July 10, 1956 M. ROSEN 2,753,879

COLLAPSIBLE STAND FOR UMBRELLAS AND THE LIKE

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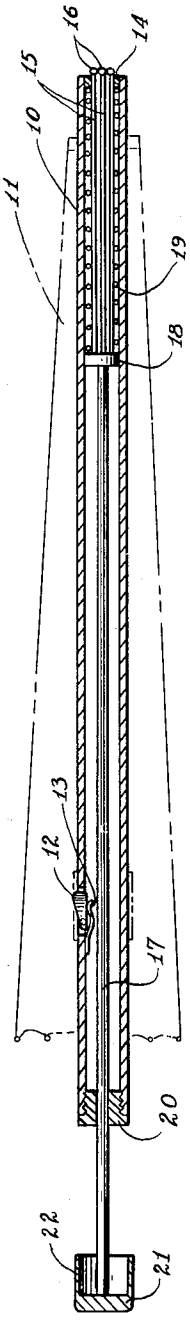


FIG.1

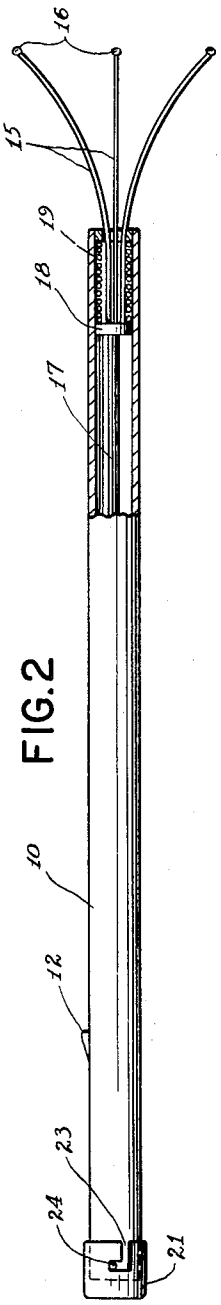


FIG.2

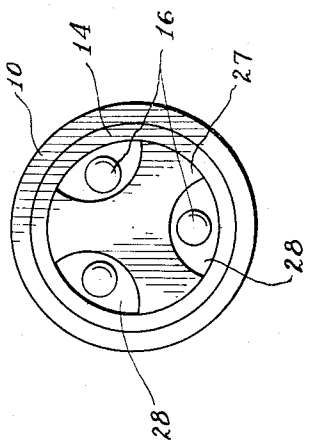


FIG.5



FIG.4

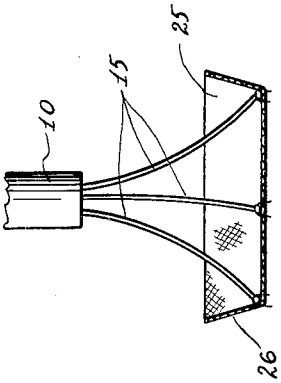


FIG.3

INVENTOR.
MURRAY ROSEN
BY Harold D. Steinberg
ATTORNEY

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COLLAPSIBLE STAND FOR UMBRELLAS AND THE LIKE

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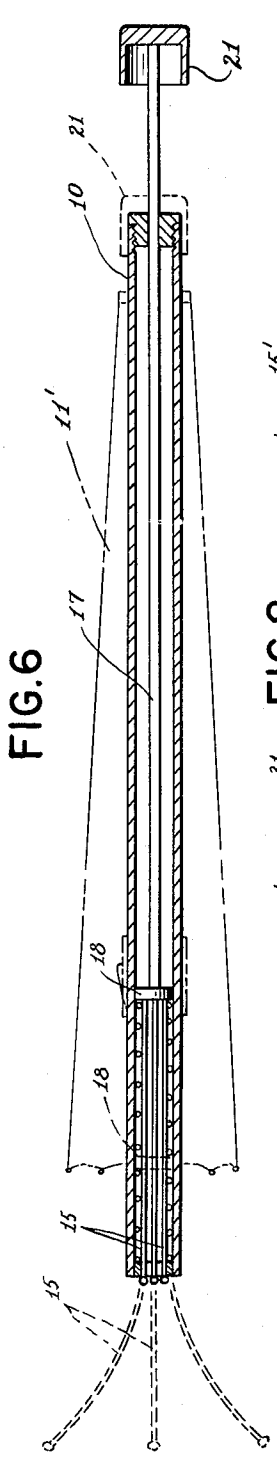


