

July 20, 1948.

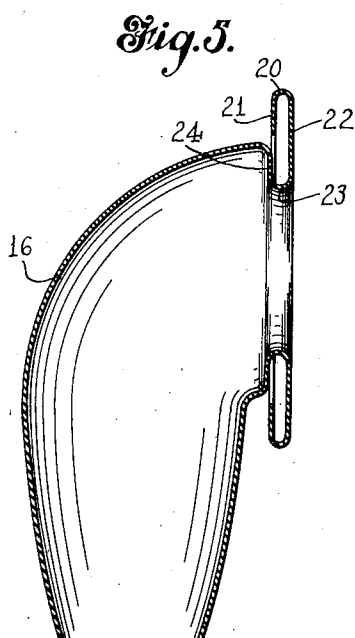
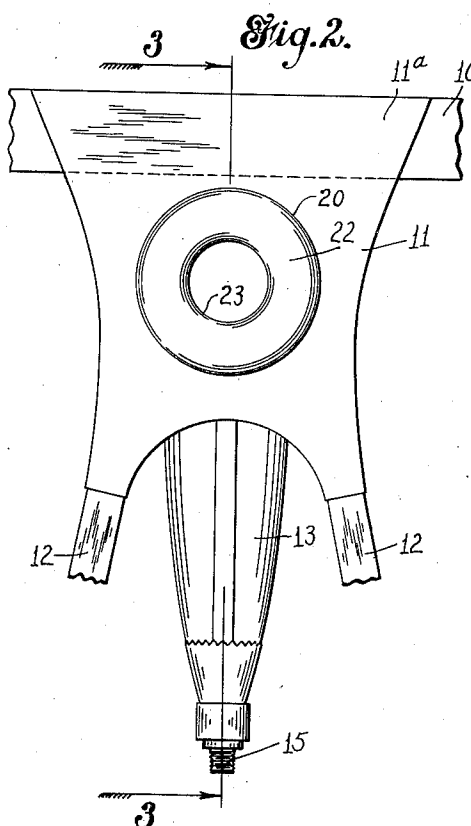
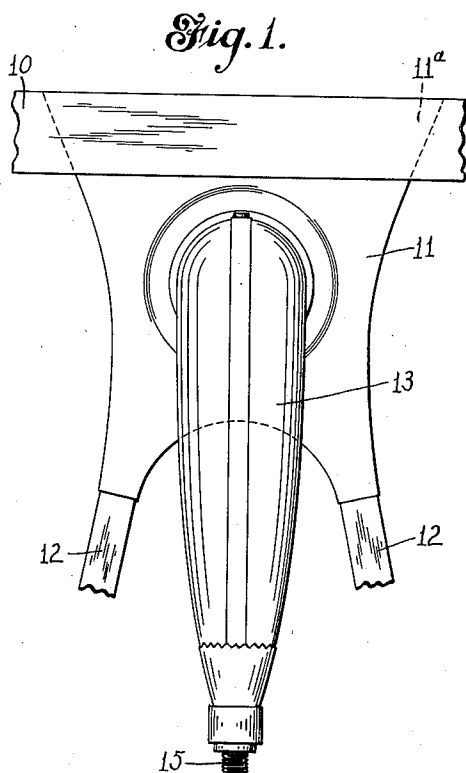
B. PREDMORE

2,445,694

URINAL

Filed Jan. 29, 1946

2 Sheets-Sheet 1



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Fig. 3.

