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B. L. HENRY

1,723,855

VALVE FOR INFLATABLE ARTICLES

Filed April 25, 1928

Fig. 1.

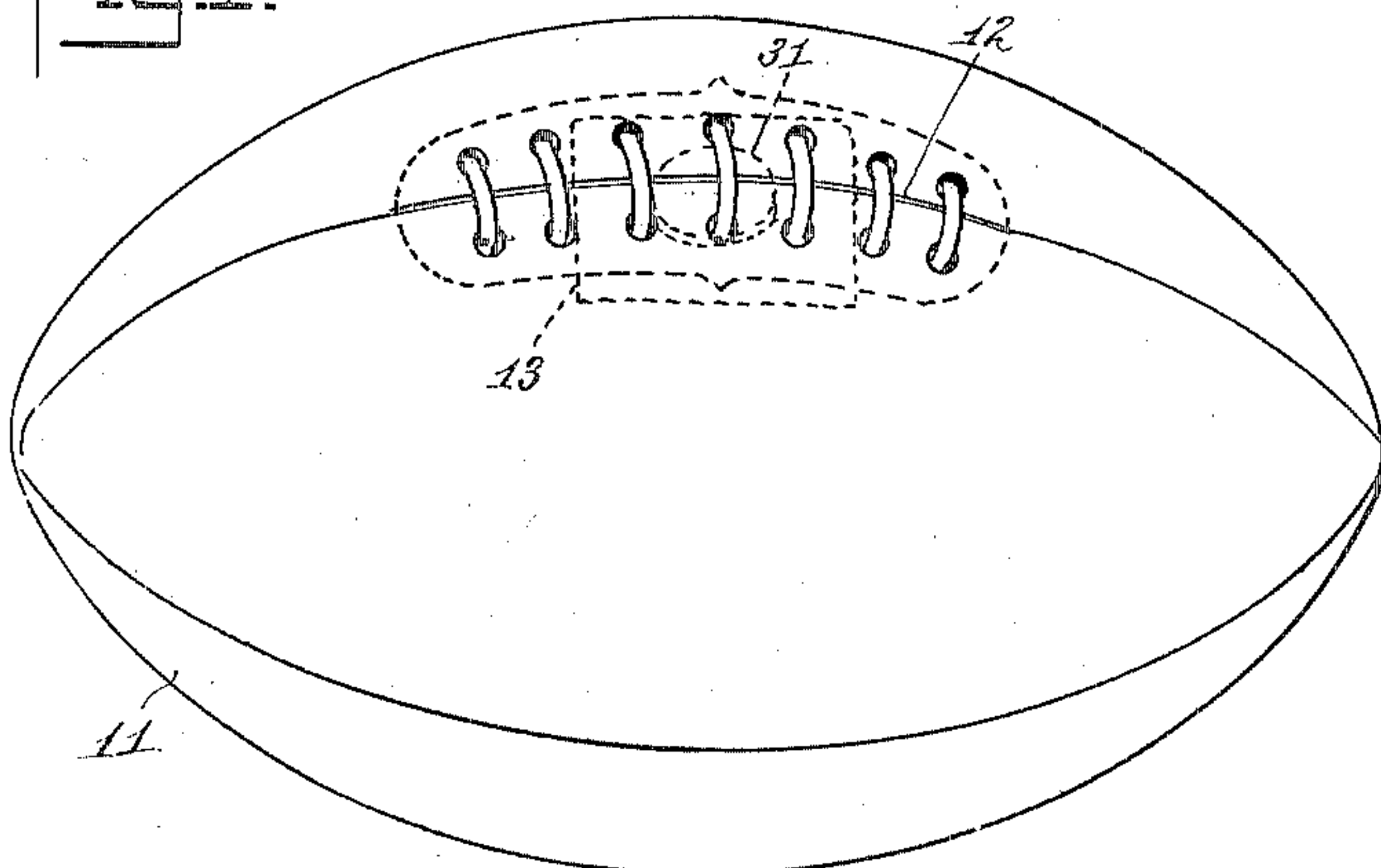


Fig. 2.

