Oct. 31, 1933. R. WILSON 1,932,945

FOLDABLE AWNING ARM

Filed Aug. 19, 1932

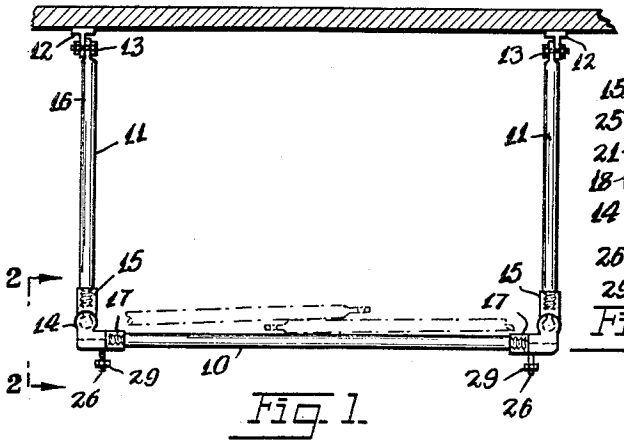


Fig. 1.

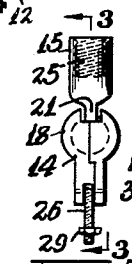


Fig. 2.

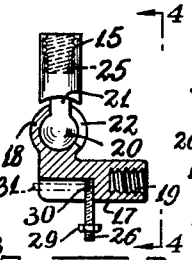


Fig. 3.

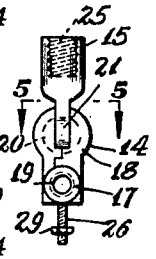


Fig. 4.

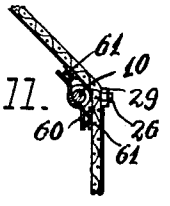


Fig. 11.

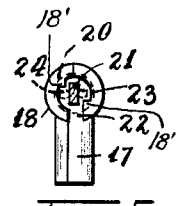


Fig. 5.

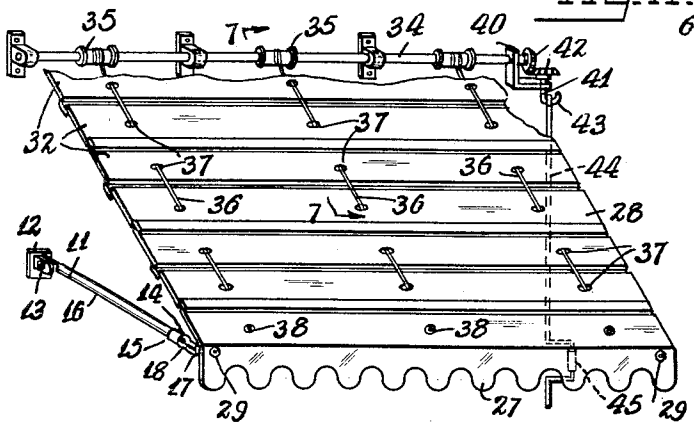


Fig. 6.

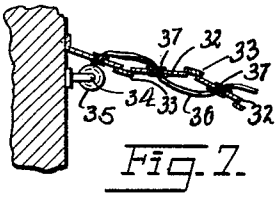


Fig. 7.

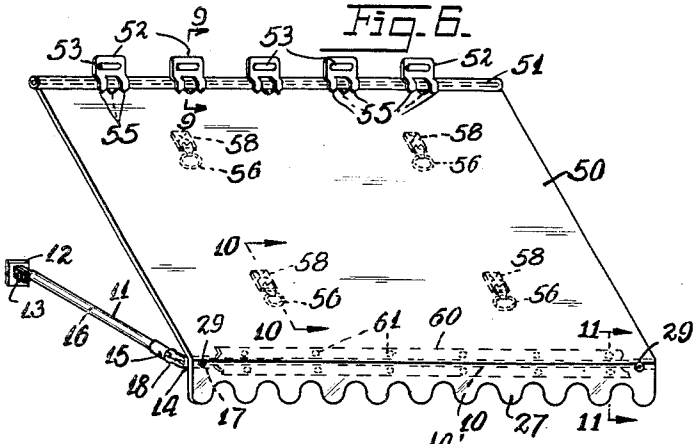


Fig. 8.

