April 8, 1930. A. RYDER 1,753,666

UMBRELLA, PARASOL, AND THE LIKE

Filed Aug. 19, 1926

Fig. 1.

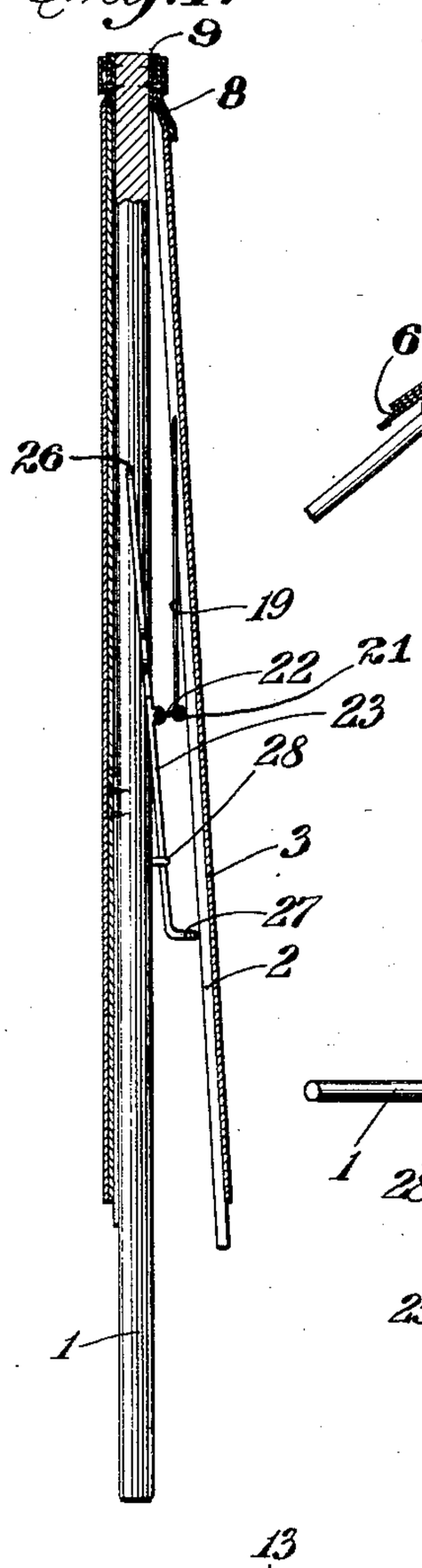


Fig. 2.

