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Warfield

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[54] **COLLAPSIBLE UMBRELLA WITH RETRACTABLE FASTENING MEANS**

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[52] **U.S. Cl.** ..... **135/20 R;** 135/5 C; 135/47; 224/51

[51] **Int. Cl.** **A45b 11/02**

[58] **Field of Search** ..... 135/5 C, 5 D, 7.1 B, 20 R, 135/47; 224/5.1; 2/321, 336; 242/107.1, 107.11, 107.13; 119/109, 124

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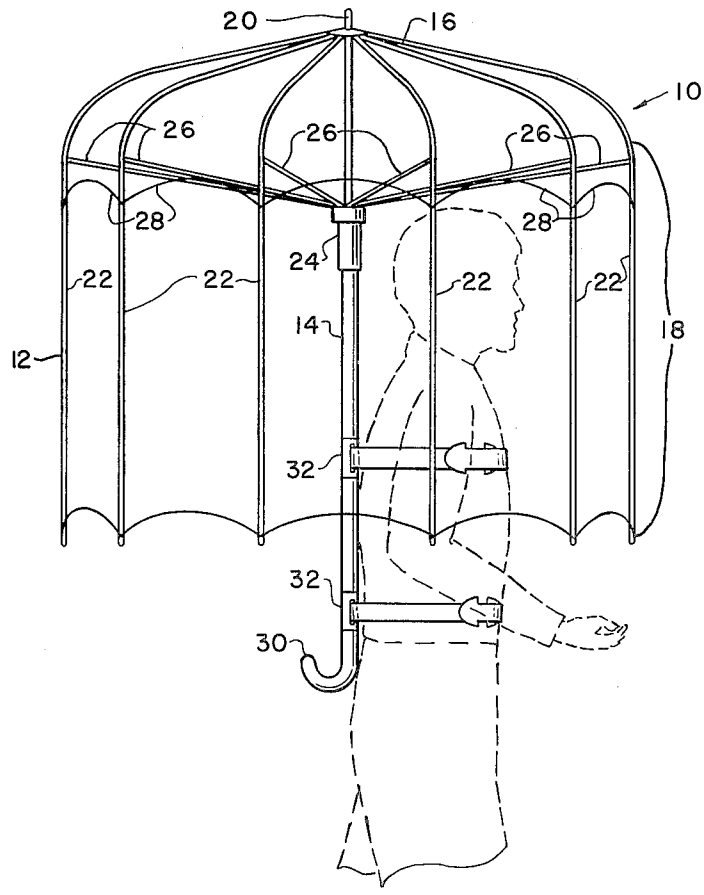
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Assistant Examiner—Conrad L. Berman

[57] **ABSTRACT**

An umbrella having a collapsible canopy and elongated handle. The canopy is made of transparent material and is sufficiently large enough to cover at least the head and shoulders of a human being. In one embodiment, the top portion of the canopy is opaque so as to function as a sun shield. In another embodiment, the canopy is large enough to extend down almost to the waist of an individual using the umbrella. The umbrella handle has two spaced-apart reels journaled in the handle for rotation. A pair of straps is wrapped on each reel. The reels are biased such that the straps are stored in the handle when not in use. The straps may be extended and wrapped around a person's waist and trunk such that the umbrella can be worn, if desired. When the umbrella is worn, the hands are free to carry packages and the like.