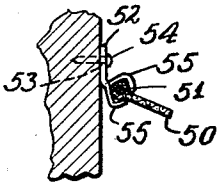


Fig. 9.

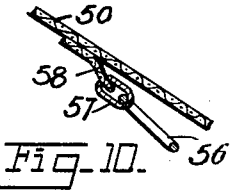


Fig. 10.

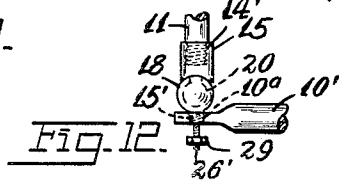


Fig. 12.

INVENTOR
ROSE WILSON
BY Zoltan A. Polachek
ATTORNEY

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UNITED STATES PATENT OFFICE

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FOLDABLE AWNING ARM

Rose Wilson, New York, N. Y.

Application August 19, 1932. Serial No. 629,402

7 Claims. (Cl. 156—15)

This invention relates to new and useful improvements in awnings.

The invention has for an object the construction in an awning of a frame adapted to hold the awning extended when the awning is in the lowered position. More particularly it is proposed to provide an arrangement whereby said frame may be conveniently folded prior to installation.

The invention has for an object the construction of the frame in a manner so that a rod is provided for attachment upon the front of the awning material and folding arms for pivotal attachment upon the window frame at their rear ends so as to swing in the vertical for the raising and lowering of the awning and for attachment at their other ends upon the ends of said rod.

More particularly the invention has specific reference to the junction between the folding arms and the front rod. It is particularly intended to provide an arrangement whereby the folding arms may be pivoted parallel against the side of said rod or may assume an extended position at right angles thereof, and in the extended position be latched against pivoting closed.

It is proposed to construct the junction referred to of an L-shaped bracket with the arms thereof in the horizontal and placed with one arm parallel to the front and the other extending towards the rear, and to provide a socket member with a spherical head engaging into a spherical hollow in the end of the arm extending to the rear, and to detachably connect the said rod on the front end of the L-shaped bracket and another rod forming the folding arm upon the rear end of the socket member.

As a further object of this invention it is proposed to form the socket member with a reduced neck between the head and body thereof and to associate this neck in some manner with the rear end of the L-shaped bracket so as to allow pivoting in the horizontal from a position parallel with the front arm of said L-shaped bracket to a position at right angles to said arm, and in said latter position be turnable through an angle of substantially 90° to a position latched against pivoting in the horizontal.

As a further object of this invention it is proposed to associate a peg with the front arm of said L-shaped bracket in a manner so as to take up a small compass when desired and during use be adapted to engage the front of the awning to securely attach the awning upon the frame.

The invention also has reference to various features on various details of the awning structure.

The invention has for a further object the construction of an article as mentioned which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a plan view of an awning frame constructed according to this invention.

Fig. 2 is a fragmentary elevational view of the junction of the frame thereof seen as though looking in the direction of the line 2—2 of Fig. 1.

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

Fig. 4 is an elevational view looking in the direction of the line 4—4 of Fig. 3.

Fig. 5 is a sectional view taken on the line 5—5 of Fig. 4.

Fig. 6 is a perspective view of an awning constructed according to this invention.

Fig. 7 is a fragmentary sectional view taken on the line 7—7 of Fig. 6.

Fig. 8 is a view similar to Fig. 6 but showing a modified form of awning constructed according to the same invention.

Fig. 9 is a sectional view taken on the line 9—9 of Fig. 8.

Fig. 10 is a fragmentary sectional view taken on the line 10—10 of Fig. 8.

