C. L. HOPKINS.

SHADE HOLDING DEVICE.

APPLICATION FILED SEPT. 24, 1903.

913,138. Patented Feb. 23, 1909.

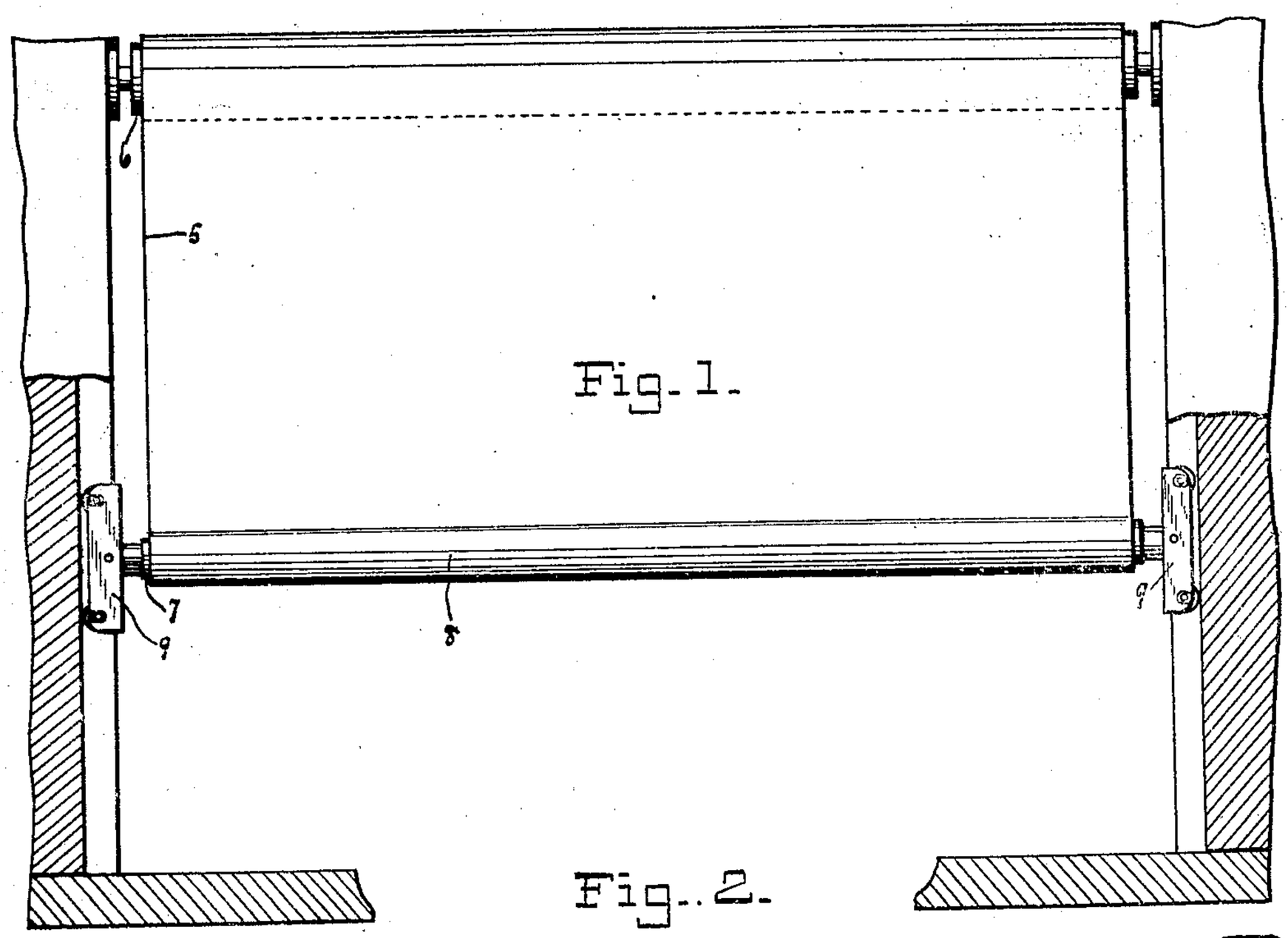

Fig. 1.

Fig. 2.