FIG.6

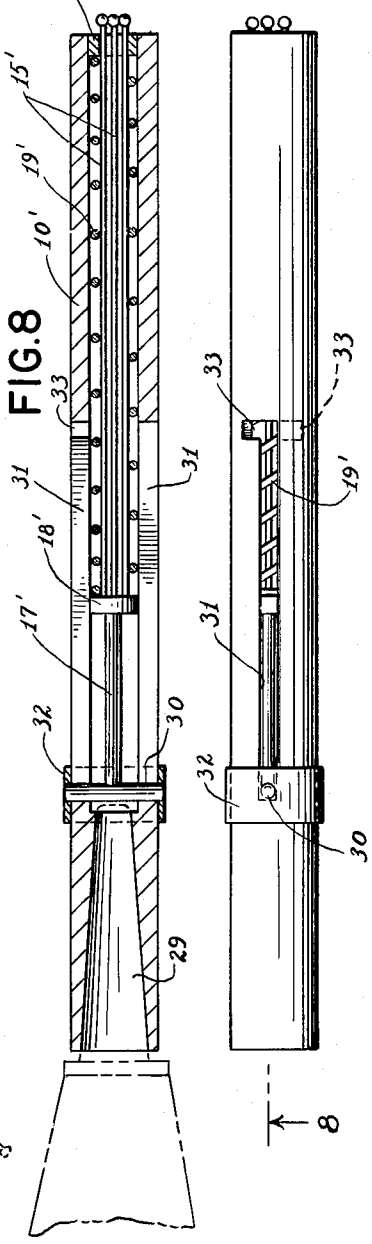


FIG.8

FIG.7

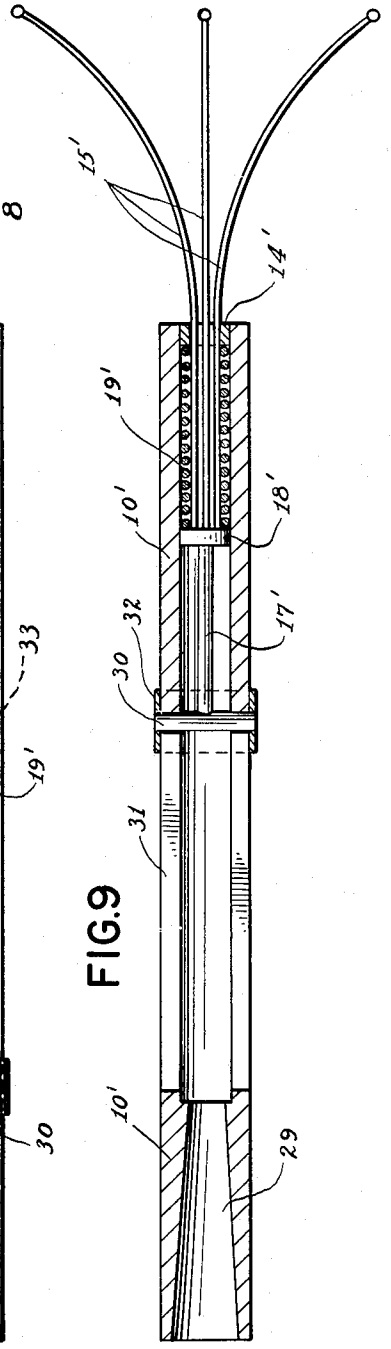


FIG.9

INVENTOR.
MURRAY ROSEN
BY Harold D. Steinberg
ATTORNEY

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COLLAPSIBLE STAND FOR UMBRELLAS AND THE LIKE

Murray Rosen, New York, N. Y.

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9 Claims. (Cl. 135—47)

The present invention relates to stands and more particularly to collapsible stands.

It is often desirable to provide stands for articles such as umbrellas and the like. For example to support an umbrella in an upright open position when it is drying or in an upright closed position when the umbrella or the like is not in use. At the present time large bulky receptacles are provided for storing umbrellas not in use, and it is always inconvenient to set an open umbrella up for drying the same.

One of the objects of the present invention is to provide a manually operably collapsible and expandable stand for supporting an umbrella or the like.

Another obect of the present invention is to provide a stand of this type which forms part of an article such as an umbrella.

A further object of the present invention is to provide a stand of this type which is in the form of an attachment which can be attached to a conventional umbrella or the like.

An additional object of the present invention is to provide such a stand with a means for collecting water when the stand is expanded.

Still another object of the present invention is to provide a stand of the above type with a means for releasably maintaining the stand in its expanded position.

