

W. E. WINE.
VENTILATING SHUTTER.
APPLICATION FILED DEC. 19, 1911.

1,040,084.

Patented Oct. 1, 1912.

2 SHEETS—SHEET 1.

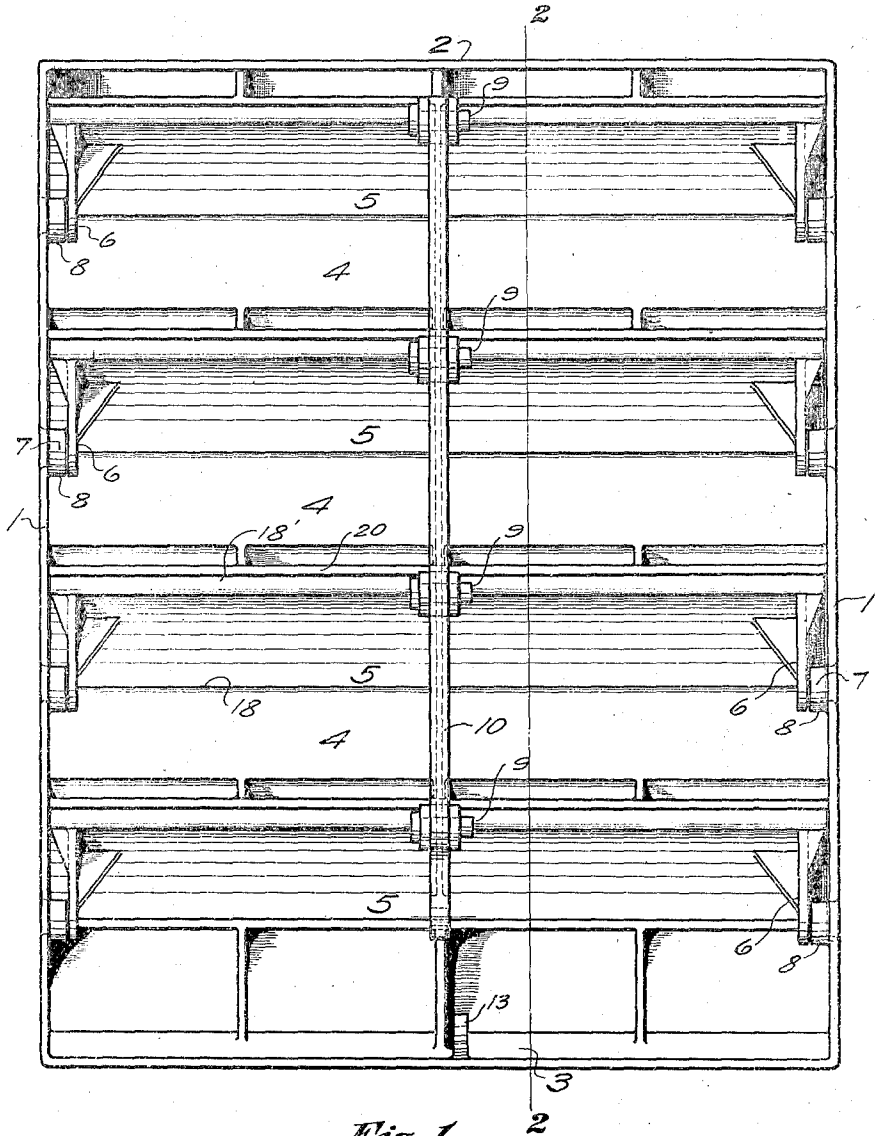


Fig. 1

Witnesses:

A. B. Corinth

Frank Hawks.

Inventor:

W. E. Wine

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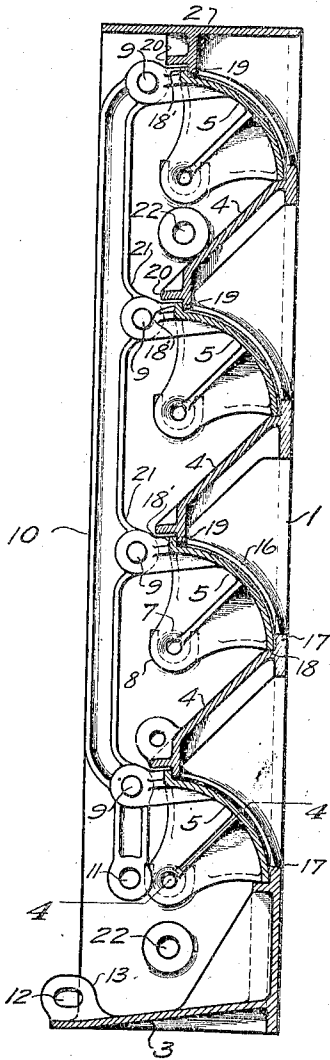


