

C. G. STONESTREET.
 UMBRELLA.
 APPLICATION FILED JULY 2, 1920.

1,397,789.

Patented Nov. 22, 1921.
 2 SHEETS—SHEET 1.

Fig. 1.

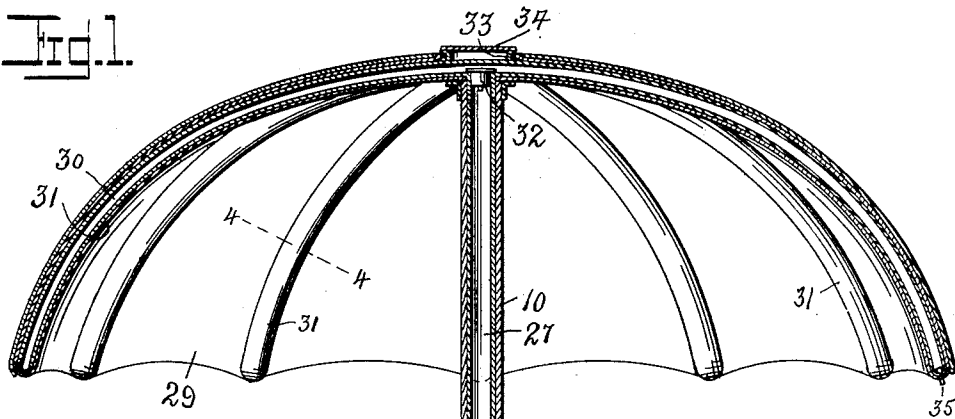


Fig. 4.

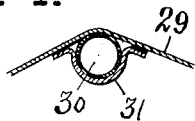


Fig. 2.

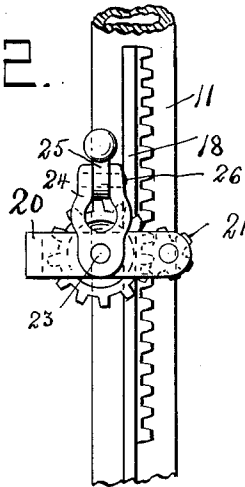
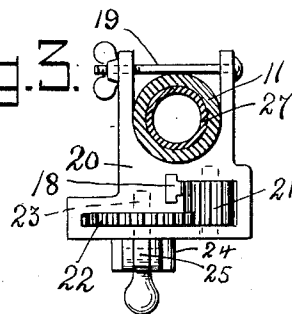


Fig. 3.



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Fig. 5.

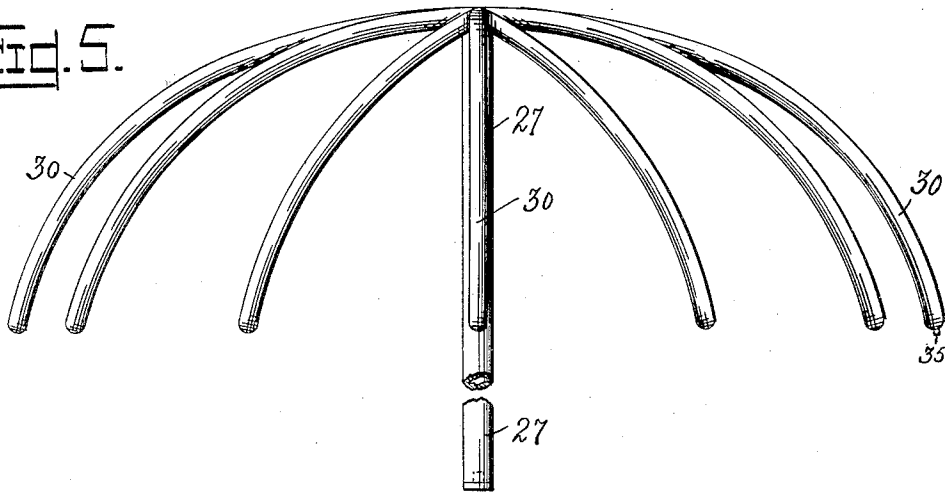
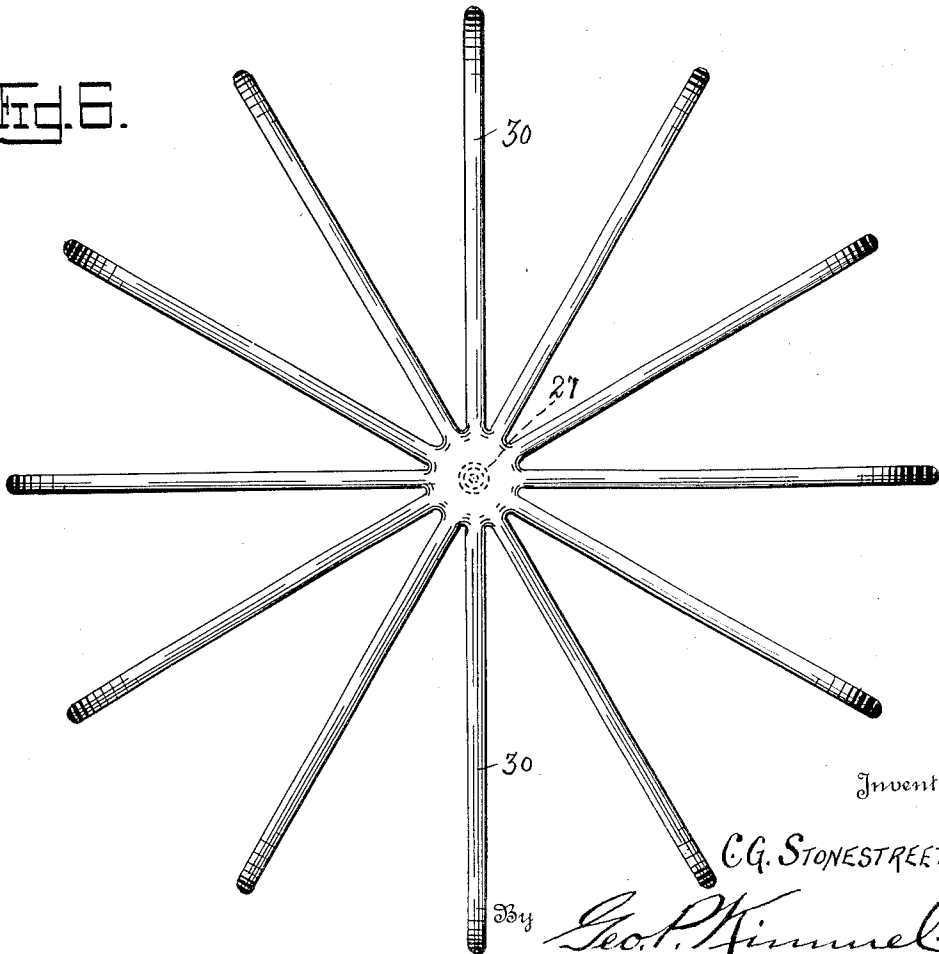


