

Nov. 19, 1940.

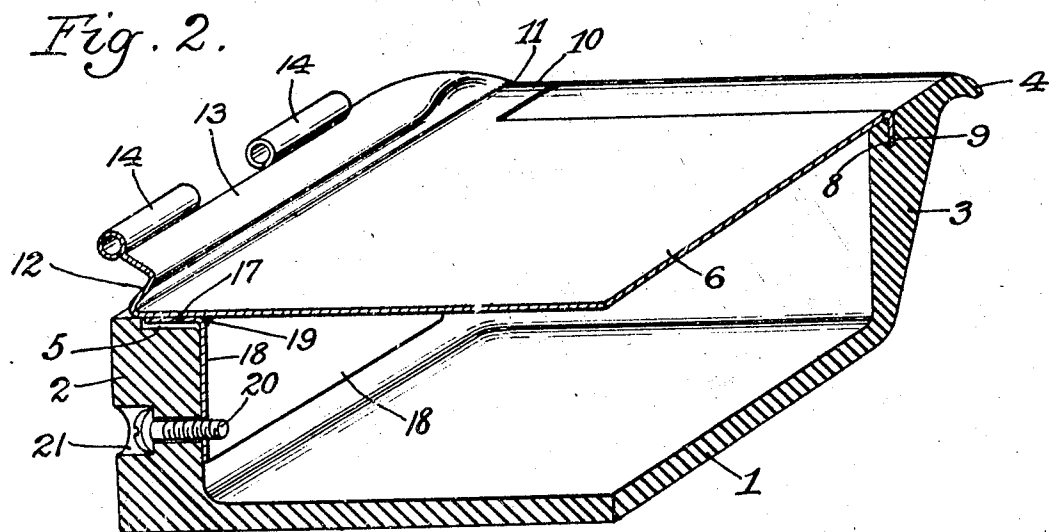
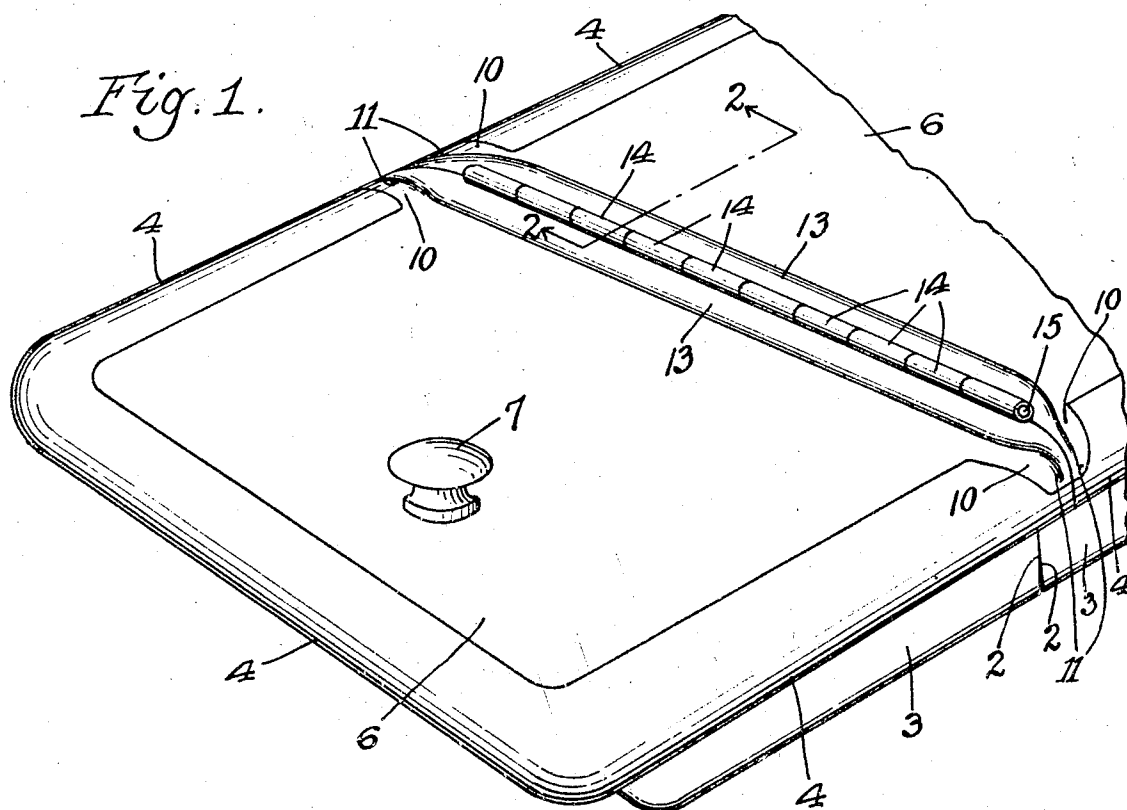
P. F. BOETTCHER

