

(No Model.)

2 Sheets—Sheet 1.

W. M. ROBISON & W. MAGOFFIN.
RAILROAD FAN.

No. 495,206.

Patented Apr. 11, 1893.

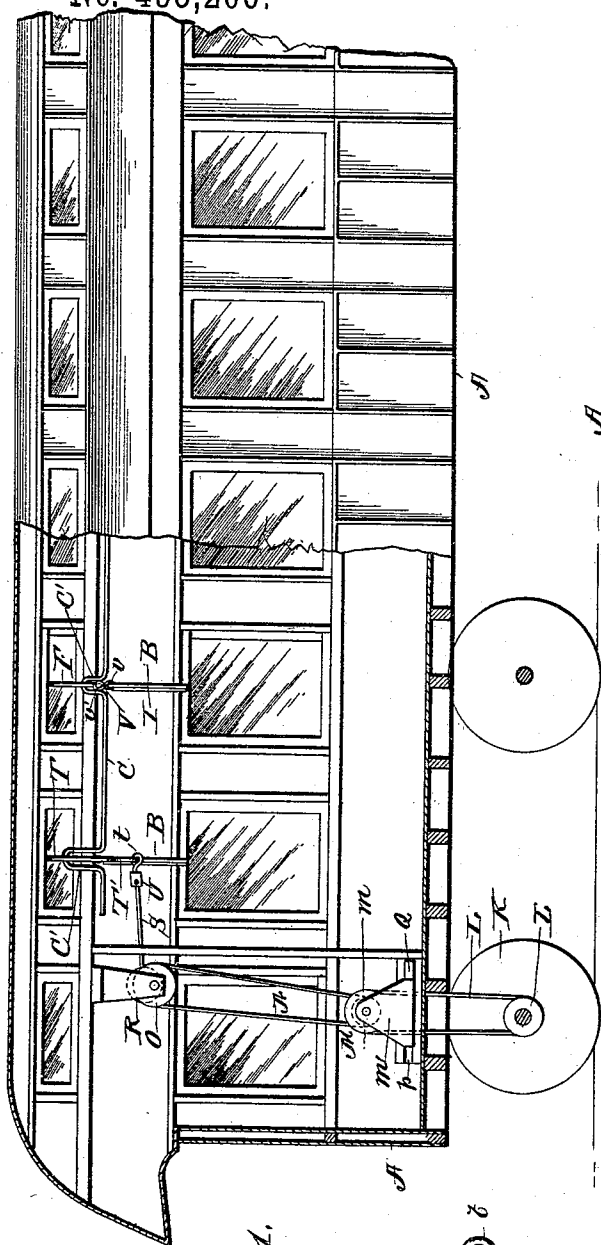


Fig. 1.

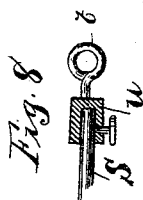


Fig. 8.

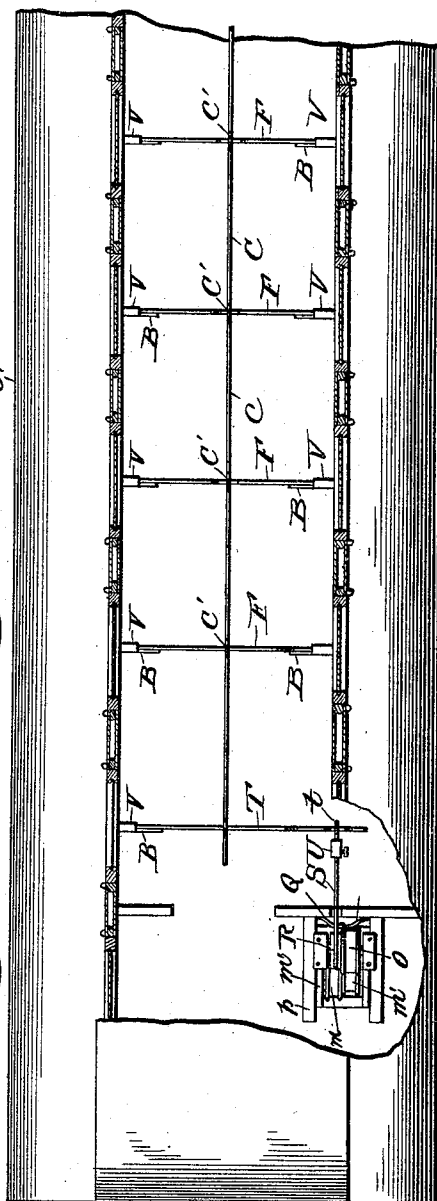


Fig. 2.