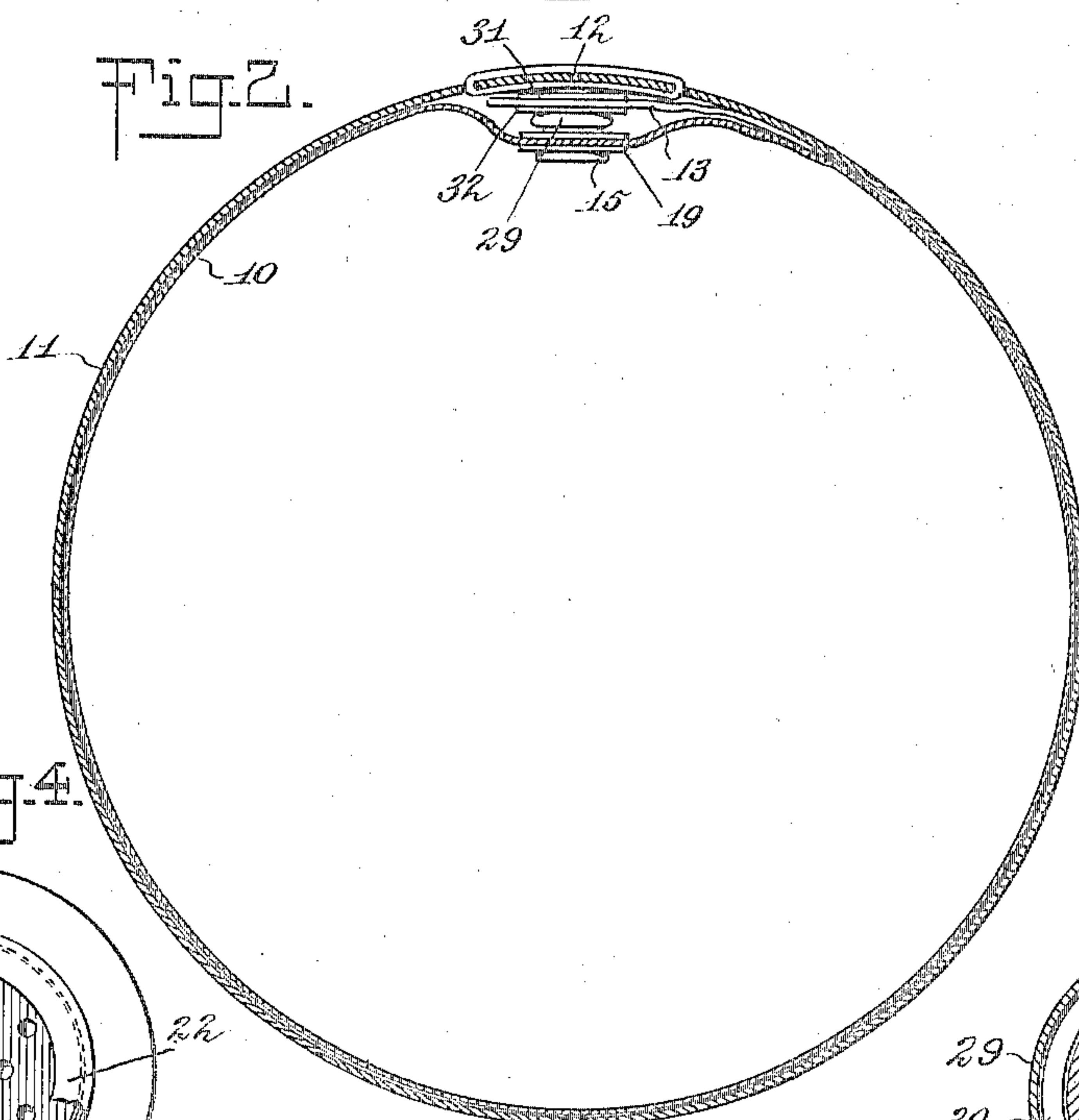


Fig. 4.

