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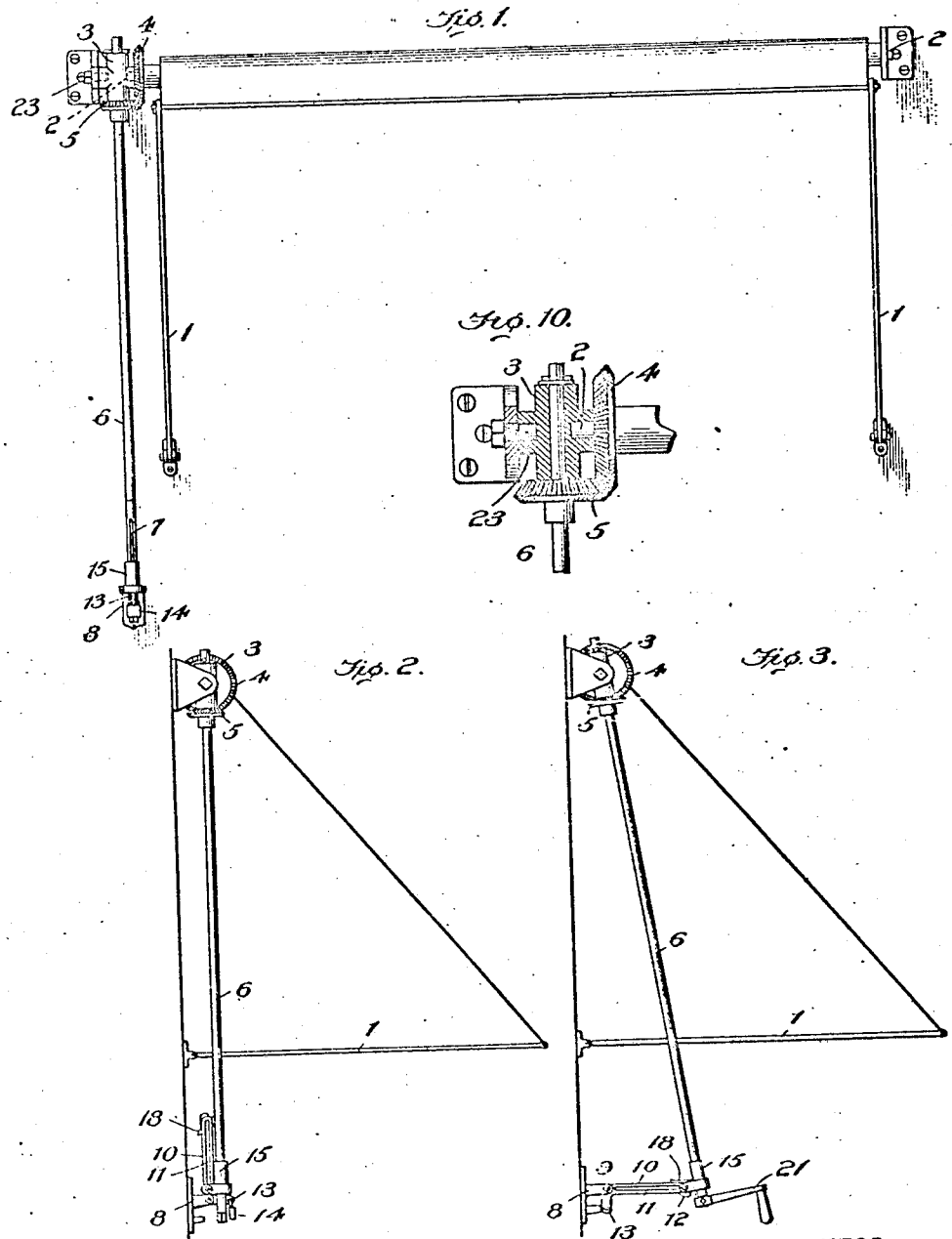
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PATENTED AUG. 4, 1908.

MEANS FOR OPERATING ROLLER AWNINGS.

APPLICATION FILED NOV. 15, 1907.

