Aug. 11, 1925. 1,549,037

E. S. WILLIAMS

AWNING

Filed May 10, 1922

Fig. 1.

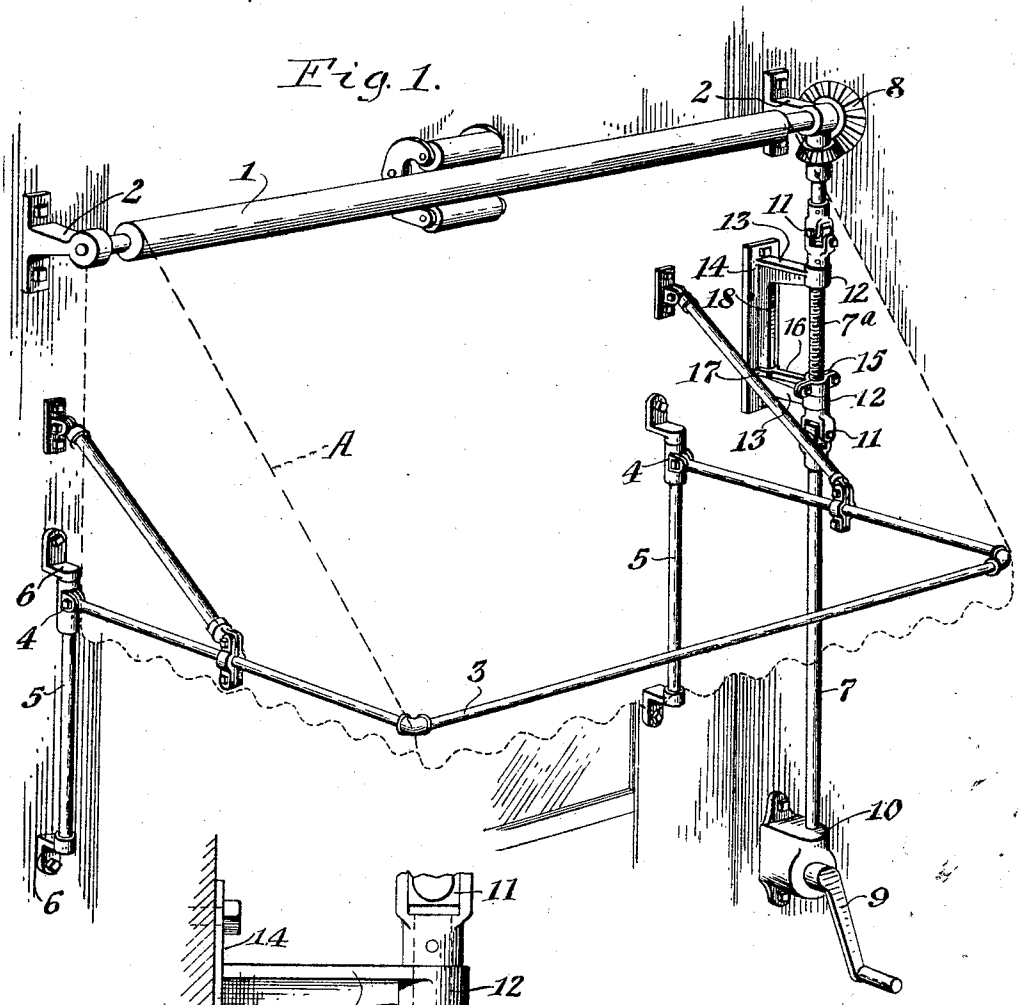


Fig. 2.

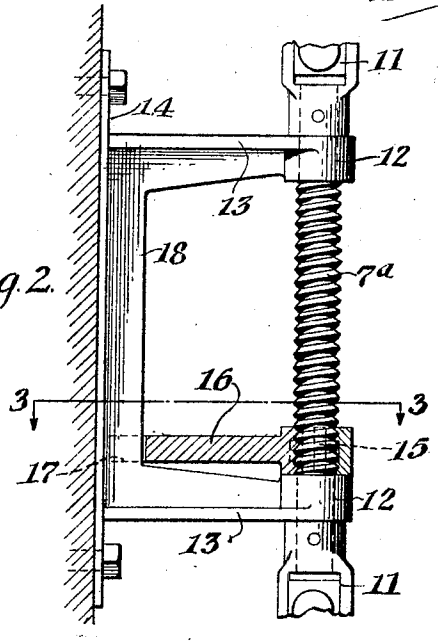
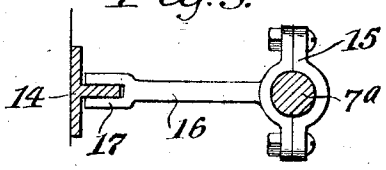


Fig. 3.



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UNITED STATES PATENT OFFICE.

EDWARD S. WILLIAMS, OF BUFFALO, NEW YORK.

AWNING.

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To all whom it may concern:

Be it known that I, EDWARD S. WILLIAMS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Awnings, of which the following is a specification.

This invention relates to improvements in awnings and more particularly to a device for limiting the extent to which the awning canvas can be unwound. The general purpose of such a device is to prevent the awning from being unwound to too great a degree, such as would result in its being rewound in the reverse direction with destructive effect, especially under the pressure of the center guiding rollers. Another purpose is to insure that the awning, when lowered, shall always be set at the proper elevation and shall have a well hung, attractive appearance, sagging being eliminated.

