W. E. BROCK.

UMBRELLA-RUNNERS.

No. 188,099. Patented March 6, 1877.

Fig. 1

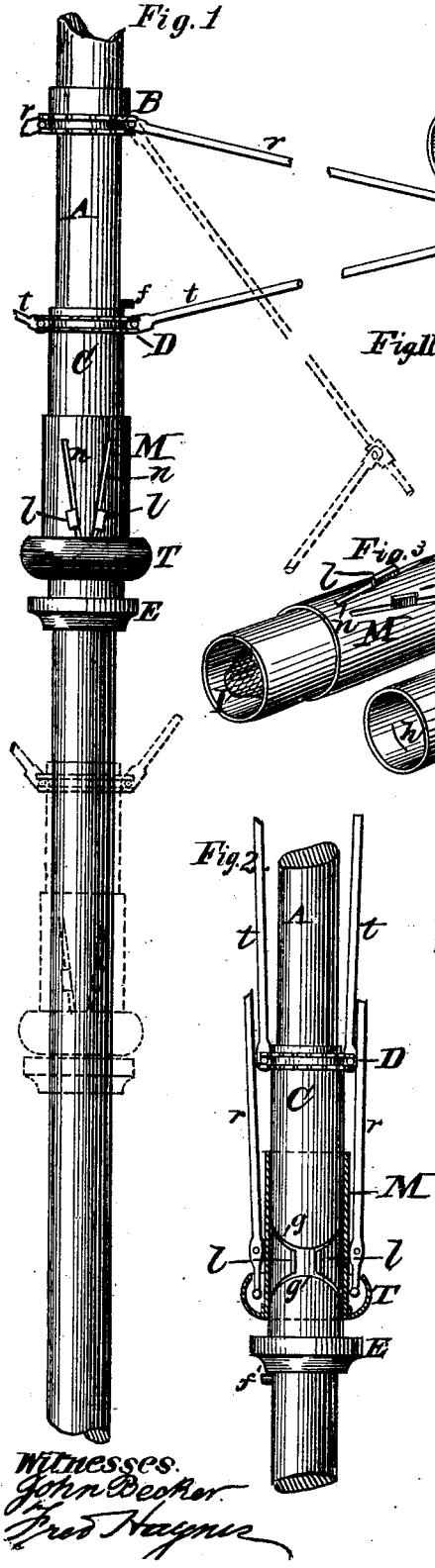


Fig. 2.

Fig. 3

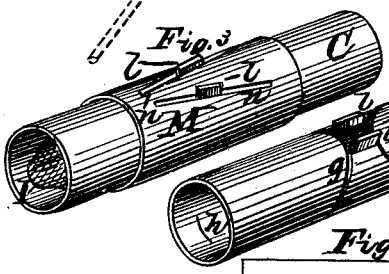


Fig. 4.

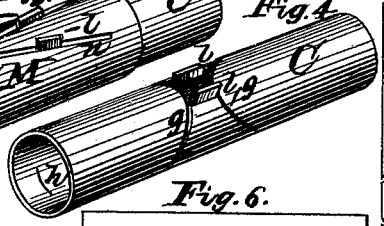


Fig. 6.

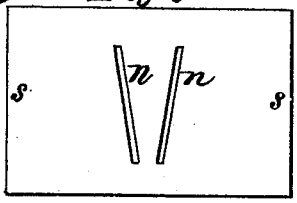


Fig. 7.

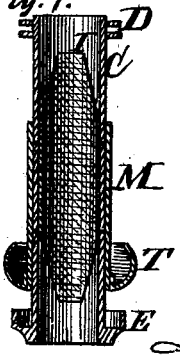


Fig. 8.

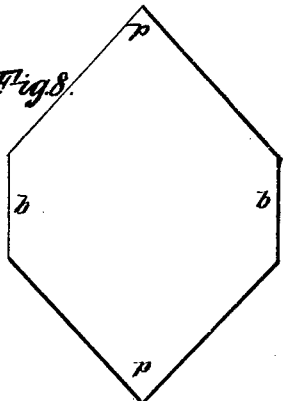


Fig. 70.

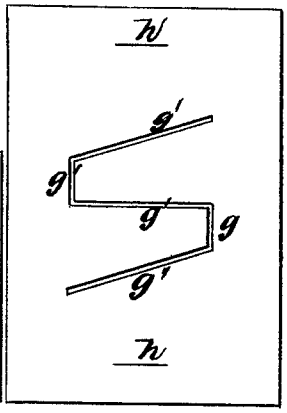


Fig. 11.

