

UNITED STATES PATENT OFFICE.

FERDINAND C. LUSSENHOP, OF HOBOKEN, NEW JERSEY.

IMPROVEMENT IN AWNINGS.

Specification forming part of Letters Patent No. 166,618, dated August 10, 1875; application filed June 11, 1875.

To all whom it may concern:

Be it known that I, FERDINAND C. LUSSENHOP, of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Awnings, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a transverse vertical section. Fig. 2 is a sectional plan or top view. Fig. 3 is a sectional front view of the stretcher of the awning and one of the supporting-rails, on a larger scale than the previous figures.

Similar letters indicate corresponding parts.

This invention consists in the combination of anti-friction wheels with the stretcher of an awning, the anti-friction wheels being arranged contiguous to the top and to one or both sides of the supporting-rails, in such a manner that the movement of the stretcher is rendered exceedingly easy, while it is prevented from a lateral movement, and by this means the awning is caused to preserve a very even position in being pulled up or down.

In the drawing, the letter A designates the posts of an awning, and B are the supporting-rails, which are fastened to cross-pieces C, extending from post to post. D designates the stretcher of my awning, which is affixed to the end of the cloth E, and which serves to keep the cloth in a distended condition. With the stretcher D are combined anti-friction wheels F G. These wheels are, in the present example, arranged in two or more places on the stretcher, and contiguous to two or more of the supporting-rails B, being arranged contiguous to the outer rails. The wheels F are let into the surface of the stretcher D, or they may be arranged in suitable boxes secured to the surface, while the wheels G have their bearings in lugs *b*, projecting from the bottom surface of the stretcher. The wheels F run on the top, and the wheels G against one of the sides of the rails

B. If desired, however, the wheels G may be arranged contiguous to both the sides of the supporting-rails, in which case the placing of the wheels in more than one place may be dispensed with.

It is obvious that when the stretcher D is moved up or down on the supporting-rails B, in folding or unfolding the awning, the wheels F render such movement exceedingly easy, while, by the wheels G, the stretcher is hindered from lateral movement, and the awning is caused to preserve a rectilinear position at all times.

The awning-cloth E winds on a roller, H, on which is wound, also, a rope or chain, 1, by means of which the awning may be pulled up. A secondary rope or chain, 2, connected to the stretcher D, and passing through staples *d*, secured to the front cross-piece C, serves to unfold the cloth, and to tighten it in any desired position. To the posts A, or to any other suitable portion of the awning, are secured cleats J, to which the cords 1 2 are fastened when the cloth E has been adjusted in the desired position.

What I claim as new, and desire to secure by Letters Patent, is—

The flexible awning E, arranged upon the roller H, in combination with the stretcher D and the anti-friction rollers F and G, constructed and applied to the stretcher at right angles to each other, substantially as shown, whereby the said anti-friction rollers are caused to bear upon the top and the side surfaces of the supporting-bars B of the awning-frame, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 27th day of May, 1875.

F. C. LUSSENHOP. [L. S.]

Witnesses:

W. HAUFF,
E. F. KASTENHUBER.