2,222,428

HINGE

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Fig. 3.

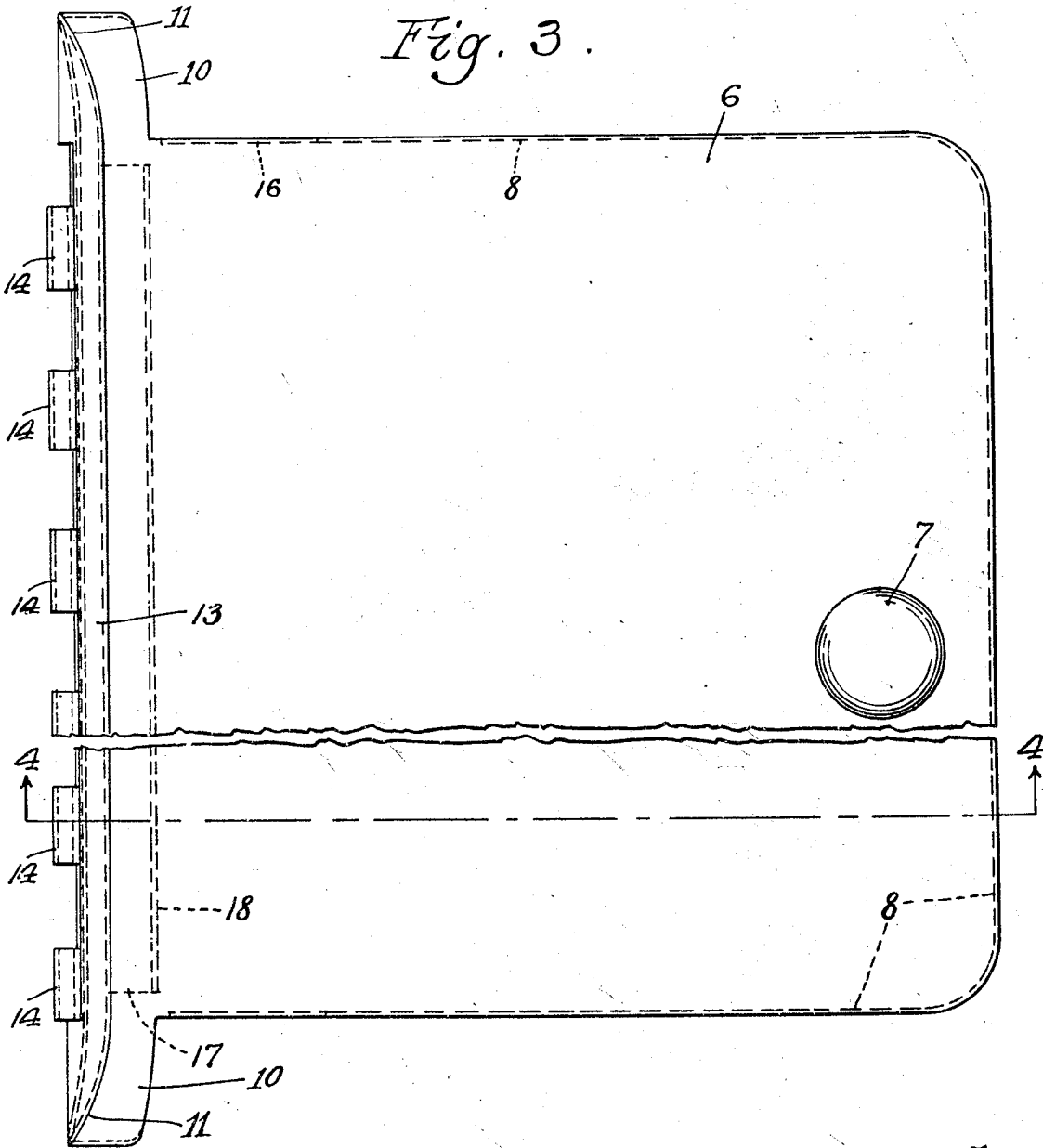
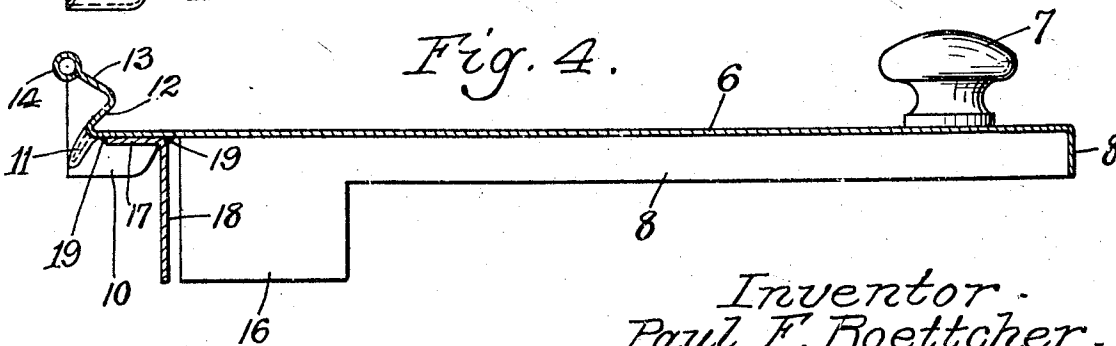


