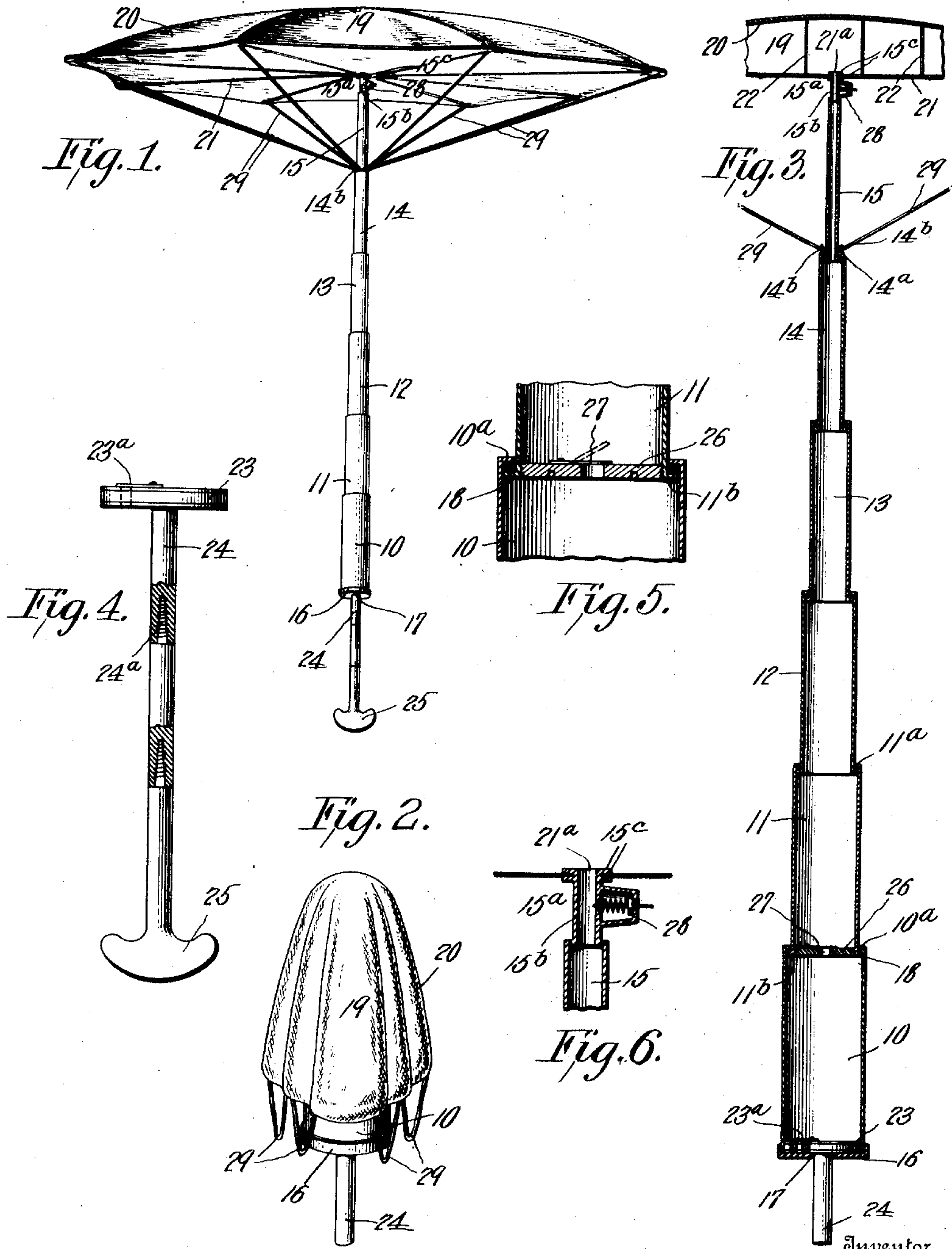


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J. BELLIS.  
COLLAPSIBLE UMBRELLA.  
APPLICATION FILED DEC. 2, 1907.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOE BELLIS, OF SHREVEPORT, LOUISIANA.

## COLLAPSIBLE UMBRELLA.

No. 883,277.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed December 2, 1907. Serial No. 404,727.

*To all whom it may concern:*

Be it known that I, JOE BELLIS, a subject of the Czar of Russia, residing at Shreveport, in the parish of Caddo and State of Louisiana, have invented certain new and useful Improvements in Collapsible Umbrellas, of which the following is a specification.

