DRAFTSMAN.

No. 852,816. PATENTED MAY 7, 1907.

C. W. BENJAMIN.

CAR.

APPLICATION FILED DEC. 31, 1906.

6 SHEETS—SHEET 1.

Fig. 1.

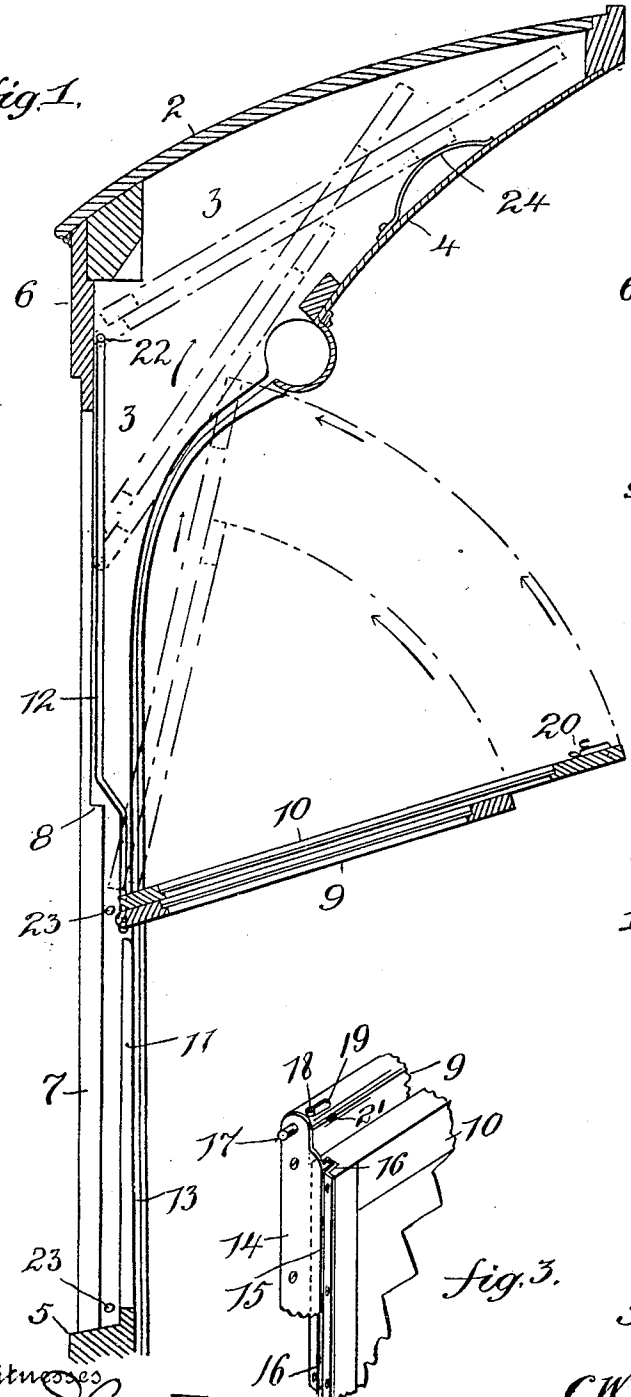


Fig. 2.