10 Claims, 8 Drawing Figures



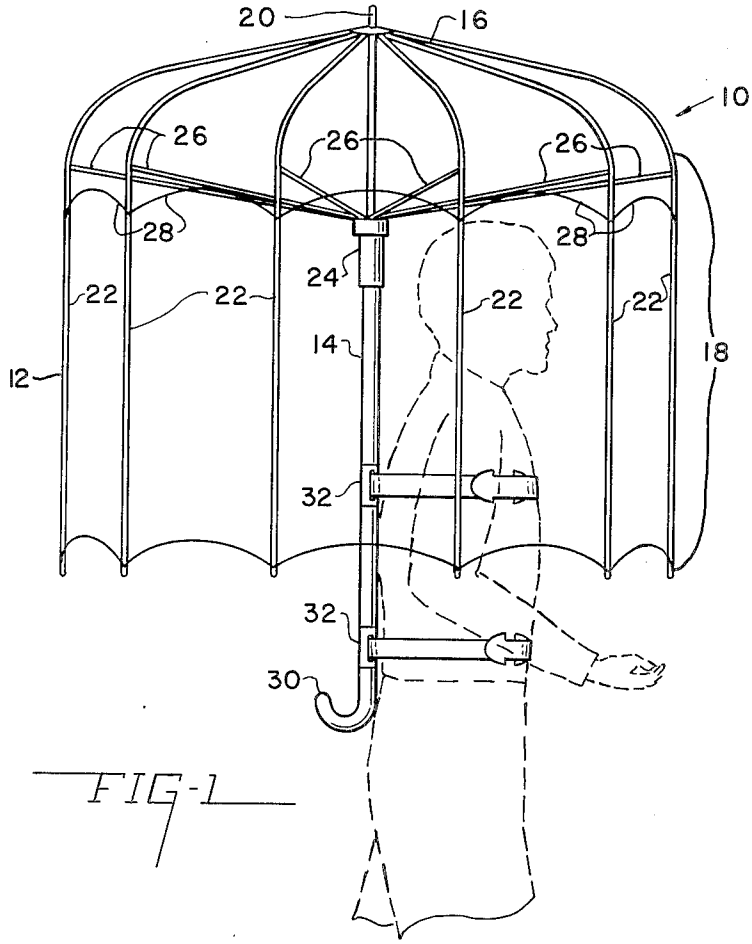


FIG-1

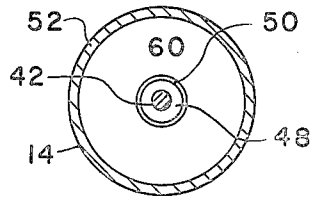


FIG-5

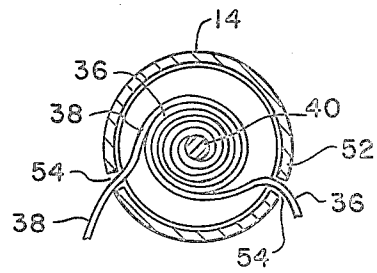


FIG-6

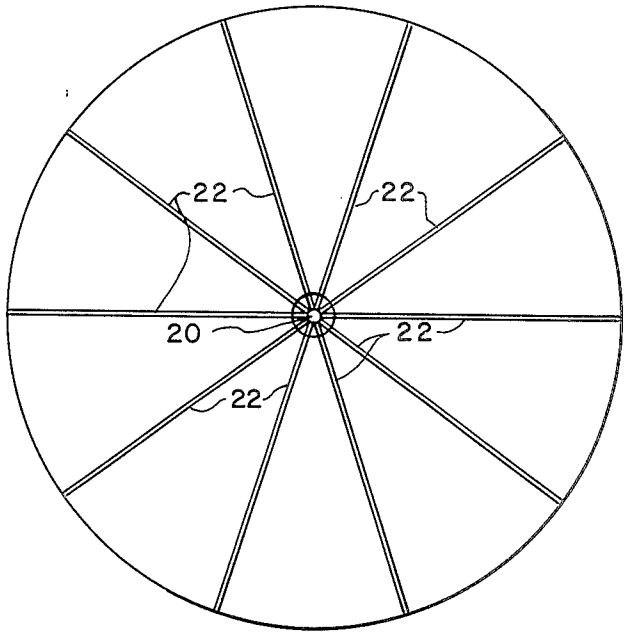


FIG-2

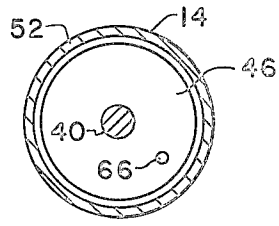


FIG-7

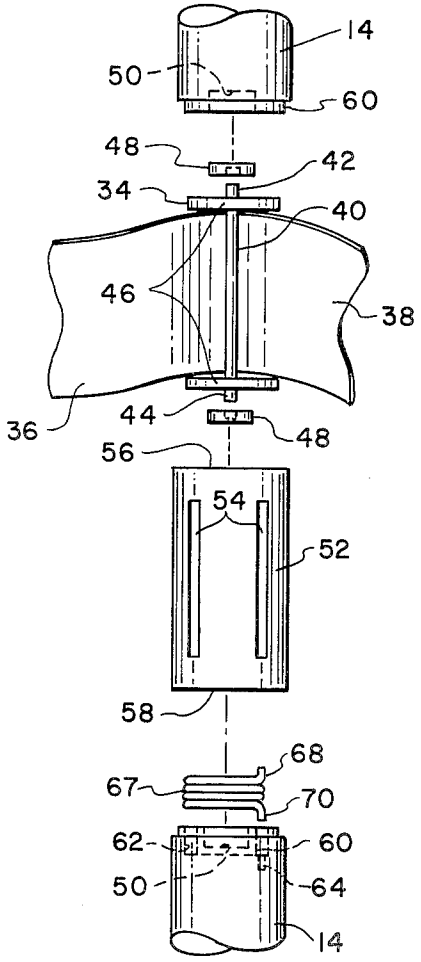


FIG-4

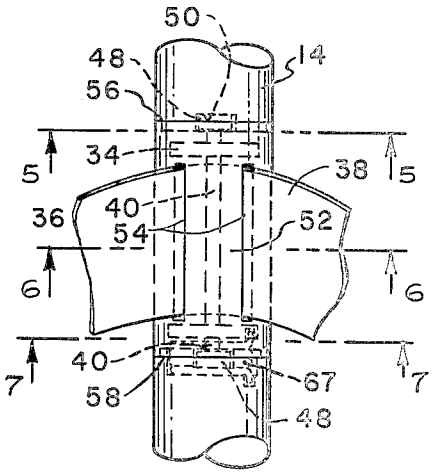


FIG-3

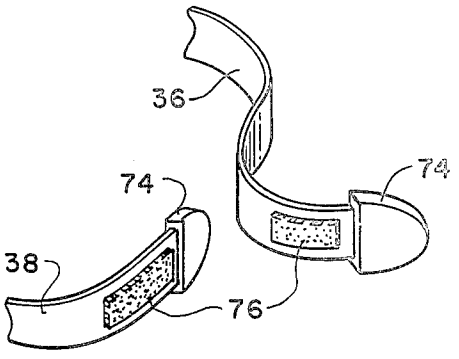


FIG-8

COLLAPSIBLE UMBRELLA WITH RETRACTABLE FASTENING MEANS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to an umbrella, and more particularly to an umbrella which can be worn by a person using the same.

2. Description of the Prior Art

Umbrellas have long been in use by persons desiring to shield themselves from the sun and rain. Conventionally, umbrellas are hand carried by the person using the umbrella. Carrying an umbrella, however, does not allow the free use of a person's hands to carry packages and the like. It is therefore desirable to provide an improved umbrella that will allow a person using the umbrella to use their hands without being encumbered by the umbrella.

While umbrellas have heretofore been strapped to the back of a person, they are difficult to attach and the harnesses used are clumsy, and not very attractive. Further, such harnesses must be detached if the umbrella is to be hand-held, as is conventional. It is therefore desirable to provide an umbrella which can be worn, if desired, but which includes structure which allows the umbrella to be worn or hand-held, as desired, while still being attractive and convenient to use.

SUMMARY OF THE INVENTION

It is therefore a primary object of this invention to provide an improved umbrella structure.

Another object of the invention is to provide an improved umbrella structure which can be worn by the person using the umbrella.

Another object of this invention is to provide an improved umbrella structure which can be hand-held or worn by the person using the umbrella, as desired, and yet is convenient to use.