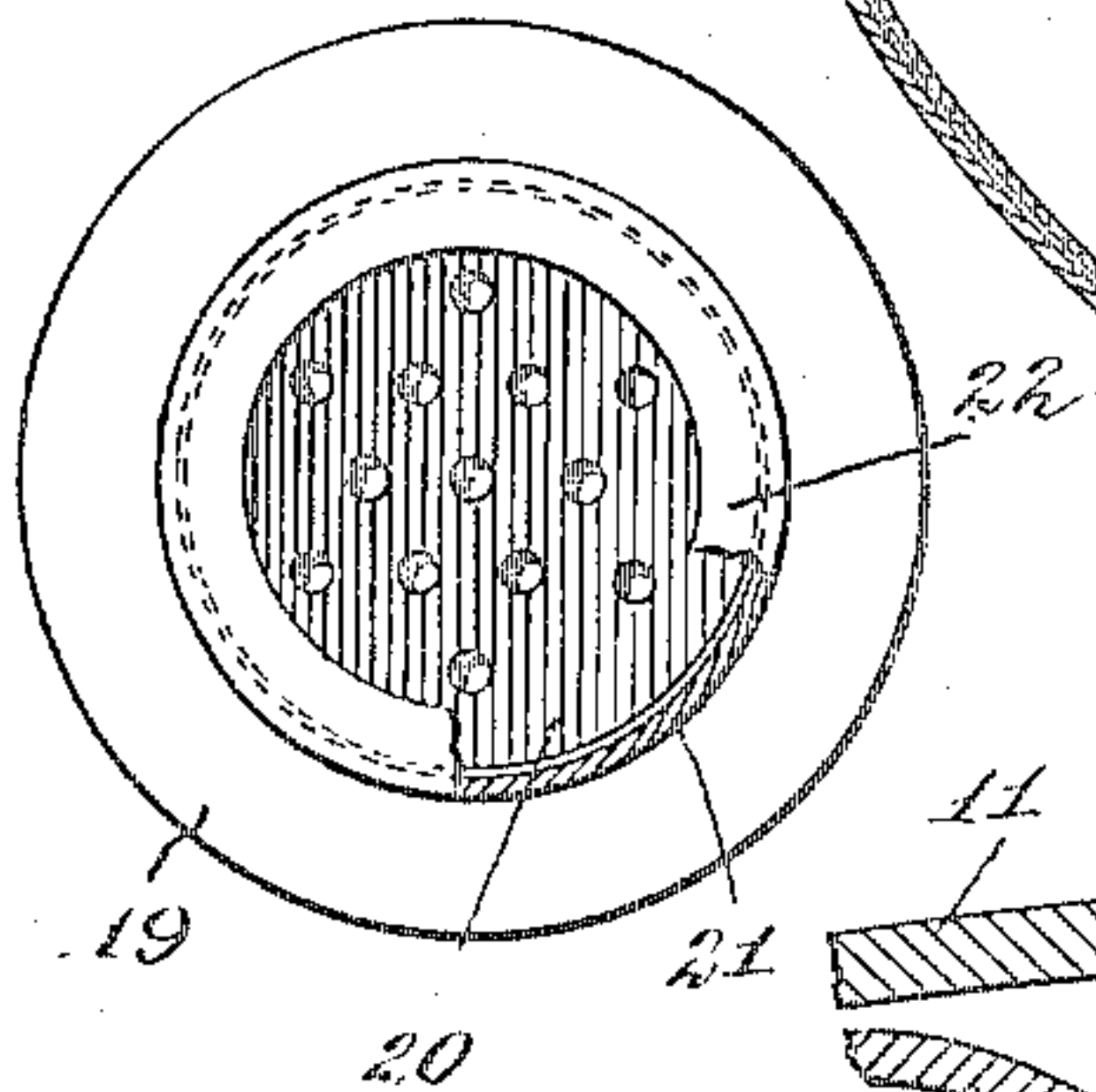


Fig. 5.