Fig. 4.



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UNITED STATES PATENT OFFICE

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HINGE

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7 Claims. (Cl. 16—128)

This invention relates to a receptacle cover and to a hinge means for supporting the cover.

It has for one object to provide a mechanism by means of which a receptacle may be hinged in such a manner that moisture collecting on the cover or the hinge will not be discharged into the receptacle when the cover is opened.

Another object is to provide a hinge so shaped that moisture collecting upon it will be guided and positively discharged away from the opening of the receptacle when the hinge is open.

Another object is to provide an insulating receptacle cover so shaped that moisture collecting upon it will be discharged away from the opening of the receptacle.

Other objects will appear from time to time in the course of the specification and claims.

The invention is illustrated more or less diagrammatically in the accompanying drawings, wherein:

Figure 1 is a perspective view of one form of the cover;

Figure 2 is a sectional view taken at line 2—2 of Figure 1;

Figure 3 is a plan view of the cover with parts broken away; and

Figure 4 is a sectional view with parts in elevation through a portion of the cover and hinge mechanism, the section being taken at line 4—4 of Figure 3.

Like parts are indicated by like symbols throughout the specification and drawings.

The cover member, when it is applied to a receptacle where insulation is desirable, may be made hollow. As shown, particularly in Figure 1, such a cover is illustrated and comprises a bottom member 1, an end wall 2 suitable for receiving the hinge, and other walls 3 which may be considered as side walls. The end wall opposite the wall 2 may be similar in construction to the side walls 3. As shown, the side walls are provided with outwardly flared and downwardly curved portions 4. The end wall 2 may have a depressed portion 5 arranged to receive the hinge in a manner which will be described below.