2 SHEETS—SHEET 1.



WITNESSES

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Anne B. Johnson

INVENTOR

Nathaniel Roe

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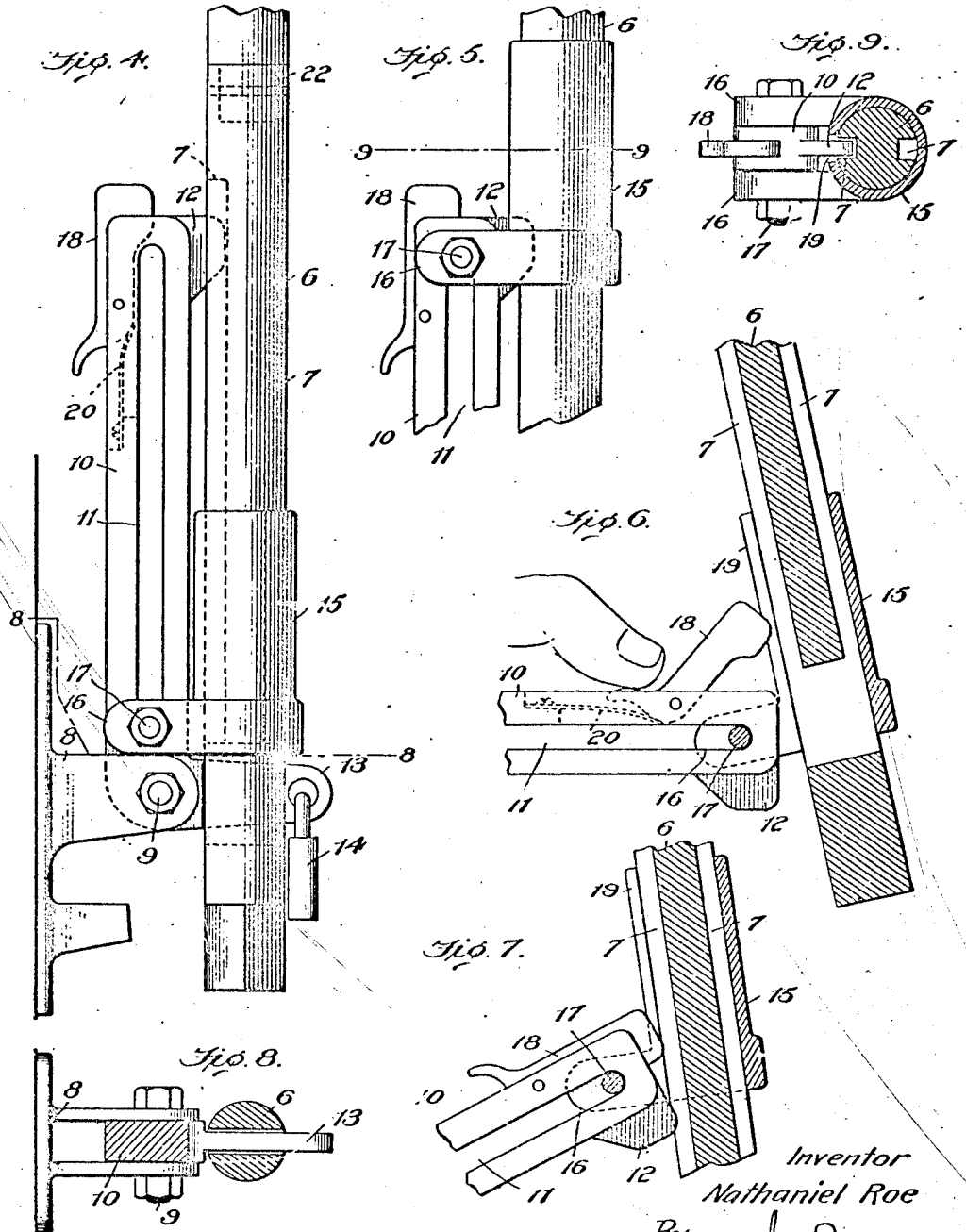
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Attorneys

UNITED STATES PATENT OFFICE.

NATHANIEL ROE, OF PATCHOGUE, NEW YORK.

MEANS FOR OPERATING ROLLER-AWNINGS.

No. 895,200.

Specification of Letters Patent.

Patented Aug. 4, 1908.

Application filed November 15, 1907. Serial No. 402,271.

To all whom it may concern:

Be it known that I, NATHANIEL ROE, a citizen of the United States, residing at Patchogue, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Means for Operating Roller-Awnings; 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.

