

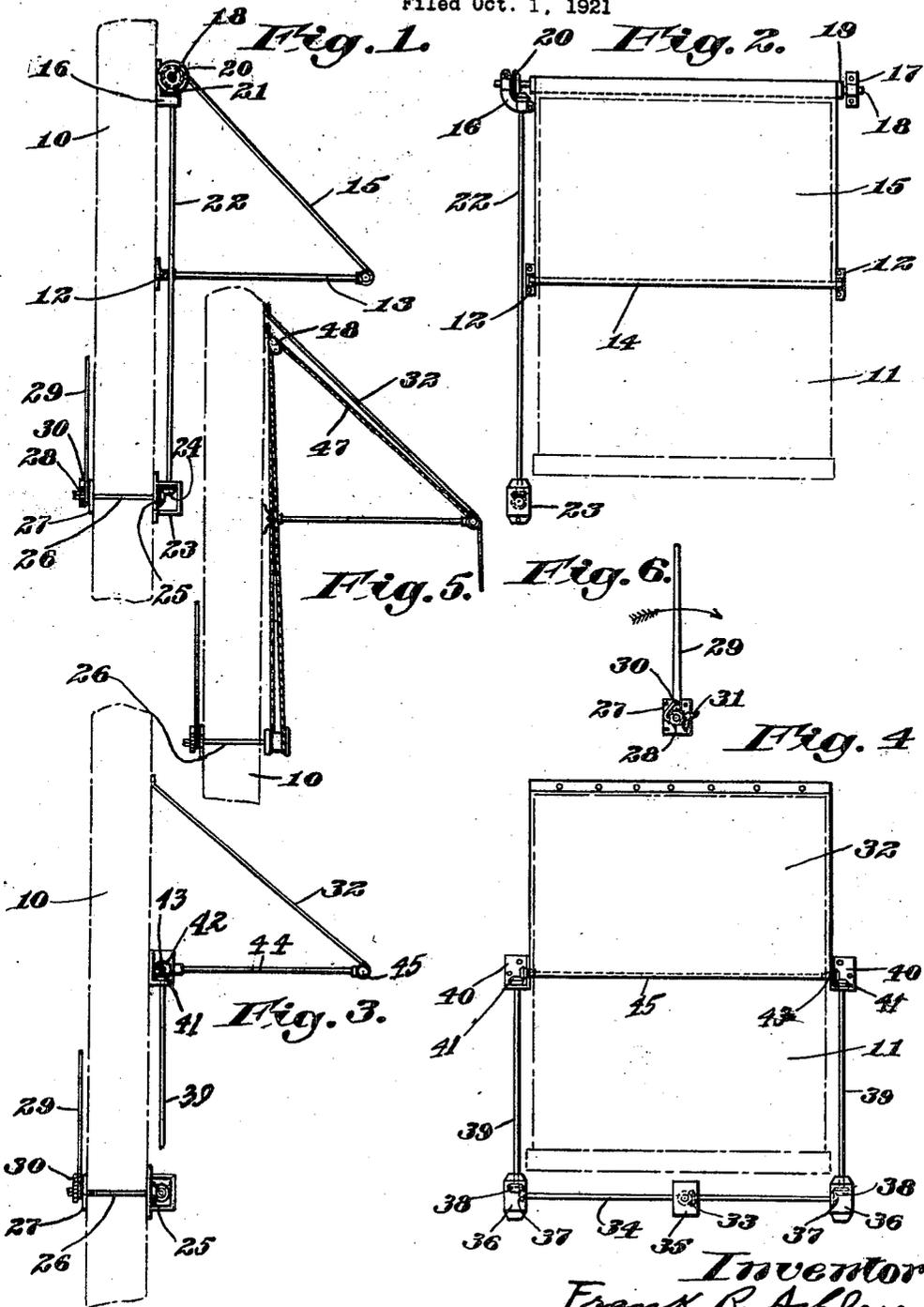
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OPERATING MECHANISM FOR AWNINGS

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OPERATING MECHANISM FOR AWNINGS.

