C. A. KELLOGG.

WINDOW WIPING DEVICE.

APPLICATION FILED MAR. 4, 1907.

956,770. Patented May 3, 1910.

2 SHEETS—SHEET 1.

Fig. 1

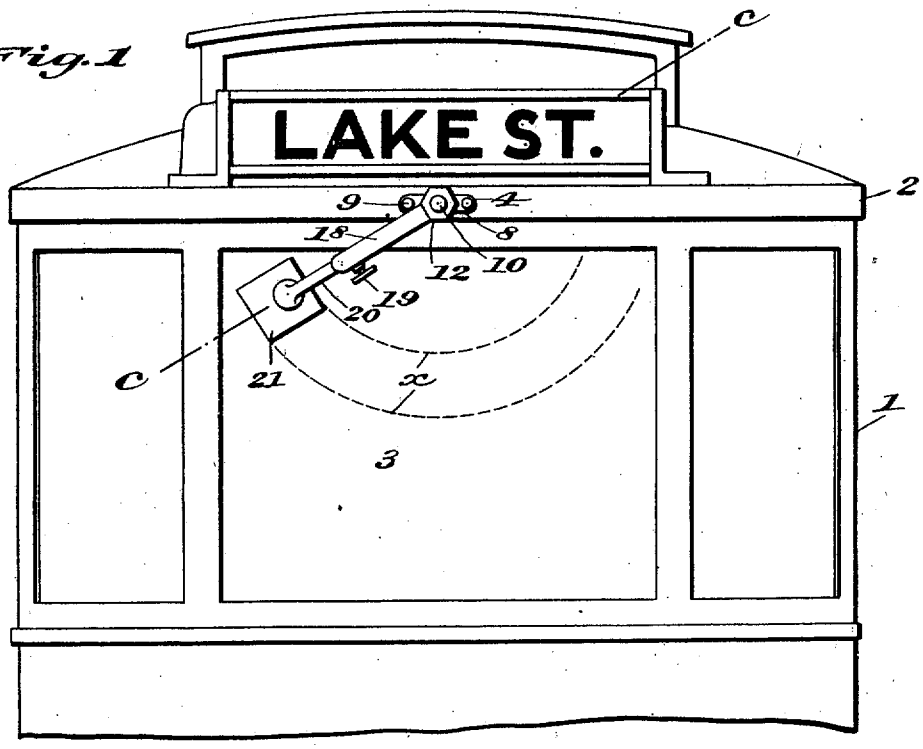
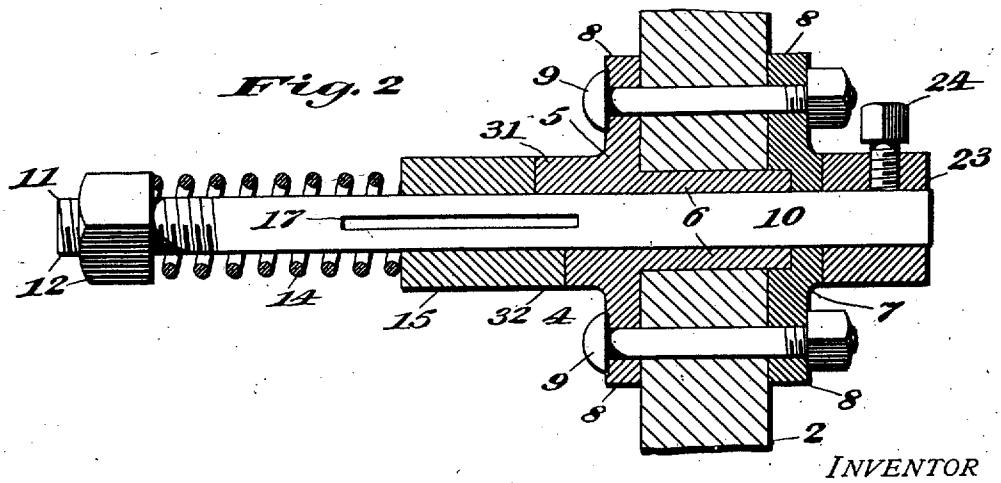