Fig. 2

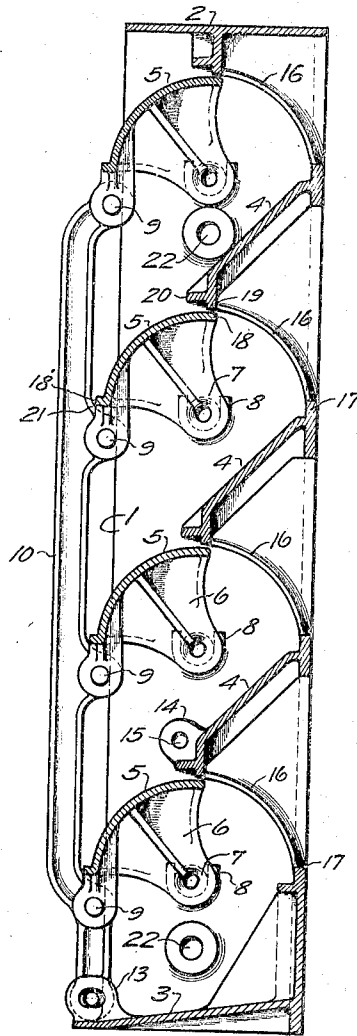


Fig. 3

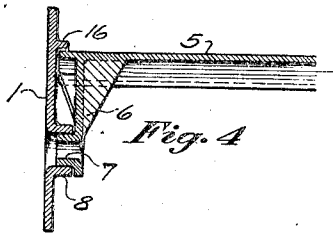


Fig. 4

Witnesses:

A. B. Corinth

Frank Hawks

Inventor:

W. E. Wine

UNITED STATES PATENT OFFICE.

WILLIAM E. WINE, OF WILMINGTON, NORTH CAROLINA, ASSIGNOR TO THE WINE RAILWAY APPLIANCE COMPANY, A CORPORATION OF OHIO.

VENTILATING-SHUTTER.

1,040,084.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed December 19, 1911. Serial No. 666,809.

To all whom it may concern:

Be it known that I, WILLIAM E. WINE, a citizen of the United States, residing at Wilmington, in the county of New Hanover and State of North Carolina, have invented new and useful Improvements in Ventilating-Shutters, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to shutters in general but refers more especially to ventilating shutters for freight cars.

Ventilators in general use on freight cars are a source of trouble and expense to maintain and the doors or closures consume a great deal of valuable space on the ends of cars where it is necessary to have safety appliances, also the doors are entirely on the outside of the car taking up valuable space between two cars when coupled together and are in a position to be readily dislocated. There has recently come into use a limited number of metal ventilating shutters which do not interfere with the application of safety appliances or clearance between cars, but from their peculiar construction they are very hard to operate, in fact it requires a great deal of manual labor assisted by mechanics' tools to be able to operate a large per cent. of them. Further these shutters expose very large openings when the closures are removed and make it easy for thieves to break into and remove articles from the car.

Therefore the object of my invention is to so construct a ventilating shutter that it will be contained within the walls of the car and of such shape that it will materially strengthen the car frame.

A further object of my invention is to so construct a ventilating shutter that it can be easily opened and closed by any one.

A further object of my invention is to so form the closures that they will be held either open or closed by gravity and may be independently inserted or removed, but when connected to the operating means none can be removed.

A still further object of my invention is to so construct the frame that the openings will not be appreciably increased when the closures are removed.

With these and other objects hereinafter

explained in view my invention consists in the construction and combination of elements hereinafter described and claimed.

In the accompanying drawings which illustrate the preferred embodiment of my invention: Figure 1 is a full front view of the entire device when closed; Fig. 2 is a vertical section on line 2—2 showing the shutter closed; Fig. 3 is a vertical section on line 2—2 showing the shutter open; Fig. 4 is a section of frame and closure on line 4—4.

Similar characters designate similar parts throughout the several figures of the drawings.

