S. C. MacDOWNEY.

RECEDING AWNING.

APPLICATION FILED FEB. 20, 1911.

1,026,045.

Patented May 14, 1912.

4 SHEETS—SHEET 1.

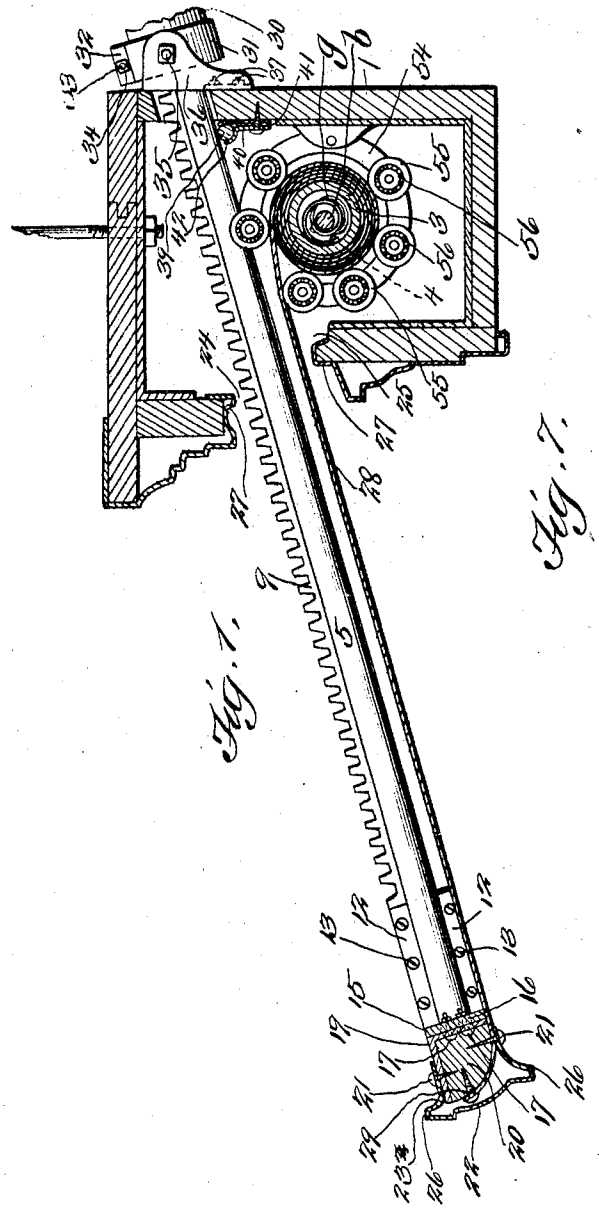

Fig. 1.

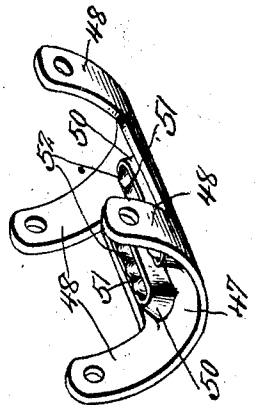

Fig. 7.

