

(No Model.)

H. S. FROST.
UMBRELLA RUNNER.

No. 458,972.

Patented Sept. 1, 1891.

Fig. 1.

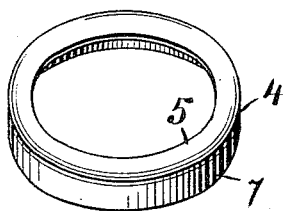


Fig. 2.

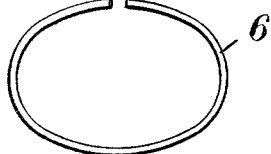


Fig. 3.

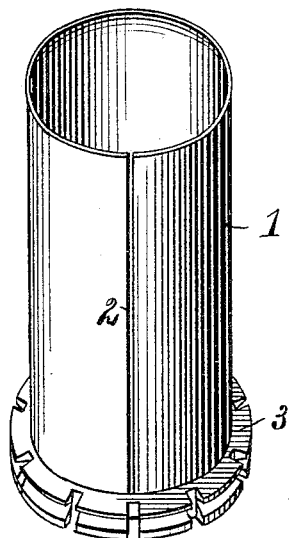


Fig. 5.

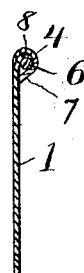
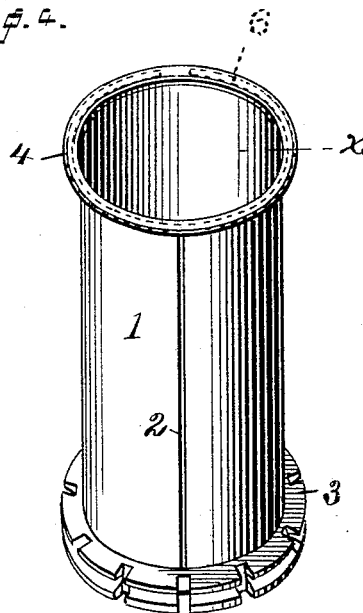


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY S. FROST, OF WATERTOWN, CONNECTICUT.

UMBRELLA-RUNNER.

SPECIFICATION forming part of Letters Patent No. 458,972, dated September 1, 1891.

Application filed March 5, 1891. Serial No. 383,869. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. FROST, a citizen of the United States, residing at Watertown, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Umbrella-Runners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the class of umbrella-runners illustrated and described in my former Letters Patent No. 168,892, dated October 19, 1875, and has for its object to so improve the construction of this class of runners as to render it impossible for them to break at what has heretofore been their only weak point—i. e., the joint of the body. It is of course well understood that articles of this class are used in enormous quantities, and that there is great competition in their production. It is therefore necessary that the cost should be reduced to the minimum, while at the same time it is necessary that the goods should be neatly made and so strong as to stand an almost unlimited amount of hard usage without giving way at any point. It will be obvious to those familiar with the art that it is absolutely essential in articles of this class that the operation of soldering be dispensed with. Otherwise the cost of production would be so great as to drive the goods from the market. For this reason runners of this class, which are made by simply rolling up a strip of metal, are never joined at the seam. One end of the runner—the upper end in use—is held firmly by the heavy metallic ring to which the braces are attached. The other end, however, is ordinarily held by a light metallic ring, as in my said former patent. This is a weak spot in this class of runners, and the breaking away of the runners at this point has been their only serious objection. In order to overcome this objection and to produce a runner that shall be wholly without weak points, I have devised the novel construction of which the following description, in connection with the accompanying drawings, is a specification, numerals being used to designate the several parts.

Figure 1 is a perspective of the light me-

tallic ring detached; Fig. 2, a perspective of the strengthening-piece detached; Fig. 3, a perspective of the runner with the brace-ring in place and ready for the attachment of the light metallic ring and the strengthening-piece; Fig. 4, a perspective of a runner completed and ready for use; and Fig. 5 is a section of one side of a runner on the line indicated by *x* in Fig. 4, showing the position of the light metallic ring and the strengthening-piece in the completed runner.

1 denotes the body of the runner, which is formed by rolling up a piece of sheet metal of suitable size, the sides of the strip being placed as closely together as possible, but leaving an open joint, as indicated at 2.

3 denotes the brace-ring of the runner, which is attached at one end and holds that end of the body firmly. The other end of the body is finished by means of a light metallic ring 4. This ring is provided with an internal flange 5, which is adapted to be turned over on the inner side of the runner, as clearly shown in Fig. 4.

In order to strengthen the runner at the open joint, I place on the outer side of the body and under the light metallic ring a strengthening-piece 6. This strengthening-piece may be a suitable strip of metal of any suitable shape, the ends being ordinarily left unattached, as shown; or, if preferred, a ring may be used. The essential feature in assembling is that the joint of the strengthening-piece shall break joints with the open joint 2 of the body.

In practice I preferably place the joint of the strengthening-piece opposite joint 2. The runner is finished by the action of suitable dies, which close flange 5 of the light metallic ring inward upon the inner side of the body, shape the outer side of the light metallic ring to the body, carrying the flange 7 under the piece 6, so as to confine the latter in its proper place and at the same time flare the end of the completed runner outward slightly, as shown in Fig. 4 and at 8 in Fig. 5. This operation of setting the light metallic ring to place—that is, closing it down tightly upon the body of the runner and the strengthening-piece—and flaring the end of the runner outward is all accomplished by a single blow of suitably-formed dies. In the finished article

the strengthening-piece 6 lies between the upper end 8 of the body 1 and the flange 7 of the ring 4.

Having thus described my invention, I
5 claim—

The herein-described improved umbrella-runner, consisting of the metallic body having an open joint and brace-ring 3, the light
10 metallic ring 4, having an inner flange 5, inclosing the upper end of the body, and having an outer flange 7, and the strengthening-piece

6, arranged to break joints with the body, surrounding the end of the latter opposite to the brace-ring, and held between the outwardly-flared top of said body and the said flange 7, 15 substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY S. FROST.

Witnesses:

TRUMAN P. BALDWIN,
JAMES B. WOOLSON.