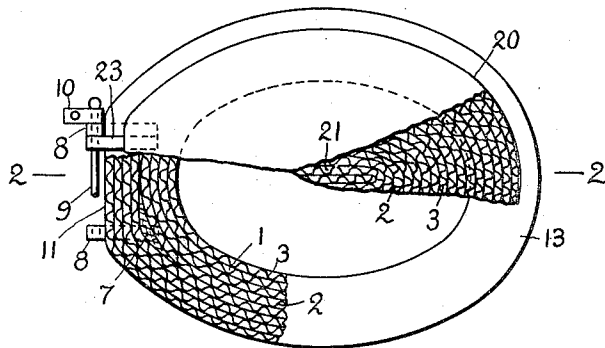


Fig. 2

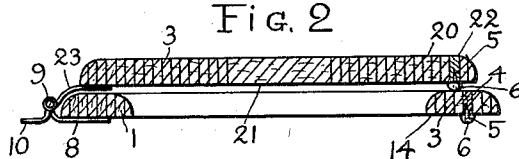


Fig. 4

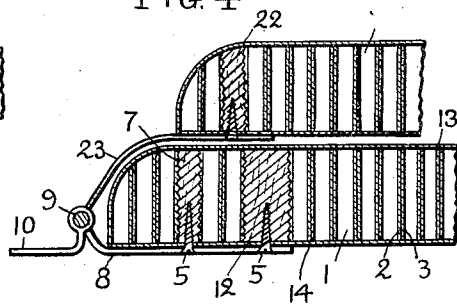


Fig. 3

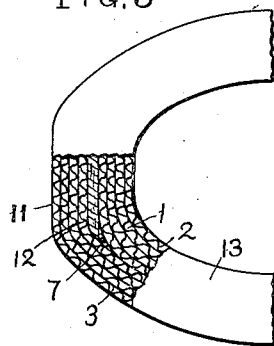


Fig. 5

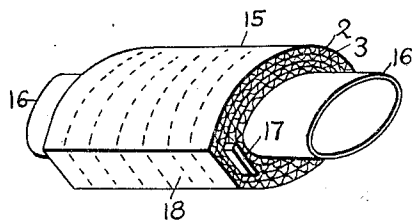
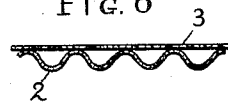


Fig. 6



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TOILET SEAT

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3 Claims. (Cl. 4—234)

My invention relates to toilet seats and has particular reference to toilet seats made of paper.

The choice of materials for making toilet seats is limited by the specific requirements of their use, viz.: they must be relatively thick in order to permit rounding off their upper surfaces to make them more comfortable; the weight must not be excessive so as to facilitate their handling and also to prevent a heavy hammering effect when the seat is dropped on the bowl; they must be made of a heat insulating material because heat conductors such as metals would make the seat very uncomfortable in cold weather; they must be inexpensive, and the material must not be brittle. For these reasons many ordinary materials are not suitable, and practically the only satisfactory material answering the foregoing requirements is wood. The latter, however, has certain disadvantages in that it is relatively heavy and is subject to warping, cracking, etc.

I have found, however, that very satisfactory seats can be made of an ordinary corrugated cardboard or paper. My invention has for its object, therefore, to provide a toilet seat of corrugated cardboard made by a special method. The corrugated board, for this purpose, is wound on a mandrel which may be also made of paper, the mandrel having a cross-sectional contour corresponding to the contour of the inside opening in the seat. The layers of the corrugated board are wound tightly side by side but without any glue or cement, and only the last turn is secured by gluing it in its place. The seat can be made oval by providing an oval mandrel. The shape of the outer contour can be controlled by inserting wooden bars or strips of corrugated board in proper places between the turns of the board. The completely wound body is then split or sawed, together with the core, into pieces of a desired thickness. The pieces are trimmed or milled in order to round off the upper corners, and the outer surface is impregnated with a glue or cement.

The glue penetrates the edges to a certain depth, firmly uniting the strips of the cardboard and rendering the structure firm and rigid. Wooden inserts can be also used for holding screws or nails, attaching hinges, etc., to the seat.

Another object of my invention is to make the surface of the seat smooth and water-proof. For this purpose, I enclose the seat in a specially moulded cover which may be made of paper or similar material, the cover being glued or cemented in place and covered with a water-proof enamel of a desired color.

Another object of my invention is to provide a cover plate for the seat made also by winding corrugated paper on a mandrel and splitting the resultant body into a number of individual boards or covers of a desired thickness.

My invention is more fully described in the accompanying specification and drawing, in which:

Fig. 1 is a top plan view of the seat with a cover connected together by hinges, partly in section.

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a fractional plan view showing modified inserts.

Fig. 4 is an enlarged detail view of a seat and cover.

Fig. 5 is a perspective view of a body formed by winding a strip of corrugated board prior to its being cut into individual seats.