Witnesses

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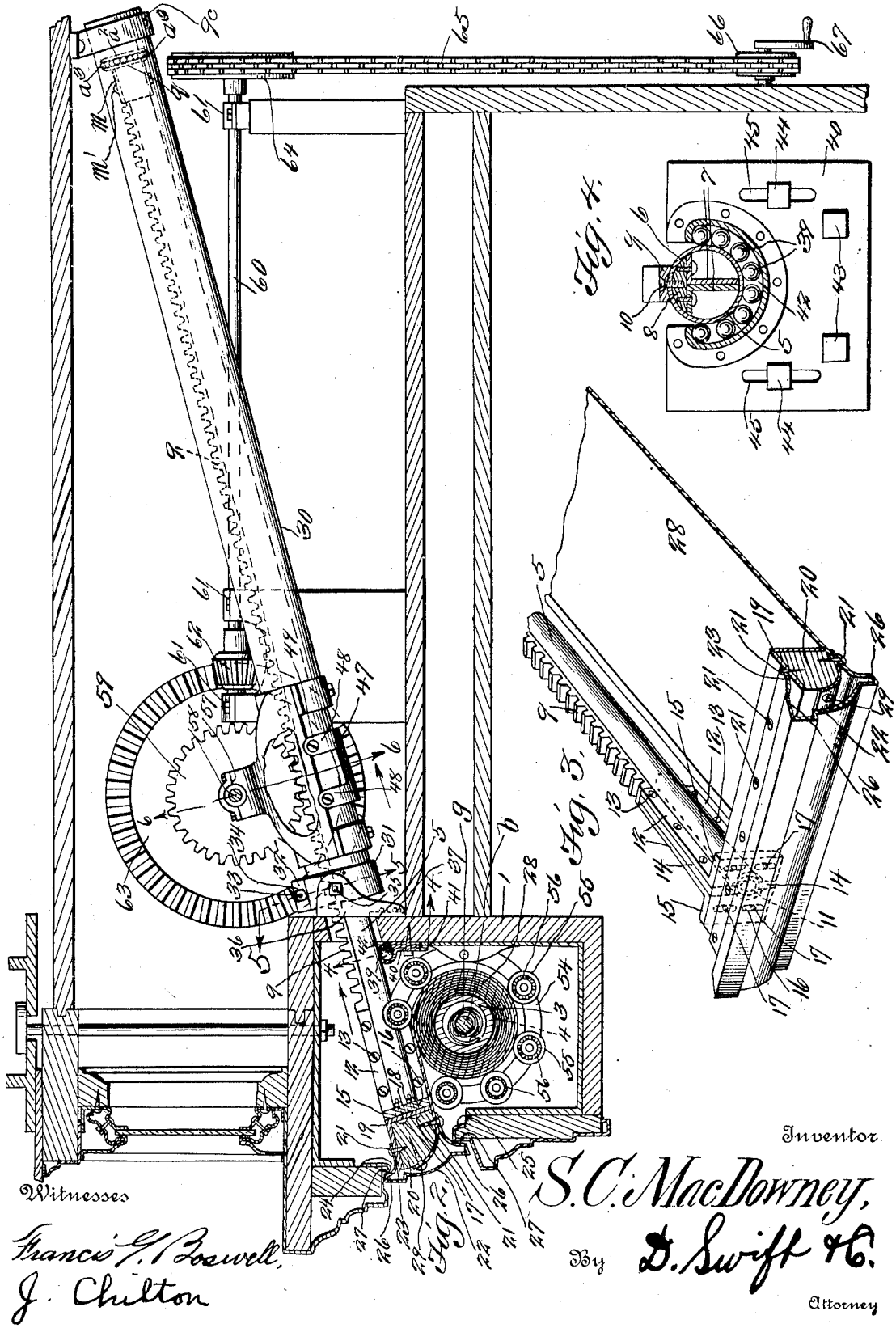

Fig. 4.

Fig. 5.

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4 SHEETS—SHEET 3.