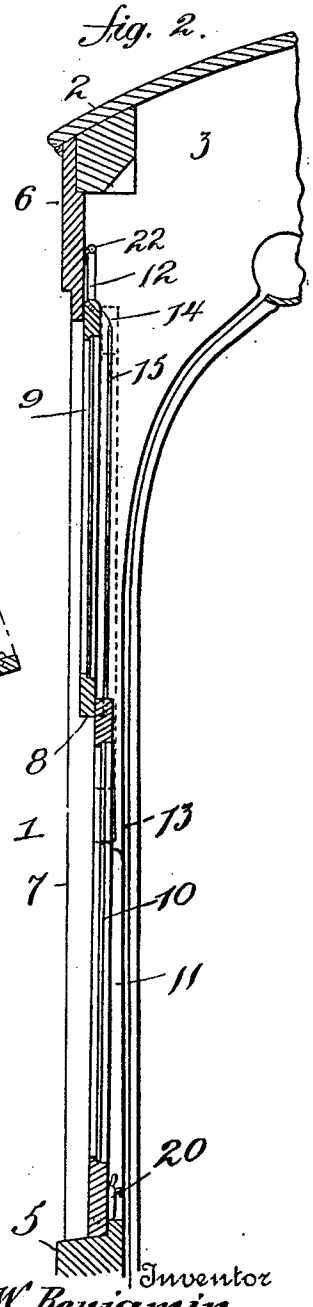


Fig. 3.

Witnesses
Gustave Ahrens
Blanche V. Mohan.

Inventor
C. W. Benjamin.
By his Attorney
Joseph L. Lucy

THE NORRIS PETERS CO., WASHINGTON, D. C.

RAILWAY IRON & NOVELTY STOCK,
Street,
Office Open & Closed.
DRAUGHTSMAN

No. 852,816. PATENTED MAY 7, 1907.

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CAR.

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6 SHEETS—SHEET 2.

fig. 4.