Fig. 2



INVENTOR

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WITNESSES:

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Fig. 3

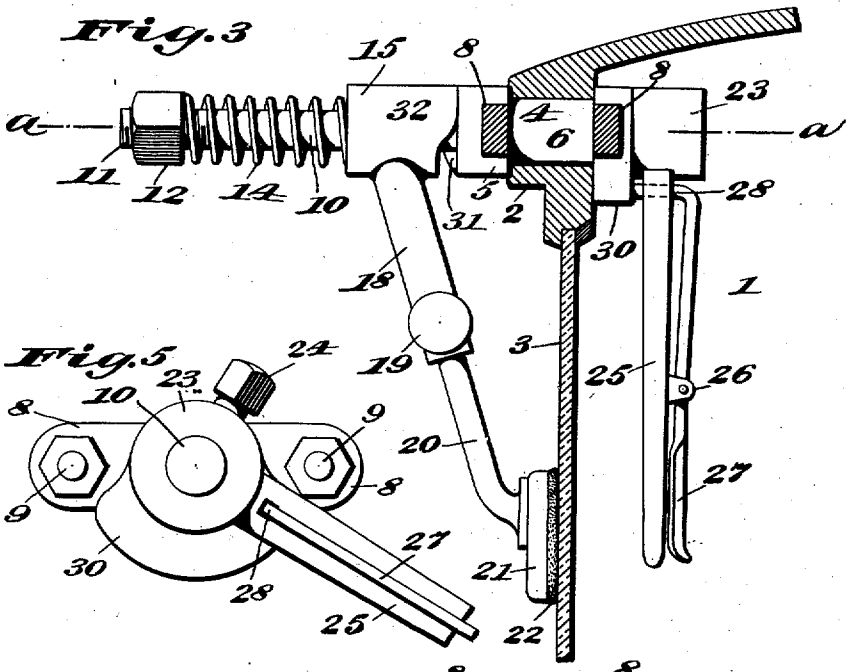

Fig. 5

Fig. 4

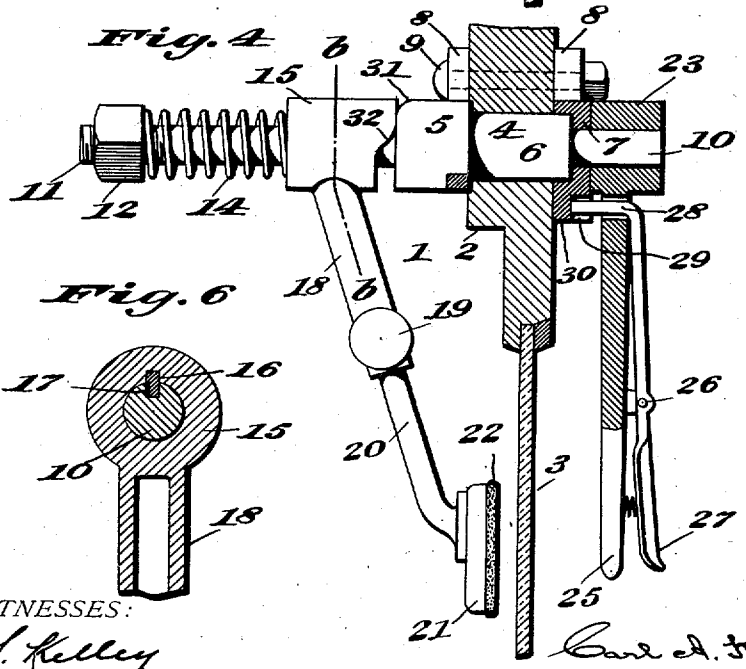

Fig. 6

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CARL A. KELLOGG, OF BATTLE CREEK, MICHIGAN.

WINDOW-WIPING DEVICE.

956,770. Specification of Letters Patent. Patented May 3, 1910.

Application filed March 4, 1907. Serial No. 360,532.