The principal object of the present invention is to provide a simply constructed and positively operating device for the purpose in view, which device is adaptable for combination with the awning operating mechanism and for awning operating shafts which may be rotated in either direction in order to effect the lowering of the awning.

With the above object in view the invention consists generally in the provision of a nut which is movable along the operating shaft, a fixed stop head with which said nut co-operates, and novel details of structure and arrangement appertaining to these features.

An embodiment of the invention is illustrated in the accompanying drawing, wherein:

Fig. 1 is a perspective view showing an awning roller and an awning operating mechanism in which the features of the present invention are incorporated.

Fig. 2 is a detail elevation, partly in section, of a device in accordance with the invention.

Fig. 3 is a detail sectional view on the line 3—3 of Fig. 2.

The awning canvas is shown in broken lines at A in Fig. 1 and is adapted to be wound upon and unwound from the usual supporting roller 1, the end trunnions of which are journalled in bearings 2. Along its free edge the canvas is connected to the usual frame 3, the side bars of which are pivoted to sleeves 4 which are slidably mounted upon vertical guide rods 4 and are movable between fixed upper and lower brackets 6. The awning operating mechanism may be of any suitable construction and includes an operating shaft 7 which is suitably geared to the roller 1, for example by bevel gearing 8. The shaft 7 may be operated from a crank handle 9 by gearing (not shown) arranged in a gear box 10 in the usual manner.

According to the invention an intermediate threaded shaft element 7^a is suitably incorporated with the shaft 7 as a physical and functional part thereof. In the construction shown and preferred the shaft 7^a is made as a separate element and is connected to the extreme portions of the shaft 7 by upper and lower universal joints 11 which, of course, may be of any construction suitable for transmitting rotation from one element to another. Thereby the shaft element 7^a operates as a coupling between the extreme portions of the shaft 7 and the universal joints 11 enable the shaft 7 to be lined up as the conditions of installation may require. The shaft element 7^a is journalled in suitable bearings 12 which function as stops and are formed with or secured to upper and lower arms 13. These project horizontally from a bracket 14 which is secured to the wall or adjacent support. The shaft element 7^a operates a traveling nut 15 which is preferably made in two parts or halves clamped together, this construction enabling the nut to be adjusted along the shaft as the conditions of use may require. The nut 15 travels lengthwise along the shaft element 7^a when the latter is rotated and for this purpose is positively guided in any suitable manner. In the construction shown and preferred one of the halves of the nut 15 is provided with a horizontal arm 16 having a forked end 17 which engages over a vertical guide flange 18 formed on or carried by the bracket 14. The drawing assumes an arrangement wherein the rotation of the shaft 7 to lower the awning will produce a downward movement of the nut 15. In such a case said nut will co-operate with the lower bearing 12 to arrest the rotation of the shaft 7 when the awning frame 3 has reached the predetermined elevation and in this way it is insured that the awning canvas shall be lowered to a proper extent but

shall not be lowered sufficiently to permit its being rewound in a reverse direction upon the roller 1.

In some cases the operating mechanism may be so geared that the nut 15 will travel upward when the shaft 7 is rotated to lower the awning and in such cases the nut 15 will co-operate with the upper bearings 12 in the same manner and for the same purpose.

It will thus be seen that the awning canvas is protected against undue wear, particularly as regards the center guiding and supporting rollers for the roller 1; and that the awning will be lowered to the predetermined elevation at which it will have a well hung, attractive appearance.

Having fully described my invention, I claim:

1. The combination of an awning roller, an operating shaft geared to said roller and including an intermediate threaded element and universal joints at the ends of said element for coupling the same to the extreme portions of said shaft, a nut operating on said threaded element, means for holding said nut against rotation, and a fixed stop against which said nut engages, thereby to arrest the rotation of said operating shaft.

2. The combination of an awning roller, an operating shaft geared to said roller and including an intermediate threaded element, a fixed bracket having bearings for said element, universal joints at the ends of said element for coupling the same to the extreme portions of said shaft, a nut operating on said threaded element and engageable with one of said bearings as a stop, and means carried by said bracket for guiding said nut and holding it against rotation.

3. The combination of an awning roller, an operating shaft geared to said roller, a nut movable lengthwise of an intermediate portion of said shaft and operating threads effective upon the rotation of said shaft to produce the movement of said nut, a fixed stop with which said nut co-operates to arrest the rotation of said shaft, a bracket carrying said stop and having bearings for said shaft, and universal joints at the ends of the intermediate portion of said shaft for coupling the same to the extreme portions of said shaft.

4. The combination of an awning roller, an operating shaft geared to said roller, a nut movable lengthwise of an intermediate portion of said shaft and operating threads effective upon the rotation of said shaft to produce the movement of said nut, a fixed stop with which said nut co-operates to arrest the rotation of said shaft, a fixed bracket having bearings for the intermediate portion of said shaft and universal joint means at the ends of said intermediate portion for lining up the shaft in accordance with the conditions of installation.

In testimony whereof I affix my signature.

EDWARD S. WILLIAMS.