No. 829,772. PATENTED AUG. 28, 1906.

B. FRANK.

AWNING.

APPLICATION FILED JUNE 29, 1905.

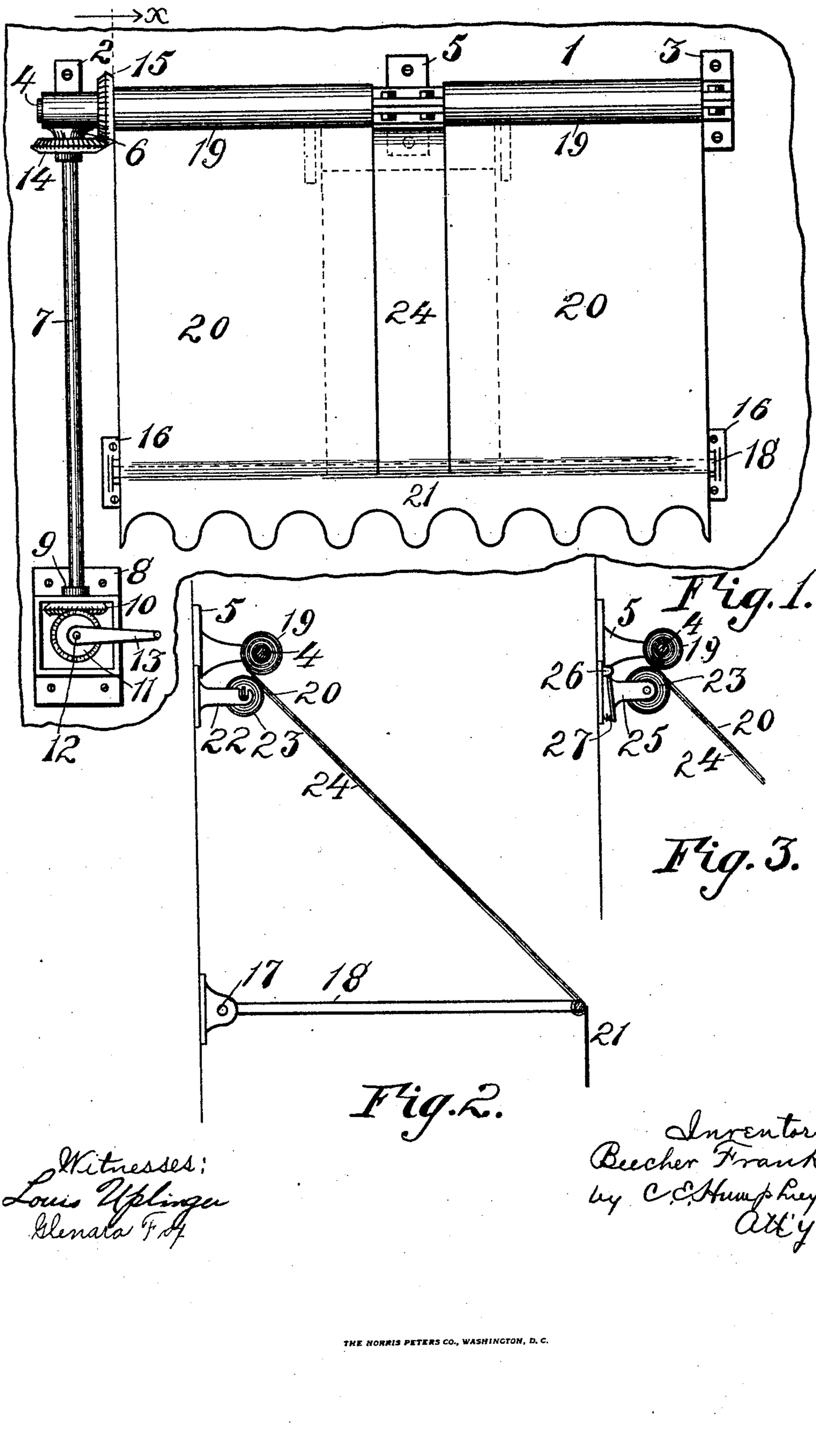

Fig. 1.

Fig. 3.

Fig. 2.

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BEECHER FRANK, OF AKRON, OHIO, ASSIGNOR OF ONE-THIRD TO JOHN T. McBRIDE, ONE-THIRD TO PETER J. GABREL, AND ONE-THIRD TO THE AKRON TENT AND AWNING COMPANY, OF AKRON, OHIO, A CORPORATION OF OHIO.

AWNING.

No. 829,772. Specification of Letters Patent. Patented Aug. 28, 1906.

Application filed June 29, 1905. Serial No. 267,623.