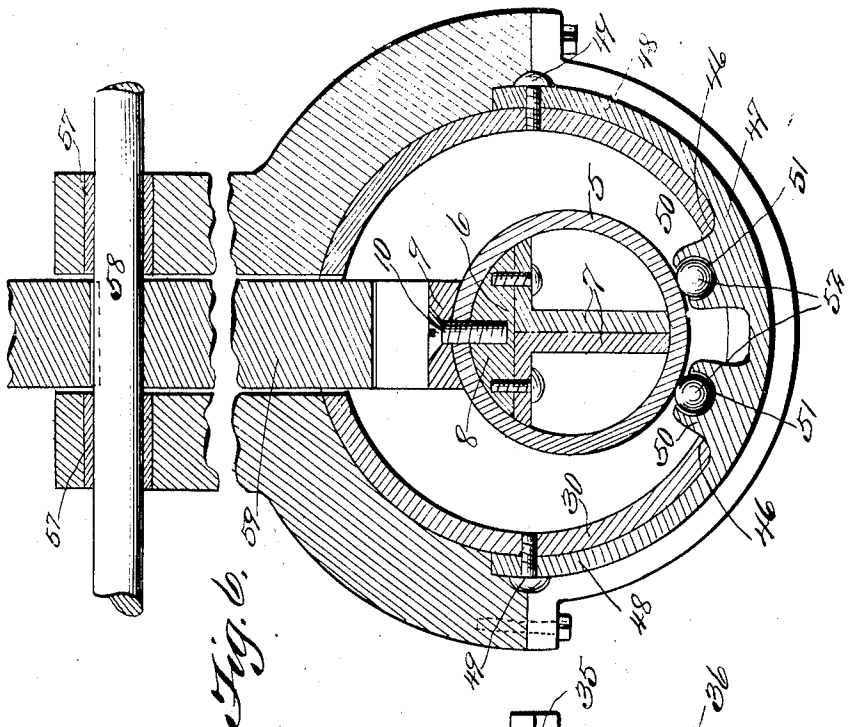

Fig. 6.

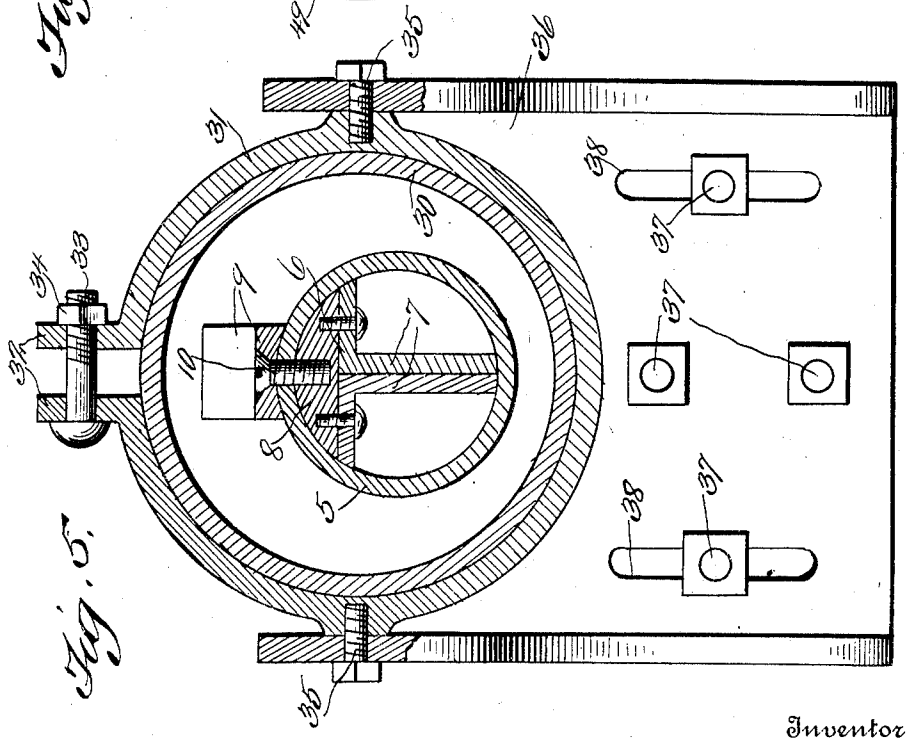

Fig. 5.

Witnesses

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4 SHEETS—SHEET 4.

Fig. 8.