Another object of this invention is to provide an improved umbrella structure which can be worn by the person using the umbrella, the umbrella being of transparent material and large enough to cover the head, shoulders and upper trunk portion of the person wearing the umbrella to provide maximum protection and yet not hamper the person's vision.

Still further, an object of this invention is to provide an umbrella having structure which meets all of the objects above-mentioned, and still is attractive, functional, simple in construction, inexpensive to manufacture, and convenient to use.

In the broader aspects of this invention there is provided an umbrella having a collapsible canopy and an elongated handle. A pair of reels are journaled for rotation in the handle on which are stored a pair of straps. Each reel is biased so as to wrap the straps around the reel and store the straps within the handle of the umbrella. With the straps so enclosed in the handle, the umbrella can be hand-held as is conventional. If desired, the straps can be pulled from the handle and secured about the trunk of a person and worn, thereby freeing the arms to carry boxes and the like.

BRIEF DESCRIPTION OF THE DRAWINGS

The above-mentioned and other features and objects of this invention and the manner of attaining them will become more apparent and the invention itself will be best understood by reference to the following description of an embodiment of the invention taken in conjunction with the accompanying drawings, wherein;

FIG. 1 is a side view of the improved umbrella of the invention shown as worn by a person, the person being illustrated in dashed lines;

FIG. 2 is a top view of the umbrella of the invention;

FIG. 3 is a fragmentary view of the handle portion including one of the strap retractors of the improved umbrella of the invention;

FIG. 4 is a fragmentary and exploded view of the structure illustrated in FIG. 3;

FIG. 5 is a cross-sectional view of the handle portion illustrated in FIG. 3 taken substantially along the section line 5—5;