The hinge is preferably formed of two sections substantially identical with each other, one or both of which may or may not include or be attached to a portion of the cover member. As shown, the hinge sections do include such a portion, since they are enlarged to form the major part of the top of the cover members but this might be omitted or it might be made and installed separately from the hinge.

As shown, there is a cover portion 6 which may

have one or more suitable handles 7 about two sides and one end. The cover portion 6 may have a downwardly depending flange 8 which preferably fits into a suitable groove or depression 9 formed in the walls 3. The hinge is also provided adjacent one end with lateral and downwardly depending curved enlargements or lips 10 which may have gutter-like grooves 11 formed in them.

The hinge portion proper, which as above noted may or may not be integral or attached to the member 6, comprises a raised and rearwardly bent portion 12, and a forwardly and upwardly bent portion 13. Formed on the forwardly bent portion 13 and preferably adjacent its upper edge is a plurality of generally cylindrical hinge members 14.

When the device is assembled, the cylindrical portions 14 of cooperating hinge sections are fitted together as shown in Figure 1, and a pin 15 is inserted through them to complete the hinge.

The side flanges 8 of the member 6 may have additional downward extensions 16 if desired. These serve to strengthen the attachment of the hinge and the member 6 to the portions 3 or to other portions of the cover proper.

As an additional means for securing the hinge and the member 6 to the body of the closure, a strip 17, having a downwardly depending portion 18, may be used. As shown, this member is made separate from the parts 6 and from the hinge parts and is secured to the members 6 by soldering, welding, or otherwise, as indicated at 19, 19. The strip 17 may lie within the depression 5 of the wall 2 so as to bring the bottom of the hinge portion 12 flush against the top of the wall 2. The downwardly depending portion 18 may lie against the inner face of the wall 2 and be held in place by screws 20 which are positioned within suitable perforations 21 formed in the wall 2. Obviously the member 18 might be otherwise secured and the invention is not limited to the particular means shown herewith.

As here shown, the cover is a double member having the two parts which are secured together by the hinge construction illustrated, and either of these may be raised while the other remains stationary, or the total cover comprising the two parts may be removed bodily. Obviously, the hinge construction of the present invention might be applied to other covers. It might, for example, be applied to a situation in which one hinge half or portion is secured to the housing of a receptacle, and the other hinge half is mounted on the lid or covering. In that case, the hinge design would be generally the same.

The invention is of particular importance in connection with refrigerating containers in which the temperature within the container is cooler than that outside. The metal parts tend, therefore, to be made cool and condensation of moisture from the air on the outside may occur. When this occurs and the closure is opened, with constructions of the past, this condensed moisture has tended to fall or flow into the receptacle, and this may of course damage its contents. In the present device, because of the shape of the hinge, this can not occur. When the parts are closed the upper inclined surface of the member 13 directs any condensed moisture away from the hinge opening. The moisture flows downwardly away from the portions 14 along the upper surface of the member 13 and flows or drops off onto the upper surface of the member 6. If such condensation occurs, the moisture will flow downwardly along the downwardly bent portions 10 and will be guided by them or the gutter portions 11 and discharged over the side of the cover and consequently away from the container.

By positioning the cylindrical portions 14, which are of course the actual hinge members at the top of the assembly, and by providing the surfaces which guide condensed moisture away from this hinge portion and away from the opening, which occurs when the covers are open, the possibility that the moisture will flow into the container is removed, and consequently the hinge structure of the present invention provides means not only for preventing the passage of condensed moisture into the receptacle, but provides positive means for guiding such condensed moisture away from the receptacle.

