

DAVID. C. RICHARDSON'S .
IMPROVED SELF-ADJUSTING CAR VENTILATOR

LAWRENCE MASS

AUG. 17th 1862

PATENTED

Inventor.

David C. Richardson

Witnesses.

Geo. C. Peery.
Chas. W. Abbott.

Fig. 1. FEB 25 1868

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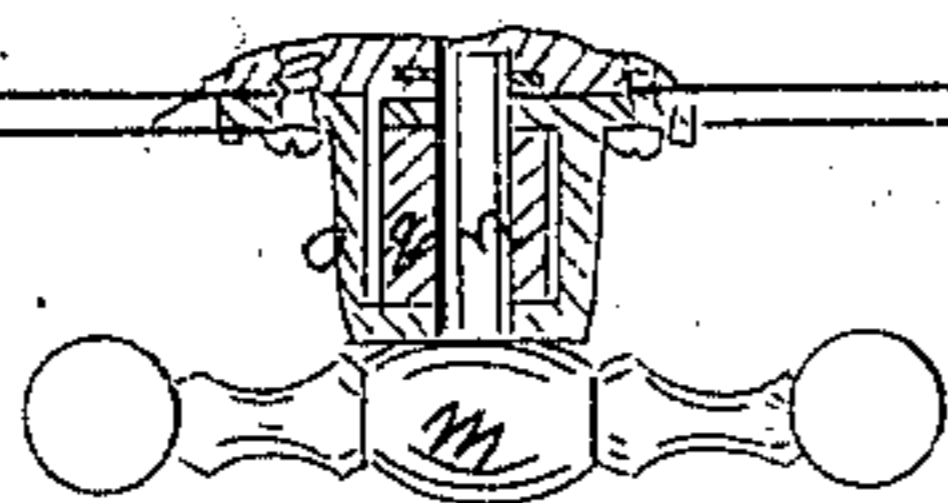
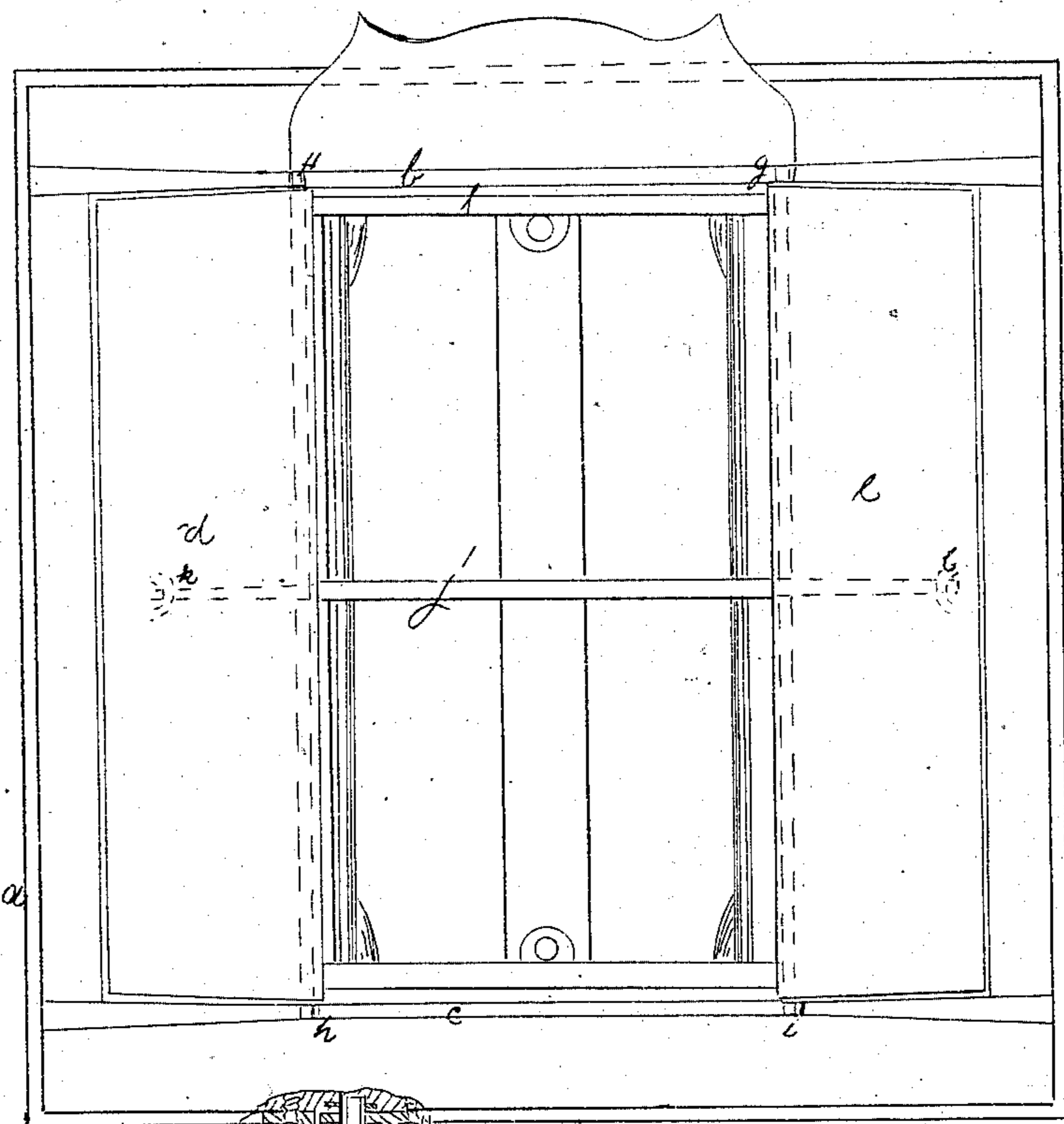
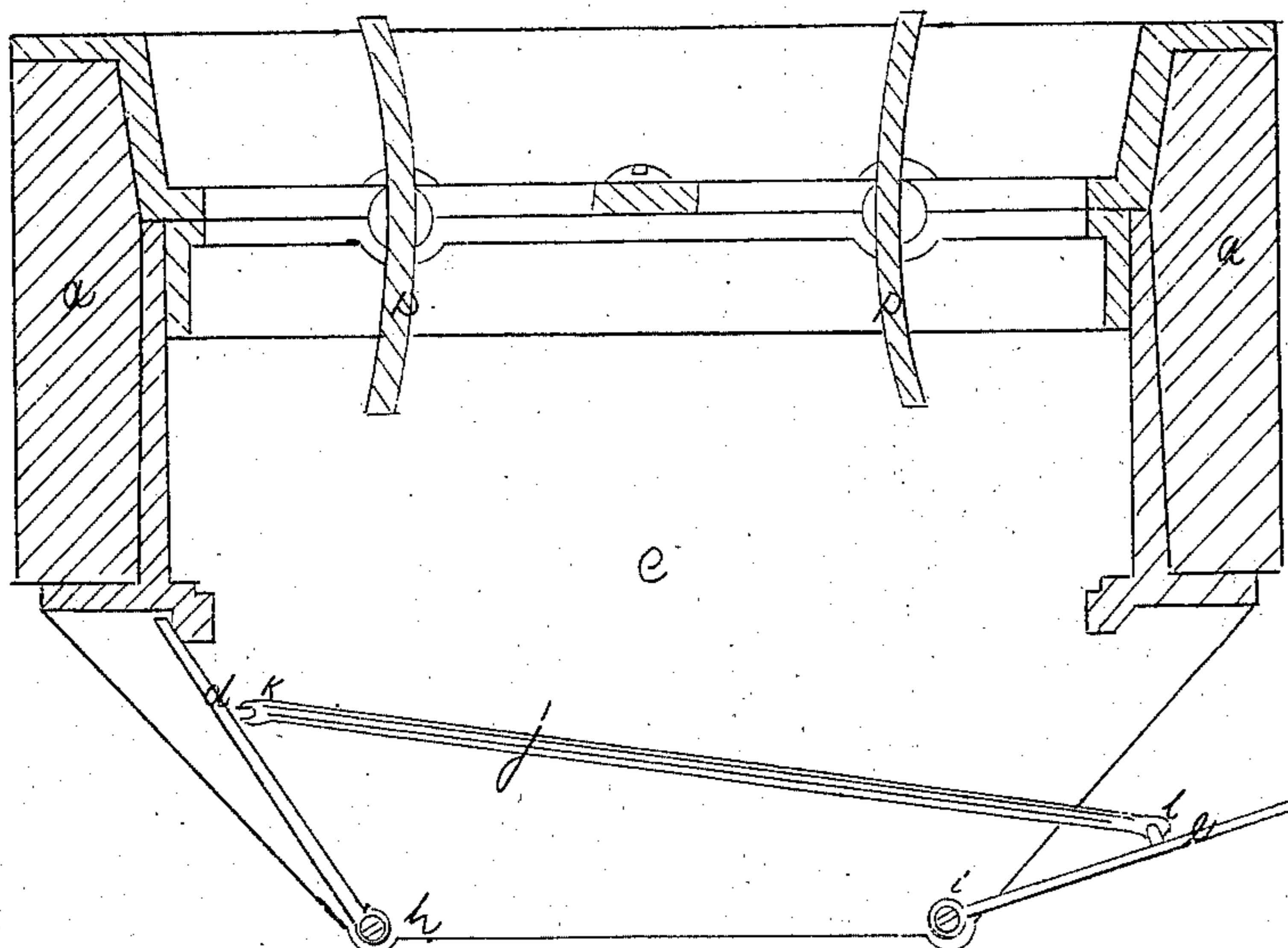