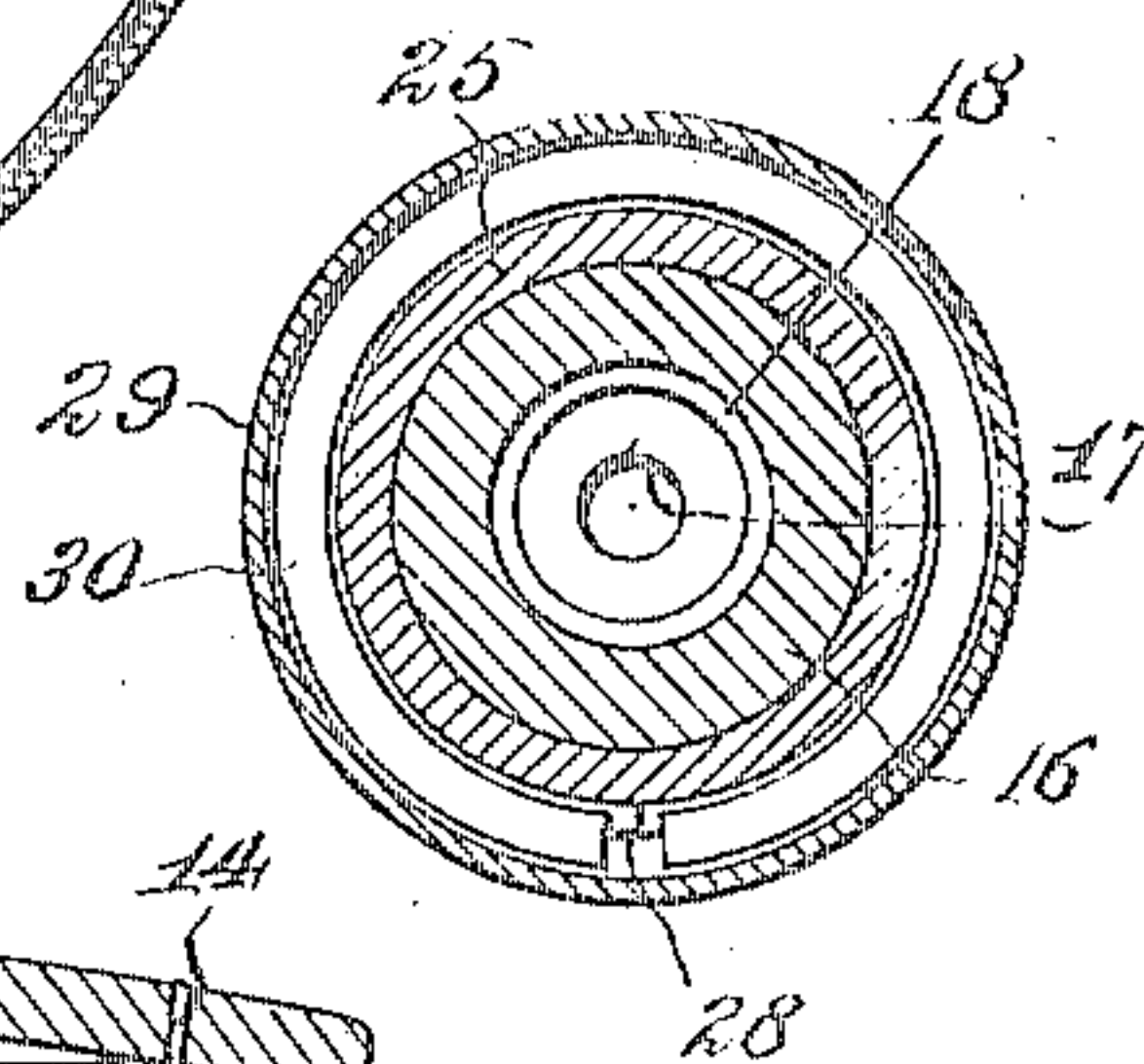
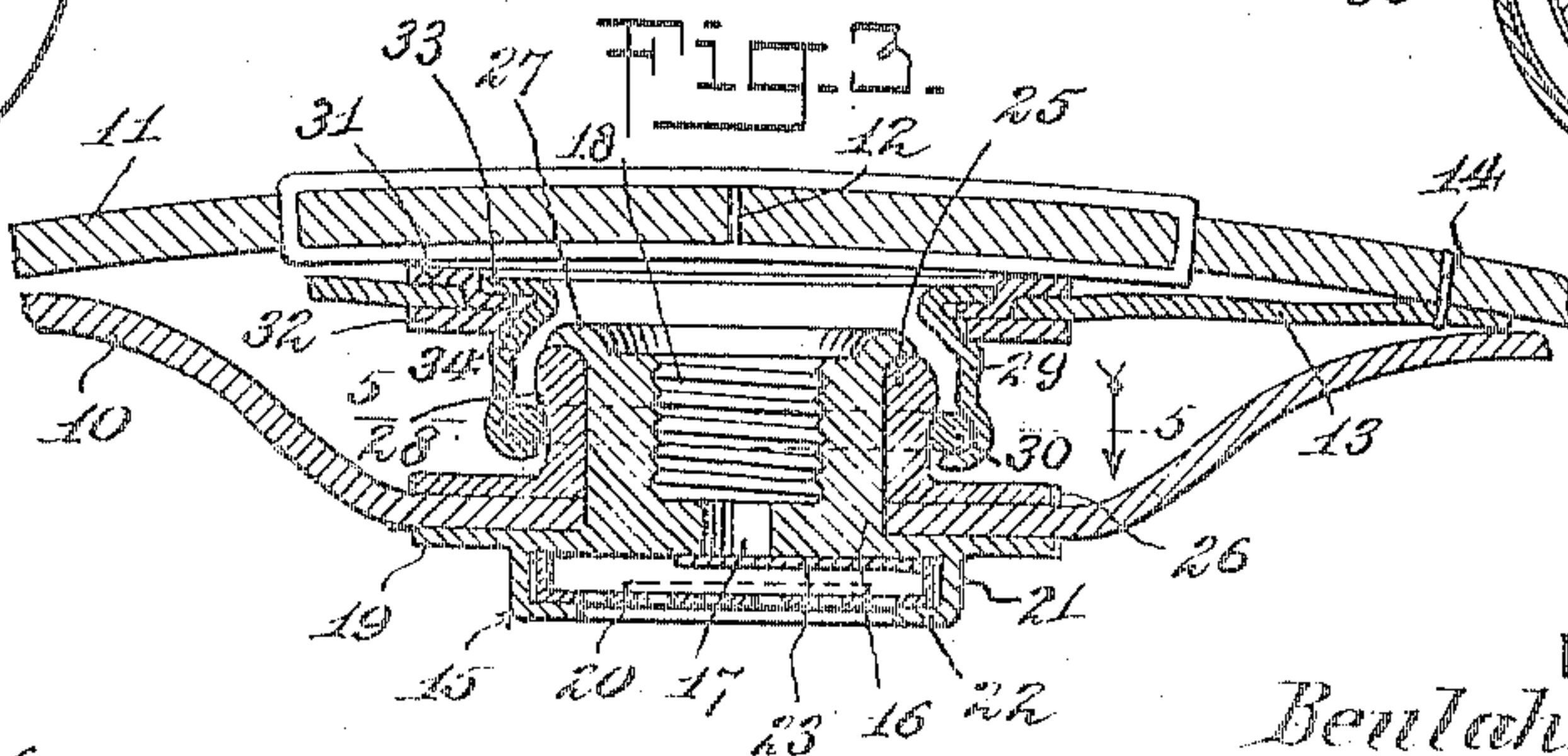