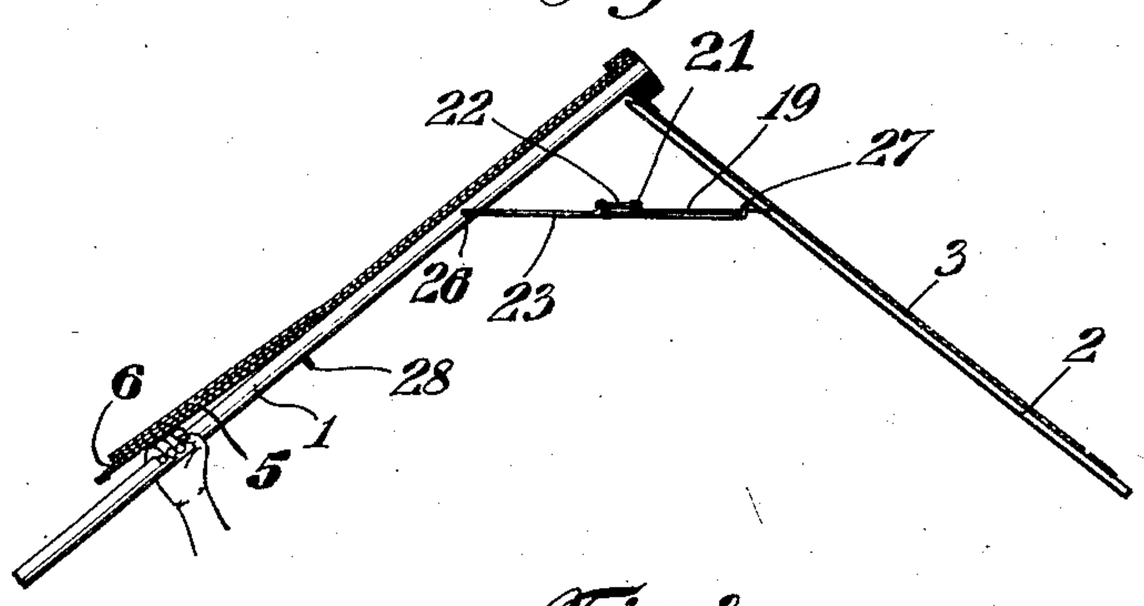


Fig. 3.

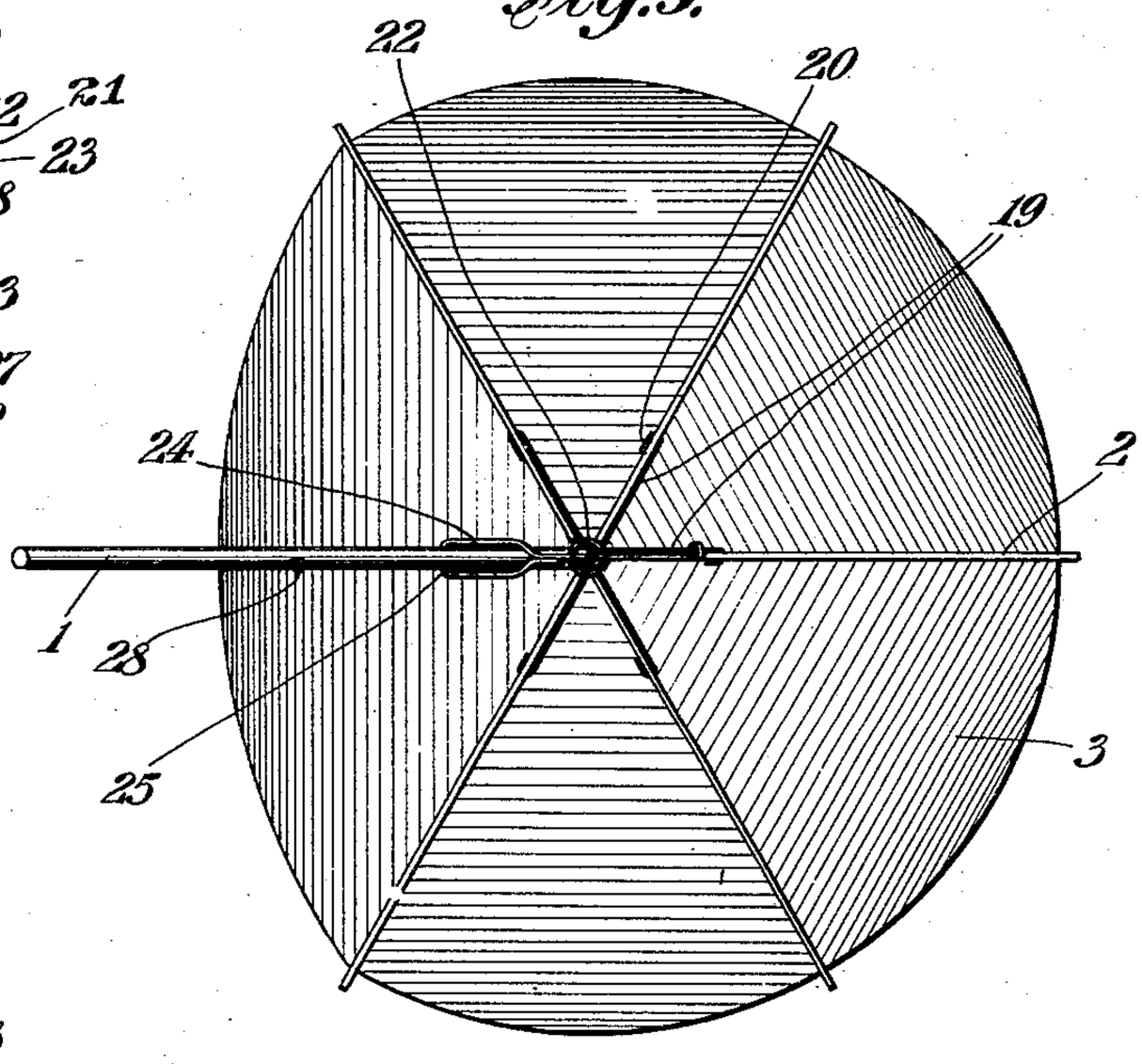


Fig. 4.

