C. F. BURTON.

UMBRELLA.

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990,632. Patented Apr. 25, 1911.

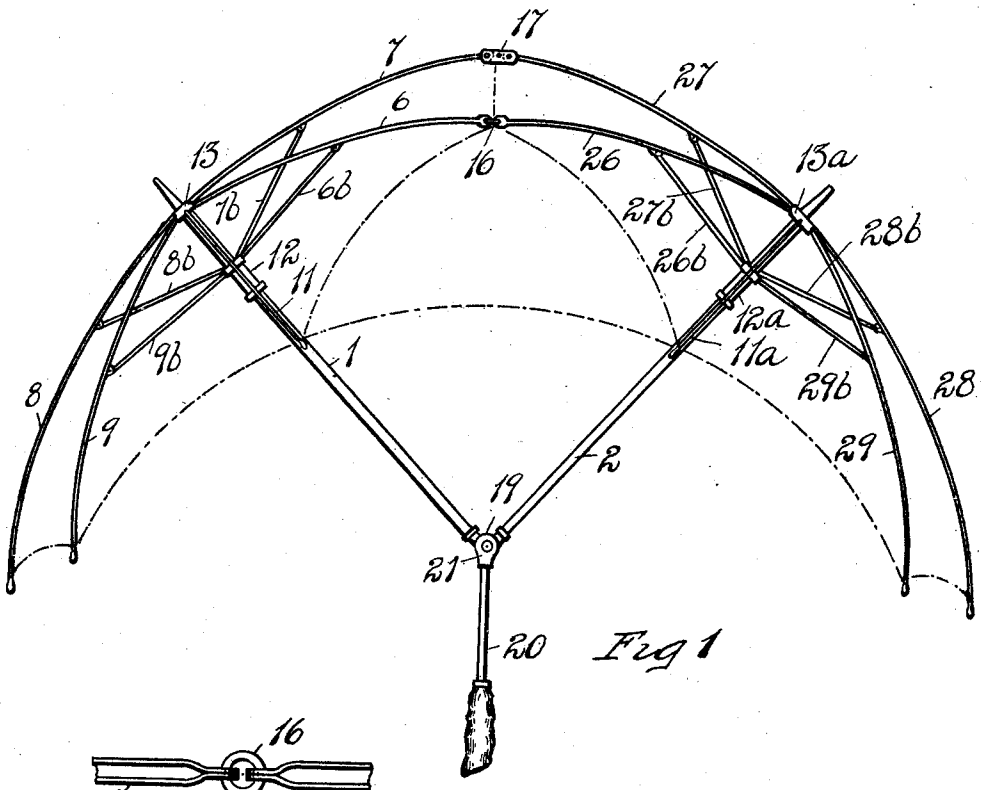

Fig 1

Fig. 4

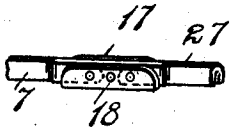

Fig. 3

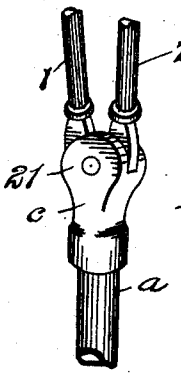

Fig. 2

Witnesses

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UMBRELLA.

990,632. Specification of Letters Patent. **Patented Apr. 25, 1911.**

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To all whom it may concern:

Be it known that I, CHARLES F. BURTON, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Umbrellas, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to umbrellas.

It has for its object an improved umbrella intended and adapted to provide a more complete covering with the same or reduced spread of the frame, and also intended to provide a structure in which the user can bring the umbrella more directly over his head, thereby protecting equally the two sides and equally the front and the back of the user. These objects are accomplished by the structure shown in the drawings, in which:—

Figure 1, is an elevation of the frame in the position it assumes when fully spread. Fig. 2, is a detail of the joint at the meeting of the two rods. Fig. 3, is a detail of the hinge joint between the two short ribs. Fig. 4, is a detail of a hinge joint between the full length ribs 6 and 26 of Fig. 1.

