

July 12, 1932.

H. ZINSER

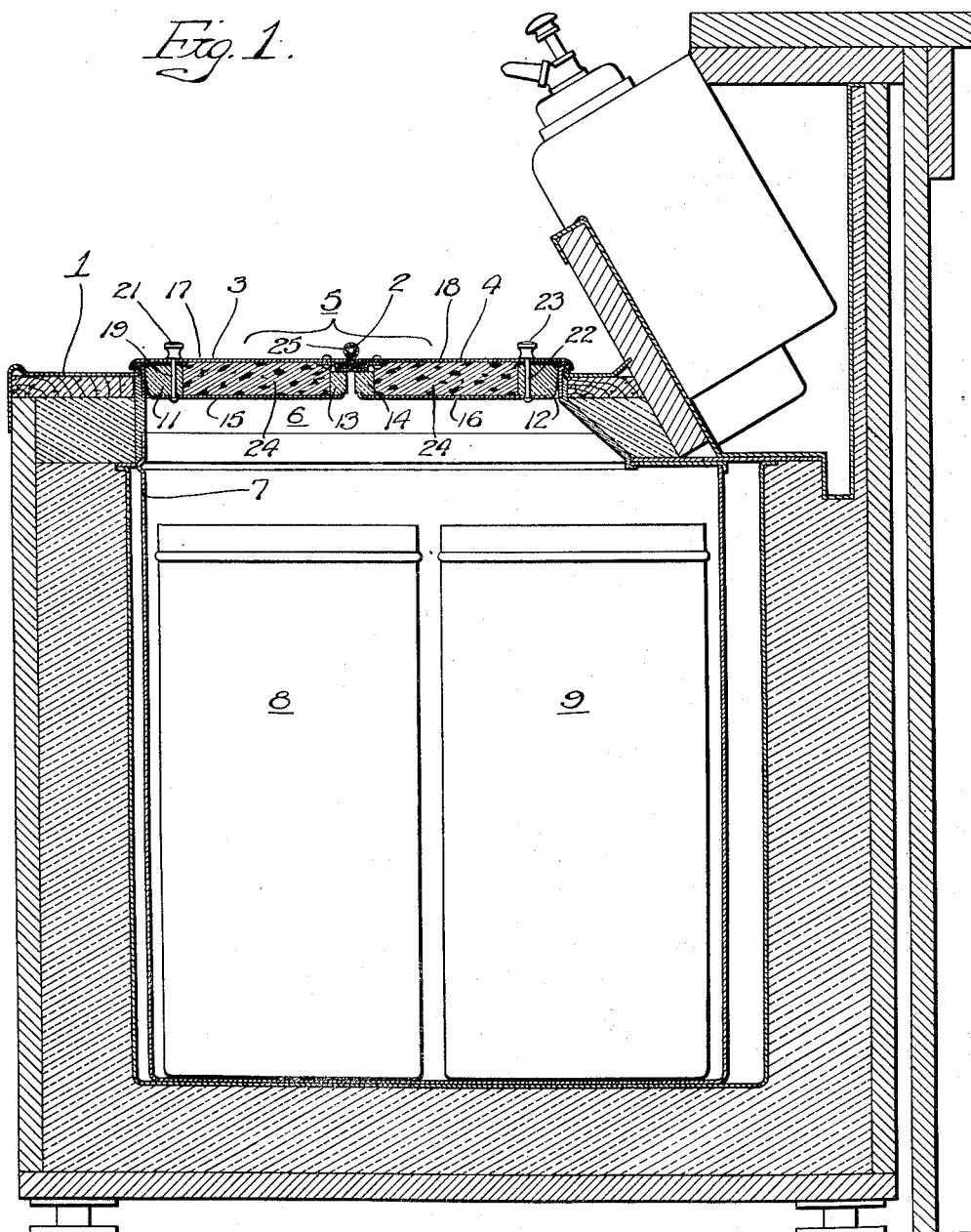
1,867,046

HINGE CONSTRUCTION

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Fig. 1.



