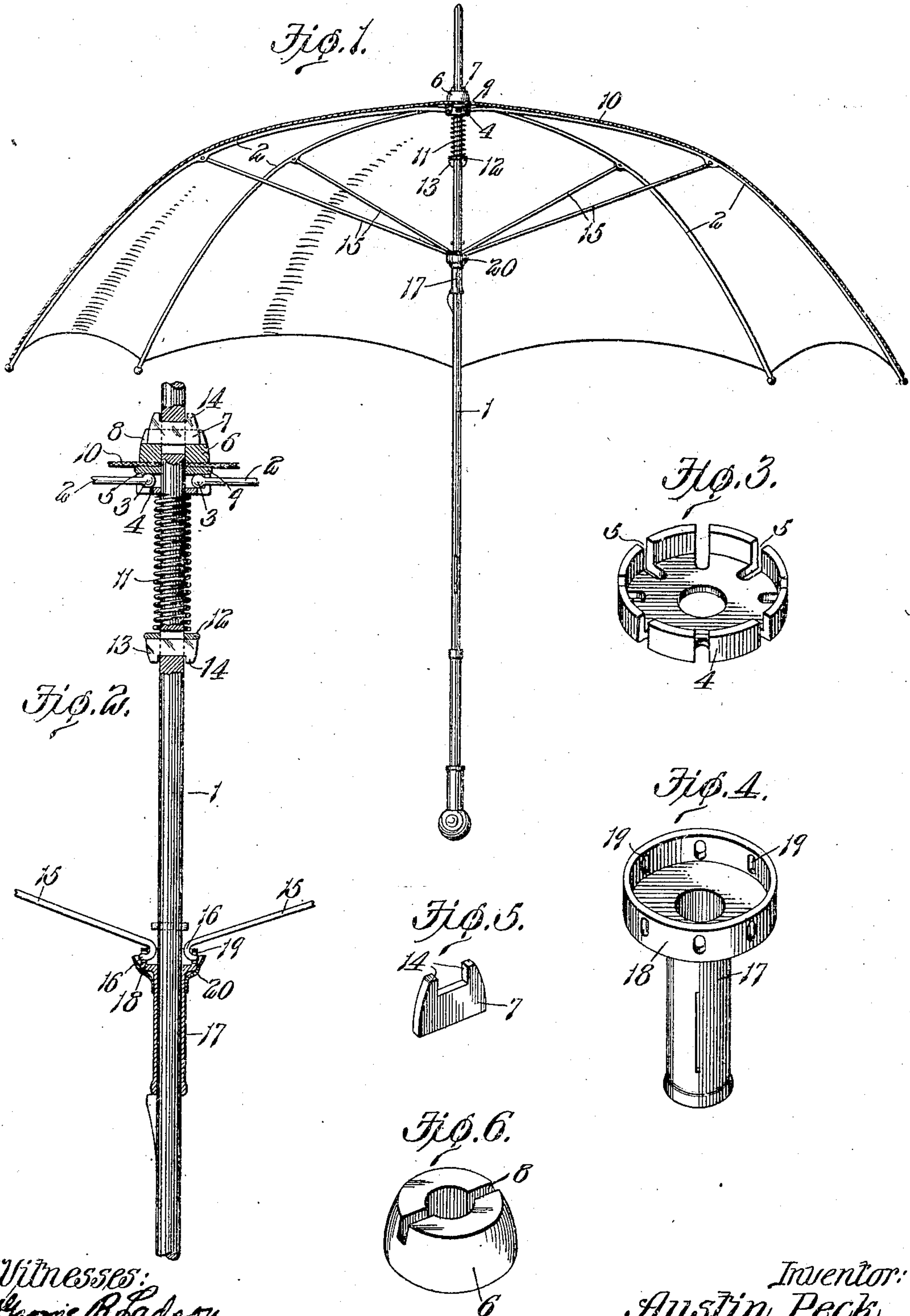


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UMBRELLA.

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UNITED STATES PATENT OFFICE.

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UMBRELLA.

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To all whom it may concern:

Be it known that I, AUSTIN PECK, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Umbrellas, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to umbrellas, parasols and similar articles.

