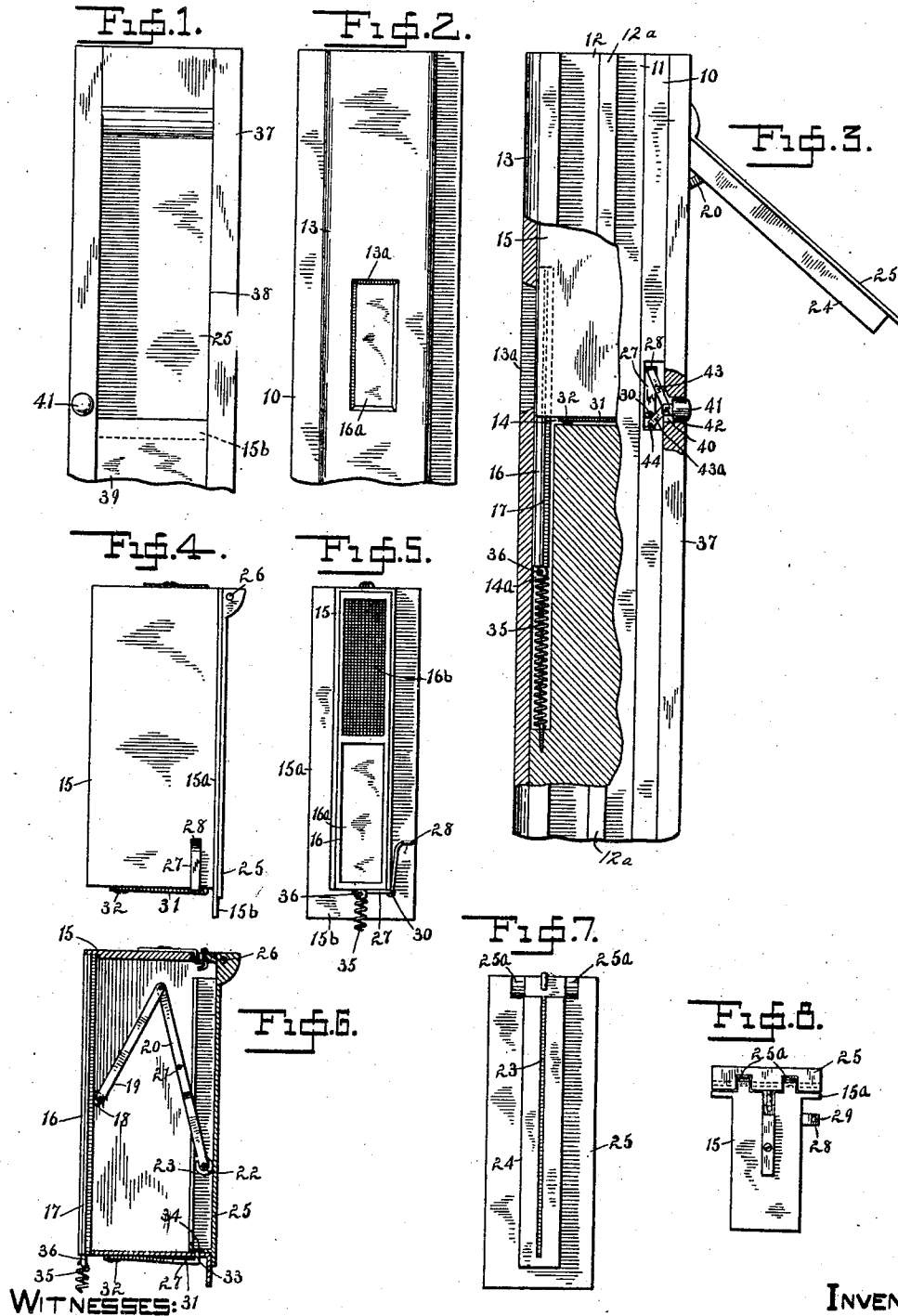


No. 893,670.

PATENTED JULY 21, 1908.

C. STEIN.  
VENTILATING DEVICE.  
APPLICATION FILED JULY 20, 1907.



WITNESSES: 31

Mathew J. Marty.  
Georgette Richardson.

INVENTOR

Charles Stein

# UNITED STATES PATENT OFFICE

CHARLES STEIN, OF CHICAGO, ILLINOIS.

## VENTILATING DEVICE.

No. 893,670.

Specification of Letters Patent.

Patented July 21, 1908.

Application filed July 20, 1907. Serial No. 384,822.

*To all whom it may concern:*

Be it known that I, CHARLES STEIN, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented new and useful Improvements in Ventilating Devices, of which the following is a specification, reference being had to the accompanying drawings, illustrating the invention, in which—

Figure 1. is a front view of the ventilating device shown mounted into the framing of the car window in which my invention is embodied; Fig. 2. is a rear or back view of Fig. 1. Fig. 3. shows a side elevation of the window framing and the ventilating door partly ajar; part of this view is broken away to show the interior of the ventilating device mechanism. Fig. 4. a side elevation of the ventilating device as it would appear unmounted from the framing. Fig. 5. a back or rear view of Figs. 4 and 6 showing the sliding shutter composed of a glass and a wire gauze screen. Fig. 6. is a cross sectional view of Figs. 4-5. showing the interior of the device. Fig. 7. a plan view of the ventilating door showing the angle irons on its underside. Fig. 8. top or plan view of Fig. 4. showing the hinge joint arrangement.

The present invention relates to an improvement in ventilating sleeping car berths, but more especially for ventilating the lower berths.

