

No. 888,157.

PATENTED MAY 19, 1908.

E. U. GIOVANNONI.
ELECTRIC AWNING OPERATOR.
APPLICATION FILED NOV. 23, 1906.

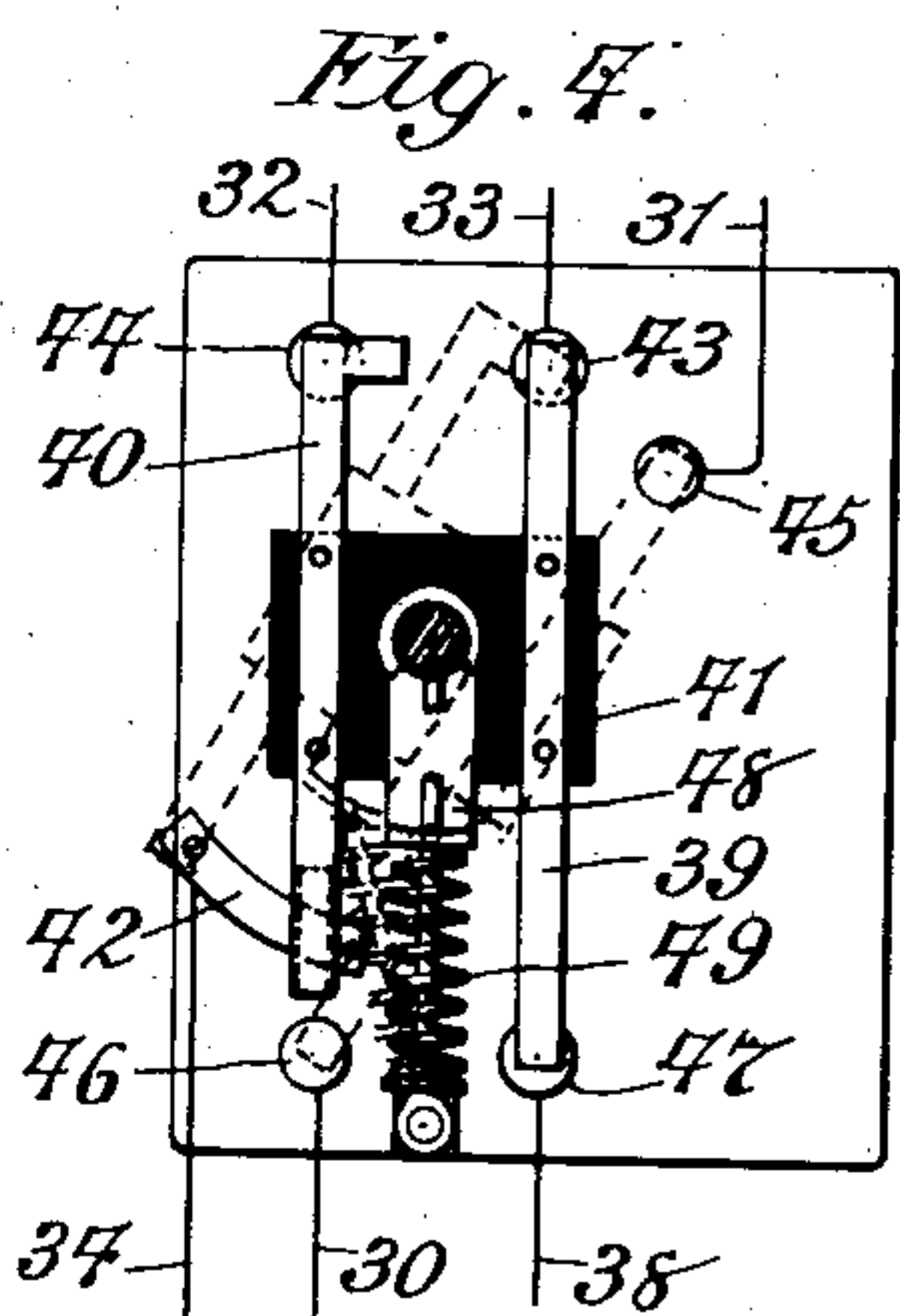
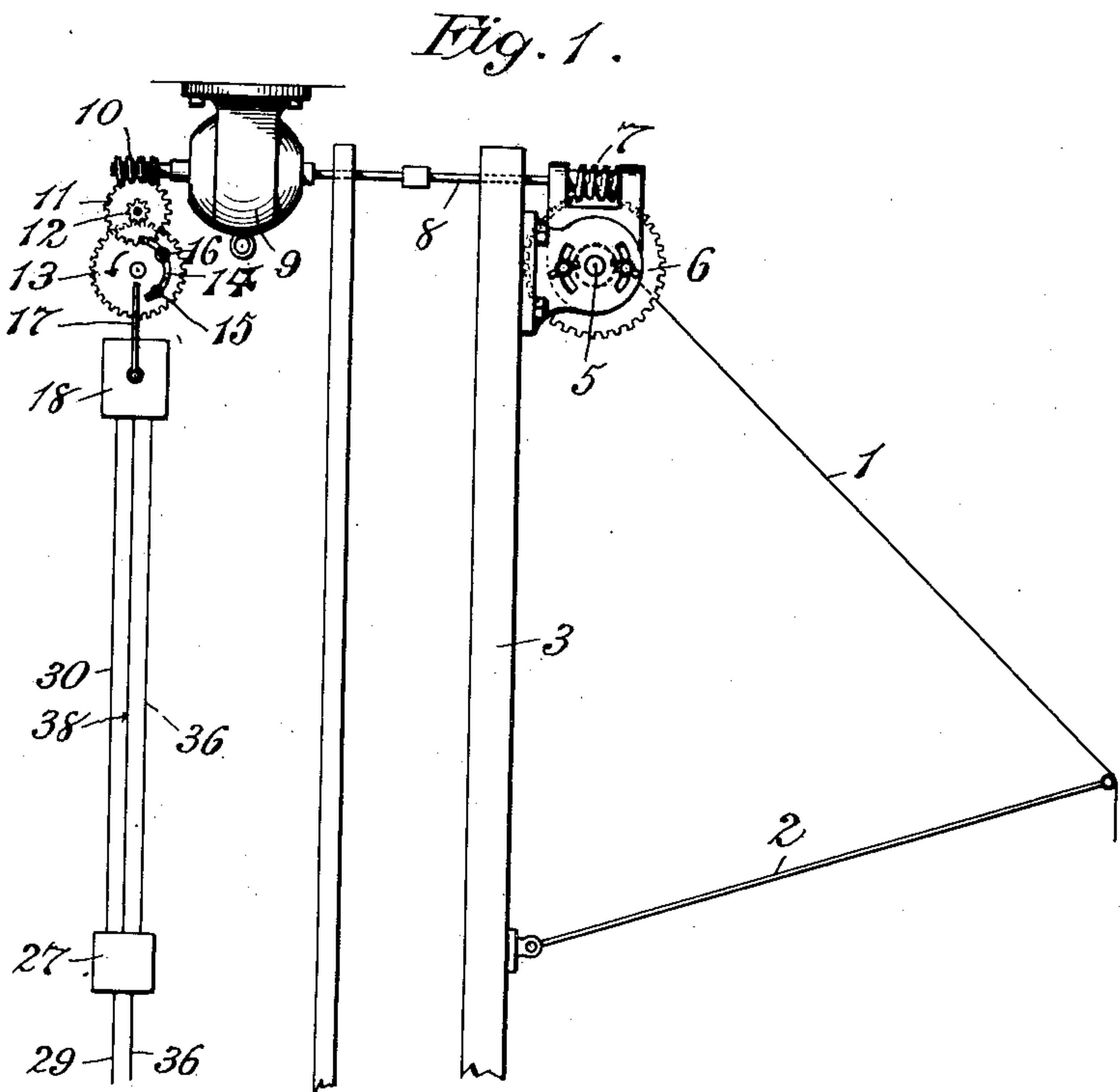
