Feb. 19, 1963 M. H. O'LINK 3,077,618

WATER SPORT BELT

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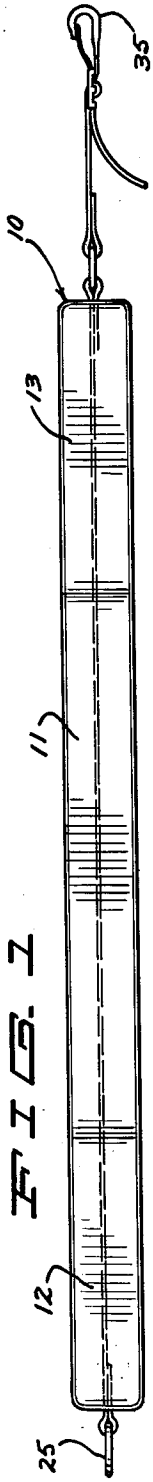


FIG. 1

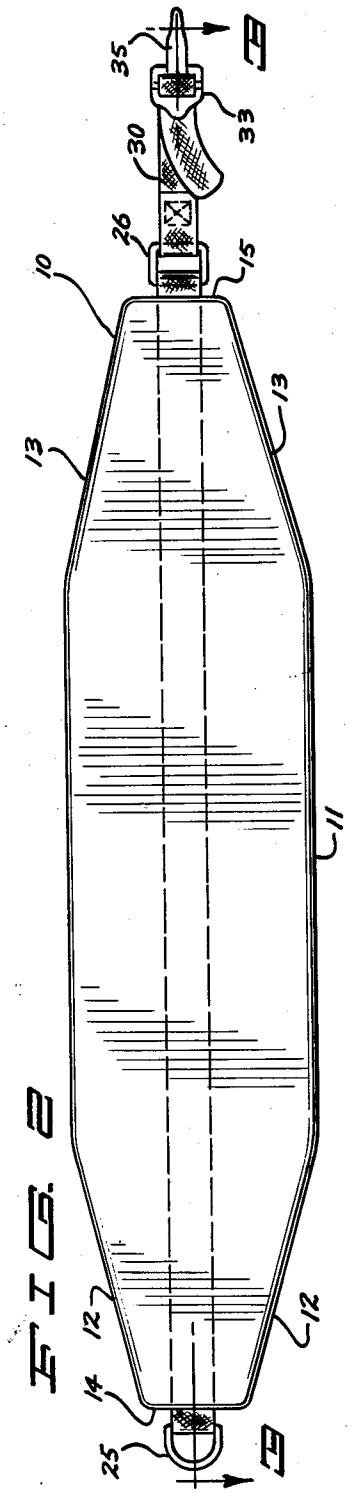


FIG. 2

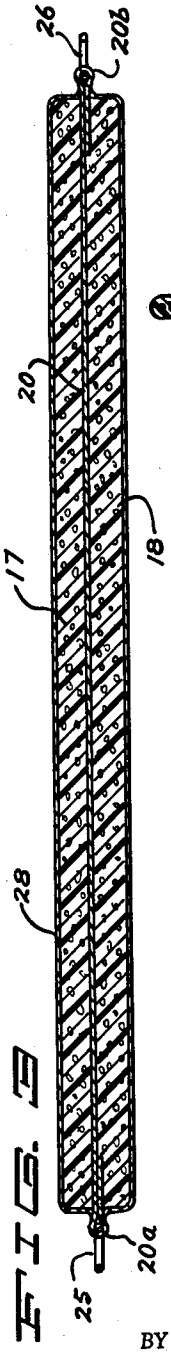


FIG. 3

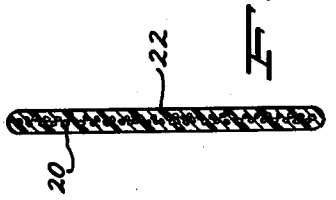


FIG. 5

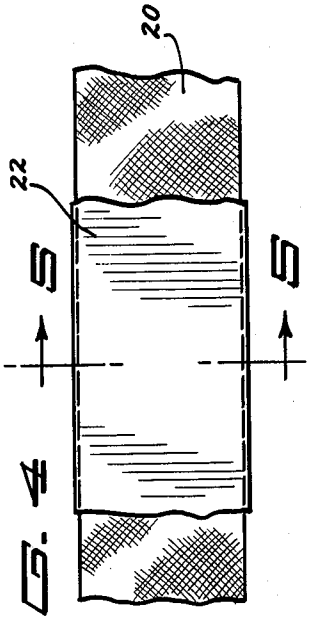


FIG. 4

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WATER SPORT BELT

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This invention relates to an improvement in the construction of a water sport belt of a type to support a person in a body of water, and more particularly of a water ski belt.

