Dec. 17, 1929. E. MARTIN 1,740,190

AWNING—ACTUATING MECHANISM

Filed Jan. 4, 1928

FIG. 2

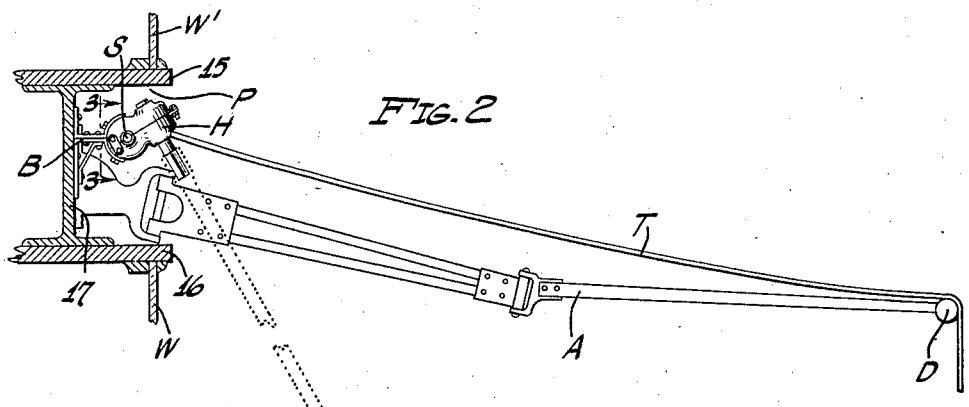


FIG. 3

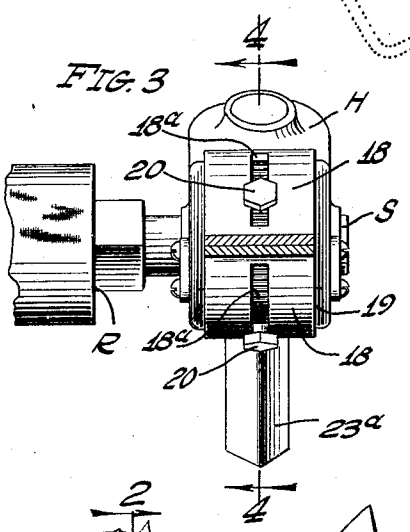


FIG. 4

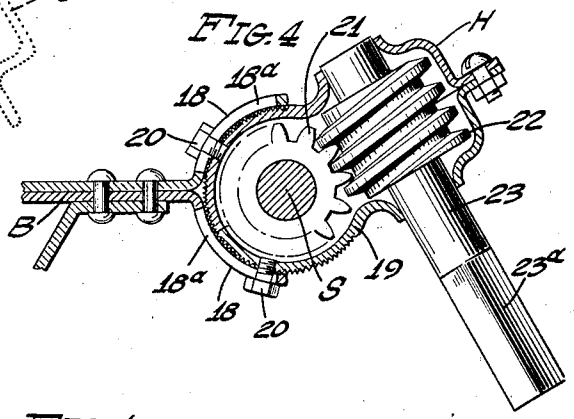
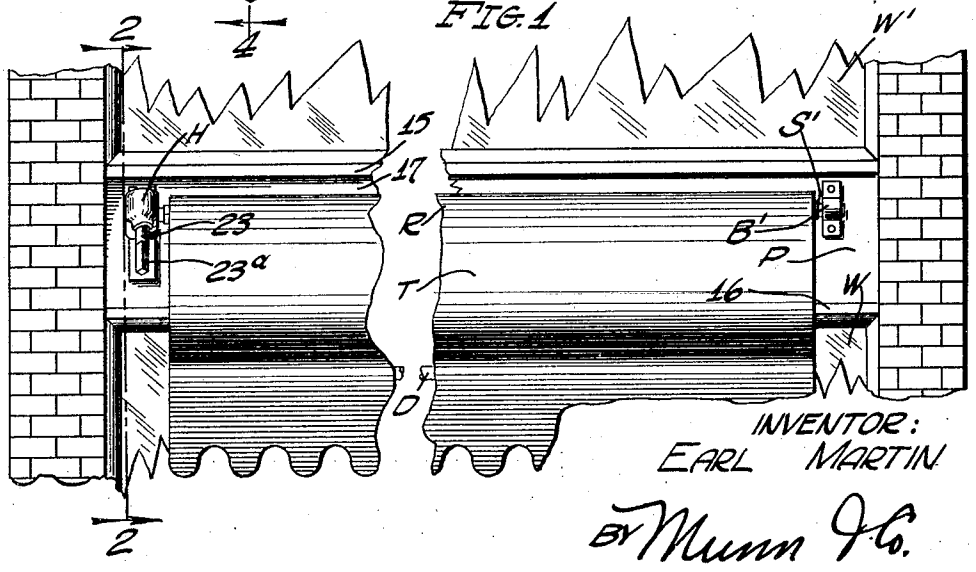


FIG. 1



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UNITED STATES PATENT OFFICE

EARL MARTIN, OF LOS ANGELES, CALIFORNIA

AWNING-ACTUATING MECHANISM

Application filed January 4, 1928. Serial No. 244,485.

