

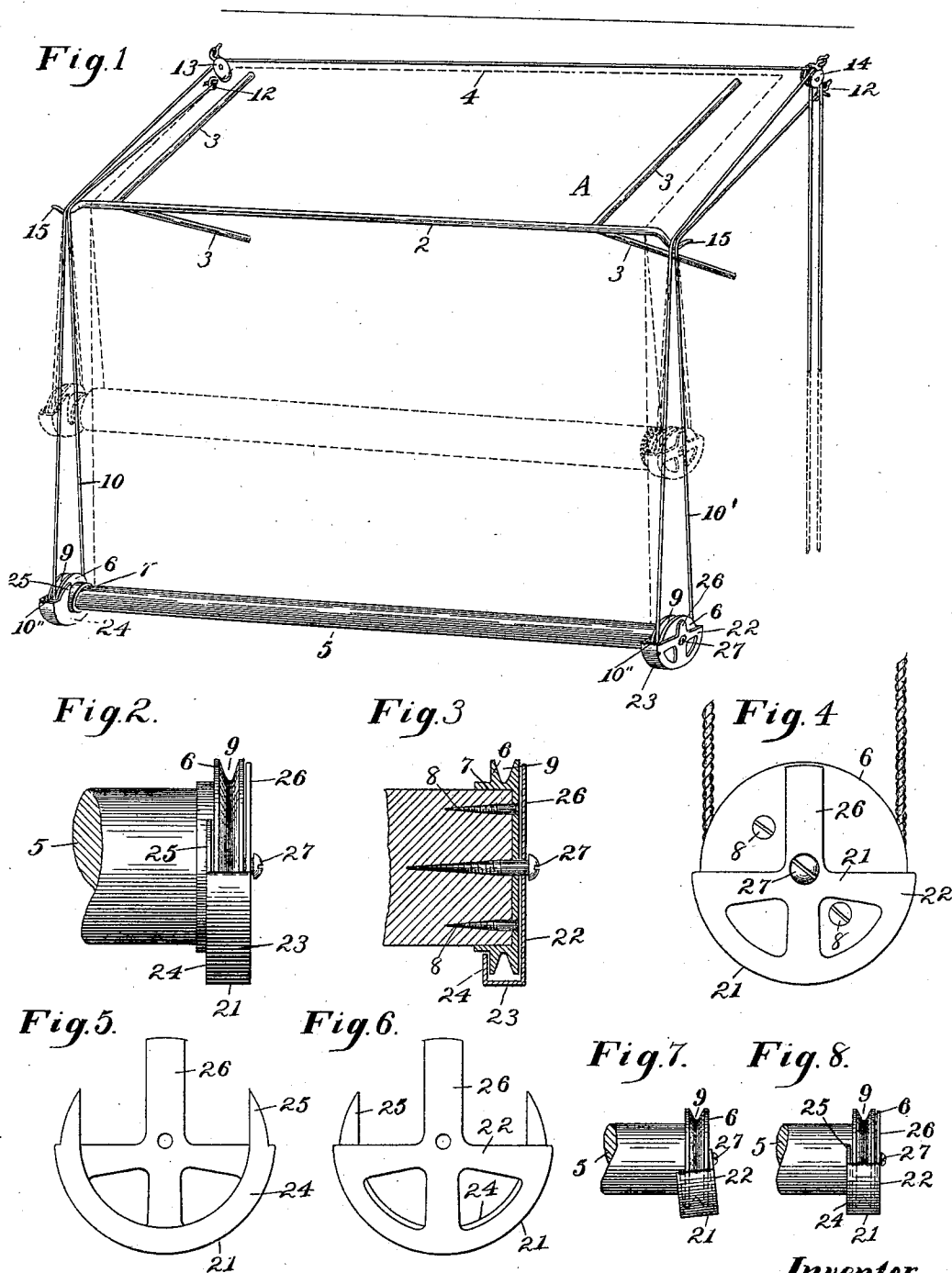
No. 618,906.