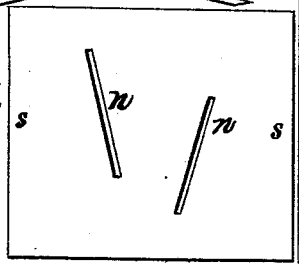
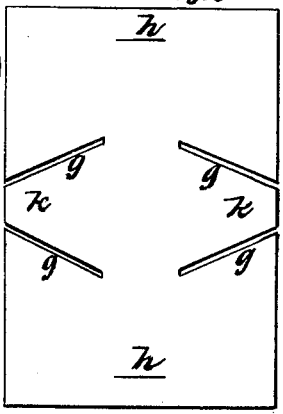


Fig. 5.



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IMPROVEMENT IN UMBRELLA-RUNNERS.

Specification forming part of Letters Patent No. **188,099**, dated March 6, 1877; application filed January 25, 1877.

To all whom it may concern:

Be it known that I, WILLIAM E. BROCK, of the city, county, and State of New York, have invented an Improvement in Griper-Slides for Umbrellas and Parasols; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms a part of this specification.

My improvement has for its objects the obviation of the spring-catches usually employed for holding the runners of umbrellas or parasols, when slid up on the sticks to open the umbrellas, or when slid down on the sticks to close the same, and at the same time to furnish a cheap, convenient, and compact device for firmly holding such runners fixed at any part of their sticks within the limits of their movements on said sticks.

The invention consists, partly, in the combination of a griping friction-runner and a griper-slide, which acts upon and in connection with the runner, to clamp the runner to the stick, when operated as hereinafter described.

The invention further consists in a combination, with the runner of an umbrella or parasol, of an internal cushion or pad attached to said runner, and which prevents the runner from scratching or marring the stick in sliding up and down on the stick.

The invention consists, further, in a combination of a tip-cup with the griper-slide and griping friction-runner of an umbrella or parasol, said tip-cup being attached to the griper-slide, and held by the combined action of the griper-slide and griping-runner upon the stick to confine the tips of the ribs of the umbrella or parasol, as hereinafter set forth.

Figure 1 in the accompanying drawing represents a portion of an umbrella-stick and its attachments with my improvement thereunto attached, the parts being shown in full outline in the positions occupied when the umbrella is opened, the dotted outlines showing positions of parts when the umbrella is partly opened. Fig. 2 represents a portion of an umbrella-stick and its attachments, with the parts in the positions occupied when the umbrella is closed and the tips of the ribs confined in the tip-cup, the griper-slide being being shown in vertical section. Fig. 3 is a perspective view of the griping-runner and griper-slide as used in one method of carrying out my invention, and a portion of the pad or cushion which prevents the stick from being scratched in use. Fig. 4 is a perspective view of the slotted griping-runner. Figs. 5 and 6, respectively, represent blanks for the griping-runner and griper-slide, as cut from sheet metal preparatory to bending them into the forms shown in Figs. 3 and 4. Fig. 7 shows a vertical section through the griping-runner and griper-slide, and an inside view of the aforementioned pad or cushion. Fig. 8 shows the form, in outline, of the pad or cushion before it is attached to the griping-runner. Figs. 9, 10, and 11 illustrate a modification of the griping-runner and griper-slide.

A, Figs. 1 and 2, represents the umbrella-stick. B, Fig. 1, is the stationary notched ring, in the notches of which the upper ends of the ribs *r*, Figs. 1 and 2, connected with the braces *t* in the usual way, are pivoted. C, Figs. 1, 2, 3, 4, 7, and 9, represents the griping-runner, having attached to it, at the top, in the usual manner, the traveling notched ring D, Figs. 1, 2, and 3, and having attached, at the bottom, a ring, E, Figs. 1, 2, and 3, which strengthens said runner, and serves as a convenient attachment for grasping the said runner in sliding the same up and down the stick with the hand. The stops *f f'*, Figs. 1 and 2, limit the sliding movement of the runner.

The griping-runner is made by first cutting from sheet metal a blank like that shown in Fig. 5, having the inclined slots *g*, Figs. 2, 4, and 5, and the slits *h*, Figs. 3, 4, 5, and 7, formed therein. The pad or cushion I is then attached to the runner.