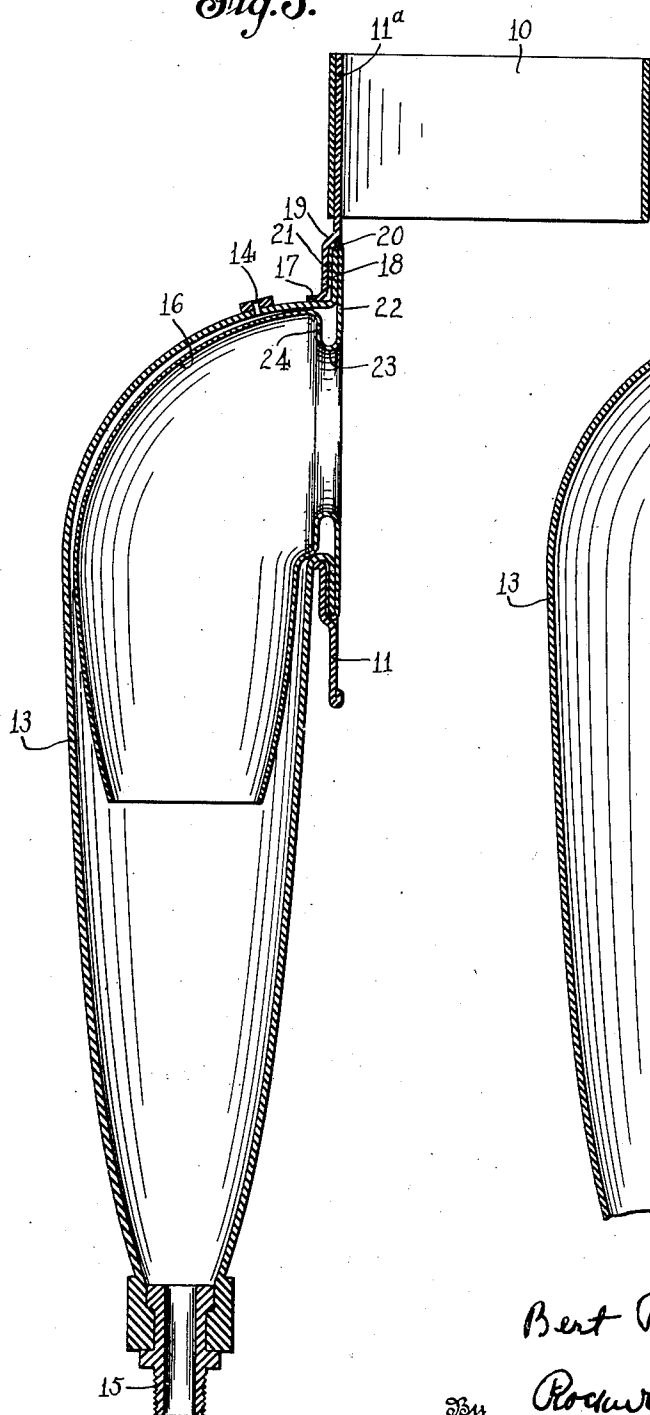
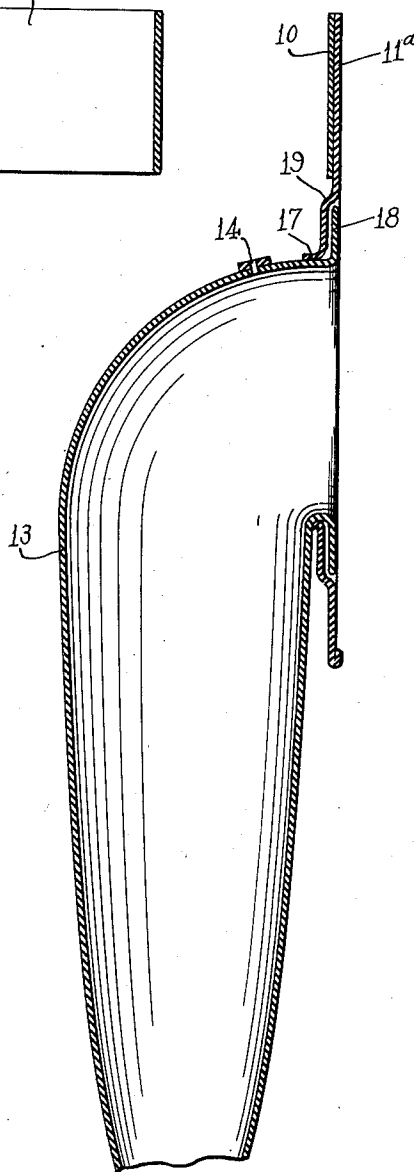


Fig. 4.



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UNITED STATES PATENT OFFICE

2,445,694

URINAL

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Application January 29, 1946, Serial No. 644,056

1 Claim. (Cl. 128—295)

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This invention relates to urinals for male persons, of the type in which a urine receptacle is supported from a belt or strap encircling the person's waist.

The present invention is particularly concerned with the structure at the upper part of the appliance, where the belt or strap supports a funnel-like member adapted to receive the liquid and conduct it downwardly so that it can be delivered to the receptacle.

One of the objects is to improve the structure and arrangement of what may be termed broadly the funnel member.

Another object is to provide an appliance of this type which is more comfortable, more convenient to use, and more readily kept in clean, sanitary condition than the previous appliances of this general class.

In the accompanying drawings:

Fig. 1 is a fragmentary front view of an appliance embodying the invention;

Fig. 2 is a rear view of the parts shown in Fig. 1;

Fig. 3 is an enlarged section on line 3—3 of Fig. 2, showing, among other things, the supporting belt that encircles the waist;

Fig. 4 is a sectional view somewhat similar to Fig. 3, with the liner removed from the funnel member; and

Fig. 5 is a longitudinal sectional view of the liner.

In the drawings, in which there is illustrated a preferred embodiment, the supporting belt is shown in Fig. 3, but is only partially shown in Figs. 1 and 2, inasmuch as the particular character of belt employed is unimportant. In articles of this character the support of the funnel member is performed partly by the belt and partly by depending members in the nature of straps that are disposed adjacent the groins and have their ends connected to the belt at the rear portion of the latter. In the present instance such groin straps are used, but they are only partially shown in the drawings for the reason that detailed disclosure in this respect is unnecessary. The main parts of the appliance are preferably constructed of rubber or rubberlike material, so that they are of an elastic and flexible character.

