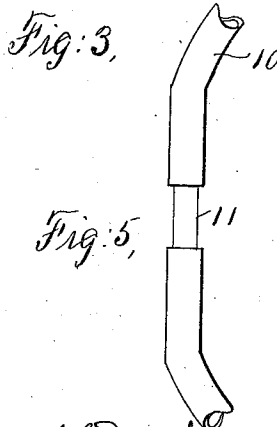
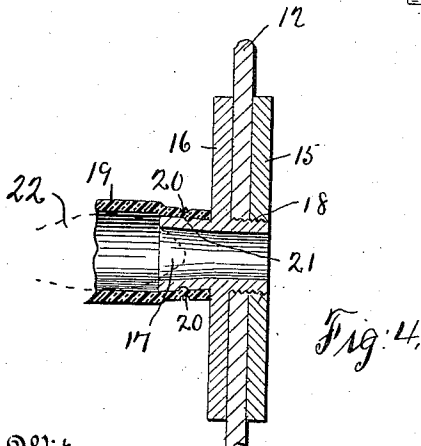
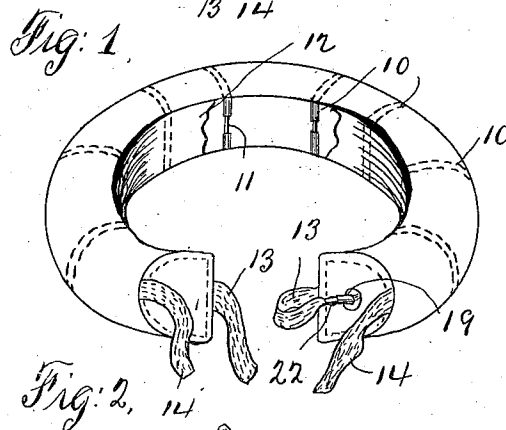
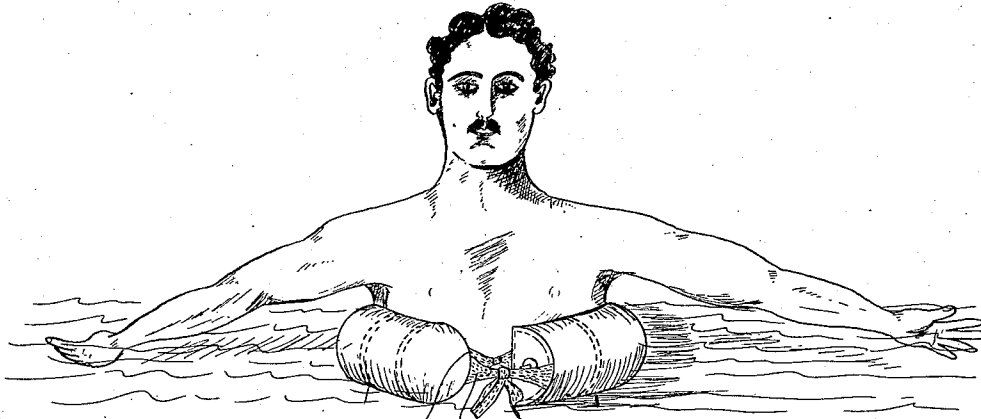


M. D. NEKARDA.  
SWIMMING AND LIFE PRESERVING BELT.  
APPLICATION FILED AUG. 21, 1912.

1,066,217.

Patented July 1, 1913.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

MABEL DRAKE NEKARDA, OF NEW YORK, N. Y., ASSIGNOR TO AUTO-PNEUMATIC SWIMMING BELT, INC., A CORPORATION OF NEW JERSEY.

## SWIMMING AND LIFE-PRESERVING BELT.

1,066,217.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed August 21, 1912. Serial No. 716,221.

*To all whom it may concern:*

Be it known that I, MABEL DRAKE NEKARDA, of the city, county, and State of New York, have invented a new and useful Improvement in Swimming and Life-Preserving Belts, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of belts which are used as an aid to swimming or learning to swim and as a life preserver when necessary, and more especially to that class of belts which are hollow and inflatable and which can be collapsed and compressed into a very small compass when not in use. The belt is also intended to draw in the air by suction when opened up, so that it will be sufficiently inflated to support the person to whom it is attached.

My invention relates more especially to the improvements in the invention shown in Letters Patent of the United States, No. 981,788, dated January 17, 1911, of which patent I am the assignee.