The main object of my invention is to provide an umbrella or parasol which is so constructed that any of the ribs can be removed easily and perfect ribs substituted therefor in case the ribs become bent or broken.

My invention, briefly described, consists of an umbrella in which the ribs are provided at their upper ends with heads or devices that engage a member which is mounted on the central supporting rod of the umbrella, and means coöperating with said member for clamping the ribs in position, there being no positive or permanent connection between the ribs and the member which the heads of the ribs engage so that the ribs can be removed easily. In the preferred form of my invention as herein shown, the ribs are provided at their upper ends with approximately ball-shaped heads that enter a socket or recess in a member which is slidingly mounted on the central supporting rod, and a spring or other suitable device is provided for holding said rib-supporting member in engagement with a coöperating member on the rod so as to prevent the ribs from becoming displaced. The braces that are pivotally connected to the ribs are provided at their lower ends with projections that are detachably connected to the sliding sleeve that is usually mounted on the central supporting rod of an umbrella so as to permit a brace to be disconnected from said sleeve easily when the rib, with which said brace coöperates, is disconnected from the rib-supporting member on the rod. I do not wish it to be understood, however, that my broad idea is limited to the exact construction herein shown, for the same result could be accomplished in various ways without departing from the spirit of my invention.

Figure 1 of the drawings is a vertical sectional view of an umbrella constructed in accordance with my invention; Fig. 2 is an enlarged detail view of the central rod and

the members thereon to which the ribs and braces are connected; Fig. 3 is a perspective view of the member that receives the heads on the upper ends of the ribs; Fig. 4 is a perspective view of the sleeve to which the lower ends of the braces are connected; Fig. 5 is a perspective view of the key that locks the stationary member on the rod; and Fig. 6 is a perspective view of said stationary member, said member being adapted to limit the upward movement of the rib-supporting member.

Referring to the drawings which illustrate the preferred form of my invention, 1 designates the central supporting rod of the umbrella, and 2 designates the ribs, said ribs being provided at their upper ends with projections, preferably ball-shaped heads 3, that enter a socket or recess in a member 4 which is slidingly mounted on the rod 1. This member 4 is provided with a vertically disposed circular flange that forms the side walls of the socket or recess in which the heads of the ribs lie, and said flange is provided with slots 5 for receiving the ribs 2, the heads 3 on said ribs being of greater dimensions than said slots so that the heads cannot pass therethrough after the ribs have been arranged in operative position, as shown in Fig. 2.

A stationary member 6 is connected to the rod 1 in some suitable manner, such, for example, as by means of a key 7 that extends transversely through a slot in the rod 1 and enters a groove 8 in the upper side of the member 6, and a washer 9 is mounted on the rod 1 underneath the member 6 for retaining the cover 10 of the umbrella in position and also for preventing the ribs from moving upwardly out of the member 4 which is located underneath said washer. A coiled expansion spring 11 is mounted on the rod for exerting upward pressure on the rib-carrying member 4 so as to clamp the heads 3 of the ribs between the washer 9 and the member 4 and also clamp the cover 10 between said washer and the stationary member 6. Any suitable kind of abutment can be provided for the lower end of the spring 11 but I prefer to employ a washer 12 that rests on a cross-key 13 which extends transversely through a slot in the rod 1, as shown clearly in Fig. 2. The cross-keys 7 and 13 are provided with lugs or ears 14, as shown in Figs. 2 and 5, that prevent said keys from

moving laterally relatively to the rod 1, the pressure which the spring 11 exerts on the rib-supporting member 4 and the washer 12 forcing said keys toward the ends of the slots in which they are mounted so that the
 5 lugs 14 will embrace the rod 1 and thus prevent the keys from becoming displaced.

The braces 15 that are pivotally connected to the ribs 2 are preferably provided at their
 10 lower ends with hook-shaped projections 16, as shown in Fig. 2, and the sliding sleeve 17, which is usually mounted on the central supporting rod, is provided at its upper end with a flange 18 having holes 19 for receiving
 15 said hook-shaped projections so as to enable the braces to be connected and disconnected easily from the sleeve 17. If desired, the sleeve 17 can be provided with a protecting device 20 that extends over the
 20 ends of the hook-shaped projections 16 so as to prevent the hand of the person who uses the umbrella from contacting with said projections during the operation of raising or lowering the umbrella.

