

F. M. CHRISTIAN.
FOLDING AWNING ARM.
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Patented Jan. 14, 1913

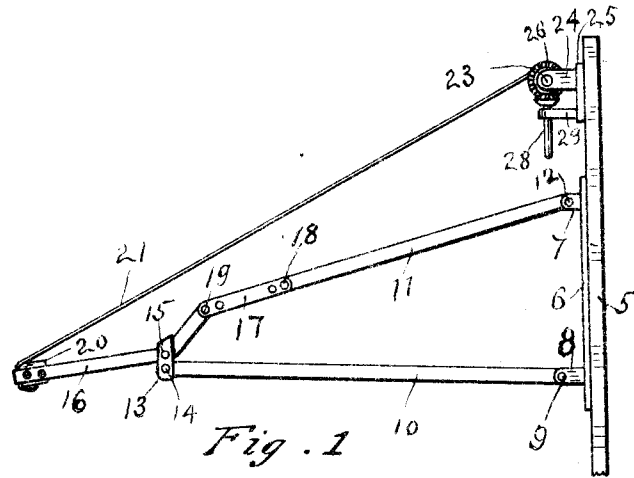


Fig. 1

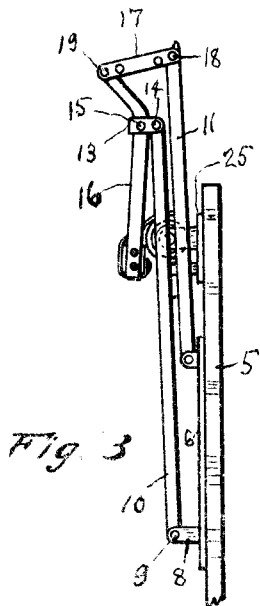


Fig. 3

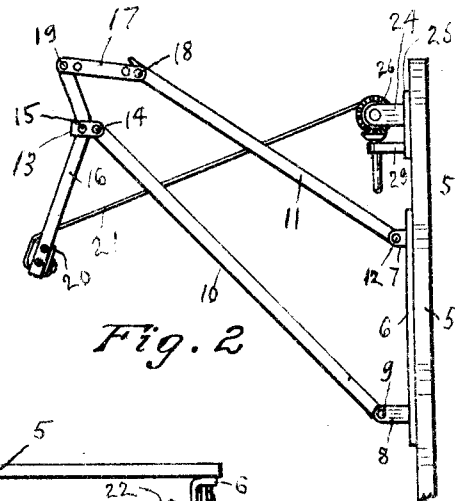


Fig. 2

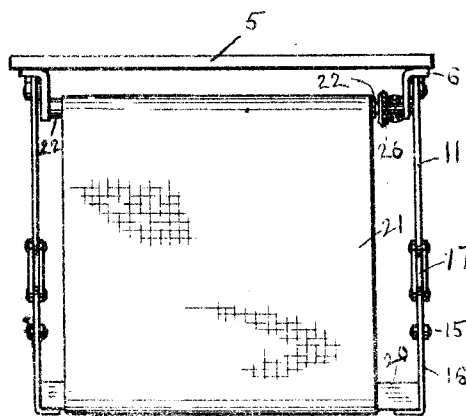


Fig. 4

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FOLDING AWNING-ARM.

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To all whom it may concern:

Be it known that I, FRANK M. CHRISTIAN, a citizen of the United States, residing at Seattle, in the county of King, State of Washington, have invented a new and useful Folding Awning-Arm, of which the following is a specification.

My invention relates to improvements in devices adapted to support awnings in front of or over the windows, doors or storefronts of a building and more particularly it relates to such devices that are adapted by their form and structure to fold such awning, or permit it to be rolled on a suitable roller, whereby it may be stowed snugly adjacent to the wall of a building, and the object of my improvement is to provide a folding awning arm that shall be adapted to support an awning that may extend outwardly from the wall of a building, when spread or unrolled, to a distance much greater in extent than will be the extent of the vertical distance occupied by such awning when it is folded or rolled back against the wall of the building to which it is attached; and a further object of my improvement is to provide folding-arm supports that shall operate with little friction to fold into a compact form, and permit the fabric of the awning to be neatly rolled or folded to occupy little space adjacent to its supporting wall, and which shall be simple in construction, durable and efficient in operation. I attain these objects by devices illustrated in the accompanying drawings in which—

Figure 1 is a view of my invention in side elevation when extended to spread an awning, Fig. 2 is a view of same in side elevation showing the relative position of its parts as they would appear at one point of their movement in the operation of folding it, Fig. 3 is a view in side elevation of the same, showing the position of its parts when folded against its supporting wall, while Fig. 4 is a plan view of same on a reduced scale when extended to spread an awning.

Like reference numerals indicate like parts throughout the drawings.