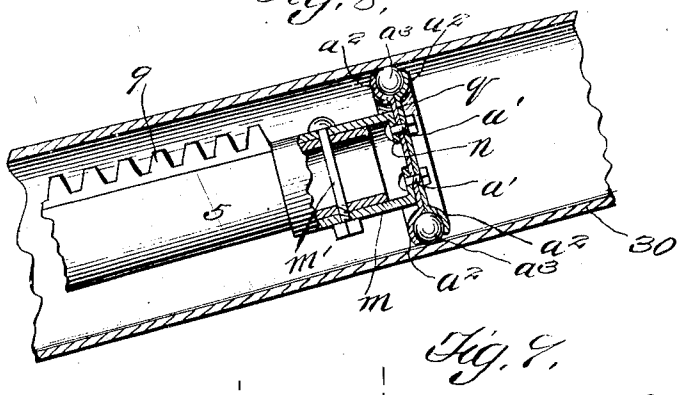
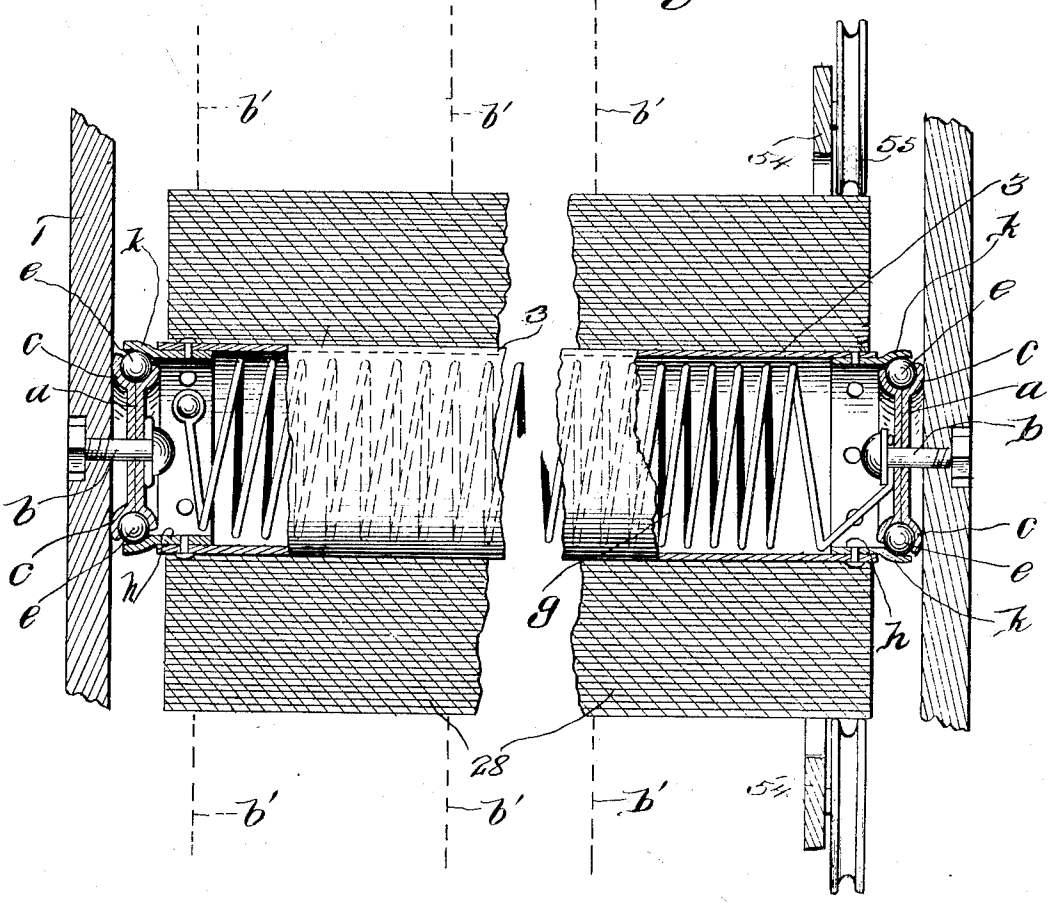


Fig. 7.



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UNITED STATES PATENT OFFICE.

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RECEDING AWNING.

1,026,045. Specification of Letters Patent. Patented May 14, 1912.

Application filed February 20, 1911. Serial No. 609,674.

To all whom it may concern:

Be it known that I, SILAS C. MacDOWNEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Receding Awning; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention pertains to a new and useful receding awning applicable principally over show or store windows.

The invention in its broadest scope aims as its principal object to provide an awning, which can be easily operated with the least possible friction and binding of the movable parts, and one which when receded entirely disappears from view.

An essential object of the invention is the provision of a facing plate for the outer portion of the awning adapted to fit an opening of the cornice over a store window when the awning is receded and obscured from view. This facing plate corresponds in configuration with the cornice, so as to give the impression that an awning is not utilized, when the same is receded.

A further object of the invention is the provision of means for causing the awning to roll neatly, smoothly and tightly upon its roll.