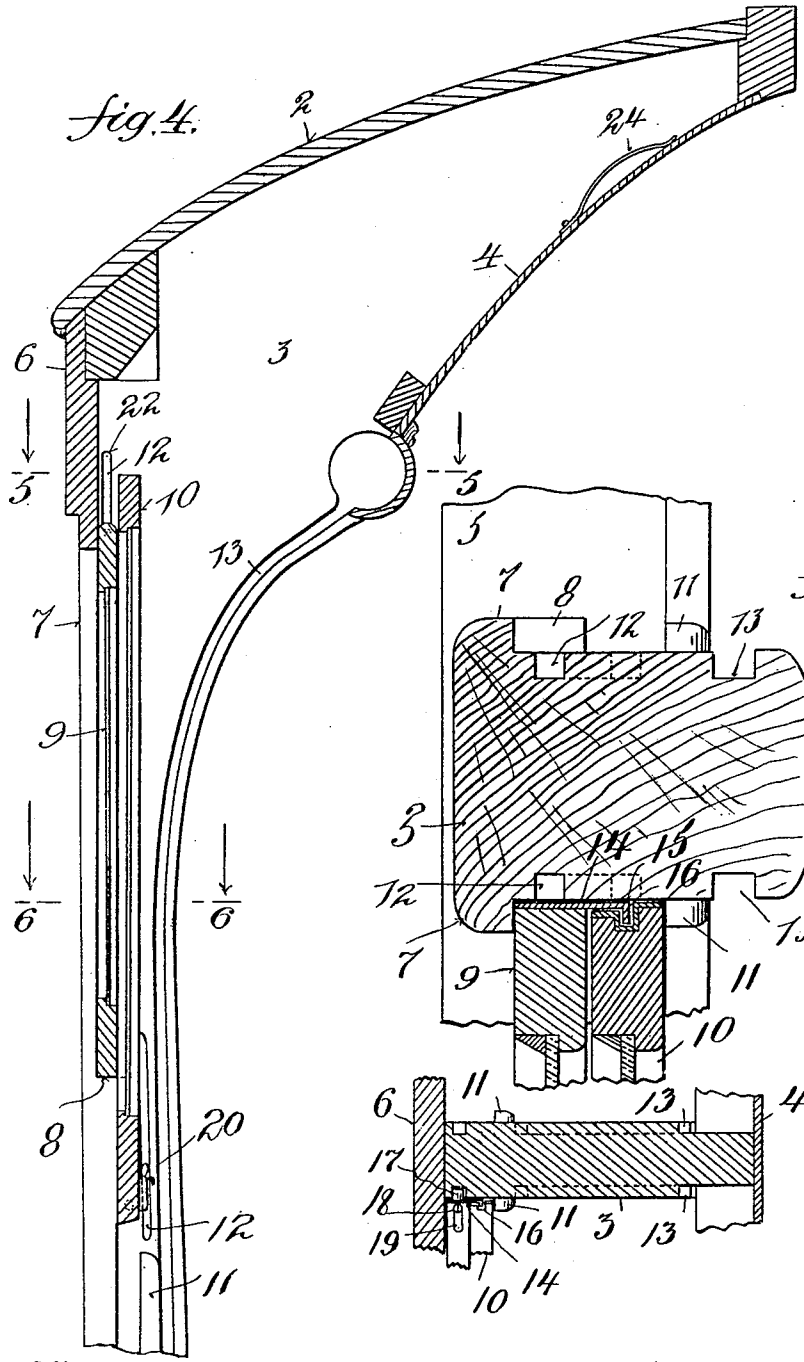


fig. 6.

fig. 5.

Witnesses
Gustave Ahrens
R. V. Mohan.

Inventor
C. W. Benjamin
By his Attorney
Joseph L. Levy

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RAILWAY ROLLING STOCK
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6 SHEETS—SHEET 3.

Fig. 7

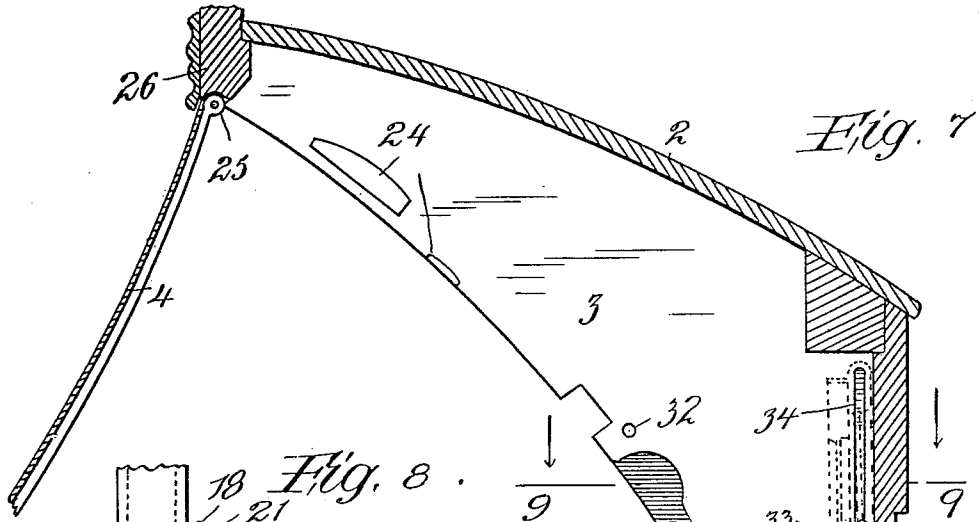


Fig. 8.

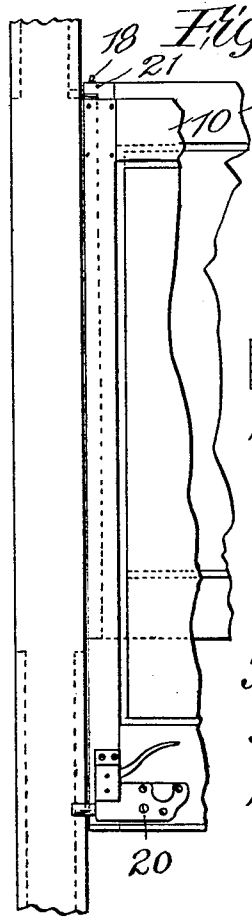


Fig. 9.