Heretofore sleeping cars have been ventilated by means of transoms located above the upper berths, but persons occupying the lower berths suffer considerably from the excessive heat radiated from steam coils underneath them; but no means prior to my invention, and knowledge, have been employed to practically and efficiently ventilate the lower berths of sleeping cars.

While my invention is very rapidly applied to new cars under construction, great care has been exercised in the design to make it adaptable to cars now in service, the invention being fully understood from the following description.

Reference being had to the accompanying drawings, in Fig. 1.—25 represents the ventilating device door, mounted in the framing of the car window 37, the door 25 having sufficient clearance at 38 to enable the same to swing clear of the framing 37 when the push button 41 is pushed inward. 39 represents a small strip of mirror overlapping the metal projection 15<sup>b</sup>, and flush with the lower edge

of the door 25. This small mirror forms no part of my invention mention of the same due only to designate the location of my device, small mirrors being usually found in this particular location in sleeping cars.

Fig. 2. represents the back or rear of Fig. 1. showing the weather strip with the edges chamfered off at 13, also a small rectangular opening 13<sup>a</sup> the location coinciding with the glass pane 16<sup>a</sup> or gauze 16<sup>b</sup> depending upon the location of the shutter 16 as shown in Fig. 5. This weather strip is secured to the framing 10 on the outside of the car.

In Fig. 3.—10 represents the vertical framing of the center rib of the window, with the customary stile 11 and 12 and parting strip 12<sup>a</sup> to which are secured the inner mirror frame 37 and the outer weather strip 13. It will be observed that part of the stile, and parting strip are shown cut away in the drawing thereby giving a better view of the ventilating device mounted therein, reference to Fig. 3. will be made later on, in giving details of parts of the ventilating device not yet described.

Fig. 4. is a side elevation of the ventilating device proper, it being made of metal, rectangular in form with lips cast on its face as at 15<sup>a</sup>, the hinged door 25 working on the rod 26. The lips 15<sup>a</sup> provide means for securing the device to the window stile.

On the bottom of the casing Fig. 4. is a flat spring 31 held in place on one end by the screw 32 while the free end acts as a catch (bent at right angles) to hold the door 25 closed, another spring 27 held by the screw 30 (see Fig. 5) and located between the spring 31 and the casing 15 serves to release the point 34 of spring 31 when pressure is brought to bear at 28, through the medium of the toggle joint push button mechanism shown in Fig. 3. thus releasing the door 25 and opening the shutter 16.

In Fig. 5. 15 is the side the inner surface of which is grooved out as at 17 (Figs. 3 and 6) to admit the projections on the shutter frame 16 in such a manner that the said shutter frame may slide freely up or down in the said grooves in synchronism with the door 25.

Fig. 6. is a cross-sectional view of the ventilating device, showing the lever 20 pivoted at 21, one end, being provided with rollers (to reduce friction) working in angle iron guides 24 through the slot 23, the other end of the lever being loosely attached to one end of a

secondary connecting rod 19, the other end of which is attached to the lug 18 which is cast onto the frame of the movable shutter 16. The object of these levers is to perform  
 5 two purposes. 1st. When the push button mechanism releases the door 25 the spiral spring 35 pulls down on shutter 16 and through the levers 19 and 20 the shutter 16 and door 25 are opened simultaneously.—  
 10 2nd., When the tension on the spiral spring is increased the shutter 16 returns to its closed position and through the levers, and the rollers 22 acting on angle irons 24 closes the door 25 simultaneously with the shutter 16.  
 15 Fig. 7. shows the under side of the door 25 carrying two angle irons 24, separated by a slot 23 to enable the lever 20 with rollers 22 to operate therein, in such a manner as to prevent the door opening too far, and also to  
 20 offer a projection for the rollers to operate against in closing the door. 25<sup>a</sup> are recesses to form part of the hinge joint more clearly shown in Fig. 8.

Fig. 8. represents the top or plan view of  
 25 Fig. 4. showing the cast lugs on the casing of the device to admit the recesses 25<sup>a</sup> of the door 25, to form the hinge.

Referring back to Fig. 3. the operation is as follows: Pushing in on the push button 41  
 30 pivoted at 42 causes the toggle joint to approach a more vertical straight line; this in turn causes a thrust on the lever arm 27 at point 28 the other end of the spring lever 27 pivoted at 30 is forced downward on the

spring 31 thus releasing the catch 33 from  
 35 the door 25 at the point 34. When the door 25 is closed the shutter 16 is also closed against the action of the spiral spring 35 therefore in this position if the button 41 is pressed the door 25 is released and likewise the shutter 16  
 40 and both open simultaneously, the door 25 being in a vertical position on the interior of the car, while the shutter 16 operates in the same position but located on the out side of the car.  
 45

I claim and desire to secure by Letters Patent

1. In a ventilating device for sleeping car berths, a rectangular casting combined with a hinged door, angle iron guide rails on the  
 50 inner side of the door in combination with levers for actuating the door and a shutter operatively connected with said levers, as and for the purpose specified.

2. A sliding shutter 16 provided with lugs  
 55 18 and 36, one sash of the shutter containing glass 16<sup>a</sup> and the other fine wire gauze 16<sup>b</sup> in combination with the spiral spring 35, lever arms 19 and 20 and roller wheels 22, as specified.  
 60

3. A toggle joint push button 41 with arms 43—43<sup>a</sup> in combination with lever arm 27 and spring catch 31, as and for the purpose specified.

CHARLES STEIN.

Witnesses:

LAFAYETTE LA DELL,  
 JOHN C. GLASER.