A further object of the invention is to obviate the slack that usually occurs in awnings of this character, and to hold the awning taut when the same is being extended or unreeled, or when being reeled.

Another object of the invention is to provide anti-frictional ball bearings for the various moving parts, so as to obviate to a great extent the friction and binding of the various moving parts.

In the drawings, however, there is only disclosed one form of the invention, but in practical fields this form may require slight alterations, to which the applicant is entitled, provided the alterations are comprehended by the appended claims.

The invention comprises further features and combination of parts hereinafter set forth, shown in the drawings and claimed.

In the drawings:—Figure 1 is a sectional view through the upper portion of a store window and its cornice, showing the awning extended, and illustrating the awning and other coöperating parts constructed in compliance with the invention. Fig. 2 is a similar view showing the awning retracted. Fig. 3 is a view in perspective of a portion of the outer transverse bar and its face plate, and a portion of one of the side rods. Fig. 4 is a sectional view on line 4—4 of Fig. 2. Fig. 5 is a sectional view on line 5—5 of Fig. 2. Fig. 6 is a sectional view on line 6—6 of Fig. 2. Fig. 7 is a view in perspective of a part shown in Fig. 6. Fig. 8 is a view partly in section and partly in elevation of a portion of the tubular member 30 and the rear ends of the side bars 5 showing the ball bearing member at the rear end. Fig. 9 is a sectional view, showing the mounting of the awning roll 3, showing its ball bearings.

Referring more especially to the annexed drawings, 1 designates the structure of the upper portion of a show or store window, which is provided with a transverse box-like inclosure, in which is mounted the awning roll 3, the spindles of which are mounted in bearings 4. Upon this roll the awning reels, when the side bars of the awning are receded.

The side bars 5 of the awning are made of tubular rods provided with a filler 6, composed of angular strips of metal secured together. Above the angular strips of metal 7 and a portion of the inner circumference of the side bars or rod is a filler of wood 8, to which the rack bar 9 is secured by the screws 10. The outer ends of the side rods are provided with short inner tubes 11. The upper and lower portions of the side rods at their outer portions are supplied with flanges 12, which are secured together by the screws 13. However, between the flanges 12 fillers 14 of any suitable material are arranged. The outer end portions of the side rods are provided with laterally extending flanges 15 having slots 16. Secured to the flanges 15, by means of bolts 17 and the nuts 18 is a transverse angle bar 19. The bolts 17 extend through the slots 16, as shown in Fig. 3. By these bolts and slots the angle bar 19 may be adjusted relatively with regard to the flanges 15. The angle bar 19 is provided with a filler of any suitable material, preferably wood 20. Secured to the filler 20, by means of screws 21 and to the upper portion of the angle bar 19 is the face plate 22, the portion 23 of which extends through the opening 24

of the cornice structure 25, while the parts 26 of the face plate are received adjacent the cornice, as at 27. This face plate 22 conforms in configuration to the outer appearance and design of the cornice. The awning material 28 is secured to the filler 20 by one of the screws 21 and the screws 29. The side rods when receded are received into the tubular members 30, about which the metal straps 31 are extended. The straps 31 are provided with ears 32, through which the screw bolts 33 extend, there being nuts 34 for securing the straps in place. These straps are mounted on the bolts 35 of the bracket plates 36, which are adjustably secured by means of the bolts 37 and the slots 38 to the rear portion of the structure of the upper portion of the show or store window. The tubular members 30 are loosely mounted in the brackets 9e, which will permit the bracket plates 36 to be adjusted vertically.

Anti-frictional ball bearings 39 are provided for the side rods. These ball bearings 39 are mounted between the plates 40 and 41, the same being formed with annular raceways 42 to receive the ball bearings 39. The plates 40 and 41 are secured within the box-like structure of the show window, by means of the lag screws 43 and 44. The lag screws 44 pass through slots 45 of the plates. The lag screws 44 are inserted in place prior to the screws 43, so as to permit adjustment of the plates 40 and 41, relatively with regard to the side rods.