FIG. 6 is a cross-sectional view of the handle portion illustrated in FIG. 3 taken substantially along the section line 6—6;

FIG. 7 is a cross-sectional view of the handle portion illustrated in FIG. 3 taken substantially along the section line 7—7; and

FIG. 8 is a view of the distal end portions of the straps attached to one of the strap retractors of the improved umbrella of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, there is shown the improved umbrella 10 of this invention. Umbrella 10 has a canopy 12 and a handle 14. The canopy 12 has a top portion 16 and side portions 18. The handle 14 is connected to the canopy 12 at the center 20 of the top portion 16 of the canopy 12. The handle 14 depends from the center 20; the canopy 12 surrounds the handle 14 as shown in FIG. 1. Also depending from the center 20 are a plurality of ribs 22. The ribs 22 are connected to a slide mechanism 24 by means of a plurality of support elements 26.

The canopy 12 is shown in the embodiment illustrated to extend over the head and upper trunk portion of a human being wearing the umbrella. Side portions 18 are spaced from the handle 14 a sufficient distance and canopy 12 has a sufficient height dimension to provide enough room to cover the entire trunk of a human being. The canopy 12 is shown to be made of transparent material. The top portion 16 of the canopy 12 from the center 20 to the boundary line 28, in a specific embodiment, may be tinted or of opaque material, as the case may be. In these embodiments, top portion 16 will shade the sun from the user of the umbrella and may be decorative in specific embodiments.

The handle 14 has a distal end 30. Adjacent to distal end 30 are located a pair of identical strap retractors 32. Strap retractors 32 are identical; a description of one will suffice for the other.

Now referring to FIGS. 3, 4, 5, 6 and 7, the strap retractors 32 will be described in detail. Each of the strap retractors 32 have a reel 34 on which a pair of straps 36 and 38 are attached. Reel 34 consists of an elongated shaft or spindle 40 which has opposite ends 42 and 44. Secured to the spindle 40 adjacent each opposite end 42 and 44 is a flange 46. Flanges 46 are spaced apart a distance sufficient to allow straps 36 and 38 to be attached to the spindle 40 therebetween. The diameter of flanges 46 need only be large enough to accommodate both straps 36 and 38 on the spindle 40 in a wrapped condition; and thus, the diameter of the

flanges **46** is preferred to be only slightly greater than the thickness of straps **36** and **38** in a wrapped condition on spindle **40**.

Spindle ends **42** and **44** are positioned in bearings **48**. Bearings **48** allow the reel **34** to rotate freely therein. Bearings **48** are supported in the handle **14** in the bearing recesses **50**. Bearing recesses **50** are formed in the handle **14** coaxially thereof; there being a bearing recess **50** for each of the bearings **48**. As shown in FIGS. **3** and **4**, recesses **50** pertaining to the strap retractor **32** face each other.

An elongated sleeve **52** is provided. Sleeve **52** is hollow and tubular in shape. A pair of slots **54** are provided in sleeve **52**. Slots **54** are elongated and run longitudinally of the sleeve **52**. Sleeve **52** is hollow and has an interior large enough to accommodate reel **34** therein. Sleeve **52** has opposite ends **56, 58** which are connected to the handle **14** adjacent to the bearing recesses **50** by means of a boss **60**. Bosses **60** are sized and shaped to fit ends **56, 58** of sleeve **52**. The transverse dimensions of boss **60** are substantially the same as corresponding dimensions of the interior of sleeve **52**. The exterior dimensions of sleeve **52** adjacent each boss **60** is substantially the same as the corresponding dimensions of handle **14** adjacent to boss **60**. The length of the sleeve **52** is substantially the length of the reel **34** such that the sleeve **52** can be connected to the handle **14** by means of the bosses **60** and at the same time the ends **42** and **44** of the spindle **40** can be positioned in the bearings **48** and the bearings **48** can be positioned in the bearing recesses **50**.

One of the bosses **60** of each of the retractor assemblies **32** also has a spring recess **62** formed therein. Spring recess **62** surrounds the bearing recess **50** and is annular in shape. Extending from the spring recess **62** is a detent hole **64**. A detent hole **66** similar to detent hole **64** is provided in the flange **46** of the reel **34** which is most adjacent the spring recess **62**. In the spring recess **62** there is provided a coil spring **67** which has opposite ends **68** and **70** which extend from the spring **67** axially thereof. Ends **68** and **70** respectively are positioned in detent holes **64** and **66** when spring **67** is positioned in spring recess **62** and the reel **34**, the sleeve **52**, and the handle **14** are assembled as shown in FIG. **3**.