The structure which embodies this invention, consists essentially of two comparatively small umbrellas, whose rods are pivotally connected at their handle end, and each rod has at its canopy end a notched ring, which is central to a set of radiating ribs; the ribs of each set are actuated by braces or stretchers, which are pivoted to and radiate from a runner on the same rod. In order that the covering may be easily applied to this duplex frame, and in order that it may be more shapely in appearance, I prefer to use eight ribs in each section of the frame, and I prefer to bring three ribs of each section of the frame into intimate connection with the corresponding three ribs of the companion section of the frame. Of these three ribs, the middle one in each set is shortened, so that the two sections of the frame meet along what might be considered a great circle, were these structures a complete sphere, and this great circle is in a plane passing midway between the two rods through the joint which unites them, and at a right angle to the plane which the rods themselves occupy.

1 indicates the rod of one of the small umbrellas, and 2 indicates the rod of the other small umbrella. The frame mounted on rod 1, is of ordinary construction, comprising preferably eight ribs, of which ribs 6, 7, 8, 9 and 11 appear in the drawing; a rib corresponding to 6 is supposed to be directly behind the rib 6, and a rib corresponding to rib 9, is supposed to be directly behind the rib 9. Each rib is provided with its proper brace 6^b, 7^b, 8^b, 9^b, and the braces are pivoted to a runner 12 of ordinary construction; the ribs themselves are pivoted to a top notch ring 13 of ordinary construction. The frame mounted on rod 2, is of exactly similar construction, being composed of ribs 28, 29, 26 and 27, braces 28^b, 29^b, 26^b, and 27^b, top notch ring 13^a and runner 12^a. The ribs 6 and 26 are left their regular length and are joined together by a link 16. Ribs 7 and 27 are preferably shortened as hereinbefore stated and are connected by a double pivoted link 17 shown in detail in Fig. 4, which link itself is provided with a thread hole 18 midway its length. The link 17 is so narrow in its vertical width, (as shown in Fig. 4), that the rib is not received entirely into the groove of the link, which is made as a bent or grooved two walled link rather than of two separate pieces. The purpose of the narrow construction of this link is that the rib may hold the cloth of the cover off from the edge of the link when the canopy is stretched. The under web of the link serves as a stop to prevent the ribs 7, 27, from passing beyond a straight line. The two rods 1 and 2 are pivoted together by a pivot 19 which engages through the end of the rods and in order that the two rods may be closed to a parallel condition, each end is slightly bent between the pivot point and the main part of the rod. For practical use, the umbrella may, if desired, stop at this point, but it is sometimes desirable, and I have preferred to add a handle 20, which terminates at the upper end in a fork 21, through the branches of which engage the ends of the pivot 19. The cavity between the members of the fork serves to confine the ends of the rods and the bottom of the cavity serves as a stop to prevent the handle 20

from swinging with respect to the rods when the sticks are spread to the position shown in Fig. 1. It is not necessary to make provision for a wider divergence or a greater angle between the two rods than that which they assume when the frames are fully spread, for although the ribs 7 and 27 in both opening and closing will describe an arc slightly beyond the line between the pivot 17 and 19, in the drawing of Fig. 1; the spring of the ribs is sufficient to allow them to make the travel. The cover stretched over the frames thus constructed is similar to the ordinary covering, most of the sections of the cover being of regulation shape. The section of the cover which fills the space over ribs 7 and 27, and between ribs 6 and 26, and their companion ribs, is a diamond shaped piece, and a nearly triangular gore fills the space between pivot 16 and the ends of the ribs 11 and 11^a.

With ribs sixteen inches in length an umbrella constructed according to this invention will cover the head and drop below the shoulder line at each side of the body, and at the same time will extend from front to rear across a space twenty-six inches wide. The user can easily see out from under the canopy under the gore, which fills the space between ribs 11 and 11^a.