Patented Feb. 7, 1899.

J. J. REIMER.
AWNING OPERATING DEVICE.

(Application filed Mar. 25, 1898.)

(No Model.)



Witnesses.
W. B. Mattingly
C. A. Reed

Inventor
John. J. Reimer.
By his Attorney.
F. H. Richards.

UNITED STATES PATENT OFFICE.

JOHN J. REIMER, OF MOBILE, ALABAMA.

AWNING-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 618,906, dated February 7, 1899.

Application filed March 25, 1898. Serial No. 675,070. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. REIMER, a citizen of the United States, residing in Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Awning-Operating Devices, of which the following is a specification.

This invention relates to awnings, and more particularly relates to an improved means for operating the same.

The object of the invention is to provide an improved means of furling or rolling the awning on the pole or roller carried at the lower end thereof, thereby to raise the same, and which means is simple in construction and operation, inexpensive to manufacture, and durable in use, and may be applied with facility to awnings already in use.

A further object of the invention is to provide an operating device for awnings in which an ordinary raising-and-lowering rope can be utilized without having the same in contact with the awning, thereby saving the usual wear and tear heretofore the case when such ropes extend over or under the material forming the awning.

In the drawings accompanying and forming part of this specification, Figure 1 is a view of one form of frame for supporting an awning and its operating device, the awning being shown in dotted lines as completely lowered and also as partly raised, thereby illustrating the position of the rope guides or casings hereinafter described. Fig. 2 is an elevation of one end of the awning-roll, its sheave, and rope guide or casing. Fig. 3 is a sectional view thereof. Fig. 4 is an end view thereof. Figs. 5 and 6 are views of the rope guide or casing detached. Fig. 7 is a view illustrating the operation of an incomplete or improperly-formed rope guide or casing; and Fig. 8 is a view similar to Fig. 2, but drawn on the same scale as Fig. 7 to permit comparison therewith.

Similar characters of reference designate corresponding parts in the different figures of the drawings.

Heretofore in the construction of awnings it has been the usual practice to raise and lower them by the use of a pair of ropes, each secured or tied at its lower end to the awning-roll and extending over the awning material,

with its opposite end in position to be grasped by the operator to furl or unfurl the awning. This method of securing the ropes to the awning has proved in practice detrimental to the durability of the awning, occasioning considerable wear and tear thereon.

The object of my invention is to provide an improved means for raising and lowering the awning by using the ordinary ropes without the necessity of having the same in contact with the awning cover or material, thereby to avoid the use of complicated mechanisms, such as chain-and-sprocket devices, gears, ratchet mechanism, and the like.

As a preface to a further description of my improved awning-operating mechanism, it will be understood that the same may not only be used with awnings, but also in connection with any other device to which it may be applicable.

In the preferred form thereof herein shown and described the awning comprises any suitable framework for the support of the awning-cover. In the drawings this framework (designated in a general way by A) is shown comprising a cross-bar 2 and two pairs of cross-bar braces or supports 3, secured to the wall or other supporting means, to which the upper edge of the awning-cover 4 is also secured in any suitable or usual manner, the lower edge thereof having fixedly secured thereto a roll or pole 5, extending the entire width of said cover, with its ends projecting beyond the sides or ends thereof. Secured to this pole, at each end thereof, is a sheave or grooved roll 6 for the reception of the operating-rope, hereinafter set forth. Each of these sheaves 6 may be secured to the roll in any desired manner, as by forming such sheaves cup-shaped or with an annular recess 7, adapted to fit over the ends of the pole, and by securing the sheave thereto by suitable fastening devices, such as screws 8. Each sheave is preferably formed with a relatively deep and wedge-shaped annular groove 9, thereby to increase the frictional resistance on the operating-rope.

It will be perceived that in practice and without departing from the scope of my invention the awning-roll may be formed with an integral sheave or groove, if desired, instead of having one fixedly secured thereto.