Fig. 6 is a detail view of corrugated paper used in the construction of my seats and covers.

My toilet seat consists of a core 1 made of strips of corrugated paper wound tightly side by side. I prefer to use for this purpose paper made of a corrugated strip 2 glued at one side to a sheet of paper 3, Fig 6. Such corrugated board is flexible and can be readily wound flatwise but possesses considerable rigidity in the edgewise direction.

The strip may be wound on a mandrel of a suitable shape by a machine (not shown), the mandrel being preferably of an oval shape in order to obtain an oval seat. The first turn may be glued together as well as the last in order to hold the completed core together. The upper edges are then rounded off by trimming or grinding as shown in Figs. 2 and 4, and the sides of the core are impregnated with a glue or glue-like compound so as to permanently join the edges together. According to my experience, such seats remain perfectly rigid and inflexible when only the edges are glued together, the glue penetrating to a certain depth into the core. Inserts 4 are placed between the turns of the corrugated paper and are glued or cemented in place. The sides of the inserts may be preferably provided with ridges or serrations in order to increase their adhesion to the surrounding strips of corrugated paper. The inserts are made of wood or similar machinable material which can receive screws for fastening rubber bumpers 6 of the same type as are usually provided on ordinary seats for protecting the bowl from direct contact with the under side of the seat. Similar inserts 7 are placed at the rear end of the seat for attaching

hinge members 8 rotatively engaging a rod 9 mounted in brackets 10 which are fastened to the rear end of the bowl (not shown).

The rear inserts 7 are placed at a distance from each other and are so shaped that the next turns above them extend in straight lines transversely to the long axis of the oval of the seat, thereby providing a corresponding straight outer edge at the hinges. These inserts can be also made of pieces of corrugated board with small plugs for the fastening screws. As a modification, a single insert 12, Fig. 3, may be used, having a straight outer side for controlling the shape of the outer edge 11.

In order to provide for a smooth surface of the seat, its upper side is placed in a specially moulded cover 13, Fig. 4, which can be made of paper or similar fibrous material, or any other suitable mouldable material such as Celluloid, etc. I prefer to use poor heat conductors in the construction of my seat and avoid such materials as metals in view of the fact that their good heat conductivity makes them highly uncomfortable in cold weather. The cover or enclosure 13 is glued or cemented to the surface of the seat, and a sheet 14 of a similar material is glued or cemented to the under side of the seat. The covers are preferably attached while the glue is still hot, using special forms or moulds in order to obtain a perfectly smooth surface. The finished product is then covered with a layer of water-proof enamel of a desired color.

Instead of individually winding each separate seat I prefer to wind a wide sheet 15, Fig. 5, on a tubular mandrel 16 preferably made of paper and having an oval shape. An insert 17 is made in the form of a long wooden strip and is placed at the end of the oval in order to obtain a flat outer side 18. The last layer is glued in its place, the insert being also cemented between the turns. The finished body is cut as by a gang saw into a number of seats of the desired thickness as shown in dotted lines.

A cover 20 is made in a similar manner from a strip of corrugated paper wound around a central core 21, which may be made of wooden corrugated strips. Inserts 22 made of wood or similar machinable material are placed between the turns for the screws which fasten bumpers 6 and hinge members 23 engaging the rod 9.

My paper seats have a strength comparable

to or even exceeding the strength of wooden seats and have an added advantage that they do not warp in time, do not break, and are very light, easy to handle and practically noiseless when dropped on the top of the bowl, unlike ordinary heavy wooden seats and covers.

It is understood that my toilet seat can be further modified without departing from the spirit of my invention, as set forth in the appended claims.

I claim as my invention:

1. A toilet seat comprising a core of an approximately oval shape formed of a strip of a corrugated paper of a width substantially equal to the thickness of the seat and wound tightly side by side, and inserts made of a machinable material placed in the core at one end of the oval adapted to render the corresponding end portion of the seat substantially straight, the inserts being adapted to receive screws for attaching hinges to the seat, the surfaces of the core being impregnated with a glue-like compound and covers cemented to the core made of a moulded sheet material.

2. A toilet seat comprising a core made of a strip of a corrugated board formed of a corrugated paper with a sheet of flat paper cemented to one side of the corrugated paper, the width of the board being substantially equal to the thickness of the seat, the strip being wound tightly side by side, and inserts made of a machinable material so placed between the turns of the board as to control the outer contour of the seat, the outer surface of the seat and of the inserts being machined smooth and impregnated with a cementitious material extending to a relatively shallow depth into the core.

3. A toilet seat comprising a core of an approximately oval shape formed of a strip of corrugated paper of a width substantially equal to the thickness of the seat and wound tightly side by side, inserts made of a machinable material placed in the core at one end of the oval adapted to enlarge the corresponding end portion of the seat and render it adapted for attachment of hinges, and additional inserts placed in the core adapted to receive screws for attaching hinges to the seats, the surface of the core being impregnated with a glue-like compound.

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