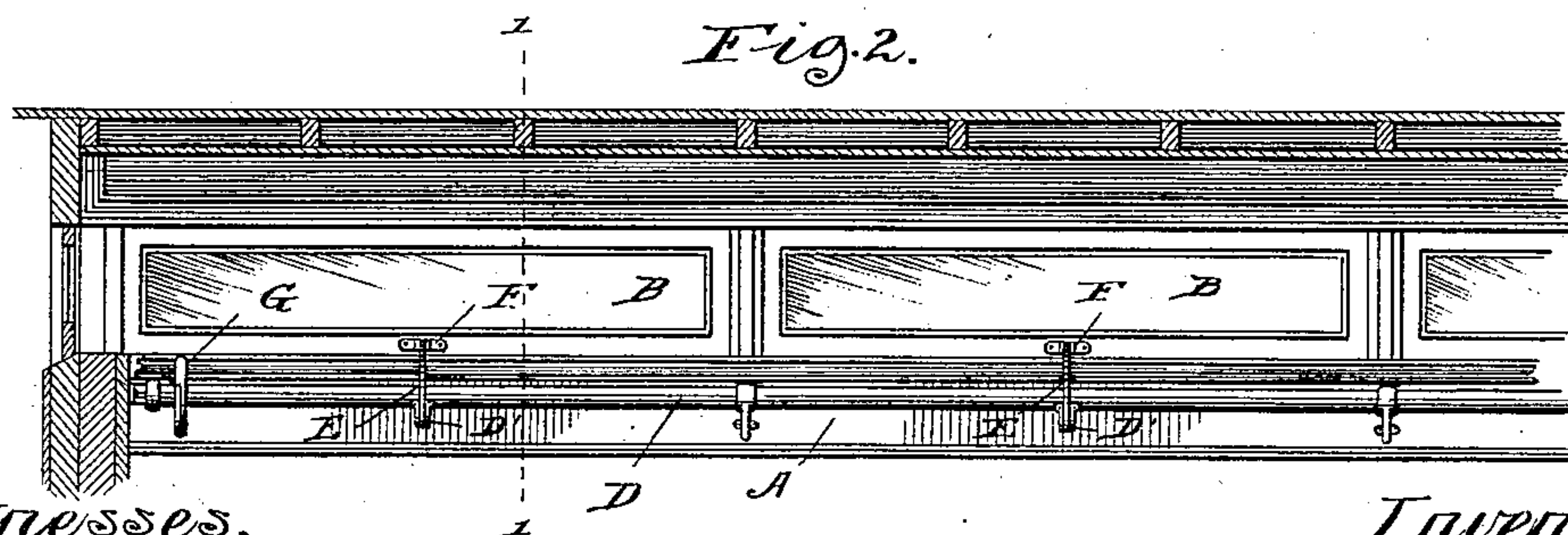
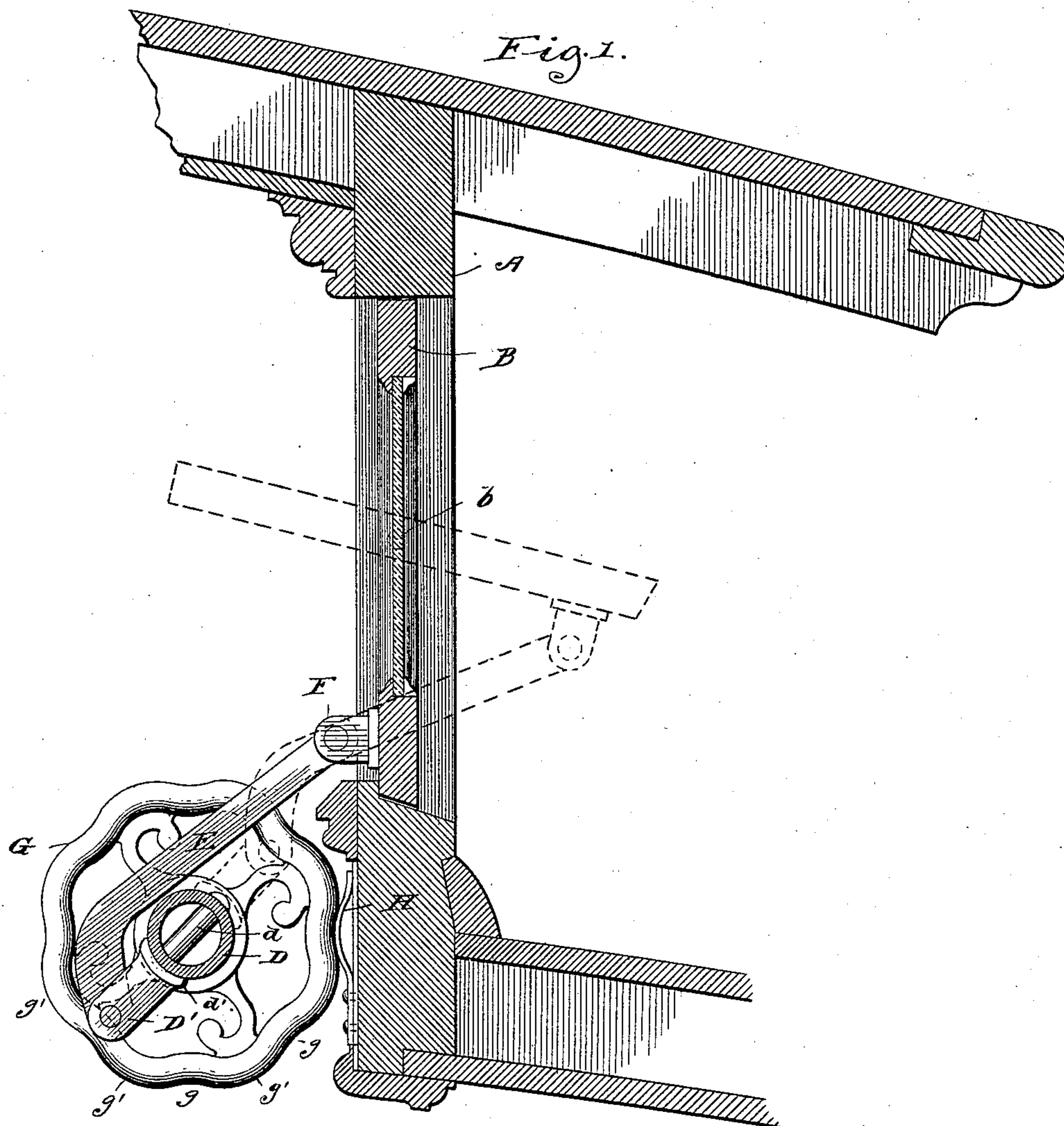