To all whom it may concern:

Be it known that I, CARL A. KELLOGG, a citizen of the United States, and a resident of Battle Creek, in the county of Calhoun and State of Michigan, have invented certain Improvements in Window-Wiping Devices, of which the following is a specification.

This invention relates to certain improvements in window wiping devices, and more particularly in that class of such devices which are particularly designed and adapted for use in connection with the cabs of locomotives and the vestibules of electric cars for wiping dust, rain, frost and the like from the outer sides of the glass lights, so that the engineer or motorman may have unobstructed view of the track ahead, and the object of the invention is to provide a device of this general character of a comparatively simple and inexpensive nature and of a strong, compact and durable construction, and which shall be capable of convenient and effective use by the engineer or motorman for wiping or cleaning the lights of the engine-cab or vestibule without in any way interfering with the performance of other necessary duties.

The invention consists in certain novel features of the construction, and combinations and arrangements of the several parts of the improved window wiping device, whereby certain important advantages are attained and the device is rendered simple, inexpensive, and otherwise well adapted and convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings which serve to illustrate my improvements Figure 1 is a partial front end view of an electric car provided with a window wiping device constructed according to my invention; Fig. 2 is an enlarged fragmentary sectional detail view taken horizontally through the window wiping device in the plane indicated by line *a*—*a* in Fig. 3 and showing certain features of construction to be hereinafter described. Fig. 3 is a fragmentary view taken vertically through the front part of the car vestibule and showing my improvements applied thereto and with the wiping arm in lowered position; Fig. 4 is a view similar to Fig. 3, but showing the wiping arm adjusted to its lateral position as shown in Fig. 1, so as not to interfere with the free use of the vestibule window; Fig. 5 is a fragmentary view of the inner end of the window wiping device, and Fig. 6 is a sectional view taken in the plane indicated by line *b*—*b* in Fig. 4 and showing the means for holding the window wiping arm to turn with the shaft of the device.

In these views 1 represents the vestibule of an electric railway car having a plate or frame 2 extended around its upper part and whereon the roof rests, and 3 represents the central window of the vestibule which is intended to give the motorman an unobstructed view of the track ahead. In the operation of such cars, dust, rain, frost and the like often collect upon this central front window 3 so as to materially interfere with the view of the motorman, and being on the outer surface of the glass, such collections are difficult of removal and are apt to give rise to accidents and errors on the part of the motorman.

4 represents a bearing provided at the central part of the plate or frame 2 at the front of the car vestibule, said bearing being formed, as herein shown, from outer and inner members or parts 5 and 7, which have oppositely projecting alined arms 8, 8, perforated for the passage of bolts 9, which are passed through the plate or frame 2 between said outer and inner members as seen in Fig. 2, so as to securely hold said parts or members in relation.

6 represents a boss extended rearwardly from the outer bearing member 5 and the members 5 and 7 have a bore which is extended axially through the boss 6 and is adapted to receive a shaft or stud 10 which is free for rotative or turning movement in said bore and has its forward end portion made of such a length as to extend for some distance beyond the front of the car vestibule, its forward extremity being screw-threaded as seen at 11 to receive a nut 12 capable, by turning, of adjustment lengthwise along said shaft or stud 10.

15 is a collar held on shaft or stud 10 at the rear of the nut 12, and 16 represents a key carried by said collar and engaged in a key-way cut lengthwise in the shaft or stud 10 in such a way as to hold the collar to turn in unison with said shaft or stud, while permitting free movement of the collar in the direction of the length of the shaft.

14 represents a spring coiled on the shaft

or stud 10 between the collar 15 and nut 12, its opposite ends having bearing upon said parts in such a way as to cause the tension of the spring to be exerted to hold the collar pressed rearwardly along the shaft and toward the front outer surface of the car vestibule.

18 represents a tubular or hollow arm integral with the collar 15 and extended downwardly therefrom at an inclination toward the glass 3 of the central window of the vestibule and 20 represents an extension adjustably held at its upper end within the bore of said arm 18 by means of a set screw 19 or the like and having, at its lower end, a flattened plate 21, the rear side of which has a facing or covering of cloth or other material adapted to be pressed flush against the front or outer surface of the glass 3 of the vestibule window in such a way as to form a wiper for wiping from said glass the dust, rain, frost or the like which may collect thereon.