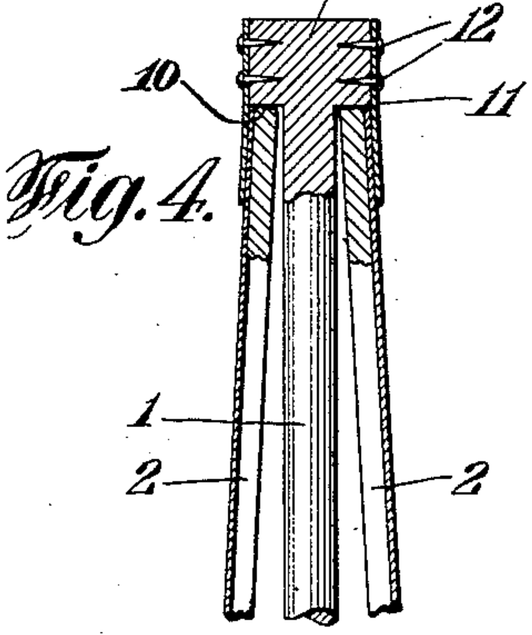
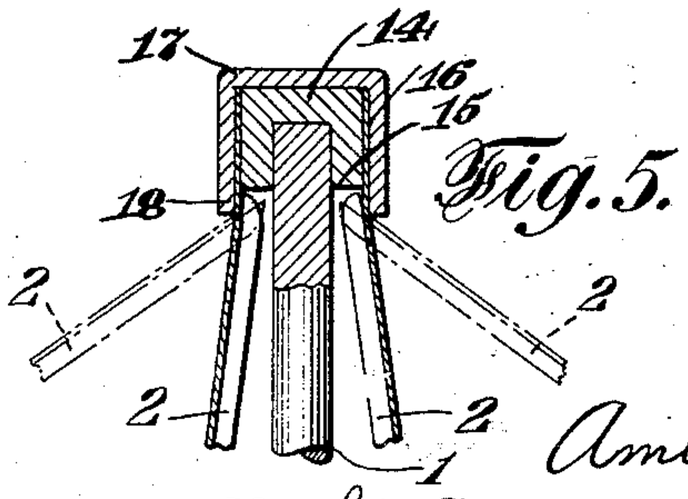


Fig. 5.



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UNITED STATES PATENT OFFICE

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UMBRELLA, PARASOL, AND THE LIKE

Application filed August 19, 1926. Serial No. 130,157.

This invention relates to improvements in umbrellas, parasols, and the like and the principal object of the invention is the provision of what I term an off-center device in which the shaft, stick or rod, instead of extending vertically and horizontally to the frame and cover as a whole, extends at an angle thereto and in fact in a position adjacent to and in contact with the inside of the cover for at least a part of its length, whereby the person using the umbrella, parasol and the like is fully protected, the head, shoulders, arms and a large portion of the body or trunk being directly covered by the umbrella when in use.

A further obejct of this invention is the provision of such a device which is very strongly constructed and capable of withstanding ordinary and in fact extraordinary usage and furthermore the cover of which may be made of paper, parchment or other cheap material or fabric.

Another object of the invention is the construction of such a device of simple and inexpensive parts, few in number, and still attaining the necessary strength and rigidity in use and facility in opening and closing, together with a maximum amount of protection to the user.

A further object of the invention is the provision of such a device having a plurality of spreaders or stretchers connected to the ribs of the frame and an operating member having a connection at an intermediate point with said stretchers or spreaders, said operating member having a pivotal connection with the stick or shaft and having a detachable connection with another portion of the frame when the device is in open position.