In the drawings, the rubber belt is indicated at 10. To this belt is suitably attached at the front of the appliance a flexible rubber panel 11 that depends from the belt. Preferably the upper portion of the panel underlaps the belt, as indicated at 11a, the two parts being firmly secured together as by vulcanizing. The panel has flex-

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ible rubber groin straps 12 suitably attached thereto at the lower corners of the panel, these groin straps being employed in the manner previously explained. Projecting forwardly and downwardly from the panel and communicating with an aperture in the panel is the flexible rubber funnel member 13. This funnel member has at the front upper part a vent hole 14. At the lower end it is provided with a coupling member 15, by means of which connection can be made to the usual or any preferred urine receptacle, not shown.

Located within the upper part of the funnel member and removably mounted therein is a liner 16. This liner is made of thin, flexible, vulcanized rubber. This liner has an opening at the upper end and an opening at the lower end, and it is mounted in a novel manner so as to make it very readily removable for cleansing, and so as to make it very conveniently applicable to the appliance, while at the same time this liner can be very comfortably worn by the user without giving rise to chafing, abrasion or the like. The opening at the upper end of the liner is disposed within the upper or receiving end of the funnel member, but is of noticeably less diameter, and the structure is such as to provide an opening defined by a gradually rounded soft rubber wall which will entirely overcome chafing.

As shown in the drawings, the panel 11 has a round opening 17 formed therein at a point somewhat below the belt 10, and the rubber wall of the funnel member is extended through this opening, the funnel member being secured to the panel within the opening, as by vulcanizing the adjacent rubber parts. The wall of the funnel member extends through the panel and to the rear of the panel, as shown in Fig. 4, and is provided rearwardly of the panel with an integral lateral flange 18 that is slightly spaced from the adjacent wall of the panel. The panel wall in this portion of the panel is somewhat offset, as shown at 19, the offset being forwardly disposed and annular and the flange 18 being substantially in the plane of the main portion of the panel, although it will be apparent that variation may be made in this respect, as well as others, if desired. The flange 18 preferably extends throughout the circumference of the funnel member opening. The funnel member has a wall of substantially greater thickness than the liner, and therefore the flange 18 acts as a firm support for a portion of the liner that is lapped over this flange. Preferably the liner is supported on the flange 18 by having an integral doubled or hook-like flange on the

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liner embracing the flange 18, the flanged end portion of the liner being cured or vulcanized in a manner such that the doubled or hook-like flange tends to conform closely to the supporting flange.

The hook-like flange of the liner is shown in the drawings at 20, this flange being at the upper end of the liner. The forward portion of the double flange is indicated at 21, and from this portion the rubber wall at the upper part of the liner (Fig. 5) extends upwardly, and is then curved over and extends rearwardly to the portion 22. From the portion 22 the rubber wall of the liner passes downwardly (upper part of Fig. 5) and forwardly on a gentle curve 23 in order to provide the above-mentioned upper opening in the liner, and from the portion 23 the wall is directed forwardly and upwardly, as indicated at 24, this portion 24 being joined to the main side wall portion of the liner.

The upper opening in the liner is formed by a constriction 23 in the wall of the liner located between its ends but near the upper end, the wall in the constricted part being cured so that normally it extends along a gradual curve. Immediately adjacent the constricted part, the wall of the liner is shaped and cured to provide the doubled-over securing flange 22, 21. The securing flange is integral with the constricted part. The constricted part extends laterally and inwardly with respect to the adjacent body part of the liner whereas the securing flange extends laterally and outwardly with reference to that part of the liner body. In effect, the liner is provided with a doubled wall portion lying in a single transverse plane with reference to the body and having an inwardly extending part 23 and an outwardly extending part 22, 21, the former providing a relatively small opening (in comparison to the panel aperture) at the upper end of the liner and the latter providing a flange structure that is suitable for securing the upper end of the liner detachably upon its support.

It will be apparent from the foregoing that the liner is of a character to increase to a large degree the comfort with which the appliance can be worn. It will also be seen that by providing the liner with a hook-like flange, and by providing the other part of the structure with a cooperating supporting flange, the liner can be installed very readily and conveniently, and that the liner when installed will be supported effectively against displacement. Moreover, it will be seen that when it is desired to remove the liner

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for cleaning or for other purpose, the liner can be disassembled easily and quickly.

Preferably the supporting flange and the hooked flange engageable therewith are of substantial width, so that the connection thereby provided is quite secure. It will be noted, furthermore, that when the appliance is in use a relatively wide and substantially flat portion of the liner is presented toward the body of the wearer, as appears from Fig. 2, and as this portion is very soft and flexible, the effect is that of a flat cushion interposed between the panel and the abdomen of the wearer.

Only one form of the invention is herein shown, but various modifications and changes may be made without departure from the principles of the invention or the scope of the claim.

What I claim is:

In an article such as described, the combination of a supporting panel having an aperture, a funnel member extending forwardly from said aperture and provided rearwardly of the aperture with a laterally and outwardly directed securing flange, and a liner of thin flexible cured elastic material within the funnel, said liner having an integral cured portion of its wall adjacent said aperture formed to provide an inwardly extending double-walled constriction in the liner creating an entrance opening for the liner of substantially less diameter than the body of the liner and of less diameter than said aperture and also to provide an outwardly extending double-walled securing flange portion to engage said first flange by folding thereover in a forward direction to thereby hold the liner detachably in place in the funnel member.

BERT PREDMORE.

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