With the above objects in view, the present invention mainly consists of a collapsible stand for an umbrella or the like, this stand including an elongated shaft which is open at one end. At least three elongated springy legs, which are arcuate in their unstressed condition, are located beside each other in the shaft for movement between a collapsed position, where the legs are located substantially entirely within the shaft, and an expanded position, where the legs extend through a substantial distance through and beyond the open end of the shaft and spread apart from each other to provide at least a three point support. A manually operable moving means is shiftable with respect to the shaft and is connected to the legs for moving the same between their collapsed and expanded positions.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawings, in which:

Fig. 1 is a sectional view through an umbrella shaft into which the stand of the present invention is incorporated;

Fig. 2 is a partly sectional view showing the structure of Fig. 1 in its expanded position;

Fig. 3 is a fragmentary view of the stand of the invention provided with a collapsible receptacle for collecting water;

Fig. 4 is a fragmentary view of the structure of Fig. 3 in its collapsed position;

Fig. 5 is an end view of the stand of the invention showing a plate attached thereto;

Fig. 6 shows a structure similar to Fig. 1 except that the umbrella sheet is reversed;

Fig. 7 is a side view of an attachment constructed in accordance with the present invention;

Fig. 8 is a sectional view taken along 8—8 of Fig. 7 in the direction of the arrows; and

Fig. 9 shows the structure of Fig. 8 in its expanded position.

Referring now to the drawings and to Fig. 1 in particular it will be seen the structure of the invention includes a hollow shaft **10** adjacent the right end of which, as viewed in Fig. 1, an umbrella sheet **11** is fixed in a conventional way. The sheet **11** is collapsed and expanded on shaft **10** in a conventional way not forming part of the present invention and not shown in the interest of conciseness. Shaft **10** carries, in a conventional way, a turnable catch **12** urged outwardly by leaf spring **13** fixed at one end to the interior of shaft **10**.

The right end of shaft **10**, as viewed in Fig. 1, is open, and a ring **14** is fixed in this open end of the shaft. Three springy legs **15** are located beside each other in shaft **10**. These legs are arcuate when unstressed and are preferably of circular cross section and made of spring steel. More than three legs **15** may be provided, but at least three are required. The free ends **16** of legs **15** are preferably enlarged. The opposite ends of legs **15** are fixed to a rod **17**, which is coaxial with and shiftable with respect to shaft **10**, through the medium of a plate **18** fixed to rod **17** and legs **15** and slidable along the interior of shaft **10**. A spring **19** is coiled about legs **15** in shaft **10** and abuts at its ends against plate **18** and ring **14**, respectively. This spring is not essential and is provided only to urge the legs to their collapsed position shown in Fig. 1. Legs **15** can remain in their collapsed position by frictional engagement with ring **14**. Spring **19** makes it easier for the operator to return the legs **15** to their collapsed position.

A sleeve **20** is threaded into the left end of shaft **10**, as viewed in Fig. 1, and rod **17** extends slidably through sleeve **20**. A handle **21** is fixed to the left free end of rod **17** and is provided with a skirt **22** large enough to envelop sleeve **20** and the left end of shaft **10**, as viewed in Fig. 1. In order to move legs **15** to their expanded position to support the umbrella, handle **21** is moved to a position where skirt **22** surrounds sleeve **20**. Plate **18** is thus pushed toward the right open end of shaft **10**, as viewed in Fig. 1, to compress spring **19** and move legs **15** to the expanded position shown in Fig. 2. In order to retain the parts in their expanded position against the influence of spring **19**, skirt **22** is formed with a bayonet slot **23** (Fig. 2). A pin **24** fixed to the exterior of shaft **10** extends into this slot, and handle **21** is turned together with rod **17** to place the parts in the position shown in Fig. 2. Legs **15** assume their unstressed arcuate shape when they move out of shaft **10** and spread apart from each other to form a stable three point support for the umbrella. To return the parts to the collapsed position of Fig. 1 handle **21** is turned to release the bayonet catch and rod **17** is moved with respect to shaft **10** to the position shown in Fig. 1. Spring **19** aids in this movement. Handle **21** also forms a handle for the umbrella.

The embodiment of Fig. 6 is identical with that of Fig. 1 except that umbrella sheet **11'** is reversed in that it is fixed adjacent the left end of shaft **10** where sleeve **20** is located. In this case the right end of shaft **10**, through which legs **15** extend, forms the handle for the umbrella.

As shown in Fig. 3, a receptacle 25 may be provided to collect water dripping from the umbrella. Receptacle 25 is formed from a flexible sheet material such as a waterproof fabric and is fixed to the free ends of legs 15 as by being glued thereto with a waterproof adhesive. When expanded the fashioning of the fabric receptacle causes the rim 26 thereof to extend upwardly. When the legs 15 are drawn into shaft 10, the receptacle 25 collapses to the position shown in Fig. 4. If desired a central fourth leg may be provided and connected at its ends respectively to plate 18 and receptacle 25 to draw the central portion of the latter toward shaft 10 to assist in collapse of the receptacle.

As shown in Fig. 5, a plate 27 may be fixed in ring 14 and formed with cutouts 28 through which legs 15 respectively extend. Plate 27 thus guides the legs 15 during their movement to their expanded and collapsed positions.