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To all whom it may concern:

Be it known that I, FRANK R. ASHLEY, a citizen of the United States, and resident of Edgewater, in the county of Beaver and State of Colorado, have invented an Improvement in Operating Mechanism for Awnings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My present invention relates to awnings, and more particularly to an improved operating mechanism therefor.

The ordinary operating mechanism for awnings usually consists of nothing more than a few light ropes and pulleys invariably operated from the outside of the building on which the awnings are placed. When the awnings are used to shade windows, such as shop windows, such operating mechanism is always a source of danger, and accidents frequently occur to those persons operating the same. When, as in the case of shop windows, the operating mechanism is so located as to project from the building into the path of travel on the side-walks, there is always danger to passers-by through failure of the operating mechanism, and such mechanism is frequently operated by mischievous boys or hoodlums, to the great danger of themselves and to the passers-by.

I have endeavored to overcome the objections to previous structures, and particularly as applied to large shop windows, and to this end have devised a simple and efficient mechanism for raising and lowering awnings of all types, such mechanism to be operated from within the building on which the awnings are placed. Preferably also, I have dispensed with the usual ropes and pulleys heretofore employed, but my invention is broad enough in character to permit the use of such devices, and I have, in the present application, illustrated one embodiment in which the usual ropes and pulleys are retained. My invention therefore, is adapted to be applied to existing awning installations, while it is contemplated in all new apparatus to dispense entirely with such ropes and pulleys.

The principal object of my present invention therefore, is an improved operating mechanism for awnings and the like.

Another object is an improved operating mechanism for awnings and the like adapt-

ed to be operated from within the building in which the awnings are located.

Other objects and novel features of the construction and arrangement of parts shown and described will appear as the description of the invention progresses.

In the accompanying drawings illustrating preferred embodiments of my invention,

Fig. 1 is a side elevation;

Fig. 2 is a front elevation;

Fig. 3 is a sectional elevation of a modification;

Fig. 4 is a front elevation of Fig. 3, partly in section;

Fig. 5 is a side elevation of another modification, and

Fig. 6 is a detail of the ratchet operating arm.

Referring to the drawings, and more particularly to Figs. 1 and 2, 10 designates a wall surrounding a window 11, shown in dotted lines in Fig. 2. To the wall 10, on either side of the window 11 are attached brackets 12, to which are pivotally attached outwardly extending arms 13, the outer ends of these arms being connected by a bar 14 to which is secured the outer or lower edge of the awning 15. On the wall 10 and adjacent the upper end of the window 11 are brackets 16 and 17, in which is rotatably mounted a shaft 18 carrying a roller 19 to which the upper edge of the awning 15 is attached and on which such awning is adapted to be rolled. On the end of the shaft 18 adjacent the bracket 16 is attached a bevel gear 20 meshing with a bevel gear 21 attached to the top of a shaft 22, this shaft 22 being journaled in the bracket 16 and in a box bracket 23 attached to the wall 10. The lower end of the shaft 22, within the box bracket 23, has attached thereto a bevel gear 24 which meshes with a bevel gear 25 secured to the outer end of a shaft 26, which passes through the wall 10 into the interior of the building, a plate 27 secured to the inner face of the wall 10 forming a bearing for the inner end of the shaft 26. Secured to the end of the shaft 26 is a ratchet wheel 28, while rotatably mounted on the shaft 26, between the plate 27 and ratchet wheel 28, is an operating arm 29 having pivotally mounted thereon a pawl 30 which engages with the ratchet wheel 28. Movement of the arm 29 in the direction of the arrow shown in Fig. 6 rotates the shafts