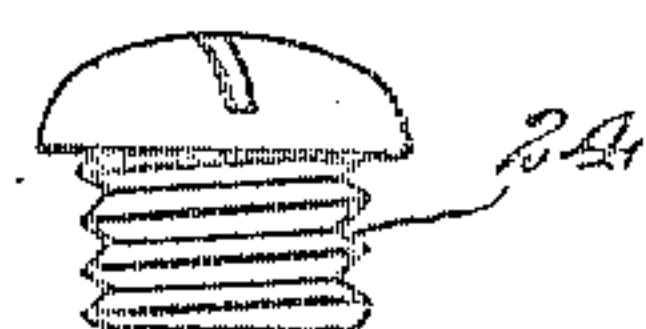
Fig. 3.



WITNESSES

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Fig. 6.



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VALVE FOR INFLATABLE ARTICLES.

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REISSUED

This invention relates to the class of play balls and closely analogous articles having an inflatable body or bladder, and an outer covering therefor.

More particularly, the invention relates to means enabling the inflation of the body or bladder of an article of the indicated character, and for connecting the body or bladder with its covering.

Among the objects of the invention are: to provide an article of the indicated character with means for inflating the same, which will be more suitable for the purpose, which will not be cumbersome or of unnecessarily large proportions, which enables a person to inflate the body or bladder by blowing into said means, or by utilizing a suitable pump for that purpose.

Another object of the invention is the provision of an inflating and deflating metal valve for inflatable rubber bladders, which embodies improved structural features, whereby the valve is securely connected with the bladder, in such a manner, as to prevent leakage.

Another object of the invention is the provision of novel means whereby to connect a play ball bladder with its cover, when the bladder is deflated, and which also enables the removal of the bladder from the covering when desired.

The nature of the invention and its distinguishing features and advantages will appear when the following specification is read in connection with the accompanying drawing, in which—

Figure 1 is a view of a football embodying the features of the present invention.

Fig. 2 is a transverse sectional view through the ball.

Fig. 3 is an enlarged sectional view through the valve and fastening means.

Fig. 4 is a view looking at the inside of the valve with portions broken away.

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 3.

Fig. 6 is a view of a plug which may be used with the valve.

In practice the invention will essentially involve a play ball of any preferred type, but which will essentially include an inflatable body or rubber bladder 10, and an outer covering 11 for the bladder 10. The outer covering 11 has a laced placket or opening 12 through which the bladder 10

is inserted into and removed from the outer covering 11. A flap 13 is secured along one edge as at 14 on the inside of the covering 11 so as to be disposed over the opening 12.