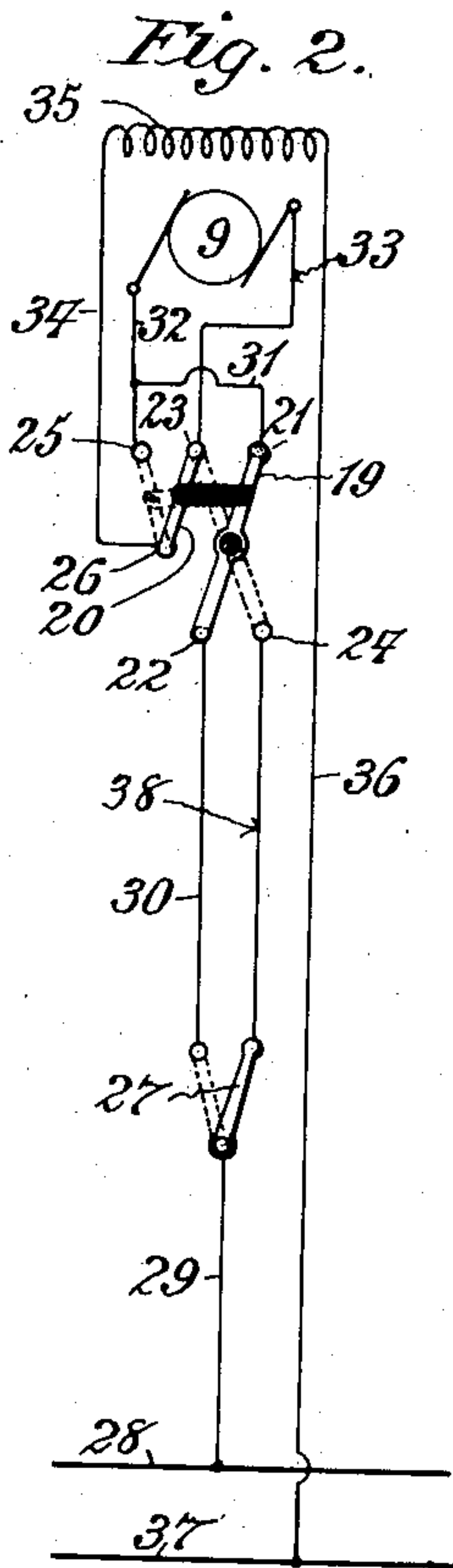
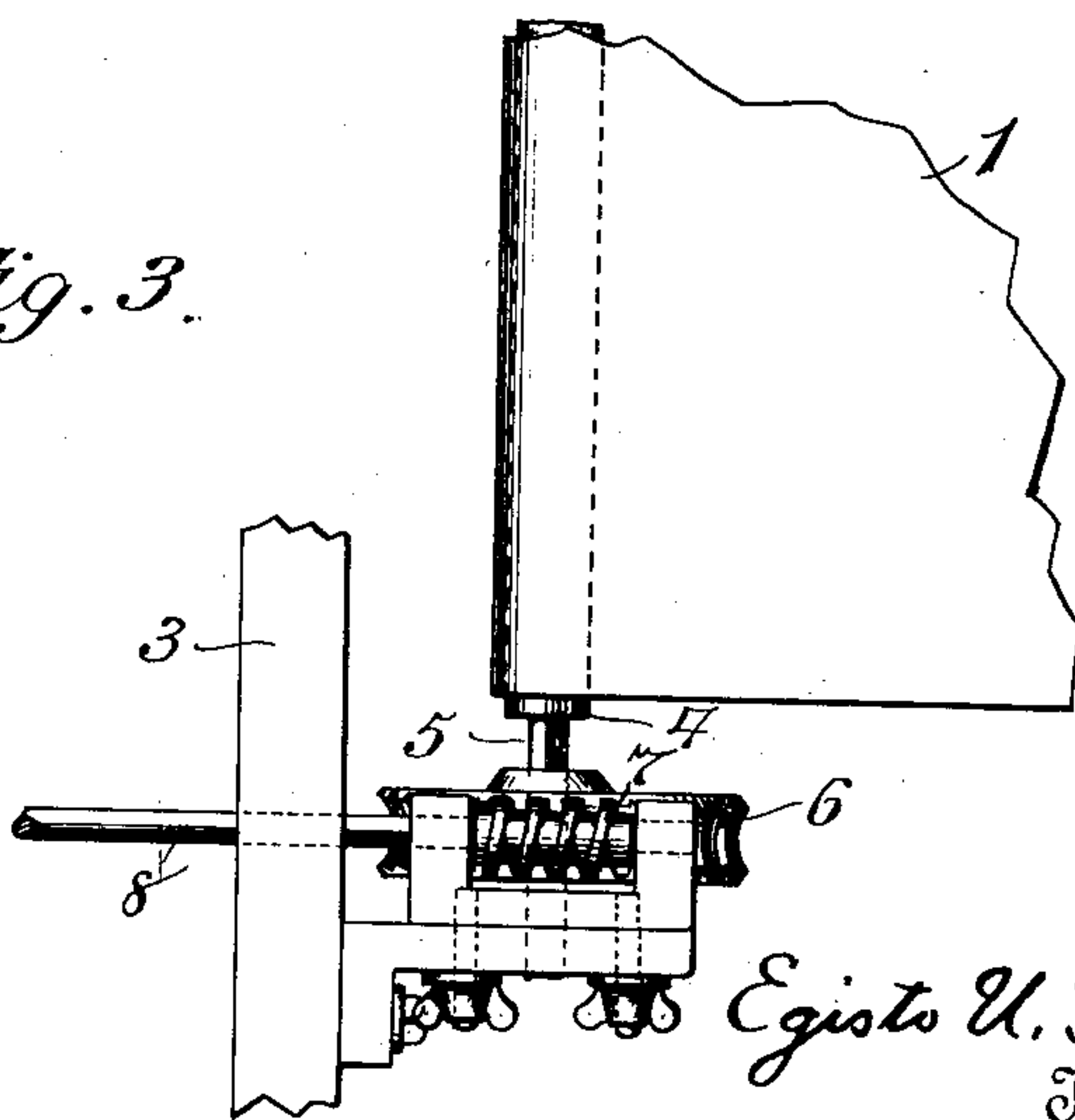