To all whom it may concern:

Be it known that I, BEECHER FRANK, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Awnings, of which the following is a specification.

This invention has relation to that class of awnings in which the material constituting the cover is wound up on a roller when the awning is raised and unwound therefrom when the awning is lowered.

Experience has heretofore shown that awnings of this class when constructed of any considerable length require in addition to the end supports for the roller one or more intermediate supports to insure the maintenance of the roller in perfect position, and as it is customary to extend the material constituting the cover approximately the entire length of the roller the intermediate supporting means must necessarily bear upon the material of the cover, and although the intermediate supporting means be provided with cushioning-rollers to prevent wear it has been found that the portions of the material of the cover engaged by the intermediate supporting means wear out much more quickly than the balance of the cover, and hence greatly reduces the life of the awning.

The object of this invention, therefore, is that while still employing a preferred number of intermediate supporting means to so construct the entire device that the life thereof will be uniform and the danger of impairing the integrity of the material of the cover eliminated.

Briefly stated, this invention contemplates making the roller on which the material of the cover is wound in a series of sections, each of which is sufficiently short to be readily sustained, and interposing between these sections a series of supporting means which engage either the roller or the shaft on which the series of rollers are mounted and providing for each section an independent cover adapted to be wound on its respective section of the roller and spaced apart from the others sufficiently far to avoid contact with the intermediate supporting means of the roller and then providing an auxiliary roller carrying a strip of material which will move in unison with the motion of the material of the cover and sufficiently wide to cover the space intervening between the different sections of the cover and overlap them to render the joint thereby made sufficiently tight for practical purposes.

With the foregoing and other objects in view the invention consists of the novel construction, combination, and arrangement of parts constituting the device to be hereinafter referred to and illustrated in the accompanying drawings, which form a part of this specification, in which is shown the preferred embodiment of the invention; but it is to be understood that changes, variations, and modifications can be resorted to which might better subserve the purpose of this invention.

The device is illustrated in the accompanying drawings, in which similar reference-numerals indicate like parts in the different figures.

In the drawings, Figure 1 is a front elevation of my improved awning with the material constituting the cover unwound and the awning lowered. Fig. 2 is a section of Fig. 1 at the line X; and Fig. 3 is a similar view to Fig. 2, showing a slight modification of the device shown in Fig. 2.

In the drawings, 1 represents the supporting medium for the entire device, which is commonly the side of a building. On the support 1 are two brackets 2 and 3, and these brackets bear at their outer ends journal-bearings for a shaft 4. The journal-bearings of these brackets may be constructed in an integral piece, as is shown in the drawings with respect to the bracket 2, or may be made of separable parts, as is shown with reference to the bracket 3. At some point between the brackets 2 and 3 where it is necessary or advisable to sustain the shaft 4 and maintain it in proper position there is placed a bracket, (indicated in the drawings by the reference-numeral 5,) and this bracket is preferably constructed so that its journal-box has a detachable cover. On the under side of the journal-box on the bracket 2 is a boss 6, perforated centrally to receive and constitute the upper journal-bearing of a vertical shaft 7. The lower end of this shaft 7 passes into a suitably-supported box 8 and is

provided with a collar 9, which engages the upper wall of the box, and thereby sustains the shaft 7 in position. The lower end of this shaft bears a beveled gear 10, into which meshes a beveled gear 11, mounted on the shaft 12, which also bears a crank-arm 13. Mounted on the shaft 7 immediately below the boss 6 is a beveled gear 14, which meshes into a gear 15 on the shaft 4.

From the description thus far it will be seen that by revolving the crank-arm 13 the shaft 4 is rotated in either direction through the medium of the gears 10 and 11, the shaft 7, and the gears 14 and 15.

It will be stated that some suitable form of locking means may be employed to prevent the constant revolution of the shaft 7 or crank-arm 13, which may suit the peculiar requirements of the case; but as this mechanism for causing the rotation of the shaft 4 is an ordinary method a further description thereof is believed to be unnecessary.

Attached to the side of the support 1 are two brackets 16, each provided with a pair of parallel ears, and through these ears are passed pins 17, which constitute the pivots for the inner ends of an ordinary awning-frame 18.

Mounted tightly on the shaft 4 between the gear 15 and the bracket 5 and between the bracket 5 and the bracket 3 are two rollers 19, on which the strips constituting the cover is wound. These strips are referred to in the drawings by the reference-numeral 20 and consist of a body of any suitable material, each of which after being attached to its respective roller 19 extends therefrom to the front portion of the awning-frame 18, where the frame is parallel with the shaft 4. These strips may be fastened to this portion of the awning-frame in any manner which can be best employed for that purpose, or they may be provided at their outer ends with a pocket to inclose the parallel portion of the frame 18, or may be wrapped thereabout and secured by sewing or rivets. From the lower front portion of this awning depends the curtain 21.

