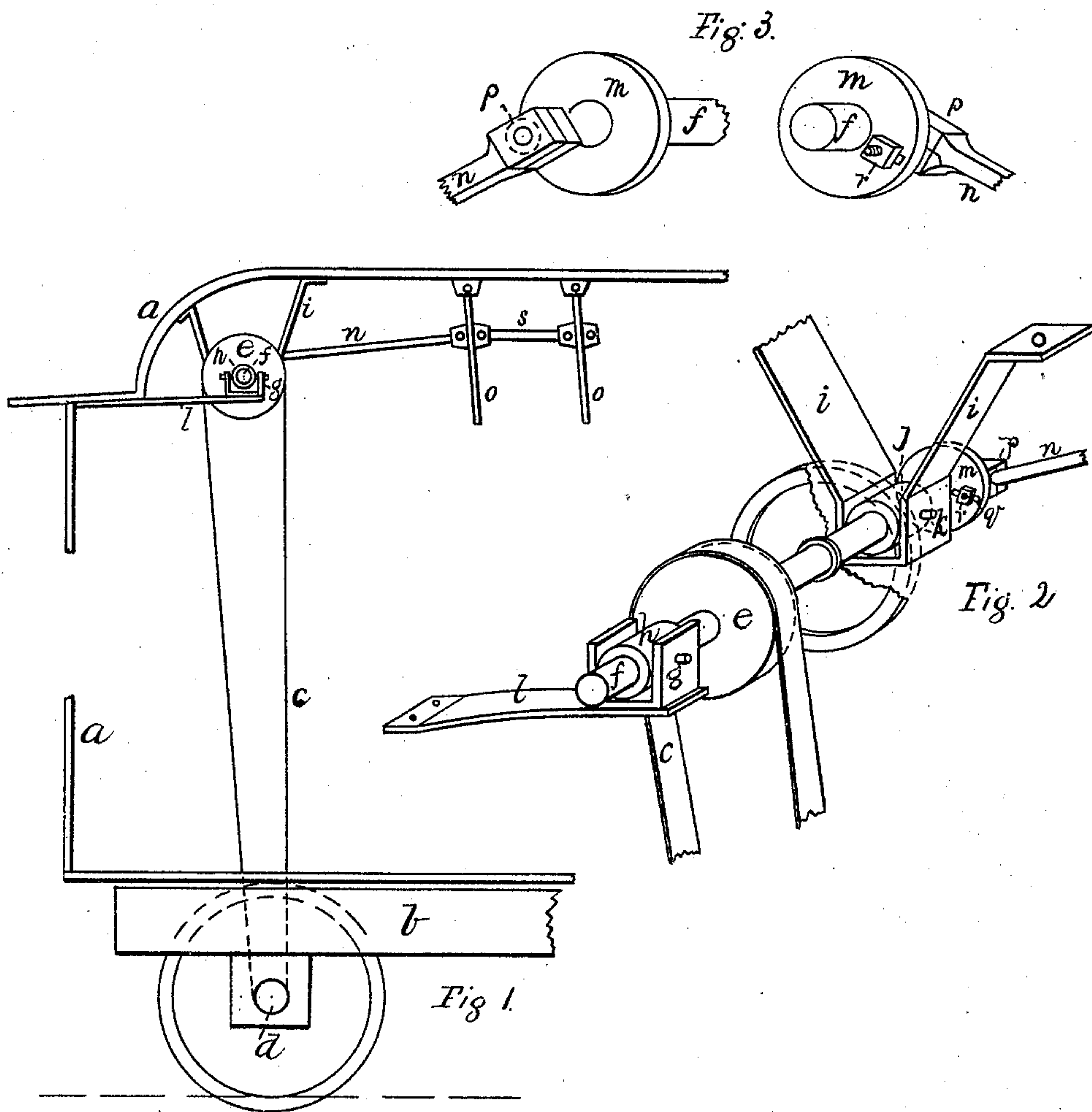


J. F. BABCOCK.

DEVICES FOR COOLING AND VENTILATING RAILWAY-CARS.

No. 171,079.

Patented Dec. 14, 1875.



Witness
H. A. Fairbanks
Geo. T. Moody

Inventor.
James Induct Babcock
Per Wm. Franklin Leary Atty.