To raise and lower the awning by furling and unfurling the same, a pair of cables, such as ropes 10 and 10', are shown, one for each sheave, one end 12 of each rope being fixedly secured to a support—such, for instance, as the wall adjacent to which the upper end of the awning is secured—then passing around its respective sheave and returning to a point preferably adjacent to its fixed support, where it passes through a pulley, and then extends into position to be grasped. In the present construction one rope, as 10, is shown passing through a single-pulley block 13 and from thence to a point adjacent to the other rope 10', both of said ropes then passing through a double-pulley block 14 and into position for use, whereby when said ropes are pulled the weight of the awning pole or roller is directly carried by the looped ends 10" of the ropes at their points of contact with the sheave-groove, whereby as a continued pull is exerted on the rope the sheave will be rotated, and therewith the pole or roller, and the awning furled.

For the purpose of suitably guiding the ropes during a part of the furling operation suitable guide devices are employed, and in the present construction they are shown formed as a part of the cross-bar 2 of the frame and preferably comprise curved or hook-shaped ends 15 of such bar for the passage of the ropes, which are thereby maintained in proper position.

To prevent the displacement of the ropes when they become slack or at any other time in the operation of the device, suitable cable or rope guides are provided, adapted to permit the proper rotary movement of the roll and at the same time prevent the displacement or shifting of the ropes while the awning is in use or is being furled or unfurled, and in the preferred form thereof herein shown and described each rope-guide preferably comprises a semicylindrical casing 21, comprising an outer plate 22, shown herein as skeleton in form, and an inner semicircular band 23, said plate and band being connected by a curved plate 24, extending under the edge of the sheave, the upper edges of which plate may be in practice suitably rounded to prevent the fraying or cutting of the rope should the guide-casing swing or oscillate to any appreciable extent during the furling or unfurling of the awning. The band 23 is preferably formed to partially encircle the awning-pole at the inner side of the sheave and is shown herein extending partially around an annular flange forming a wall of the sheave-recess 7, whereby said band is in close relationship to the inner face of the sheave. Each rope-guide is secured in position to its respective sheave by a suitable pivotal device 27, whereby owing to its weight and its manner of support it will always maintain itself in position underlapping one-half of the sheave. To prevent lateral play of the rope-guides, each band 23 has its upper ends

provided with projections 25, while each plate 22 is also provided with a radially-extending projection or arm 26, whereby at this point the casing is shown of the same diameter as the sheave. By providing each rope-guide with the relatively long projections 25 and 26, one at its outer side and two at its inner side, it will be seen that sidewise or lateral play of the guide-casing, such as shown, for instance, in Fig. 7, is prevented. This lateral play if permitted would tend to jam and retard the proper rotation of the sheave and also increase the power necessary to furl the awning; but by having the projections 26 in position to engage the outer face of the sheave from a point extending from its center toward its upper edge any appreciable outward movement of the casing is prevented, and by having the inner projections 25 in position to engage the inner face of the sheave at points above the center thereof any appreciable inward movement of such casing is also prevented, whereby the same owing to its weight and pivotal connection is permanently maintained under the sheave to permit the proper rotation of the roll, as indicated by dotted lines in Fig. 1, and owing to its projections is maintained against lateral movement. By means of this improved guide it will be observed that the displacement of the rope, which passes under the sheave and between the inner face of the curved plate 24 and the groove of such sheave, is prevented, so that should the rope become slack it will nevertheless always be maintained in position to furl the awning when necessary.

If desired, any suitable form of operating device, such as a crank and drum, may be used for taking up the rope to furl the awning.

From the foregoing it will be seen that by means of my present improvement I am able to use the ordinary ropes to furl and unfurl the awning without the necessity of having such ropes in contact therewith or without the necessity of furling the ropes with the awning. Furthermore, it will be seen that neither the rope-guides nor the ropes are at any time rotated with the awning-pole and that the ropes are not wound on the pole or on the sheave, but maintain the same looped position 10" with a single point of engagement with the sheave at one side thereof throughout the entire rotary movement of the roller.