Fig. 11 is a fragmentary sectional view taken on the line 11—11 of Fig. 8.

Fig. 12 is a fragmentary plan view of another form of junction of the frame.

The invention has particular reference to features in an awning, of a rod 10 for attachment upon the front of the awning material and folding arms for pivotal connection at their rear ends upon the window frame so as to swing in the vertical and for attachment at their front ends upon the ends of the rod 10. More particularly brackets 12 are secured upon the window frame and bolts 13 engage through these brackets and the ends of the arms 11 to accomplish the pivoting of the arms 11 for swinging in the vertical. Each of the folding arms 11 comprises an L-shaped bracket 14 connected with a socket member 15 which detachably holds the end of the rod 16. The rod 16 is the element which is pivotally secured by the bolt 13 and which is detachably held upon a socket member 15, while the arm 11 comprises this rod 16 plus the L-shaped bracket 14 and socket 15.

The L-shaped bracket 14 comprises a pair of

arms 17 and 18 at right angles to each other and placed horizontally, that is, with both arms in the horizontal plane, and with the arm 17 at the front and the arm 18 extending to the rear. The rod 10 detachably engages into the end of the arm 17 preferably by the provision of a threaded portion on the rod 10 engaging a threaded opening 19 on the end of the arm 17.

The socket member 15 is formed with a spherical head 20 engaging in a spherical opening within the end of the arm 18. The bracket 14 is shown in Figs. 2 and 4 to be composed of two separate sections connected together so that it is possible to engage the spherical head 20 within the spherical opening. The socket member 15 is provided with a reduced neck 21 joining with the head 20. This reduced neck 21 is of greater width than thickness as clearly shown in Fig. 5. The neck engages in the top of the spherical opening indicated in Fig. 5 by reference numeral 23 and is also engageable in an opening 22 which is formed in the end of the arm 18 and lies in a horizontal plane and connects with the opening 23 so as to permit the socket 15 to swing in the horizontal from a position at right angles to the arm 17 to a position parallel with the arm 17 and immediately adjacent it.

When the socket member 15 is in the position in which it extends at right angles to the arm 17 it may be twisted or turned thru an angle of 90° so as to extend transversely and within the top 23 of the spherical opening, that position being indicated by the dot and dash lines 24 in Fig. 5 and in which position the socket member 15 is latched so that it cannot pivot. The twisting of the socket member 15 is limited to 90 degrees because the neck 21 is engageable against projections 18' extending from the arm 18 into the top 22 of the spherical opening. The rod 16 is detachably connected into the end of the socket member 15 by reason of a threaded portion thereof engaging a threaded opening 25 formed in the end of the socket member 15.

A peg 26 projects at right angles and from the front of the arm 17 and is adapted to engage through the front 27 of an awning 28. A nut 29 threadedly engages upon the peg 26 so that the awning front may be securely secured in place. The peg 26 is pivotally mounted by reason of a pintle pin 30 engaging through its inner end and mounted upon the arm 17, so that the peg 26 may swing to the position indicated by the dot and dash lines 31 in Fig. 3. The arm 17 is recessed as shown in Fig. 3 for the purpose of allowing the peg 26 to engage therein. The object is to reduce the compass of the joint between the rod 10 and the rod 16 prior to assembly and when the parts are in transit or when the awning material is being secured upon the awning frame.

In Figs. 6 and 7 one type of awning has been disclosed which is provided with a frame according to this invention. The awning 28 comprises a plurality of transverse rigid strips 32 extending the complete width of the awning and bendably connected to each other by the provision of flexible binding strips 33 secured upon adjacent sides. These binding strips 33 are arranged alternately at the top and at the bottom relative to the edges of the strips 32 in a manner so that the strips 32 may fold in accordion fashion.