Fig. 2.



United States Patent Office.

DAVID C. RICHARDSON, OF LAWRENCE, MASSACHUSETTS.

Letters Patent No. 74,849, dated February 25, 1868.

IMPROVEMENT IN CAR-VENTILATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, DAVID C. RICHARDSON, of Lawrence, in the county of Essex, and State of Massachusetts, have invented new and useful Improvements in Self-Adjusting Car-Ventilators; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 represents a front elevation of my improved self-adjusting car-ventilator.

Figure 2 represents a longitudinal section of the same.

Similar letters in the different figures indicate corresponding parts.

a represents the framework of that part of the car to which my improvement is attached; *b*, the top weather-plate; *c*, the bottom weather-plate; *d* and *e*, the self-adjusting ventilating-folders, with their bearings *f*, *g*, *h*, and *i*, and connected by the rod *j* with eyes *k* and *l*, or their equivalents, hinging to the same; *m*, the knob, with its shank *n*, which passes through the step *o*, and connects with the register-folds *p p*, around the shank *n*; and enclosed in the step *o* is a rubber spring, *q*, which is held and strained taut by aid of the washer and pin, which spring *q* acts and secures the register-folds *p p* in any desired position, and also prevents noise from rattling, caused by the vibration of the car, when in motion, and leakage from water through the step *o*. The intervening space between the shafts of the folders *d* and *e* is left open, to allow a free ventilation through the register, while the self-acting folders prevent the dust and cinders from entering the car.

The great tendency of cars when in rapid motion, with the ventilating-windows or registers open, is to gather in and receive the rain that may be falling, or the cinders, dust, and smoke with the fresh air which is demanded, to the great annoyance and discomfort of the occupants of the same. In my improved self-adjusting ventilator, acting always at its proper time, when the car is in motion, and keeping its position until the motion of the car ceases, this great annoyance is almost entirely remedied.

The car being in motion, the action of the air coming in contact with and directly against the folder *d*, causes the folder *d* to instantly shut, at the same instant gives corresponding motion by aid of the rod *j* to the folder *e*, opening the same. This causes a rapid current of air to pass outside and inside of the open folder *e*, producing a strong suction from within; this action sucks and throws out all of the impure air in the car, and replenishes fresh air in its room, at the same time the obnoxious and objectionable particles are kept out. The weather-plates *b* and *c* extending from the car sufficiently to give the requisite angle to the folders *d* and *e*, and their bearings *f*, *g*, *h*, and *i*, also serve in preventing the rain from beating in through the openings made by the registers *p p*. The bottom weather-plate *c* being lower than the seat of the register-folds *p p*, and inclining outward, prevents the water from flowing in.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination and arrangement of the self-adjusting folders *d e*, connected by the rod *j*, in the open-mouthed space between the weather-plates *b c*, with the register-plates *p p*, substantially as and for the purposes herein set forth.

DAVID C. RICHARDSON.

Witnesses:

GEO. E. PEVEY,

CHAS. W. ABBOTT.