Said pad is cut from leather, rubber, or other flexible soft material of suitable quality, in about the form shown in Fig. 8. The points *p*, Fig. 8, of the piece so cut are inserted from the inside of the runner through the slits *h*, said slits having been sprung

slightly open for the reception of said points, which are held firmly by closing down the edges of the slits *h* upon said points.

The borders *b* of the piece for the pad are brought together when the runner is completed, so that when the runner is placed on the stick, said stick may pass through the pad; or said borders may be joined together in any suitable manner; or they may be doubled back under the central part of the pad and fastened by cement, stitching, or otherwise. Or the said pad may be attached to the inside of the runner in any other suitable manner, its function being to protect the stick from being scratched, as hereinafter described. The said pad may be dispensed with, when it is desirable to so perfect the other parts of the mechanism that they will not scratch the stick without the use of the pad, in the more expensive and highly-finished articles.

The slotted blank, as described, and as shown in Fig. 5, is then bent into the cylindrical form shown in Fig. 4, and the ends of the parts *k*, Figs. 2, 4, and 5, included, between the inclined slots *g*, are bent outward to form lugs *l*, Figs. 1, 2, 3, and 4, upon which the griper-slide acts, as hereinafter described. The notched ring D and the ring E are then attached to said runner.

M, Figs. 1, 2, 3, and 7, represents the griper-slide. Said slide is first cut from sheet metal, in the form shown in Fig. 6, and has formed in its central part the inclined slots *n*, Figs. 1, 3, 6, and 11. Said blank, Fig. 6, is then bent into cylindrical form over the runner C, in such manner that the lugs *l* in said runner enter the slots *n* in said slide. The sides *s*, Fig. 6, of said blank may or may not be joined by soldering or otherwise.

But it is not necessary to employ the exact construction of the griper-slide described. It may consist of a curved plate extending only partly around the griping-runner, and held in its place by turning down the ends of the lugs *l* on said runner on the outside of said griper-slide, as shown in Fig. 1. This manner of turning down the said lugs over the outside of the said griper-slide is preferable, whether said slide extends entirely around said griping-runner or not, as it makes the device more compact. The tip-cup T, Figs. 1, 2, and 7, is attached to the lower end of the griper-slide M.

The operation of the invention is as follows: The sliding upward of the griper-slide M forces the lugs *l* toward each other, and draws the parts *k* between the slots *g* in the runner C down upon the stick, or upon the interposed pad or cushion I, thus griping the stick and firmly clamping the runner to the stick at any part thereof to which it is desired to fasten said runner.

When the umbrella is closed, as shown in Fig. 2, the sliding upward of the said griper-slide not only clamps the said runner to the stick, but brings the tip-cup T up over the ends of the ribs *r*, where said tip-cup is held by the friction of the parts so clamped together—a great advantage over the ordinary tip-cup, which is held only by the friction of the tips of the ribs, caused by the outward springing of said ribs.

A modified form of the griping-runner and griper-slide is illustrated in Figs. 9, 10, and 11.

In this method of carrying out my invention, I first cut the blank for the griping-runner, as shown in Fig. 10, having formed therein the angular slot *g'* and the slits *h*, for the attachment of the pad I, as hereinbefore described. The blank is then bent into the form shown in Fig. 9, and the lugs *l* formed thereon.

The griper-slide is cut from sheet metal in blank, as shown in Fig. 11, and bent over the griping-runner, as hereinbefore described; but I do not confine myself to the exact method of slotting the blanks for the griping-runner and the griping-slide, as they may be cut in various ways without materially affecting the general principle of my invention.

It should be further understood that the runner C is made of any suitable soft metal, it not being necessary that there should be any elasticity in the metal, said runner depending in no wise upon any spring-like action of its clamping parts to either clamp or unclamp the same, both the clamping and unclamping being performed by the action of the slotted griper-slide on the lugs *l* at the ends of said clamping parts.

I claim—

1. The combination of the griping friction-runner C, provided with clamping parts *k k*, terminating with lugs *l*, and the griper-slide M, having the inclined slots *n* to act upon said lugs, to clamp or unclamp said runner, the whole being for operation with the stick of an umbrella or parasol, substantially as and for the purpose specified.

2. The combination of the tip-cup T, the griper-slide M, and the griping friction-runner C, substantially as and for the purpose described.

3. The combination, with the runner of an umbrella or parasol, of the pad I, arranged within and attached to said runner by insertion in the slits *h*, substantially as and for the purpose set forth.

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Witnesses:

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