I claim as my invention—

1. The combination, with a fixed support and a non-shiftable awning-frame rigidly secured thereto, of an awning having its upper portion fixedly secured to said support and adapted to extend over said frame, and provided at its lower portion with a roll secured thereto; a sheave secured adjacent to each end of said roll; a pair of operating-cables, one for each sheave, and each having one end fixedly secured relatively remote to said sheave when the awning is unfurled, and passing around its respective sheave with a single point of contact therewith throughout the en-

tire furling of the awning, and its other end extending into position to have a force exerted thereon, whereby, on the exertion of such force, the sheave is rotated owing to its frictional contact with said cable, and thereby the roll to furl the awning from its lower edge upward without shifting said framing.

2. In combination with a fixed support, of an awning having its upper portion fixedly secured to a support, and its lower portion provided with a roll; a grooved sheave secured to each end of said roll; a pair of operating-cables, one for each sheave, and each having its upper end fixedly secured to a support and passing around its respective sheave with a single point of contact therewith throughout the entire furling of the awning, and its opposite end in position to have a force exerted thereon, whereby, owing to the frictional contact of said cable with said sheave, the sheave is rotated, and thereby the roll, to furl the awning from its lower edge upward; and non-rotatable guides for said cables, one secured in position adjacent to each sheave, and each having means adapted to engage both sides of its sheave.

3. In combination with a fixed support, of an awning-frame carried thereby and provided with a pair of fixed cable-guide devices rigid with said frame; an awning having its upper portion fixedly secured to said support and adapted to cover said frame and provided at its lower portion with a roll; a grooved sheave secured to each end of said roll; a pair of operating-cables, one for each sheave, and each having its upper end fixedly secured to said support and guided by its respective guide device into position to pass around its sheave with a single point of contact therewith throughout the entire furling of the awning, and its opposite end extending into position to have a force exerted thereon, whereby, owing to the frictional contact of said cable with said sheave, the sheave is rotated, and thereby the roll, to furl the awning from its lower edge upward.

4. In combination with a fixed support, of an awning having its upper edge secured thereto, and its lower edge provided with a roll; a grooved sheave fixedly secured to each end of said roll; a rope-guide pivotally secured in juxtaposition to said sheave and con-

sisting of a semicylindrical casing extending under the sheave, and comprising an outer plate having a radial projection adapted to engage the outer face of said sheave, and an inner band partially encircling said roll and connected by a curved plate with said outer plate, and also having a pair of projections adapted to engage the inner face of said sheave; and a pair of operating-cables, one for each sheave, and each having one of its ends fixedly secured in position at a point relatively remote to said sheave when the awning is unfurled, and passing around and having its opposite end in position to have a force exerted thereon.

5. A roll adapted to be secured to an awning, and having a sheave secured thereto for the reception of a rope; a rope-guide pivotally secured in juxtaposition to said sheave, and comprising a semicylindrical casing having an outer plate; an inner semicircular band partially encircling said roll at the inner side of said sheave; and a curved plate connecting said outer plate and band.

6. A roll adapted to be secured to an awning, and having a grooved sheave at the end thereof for the reception of a rope; a rope-guide pivotally secured to said roll, and comprising a semicylindrical casing encircling a portion of said sheave and formed of an outer plate, an inner semicircular band partially encircling said roll, and a curved plate connecting said band and outer plate, said casing having its band provided at each end thereof with a projection adapted to prevent outward lateral movement of the casing, and its outer plate with a radial projection adapted to prevent inward lateral movement of said casing.

7. A device adapted for attachment to an awning-pole, and comprising a sheave, and a guide device pivotally secured thereto, and comprising an outer plate, and an inner band connected with said plate, said plate and band having projections adapted to engage the respective faces of the sheave, thereby to prevent lateral movement of said guide device.

JOHN J. REIMER.

Witnesses:

JOHN A. GINLI,
ABRAND REED.