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

EGISTO U. GIOVANNONI, OF NEW YORK, N. Y.

ELECTRIC AWNING-OPERATOR.

No. 888,157.

Specification of Letters Patent.

Patented May 19, 1908.

Application filed November 23, 1906. Serial No. 344,773.

To all whom it may concern:

Be it known that I, EGISTO U. GIOVANNONI, a citizen of the United States, and resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Electric Awning-Operators, of which the following is a specification.

This invention relates to a device especially adapted for raising and lowering awnings, the object being to provide a device of this nature which is simple in its construction and which shall operate automatically without attention on the part of the operator after being started either to raise or lower the awning to the desired point at which the same is then stopped automatically. To accomplish these results in the device herein shown to illustrate my invention I have provided an electric motor adapted to operate a roll by means of which the awning is raised or lowered. A switching device is provided which is operated automatically by the motor to cut out the current from the same at a predetermined point and also sets the switch in position to reverse the motor when the circuit is again closed.

The details of construction of the device shown in the accompanying drawings as an illustration of one embodiment of my invention will be more fully explained hereinafter.

In the drawings the same parts in the several views have been given the same reference numbers.

Figure 1 is a side elevation of an awning operating device. Fig. 2 is a diagrammatic view of the operating circuit. Fig. 3 is an enlarged top plan view of one end of the awning roll and operating mechanism. Fig. 4 is a plan view of a circuit reversing switch.

At 1 is shown an awning in its unrolled or lowered position.

At 2 is indicated the usual supporting rods.

At 3 is indicated the wall to which the awning may be attached.

At 4 is indicated a roll upon which the awning 1 may be wound. This roll is mounted upon a shaft 5 to which is attached a gear 6 which is rotated by means of the worm 7 mounted upon the shaft 8. A motor 9 which may be of the ordinary series-wound type, operates the shaft 8 in either direction.

A worm and gear 10 and 11 are operated by the shaft 8 and a small gear 12 meshing with a larger gear 13 operates the circuit re-

versing device or switch. A slot 14 is provided in the gear 13 and in this slot pins such as 15 and 16 may be secured and adjusted in such a position as to engage and operate the lever 17 at the desired points. The lever 17 operates a switch 18, which is shown in detail in Fig. 4 and indicated diagrammatically in Fig. 2 by the blades 19 and 20.

The operation of the device will be understood by referring to Fig. 1 in which the awning is shown in its lowered position and to Fig. 2 in which the operating circuits are shown. A circuit closer or switch of any desired form is indicated at 27 and it will be seen that when the members stand in the position indicated in Fig. 2 the operating circuit is open and no current will flow to the motor. Assuming now the switch 27 to be moved to the position indicated in dotted lines in Fig. 2 current will flow from one side 28 of a supply line through line 29, switch 27, line 30 to contact 22, through the switch blade 19 to contact 21, through the lines 31 and 32 to the armature coil of the motor 9, through the line 33 to the contact 23, through the blade 20 to the contact 26, through lines 34 to the field winding 35 of the motor and from this through the line 36 to the other side 37 of the supply line. The motor will now operate and rotate to the shaft 8 and roll 4 by means of the worm and gear 6 and 7 and the awning 1 will be wound on the roll until the worm 10 rotating the gears 11, 12 and 13 causes the pin 16 to engage the lever 17, moving the switching blades 19 and 20 to the position indicated by the dotted lines in Fig. 2, breaking the operating circuit and stopping the motor. The worm and gear prevent the awning from unrolling and, consequently, the same will be held in this position until the motor is again operated in the reverse direction, as will be described.