Still another object of this invention is the arrangement of the cover and stick whereby the hand and arm of the user are completely protected when in use.

To the accomplishment of the foregoing and such other objects as may hereinafter appear, this invention consists in the construction, combination and arrangement of parts hereinafter described and then sought to be defined in the appended claims, reference being had to the accompanying drawings forming a part hereof and which show, merely for the purpose of illustrative disclosure, a preferred embodiment of my invention, it being expressly understood, however, that various changes may be made in practice within the scope of the claims without digressing from my inventive idea.

In the drawings—

Figure 1 represents a view in vertical section and side elevation of a device constructed to embody my invention shown in closed position.

Figure 2 is a vertical section through a device shown in open position.

Figure 3 is a bottom plan view of the device shown in open position.

Figure 4 is a sectional view showing one form of construction for connecting the ribs and the cover to the shaft or stick.

Figure 5 is a view similar to Figure 4 showing another form of this construction.

Referring now to the drawings, the numeral 1 designates the stick or shaft of an umbrella or parasol construction, the numeral 2 the ribs, and the numeral 3 the cover. The cover may be of paper, parchment, artificial leather or various other kinds of material or fabric, the construction hereinafter described lending itself readily to the use of material which is cheap. The cover may be secured to the ribs in any suitable way. The shaft or stick 1 is also secured to the cover 3 for part of its length by means of tacks, pasting or by any other suitable method. It is to be particularly noted, however, that in an umbrella construction (see Figure 2) the cover is not attached to the stick or shaft for some distance from the lower edge of the cover as indicated at 5. This portion of the cover, if necessary, may be provided with a reinforcing strip or element 6 which may be resilient or not and holds the cover in position against the shaft or stick, but which yields or gives to permit the hand of the user to be inserted between the stick and the cover as indicated in Figure 2 of the drawing, whereby when in use the hand and forearm of the user are protected. In connection with the description of this part of the construction it is to be noted that when in

open position the part of the cover which is secured to the stick or shaft is preferably substantially straight or flat throughout its area bounded by the two adjacent ribs 2. However, in a parasol construction, the cover may be attached to the stick or shaft for the full distance from the center to the edge of the cover, as shown in Figure 1.

In the form shown in Figure 1 a plurality of pieces or strips of adhesive tape 8 or other suitable material are attached to the outside of the cover and extended up along the outside of the top end of the stick or shaft protruding through the cover and a similar plurality of pieces or strips of adhesive tape 9 or other suitable material are secured to the inside of the cover and also to the top end of the stick or shaft. These strips 9 may be secured to the under side of the top end portions of the ribs. They may be secured by tacking as shown in Figure 1 or by the use of adhesive tape or other material wrapped around the ends. This forms a cloth or fabric hinge or connection for the ribs or cover to the stick or shaft making a very economical and cheap construction, one which is readily made and assembled and which will still give good results in practice. It is evident that a cloth or fabric hinge or connection between the cover or the ribs and the stick or shaft may be made in many other ways.

In the form shown in Figure 4 the outer end of the stick or shaft 1 is undercut as at 10 to receive the ends of the ribs 2, the adhesive tape 11 or other suitable material being attached to the outer surface of the cover and also attached as at 12 to the enlarged end portion 13 of the stick or shaft. This construction provides protection for the ends of the ribs when the device is closed and also a convenient and simple hinged construction in operation.

In the form shown in Figure 5 the end of the stick or shaft 1 is provided with a cap 14 forming the undercut shoulders 15, the ribs fitting within the undercut portions and being hinged thereto by means of the adhesive tape or other suitable material 16 which is secured in place on the enlarged head 14 by means of the cap member 17. It is to be noted that as shown in the drawing the lower edge of the cap member 17 may extend below the undercut shoulder 15 as at 18, thus forming the turning point for the hinge construction whereby when the device is opened, the end of the rib 2 will have a bearing against the stick or shaft.