This invention relates to umbrellas or parasols, and has particular reference to that type of such devices which are collapsible so as to occupy a minimum amount of space when not in use.

Among the several objects of this present invention is to construct an umbrella of such adaptability that it will serve when extended all the usual functions of an umbrella and when collapsed or folded will occupy no more than seven or eight inches of space in length and not over two inches in diameter. It is to be understood of course that the above suggestion of dimensions would pertain to an ordinary sized device, but the invention is in no manner limited to any particular size or dimensions.

Another object aimed at is to construct an umbrella top which will be composed of a hollow body made entirely of soft pliable material, there being no ribs or other stiffening means employed.

A still further object is to provide an umbrella handle composed of tubular telescopic sections, the several sections co-operating each to each in such a manner as to render the structure substantially air tight, and with means provided whereby said handle may be extended by air pressure. Said air pressure means are so designed as to not only extend the telescopic handle but also to inflate the top aforesaid, the latter being in communication with one end of the hollow handle.

The foregoing and other objects of the invention are attained by mechanism herein-after fully described and illustrated in the accompanying drawings, in which

Figure 1 is a perspective view of an umbrella made in accordance with the present invention, the same being indicated as in hoisted position; Fig. 2 is a similar view of the same device in collapsed position; Fig. 3 is a vertical sectional view of the umbrella in extended position; Fig. 4 is a detail view of the piston of the air pressure means; Fig. 5 is a detail view indicating the character of the joint between two of the telescopic sections of the handle, and a check-valve secured

within the lower end of one of them, and Fig. 6 is a like view of the structure secured to the upper end of the uppermost section.

Throughout the following description similar parts are referred to and indicated on the several views of the drawings by the same reference characters.

Referring now specifically to the illustrations, the umbrella handle may be considered as being made up of any suitable number of tubular sections, indicated herein as 10, 11, 12, 13, 14, and 15. The lowermost section 10 is preferably provided on its lower end with a removable cap 16, the same being secured thereto and having a central hole 17. The upper end of the section 10 is provided with a narrow intumed flange 10<sup>a</sup>. The next section 11 is of slightly less diameter than the first, such diameter being substantially equal to that of the opening within the inner edge of the aforesaid flange 10<sup>a</sup> and is provided at its lower end with an outwardly extending flange 11<sup>b</sup> which lies within and coöperates with the said flange 10<sup>a</sup> to prevent separation of the sections. The section 11 has at its upper end an inwardly turned flange 11<sup>a</sup> of the character corresponding to that of the flange 10<sup>a</sup> before mentioned. Each of the succeeding sections 12, 13, and 14 bears substantially the same relation to the preceding one as the section 11 does to the section 10, and each is provided with the same character of flanges as those above described. The uppermost tube section 15 while being provided at its lower end with an outwardly turned flange corresponding to the outwardly turned flange of each of the other sections, is of a slightly different construction at its upper end from that of the other sections. The upper end 15<sup>a</sup> of the upper section is of reduced diameter providing a neck 15<sup>b</sup> and having outwardly extending flanges 15<sup>c</sup>. At each movable joint and located between each pair of coöperating flanges will be some suitable form of packing, for instance a soft rubber gasket 18 for the purpose of rendering the joint air tight.

The top of the umbrella, as before premised, is composed of a hollow body portion 19, having an upper member 20, a lower member 21, and a suitable number of connections extending directly between and within the members 20 and 21 for the purpose of preventing too great a separation of the members 20 and 21 when in use. Said



connections are indicated as a plurality of cords 22 secured at their ends in any suitable manner to the inner surfaces of the members 20 and 21. Each of the member 20 and 21 is made up of a plurality of triangular sections having the general form of the corresponding sections of an ordinary ribbed umbrella. The several triangles of each member are suitably secured together each to each to make up the said member, and the members themselves are hermetically attached to each other at their edges, the periphery of each coinciding exactly with that of the other. It will be understood, however, that the upper member 20 will be made with sufficiently more fullness, or in other words, the several triangles will be cut enough longer than the corresponding triangles of the lower member so as to provide the desired convexity of the upper member regardless of the exact conformation of the lower member when inflated. The member 21 is provided with a central opening 21<sup>a</sup> into which the upper end 15<sup>a</sup> of the section 15 projects and to which it is firmly and hermetically attached. The bore through the upper end 15<sup>a</sup> of the tubular member 15 communicates with the interior of the hollow top 19.