My invention relates to awnings of that type having a roller to which the awning sheet is secured so as to be adapted to be rolled and unrolled, according to whether the roller is rotated in one direction or the other, thereby causing the awning to assume a folded or an extended position.

In awnings of this character the roller is fixed at its ends in stub shafts journaled in brackets, one of the stub shafts being connected to an actuating shaft through gearing. The roller and the actuating mechanism are usually mounted in a wall pocket above the window or the doorway which the awning is adapted to shield, so that, when the awning is folded, it does not protrude beyond the surface of the wall or the window, thus protecting the awning from the detrimental action of the elements and presenting the desired neat appearance to the front of the building. The actuating shaft is made up of several sections connected by universal joints, so that the free end of the actuating shaft, which is generally squared, is accessible in order to permit the application of the usual elongated crank for manually rotating the shaft and thereby to actuate the roller in folding or extending the awning. Because of its flexibility, the actuating shaft is permitted to assume any position in the wall pocket, and the position of the shaft is usually such that, even by a careful manpulation of the crank, it is not easy to bring the crank into engagement with the shaft in order to rotate the latter. Also, because the shaft is flexible, the crank, during its rotation, is liable to wabble, thus striking and marring the surfaces of the adjacent woodwork or tilework of the wall or the window, and thus rendering the rotation of the crank difficult.

It is a purpose of my invention to provide an actuating mechanism for the roller type of awnings and thereby to eliminate the defects in previously designed mechanisms, as above recited, my mechanism being characterized chiefly by its adjustability in order to render the actuating shaft readily accessible, thus facilitating the application of the operating crank to the shaft, and also facilitating the manipulation of the crank, without making the latter liable to mar adjacent surfaces.

I will describe only one form of awning-actuating mechanism embodying my invention and will then point out the novel features in the claims.

In the accompanying drawings:

Fig. 1 is a front elevation of portions of a wall and a window in a building having applied thereto a roller type of awning in which is incorporated one form of actuating mechanism embodying my invention;

Fig. 2 is a vertical, sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged, sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a vertical, sectional view taken on the line 4—4 of Fig. 3.

Referring specifically to the drawings, and particularly to Figs. 1 and 2, I have here shown a portion of a building, in the front wall of which are windows W and W′ spaced by an elongated pocket or recess P having top and bottom walls 15 and 16 and a rear wall 17, the pocket being of a sufficient depth in order to completely receive the awning and the operating mechanism therefor when the awning is in its folded position. A pocketed-wall construction such as described, is typical of awnings of this character, the awning in its extended position, as illustrated in Figs. 1 and 2, projecting from the wall of the building so as to shield the window or the door under the awning.

My invention in its present embodiment comprises a pair of brackets B and B′, which are secured to the rear wall 17 and have stub shafts S and S′ respectively therein journaled. These stub shafts are adapted to receive the opposite ends of a roller R, about which the awning sheet T is trained or untrained according to whether the roller is rotated in one direction or the other so as to cause the sheet to assume a folded or an extended position. In the extended position the sheet is supported by laterally foldable arms A with a pawl D, as illustrated in Fig. 2, these arms and the pawl being foldable within the pocket P when the awning is in its folded position. The actuating mechanism forming the subject-matter of my invention comprises the

actuating means for the stub shaft S in order to facilitate the application, and the operation of the conventional crank C, by which the stub shaft is manually actuated, the crank being indicated by dotted lines in Fig. 2. As illustrated in Figs. 3 and 4, the bracket B is provided with a pair of arcuate extensions 18 which coact in order to form an arcuate socket, adapted to receive therein the head 19 of a housing H. The head 19 is of a cross-sectionally circular form, so that the contacting faces of the extensions 18 and the head conform to each other, and the head is also provided with bolts 20 movable in slots 18ª of the extensions, the contacting faces of the extensions and the head being serrated, as shown, in order to provide gripping surfaces for securing the head in a circumferentially adjusted position within the socket when the bolts 20 are tightened. It will be understood that, when the bolts are tightened, their heads engage the extensions and thus force the serrated surfaces into locking contact with each other so that the entire housing H is thereby secured in the adjusted position.