The tubular members 30 are provided with slots 46. Plates 47 are provided, as shown in Figs. 1 and 2, and in detail in Figs. 6 and 7; these plates 47 are curved correspondingly with relation to the tubular members 30 and are provided with curved ears 48, which are secured at 49 to the tubular members 30. The plates 47 are supplied with elongated extensions 50 having recesses 51, and which it will be observed in Figs. 1, 2 and 6 extend through the slots 46. In the recesses 51 anti-frictional ball bearings 52 are arranged, and on which the side rods move. In practice there will be utilized two sets of ball bearings 52 and 39 and straps 31, there being one set of each provided for each side rod, as shown in the drawings.

Adapted to be arranged to each end of the box-like structure, however, there only being one illustrated, are annular rings 54. To hold the awning material 28 taut when the same is unreeling, and to permit it to reel tightly on the roll, are anti-frictional pulley wheels 55 having ball bearings 56 carried by the annular rings 54. These frictional wheels are designed for the purpose of engaging the edges of the awning material, in such a manner as to hold it tightly about the roll and to hold it taut when unreeling.

Mounted in bearings 57 is a shaft 58 having a gear wheel 59 at each end thereof, however, there only being one illustrated in the drawings. These gear wheels engage the teeth of the rack bars 9 of the side rods, so that when the shaft 58 is rotated, the side rod will be extended or receded outwardly or inwardly of the structure of the top of the show window. To rotate the shaft 58, a beveled spur gear is carried thereby at one end. Rotatable with and carried by the shaft 60 (which is mounted in bearings 61) is a beveled pinion 62, which meshes with the beveled spur gear 63. At one end of the shaft 60 a sprocket wheel 64 is provided, about which the chain 65 travels, which chain 65 also travels about the sprocket 66. Rotatable with the sprocket 66 is a crank handle 67. By turning the crank handle the shaft 60 will be rotated by the sprocket and chain connections, and from the shaft 60 power is transmitted to the shaft 58, by means of the gears 62 and 63. By rotating the shafts 58 the racks are reciprocated outwardly or inwardly, and when so operated the awning material is reeled or unreeled.

From the foregoing description it will be manifest that a novel form of receding awning is provided, and one which has been found to be practicable. Furthermore it will be observed that all friction and binding of the moving parts of an awning of this character has been obviated, the awning when receded being obscured from view entirely.

In each end of the box-like inclosure of the upper portion of a show or store window, bearing members *a* are mounted on the screw bolts *b*. These bearing members consist of two plates, which are arranged together, as shown in Fig. 9. Each plate is provided with an annular rim which is semi-circular in cross section, as shown at *c*. Between the rims of each plate, the ball bearings *e* are arranged. The awning roll 3 is tubular in form, and is spring tensioned, as shown. The spring, however, is anchored at one end to one of the bolts *b*, while the other end is secured to the roll. This spring is designated by the character *g*. The awning roll 3 has fixed in each end thereof, an annular band *h*, the outer portions of which are curved, as shown at *k*, thus providing bearing means to contact with the ball bearings *e*. By this structure, it will be apparent that the roll operates easily. It will be understood that as the side bars 5 recede, the spring *g* in the roll causes the awning material to reel about the roll. However, when the side bars 5 are extended outwardly of the upper portion of the show-window, the awning material is unreeled from the roll against the action of the spring *g*.

The annular rings 54 are formed of spring material, so as to close or hug about the

awning material on the roll, as the awning material diminishes thereon, when the side bars are extended. As the rings 54 close or hug about the awning material, the wheels 55 remain continually in contact with the material, thus causing the same to reel or unreel smoothly with relation to the roll. The rear ends of the side bars 5 have bolted thereto extension sleeves m, to the inner annular flanges n of which the plates q are bolted, by the bolts a'. These plates q are provided with rims a^2, which are partially semi-circular in cross section. It will be observed that by arranging the plates q as shown in Fig. 8, the rims provide an annular curved space for the reception of the ball bearings a^3, which contact with the tubular members 30. This structure provides essential supporting means for the rear ends of the side bars 5, as they are extended and receded.