25 The main advantage of an umbrella of the construction above described is that the ribs and braces can be removed easily and new ribs and braces substituted therefor without requiring the aid of a skilled mechanic. When it is desired to remove one
 30 or more of the ribs the spring 11 is compressed so that the rib-supporting member 4 will move downwardly on the rod 1 far enough to enable the rib to be lifted out of the slot 5 in the circular flange of the member 4, thus completely disconnecting the upper
 35 end of the rib. The brace 15, which is connected to said rib, can then be disconnected from the sleeve 17 by turning said
 40 brace into such a position that its hook-shaped projection will pass out of the opening 19 in the flange of the sleeve.

To insert a new rib and brace, the lower hook-shaped end of the brace is inserted in
 45 the opening 19 provided for same in the sleeve, and the ball-shaped head 3 on the upper end of the rib is inserted in the socket or recess in the rib-supporting member 4. The expansion spring 11 exerts sufficient upward
 50 pressure on the rib-supporting member to securely clamp the heads of the ribs between said member and the washer 9, and this same pressure securely clamps the cover of the umbrella between the stationary member 6 and said washer 9. None of the elements
 55 or parts of the umbrella are permanently connected to the central supporting rod 1 so that the cost of manufacturing the umbrella is less than in a construction in which the various parts are positively connected together.
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Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

65 1. In an umbrella, a central supporting

rod, a cover which extends over the frame of the umbrella, a member loosely mounted on said rod outside of said cover and engaging same, a key passing through a slot
 70 in said rod and arranged in a groove in said member, said key having a notch that receives one edge of the slot in said rod, and yielding means for exerting pressure on said member so as to hold said key
 75 seated.

2. In an umbrella, a central supporting rod provided with a pair of transversely extending slots, keys arranged in said slots and each provided with a notch that receives one edge of the slot in which it is
 80 arranged, a member mounted on said rod and having a groove for receiving one of said keys, a rib-carrying device mounted on said rod underneath said member, and a coiled spring mounted on said rod between
 85 said device and one of said keys.

3. In an umbrella, a central rod, a stationary member on said rod, a removable key for retaining said member in position, a movable member on said rod provided
 90 with a socket or recess, ribs provided at their upper ends with heads or projections that enter said socket, and a coiled spring surrounding said rod and arranged between said rib-supporting member and an abutment
 95 on the rod for exerting upward pressure on said rib-supporting member, the pressure of said spring also acting to hold the stationary member in engagement with said key.
 100

4. In an umbrella, a central supporting rod, a stationary member on said rod arranged outside of the cover which extends over the ribs of the umbrella, a removable
 105 key for retaining said member in position, a rib-supporting member slidably mounted on the rod, ribs having their upper ends detachably connected to said rib-supporting member, and a coiled spring mounted on said rod for exerting upward pressure on
 110 said rib-supporting member to retain the ribs and the cover of the umbrella in position.

5. An umbrella comprising a central supporting rod, a stationary member on said rod arranged outside of the cover which
 115 extends over the ribs of the umbrella, a washer arranged on the rod inside of the cover, a rib-supporting member slidably mounted on the rod directly underneath said washer, ribs provided at their upper ends with heads or projections that are interposed between said washer and rib-supporting member, a coiled expansion spring mounted on said rod for exerting upward
 120 pressure on said rib-supporting member, a sliding sleeve mounted on the rod, and braces connected to the ribs and to said sleeve.
 125

6. In an umbrella, a central supporting rod, a member mounted on said rod outside
 130

of the cover which extends over the ribs of the umbrella, a key extending transversely through a slot in the rod for retaining said member in position, said key being provided with lugs that engage opposite sides of said rod so as to prevent lateral movement of the key, a rib-supporting member slidingly mounted on the rod, ribs detachably connected at their upper ends to said rib-supporting member, a coiled expansion spring mounted on the rod for exerting up-

ward pressure on said rib-supporting member, and a cross-key carried by said rod for supporting a washer which forms an abutment for the lower end of said spring. 15

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this eleventh day of March 1909.

AUSTIN PECK.

Witnesses:

ELLA UNDERWOOD,
GEORGE BAKEWELL.