22 represents the cloth or other wiping surface upon said plate 21.

23 represents a collar held by means of a set screw 24 upon the inner end of the shaft or stud 10 and adapted, by engagement against the inner bearing member 7 to prevent said shaft or stud from being moved endwise and outwardly from the bore of the bearing members under the tension of spring 14, and 25 represents a handle integrally produced upon said collar 23 and arranged to stand within the car vestibule in convenient reach of the motorman, who may, on grasping said handle impart turning movement to the shaft or stud 10 in such a way as to cause the wiper carried by the arm 18 thereof, to be moved backward and forward from side to side of the outer face of the glass 3, so that collected dust, rain, frost or the like may be conveniently wiped from the glass.

27 is a spring pressed lever extended lengthwise along the handle 25 with its outer end adapted to be grasped by the hand and pressed by the fingers when said handle is grasped, the said latch lever being pivoted at 26 upon the handle and having its upper end bent forward to produce a detent as seen at 28, which is passed through an opening in the handle 25 adjacent to collar 23, and is adapted to be engaged, when said handle 25 is moved to an extreme position in one direction, as shown in Figs. 1 and 3, in a notch or seat 29 produced at one end of a ledge or flange 30 integral with the lower part of the inner bearing member 7 and extended beyond the periphery thereof in such a way as to produce at its rear side a flat surface along which the extremity of the detent 28 is adapted to slide freely when the detent is withdrawn from notch 29 and handle 25 is actuated to rock shaft or stud 10 in its bearings. By this means the detent is guided and returned to its locking notch when the shaft or stud is turned back to its locking position.

As shown in Figs. 2, 3 and 4, the outer bearing member 5 has a forwardly directed boss encircling shaft or stud 10 adjacent to collar 15 and 31 and 32 are corresponding cam faces produced upon said boss and collar, respectively and adapted, when the shaft or stud is returned to its extreme lateral locking position, as shown in Figs. 1 and 3, to engage upon each other in such a way as to cause the collar 15 to be pressed outwardly along the shaft or stud 10, whereby when said shaft or stud stands in locked position the wiper carried by the arm 18 of said collar 15 will be withdrawn forwardly and will stand out of contact with the glass of the vestibule window. When the shaft or stud 10 is moved from its locking position, said cams 31 and 32 will be disengaged, permitting the spring 14 to exert its tension to press the collar rearwardly along the shaft or stud 10 whereby the wiper carried by the arm 18 of the collar will be elastically pressed upon the surface of the glass to wipe the same. The tension of spring 14 may obviously be varied by adjustment of the nut 12.

In the operation of the device, when the glass 3 of the vestibule front shall have become obscured from the collection of dust, rain, frost or the like upon its outer surface, the motorman will grasp the handle 25 and by pressure upon the free end of the latch lever 27 will disengage the inner detent end 28 thereof from the locking notch 29 in the flange 30 of the inner bearing member 7, whereupon the shaft or stud 10 will be unlocked and may be freely rocked back and forth to cause the wiper carried by the arm 18 of collar 15 to be wiped across the outer surface of the glass in such a way as to clean the same. The extension 20 at the lower end of arm 18 having adjustable connection with the body portion of said arm permits adjustment of the wiper upward or downward so that the glass may be cleaned in line with the face of the motorman and the employment of the spring 14 affords an elastic pressure of the wiper upon the glass such as is necessary to give the best results. After the glass has been wiped clean by the operation of the device, the handle is moved back to its initial position, whereupon the latch lever being released, its detent end 28 is pressed by its spring into the locking notch 29 whereupon the wiper will be held in raised position at the side of the vestibule window so as not to obscure the view of the motorman. In returning the shaft or stud to its initial locking position, the cams 31 and 32 come into engagement and operate to withdraw the wiper from the glass so that

there is no likelihood of the wiper freezing to the glass as might happen in cold weather.