As best shown in FIG. **8**, straps **36** and **38** are each provided with enlarged ends **74** connected to the distal ends thereof. Ends **74** are substantially larger in at least one dimension than the slots **54** in the sleeve **52**. Ends **74** prevent the straps **36** and **38** from completely passing through the slots **54**. Thus, ends **74** are always exterior of the sleeve **52** and can be grasped to pull the straps **36, 38** from the reel **34**, when desired. Also secured to the straps **36** and **38** adjacent their distal ends is a strip of "Velcro" material. By means of the two strips of Velcro material **76**, the straps **38** and **36** can be joined as shown in FIG. **1**.

In operation, the improved umbrella of the invention can be hand-held and used as is conventional. The improved umbrella has a canopy **12** which completely covers the head, shoulders and upper trunk portions of the person using the umbrella to give that person added protection from the elements. Additionally, in a specific embodiment, the top portion **16** of the canopy **12** is opaque or tinted to guard the person against the sun's rays and the like. The remainder of the canopy **12** in this same specific embodiment is transparent such that a person's vision is not impaired by using the umbrella **10**.

The improved umbrella of the invention can also be worn thereby freeing the hands to carry books, packages and the like. If this is desirable, the straps **36** and **38** are extracted from the handle **14** by grasping strap ends **74** and pulling the straps therefrom. One strap can encircle the waist and be secured by means of the Velcro material adjacent the distal ends thereof. The other strap can be caused to encircle the chest under the arms and similarly fastened. In this manner, the umbrella meets all of the objects above-mentioned.

Still further, the improved umbrella **10** of this invention is equipped with strap retractors such that when the umbrella **10** is through being worn, the straps **36** and **38** can be retracted into the handle **14** and the umbrella can be collapsed and carried with little more difficulty than a conventional umbrella. The strap retractors are simple in construction, easy to operate and inexpensive to manufacture. In a specific embodiment, all of the elements of the strap retractors above-described, except for the spring **67**, can be mass produced out of plastic material. By such construction, the umbrella **10** of the invention can be manufactured and sold competitively with conventional umbrellas.

While there have been described above the principles of this invention in connection with specific apparatus, it is to be clearly understood that this description is made only by way of example and not as a limitation to the scope of the invention.

What is claimed is:

1. An umbrella comprising a canopy, an elongated handle connected to the canopy, said canopy having top and side portions, said canopy being collapsible from an expanded position in which said canopy side portions surround said handle and the head and shoulders of a person using the umbrella into a collapsed position in which said canopy overlays said handle, a pair of reels journaled for rotation in said handle, said reels being spaced apart, a pair of flexible straps connected to and wrapped on each of said reels, each of said straps having a distal end, means on said straps adjacent their distal ends for removably securing said pair together, and means for urging said reels to rotate and wrap said straps thereon.

2. The umbrella of claim **1** wherein each of said reels includes a spindle having opposite ends, bearing means connected to said handle, said spindle ends being held by said bearing means.

3. The umbrella of claim **2** wherein each of said reels includes a pair of spaced apart flanges, said flanges being secured to said spindle adjacent to and spaced from said ends, respectively, said flanges being larger in at least one diametrical dimension than said pair of straps when wrapped on said spindle.

4. The umbrella of claim **1** wherein said handle includes a pair of sleeves, each sleeve having opposite ends and a hollow interior, said reels being positioned within said sleeves respectively, the opposite ends of said sleeves being connected to said handle respectively, said sleeve having spaced slots therein, said straps being positioned in said slots, respectively.

5. The umbrella of claim **4** further comprising means on said straps adjacent to said distal ends thereof for preventing said distal ends from passing through said slots.

6. The umbrella of claim 5 wherein said securing means includes patches of Velcro material connected to said straps adjacent to said distal ends thereof.

7. The umbrella of claim 5 wherein said canopy is made of a transparent material, said canopy being large enough and said reels and straps being positioned such that said handle can be strapped onto the trunk of a person by said straps with said canopy being over the head and surrounding upper trunk of said human.

8. The umbrella of claim 7 wherein said canopy has a top portion thereof which is opaque.

9. The umbrella of claim 7 wherein one of said straps encircles the waist of said person, another of said straps encircles said human above said waist, and said canopy is large enough to allow arm movement by said person therein.

10. The umbrella of claim 3 wherein said urging means includes a coil spring one end of which is secured to one of said flanges, the other end of said spring is secured to said handle.

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