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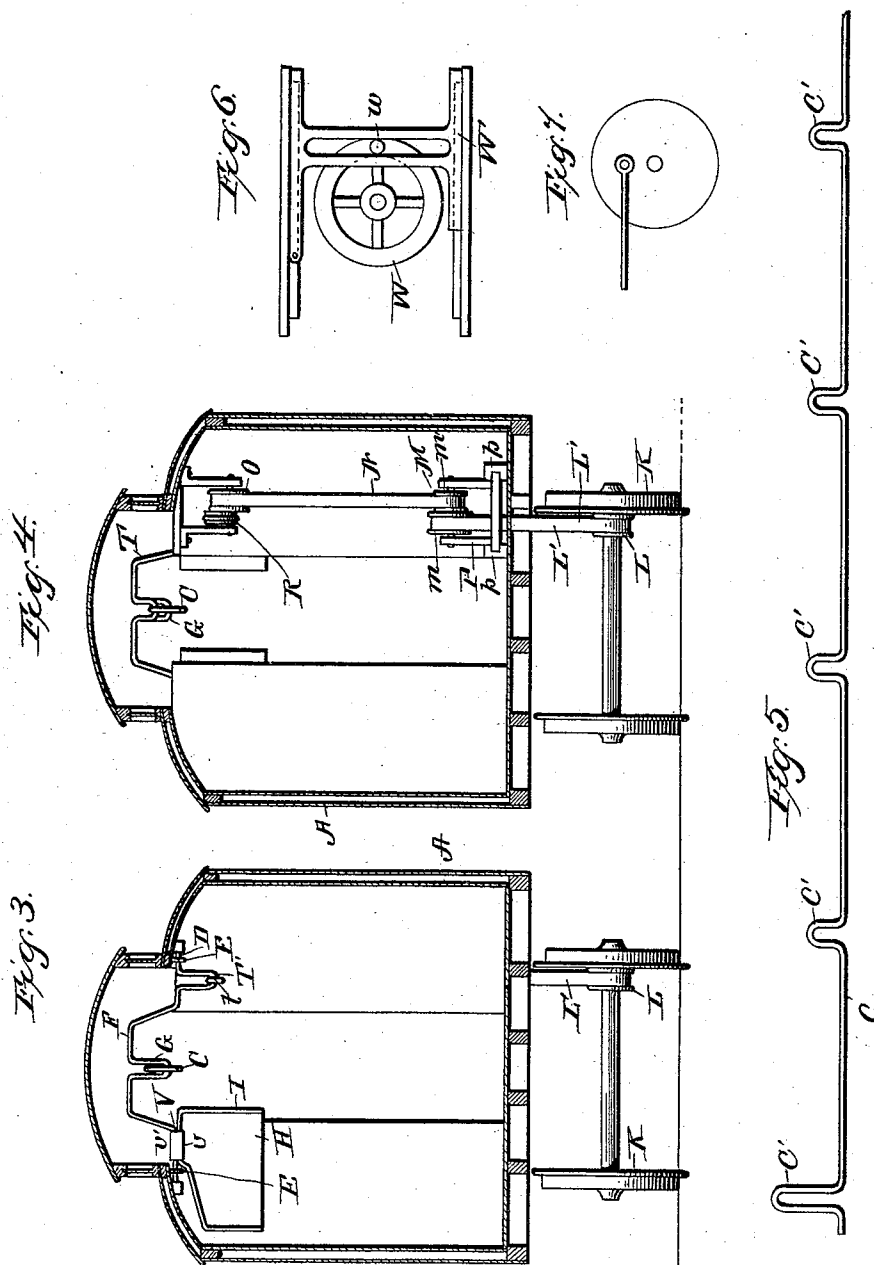
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UNITED STATES PATENT OFFICE.

WILLIAM M. ROBISON, OF MORRILLTON, AND WILLIAM MAGOFFIN, OF
NEWPORT, ARKANSAS.

RAILROAD-FAN.

SPECIFICATION forming part of Letters Patent No. 495,206, dated April 11, 1893.

Application filed July 14, 1892. Serial No. 440,052. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM M. ROBISON, residing at Morrillton, in the county of Conway, and WILLIAM MAGOFFIN, residing at Newport, in the county of Jackson, State of Arkansas, citizens of the United States, have invented a new and useful Railroad-Fan, of which the following is a specification.

Our invention relates to a fan for use in railway cars, the motive power for which is derived from the wheels of said car.

The objects of the invention are to provide a simple and effective device for conveying the power of the wheels to the fans; furthermore, to provide means for adjusting the device to take up lost motion; furthermore, to provide fans any one of which may be disconnected from the operating mechanism without affecting the others; and furthermore, to provide means whereby the motive power may be readily connected with or disconnected from the fans.

Our invention is described in detail in connection with the accompanying drawings, wherein:

Figure 1 is a side view, partly broken away, of a car equipped with the fan mechanism. Fig. 2 is a plan view of the same. Fig. 3 is a transverse sectional view of the car, partly broken away. Fig. 4 is a partial end view. Fig. 5 is a detail view of the fan-rod. Fig. 6 is a similar view showing a shuttle arrangement for operating the fans. Fig. 7 is a similar view of another form of shuttle. Fig. 8 is a detail section of the socket piece.

A represents the frame of an ordinary railway car, the details of which (having no bearing on our invention) being omitted, and B B represent the fans, suspended from the roof of the car and connected, for simultaneous operation by the fan-rod, C.