An arrangement is provided for raising and lowering the awning 28 and comprises a shaft 34 rotatively mounted upon the window frame and carrying a plurality of drums 35 upon which a cable 36 is wound. These cables extend from the drums 35 through each of the strips 32 alternately over the top and then under the bottom as shown in Fig. 7. For this purpose the strips 32 are provided with eyelet openings 37. At the ends the cables 36 are attached at the points 38 upon the awning material, at the front of the awning. The rigid strips 32 may be metal, wood or any other similar material.

An arrangement is provided for turning the shaft 34 to cause raising or lowering of the awning and comprises a bracket 40 associated with the shaft 34 and with a stud shaft 41 connected with the shaft 34 by bevel gears 42. The shaft 41 is provided with a hook portion 43 adapted to be engaged by a turning tool 44 having a crank portion 45. The turning tool is of conventional construction and may be manually operated to cause the raising and lowering of the awning. Upon raising the awning the strips 32 will become folded against each other in accordian fashion and when the awning is lowered they will assume extended positions as shown on the drawing.

In Figs. 8–11 inclusive another form of awning has been disclosed which is also equipped with the same invention. This awning is shown composed of cloth 50 and also provided with a front depending portion 27 secured by the bolts 29 similarly as the awning previously described. The upper edge of the awning 50 is held in place by reason of a rod or other rigid member 51 secured upon the edge and engaged by a plurality of clips 52 attached upon the window frame. Each of the clips 52 is provided with an opening 53 to receive attaching means 54 and each of the clips is also provided with a plurality of prongs 55 or gripping jaws adapted to engage the top and the bottom sides of the edge of the awning, and thus hold the awning in place.

A plurality of rings 56 are shown attached upon the bottom face of the awning material for the passage of cords adapted to raise and lower the awning. The detail of the cords and their associated mechanism for raising and lowering the awning will not be given here since it forms no part of the invention and will be readily understood. Each of the rings 56 is engaged first by a metal clip 57 over which a cloth strap 58 engages. This cloth strap is formed at one end into a loop within which the metal clip 57 is disposed, and at the other end is sewed or in any other manner attached upon the bottom of the awning material.

In Figs. 8 and 11 details have been shown of the connection of the rod 10 upon the front material 27 of the awning. A detachable binding strip 60 is provided with an upper and a lower line of eyelets 61 engaging complementary eyelets upon the rear sides of the cloth material 27 so as to form a passage 62 through which the rod 10 extends. The strip 60 is detachable for the purpose of disconnecting the awning material from the rod 10. It is pointed out that the strip 60 may be permanently secured upon the awning material but in such a case it would be necessary that the rod 10 be slipped in the passage 62 through one end. The pegs 26 and the nuts 29 serve to prevent the material 27 from slipping along the rod 10 or even along the rods 16.

In Fig. 12 bracket 14' is provided with a

threaded extension 15′ which engages in a tapped hole 10ª of rod 10′. A reduced threaded projection or peg 26′ of extension 15′ engages thru the awning and nut 29 and holds the awning securely on peg 26′.

Once the awning is installed it is used in conventional manner. The many features of the invention are the various advantages previously pointed out, the main one being the provision of the bracket 14 and the socket member 15 and the arrangement of these parts allowing the rod 16 to be latched in rearward extended positions or to be unlatched and thereafter pivoted into positions parallel with the rod 10. Also the arrangement whereby the peg 26 may be pivoted so as not to project from the bracket 14.

While I have shown and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:—

1. In an awning, a rod for attachment upon the front of the awning material, folding arms for pivotal attachment at their rear ends upon a window so as to swing in the vertical and attached on their front ends upon the ends of said rod, each of said folding arms comprising an L-shaped bracket having its arms in the horizontal and one parallel to the front and the other at right angles extending to the rear, said rod being detachably engaged in the end of the front arm of said L-shaped bracket, a socket member with a spherical head engaging a spherical hollow in the rear arm of said L-shaped bracket and having a reduced neck interposed between the head and the body thereof and of greater width than thickness and in one rotative position engageable with an opening so as to be capable of pivoting in the same plane with said L-shaped bracket to a position in which it is parallel with the front arm of the L-shaped bracket or a position in which it is at right angles with said front arm and twistable through an angle of 90° into a second rotative position in which the neck is not engageable with the opening so as to prevent the socket member from swinging in the horizontal, and a rod detachably engaged on said socket member and for pivotal connection at the rear upon said window.