While the invention disclosed in the prior patent has many advantages, still my experiments have shown that it has some disadvantages. For instance, the belt when extended and drawn under the arms forms creases which hinder its expansion, and where the point of attachment is at the inside only, or in the center only, the ends are inclined to flap and either work loose or inconvenience the wearer. But in my improvements I apply attaching devices at both the inner and outer parts of the belt at its meeting ends, whereby the belt can be tightly fastened to the body and fully expanded, thus remedying the aforesaid hindrances and deficiencies. Further, the valve mechanism is likely to rust out and be inoperative after a time, and for that reason I dispense with it altogether, and have provided an open vent, which rapidly admits the air when the belt is opened and permits its ready expulsion when the belt is collapsed. When the belt is open the vent hole is closed by a plug, preferably of wood, which can be conveniently attached to one of the fastening bands, so that it is always in position for use and can be instantly and tightly inserted. The vent tube can be made of rubber or any resilient material, so that a water-tight closure is easily effected. In this way there is no mechanism to be-

come disarranged or affected by water, pressure or rust. These improvements will be more readily understood from the description which follows.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate corresponding parts in all the views.

Figure 1 is a perspective view of the device as applied to a person. Fig. 2 is a detail perspective of the belt, parts being broken away. Fig. 3 is a view of the belt when collapsed. Fig. 4 is an enlarged detail sectional view showing the vent tube and its connection with the belt, and Fig. 5 is a broken detail of one of the ribs.

Like the former invention, the belt is provided with the necessary sustaining ribs, which are formed of a single piece of the desired size and flattened on the inner side, and are curved to a semi-circular shape on the outer side. But I improve materially on these ribs by making them hollow so as to be light, buoyant and strong; and they can be made of aluminum tubing, which is quite adaptable for this purpose, though other material may be used. The meeting ends of each rib are united by a pin, which is driven in the said ends and forms a suitable coupling. The ribs are sewed or otherwise secured within a textile covering, which is fastened on the sides and ends so as to make a seal, and this covering can be water-proofed either before or after the whole apparatus is constructed, but preferably after, as in this way the seams and all parts are firmly united and rendered water-tight. At the meeting ends of the belt and on the inner side are attached fastening straps or bands, and corresponding bands are attached at the outer sides, and so a person in applying the belt can first tighten the inner straps, thus securing the belt firmly to the body, and then fasten the outer straps, thus affording an additional support and preventing the ends from flapping or being disarranged.

I arrange the vent preferably at one end of the belt, and at this point the fabric is clamped between two washers, the outer one of which has a nipple which extends inward and is screw-threaded, as shown at 18, so that the washer which is correspondingly threaded can engage the

thread, and by screwing up the nipple the fabric is clamped firmly between the members 15 and 16. Obviously, if desired, the nipple may be independent of the washer 16. 5 The nipple 17 is preferably slightly larger at its outer end than its inner, and a short flexible resilient tube 19, preferably of rubber, is slipped on over the nipple. The tube can be further held in place by binding it 10 with wire as at 20, and to make an additional means of attachment the nipple can be grooved on the outer side, as shown at 21, so that the material of the tube will be forced into the groove and thus a secure and 15 water-tight connection is effected. I do not limit the invention, however, to any particular means of connecting the tube to the nipple, and in fact the nipple may be used without the tube, though not so satisfactorily. 20

As a means of closing the vent, an ordinary wooden plug 22 can be used, though plugs of other material not subject to corrosion can be substituted. The plug 22 is 25 preferably applied to one of the bands 13, and then when the belt is opened and after the bands are tied together there is sufficient slack to permit the plug to be readily inserted in the tube 19 and partly in the nipple 17. When the plug 22 is removed the 30 belt can be pushed together endwise, thus collapsing it and expelling the air through the vent, and when it is opened up the air rushes in automatically, the belt is applied to the body, as already described, and the 35 plug 22 inserted so as to prevent the entry of water and escape of air.

It will be seen that I have provided a 40 light, easily applied and very buoyant and substantial belt, which will sustain a person and enable him to swim easily in any position, and can be used as a substitute for

a life-preserver. Whether used as a swimming belt or life-preserver, it is many times 45 lighter than its cubic contents of water and as compared with other appliances has a large displacement; and it possesses the economic advantage that it folds up to a very small space and can be conveniently 50 carried.

I claim:

1. The combination with a belt such as described having an open vent, of washers clamping the material of the belt around the vent, a nipple projecting from said washers 55 and forming the vent opening, and a plug to close the vent.

2. The combination with a belt such as described, of washers arranged around the vent opening and clamping the material of 60 the belt between them, a nipple projecting outwardly from the washers, a flexible resilient tube attached to the nipple, and a plug to fit the tube.

3. A collapsible and inflatable belt having 65 substantially meeting ends with a vent in one of said ends, flexible bands secured to the inner part of the belt at the ends, flexible bands secured to the ends at the outer parts thereof, and a plug carried by one of said 70 bands to close the vent.

4. A belt of the character described comprising a series of hollow ribs spaced apart and shaped on the inner side to fit the body, 75 each rib having its end portions connected by a coupling pin, a flexible cover secured to the ribs and water-proofed, said cover having an open vent therein, means for fastening the belt to the body, and a plug to close the vent.

MABEL DRAKE NEKARDA.

Witnesses:

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