It will be seen from the description thus far that as the shaft 4 is rotated in one direction the rollers 19 being tight thereon will wind up the strips 20, and thereby raise the awning, and a reverse of this motion will permit the lowering thereof. It will be further noticed that the two strips 20 are spaced apart sufficiently to avoid contact with the journal-box on the bracket 5, and yet this bracket 5 will constitute a perfect means of steadying the entire shaft 4 at the point where it is placed, and similar brackets 5 may be interposed as often as the requirements or length of the entire awning may necessitate.

In order to cover the opening caused by the spacing apart of the strips 20, there is mounted immediately below the bracket 5 a pair of brackets 22, and between them is suspended a roller 23, on which is wound a strip 24, preferably of the same material as that of which the strips 20 are composed. The roller 23 is of the construction commonly known as a "spring-roller" and is illustrated by the ordinary common type of Hartshorn rollers, wherein the winding is effected by a spring which is increased in strength as the material wrapped thereon is unwound, and as this is a very ordinary type of roller a specific description is believed to be unnecessary. The outer free end of the strip mounted on this roller 23 is preferably attached to the strips 20 at the point where the strips 20 engage the parallel portion of the frame 18. The strip 24 is constructed of sufficient width to overlap the two strips 20, and while the strip 24 is adapted to lie adjacent and in contact with the overlapping edges of the strips 20 it is not attached to the others excepting along the line of the parallel portion of the frame 18. The roller 23 is so placed with respect to the longitudinal plane of the strips 20 that from the parallel portion of the frame 18 to the roller 23 the strip 24 and strips 20 will be in substantial contact with each other. From this description just given it will be seen that as the awning is lowered and the strips 20 unwound from the rollers 19 the strip 24 will unwind from the roller 23 and in doing so strengthen the spring of the roller and follow down and lie in contact with the portions of the strips 20, which are adjacent to the opening between them, and when the strips 20 are rewound on their rollers 19 by the mechanism heretofore described, thereby raising the awning, the influence of the spring in the roller 23 will wind up the same and keep the strip 24 taut at all times. The roller 23 also furnishes a constantly elastic tension on the strip 24 and tends to take up the slack thereof.

In Fig. 3 is shown a modified form of that shown in Fig. 2, with this difference, that the roller 23 is mounted on a pair of brackets 25, the base portions of which are pivoted on lugs 26 and have coiled springs 27, which constantly tend to force upward the outer ends of the brackets 25 and maintain a constant frictional engagement between the strip on the roller 23 and the strips on the rollers 19. The operation of this device is precisely the same as that shown in Fig. 2, with the exception that the movements of the roller 23 in this figure are controlled by the frictional engagement of the strip wound thereon with the strips wound on the roller 19 instead of using a spring-roller, as is shown in Fig. 2.

It will be seen that as the shaft 4 is rotated and the awning lowered the frictional engagement between the strips wound on the rollers 19 with the strip wound on the roller 23 causes a simultaneous movement of both.

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

1. An awning comprising in combination a plurality of rollers spaced apart and suitably mounted in alinement with each other arranged to rotate in unison, a bearing for said rollers interposed between them, a plurality of distinct awning-sections each winding on one of said rollers, an awning-frame arranged adjacent said rollers and connected with said awning-sections, an independent roller mounted parallel with and below said first-mentioned rollers, an awning-section winding on said second roller extending directly to said frame of sufficient width to overlap the adjacent edges of said first-mentioned awning-sections and arranged to lie in contact with and under said first-mentioned awning-sections, means for operating said first-mentioned rollers in unison, and means for independently operating said second roller.

2. An awning comprising in combination a plurality of rollers spaced apart and suitably mounted in alinement with each other arranged to rotate in unison, a bearing for said rollers interposed between them, a plurality of distinct awning-sections each winding on one of said rollers, an awning-frame arranged adjacent said rollers and connected with said awning-sections, an independent roller mounted parallel with and below said first-mentioned rollers, an awning-section winding on said second roller extending directly to said frame of sufficient width to overlap the adjacent edges of said first-mentioned awning-sections and arranged to lie in contact with and under said first-mentioned awning-sections, means for operating said first-mentioned rollers in unison, and means for maintaining the awning-section on said independent roller in constant frictional engagement with said first-named awning-sections.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

BEECHER FRANK.

Witnesses:
C. E. HUMPHREY,
GLENARA FOX.