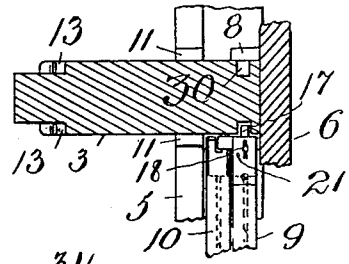
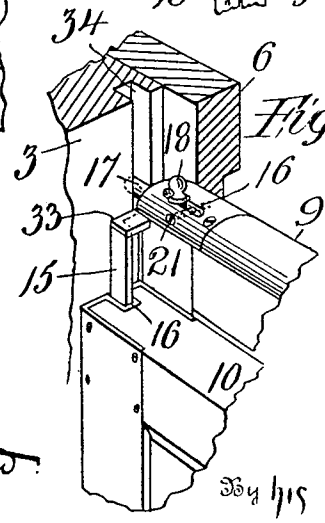
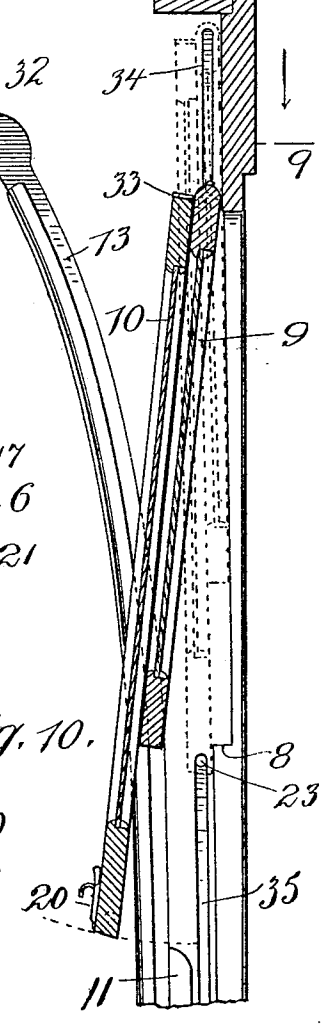


Fig. 10.





Witnesses
Gustave Dieroff
B. V. Mohan.

Inventor
C. W. Benjamin
By his Attorney
Josh L. Lucy

THE NORRIS PETERS CO., WASHINGTON, D. C.

No. 852,816. PATENTED MAY 7, 1907.

C. W. BENJAMIN.

CAR.

APPLICATION FILED DEC. 31, 1906.