The ribs 2 are provided with suitable spreaders or stretchers 19 which may be in the form of wire members each provided with the hook 20 at one end having a pivotal connection with a rib and provided with a hook or loop 21 at the other end, which has a pivotal or loose connection with a loop or apertured member 22 formed on the operating member 23. This operating member is preferably formed with a forked end portion 24 the ends of which fork are inturned as at 25 and have a pivotal mounting in the stick or shaft, as at 26. The loop or apertured member 22 is provided in an intermediate part of said operating member 23 and the other end of the operating member 23 is formed or provided with a hook element 27 which in open position is adapted to engage a rib or one of the stretchers or spreaders 19, the latter connection being illustrated in Figure 2. In closed position the operating member 23 lies along the stick or shaft 1 as shown in Figure 1 and may be held in position by means of the hook or clasp 28.

Assuming that the parts are in the position shown in Figure 1 and it is desired to open the device, the end of the operating member 23 is engaged by the user and disengaged from the hook or clasp 28 and moved upwardly. This movement upwardly results in expansion of the spreaders or stretchers due to the fixed pivotal connection of the operating member with the stick or shaft and its intermediate pivotal connection with the stretchers or spreaders whereby the ribs and the cover are moved to an open or extended position and in this position the hooked end 27 of the operating member 23 may be engaged with the stretcher or spreader or rib as above set forth. In the open position the operating member extends substantially straight across the device from one rib to the stick or shaft and, therefore, in connection with the spreader or stretcher to which it is attached affords a straight brace or strut for holding the device in open position so that it will withstand usage in storms and the like. Furthermore, the fork construction of the operating member lends additional security and stability to the device when open as it has the double bearing, one on each side of the stick or shaft. This construction as a whole is particularly designed to strengthen the device against twisting and against torsional strains in use and this is necessary particularly where the cloth hinge construction above referred to is used so as to relieve that construction of stresses and strains.

The ribs and the stick or shaft may be made of wood and the spreaders or stretchers and operating member may be made of wire and, as stated above, the cover may be made of very inexpensive material whereby the device as a whole may be made and constructed of very cheap materials and sold for a very modest price and still be very effective for use in protection against the elements. Not only that but it lends itself to decoration very readily.

It is to be understood that instead of the constructions described the ribs may be connected to the stick or shaft as in standard practice.

In the specification and claims I have used the term "fabric". This term is used in a very broad sense to define material such as textile fabric, paper or parchment, and in fact any sheet material having sufficient tensile strength to hold the parts together.

What I claim is:—

1. In combination in a device of the character described, a frame including a plurality of ribs and a stick, a cover connected to said ribs and fabric means for connecting said ribs and said cover to the stick, a plurality of spreaders connected to said ribs and an operating member having a fixed pivotal connection to said stick, the inner ends of said spreaders having a connection with said operating member at a point intermediate its length, whereby when said operating member is moved to open the device the stick will assume an off-center position relative to said frame.

2. In combination in a device of the character described, a frame including a plurality of ribs and a stick, a cover connected to said ribs and fabric means for connecting said ribs and said cover to the stick, a plurality of spreaders connected to said ribs and an operating member having a fixed pivotal connection to said stick, the inner ends of said spreaders having a connection with said operating member at a point intermediate its length, wherby when said operating member is moved to open the device the stick will assume an off-center position relative to said frame, and means for holding said operating member in open position.

3. In combination in a device of the character described, a frame including a plurality of ribs and a stick, a cover connected to said ribs and fabric means for connecting said ribs and said cover to the stick whereby a flexible hinge is provided, said cover being attached to said stick for a portion of its length and also being free from said stick for a portion of its length to permit the insertion of the hand of the user whereby the hand and forearm are protected in use and means for moving said ribs into an open position and to hold said stick in an off-center position relative to said frame when open.

4. In combination in a device of the character described, a frame including a plurality of ribs and a stick, a cover connected to said ribs and means for connecting said ribs and said cover to the stick, a plurality of spreaders, and an operating member connected to said stick and said spreaders, said cover being attached to said stick for a portion of its length and being disconnected from said stick near its lower edge to provide space to receive the hand of the user between the stick and the cover, whereby the hand and forearm are protected in use.