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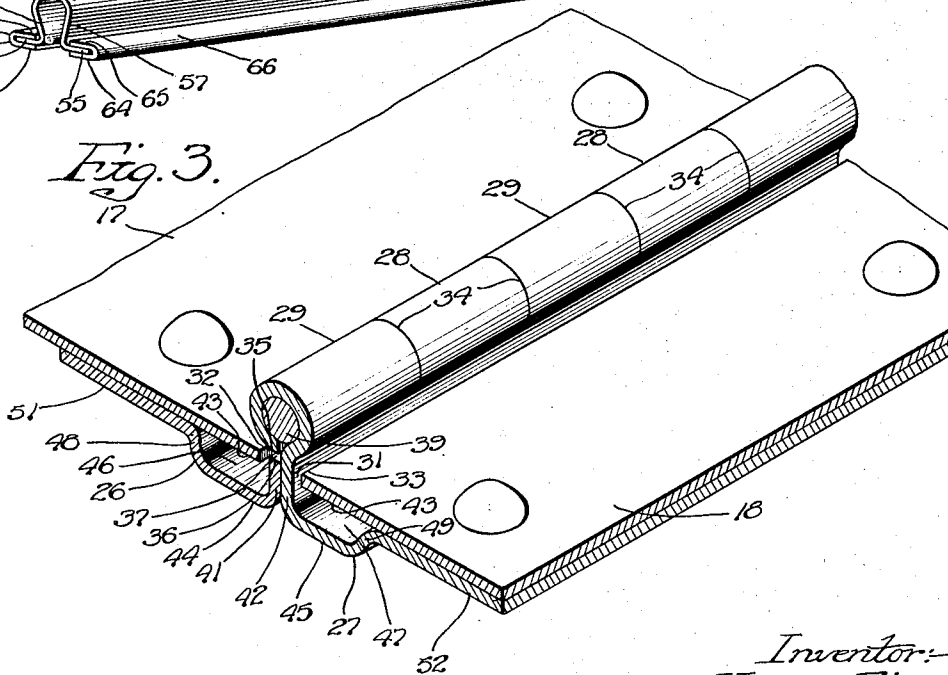
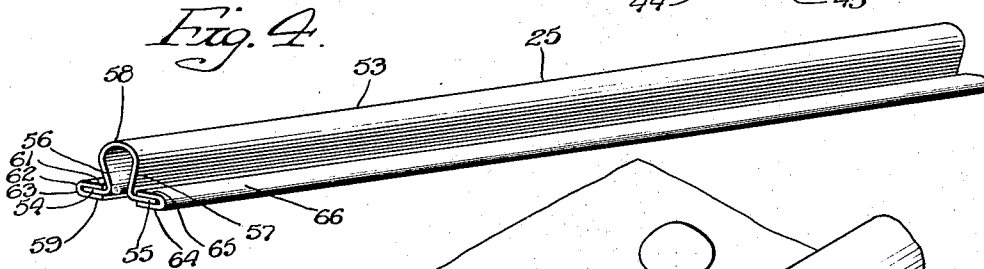
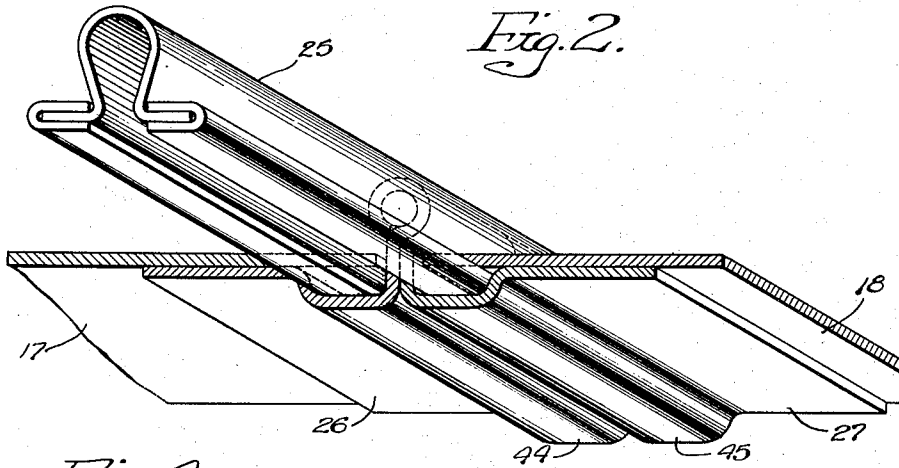
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