26 and 22 and the roller 19 in a direction to wind the awning 15 on the roller, thus elevating the bar 14 to raise the awning. Pivotally mounted on the plate 27 is a spring pressed holding pawl 31 for retaining the mechanism in operated position. When it is desired to lower the awning the handle 29 is grasped and the holding pawl 31 withdrawn from engagement with the ratchet wheel 28, when the weight of the bars 13 and 14 is sufficient to cause the rotation of the roller 19 and shafts 22 and 26 to lower the awning 15 to any position desired, when the holding pawl 31 is allowed to reengage the ratchet wheel 28. If desired, the holding pawl 31 may be dispensed with, and the operating arm 29 may be locked in position by engaging with lugs (not shown) on the inner face of the wall 10 or plate 27. Should it be desired not to depend on the weight of the bars 13 and 14 to lower the awning, the extreme inner end of the shaft 26 may be arranged to fit a crank handle (not shown) and by means of which the various shafts may be positively rotated.

Referring now to Figs. 3 and 4, where it is assumed that the window 11 is quite broad, and therefore that the awning 32 is heavy, I have arranged the shaft 26 centrally of and below such window, and in this case the bevel gear 25 on the outer end of the shaft 26 engages with the bevel gear 33 mounted on and intermediate the ends of a horizontal shaft 34, a housing 35 enclosing such bevel gears 25 and 33. This shaft 34 is journaled in box brackets 36 at either end, or side, of the windows 11 and is provided with bevel gears 37 meshing with bevel gears 38 attached to the lower ends of vertically arranged shafts 39 journaled in the box brackets 36 and in brackets 40 located on the outer surface of the wall 10 at a height determined by the height of the awning structure above the sidewalk. On the top of each shaft 39 is attached a bevel gear 41 which meshes with a bevel gear 42 on a stub shaft 43 rotatably mounted in the bracket 40, and to the inner end of each such stub shaft 43 is attached outwardly extending arms 44, the outer ends of these arms being connected by a bar 45 to which the lower edge of the awning 32 is fastened. In this modification, the upper edge of the awning 32 is secured to the upper framework of the window 11 by tacks 46, as shown. The various bevel gears referred to in the description of this modification are substan-

tially equal to each other in pitch and diameter, and it is apparent therefore, that a full rotation of the shaft 26 is not necessary to either fully raise or lower the awning. The arm 29 may be therefore securely attached to the shaft 26 and the pawl 30 dispensed with. The holding pawl 31 may be utilized in conjunction with the ratchet wheel 28, or limiting stops for the arm 29 supplied on the inner face of the wall 10 or on the plate 27.

Should the awning 32 be already installed, with the usual ropes 47 and pulleys 48, the shaft 26 may be provided, at its outer end, with a drum 49 to which the ropes 47 may be attached, when the awning 32 may be raised and lowered as desired in the manner described with reference to the modifications shown in Figs. 1 and 2.

While I have shown and described the preferred modifications of my invention somewhat in detail, it is to be understood that I may vary the size, shape and arrangement of parts constituting my invention within wide limits without departing from the spirit of the invention.

Having thus described my invention, what I claim as new, is:

In a device of the kind described, a combination of a wall, a rotatably mounted shaft extending from the exterior to the interior thereof, a ratchet secured to the inner end of said shaft, an operating arm rotatably mounted on the inner end of said shaft, a pawl pivotally mounted on said operating arm and associated with said bracket, a bevel gear secured to the outer end of said shaft, a horizontal shaft rotatably mounted on the exterior of the wall, bevel gears secured to said shaft, one of said gears meshing with the bevel gear on the outer end of said first shaft, a vertically arranged shaft mounted on the exterior of the wall, bevel gears secured to the ends thereof, one of said bevel gears meshing with the remaining gear on the horizontally arranged shaft, a U-shaped frame pivotally mounted on the exterior of said wall, a bevel gear on one of the arms thereof and meshing with the other of the bevel gears on the vertically arranged shaft on the exterior of the wall, and an awning having one edge secured to the wall and the opposite edge secured to the U-shaped frame.

In testimony whereof, I have signed my name to this specification.

FRANK R. ASHLEY.