Figs. 7–9 show an embodiment of the invention which takes the form of an attachment capable of being joined to any conventional umbrella, or the like. The parts of this embodiment which correspond to those of Fig. 1 are indicated with the same reference characters primed. The hollow shaft 10′ is provided with a tapered bore portion 29 adjacent its left end, as viewed in Fig. 8, so that shaft 10′ may be wedged into the free tip of an umbrella rod, for example. Springy legs 15′ extend through ring 14′ fixed in the open right end of shaft 10′, as viewed in Fig. 8. Legs 15′ are fixed to plate 18′ which is slidable in shaft 10′ and which is fixed to rod 17′ so that legs 15′ are axially shiftable with respect to shaft 10′ together with rod 17′. Spring 19′ is coiled about legs 15′ in shaft 10′ and abuts against plate 18′ and ring 14′ to urge legs 15′ to their collapsed position in shaft 10′, shown in Figs. 7 and 8.

A pin 30 is fixed to and extends across the left free end of rod 17′, as viewed in Fig. 8, and this pin extends through parallel slots 31 formed in rod 10′. The outer ends of pin 30 are fixed to a ring 32 slidable along the exterior of shaft 10′. The parallel slots 31 are parallel to the axis of shaft 10′ and are formed at their right ends, as viewed in Fig. 8 with lateral extensions 33 which respectively extend in opposite directions.

To move the legs 15′ from their collapsed position shown in Fig. 8 to their expanded position shown in Fig. 9, ring 32 is shifted toward ring 14′, and at the right ends of slots 31, as viewed in Fig. 8, ring 32 is turned angularly about the axis of shaft 10′ to locate pin 30 in extensions 33 of slots 31 in order to maintain legs 15′ in their expanded position against the influence of spring 19′.

To return the legs 15′ to their collapsed position, ring 32 is turned back and pin 30 is moved along slots 31 back to the position of Fig. 8.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of stands differing from the types described above.

While the invention has been illustrated and described as embodied in collapsible and expandable stands, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint of prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be secured by Letters Patent is:

1. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; manually operable moving means shiftable with respect to said shaft and connected to said legs for moving the same between said collapsed and expanded positions; and an umbrella sheet fixed to said shaft.

2. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; manually operable moving means shiftable with respect to said shaft and connected to said legs for moving the same between said collapsed and expanded positions; a plate fixed to said shaft over said open end thereof and formed with a plurality of cutouts through which said legs respectively extend; and an umbrella fixed to said shaft.

3. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; manually operable moving means shiftable with respect to said shaft and connected to said legs for moving the same between said collapsed and expanded positions; and flexible sheet means fixed to the ends of said legs which form said three point support for providing a dished receptacle when said legs are expanded and for collapsing with said legs.

4. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; a rod fixed at one end to said legs and located coaxially within said shaft; a handle fixed to said rod for shifting the same axially with respect to said shaft for moving said legs between said collapsed and expanded positions; spring means carried by said shaft and engaging said rod for urging said legs to their collapsed position; and an umbrella sheet fixed to said shaft.

5. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are

located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; manually operable moving means shiftable with respect to said shaft and connected to said legs for moving the same between said collapsed and expanded positions; and means connected to said shaft for attaching the same to the shaft of an umbrella or the like.

6. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; a rod fixed at one end to said legs and located coaxially within said shaft; a handle fixed to said rod for shifting the same axially with respect to said shaft for moving said legs between said collapsed and expanded positions; spring means carried by said shaft and engaging said rod for urging said legs to their collapsed position; and catch means located at said shaft and handle for releasably holding said rods in their expanded position against the influence of said spring means and means connected to said shaft for attaching the same to the shaft of an umbrella or the like.

7. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; a rod fixed at one end to said legs, located coaxially within said shaft, and extending freely through the end of said shaft opposite said one end thereof; a handle fixed to said rod for shifting the same axially with respect to said shaft for moving said legs between said collapsed and expanded positions; and an umbrella sheet fixed to said shaft adjacent said one end thereof.

8. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; a rod fixed at one end to said legs, located coaxially within said shaft, and extending freely through the end of said shaft opposite said one end thereof; a handle fixed to said rod for shifting the same axially with respect to said shaft for moving said legs between said collapsed and expanded positions; and an umbrella sheet fixed to said shaft adjacent said opposite end thereof.

9. A collapsible stand for an umbrella or the like, comprising, in combination, an elongated hollow shaft open at one end; at least three elongated springy legs which are arcuate in their unstressed condition, said legs being located beside each other in said shaft for movement between a collapsed position, where said legs are located substantially entirely within said shaft, and an expanded position, where said legs extend through a substantial distance through and beyond said open end of said shaft and spread apart from each other to provide at least a three point support; a rod fixed at one end to said legs, located coaxially within said shaft, and extending freely through the end of said shaft opposite said one end thereof; a handle fixed to said rod for shifting the same axially with respect to said shaft for moving said legs between said collapsed and expanded positions; and an umbrella sheet fixed to said shaft.

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