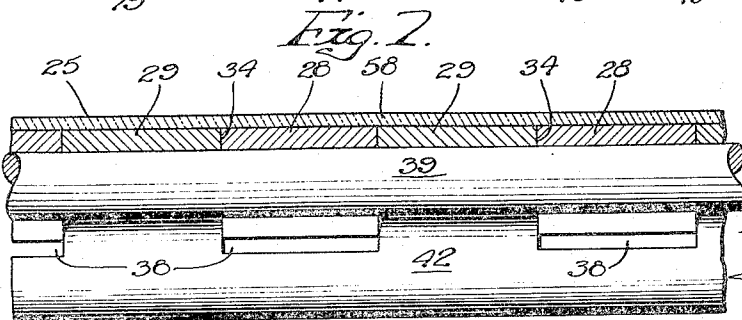
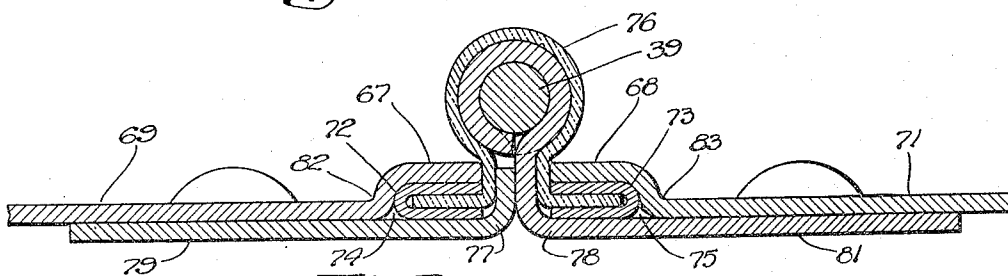
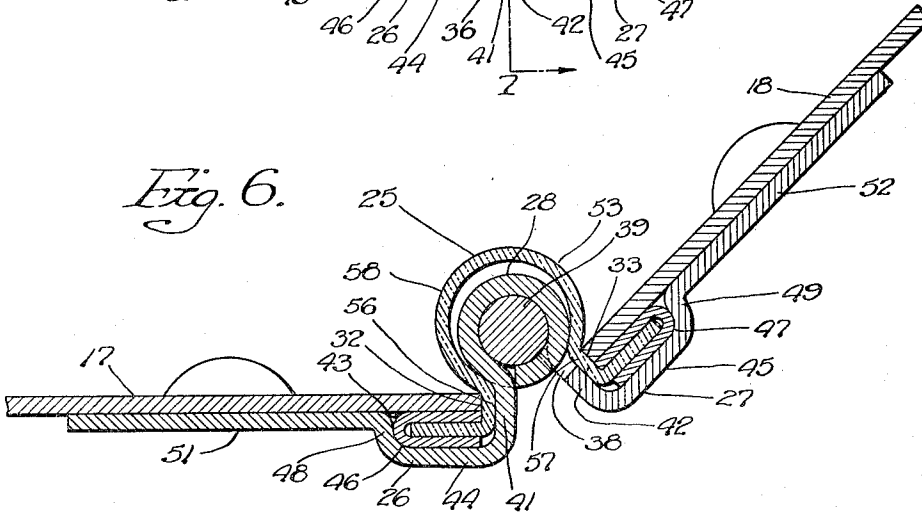
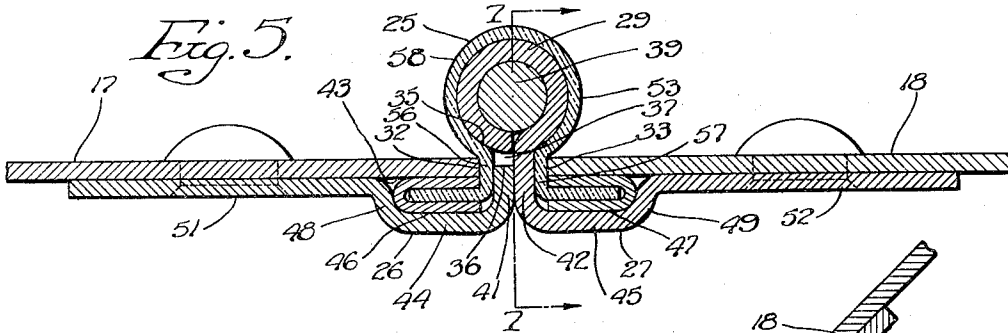
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HINGE CONSTRUCTION

