Aug. 27, 1935. 2,012,275

L. HESCHER, MAIDEN NAME BAUMANN

CLOSURE

Filed May 14, 1932

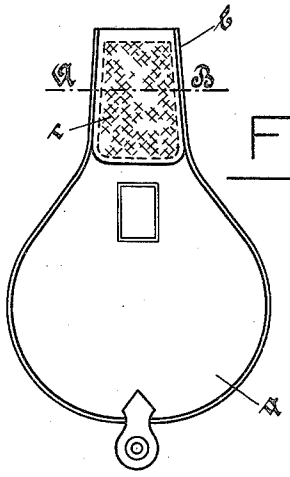


Fig: 1

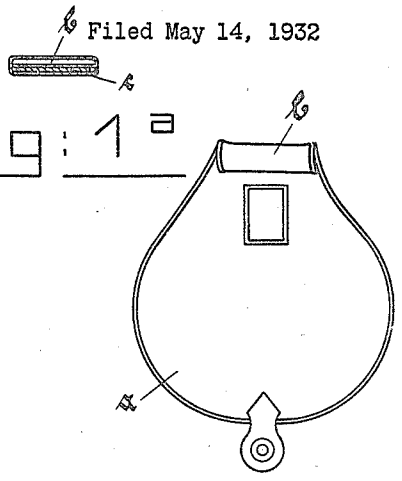


Fig: 2

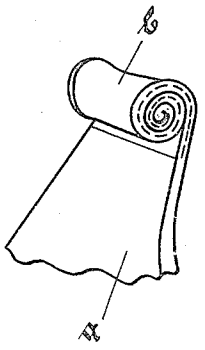


Fig: 3




Fig: 1a

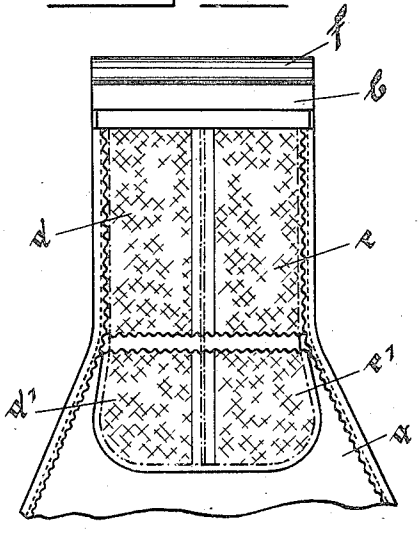


Fig: 4

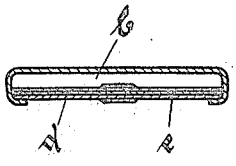


Fig: 6

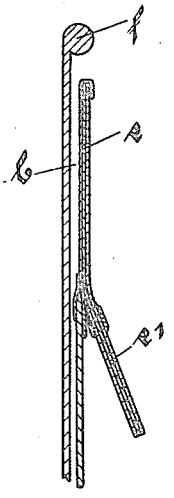


Fig: 5

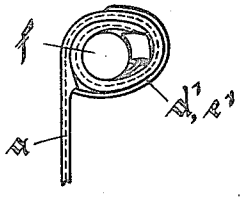


Fig: 7

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# UNITED STATES PATENT OFFICE

2,012,275

## CLOSURE

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Application May 14, 1932, Serial No. 611,408
In Italy September 10, 1931

9 Claims. (Cl. 150—3)

The invention relates to a closure for the closing of liquid-, air- or gasproof receptacles made of rubber, rubbered or other material, such as for example ice bags, hot water bottles, water pillows, tobacco pouches and bags in general that are intended to receive objects and to protect them against water or moisture, for example when bathing, in rowing sports or water sports in general which consists of a tube-like filling and draining member that is made of a waterproof material such as rubber or the like, and which may be rolled up from its free end, and as a whole or partially is provided over substantially its width with one or more inserted or superposed parts made of a suitable material such as of soft metal sheet, wire netting made of soft metal sheet, or other suitable wire gauze, being made up either of one or of several parts, and serving to maintain the said tube-like filling and draining member in its rolled up position.

The inserted or superposed clamping part or clamping parts may project over the tube-like filling and draining member either at the sides or at the lower end or at both, so that, in the one case, the tail-like end will come to lie on top of the uppermost layer of the rolled up tube-like draining and filling member, and thus act against the forces that tend to unroll the latter.

The filling and draining member together with the inserted or superposed clamping part take preferably a shape that tapers towards the top with the object of completely enveloping the inner layers of the filling and draining member by the outer layers and to press them over their entire width tightly together so as to ensure an efficient closing of the receptacle.

Easy rolling up and safety against unintended unrolling of the layers is obtained by lengthening one of the two wall parts of the tube-like filling and draining member that come to lie flat upon each other beyond the opening of the receptacle, and by providing over the width of this prolongation a roller-like reenforced part made of the same material as the tube-like filling and draining member so as to form a core around which the layers of the said filling and draining member may be rolled up. The central position of this roller-like reenforced part provides an efficient check against the forces that tend to unroll the layers, since this tendency of unrolling will show itself especially with the inner layers.