For safely and securely operating awnings I have produced a new combination of hand operated devices whereby a suspended operating-shaft by which the awning is rolled and unrolled, is adapted to be pulled out and held at its lower end from the wall at a given angle to allow the operating shaft to be rotated to cause the awning to be either rolled or unrolled in connection with a novel locking means for the operating-shaft, whereby it is caused to maintain a locked relation to the awning roller to prevent its rotation in either direction except when the operating shaft is in the position to be rotated to roll and to unroll the awning. In this locking means a slidable sleeve on the operating-shaft coöperates with a slotted arm pivotally mounted at one end on the wall and adapted to swing in and out therefrom with the operating-shaft to allow the latter to be rotated, to be locked, and to be unlocked.

The accompanying drawings illustrate my invention and in which,—

Figure 1 shows a front elevation of a roller awning with my improved operating means applied thereto the awning being in its rolled position. Fig. 2 is a side view of the same the awning being in its unrolled locked position. Fig. 3 shows a like view in which the suspended operating-shaft is seen swung out at its lower end from the wall in the position in which it is held by the swing arm to allow it to be rotated to roll or to unroll the awning. Fig. 4 shows in side view enlarged the lower portion of the operating-shaft, the swing-arm, and the slidable-sleeve which coöperates as the locking means for the operating-shaft, the parts being in the normal locked positions seen in Fig. 2. Fig. 5 shows in detail in side view the upper end of the swing-arm and its slidable sleeve in the position of the latter when it is desired to unlock the operating shaft to allow it to be rotated. Fig. 6 is an enlarged detail view showing

the operating-shaft and the swing arm in the positions they occupy when unlocked and swung out and the shaft free to be rotated in the operation of rolling and unrolling the awning. Fig. 7 is a like detail view showing the same parts in the positions they occupy when the operating-shaft is passing from its unlocked position with the outer projection 12, of the swing-arm to a locked position with the dog 18 on said swing-arm. Fig. 8 is a horizontal section on the line 8—8 of Fig. 4, showing the inner lock of the swing-arm for the shaft. Fig. 9 is a horizontal section on the line 9—9 of Fig. 5 showing the outer locks 12 and 18 of the swing-arm. Fig. 10 shows a detail sectional view of the roller bearing swing socket.

The awning is carried by a roller mounted at the top of the window casing in the usual way and has the usual frame-supports 1—1 pivoted to the wall.

On the shaft 2 of the roller at one end thereof, is fitted a socket-bearing 3, so as to swing freely on the shaft and at one side of this socket-bearing the roller shaft has a bevel-gear 4, which engages with a bevel-gear 5, fixed on the suspended end of the operating-shaft 6, the upper end of which passes through, is suspended by and is fitted to rotate in the swing-socket as in Fig. 10. At its lower portion for a distance of about eight inches in length the operating shaft has a groove 7, diametrically on each side; and fixed to the wall at the lower end of the operating-shaft is a bracket 8, preferably of bifurcated ears between which is mounted to swing on a strong pivot 9, an arm 10, having a length about equal to that of the shaft-grooves and a slot 11, which terminates near each end of the arm. On its pivot the arm is free to swing toward and from the operating-shaft, and at each end the arm has a projection the outer one of which 12, is adapted to engage the groove in the operating-shaft to prevent its rotation; while the inner projection 13, is adapted to extend through an opening in the operating-shaft to receive a lock 14, to fasten the operating-shaft to the swing-arm as shown in Figs. 4 and 8. In their normal positions in which the operating-shaft is locked by the arm projections 12 and 13 the shaft is in parallel relation with the swing-arm and in this relation they are coupled together by a sleeve 15, slidably fitted upon the operating-shaft and has a

yoke 16, which is coupled by a bolt 17, with the swing-arm, the bolt for this purpose passing through and movable in the arm-slot. This coupling of the sleeve with the slotted arm allows a vertical movement of the former on the shaft, which is limited by the coupling-bolt 17, striking the outer end of the slot in the swing-arm, as in Fig. 5, and it is at this relation of the operating-shaft with the swing-arm that the former is free to be swung out from the locking projections of the swing-arm to allow the shaft to be rotated to roll and to unroll the awning as in Figs. 3, 6 and 7. This outward swing of the operating-shaft and its rotation is allowed by its socket connection with the swing-bearing of the roller-shaft; while the release of the operating-shaft from the projection at the outer end of the swing-arm is effected by the swing of the sleeve over and against the end of the said arm, in the arc of a circle described from the coupling bolt 17 as in Figs. 3 and 6. In describing this arc the sleeve will rest against the upper end of the arm and hold the shaft in the position seen in Fig. 3. This swing of the yoke and of the operating-shaft, and the outward and downward swing movement of the slotted arm, causes the outer projection 12, on the latter to be withdrawn from the groove of the shaft, and, if the awning should be in its raised position it would be free to fall and by its roller-gear connection with the operating-shaft, cause it to rotate rapidly and the awning wall supporting arms to fall with heavy thrusts endangering the awning connections with the roller. To avoid these destructive contingencies I provide a supplemental lock the function of which is to engage the groove of the operating-shaft and cause it to be locked as the projection 12, is being withdrawn from its locking engagement with said groove. This supplemental lock is effected by a dog 18, pivoted in a groove at that side of the slotted-arm opposite the projection 12, and extending above the end of said arm into and through a slot 19, in the sleeve and into engagement with the groove in the operating-shaft as shown in Figs. 4 and 9. A spring 20, at the pivoted end of the dog serves to keep it in locking position until the operator is ready to unroll or to roll the awning, when he presses the end of the dog to cause its locking end to be withdrawn from the groove in the operating-shaft as in Fig. 6.