To lower the awning from its position just described it is only necessary to move the switch, which is now in the position indicated by the dotted lines in Fig. 2, to the position indicated in full lines. Current will then flow from the supply line 28 over line 29 and switch 27 to line 38 and contact 24. As the blades 19 and 20 are now in the position indicated by the dotted lines the current will flow from contact 24 over blades 19 to contact 23 and from there over line 33 through the armature of the motor 9 in the reverse direction to line 32, contact 25, blade 20, contact 26, and line 34 through the field coil 35 and line 36 to the

supply line 37. The current in the armature of the motor 9 thus being reversed the motor will operate in the reverse direction and unwind the awning 1 from the roll 4 until the
 5 pin 15 engages the arm 17 and moves the switch blades 19 and 20 to the position indicated in full lines in Fig. 2, thus breaking the operating circuit and setting the switch in position to again operate the motor as first
 10 above described.

A preferred form of switch or circuit reversing device, as indicated at 18 in Fig. 1 and by the blades 19 and 20 in Fig. 2, is shown in detail in Fig. 4. In this construction blades such as 39 and 40 may be mounted upon an insulating block 41 which is pivoted and to which is attached the arm 17. A contact strip 42 and contacts 43, 44, 45, 46 and 47 are mounted upon a suitable base and
 15 positioned so as to be engaged by the blades 39 and 40. An arm 48 is secured to the block 41 and is provided with an upturned perforated end through which passes one end of a pivoted rod which is encircled by a spring
 20 49 in order to produce a quick break when the blades are moved at the arm 17. This movement is caused as above described by the pins 15 and 16 engaging the arm 17 and moving the same so as to move the blades 39 and 40, assisted by the spring 49, to the position indicated in dotted lines in Fig. 4.

The circuits are reversed in the same manner as above described in connection with Fig. 2, the blades 39 and 40 in Fig. 4 corresponding with the blades 19 and 20 in Fig. 2. It will thus be seen that by adjusting the pins 15 and 16 in the proper position to operate the reversing switch at points corresponding to the desired upper and lower positions of
 35 the awning no further attention on the part of the operator is necessary after starting the motor by moving the switch 27, as described. It will also be seen that when the current is automatically cut off from the motor the reversing switch is also automatically set for starting the motor in the reverse direction and it is impossible to start in the wrong direction as the connections for the circuits are set in the proper position by the reversing switch and
 45

current can only flow in one direction through the motor when the connections are so set. 50

As many changes could be made in the above construction and many apparently widely different embodiments of my invention designed without departing from the
 55 scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative merely of an operative embodiment of my invention and not in a
 60 limiting sense.

What I claim is:—

1. An awning operator embodying an awning receiving roll, means for operating said roll including a motor operated shaft carry-
 65 ing a worm, a gear meshing with said worm, a second gear carried by said first gear, a third gear meshing with said second gear and having a concentric slot formed therein, a pair of outwardly projecting pins adjustably en-
 70 gaged in said slot, a pivotally mounted oscillating switch, and an operating arm secured at one end to said switch so as to move about the pivotal point of said switch therewith, and at its other end being for engagement
 75 with said pins.

2. An awning operator embodying an awning receiving roll, means for operating said roll including a motor operated shaft, and means to convey current to said motor, and
 80 means to reverse the direction of movement of the motor embodying a pivotally mounted insulating block, an operating arm secured to said block so as to oscillate therewith, a pair of spaced switch blades carried by said block
 85 and projecting beyond the ends thereof, an arm rigidly secured to said block and having an upturned perforated end, and a rod having a spring encircling the same pivotally secured at one end and having its opposite end
 90 extending in said perforated upturned end.

Signed at New York city in the county of New York and State of New York this 17th day of Nov. A. D. 1906.

EGISTO U. GIOVANNONI.

Witnesses:

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 MAURICE J. WOHL.