The tube-like filling and draining member may, with not too broad and comparatively small bags such as generally serve to receive objects when bathing, rowing or in other water sports, be made of a width that corresponds with the width of the bag itself as in this case, there is no necessity for a restriction in width.

The accompanying drawing shows by way of example one method of how the invention may be carried into effect.

Fig. 1 shows a front view of an ice bag with an open not rolled up tube-like filling and draining member that, in one of its wall parts that comes to lie flat upon the other, is provided with an inserted clamping part that is made of a thin and soft metal sheet;

Fig. 1*a* is a section through the filling and draining member on the line A—B of Fig. 1;

Fig. 2 is a front view of the ice bag with the filling and draining member rolled up;

Fig. 3 is a perspective view of the rolled up filling and draining member.

Figs. 4, 5, and 6 show certain modifications and have longitudinally divided clamping parts made of soft metal sheet and inserted into one part of the filling and draining member a roller-like reenforced part being provided at the opening of the receptacle.

Fig. 4 is a front view of one wall of the filling and draining member into which the clamping part has been inserted;

Fig. 5 shows a longitudinal and

Fig. 6 a transverse section through the filling and draining member, whilst

Fig. 7 is a front view of the rolled up closing funnel.

In Figs. 1 and 2 the ice bag that is made of rubber, rubbered or other material is denoted by *a* and its tube-like filling and draining member that is made of the same material by *b*. The walls of the filling and draining member fold longitudinally and the two wall parts come to lie flat upon each other. One of these wall parts is provided with an inserted clamping part *c* that is made of a suitable material such as of thin, soft nonresilient metal sheet for example. On closing the opening of the receptacle, the wall parts of the tube-like filling and draining member that lie flat upon each other are rolled up from the opening, as is made clear from Fig. 3. The inserted clamping part *c* in this embodiment covers almost the full width of the tube-like filling and draining member, and the latter as well as the clamping part taper in size towards the top. The width of the inserted clamping part, and its form that appropriately suit that of the tube-like filling and draining member, guarantee an efficient and liquidproof closing of the receptacle. The clamping part may be inserted or superposed on the tube-like filling

and draining member in any suitable way, such as by vulcanizing or by any appropriate method. The clamping part that naturally can also be made of a non-metallic suitable material serves to maintain the tube-like filling and draining member in its rolled up position, and further special means may be provided to check the unrolling tendency of the said filling and draining member.

The special closing funnel that forms the object of the invention is easy to manufacture and provides a reliable closing of the receptacle. It is impossible for the rolled up filling and draining member to open even if it is subjected to pressure from the exterior, as when serving as a seat or the like.

The forms shown in Figs. 4 to 6 are provided with two clamping parts *d, e* in place of a single one, which are inserted into the walls of the tube-like filling and draining member *b,* and which are fabric-covered and thus held together whilst they project towards the bottom beyond the filling and draining member proper so as to form a tail-like extension $d^1$ $e^1$. The double walled cover of the clamping part may be so made as to form a kind of bag with an appropriate opening through which the clamping members can easily be inserted or removed. The free end of the other wall part that carries no clamping part is fitted with a roller-like reenforced part *f* so as to facilitate the rolling up of the filling and draining member on closing the receptacle. The clamping parts *d, e* of one part of the wall maintain the filling and draining member in its rolled up position in which the two wall parts come to lie upon each other. Efficient closing of the receptacle is furthermore aided by the free tail-like part $d^1$, $e^1$ of the clamping part that, in the rolled up position of the filling and draining member, comes to lie uppermost and thus acts against the forces that tend to unroll the said filling and draining member. The prolonged parts may be so arranged that they project over the sides instead of over the lower end of the filling and draining member, and may be folded over upon the upper layer in the rolled up state of the filling and draining member.

The longitudinally divided and inserted clamping part as shown in Figs. 4 to 6 presents over the one-piece clamping part the advantage of facilitating the opening and expanding of the tube-like filling and draining member, since these clamping parts at their adjacent edges yield easily to every effort and thereby facilitate the manipulation of the bag.

I am aware that changes in the form and proportion of parts, and in the details of construction of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I reserve the right to make all such changes as fairly fall within the scope of the following claims.

I claim:

1. In a device of the character described, a relatively flexible filling and draining part adapted to be rolled up to close the opening therethrough, and a relatively stiff pliable member secured to said filling and draining part adjacent one end thereof, said member having a part extending along one wall of the filling and draining part for substantially the entire extent of the surface of said wall and adapted to be rolled up with the same in closing the opening for maintaining the same in rolled up position, and said member also having a part free from the filling and draining part and adapted to be bent around the roll of the filling and draining part when it is rolled up to close the opening and frictionally binding said roll to assist in preventing the latter from unrolling.