I prefer to make the handle piece 20 separable with the tang part *a* engaging the socket part *c* with a screw connection in order that the handle may be taken off from the remainder of the frame, and the entire structure closed into small compass. With the handle removed, it will close into a space only slightly longer than the length of the rib used in constructing it, and with a sixteen inch rib, the entire structure occupies only about eighteen inches. The tips *d*, *d*, are shown as made short for the same reason, but the length of the tip is immaterial to the mechanical construction of the frame.

The details of the several pivotal connections between the parts may be greatly varied, while still retaining the main feature of novelty, which consists in so uniting the frames of two small umbrellas that they shall sustain and stretch a single cover, shall properly brace each other to hold the frame expanded, and hold the canopy end of the rod spread and the rods and ribs firm in their spread condition.

What I claim is:—

1. An umbrella, having in combination a pair of frames, each frame comprising rods, ribs and braces of ordinary construction, a rib of one frame being joined to a rib of the second frame and the rods being connected, substantially as described.

2. An umbrella, having in combination a pair of frames, each frame comprising a rod and ribs and braces of ordinary construction with a connecting means between meeting ribs of the two frames and a connecting means between the rods of the two frames, substantially as described.

3. An umbrella, having in combination two frames with ribs of one of said frames pivotally connected to ribs of the second frame, and the rod of one frame pivotally connected to the rod of the second frame, substantially as described.

4. In combination with meeting ribs of a pair of laterally arranged umbrella frames, a link connected by two pivots to said ribs, substantially as described.

5. In an umbrella, in combination with a pair of laterally arranged frames, having three ribs of one frame pivoted to three ribs of the second frame, substantially as described.

6. An umbrella, having in combination a pair of frames, having a shortened rib of one frame pivotally connected by a double pivot link to a shortened rib of the other frame, and a pair of full length ribs at each side of the shortened ribs pivotally connected at their meeting points, substantially as described.

7. In an umbrella, a plurality of notch rings, a plurality of ribs radiating from each ring, independent means for spreading the ribs radiating from each ring, substantially as described.

8. In an umbrella, a plurality of notch rings laterally arranged, a plurality of ribs radiating from each ring, means for spreading the ribs, and means connecting a rib extending from one ring with a rib extending from another ring, substantially as described.

9. In an umbrella, in combination a plurality of rods, a notch ring secured to each rod, a plurality of ribs radiating from each notch ring, a runner engaging each rod, braces connecting each runner and the ribs radiating from the ring secured to the same rod, pivoted connections between the rods, and flexible connections between a rib extending from one notch ring and a rib extending from another notch ring, substantially as described.

10. In an umbrella, in combination a plurality of rods, means on each rod for pivotally engaging a set of ribs radiating therefrom, a plurality of ribs radiating from each rod, means for spreading said ribs, and means for uniting under a unitary canopy, said plurality of rods and the parts attached thereto, substantially as described.

11. In combination with a pair of umbrella ribs, a grooved link uniting the ends of said pair of ribs, and a pivotal connection between said link and one of said pair of ribs, substantially as described.

12. In an umbrella, a plurality of notched rings, a plurality of ribs radiating from each ring, means adapted to spread the several

sets of ribs including a set of braces for each set of ribs, and runners for each set of braces, substantially as described.

13. In an umbrella, a plurality of notched rings, a plurality of ribs radiating from each ring, means for spreading the several sets of ribs including a plurality of runners, one for each set of ribs and braces uniting the runners and their proper ribs, and means for connecting a rib extending from one of said notched rings to a rib extending to another of said notched rings, substantially as described.

14. In an umbrella, a canopy supported on a plurality of frames radiating from independent centers arranged side by side, the central support of said radiating frames being mounted on rods radiating from a common center, substantially as described.

15. In an umbrella, a canopy supported upon a plurality of frames radiating from independent centers arranged side by side, said frames being pivotally connected, and pivotally connected central supports for said frames.

In testimony whereof, I, sign this specification in the presence of two witnesses.

CHARLES F. BURTON.

Witnesses:
C. C. JENNINGS,
MAY E. KOTT.