Jan. 23, 1923.

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J. H. LOCKHART.

DROP AWNING.

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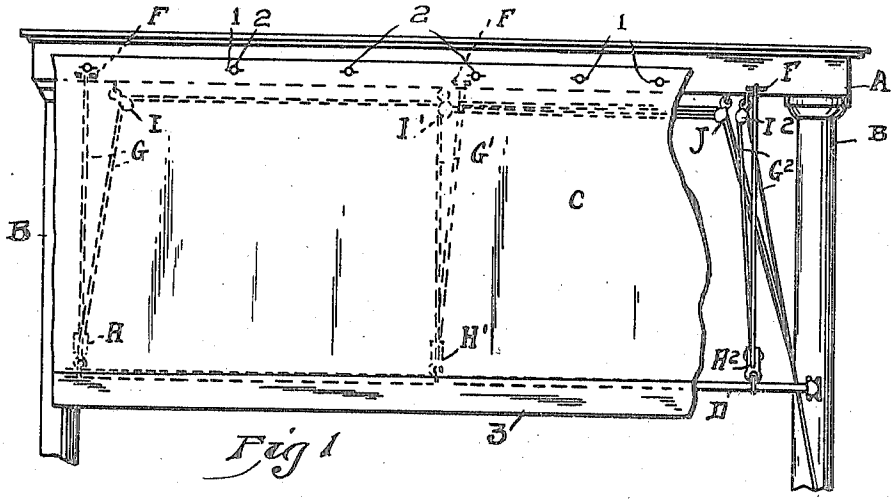


Fig 1

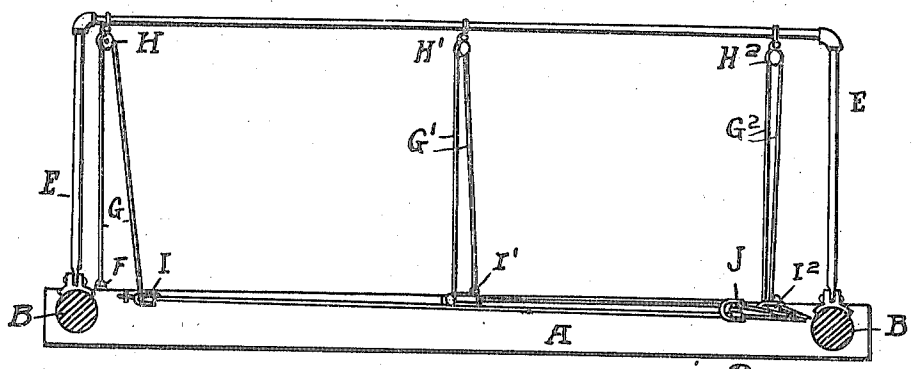


Fig. 2

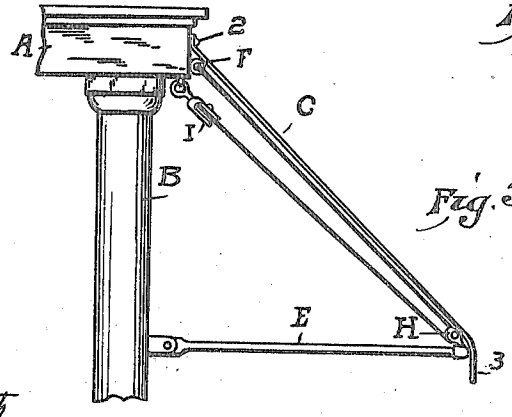


Fig. 3

WITNESS

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Patented Jan. 23, 1923. 1,442,956

UNITED STATES PATENT OFFICE.

JOHN H. LOCKHART, OF ROSS TOWNSHIP, PENNSYLVANIA.

DROP AWNING.

Application filed March 15, 1922. Serial No. 543,920.

To all whom it may concern:

Be it known that I, JOHN H. LOCKHART, a citizen of the United States, and residing in the township of Ross, in the county of Allegheny and State of Pennsylvania, have invented or discovered the new, useful, and Improved Drop Awnings, of which the following is a specification.

My invention consists in certain new and useful improvements in drop awnings, and it more especially relates to the manner of rigging the same.

