

(No Model.)

C. K. GRIMLEY & E. F. SLOUGH.
MEANS FOR OPENING OR CLOSING CAR WINDOWS.

No. 540,976.

Patented June 11, 1895.

Fig. 1.

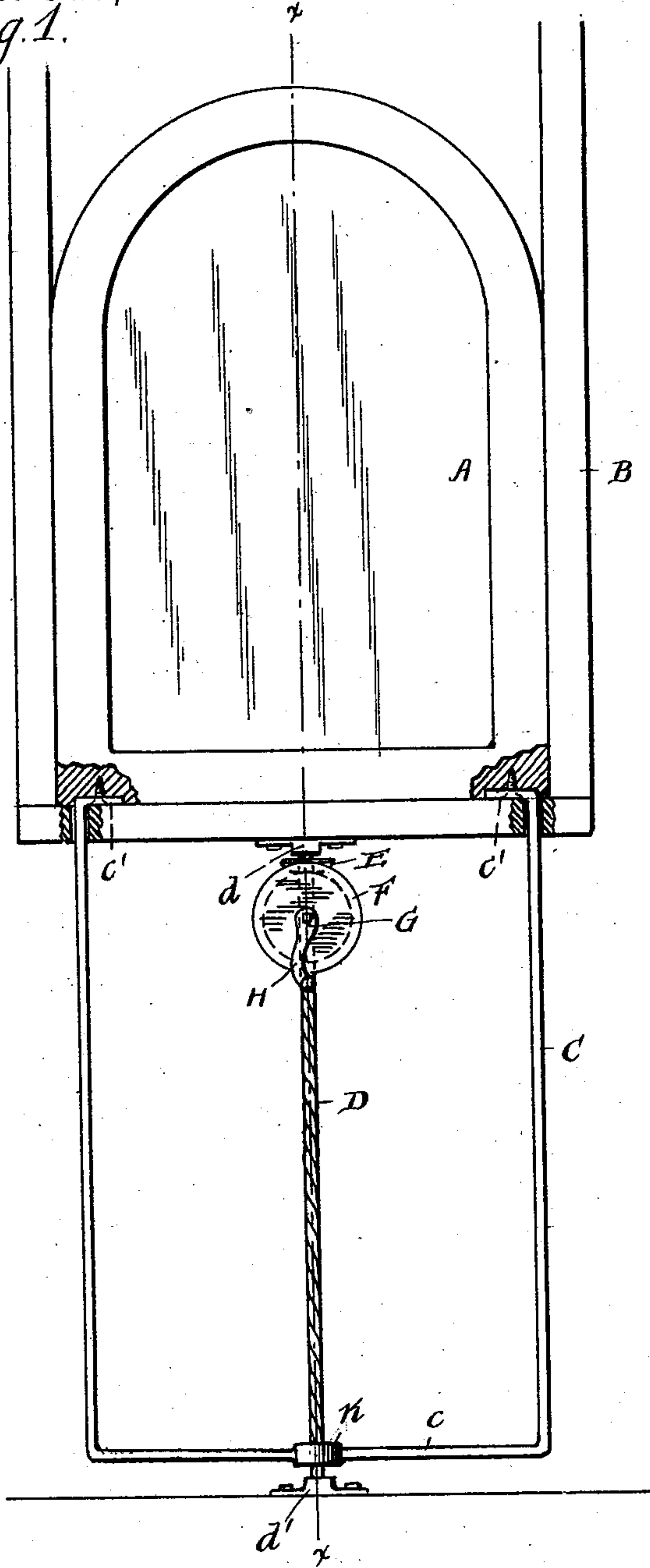
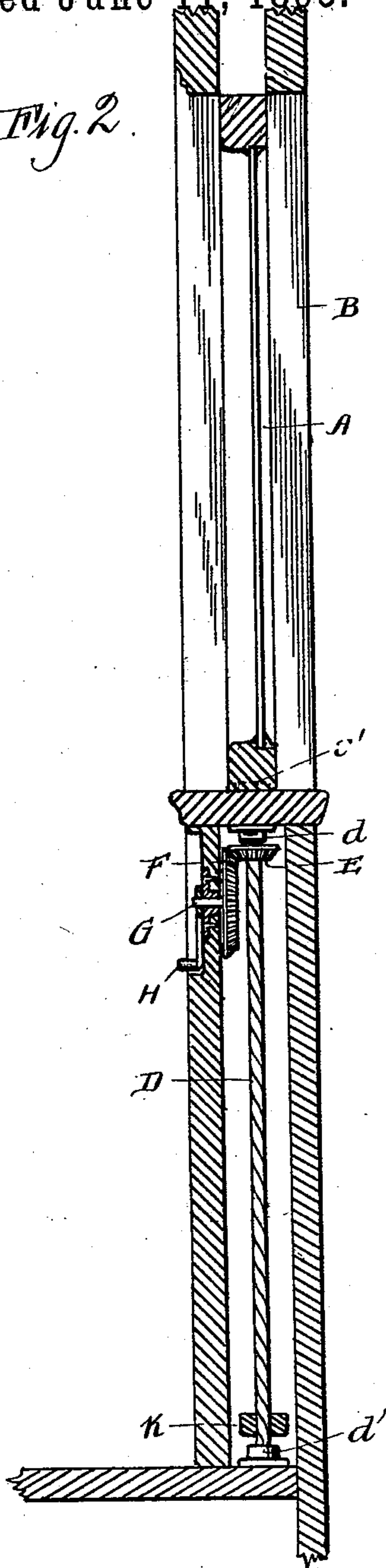