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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HINGE CONSTRUCTION

Application filed October 23, 1928. Serial No. 314,489.

My invention relates to hinges, and it has for one object the provision of a hinge of simple, compact and rugged design which lends itself to inexpensive quantity production methods of manufacture, the several parts of the hinge being readily made in automatic machinery and assembled with a minimum expenditure of time and of money.

Another object of my invention is to provide apparatus of the character described, wherein a protective covering is afforded the hinge joints, said covering being readily removable for the purpose of renewal and the like, without the necessity for disturbing the adjacent portions of the hinge.

With these and other objects and applications in mind, my invention further consists in the details of construction and operation and arrangement, hereinafter described and claimed and illustrated in the accompanying drawings, wherein

Fig. 1 is a detail, vertical sectional view of a hinge construction embodying my invention applied to soda fountain apparatus;

Fig. 2 is an enlarged detail perspective view of the hinge structure embodying my invention, the protective jacket being partially removed;

Fig. 3 is a perspective view of the hinge structure of Fig. 2, but showing the protective jacket entirely removed;

Fig. 4 is a perspective view of the protective jacket removed from the supporting hinge construction;

Figs. 5 and 6 are enlarged sectional views of the hinge construction shown in Fig. 1, one of the lid sections in Fig. 6 being raised.

Fig. 7 is a longitudinal sectional view taken on the line 7—7 of Fig. 5; and

Fig. 8 is a sectional view of a modification.

For purposes of illustration, my hinge structure is shown associated with soda fountain apparatus 1, though it is not to be limited to such application, inasmuch as it is equally adaptable to other uses, as, for ex-

ample, in connection with automobile hoods and the like. Referring to Fig. 1, a hinge structure 2 embodying my invention serves to connect sections 3 and 4 of a member 5. This member constitutes a cover or lid for an opening 6 in an upper side portion of the soda fountain apparatus 1. Directly beneath the opening 6 is a relatively large refrigerating chamber 7 adapted to receive casings 8 and 9 which may contain, for example, ice cream.

The lid sections 3 and 4 comprise semi-circular rubber rings 11 and 12 which are respectively interconnected by cross members 13 and 14 of rubber or like material. Plate sections 15 and 16 are secured to the lower sides of the supporting members 11, 13 and 12, 14, respectively, while plate sections 17 and 18 are respectively mounted on the upper sides of these members. A through bolt 19 serves to connect the outer peripheral portions of the upper and lower plate sections 17 and 15 and the outer ring member 11. A handle 21 for lifting the lid section 3 is mounted on the upper end of the bolt 19. The upper and lower plate sections 18 and 16 and the member 12 are similarly connected by a through bolt 22 having a handle 23 on its upper end. The space between the members 12, 14, 16 and 18, as well as that between the members 11, 13, 15 and 17 may be filled with a cork material 24 so as to increase the insulating effect of the cover member 5.

In the actual operation of apparatus of the character described, a liquid frequently accumulates on the upper side of the cover member or lid 5 and this is particularly noticeable in the vicinity of the soda valve. In such apparatus, when either or both of the lid sections 3 and 4 are raised, the accumulated liquid flows by gravity to the hinge. Since the usual type of hinge is provided with a number of joints, longitudinal as well as transverse, the liquid passes through these joints into the compartment 7 and onto the ice cream

casings 8 and 9, with resulting damage to the material contained therein. In certain constructions, the leakage fluid also collects around the stored material, causing highly insanitary conditions. These undesirable results are entirely overcome in the hinge structure embodying my invention, wherein a protective cover or jacket 25 is provided for the several hinge joints.

Referring in greater detail to the hinge structure embodying my invention, a pair of hinge leaves 26 and 27 are respectively provided with tubular knuckle portions 28 and 29 which are positioned immediately above an opening 31 formed between the spaced adjacent edges 32 and 33 of the upper cover plate section 17 and 18, respectively. As shown in Figs. 3 and 7 the knuckle portions 28 and 29 alternate, forming transversely extending joints 34 therebetween. Inasmuch as an outer edge 35 of each of the tubular knuckle portion 29 is spaced from an adjacent edge portion 36 of the hinge leaf 26, a longitudinal joint 37 exists therebetween, forming an opening through which material may escape from one side of the hinge to the other. A similar longitudinal joint 38 is formed between each of the knuckle portions 28 and the hinge leaf 27. The knuckle portions 28 and 29 may be interconnected by means of a hinge rod 39 which extends across the full width of the lid 5.