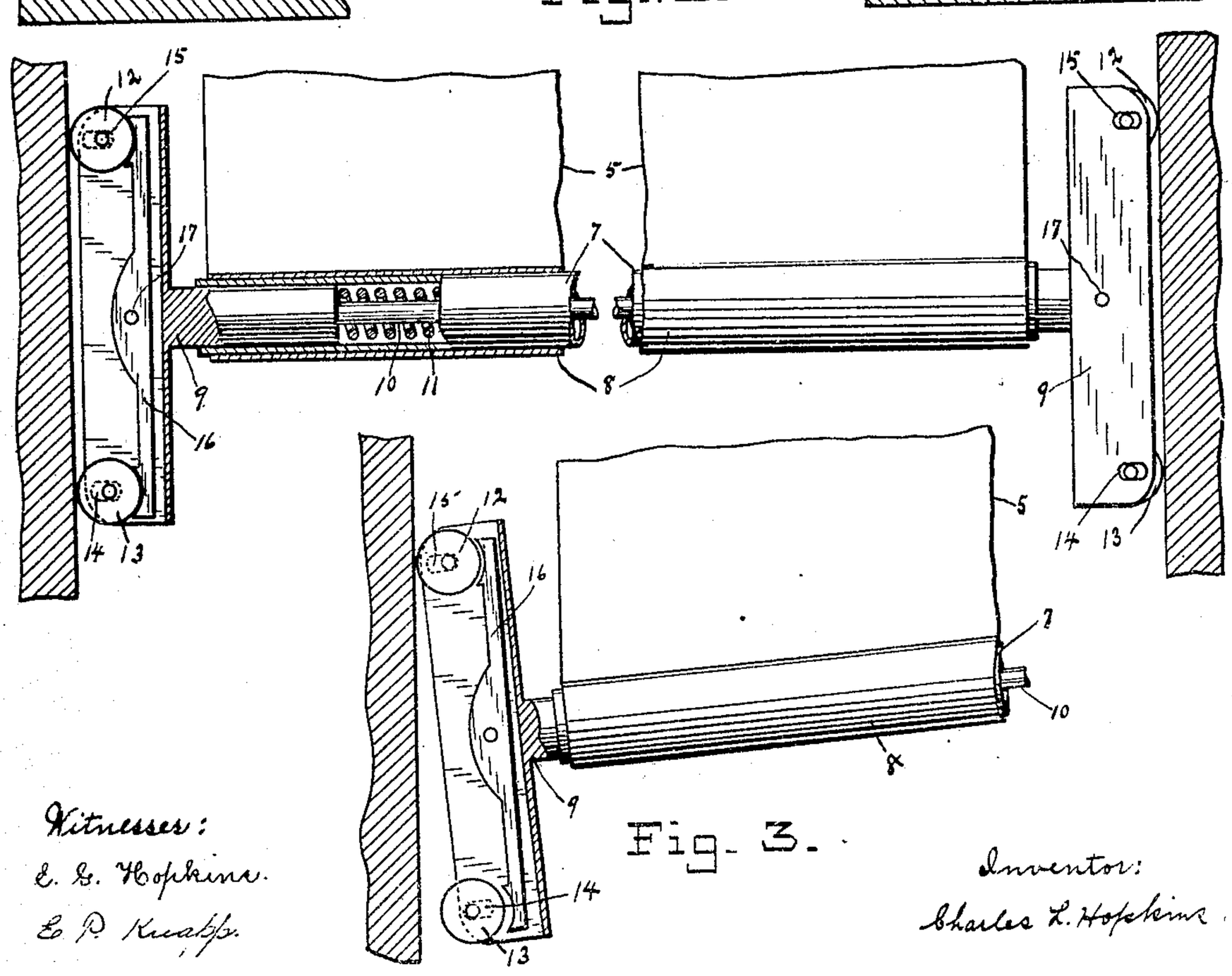

Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES L. HOPKINS, OF ALBANY, NEW YORK, ASSIGNOR TO THE CURTAIN SUPPLY COMPANY, OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SHADE-HOLDING DEVICE.

No. 913,138. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed September 24, 1903. Serial No. 174,455.

To all whom it may concern:

Be it known that I, CHARLES L. HOPKINS, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Shade-Holding Devices, of which the following is a specification.

This invention relates to devices for guiding and holding spring-actuated shades, and particularly to that class of shade-holding devices in which a stick, secured to the shade, carries at its ends friction-devices moving in grooves in the window-frame and adapted to contact with the bottoms of the grooves. In some forms of devices of this general class the spring-pressed part or head is provided with wheels or rollers adapted to contact with the window-frame and to be normally prevented from rotating, whereby they may act as friction-devices, to hold the shade against the tendency of its spring-roller to wind it up, means being provided for releasing said rollers or wheels when it is desired to raise or lower the shade.

The present invention has for its object the improvement of this form of shade-holding device, and consists in providing such an arrangement of wheels and brakes that when the shade-stick is forced into an inclined or tilted position the brakes will be rendered inoperative, the device being thus made self-alining and capable of maintaining itself in proper position and condition, whether grasped in operation at a point midway between its ends or at a point near one end.

In the drawings accompanying this specification Figure 1 shows a broken window-frame having a shade mounted therein, this shade being provided with my improved shade-holding device. Fig. 2 is a broken view of the lower part of the shade and its shade-holding device, one end of the device being shown in elevation, the other end being partly in section. Fig. 3 is a sectional view of one end of the device and a corner of the shade, showing the action of the wheels and braking device when the shade-stick is tilted.