Fig. 6.



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UNITED STATES PATENT OFFICE.

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UMBRELLA.

1,397,789.

Specification of Letters Patent.

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Application filed July 2, 1920. Serial No. 393,599.

To all whom it may concern:

Be it known that I, CLARENCE G. STONESTREET, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in an Umbrella, of which the following is a specification.

This invention relates to umbrellas, and has for one of its objects to provide a device of this character having ribs of collapsible and inflatable material and a central tubular member of flexible material communicating with the inflatable ribs and associated with means by which air under pressure is supplied to the ribs to expand or open the umbrella.

Another object of the invention is to provide a device of this character having a sectional tubular staff with an air pump in one section and a flexible tubular element in another of the staff sections and associated with the pump, and a plurality of tubular inflatable ribs communicating with the flexible central tubular member and supplied with air under pressure therethrough.

With these and other objects in view the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claim, and in the drawings illustrative of the preferred embodiment of the invention.

Figure 1 is a sectional elevation of the improved umbrella.

Fig. 2 is an enlarged detail of the pump operating devices.

Fig. 3 is a plan view of the parts shown in Fig. 2 with the staff in transverse section.

Fig. 4 is an enlarged sectional detail on the line 4—4 of Fig. 1.

Fig. 5 is a detached side elevation of the central flexible tubular member and the tubular inflatable ribs associated therewith.

Fig. 6 is a plan view of the parts shown in Fig. 5.

The improved umbrella includes a tubular staff in a plurality of sections, for instance three as shown at 10, 11 and 12, united by threaded joints end to end.

The section 12 is bored to constitute a pump cylinder and is supplied with a plunger or piston indicated conventionally at 13 and provided with check valves indicated at 14.

The stem or rod 15 of the piston 13 extends through a suitable cap 16 and is prefer-

ably coupled at 17 to a rack bar 18 extending in parallel relation to the staff.

Clamped at 19 to the staff, preferably to the section 11, is a support 20 having a guideway for the rack bar 18 and likewise provided with two bearings to support a pinion 21 and gear 22, the pinion engaging the teeth of the rack bar and the gear engaging the pinion.

The shaft 23 of the gear 22 is provided with a handle preferably formed of two parts 24 and 25 pivotally united at 26, so that the outer portion 25 will fold into the inner portion 24 when not in use.

Disposed within the staff sections 10 and 11 is a flexible tubular member 27 having a valve socket indicated at 28, and adapted to be united air tight to the section 12 which constitutes the pump cylinder as indicated in Fig. 1.

The cover portion of the umbrella is represented as a whole at 29 and may be of any suitable fabric and is of the usual form of an umbrella top, as shown. Attached to the fabric 29 along each seam is an elongated pocket 31 preferably of the same fabric as the body 29, the pockets occupying the same relative position as the ordinary ribs of an umbrella.

Engaging within each of the pockets is a tubular rib 30 of inflatable material such as rubber of substantially the same quality as that employed for the inner inflatable tubes of pneumatic tires. At their converging ends the rib members 30 are united in any suitable manner to the central tubular member 27 and supplied at the juncture point with a suitable check valve indicated conventionally at 32.

Formed in the top 29 opposite the converging points of the pockets 31 and inflatable ribs 30, is an opening preferably surrounded by a supporting frame 33 and covered by a flap 34.

The opening provides means for inserting and removing the collection of ribs 30 and the central member 27. One or more of the inflatable ribs 30 will be provided with a manually operative escape valve, indicated at 35.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that any modifications within the scope of the claim may be made in the construction without departing from the prin-

ciple of the invention or sacrificing any of its advantages.

I claim:

5 An umbrella including a rigid central tubular staff, a fabric cover member having a plurality of tubular seats radiating from the staff and with a central opening, a central flexible tubular member adapted to be disposed in the tubular staff, and a plurality
10 of tubular ribs of inflatable material converging at their inner ends and merging into the flexible tubular member, and adapted to

be disposed within the tubular seats of the cover, said flexible central member and inflatable ribs insertible in and removable
15 from the staff and seats through the central opening of the cover member, and means for introducing air under pressure into the flexible central tubular member and inflatable
20 ribs.

In testimony whereof, I affix my signature hereto.

CLARENCE G. STONESTREET.