UNITED STATES PATENT OFFICE.

JAMES F. BABCOCK, OF BANGOR, MAINE, ASSIGNOR OF ONE-HALF HIS
RIGHT TO FLAVIUS O. BEAL, OF SAME PLACE.

IMPROVEMENT IN DEVICES FOR COOLING AND VENTILATING RAILWAY-CARS.

Specification forming part of Letters Patent No. **171,079**, dated December 14, 1875; application filed
September 27, 1875.

To all whom it may concern:

Be it known that I, JAMES FREDERICK BABCOCK, of Bangor, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Devices for Cooling and Ventilating Railway-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings forming a part of this specification, in which—

Figure 1 shows a side elevation of my invention; Fig. 2, a perspective of same; Fig. 3, a detail of connecting-rod attachments.

Same letters show like parts.

The object of my invention is to produce a device for ventilating and cooling railway-cars.

I effect my purpose by means of fans suspended from the upper part of the car, to which a swinging or other appropriate motion is communicated by a belt passing around the axle of the car-wheel, and over a shaft within the car. This shaft is so hung as to adapt itself to the various motions of the truck-frame and car-body, and operates a series of fans, either by a connecting-rod eccentrically attached to said shaft by a universal or ball joint, or by appropriate belting.

My invention relates particularly to my peculiar devices for enabling said shaft to adapt itself to the motions of the car-body, and the method of combining it with the connecting-rod operating the fans.

My invention will be more readily understood by reference to the accompanying drawings, in which *a* shows a portion of a car-body, and *b* the truck-frame. At *c* is shown a band passing around the axle *d* of the car-wheel, and over a pulley, *e*, upon a shaft, *f*, situated within the car. This shaft, at its end nearest the pulley *e*, revolves in a rocking box, *h*, pivoted in a casing, *g*, sustained upon a spring-bearing, *l*. The opposite end of the shaft is suspended from a hanger, *i*, attached to the roof of the car, and revolves in rocking box *j*, pivoted in said hanger at *k*. The

spring bearing or attachment *l*, supporting the box *h*, together with the rocking boxes *h j*, allows to the shaft *f* a vertical motion, by which it may accommodate itself to the variations in distance between the axle of the car-wheel and the body of the car occasioned by the inequalities of the road, said shaft rising and falling upon the pivot *k* of the box *j* as a fulcrum, the belt *c* keeping it always equidistant from the car-axle *d*.

One method of applying the spring *l* to support the box *h* is shown in the drawing; but others will readily suggest themselves to effect the purpose.

The method of communicating motion to the series of fans *o* by means of a connecting-rod is shown in Fig. 1. The rod *n* is attached to the end of the shaft *f*, which projects beyond the hanger *i*, or to a crank secured thereto at *m*, in such a manner that the revolution of the shaft shall communicate a reciprocating motion to the rod.

This attachment, as before stated, is made by a ball or universal joint, *p*, which is necessary in order to accommodate the vertical motions of the shaft *f*, before described. This joint may also be attached to the crank by a bolt passing through a slot, *q*, in the crank *m*, and having a nut, *7*, thereon, by which said joint may be secured in any position in the slot, enabling the throw of the rod to be regulated at will. The other end of this rod is attached to the fans *o*, which are connected with each other by short connecting-rods *s*, causing the whole series to be operated by the rod *n*.

It is evident that, a reciprocating motion being given to the rod *n*, the fans *o* may receive either a swinging or a rotary motion from said rod, which motion may be determined by varying their attachment to the car and rod by well-known means, as by attaching said rod to a crank upon the pivot upon which the rods swing.

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

1. The combination of the driving-shaft *f*, hanger *i*, rocker-boxes *h j*, and spring-bearing *l* with the belt *c*, communicating motion to

said shaft from the car-axle, all arranged substantially as specified, for the purposes set forth.

2. The combination of the driving-shaft *f*, hanger *i*, rocker-boxes *h j*, spring-bearing *l*, and belt *c* with the connecting-rod *n*, eccentrically attached to said shaft by a universal joint, and operating a series of fans, *o*, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of September, 1875.

JAMES F. BABCOCK.

Witnesses:

F. O. BEAL,
WM. FRANKLIN SEAVEY.