From the foregoing construction it will be noted that three separate and distinct locks are provided for the operating-shaft and that the latter is always locked except when the awning is being rolled or unrolled so that the awning can not fall from any inadvertence of the operator.

I prefer to make the operating shaft in two sections in which the upper section will be fastened by telescoping it into the lower sec-

tion and the latter terminates in a square to receive the crank 21, for rotating the operating shaft as in Fig. 3.

While the yoke-sleeve by its slot 19 is free to slide over the locking projection 12, it not only serves as the means for locking the shaft to the inner end of the slotted-arm so that neither can be separated but the yoke-sleeve serves as the means by which the shaft and the arm are free to be swung apart and in such swing function the sleeve by its yoke connection will cause one lock 12, to be released from the operating-shaft and simultaneously cause the supplemental lock 18, to be engaged with the said shaft whereby the latter may be held until the operator is ready to rotate it when, by his hand, he releases the supplemental lock as in Fig. 6. The limiting of the outer movement of the yoke-sleeve by the outer end of the arm-slot as in Fig. 5, is the key to the relation of the parts whereby the swing function of the shaft and of the slotted-arm may be effected for unlocking the shaft; while the inner end of the arm-slot limits the inward movement of the yoked-sleeve as in Fig. 4 and in this position the shaft is locked to the wall-bracket as in Fig. 4; while the shaft is locked to the arm projection 13, by a lock.

Looking at Fig. 3 it will be seen that it is the downward swing movement of the locking-arm and the outward swing movement of the operating-shaft that causes the locking projection 12, to be withdrawn from the groove in the shaft to allow the operator to rotate the shaft as in Fig. 6; while he holds the pivoted dog 18, out of locking engagement with the groove in the shaft and the awning thus rolled or unrolled. The dog is then released and again engages the shaft while it is being moved into locking engagement with the arm projections and fastened by the lock.

An important feature of my invention is the construction by which the operating-shaft is suspended in its swing socket and allowed to be swung out with its locking arm before the awning can be operated whereby the projecting shaft is adapted to have both a swing and a rotating movement in the operation of rolling and unrolling the awning.

The device can be substituted for the gearbox now in use for operating awnings by cutting off the lower part of the shaft and coupling it as shown with the grooved section at 22 in Fig. 4.

I have described and shown the operating-shaft as having a groove on each side, but obviously a groove on one side only is necessary, the two grooves merely serving to facilitate the engagement of the shaft with the locking projections in operating the shaft.

Looking at Fig. 2 it will be noted that in the normal position of the operating shaft in relation to its connection with the wall, would render it too inconvenient to operate

the shaft by a crank applied at its lower end on account of the proximity of the shaft to the wall, and it is for this reason that I have designed the suspended swing-shaft and the
 5 pivoted swing-arm connection of the shaft with the wall, whereby the operating-shaft may be swung out from the wall to allow a crank to be applied to its lower end to rotate it as in Fig. 3; and I have utilized this swing-
 10 arm connection as the means of locking the operating shaft when it is not used to operate the roller. It will also be noted that the mounting of the socket-bearing 3, on the end of the roller-shaft and a bracket-stud 23,
 15 allows the said bearing to have an oscillating movement to accommodate the swing movement of the operating-shaft and this without interfering with the roller-shaft.