6 SHEETS—SHEET 4.

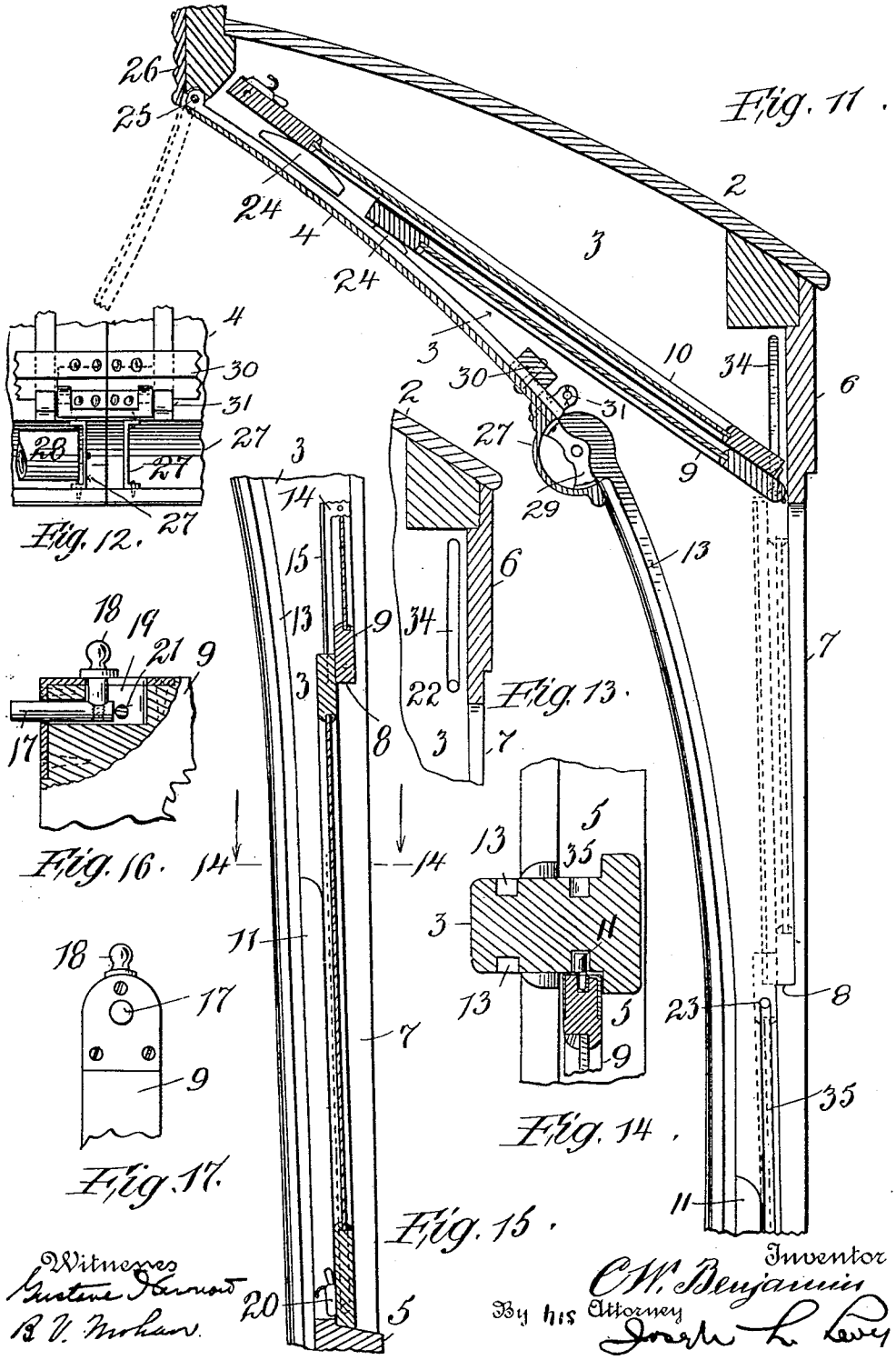


Fig. 11.

Fig. 12.

Fig. 13.

Fig. 16.

Fig. 14.

Fig. 17.

Fig. 15.

Witnesses
Gustave Dumont
B. V. Mohan.

Inventor
C. W. Benjamin
By his Attorney
Joseph L. Levy

THE NORRIS PETERS CO., WASHINGTON, D. C.

RAILWAY ROLLING STOCK
Railway Rolling Stock
Cars, Street
Convertible Open & Closed.

No. 852,816. PATENTED MAY 7, 1907.

C. W. BENJAMIN.

CAR.

APPLICATION FILED DEC. 31, 1906.

6 SHEETS—SHEET 5.

fig. 18.