Referring now to Fig. 1 of the drawings, 5 indicates the wall of a building to which is fastened a supporting bracket 6 from the upper end of which projects a lug 7 and from the lower end of which projects another lug 8. Hinged to such lower lug 8

by a pivot 9 is a bar 10 while another bar 11 is hinged to the upper lug 7 by a pivot 12. The end of the bar 10 distant from the pivot 9 is hinged by pivot 14 to a lug 13 which is riveted to a lever 16 by a rivet 15, the shorter arm of the lever 16 extending obliquely upward is connected with the outer end of the bar 11 by a link 17 by means of pivots 18 and 19 respectively. The longer arm of the lever 16 extending outwardly from its pivot 15 is attached securely to a cross-bar 20 to which an edge of the fabric of an awning 21 is fastened, such awning 21 extending in an inclined direction to a roller 22 which is more clearly indicated in Fig. 4, the roller 22 being suitably mounted to rotate on pivots 23 disposed within bearings provided in an outwardly projecting portion of a bracket 24 whose supporting base 25 is fastened to the wall 5 at a suitable distance above the lug 7 on the supporting bracket 6. One end of the roller 22 is shown as being provided with a bevel gear-wheel 26 which is adapted to mesh with another bevel gear-wheel 27 which is mounted upon the end of a vertical shaft 28, shown by a fragmentary view in Fig. 1, the upper end of the shaft 28 being journaled in a projecting arm 29 which projects from the supporting base 25. Well known suitable means, not shown, may be provided to communicate motion to the shaft 28 whereby the roller 22 may be turned to roll upon it the awning 21. Manifestly, at the commencement of the rolling of the awning 21 on to the roller 22, first, the bars 10 and 11 will swing upwardly by motion conveyed through the lever 16 and a continued upward movement of the parts will cause the outer jointed ends of the bars 10 and 11 respectively to rise higher than the plane of the awning 21 and the longer arm of the lever 16 to dip downwardly as illustrated in Fig. 2 where the various parts are shown in one of the positions they assume during the operation of rolling the awning 21 on to the roller 22.

Fig. 3 illustrates the positions of the various parts of my invention when the awning 21 is disposed in convolutions around the roller 22. It will be observed that a large proportion of the awning folding arm extends upwardly above the awning 21 when said awning 21 is rolled upon the roller 22 whereby all parts of the structure will be

out of the way and beyond the reach of persons standing on the sidewalk in front of a window or door which is shaded by an awning operated by my invention.

Fig. 4 shows by a plan view, on a reduced scale, an awning extended outwardly from the wall 5 of a building by means of a pair of folding arms embodying my invention.

The compact form into which may be disposed a folding arm embodying my invention is due largely to the action of the link 17 and the angular form of the lever 16. Such links 17 may be varied in length and the degree of angle of the lever 16 may be varied as desired to suit varying conditions with respect to dimensions of the area to be protected by an awning. In some cases it may be desirable to fold an awning instead of rolling it on to a roller and in such an instance my invention may advantageously be used by connecting the cross-bar 20 with a cord or rope and extending such cord over a pulley suitably disposed and secured on the wall of the building above the top of the bracket 6 and thus by pulling downwardly on such cord the various parts of the folding arm would operate in the same manner that they would if the awning 21 should be rolled on to a roller 22 as described.

Modifications in the proportions and form of various parts of my invention may be made without departing from the spirit thereof.

What I claim is:

1. In a folding-arm of the class described, the combination with a roller mounted to revolve in suitably supported bearings and adapted to roll an awning thereon, of a pair of folding-arms, one of such pair of folding-arms being suitably supported beneath and adjacent to each end of said roller and each

folding-arm of said pair comprising a lower-bar and an upper-bar one end of each of which is hinged to a suitable support, an angular lever having a long arm and a short arm, a link connecting one end of such upper-bar with the end of the short arm of said angular lever, while said angular lever is hinged at the junction of its two arms with an end of said lower-bar, and a cross-bar connecting and extending between the ends of the long arms of the said levers of the pair of folding-arms, said cross-bar being adapted to be fastened to an edge of an awning.

2. In a folding awning-arm of the class described, the combination with a vertical support adapted to be fastened to the wall of a building, of a lever of angular shape, an arm swingingly hinged at one of its ends with the upper end portion of said support while its other end is connected by a link with one end of one arm of said lever and a second arm swingingly hinged at one of its ends to the lower end portion of said support while its other end is hinged to said lever at the point of junction of the two arms of said lever.

3. In a folding awning-arm of the class described, the combination with suitable supports, of a lever, an arm swingingly hinged at one of its ends with one of said supports while its other end is connected by a link with one end of said lever, and a second arm swingingly hinged at one of its ends to the other of said supports while its end is hinged to said lever at a desired point between the two ends of said lever.

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Witnesses:

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