A metal valve 15 is connected with the wall of the bladder 10 for inflating and deflating the bladder. The valve includes a body 16 having a throat or air passage 17 which is threaded at the outer end as at 18. The body 16 has a flange 19. Associated with the body 16 is a perforated dished member 20 which is held in place by a circular portion 21 having a circular edge 22 turned inwardly over the marginal portion of the member 20. A valve member 23 in the form of a disk of rubber is arranged in the space presented by the member 20 and the inner face of the body 16. The member 23 is smaller in diameter than the internal diameter of the member 20, is sufficiently large to cover the inner end of the passage 17, and not so large as to cover all of the perforations in the member 20. It will therefore be understood that air may be blown or pumped into the bladder 10 for the purpose of inflating the same, the air passing around the edge of the valve member 23. The pressure of air in the bladder 10 serves to hold the valve member 23 in a position to close the inner end of the passage 17 to prevent the escape of air. When it is desired to deflate the bladder it is only necessary to push the valve member 23 against the member 20 by the use of a suitable implement, the air will then pass through the perforations in the member 20 around the edge of the valve member 23 through the passage 17. The passage 17 is threaded as at 18 for the purpose of receiving a threaded nipple on a tube of a pump, or a tube which may be held in the mouth of a person for the purpose of inflating the bladder. If desired a threaded plug 24, such as the one shown in Fig. 6 may be screwed into the outer end of the passage 17 to keep foreign matter from entering. The valve 15 is securely connected with the wall of the bladder 10 by the use of a member 25 adapted to fit around a portion of the body 16. The member 25 has a flange 26. The wall of the bladder 10 is provided with a hole through which the body 16 is extended, the member 25 is then slipped on the body 16, which will bring the flanges 19 and 26 respectively on the inside and out-

side of the edge of the bladder 10 surrounding the hole. By the use of a suitable tool, the outer end of the body 16 is turned outwardly in contact with the member 25, as at 27, thus effectively clamping the edge portion of the bladder surrounding the hole between the flanges 19 and 26.

In order to connect the bladder 10 with the covering 11, when the bladder 10 is deflated, there is provided suitable retaining or fastening means, presently to be described. The member 25 heretofore mentioned constitutes a male member of the fastening means and is concaved to present a groove 28. The coacting means also includes a female member 29 having a split circular spring 30. The member 29 is connected with the flap 13. This is accomplished by putting a hole in the flap 13, through which the member 29 extends, there being also provided metal washers 31 and 32. The washers 31 and 32 are disposed respectively on opposite sides of the edge portion of the flap 13 surrounding the hole therein. By the use of a suitable tool, the member 29 is crimped or turned outwardly to present a circular edge 33, which coacts with a substantially conical portion 34 of the member 29 to effectively clamp the said edge of the flap between the washers 31 and 32, and to hold the member 29 in fixed position on the flap 13, at the opening 12. It will now be understood that the member 29 may be snapped over the member 25, which brings the spring 30 in the groove 28, thus the bladder 10 will be connected with the flap 13, to prevent the bladder 10 from shifting or moving around with respect to

the flaps 13, and at the same time keep the valve 15 in position at the opening 12 in the cover 11, for the purpose of carrying out inflating and deflating operations.

It is to be understood that the female member 29 may be connected directly with the cover 11, instead of with the flap 13, so that the bladder 10 may be inflated and deflated without unlacing the covering 11.

I claim:

1. The combination with an inflatable bladder, and covering therefor of a play ball; of a valve on the bladder for inflating and deflating the bladder, and a snap fastener having coacting parts respectively on the covering and the valve to detachably connect the bladder with the covering.

2. In a play ball, the combination of an inflatable bladder, a covering for the bladder, a snap fastener having coacting parts respectively on the outside of the bladder and on the inside of the covering to connect the bladder with the covering.

3. The combination with a play ball comprising an inflatable bladder, a covering for the bladder, said covering having a placket, and a flap attached to and arranged on the inside of the covering at the placket; of a valve on the bladder for inflating and deflating the bladder, and a snap fastener having coacting parts respectively on the flap and the valve for the purpose of connecting the bladder with said flap.

Signed at New York, in the county of New York and State of New York, this 24th day of April, 1928.

BEULAH LOUISE HENRY.