Any suitable means may be provided for charging the device with air under pressure for the purpose of extending the telescopic handle and inflating the hollow top. As a convenient illustration of such a means I indicate an air pumping device mounted within and coöperating with the member 10 of the handle. Such device comprises a piston 23 substantially fitting the inner surface of said member 10 and provided with a piston rod 24 projecting therefrom downwardly through the hole 17 aforesaid so that it may be operated upon the outside of the handle. The outer end of the piston 24 is provided with a grip 25 which may be, if desired, of an ornamental design and which may be used in place of the ordinary umbrella handle. If, however, it should be desirable to detach such grip for any purpose the piston rod or stem 24 may be made of any number of detachable sections secured together in any convenient manner such as by male and female screws 24<sup>a</sup>. At any suitable point or points there may be provided upwardly opening check valves, such as indicated at 26 at the lower end of the section 10, the movable portion of which is indicated at 27. These valves may conveniently and cheaply be constructed of a thin diaphragm of metal removably secured in any suitable manner as by screw threads.

Thus far described and with the parts in assembled position, in order to hoist the umbrella, it is only necessary to set in operation the pump or piston mechanism, the first thrust of which will push bodily all of the

movable tubular sections out of the section 10, and succeeding movements of said piston will cause the compressed air occasioned thereby to extend the telescopic handle to its full length and charge the hollow top. The check valve 26, 27, it will be understood, will prevent the return movement of the air under pressure during the pumping operation. All the joints of the device and connections being made air tight, the device will remain extended and inflated for an indefinite period of time. Should it be desirable or necessary to provide a check valve in connection with the piston 23 the same may be done as indicated at 23<sup>a</sup>.

In order to discharge the compressed air so that the umbrella may be collapsed for transportation purposes any suitable outlet valve may be provided. As a convenient illustration of such a valve I show at 28 a button connected with the neck 15<sup>b</sup> of the upper section 15. When this button is pressed inwardly as by the thumb or finger the compressed air will immediately discharge from the top 19 and the air from the interior of the extended handle will escape outwardly through the port provided by the outlet valve 28 when the said handle is collapsed as by the hand of the operator.

The entire top 19 being flexible it is desirable to provide some auxiliary means whereby the same may be steadied when inflated and being carried. As a simple and convenient illustration of such means I show a series of cords 29, of any suitable number and extending from the periphery of the top downwardly and inwardly and secured in any suitable manner to one of the tubular sections of the handle. These cords 29 are shown as being connected to eyelets 30 on the upper end of the section 14, but are not to be understood as being limited in their application to this or any other particular place.

Any suitable rigid material may be employed to construct the telescopic handle, and from the form of the several sections composing the same it will be understood that when charged with compressed air it will be sufficiently rigid for the purpose intended. The material of which the top is composed may be a fine quality of silk cloth coated with rubber or any other suitable material which will be substantially air tight and yet be exceedingly flexible when collapsed.

While I have indicated in the drawings and described in the foregoing what I consider to be a suitable embodiment of the invention, I desire it to be understood that I reserve the right to make such modifications thereof as may suggest themselves to any one skilled in the art without departing from the spirit of the invention as covered by the following claims.



Having thus described the invention, what is claimed as new is:—

1. An umbrella comprising a handle and a top, the latter being a body hollow throughout its entire extent and composed wholly of soft pliable material, and means to inflate said top.

2. An umbrella comprising a top, a collapsible hollow handle, and pneumatic means to extend said handle.

3. An umbrella comprising a top, a collapsible sectional tubular handle, and pneumatic means coöperating with one of the handle sections to extend all the other sections thereof.

4. The herein described collapsible umbrella comprising, in combination, a top composed of a hollow pliable body, a collapsible sectional tubular handle attached to and communicating with the interior of said top, and pneumatic means to simultaneously extend the handle and inflate the top.

5. A pneumatic umbrella comprising a top composed wholly of a hollow inflatable body

having an upper member, a smaller lower member, said members being coextensive at their peripheries and being there hermetically attached to each other, the line of said attachment constituting the periphery of said top, and connections extending between said members at intervals to prevent too great separation thereof, a handle, and means to inflate said top.

6. A pneumatic umbrella comprising a flexible top composed of spaced upper and lower members, a handle attached at its extreme upper end to the lower member, means to inflate said top, and auxiliary means extending from the handle to the top serving to steady the latter when inflated and hoisted.

In testimony whereof I affix my signature in presence of two witnesses.

JOE BELLIS.

Witnesses:

O. BLOOME,  
P. D. VAISIN.