It will be realized that whereas I have herewith shown and described a practical operative device, nevertheless many changes might be made in the size, shape, number and disposition of parts without departing from the spirit of the invention and I wish, therefore, that my showing be taken as in a sense diagrammatic. In particular, the details of the hinge might be varied, the hinge proper might be used in any desired connection, whether the cover be insulated or not, a single hinge might be used in which the hinge itself is mounted on a fixed base and serves as a hinged connection for a swinging lid, the hinge might, as in the present case, form part of the lid or cover but might not, and might form merely the hinge. Also, where the construction is embodied in an insulating cover or lid, the cover might be formed of one material or, as here shown, of two. In the present case, the main body of the cover is formed of the members 1, 2 and 3, and may be molded as a unitary structure of rubber or plastics or any other desired material, and the metal member 6 may form part of the hinge or might be separate from it.

Whereas in the present case the cover is in effect a two-part assembly, ordinarily one side only is opened, and when opened is moved clear over to the other so that it rests partly upon it, and in this manner one hinge part pivots on the other and at all times the opening between the two is kept closed so that water cannot run down through the hinge parts. If water is condensed on both parts while the covers are closed, when one part is "flopped" or swung over onto the other, the water from the part which has been moved runs onto the other cover and then runs off over the gutter-like portion and is directed

positively away from the hinge and cannot pass through the hinge or into the container beneath it.

Although the hinge has been shown as providing a hollow space bounded by the sections 12 and 13, this space might be filled so that the hollow would not be present. For some purposes the presence of such a hollow is a disadvantage and where that is the case the hollow would be filled in any desired manner. Thus the invention may be embodied in a hinge which has the hollow space mentioned or from which the hollow space has been removed.

I claim:

1. A hinge comprising a pair of relatively movable members, each of said movable members having a socket portion and a portion positioned below said socket portion, said latter portion suitable for attachment to a lid, an inclined surface member connecting said socket portions to said latter portion and forming a gutter in cooperation with said latter portion, said surface member being in part inclined downwardly and away from and to one side of said socket portions, and in part inclined downwardly and back toward the vertical plane of said socket portions.
2. In combination in a hinge, a plurality of members, each comprising a relatively extended portion suitable for attachment to a cover, said portion having downwardly depending parts extended laterally beyond said extended portion, and an upwardly extending angularly disposed portion adjacent thereto, the two forming a gutter, the upwardly extending portion carrying a reversely bent, inclined, upwardly extending member.
3. In combination in a hinge, two relatively movable members, each comprising a socket part adapted to receive a hinge pin and an extended part suitable for attachment to a cover or base, and means connecting said attachment part to said socket part, said means lying to one side of said attachment part and, being in part, inclined away from said socket part, and in part, reversed and inclined toward a line drawn vertically downward through the longitudinal axis of said socket.
4. In combination in a hinge suitable for joining together a pair of generally horizontally disposed cover members, two hinged sections, each comprising a plurality of pintle-receiving portions, and a sheet-like, extended portion suitable for attachment to one of said cover portions, and positioned below said pintle-receiving portion; a connection between each pintle-receiving portion and its sheet-like portion, said connection comprising a member inclined downwardly and laterally away from the vertical plane of said pintle portion and towards said sheet portion, and being rebent downwardly and toward the vertical plane in which said pintle portion lies.
5. In combination in a hinge, a pair of hinged sections, each comprising a longitudinally disposed, sheet-like portion, and each having a plurality of pintle-receiving portions, and a connection member joining said pintle-receiving portions and said sheet-like portion, said connection shaped to provide with said sheet-like portion a gutter disposed longitudinally of said hinge member, and positioned away from said pintle portions and adjacent said sheet portion, and being of substantially V-shaped cross section.
6. In combination in a hinge, a plate, a socket portion spaced laterally from the plane of the plate and a portion connecting the socket portion

and plate, said connecting portion being inclined from the socket portion first toward one edge of the plate and then toward the opposite edge of the plate to form a gutter between the socket portion and plate.

5 7. In combination in a hinge, a plate, a socket portion spaced laterally from the plane of the plate and a portion connecting the socket portion and plate, said connecting portion being in-

clined from the socket portion first toward one edge of the plate and then toward the opposite edge of the plate to form a gutter between the socket portion and plate, said plate being provided with laterally projecting lips adjacent the socket portion and forming continuations of the gutter. 5

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