From the above description it will be understood that the improved window wiping device constructed according to my invention is of an extremely simple and inexpensive nature and is especially well adapted for use by reason of the convenience with which it may be operated without interfering in the least with the necessary duties of the motorman, and it will be evident that the device is not limited in its application to electric railway cars, but is also capable of effective use in connection with the cabs of locomotive engines, pilot houses of vessels, etc., without departure from the invention, and it will also be obvious that the device is capable of considerable modification without material departure from the principles and spirit of the invention and for this reason I do not desire to be understood as limiting myself to the precise form and arrangement of the several parts of the device as herein set forth in carrying out my invention in practice.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A window wiping device comprising a part mounted for movement, a bearing for said part, a wiper actuated from said part and adapted, upon movement thereof, to be moved across the window to wipe the same, and releasable means capable of operation to hold the wiper against movement.

2. A window wiping device comprising a shaft mounted for turning movement, a bearing for said shaft, a laterally directed arm capable of movement lengthwise along said shaft and adapted to turn in unison therewith, a wiper on said arm and adapted, when said shaft is turned, to be moved across the window to wipe the same, and yielding means capable of operation to move said arm lengthwise along the shaft in a direction to press the wiper upon the window.

3. A window wiping device, comprising a part mounted for movement, a bearing for said part, an arm movable in unison with said part, a handle connected with said part for moving the same, a wiper carried by the arm and adapted, in the operation of said movable part, to be moved across the window to wipe the same, and a detent device carried by the handle and adapted for operation to lock said movable part against movement relatively to the bearing.

4. A window wiping device, comprising a part mounted for movement, a bearing for said part, a wiper carried by said part and adapted, upon operation thereof, to be moved across the window to wipe the same, said wiper being also adapted for movement in and out of contact with the window, and means for holding the wiper against operation when moved out of contact with the window.

5. A window wiping device, comprising a part mounted for movement, a bearing for said part, a wiper carried by said part and adapted, upon operation thereof, to be moved across the window to wipe the same, means adapted, upon movement of said part in one direction, to withdraw the wiper from contact upon the window, and means for locking the movable part against operation when said part is moved to withdraw the wiper from contact upon the window.

6. The combination of a shaft mounted to turn, a bearing therefor, an arm carried by the shaft and provided with a wiper, means for pressing the wiper elastically in one direction, and a cam device arranged for engagement with the arm for moving the same in the direction of the length of the shaft and against the tension of said spring.

7. The combination of a shaft mounted to turn and having one end screw-threaded and its opposite end provided with a handle, a bearing for said shaft, a nut engaged on the screw-threaded end of the shaft, an arm held to turn with, but capable of movement lengthwise upon the arm, a spring coiled on the screw-threaded end of the shaft between the nut and said arm and arranged to press the arm elastically in one direction, a wiper carried by the arm, and a cam device engageable with the arm to move the same lengthwise of the shaft against the tension of said spring.

8. A window wiping device comprising a part mounted for movement, a bearing for said part, an arm laterally directed from said part, a wiper carried by the arm and capable of adjustment in the direction of the length of said arm and adapted, upon actuation thereof, to be moved across the window to wipe the same, resilient means for moving said arm toward the window, and means for varying the tension of said resilient means.

9. A window wiping device having a wiper mounted for movement across a window to wipe the same, means for actuating the wiper, and a cam device for withdrawing the wiper from contact upon the window.

10. A window wiping device having a wiper mounted for movement across a window to wipe the same, a part operatively connected with said wiper and adapted to be extended through the wall of a structure and movable to actuate the wiper, and means for moving the wiper outwardly from the structure to withdraw it from contact upon the window.

11. A window wiping device comprising a part mounted for turning movement, a bearing for said part, a wiper operatively connected with said part and adapted, when

the same is turned, to be moved across the window to wipe the same, and means actuated from the turning movement of said part, for withdrawing the wiper from contact upon the window.

In testimony whereof I have hereunto signed my name at Marion, Ohio, this 21st day of Sept. 1906, in the presence of two subscribing witnesses.

CARL A. KELLOGG.

Witnesses:
W. G. HARDING,
M. E. B. WOLFE.