The purpose which I have in view is to render the awning easier to raise, to prevent cutting and tearing of the cloth by its contact with pulleys or grommets, and to prevent the ropes wearing the cloth and causing it to split along the lines of wear.

The usual method of rigging awnings is to attach ropes to the front rod and lead the same up through pulleys or grommets located under the head of the awning. The awning is raised by pulling the ropes through the pulleys or grommets, and the cloth tends to bunch near the head and very frequently gets caught in the pulleys or grommets and cuts and tears. This is especially true when the awning is wet. The friction of the rope against the cloth wears the same, and in time the cloth splits along the lines of wear. Sometimes the cloth is reinforced by sewing strips along the line of wear, but this adds to the cost and also to the weight of the awning. It also complicates laundrying the awnings; and when the awnings become faded and it be desired to turn the awning wrong side out, the reinforcing strips must be ripped off and sewed on the other side. In the case of relatively large awings, it requires considerable power to raise the same, especially when wet, and as the result the awnings are permitted to remain lowered when it would be more comfortable and pleasant to have them raised. As domestic awnings are frequently manipulated by women and children, the amount of strength required to raise the awnings is an important consideration.

In the case of business and hotel awnings, where the original cost is not such a consideration, the awning is sometimes provided with rows of rings or pulleys through which the lifting ropes are run, or the cloth is provided with rows of apertures reinforced with metal through which the ropes are threaded. These expedients somewhat facilitate the raising of the awnings, but add so greatly to their cost as to be practically prohibitive for domestic use. They also interfere seriously with the laundrying and turning of the awnings, and therefore shorten their usefulness.

In my improved awning I have adopted a novel method of rigging which adds but very slightly to the cost, but reduces the amount of power required to raise the awning by almost one half. It also prevents the lifting ropes wearing the cloth, and renders impossible the bunching and catching and tearing of the cloth in pulleys.

In the practice of my invention, the head of the awning is secured to the building in the usual manner, and the bottom is provided with the usual bottom rod contained in a hem, and held extended by the side rods whose inner ends are pivotally attached to the building. The ends of the lifting ropes are attached to the building under the head of the awning and led down under the cloth to the bottom rod where said ropes are led down through pulleys attached to the bottom rods. These pulleys are preferably unswivelled to maintain their position with their axes horizontal to prevent the ropes twisting. The ropes are then led back up under the cloth but spaced below the same to swivel pulleys attached to the building, and all of the raising ropes except that at one side are brought over to said side and then down over a multiple, swivel pulley, together with the said side rope into convenient reach of the operator.

In the accompanying drawings, Fig. 1 is a front elevation of my improved awning shown dropped, and the cloth partially cut away at one side to show the rigging; Fig. 2 is a bottom or inverted plan view of the same, the bottom pulleys being turned somewhat out of their real position to more clearly show the ropes passing over the same, and Fig. 3 is a side view with the end piece of the awning omitted to show the rigging.

The following is a detailed description of the drawings.

A represents the front boxing or beam of a porch roof and B the two posts or columns. C is the awning proper, usually of canvas cloth. The triangular end pieces with which the awning is usually provided are omitted for the sake of clearness. The cloth C is attached to the porch at the top in any convenient manner. Thus I show eyes 1 of the awning engaging hooks 2 on the porch.

The bottom of the awning is provided with the usual hem 3 through which is inserted the bottom rod D, usually a small iron pipe and to whose ends are rigidly attached the side rods E pivotally connected to the posts B. This is the usual manner of mounting a drop awning.

The method of rigging the awning is as follows:

F represents a plurality of screw eyes firmly fixed to the building under the head of the awning, and in number equal to the number of lifting ropes to be provided. Thus I have shown three, the usual number of said ropes, G, G′ and G^2, one at each side and one in the center of the awning. The end of each rope is secured to its proper screw eye F, and the ropes are led down under the awning and down through the pulleys H, H′ and H^2, respectively, which are secured to the bottom rod D. These pulleys are preferably of the rigid or non-swivel type, and are preferably secured to the bottom rod by wire wrapped in such a manner that the pulleys are held in position with their axes horizontal. In Fig. 2, as already stated, these bottom pulleys are turned part way around from their real positions to show the upper and lower flights of the ropes. The ropes G, G′ and G^2 are then led back up under the awning, but with their second flights spaced below their first or upper flights, to the swivelled pulleys I, I′ and I^2, respectively which are attached to the building somewhat below the eyes F.