2. In a device of the character described, a relatively flexible filling and draining part adapted to be rolled up to close the opening therethrough, and a relatively stiff pliable member secured to said filling and draining part adjacent one end thereof, said member having a part extending along one wall of the filling and draining part, secured thereto substantially throughout its length, and adapted to be rolled up with the same in closing the opening for maintaining the same in rolled up position and said member also having a part free from the filling and draining part and adapted to be bent around the roll of the filling and draining part when it is rolled up to close the opening and frictionally binding said roll to assist in preventing the latter from unrolling.

3. In a device of the character described, a relatively flexible filling and draining part having an opening therethrough and adapted to be rolled up to close said opening, and means for maintaining said filling and draining part in rolled up position comprising a plurality of pliable nonresilient plate like members extending longitudinally of the filling and draining part, said members having their inner longitudinal edges laterally spaced at a point centrally of said part said members being secured to and substantially covering one side thereof, whereby when said filling and draining part is rolled up to close the opening said members will also be rolled up and maintain the parts in rolled up position, and whereby when in unrolled position, the side of the filling and draining part may be bent in substantially a straight line between said members to open and maintain extended the filling and draining part.

4. In a device of the character described, a relatively flexible filling and draining part having an opening therethrough and adapted to be rolled up to close said opening, and means for maintaining said filling and draining part in rolled up position comprising a plurality of strips of sheet metal extending longitudinally of the filling and draining part having their inner longitudinal edges spaced laterally at a point extending longitudinally of the middle of said part, said members being secured to and substantially covering one side thereof, whereby when said filling and draining part is rolled up to close the opening, said strips will also be rolled up and maintain the parts in rolled up position, and whereby when in unrolled position the side of the filling and draining part may be bent in substantially a straight line between said strips to open and maintain extended the filling and draining part.

5. In a device of the character described, a relatively flexible filling and draining part adapted to be rolled up to close the opening therethrough, and means for maintaining said filling and draining part in rolled up position comprising a plurality of relatively stiff pliable members having portions extending longitudinally of the filling and draining part and secured to and substantially covering one side thereof, whereby when said filling and draining part is rolled up to close the opening said members will also be rolled up and maintain the parts in rolled up position, and whereby when in unrolled position

the side of the filling and draining part may be bent in substantially a straight line between said members to open and maintain extended the filling and draining part, said members also having portions free from the filling and draining part adjacent one end thereof and adapted to be bent around the roll of the filling and draining part when it is rolled up to close the opening for frictionally binding the said roll to prevent its unrolling.

6. In a device of the character described, a relatively flexible filling and draining part adapted to be rolled up to close the opening therethrough, and means for maintaining said filling and draining part in rolled up position comprising a plurality of strips of sheet metal having portions extending longitudinally of the filling and draining part and secured to and substantially covering one side thereof, whereby when said filling and draining part is rolled up to close the opening said sheets will also be rolled up and maintain the parts in rolled up position, and whereby when in unrolled position the side of the filling and draining part may bend in substantially a straight line between said strips to open and maintain extended the filling and draining part, said strips also having portions free from the filling and draining part adjacent one end thereof and adapted to be bent around the roll of the filling and draining part when it is rolled up to close the opening for frictionally binding the said roll to prevent its unrolling.

7. In a device of the character described, a filling and draining portion and means for effecting the closing of said portion, said portion and said means comprising an elongated neck-like extension having a pair of flat opposing walls, one of said walls being of a greater length than the other of said walls and having a roller-like reinforcement on the free end thereof for facilitating the rolling up of said portion, said other wall having secured thereto a strip of pliable metal which extends thus secured from the free end of the said wall downwardly for substantially the entire extent of said wall insofar as it forms one of the walls of said portion, and then extends freely for a lesser distance to form a tail-like part, said walls being adapted to be placed together and rolled up on said roller-like reinforcement together with said secured pliable strip and said tail-like part adapted to be bent around said walls when they are rolled up to hold the latter in such position.

8. In a device of the character described, a filling and draining portion having an opening therethrough, said portion comprising a pair of opposite side walls, one of said walls having secured thereto an encased pliable metallic element divided substantially centrally and longitudinally thereof, said element extending substantially the full width of said wall, said walls and said element adapted to be rolled up together to close said opening, said element tending to prevent said rolled up walls from unrolling, said division in said element providing for the flexing of the latter and its attached wall longitudinally in a substantially straight line for extending the mouth of said opening when desired.

9. A container comprising a resilient body part formed of a pair of walls, each having at one end a relatively narrow extension forming a continuation thereof, said extensions opposing each other and providing a neck for the container capable of being rolled for closing the latter, and a pliable locking means for the neck when rolled, said means being secured for a portion of its length from its outer surface to and lengthwise of one of said extensions thereby providing a freed inner part overlapping one of said walls, said means capable of being rolled simultaneously with the neck to position said part at the outer portion of and for maintaining the rolled structure in position to close the container.

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