The invention having been set forth, what is claimed as new and useful is:—

1. In an awning adapted to be projected and retracted, the combination of a pair of adjustable side rods, tubular members adapted to receive said rods telescopically and provided with slots, and means to actuate the side rods, with ball bearings for the rods, comprising members having elongated grooved extensions carrying anti-frictional rollers and located in the slots.

2. In an awning fixture, a pair of retractable rods, tubular members to telescopically receive the rods, bracket plates, metal straps surrounding the tubular members, means for connecting the straps to the bracket plates, means for adjusting the bracket plates, and means for securing the straps about the members.

3. In an awning fixture, a pair of retractable side rods, tubular members having anti-frictional means for the rods for telescopically receiving the rods, bracket plates, means for adjusting the bracket plates, metal straps surrounding the tubular members, means for connecting the straps to the bracket plates, and means for securing the straps about the members.

4. The combination of the top structure of a show window and retractable and extensible awning side rods, with plates having annular race-ways secured to the structure of the show window, anti-frictional balls arranged in the race-ways, and means for permitting the plates to be adjusted vertically so as to cause the balls to frictionally contact with the rods.

5. In combination, an awning roll having awning material secured thereto and wound thereabout and adapted for unreeling, a pair of retractable and extensible side rods having a transverse connection to which the awning material is secured, and anti-frictional roller members for engaging the awning material to cause it to reel tightly on the roll and when unreeling holds the same taut.

6. In combination, the top of a show window structure having an elongated opening therein, retractable and extensible awning side rods, an angle bar connecting the side rods and provided with a fiber filler, adapted to fill said opening when the rods are retracted, a face plate having a portion secured to the top of the angle bar and a portion secured to the fiber filler, between which and the last named portion awning material may be secured, said facing plate constituting means for closing the opening.

7. A retractable and extensible awning, a roller therefor, and resilient means automatically expansible and contractible substantially surrounding the awning on the roll, so as to cause the awning to wind evenly on the roller and from the roller.

8. In combination, a retractable and extensible awning, a roller therefor, resilient means automatically expansible and contractible substantially embracing around the awning on the roller, and means for operating the roller.

9. In combination, a retractable and extensible awning, a spring tension roller therefor, ball bearing mountings for each end of the roller, resilient means automatically expansible and contractible, substantially embracing around the awning on the roller, and means for operating the roller.

10. In combination, a retractable and extensible awning, a roller therefor, resilient automatically expansible and contractible members substantially embracing around the awning on the roller, and anti-frictional ball bearing devices mounted on the members to contact with the awning.

11. In combination, a retractable and extensible awning, a roller therefor, resilient automatically expansible and contractible members substantially embracing around the awning on the roller, anti-frictional ball bearing devices mounted on the members to contact with the awning, and means for operating the roller.

12. In combination, a box like structure of a show window, a retractable and extensible awning therein, a spring tension roller therefor, anti-frictional ball bearing mountings for each end of the roller in the box like structure, contractible and expansible annular members provided with anti-frictional devices substantially embracing around the awning on the roll, a retractable extensible frame to which the awning is attached, said frame including side rods, tubular guides for the side rod, anti-frictional ball bearings at one end of each of the side rods to engage the tubular members, and means for retracting and extending the frame against the tension of the spring of the roller.

13. In combination, a box like structure of a show window, a retractable and extensible awning therein, a spring tensioned roller therefor about which the awning is wound, resilient members substantially embracing around the awning on the roller, and adapted to automatically expand and contract as the awning winds on and off the roller, the members being pivoted in the box like structure.

14. In combination, a box like structure of a show window, a retractable and extensible awning therein, a spring tensioned roller therefor about which the awning is wound, ears on the interior of the box like structure, resilient members pivoted to the ears and substantially surrounding the awning on the roller and adapted to automatically expand and contract, as the awning winds on and off the roller, the members having anti-frictional ball bearing wheels to contact with the awning.

15. In an awning fixture, retractable side rods, and tubular members, each arranged to receive one of said rods, said members being slotted, plates having elongated grooved extensions projecting through said slots, and ball bearings in said grooved extensions supporting said rods.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SILAS C. MacDOWNEY.

Witnesses:

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R. E. Snethen.