

H. S. FROST.
Umbrella-Runner.

No. 200,609.

Patented Feb. 26, 1878.

Fig. 1.

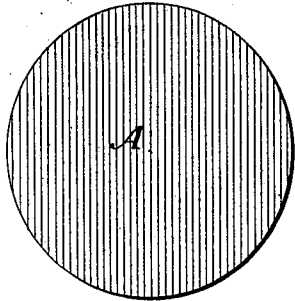


Fig. 2.

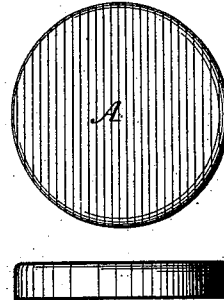


Fig. 3.



Fig. 3, a.

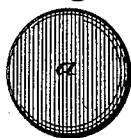


Fig. 5.



Fig. 5, a.

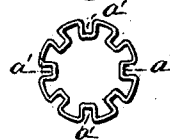


Fig. 4.

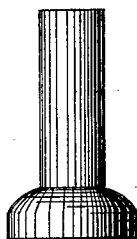


Fig. 7.

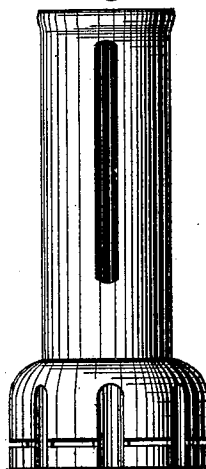
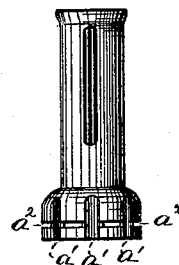


Fig. 6.



WITNESSES:

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ATTYS.

UNITED STATES PATENT OFFICE.

HENRY S. FROST, OF WATERTOWN, CONNECTICUT, ASSIGNOR TO A. N. WOOLSON, OF SAME PLACE.

IMPROVEMENT IN UMBRELLA-RUNNERS.

Specification forming part of Letters Patent No. **200,609**, dated February 26, 1878; application filed January 17, 1878.

To all whom it may concern:

Be it known that I, HENRY S. FROST, of Watertown, county of Litchfield and State of Connecticut, have invented a new and useful Improvement in Umbrella-Runners; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists mainly, first, in a novel method of making an umbrella-runner from a single piece of metal; and, second, in the peculiar runner produced, as a new article of manufacture.

In the drawings, Figures 1, 2, 3, 4, and 5 represent the blank in various stages of manufacture, and Figs. 6 and 7 the finished article.

To enable others skilled in the art to make and use my invention, I will proceed to describe fully the method which I have devised for producing the same.

A, Fig. 1, represents a flat disk of metal, preferably of brass, which is first drawn in the usual well-known or any other proper manner, as indicated in Fig. 2, until a tube, *a*, Figs. 3 and 3^a, is formed of the proper diameter for the head of the runner which is to be made.

The part designed for the cylinder portion is then further reduced in size, as shown in Fig. 4, in a similar manner until its proper diameter has been reached. The head of the runner is then crimped, as indicated in Figs. 5 and 5^a, by any suitable means to form an annular series of vertical nicks, *a*¹, of any proper number for holding the ends of the stretchers in the manner well understood.

A horizontal groove, *a*², Figs. 6 and 7, is then formed in the head by means of a saw, for the reception of the binding-wire for securing the stretchers in place.

By the employment of the method described a runner is obtained which is a single solid structure, instead of being composed of several pieces, as has been the case heretofore. By means of this method, also, a highly-finished runner may be readily made—a result impossible to be accomplished with the old forms of construction. By means of this method, also, the labor and cost of making the runner are materially reduced.

I am aware of the patent of A. G. Davis, No. 75,381, March 10, 1868; but the runner secured by this is not made in a single piece. I am also aware that a differently constructed runner has been made in a single piece by a different method.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The described method of making the runner, consisting, essentially, first, in drawing a metal disk into a tube with an enlarged head; secondly, crimping the head to form the vertical nicks *a*¹; and, thirdly, sawing the horizontal groove *a*².

2. As a new article of manufacture, a runner made in one piece, having an enlarged head provided with the crimped vertical nicks and the horizontal slots, as set forth.

This specification signed and witnessed this 8th day of January, 1878.

HENRY S. FROST.

Witnesses:

CALEB T. HICKOX,
T. P. BALDWIN.