(No Model.)

A. TWYMAN.
TRANSOM LIFTER.

No. 407,624.

Patented July 23, 1889.



Witnesses,

J. M. Mann,

Frederick Goodwin

Inventor,

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By,

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UNITED STATES PATENT OFFICE.

AARON TWYMAN, OF PULLMAN, ASSIGNOR TO THE PULLMAN'S PALACE CAR COMPANY, OF CHICAGO, ILLINOIS.

TRANSOM-LIFTER.

SPECIFICATION forming part of Letters Patent No. 407,624, dated July 23, 1889.

Application filed February 23, 1889. Serial No. 300,881. (No model.)

To all whom it may concern:

Be it known that I, AARON TWYMAN, a subject of the Queen of Great Britain, residing at Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Transom Opening, Regulating, and Locking Devices, of which the following is a specification.

My invention relates to means for opening, regulating, and locking transoms or other window-sash, and it is particularly applicable to the ventilating of street-cars, wherein a series of transoms or small window-sash are pivoted in the vertical walls of the deck of the car.

In carrying out my invention I prefer to pivot the transoms or sash by pivot-pins inserted in the end rails thereof, and to connect each of the said transoms by suitable jointed levers to a common operating-rod. Said rod I provide with an improved locking device, whereby the transoms may be locked in any desired position and the ventilation of the car perfectly and conveniently regulated.

In the drawings, Figure 1 is a transverse vertical section through a portion of the deck and roof of a street-car, taken on line 1 1 of Fig. 2, and showing my improved locking device in elevation, and showing, also, by dotted lines a secondary position of the transoms; and Fig. 2 is a side elevation showing the interior of one wall of the deck with my appliances in proper relative position and showing the deck-roof in section.

Referring to the drawings, A represents one of the vertical side walls of the deck of a street-car having openings therein for purposes of ventilation, said openings being provided with transoms B, whose end rails are pivoted, as at *b*, to the casings of the openings. Said transoms may, however, be hinged at one side.

D is an operating-rod, which will be carried in suitable bearings parallel to the base-rail of the wall A. This rod may be hollow, as shown in cross-section in Fig. 1, and it will have rigid rock-arms D', which may be secured by means of bolts *d*, passing through feet *d'* of the arms.

E represents an arm which is pivoted at one

end to the rock-arm D' and at the other to a bracket F on the transoms. It will be understood that a series of these transoms may be thus connected to a common operating-rod or rock-shaft. Secured upon or connected to this operating-rod at some convenient point is a hand-wheel G, the run of which is preferably fluted or hollowed out, as at *g*. A flat spring H, preferably curved, as shown, has one of its ends secured to the wall of the car, while the curved portion of its free end fits into the hollow *g* of the operating-wheel G. The extreme end of the spring H above the curved portion may also have a bearing on the wall of the car; but it will be so disposed with reference to the hand-wheel that the turning of the latter in manipulating the windows will necessarily cause the spring to straighten out or be forced inwardly toward the wall of the car by reason of the raised portions *g'* of the periphery of the wheel coming in contact therewith, and as soon as said raised portion is turned past the curved part of the spring the latter resumes its normal position, as shown in Fig. 1, and, engaging the wheel, securely locks it, as well as the rod and transoms, in place. By this means it is evident that the transoms can be locked at any desired angle simply by turning the wheel more or less. The lock is thus automatic, being set and released by the operation of the transoms, and the uniform ventilation of the car is conveniently secured with slight effort.

It will be found convenient to place the hand-wheel near one end of the car, so that the driver or conductor may reach it without passing through or into the car. These hand-wheels may, of course, be duplicates at each end of the rod.

Of course the device is applicable to single transoms as well as a series. It is apparent that the periphery of the hand-wheel might be otherwise formed than with the depressions and the spring adapted to lock the same by friction; and it is also apparent that the spring might be reversed and its hollow engage the raised portions of the rim, and other forms of spring might be utilized. I do not regard either of these suggested forms as desirable

as the form shown in Fig. 1, but regard them and other equivalent forms as coming fairly within the scope of my invention.

I claim—

- 5 1. In a transom-operating device, the combination, with an operating-rod and a transom-arm pivotally connected thereto, of a hand-wheel for the operating-rod and a locking-spring secured to bear yieldingly on the
10 periphery thereof, whereby to lock the operating-wheel, substantially as described.

2. In a transom-operating device, the com-

bination, with an operating-rod and one or more transom-arms pivotally connected thereto, of a hand-wheel for the operating-rod having a fluted rim, and a curved locking-spring secured to bear yieldingly upon the said rim, whereby to lock the operating-rod, substantially as described. 15

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Witnesses:

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