2. In an awning, a rod for attachment upon the front of the awning material, folding arms for pivotal attachment at their rear ends upon a window so as to swing in the vertical and attached on their front ends upon the ends of said rod, each of said folding arms comprising an L-shaped bracket having its arms in the horizontal and one parallel to the front and the other at right angles extending to the rear, said rod being detachably engaged in the end of the front arm of said L-shaped bracket, a socket member with a spherical head engaging a spherical hollow in the rear arm of said L-shaped bracket and having a reduced neck interposed between the head and the body thereof and of greater width than thickness and in one rotative position engageable with an opening so as to be capable of pivoting in the same plane with said L-shaped bracket to a position in which it is parallel with the front arm of the L-shaped bracket or a position in which it is at right angles with said front arm and twistable through an angle of 90° into a second rotative position in which the neck is not engageable with the opening so as to prevent the socket member from swinging in the horizontal, and a rod detachably engaged on said socket member and for pivotal connection at the rear upon said window, said rods threadedly engaging into the front end of said L-shaped bracket and said socket member for accomplishing the detachable connection of these parts.

3. In an awning, a rod for attachment upon the front of the awning material, folding arms for pivotal attachment at their rear ends upon a window so as to swing in the vertical and attached on their front ends upon the ends of said rod, each of said folding arms comprising an L-shaped bracket having its arms in the horizontal and one parallel to the front and the other at right angles extending to the rear, said rod being detachably engaged in the end of the front arm of said L-shaped bracket, a socket member with a spherical head engaging a spherical hollow in the rear arm of said L-shaped bracket and having a reduced neck interposed between the head and the body thereof and of greater width than thickness and in one rotative position engageable with an opening so as to be capable of pivoting in the same plane with said L-shaped bracket to a position in which it is parallel with the front arm of the L-shaped bracket or a position in which it is at right angles with said front arm and twistable through an angle of 90° into a second rotative position in which the neck is not engageable with the opening so as to prevent the socket member from swinging in the horizontal, and a rod detachably engaged on said socket member and for pivotal connection at the rear upon said window, and projections extending from the L-shaped bracket so as to limit turning of the neck to an angle of 90°.

4. In an awning, a rod for attachment upon the front of the awning material, folding arms for pivotal attachment at their rear ends upon a window so as to swing in the vertical and attached on their front ends upon the ends of said rod, each of said folding arms comprising an L-shaped bracket having its arms in the horizontal and one parallel to the front and the other at right angles extending to the rear, said rod being detachably engaged in the end of the front arm of said L-shaped bracket, a socket member with a spherical head engaging a spherical hollow in the rear arm of said L-shaped bracket and having a reduced neck interposed between the head and the body thereof and of greater width than thickness and in one rotative position engageable with an opening so as to be capable of pivoting in the same plane with said L-shaped bracket to a position in which it is parallel with the front arm of the L-shaped bracket or a position in which it is at right angles with said front arm and twistable through an angle of 90° into a second rotative position in which the neck is not engageable with the opening so as to prevent the socket member from swinging in the horizontal, a rod detachably engaged on said socket member and for pivotal connection at the rear upon said window, and a peg projecting at right angles from the front side of the front arm of said L-shaped member and for engaging the front material of

an awning, and a nut threadedly engaged on said peg to hold the awning material in place, said peg being pivotally mounted for swinging into a position parallel to the front arm of said L-shaped bracket.