I wish it to be understood that I do not
 20 desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

I claim:

25 1. In an awning, a roller, an operating-shaft having a longitudinal groove, gearing connecting said shaft with the roller, a swing-arm pivotally mounted on the wall and having a vertical slot and a projection at each
 30 end, the inner projection adapted to extend through the shaft, the outer projection adapted to extend into the groove of the shaft, a sleeve having a yoke pivotally connecting the slot of the arm and slidable upon
 35 the shaft and upon the arm, whereby the operating-shaft is adapted to be locked to the arm to prevent its rotation and to be swung out from the arm and supported thereby to disengage said lock to allow the
 40 shaft to be rotated to roll or to unroll the awning, and means for rotating said shaft.

2. In an awning, a roller, an operating-shaft having a longitudinal groove, gearing connecting said shaft with the roller, a wall-
 45 bracket, a swing-arm pivotally mounted thereon and having a vertical slot and a projection at each end, the inner projection adapted to extend through the shaft, the outer projection adapted to extend into a
 50 groove, a sleeve having a longitudinal slot and a yoke movable on a pivot connection in the slot of said arm and slidable upon the shaft and upon the arm, and a spring pressed dog pivoted to the upper end of the arm and
 55 adapted to engage the groove of the shaft to form a supplemental lock therefor when swung out in the way described, and means for rotating said shaft.

3. In an awning, a roller, an operating-
 60 shaft, a wall-bracket, a swing-arm pivotally mounted thereon, means for locking the shaft to the swing-arm to prevent the rotation of the former, and means connecting the shaft and the arm whereby the shaft is
 65 adapted to be swung out from and upon the

end of the arm to disengage its lock to allow the shaft to be rotated to roll or to unroll the awning, and means for rotating the shaft.

4. In an awning, a roller, an operating-shaft, a wall-bracket, a swing-arm pivotally
 70 mounted thereon, means slidable upon the arm and upon the shaft for connecting them together, means on the arm for locking it to the shaft to prevent its rotation, and means for rotating the shaft when unlocked to op-
 75 erate the awning roller.

5. In an awning, a roller, an operating-shaft having a longitudinal groove, gearing connecting said shaft with the roller, a wall-
 80 bracket, a swing-arm pivotally mounted thereon and having a vertical slot and a projection at each end, the outer projection adapted to extend into the groove of the shaft, the inner projection adapted to extend through the shaft, means for locking the
 85 shaft to the arm to prevent the rotation of the shaft, means for suspending the shaft whereby it is adapted to be swung out from and upon the end of the arm to disengage its lock to allow the shaft to be rotated, a
 90 lock fastening the shaft to the pivoted end of the arm, and means for rotating the shaft.

6. In a device of the character described, a roller, an operating-shaft having a longitu-
 95 dinal groove, gearing connecting the shaft with the roller, a wall-bracket, a swing-arm pivotally mounted thereon and having a vertical slot and a projection at each end, the inner projection adapted to extend through the shaft, the outer projection adapted to
 100 extend into the groove and each projection forming a lock to prevent the rotation of the operating-shaft, means for locking the shaft to the pivoted end of the swing-arm, and means connecting the shaft with the arm
 105 whereby the shaft is adapted to be swung out from and upon the end of the arm to disengage the lock of the shaft, and means for rotating the shaft when unlocked to operate the roller.
 110

7. In a device of the character described, a roller, an operating shaft, gearing connect-
 ing said shaft and the roller for operating the latter, a swing-socket bearing within and by
 115 which the operating-shaft is suspended for rotation a swing-arm mounted upon a fixed pivot, slidable means on the operating-shaft adapted to be pivotally connected with said swing-arm, means for locking the swing-arm and the operating-shaft together to prevent
 120 the rotation of the latter, whereby the operating-shaft and the swing-arm are adapted to be swung out together upon the fixed pivot of said arm and upon the pivotal connection of the arm and operating-shaft, and
 125 means for rotating the shaft when unlocked to operate the roller.

8. In an awning, a roller, gearing connect-
 ing the operating-shaft and the roller for
 130 operating the latter, means for suspending

the shaft at its roller connection, means having both a locking and a swing function connected to and movable with and connecting the operating-shaft with the wall to prevent the rotation of the shaft, and means for rotating the shaft when unlocked to operate the roller.

9. In an awning, a roller, gearing connecting the operating-shaft and the roller for operating the latter, means for suspending the shaft at its roller connection, means whereby the operating-shaft is adapted for

both a rotating and a swing movement on its means of suspension, and means having both a locking and a swing function connected to and movable with the operating-shaft and connecting it with the wall. 15

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

NATHANIEL ROE.

Witnesses:

WARREN WEEKS,
PHILANDER WEEKS.