In these drawings 5 is the shade, mounted upon the spring-roller 6, which is of the class usually employed upon car-shades and has a constant tendency to roll up the shade. The tubular stick 7 is carried in a pocket 8 formed in the material of the shade. At each end of the stick 7 is a head 9, mounted upon the end of the rod 10, the head 9 and rod 10 being arranged to reciprocate in the tube 7 and being thrust outwardly by the spring 11. In the upper part of the head 9 is mounted a wheel or roller 12, a similar wheel 13 being mounted in the lower part of the head. These wheels are journaled in slots forming elongated bearings 14 and 15, so as to have a certain amount of bodily movement in a direction lengthwise of the stick as well as the usual rotary movement. An elongated brake 16, pivoted upon the pin 17, extends from the wheel 12 to the wheel 13 and is adapted to normally prevent rotation of these wheels, but is without holding-power to resist rotation of the wheels when the stick is tilted to an abnormal position.

In Fig. 2 the device is shown in its normal or horizontal position. It will be observed that the wheels 12 and 13 are forced in against the brake 16, and are thus prevented from rotating and may act as friction-devices to hold the shade at any desired point if the outwardly-forcing spring 11 is of sufficient strength. In Fig. 3, wherein the device is shown tilted so that the wheel 13 is out of contact with the window-frame, only the wheel 12 is forced inwardly, and as the slot 15 is not of sufficient length to allow the wheel 12 to be crowded in against the brake 16 when the brake is in the position here shown, said wheel 12 is free to rotate and acts as an antifriction roller, permitting the device to right itself. In practice it is found that the device will never be tilted to such a degree as is here shown.

When the device is forced up or down by one end one of the wheels will begin to rotate before the other is out of contact with the window-frame, the brake-pressure being sufficiently reduced to allow this rotation. Indeed, the brake-pressure is usually diminished sufficiently to permit the wheels to rotate while both are in contact with the window-frame and also in contact with the brake, the reason for which being seen when it is considered that by tilting the stick the pivotal point of the brake 16, which is, of course, at the pin 17, is moved away from the window-frame and from a line drawn from one wheel to the other. The stick may be tilted sufficiently to move one of the wheels inwardly to the end of its slot with-

out releasing the wheels, but any further tilting will tend to relieve both of the wheels of the pressure of the brake 16.

It will be seen that in its self-righting feature this device will be very sensitive if carefully constructed. The slots 14 and 15 should not extend back far enough to allow the brake 16 to be pinched between a wheel and the back wall of the head, which would, of course, prevent the rotation of the wheel. By forming up the various parts by the usual method of stamping, these parts may always be made exactly alike, and careful fitting is thus made unnecessary.

I believe that this is the first device produced employing wheels as friction-devices, in which the wheels coöperate with each other and with a brake to cause the wheels to act as friction-devices when the stick is horizontal and as antifriction-devices when the stick is tilted.

It will be observed that the upper and lower halves of the device are alike, so that the heads may be placed in the grooves either side up, and that the action of the device is the same whether the shade is moving upwardly or downwardly.

I claim:—

1. In a shade-holding device, the combination of a stick, a head at the end of the stick, a wheel mounted singly at each end of the head with capacity for bodily movement relatively to the latter, and means intermediate said wheels for normally braking the latter, said wheels and braking means being so arranged that tilting of the stick and consequent moving of one wheel away from the window frame releases the other wheel, substantially as described.

2. A shade-holding device, comprising in combination a guide-way, a stick, a spring-pressed head at the end of the stick, a wheel mounted singly above the stick and rotating in the head, a wheel mounted singly below the stick in the head, both of said wheels normally running on said guide-way, and a pivoted brake carried by the head, said wheels and brake being so mounted that the latter is adapted to hold both the said wheels when the stick is horizontal, but is without holding power upon said wheels when the stick is tilted, substantially as described.

3. In a shade-holding device, the combination of a guide-way, a stick, a head at the end of the stick having wheels therein normally contacting with said guide-way, and a brake carried by said head normally pressing upon said wheels, said wheels and brake being so mounted in the head that the tilting of the stick causes the brake to cease pressing upon the wheels, for the purpose set forth.

4. In a shade-holding device, the combination of a guide-way, a stick, a head at the end of the stick having wheels mounted therein normally contacting with said guide-way, and a tilting brake carried by said head normally pressing upon said wheels, said wheels and brake being so mounted in the head that the tilting of the stick causes the brake to cease pressing upon the wheels, for the purpose set forth.

5. In a shade-holding device, the combination of a stick, a head at the end of the stick, wheels mounted in said head normally contacting with the window-frame, and a pivoted member carried by the head normally pressing upon said wheels, one of said wheels being located above and the other below the pivotal point of said member, said wheels and member being so mounted in the head that when the said wheels are out of contact with the window frame, the pivoted member ceases pressing upon one or both of said wheels, for the purpose set forth.

6. In a shade-holding device, the combination of a guide-way, a stick, a head at the end thereof, a pair of separated wheels mounted in said head and normally contacting with said guide-way, and a member normally pressing upon both of said wheels, said member being movable so as to cease pressing upon one or both of said wheels when the stick is inclined, for the purpose set forth.

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

CHARLES L. HOPKINS.

Witnesses:
J. J. Flaherty,
A. E. Redmond.