Water ski belts are commonly made of buoyant cellular material in a form to be disposed about the waist of the wearer and commonly have in connection therewith a strap generally disposed longitudinally through the belt for securing said belt about the waist of the wearer. It is common to use a web type of strap which however by its very construction tends to provide a basis for capillary or wicking action whereby moisture may work its way along said strap interiorly of the belt and thus cause mildew and deterioration of an interior portion of the strap, such as of a cotton strap, and also weaken the bonding therein with the result that the entire belt must be replaced.

Efforts have been made to coat the exposed portions of the strap member with waterproofing material, but when one end of the strap is loaded with a buckle for fastening purposes, the action of the buckle quickly breaks through the plastic coating and thus exposes a portion of the strap and deterioration takes place. This same is true when the coating breaks at the point at which the strap emerges from the belt.

The applicant in his novel belt construction has made substantial improvements increasing the useful life of a water ski belt indefinitely.

It is an object of this invention therefore to provide a water ski belt having a strap in connection therewith and having the portion of the strap disposed within the belt of great tensile strength and having a replaceable outer portion of the strap having no wicking or capillary communication with said inner portion of said strap and which has substantial resistance to the effects of weather or atmospheric conditions.

It is another object of this invention to provide a strap construction in connection with a water ski belt, which strap is constructed for superior bonding to the adjacent portions of the belt.

More specifically it is an object of this invention to provide a web strap in connection with a water ski belt, with said strap having a protective coating thereabout and with said coating having a superior bonding quality for adhesion to said belt, and said strap having a replaceable portion exterior of said belt constructed for adjustably securing said belt about the waist of a wearer.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which:

FIG. 1 is a view in side elevation with some portions thereof being shown in dotted line;

FIG. 2 is a top plan view with some portions thereof being shown in dotted line;

FIG. 3 is a view in central vertical section taken on line 3—3 of FIG. 2 as indicated by the arrows;

FIG. 4 is a fragmentary view of applicant's device showing a coating material on a strap portion thereof; and

FIG. 5 is a view in vertical cross section on an enlarged scale showing the coating material impregnating the webbing of the strap of applicant's device.

Referring to the drawings, a water sport belt **10** in the form of a water ski belt is here shown formed to have a uniform thickness, and in plan having an elongated central portion **11** having parallel sides and tapered end portions **12** and **13**, with said end portions respectively having substantially flat ends **14** and **15**. Said belt may be variously formed, as of layered or laminated material, and is here shown formed of a pair of elongated cellular resilient buoyant strips **17** and **18** which will be bonded together by the use of a suitable adhesive.

Water ski belts are commonly formed of laminated strips having a strap of nylon or cotton webbing material extending longitudinally therethrough having free end portions extending outwardly at either end of the belt and having means in connection with said free ends for removably securing said free ends together. Nylon webbing, for example, is very desirable to use for it has unusually great tensile strength and much greater than has cotton webbing. However in being exposed to the atmosphere, nylon webbing as well as other synthetic webbing deteriorates quite rapidly as a result of the action of the ultra violet rays of the sun.

Further in disposing a web strap through a water ski belt with the ends of the strap being exposed, the exposed end portions support capillary or wicking action whereby moisture finds its way into said belt along said strap in sufficient quantity to tend to break the bond between the strap and the adjacent belt material, and particularly at the outer edge portions of said belt where the strap emerges from the belt. Thus the weak portion of a ski belt has to do with the strap used in connection therewith. When the strap becomes weakened or its bond to the belt becomes broken sufficiently, it is no longer safe for use as it must be strong enough to withstand active rugged usage.

Applicant provides a novel and improved water ski belt constructed and arranged to avoid and overcome the deficiencies or undesirable conditions generally present in a water ski belt as above indicated. Applicant provides a strap **20** indicated here as being formed of synthetic fibers, but more specifically of nylon fibers as nylon fibers have been found to form a belt of unusually superior tensile strength and of much greater tensile strength than would be present in a comparable cotton belt.

For many practical reasons it is desirable to use a web type of strap even though such straps do not particularly well bond to an adjacent surface irrespective of the suitability of the adhesive used. Applicant has overcome this deficiency by first completely coating his strap **20** with a covering of suitable resilient waterproof coating material **22**, such as vinyl plastic coating. Said plastic coating material completely covers the entire strap. With reference to FIG. 5, it is indicated that when said strap is completely coated with said plastic material that there is a tendency for the material to impregnate the web structure of the strap, which impregnation helps to form a well secured bond with the strap. The respective ends of the strap in the embodiment here shown are reversely folded and suitably secured to form loops **20***a* and **20***b*. Respectively disposed in said loops are holding members here shown in the form of metal rings **25** and **26**.