5. In combination in a device of the character described, a frame including a plurality of ribs and a stick, a cover connected to said ribs and means for connecting said ribs and said cover to the stick, said cover being attached to said stick for a portion of its length and being disconnected from said stick near its lower edge to provide space to receive the hand of the user between the stick and the cover, whereby the hand and forearm are protected in use.

6. In combination in a device of the character described, a frame including a plurality of ribs and a stick, a cover connected to said ribs and flexible means for connecting said ribs and said cover to the stick, said cover being attached to said stick for a portion of its length and being disconnected from said stick near its lower edge to provide space to receive the hand of the user between the stick and the cover whereby the hand and forearm are protected in use, a reinforcing element connected to said cover where it is disconnected from said stick, said reinforcing element being situated between said cover and said stick.

7. In combination in a device of the character described, a plurality of ribs and a stick, a cover connected to said ribs and stick, a plurality of spreaders, and an operating member pivotally connected to said stick, the inner ends of said spreaders having pivotal connection with said operating member, said cover being attached to said stick for a portion of its length and being disconnected from said stick or shaft near its lower edge to provide space to receive the hand of the user between the stick and the cover, and means for normally holding the free portion of said cover toward said stick but movable to permit the insertion of the hand of the user therebetween when desired.

8. In combination in a device of the character described, a plurality of ribs and a stick, a cover connected to said ribs and means for connecting said ribs and said cover to the stick, a plurality of spreaders and an operating member having a forked end portion pivotally connected to said stick, said spreaders having a connection with an intermediate part of said operating member.

9. In combination in a device of the character described, a plurality of ribs and a stick, a cover connected to said ribs and means for connecting said ribs and said cover to the stick, a plurality of spreaders, and an operating member having a forked end portion pivotally connected to opposite sides of said stick, the inner ends of said spreaders having a pivotal connection with an intermediate part of said operating member and means for holding the other end of said operating member when the device is in open position.

10. In combination in a device of the character described, a plurality of ribs and a stick, a cover connected to said ribs and means for connecting said ribs and said cover to the

stick, a plurality of spreaders, and an operating member having a forked end portion pivotally connected on opposite sides of said stick, the inner ends of said spreaders having a pivotal connection with an intermediate part of said operating member, the forked portion of said operating member extending in alignment substantially as a projection of one of the spreaders and the other portion of the operating member extending in parallelism to one of the spreaders whereby a substantially straight supporting strut is provided between said stick and one of the ribs.

11. In combination in a device of the character described, a frame including a plurality of ribs and a stick, a cover connected to said ribs and means for connecting said ribs and said cover to the stick, a plurality of spreaders connected to said ribs, an operating member having a fixed pivotal connection to said stick, said spreaders being connected to said operating member at a point intermediate its length whereby when said operating member is swung on its pivotal connection with the stick, the device will be opened and the stick moved to an off-center position relative to said frame.

12. In combination in a device of the character described, a frame including a plurality of ribs and a stick, a cover connected to said ribs and means for connecting said ribs and said cover to the stick, a plurality of spreaders connected to said ribs, an operating member having a fixed pivotal connection to said stick, said spreaders being connected to said operating member at a point intermediate its length whereby when said operating member is swung on its pivotal connection with the stick, the device will be opened and the stick moved to an off-center position, and means adapted to engage part of the frame for holding the operating member in a normally substantially horizontal position between the stick and the opposing rib whereby a normally horizontal strut is provided.

13. In combination in a device of the character described, a plurality of ribs and a stick, means for connecting said ribs to the stick, a plurality of spreaders connected to said ribs, an operating member having a fixed pivotal connection to said stick, said spreaders being connected to said operating member at a point intermediate its length whereby the free end of the operating member swings to a point adjacent to the stick in closed position and to a point adjacent to an opposite rib or spreader in open position.

In testimony that I claim the foregoing, I have hereunto set my hand this 18th day of August, 1926.

AMBROSE RYDER.