5. In an awning, a rod for attachment upon the front of the awning material, folding arms for pivotal attachment at their rear ends upon a window so as to swing in the vertical and attached on their front ends upon the ends of said rod, each of said folding arms comprising an L-shaped bracket having its arms in the horizontal and one parallel to the front and the other at right angles extending to the rear, said rod being detachably engaged in the end of the front arm of said L-shaped bracket, a socket member with a spherical head engaging a spherical hollow in the rear arm of said L-shaped bracket and having a reduced neck interposed between the head and the body thereof and of greater width than thickness and in one rotative position engageable with an opening so as to be capable of pivoting in the same plane with said L-shaped bracket to a position in which it is parallel with the front arm of the L-shaped bracket or a position in which it is at right angles with said front arm and twistable through a angle of 90° into a second rotative position in which the neck is not engageable with the opening so as to prevent the socket member from swinging in the horizontal, a rod detachably engaged on said socket member and for pivotal connection at the rear upon said window and a peg projecting at right angles from the front side of the front arm of said L-shaped member and for engaging the front material of an awning, and a nut threadedly engaged on said peg to hold the awning material in place, said peg being pivotally mounted for swinging into a position parallel to the front arm of said L-shaped bracket, said front arm being provided with a recess for receiving said peg.

6. In an awning, a rod for attachment upon the front of the awning material, folding arms for pivotal attachment at their rear ends upon a window so as to swing in the vertical and attached on their front ends upon the ends of said rod, each of said folding arms comprising an L-shaped bracket having its arms in the horizontal and one parallel to the front and the other at right angles extending to the rear, said rod being detachably in the end of the front arm of said L-shaped bracket, a socket member with a spherical head engaging a spherical hollow in the rear arm of said L-shaped bracket and having a reduced neck interposed between the head and the body thereof and of greater width than thickness and in one rotative position engageable with an opening so as to be capable of pivoting in the same plane with said L-shaped bracket to a position in which it is parallel with the front arm of the L-shaped bracket or a position in which it is at right angles with said front arm and twistable through an angle of 90° into a second rotative position in which the neck is not engageable with the opening so as to prevent the socket member from swinging in the horizontal, a rod detachably engaged on said socket member and for pivotal connection at the rear upon said window, and a peg projecting at right angles from the front side of the front arm of said L-shaped member and for engaging the front material of an awning, and a nut threadedly engaged on said peg to hold the awning material in place, said peg being pivotally mounted for swinging into a position parallel to the front arm of said L-shaped bracket, and said awning material having an element on the front portion thereof forming a passage, said first mentioned rod extending through said passage, said pegs extending through said awning material whereby the awning material is arrested from slipping along said rod.

7. In an awning, a rod for attachment upon the front of the awning material, folding arms for pivotal attachment at their rear ends upon a window so as to swing in the vertical and attached on their front ends upon the ends of said rod, each of said folding arms comprising an L-shaped bracket having its arms in the horizontal and one parallel to the front and the other at right angles extending to the rear, said rod being detachably engaged in the end of the front arm of said L-shaped bracket, a socket member with a spherical head engaging a spherical hollow in the rear arm of said L-shaped bracket and having a reduced neck interposed between the head and the body thereof and of greater width than thickness and in one rotative position engageable with an opening so as to be capable of pivoting in the same plane with said L-shaped bracket to a position in which it is parallel with the front arm of the L-shaped bracket or a position in which it is at right angles with said front arm and twistable through an angle of 90° into a second position in which the neck is not engageable with the opening so as to prevent the socket member from swinging in the horizontal, a rod detachably engaged on said socket member and for pivotal connection at the rear upon said window, and a peg projecting at right angles from the front side of the front arm of said L-shaped member and for engaging the front material of an awning, and a nut threadedly engaged on said peg to hold the awning material in place, said peg being pivotally mounted for swinging into a position parallel to the front arm of said L-shaped bracket, and said awning material having an element on the front portion thereof forming a passage, said first mentioned rod extending through asid passage, said pegs extending through said awning material whereby the awning material is arrested from slipping along said rod, said passage on the awning material being formed with a strip detachably connected on the awning material.

ROSE WILSON.