Said strap **20** in a completely coated condition is disposed longitudinally through said belt **10** and preferably centrally thereof as here indicated and is shown to be of a length to have just the end portions of the loop portions thereof and said rings extend outwardly of either end of said belt. If desired, the loop portion may extend fully outwardly of said belt. Said strap **20** will be secured to said belt by having the coating **22** thereabout cemented

or bonded to the adjacent surface portions of said belt by a suitable adhesive. The particular adhesive used is not a part of this invention and is not specifically indicated herein. Next a tough resilient coating 28 of suitable material, such as a vinyl plastic coating, is placed about the entire outer surface of the belt and about the exposed or extended end portions of said strap 20 as by a dipping or a spray process. Thus said belt and the strap therein and the portions of the strap extending outwardly of said belt are completely sealed and insulated from the atmosphere and against the entrance of moisture. Said belt and strap form a well secured integral unit. The extended end portions of said strap are not only separately coated for protection against the ultra violet rays of the sun, weather and use conditions, but are further doubly protected by being doubly coated with the addition of said coating 28. The point at which said strap emerges outwardly of said belt at either end thereof is thus also well sealed to prevent the entrance of moisture from disturbing the bond between the coating about the strap and the adjacent portions of the belt.

If the free ends of said strap in a coated condition were extended beyond the ends of said belt for the purpose of carrying fastening means such as a buckle, said buckle through tension and friction would soon break through the plastic coating of the strap. It has been found that said rings 25 and 26 do not have sufficient frictional movement to cause any breakage of the coatings about the loop portion of said strap. Applicant provides a novel and improved construction for fastening said belt by replaceably securing to said metal ring 26 a relatively short strap 30 by looping one end portion of said strap over said metal ring and stitching the same as indicated. Said strap portion 30 is here indicated as being suitably formed of cotton webbing. Cotton webbing is relatively inexpensive and has good resistance against the adverse effect of weather and use conditions. Adjustably secured to the free end portion of said strap portion 30 is a buckle 33 carrying a spring loaded clip 35 at the outer end thereof for removably securing said strap 30 to said metal ring 25. Strap 30 is easily replaceable whenever desired. It is also seen that there is no connection between the strap portion 30 and the strap portion 20 for any possible capillary or wicking communication therebetween.

Thus applicant's belt in being completely coated with a resilient waterproof material and having a doubly coated inner strap portion and in having a replaceable outer strap portion 30 for fastening the belt represents a substantial improvement in water ski belt construction, with the belt itself being practically impervious to the adverse effect of weather conditions. Applicant's belt thus has a novel construction which gives it a much longer use life than ski belts commonly used, and the exposed strap portion 30 thereof subject to unusual wear is easily replaceable.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the parts, without departing from the scope

of applicant's invention which, generally stated, consists in a device capable of carrying out the objects above set forth, in the parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:

1. A belt for water sports having in combination, an elongated buoyant laminated body portion, a strap of somewhat greater length than said body portion, a flexible plastic material completely coating said strap to be integral therewith, loop portions formed at either end of said strap, said strap being disposed longitudinally through said body portion with said loop portions extending outwardly of said body portion at either end thereof, said plastic material being bonded to the adjacent portions of said body portion to make said strap integral therewith, a flexible plastic material completely coating said body portion and the strap portions extending outwardly thereof, and means for adjustably connecting said extended strap portions about the body of a wearer.

2. The structure set forth in claim 1, said strap being formed of synthetic fibers having substantial tensile strength.

3. A belt for water sports having in combination, an elongated resilient buoyant laminated body portion, a strap of relatively great tensile strength extending longitudinally through said body portion, a flexible waterproof coating about said strap integral therewith and cemented to said body portion at either side of said strap to make said strap integral with said body portion, said strap having portions extending outwardly of said body portion at either end thereof, a flexible waterproof coating about said body portion and about said extended portions of said strap to form an integral coating thereabout, and means for connecting the extended portions of said strap about the body of a wearer.

4. A belt for water ski sports having in combination, a plurality of elongated resilient buoyant strips cemented together forming a body portion, a strap extending longitudinally through said body portion, said strap having loop portions at either end thereof extending outwardly of said body portion at either end thereof, a flexible waterproof material completely coating said strap and impregnating the same, said coating being bonded to the adjacent surfaces of said strips at either side of said strap to make said strap integral with said strips, a flexible waterproof material completely coating said body portion and the extended loop portions of said strap, and means for adjustably connecting said extended portions of said strap about the body of a wearer.

References Cited in the file of this patent

UNITED STATES PATENTS

1,065,385	Bailey	June 24, 1913
2,068,061	May	Jan. 19, 1937
2,405,484	Bailhe	Aug. 6, 1946
2,621,342	Boyle	Dec. 16, 1952
2,774,979	Moran	Dec. 25, 1956
2,803,023	Rosenberg	Aug. 20, 1957
2,950,489	Pattison	Aug. 30, 1960