Fig. 2.



WITNESSES

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CLINTON K. GRIMLEY AND EPHRAIM F. SLOUGH, OF NORRISTOWN, PENNSYLVANIA.

MEANS FOR OPENING OR CLOSING CAR-WINDOWS.

SPECIFICATION forming part of Letters Patent No. 540,976, dated June 11, 1895.

Application filed March 14, 1895. Serial No. 541,686. (No model.)

To all whom it may concern:

Be it known that we, CLINTON K. GRIMLEY and EPHRAIM F. SLOUGH, citizens of the United States, and residents of Norristown, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Means for Opening or Closing Car-Windows; and we do 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a front view of the invention applied, the inner casing of car being removed. Fig. 2 is a section through side of car on line $x x$, Fig. 1.

The object of this invention is to provide simple, effective, and convenient means for opening and closing car windows, and which act also as a lock to secure the window closed or open in any position.

With this object in view, the invention consists in the novel construction and combination of parts, all as hereinafter described and pointed out in the appended claims.

Referring to the accompanying drawings, the letter A designates a car window sash, and B the frame in which it moves vertically in the usual manner.

C designates a frame which consists of two vertical rods connected at their lower ends by a transverse arm c . The vertical rods at their upper end portions are attached to the lower portions of the window sash, one at each side. In the arrangement shown the upper ends of said arms have inwardly bent lugs c' which seat flush in recesses in the lower face of the sash and are secured thereto by bolts or screws.

D designates a vertical screw-shaft journaled in the bearings d, d' , and having at its upper portion a small bevel pinion E, which is driven by a bevel gear wheel F, carried by a shaft G one end portion of which projects through the side casing of the car

into the interior thereof adjacent to the seat, being provided with a crank H. 50

K is a nut which is adapted to the thread of the screw D and which is attached to the central portion of the arm c of the frame C.

By rotating the crank H and thereby the screw D, the nut K is run up or down on the screw as may be desired, causing a corresponding movement of the frame C which raises or lowers the sash. 55

It will be apparent that the thread of the screw forms a lock which will secure the window in any position against accidental movement. 60

The entire device, with the exception of the operating crank is concealed within the sheathing of the car. The two vertical rods one at each side, insure a true vertical movement of the sash and prevent its binding on the frame. 65

The inner wall or sheathing of the car is preferably recessed or cut-away as indicated at P, in order that the crank may seat flush therein and not project in the way of the seats. 70

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is— 75

1. The herein described means for opening, closing and locking car windows, consisting in the combination with a vertically movable sash, of a frame C arranged to work between the inner and outer sheathings, or walls, of the car, said frame having two vertical arms which are attached to the lower portion of the sash, one near each side, a vertical screw shaft which is journaled between the inner and outer sheathings, or walls, a nut having a thread fitted to said screw and carried by the transverse arm of the frame C, a pinion on the said shaft, a gear wheel meshing with said pinion, a shaft which carries said wheel and has a bearing in the inner sheathing, or wall, of the car through which it extends, and a crank for rotating said shaft, substantially as specified. 80 85 90

2. The herein described means for opening, closing and locking car windows, consisting of a rigid frame having vertical arms at- 95

tached to the lower portion of a sash, one at each side, a vertical screw-shaft journaled below the window, a nut on the transverse arm of said frame adapted to the thread of
5 said screw-shaft, a pinion on said shaft, a gear wheel meshing therewith, and a cranked shaft to which said gear wheel is secured, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

CLINTON K. GRIMLEY.
EPHRAIM F. SLOUGH.

Witnesses:

JOHN T. WAGNER,
EDWARD E. LONG.