The ropes G and G′ are then led horizontally over to and through a double, swivelled pulley J attached to the building along side of the pulley I^2, and the ends of the three ropes are then led down and secured in any convenient manner within reach of the operator.

When it is desired to raise the awnings, a pull is exerted on the last mentioned ends of the ropes, causing the lower flights of the ropes to travel from the bottom pulleys H, H′ and H^2 to the top pulleys I, I′ and I^2, thus shortening the upper flights of the ropes immediately beneath the cloth, and thereby elevating the bottom rod and raising the awning.

It will be observed that the cloth is thus folded up along the upper flights of the ropes but there is no travel or movement of said upper flights, as is the case in an awning rigged in the usual manner. The result is that there is no appreciable friction or wear on the cloth which folds up easily. Also there are no pulleys or grommets at the head of the awning into which the cloth is drawn by traveling ropes as in the case of an awning rigged in the usual manner.

Experience and careful tests with my improved awning has shown a reduction of almost fifty percent in the power required to raise the awning, and that even an awning saturated with rain may be raised with ease. The spacing apart of the upper and lower flights of the pull ropes prevents the two flights becoming tangled or twisted together.

The life of the awning is thus greatly prolonged, as awnings usually become useless by splitting along the lines of the rigging ropes.

What I desire to claim is:—

1. In combination with a drop awning secured at its head to a support and provided with a bottom rod, a plurality of pulleys secured to said bottom rod, in spaced relation to each other an equal number of pulleys attached to said support under the head of said awning, and each substantially alined with one of said first named pulleys and an equal number of lifting ropes having their ends attached to said support under the head of the awning, one of said ropes being adjacent to each of said second named pulleys, and led down under the awning over said first named pulleys and thence up under said awning and over said second named pulleys.

2. In combination with a drop awning secured at its head to a support and provided with a bottom rod, a plurality of non-swivel pulleys attached to said bottom rod with their axes horizontally disposed and said pulleys being in spaced relation to each other, an equal number of swivel pulleys attached to said support under the head of said awning, one of said swivel pulleys being substantially alined with one of said non-swivel pulleys, and an equal number of lifting ropes having their ends atached to said support under the head of the awning and led down under the awning and down through said first named pulleys and thence up under said awning and through said swivel pulleys.

3. In combination with a drop awning secured at its head to a support and provided with a bottom rod, a plurality of non-swivel pulleys attached to said bottom rod with their axes horizontally disposed, and said pulleys being in spaced relation to each other an equal number of swivel pulleys attached to said support under the head of said awning, one of said swivel pulleys being substantially alined with each of said non-swivel pulleys, and an equal number of lifting ropes having their ends attached to said support under the head of the awning but above said swivel pulleys, said ropes being led down under said awning and down through said first named pulleys and then up under said awning and through said swivel pulleys.

4. In combination with a drop awning secured at its top to a support and provided with a botom rod and two side rods attached

at their front ends to the ends of said bottom rod and having their rear ends pivotally attached to said support, a plurality of lifting ropes having their ends attached to the support under the head of the awning, an equal number of pulleys attached to said bottom rod, and an equal number of pulleys attached to the support under the head of the awning, said ropes being led down under the awning and over said first named pulleys and thence up under the awning over said second named pulleys, substantially as described.

5. In combination with a drop awning secured at its top to a support and provided with a botom rod and two side rods attached at their front ends to the ends of said botom rod and having their rear ends pivotally attached to said support, a plurality of lifting ropes having their ends attached to the support under the head of the awning, an equal number of non-swivel pulleys attached to said bottom rod, and an equal number of swivel pulleys attached to the support under the head of the awning, said ropes being led down under the awning and over the non-swivel pulleys and thence up under the awning over the swivel pulleys, substantially as described.

Signed at Pittsburgh, Pa., this 11th day of March, 1922.

JOHN H. LOCKHART.