The housing H is constructed of two parts so as to permit assembling and disassembling, and the form of the parts is such that the housing is adapted to accommodate a worm gear 21 and a worm 22. The stub shaft S is journaled in the head 19, and the worm gear 21 is keyed thereto. The worm 22 is keyed to an actuating shaft 23, journaled in the housing H, so that the worm constantly meshes with the worm gear 21. The shaft 23 projects from the housing and is provided with a squared end 23ª, which is adapted to be received in a correspondingly shaped socket of the actuating crank C, so that, by the rotation of the crank, the shaft is acuated and that through the medium of the gear 21 and the worm 22, the stub shaft S, and consequently the roller R, can thereby be rotated in either direction.

In practice, the housing H can be adjusted about the stub shaft S as a center by first loosening the bolts 20, and the shaft 23 may then be swung either to a position within the pocket P in order to render the shaft inaccessible for the application of the crank C thereto, by an unauthorized person, or to a position in which the squared end of the shaft protrudes from the pocket and thus makes the application of the crank to the shaft possible. When the desired adjustment has been effected, the bolts are tightened so that the housing and, consequently, the actuating shaft are securely held in their adjusted positions. Therefore, the actuating shaft may be maintained in an accessible position at all times so that a person is able to operate it by the crank C from a position below the pocket P. Since the operative connection between the shaft 23 and the stub shaft S is inflexible, and since therefore the crank C is not liable to strike or mar adjacent surfaces, it is clear that the manipulation of the crank is thereby greatly facilitated. It should be understood, of course, that the adjustment of the actuating shaft depends upon the depth of the pocket P, as it is necessary that the crank C clear the walls of the pocket when the crank is applied to the shaft. It is also evident that, by reason of its construction, the mechanism is adapted for use in connection with pockets of various depths, and that the mechanism can be adjusted so as to maintain the actuating shaft in such a position that the shaft is accessible to the crank.

I am aware that attempts have been made in the art to effect the adjustability of the operating shaft for an awning roller to different positions by providing one of the brackets, by which the awning roller and its operating mechanism are secured to the support therefor, and the housing means for the operating shaft with plane contacting surfaces laterally, and to assure the holding of the housing means in the adjusted position by locking means in the form of screws or a nut-and-bolt connection. In such constructions, whether the tightening of the locking means is light or hard or whether it is varying in degree from a moderate tightening or one that is so excessive as to cause shearing of the locking means, the friction between the contacting surfaces of the bracket and the housing is insufficient for retaining the housing and therewith the operating shaft in the adjusted position, so that at all times the shaft is liable to be accidentally shifted from one position to another, and that thus the adjustability of the operating shaft to different positions is wholly unreliable and unsatisfactory.

It should be understood, however, that in my awning-actuating mechanism the arcuate formation of the contacting surfaces of the extensions 18 and the housing head 19 is in itself sufficient to assure the holding of the actuating shaft 23 in its adjusted position even when the bolts 20 are only lightly tightened, because the contact between the bracket and the housing head is at the periphery of the latter, and because there is a greater contact area at the periphery of the housing head than if the contact were distributed in a plane from the shaft S to the periphery of the housing head, so that the friction therefore is greater between the arcuate contacting surfaces than between such plane surfaces as are disclosed in the prior art. The efficiency of the frictional contact in my awning-actuating mechanism is further increased by the serration of the contacting surfaces, so that, even if the heads of the bolts 20 were only in a loose contact with the outside of the extensions 18, the actuating

shaft would still be retained in its adjusted position.

Although I have herein shown and described only one form of awning-actuating mechanism embodying my invention, it is to be understood that various changes and modifications may be made herein without departing from the spirit of the invention and the spirit and scope of the appended claims.

I claim:

1. In an awning-actuating mechanism, a bracket having arcuate extensions which coact in order to form an arcuate socket, a housing having a head portion which conforms to, and is adjustable in, the socket, said extensions being formed with slots, and members adjustable in the head and working within said slots for securing the head in adjusted position within the socket.

2. In an awning-actuating mechanism, a bracket having arcuate extensions which are slotted and coact in order to form an arcuate socket, a housing having a head portion which conforms to, and is adjustable in, said socket, a shaft journaled in the head portion, an actuating shaft journaled in the housing and disposed tangentially of the first shaft, an operative connection between the two shafts disposed within the housing, and fastening members carried by the head portion and working within said slots so as to secure the head portion in an adjusted position therein and thereby to maintain the actuating shaft in a fixed position with respect to the first shaft.

3. In an awning-actuating mechanism, a bracket having an arcuate portion constituting a socket, a housing having a head portion which conforms to, and is adjustable in, the socket, a shaft journaled in the head portion, an actuating shaft journaled in the housing, an operative connection between the two shafts disposed within the housing, and means for securing the housing to the bracket in a selected position of adjustment of the head portion in the socket.

Signed at Los Angeles, in the county of Los Angeles, and State of California, this 17th day of December, A. D. 1927.

EARL MARTIN.