The fan frames comprise the spindle portion, D, the ends of which project laterally to engage supporting hooks, E E, on the roof of the car, and the upwardly extending, loop-frame, F, provided at its center with the depending loop G, the lower end of which is above the plane of the spindle portion, as shown clearly in Fig. 3. The fan-rod is provided at intervals corresponding with the intervals between the fans with notches, or up-

ward loops, C', which engage the loops G, the weight of the fan-rod being sufficient to maintain the parts in their proper relative positions. The wings, H, of the fans, comprise rectangular frames, I, secured to the spindle portion, above-mentioned, and covered with paper, fabric, or other suitable material.

The axle of the car-wheel, K, near one end of the car is provided with a pulley, L, which is connected by a belt, L', to a double pulley, M, above the floor of the car. This double pulley comprises a large pulley, *m*, to receive the belt, L', and a smaller pulley, *m'*, to receive a belt, N, which also passes around a corresponding pulley, O, near the roof of the car. The pulleys *m m'* are mounted on a sliding frame, P, fitted in grooved ways, *p p*, and fitted with a spring, Q, whereby the frame is pressed forward so as to hold the belts taut at all times. The pulley, O, is fitted with, or carries, an eccentric, R, the eccentric rod, S, being connected to the fan frame adjacent thereto.

Referring to the drawings, the frame, T, which is the fan frame nearest the operating mechanism, is provided with a depending arm, T', to which is connected, by means of loops or rings, *t*, the socket piece, U, this socket piece being adapted to fit upon the end of the eccentric rod and be secured in place by means of a set-screw. When it is desired to disconnect the fans and check their motion this set screw is loosened and the socket piece is allowed to release the eccentric rod. The frame T differs slightly from the other fan frames in that the depending loop, G, is shorter, and terminates considerably above the plane of the spindle portion. Obviously, the corresponding loop on the fan rod is made proportionately longer. The wings of the fans are connected to the spindle portions by means of double sleeves, V, having parallel loops, *v* and *v'*, to receive the spindle portion and the frame of the wing, respectively.

Either of the fans may be disconnected and removed by detaching its spindle from the supporting hooks E. There is no more positive connection between the fan rod and the fan frames than that afforded by the weight of the former, which holds its notches or loops in engagement with the corresponding loops

of the latter. This individual detachability of the fans enables the various occupants of a car to be accommodated with a fan or relieved of the effect thereof as desired. For instance, it may be annoying to one person to have the fan over his seat in motion, in which case such fan may be detached without interfering with the convenience or comfort of those occupying adjoining seats.

10 Instead of the eccentric device, herein described for producing the reciprocating movement necessary for operating fans of this construction, we may use the shuttle arrangement illustrated in Fig. 6. This consists of a pulley, or wheel, W, instead of the eccentric, said pulley or wheel being provided with a lateral pin, w, and a slotted frame, W', operated by the said pulley and connected to the arm, T'.

Other forms of fans may be used in connection with the other portions of our invention, and other forms of adjusting devices may be used to prevent looseness of the belting, as, for instance, idler pulley, &c., but the construction described above is considered the most effective and satisfactory.

The construction of the fan-frames, provided, as described, with the raised loop-frame having a depending loop, the lower end of which is slightly above the plane of the spindle portion, enables the fans to be effectively operated by a short stroke of the fan rod.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

35 1. In a railway-fan, the combination of the independent suspended fan-frames, a common fan-rod, connections between the fans and said fan-rod whereby the former may be independently disconnected, and means to operate the fan-rod, substantially as specified.

2. A series of fans connected by a fan rod and geared to the axle of the car, the fan-frames being provided with spindles to engaging supporting hooks on the roof of the car, whereby the fans may be independently detached, substantially as specified.

3. In a railway fan, the pivoted fan frames having a spindle portion, and a loop frame provided with a depending loop the lower end of which is slightly above the plane of the spindle portion, in combination with a fan rod provided with notches or upward loops to engage the loops in the loop-frame, substantially as specified.

4. In a railway-fan, the fan-frames having a spindle portion, wings secured to the spindle portion, and loop frames raised above the spindle portion and provided with depending loops the lower ends of which are above the plane of the spindle portion, in combination with a connecting rod provided at intervals with notches to engage said loops, substantially as specified.

5. In a railway fan, the combination with the fan-frames, a common rod connecting such frames, an eccentric, and means for operating the latter, of a socket U connected to one of said fan-frames, and a rod connected to the eccentric and detachably fitted in said socket, whereby motion is communicated to the connected fan-frames, substantially as specified.

6. In a railway fan, the combination with suspended fan-frames and a common fan-rod connecting such frames, of an eccentric, means for communicating motion from the eccentric to said connected fan-frames, belts connecting the shaft of said eccentric to the car-axle, and tension devices engaging said belts to preserve an even tension therein, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM M. ROBISON.
WM. MAGOFFIN.

Witnesses for W. M. Robison:

E. W. FOSTER,
S. J. FOSTER.

Witnesses for Wm. Magoffin:

L. MINOR,
O. D. WATSON.