The hinge leaves 26 and 27 are provided with abutting vertical portions 41 and 42 which extend up through the opening 31 between the longitudinal edges 32 and 33, and are connected at spaced intervals to their associated knuckle portions 28 and 29. The vertical portions 41 and 42 extend slightly below an underside 43 of the plate sections 17 and 18 and then outwardly, to provide horizontal portions 44 and 45, which are spaced below the underside 43, thereby forming longitudinal recesses or grooves 46 and 47, respectively. Outer edges of these grooves are closed by upwardly curved portions 48 and 49 of the leaves 26 and 27. The curved portions 48 and 49 terminate in horizontal flange portions 51 and 52 which are riveted or otherwise secured to the underside 43 of the plate sections 17 and 18.

In accordance with my invention, the knuckle portions 28 and 29, as well as the transverse and longitudinal joints 37 and 38, are covered by the protective jacket member 25 which comprises an elongated flexible strip 53 of rubber or like material, having a length approximately equal to that of the hinge rod 39 and having a width such that longitudinal edges 54 and 55 thereof are respectively positioned in the elongated recesses 46 and 47. As shown in Figs. 3, 5 and 6 a side portion 56 extends between the edge 32 and the vertical leaf portion 41 completely filling the space therebetween, as well as covering the

adjacent longitudinal joints 37. An opposite side 57 is similarly positioned between the vertical leaf portion 42 and the adjacent edge 33, forming a fluid-tight connection therebetween, as well as covering the adjacent longitudinal joints 38. A curved base portion 58 encircles the knuckle portions 28 and 29, protecting the same and also covering the transverse knuckle joints 34. Since the longitudinal joints 37 and 38 and the transverse knuckle joints 34 are thus completely covered, passage of fluid therethrough from the upper side of the lid 5 is prevented. The sealed connections between the edges 32 and 33 and the vertical portions 41 and 42 respectively, afforded by the jacket side portions 56 and 57, also prevent the passage of liquid into the channels 46 and 47.

A still further feature of my invention is the provision of means, whereby the flexible member 53 may be readily removed from the hinge and renewed in the event of damage thereto. To this end, I mount the edge portion 54 between the folded back side portions 59 and 61 of an elongated strip 62, a curved portion 63 of which engages the curved inner side of the leaf portion 48. The side portions 59 and 61 respectively engage the leaf portion 44 and the underside 43 of the plate section 17. The other edge 55 of the jacket 53 is similarly mounted between flat sides 64 and 65 of a U-shaped member 66. The members 62 and 66 are of such dimensions as to fit slidably the recesses 46 and 47. Thus the jacket 25 may be readily removed and replaced when desired.

The hinge construction shown in Fig. 8 differs slightly from that shown in the preceding figures, inasmuch as edge portions 67 and 68 of the top plate sections 69 and 71 are folded to form recesses 72 and 73 for edge portions 74 and 75 of a jacket member 76, rather than portions 77 and 78 of hinge leaves 79 and 81, respectively, as in the structure of Fig. 1. It is noted that grooves 82 and 83, which are formed by offsetting edge portions 67 and 68 to form the recesses 72 and 73, respectively, serve as drainage means, tending to prevent fluid from reaching the cover jacket 76 when the plate sections 69 and 71 are raised upwardly.

While I have shown my invention in connection with soda water apparatus, it is apparent that certain features are capable of quite general application. Moreover various changes and modifications may be made in the hinge constructions shown in the drawings without departing from the spirit of my invention. I desire, therefore, that only such limitations shall be imposed thereon as are indicated in the appended claim or as are demanded by the prior art.

I claim:

In combination with a pair of members to be connected, a hinge comprising knuckle con-

nected leaves connecting the same and combining therewith to provide longitudinally extending recesses at opposite sides of the knuckle connection, said recesses each affording a longitudinally extending opening adjacent the knuckle connection and having one end thereof open, and a projecting member for said knuckle connection having its edges slidably mounted in said recesses and longitudinally shiftable to permit removal or replacement thereof without disconnecting said knuckle portions.

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