Referring now to the parts by number, the frame is composed of sides 1, top bar 2, bottom bar 3 and intermediate bars 4. The closures 5 are provided with arms 6 on which are trunnions 7. The closures 5 are pivoted on trunnions 7 in pockets 8 located on the sides 1 of the frame. The closures are connected and made to operate simultaneously by pins 9 to connecting bar 10. Connecting bar 10 is provided with an open hole 11 in its lower end which gages with hole 12 in lug 13 on bottom bar 3. Lug 14 is located on the lower intermediate bar 4 on line with connecting bar 10 and is provided with a hole 15.

16 is a rib for sealing the joint between the closures 5 and the sides 1. When the closures 5 are in a closed position the inner edge 18 of the closures drop down by the upper edge 17 of bars 4 and seal the joint, the outer edge 18' of the closures sealing the joint between the closure and the lower edge 19 of bars 4. The forward projecting edge 20 of bars 4 serve to protect the closure from the weather when closed. The closures are held in a closed position by gravity and in order to secure them in this position a car seal is inserted through hole 15 around connecting bar 10 and fastened by clamping seal. When the closures 5 are open the outer edge 18' of the closures strike the connecting bar 10 at 21 before the inner edge 18 disengages the lower edges 19 and 20 of bars 4, also about the same time connecting bar 10 strikes bottom bar 3, the closures being held in this position by gravity. In order to secure the closures in an open position a car seal is inserted through holes

11 and 12 and fastened by clamping seal. Holes 22 are for bolting the frame in position between the posts of the car framing.

By referring to the drawings and preceding description it will be seen that in order to remove the closures or any one of them it is only necessary to disconnect bar 10 by removing pin 9 and allow the inner edge 18 of the closure to disengage the edges 19 and 20 of bar 4, then the trunnions 7 can be lifted from the pockets 8 and the closure removed, and vice versa for applying the closures.

It will be understood from this description that although the improvements of this invention are simple they accomplish in a thoroughly practical manner all the objects sought. I wish it further understood that I do not desire to be limited to the specific construction or arrangement of elements shown and described as it is obvious that changes in construction and arrangement may be made without departing from the spirit of the invention.

Having thus described my invention, I aim in the appended claims to cover all modifications which do not involve a departure from its spirit and scope.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. In a ventilator, a frame, two cross bars extending across the frame from side to side having an opening between them, a shutter to open and close the opening between the bars, upwardly open bearings for the shutter, the upper cross bar being adapted to engage the shutter to retain it in the open bearings.

2. In a ventilator, a frame, cross bars extending across the frame from side to side, a shutter to open and close the opening between the bars, upwardly open bearings for the shutter, the upper cross bar engaging the shutter to retain it in the open bearings, and means adapted to retain the shutter in engagement with the upper cross bar.

3. In a ventilator, a frame, two cross bars extending across the frame from side to side, having an opening between them, an inclined vane carried by the upper cross bar, a shutter mounted to swing on an axis to open and close the opening between the two cross bars, upwardly open bearings for the pivots of the shutter and a downwardly extending rib

on the inclined vane engaging the shutter to retain its pivots in the open bearings. 55

4. In a ventilator, a frame, two cross bars extending across the frame from side to side having an opening between them, an inclined vane carried by the upper cross bar, a shutter mounted to swing on an axis below the inclined vane to open and close the opening between the bars, upwardly open bearings for the pivots of the shutter, a rib at the lower edge of the inclined vane engaging the shutter to retain its pivots in the open bearings and an operating means adapted to hold the shutter in engagement with the rib. 65

5. In a ventilator, a frame, two cross bars extending across the frame from side to side having an opening between them, a segmental shutter mounted to swing on an axis below it to open and close the opening between the bars, upwardly open bearings for the pivots of the shutter and a downwardly extending rib on the upper cross bar engaging the shutter to retain its pivots in the open bearings. 70 75

6. In a ventilator, a frame provided with cross bars extending across from side to side, a series of shutters arranged in upwardly open bearings on the sides of the frame to open and close the openings between the cross bars, a depending rib on each cross bar above each shutter engaging the shutters to retain them in the open bearings and a link pivotally connected to all of the shutters adapted to retain them in engagement with the ribs. 80 85

7. In a ventilator, a frame provided with cross bars extending across the frame from side to side, a series of shutters with their pivots arranged in upwardly open bearings on the sides of the frame to open and close the openings between the cross bars, a rib on each cross bar above each shutter engaging the shutters to retain their pivots in the open bearings, and a link pivotally connected to all of the shutters and provided with portions on which the outer edge of the shutters rest when in an open position. 90 95 100

This specification signed and witnessed this first day of November 1911.

W. E. WINE.

In the presenc of—
A. B. CORINTH,
J. H. PAINTER.