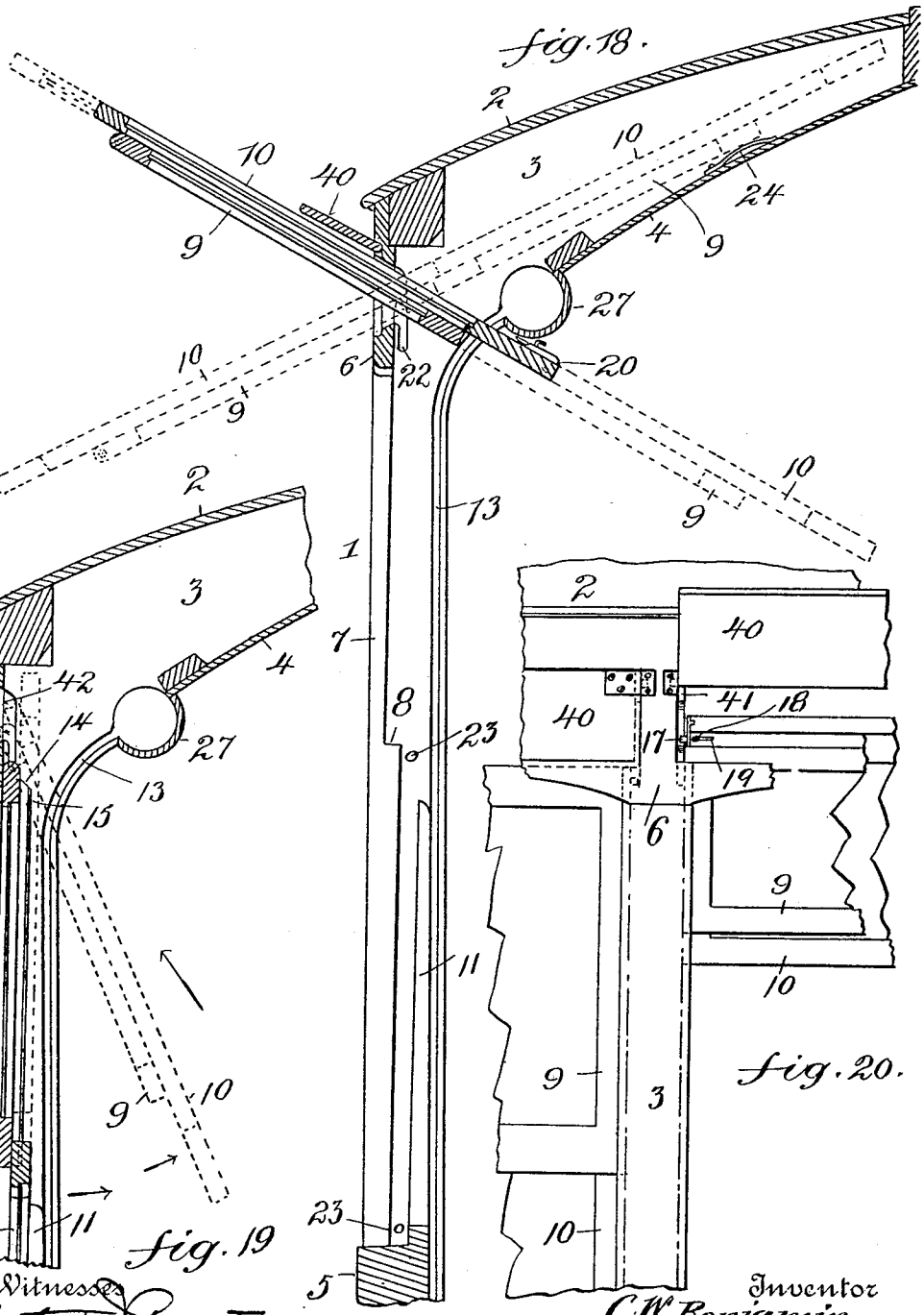


fig. 19.

fig. 20.

Witnesses
Gustave Schmidt
B. V. Mohan.

Inventor
C. W. Benjamin.
By his Attorney
Joseph L. Levy

THE NORRIS PETERS CO., WASHINGTON, D. C.

RAILWAY ROLLING STOCK.
Sheet.
Convertible Door & Closet.

No. 852,816. PATENTED MAY 7, 1907.

C. W. BENJAMIN.

CAR.

APPLICATION FILED DEC. 31, 1906.

6 SHEETS—SHEET 6.

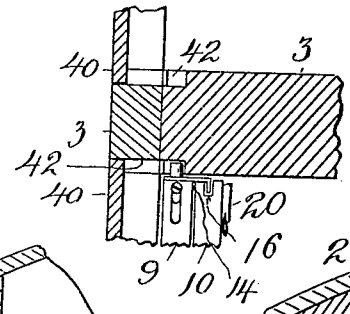


Fig. 21.

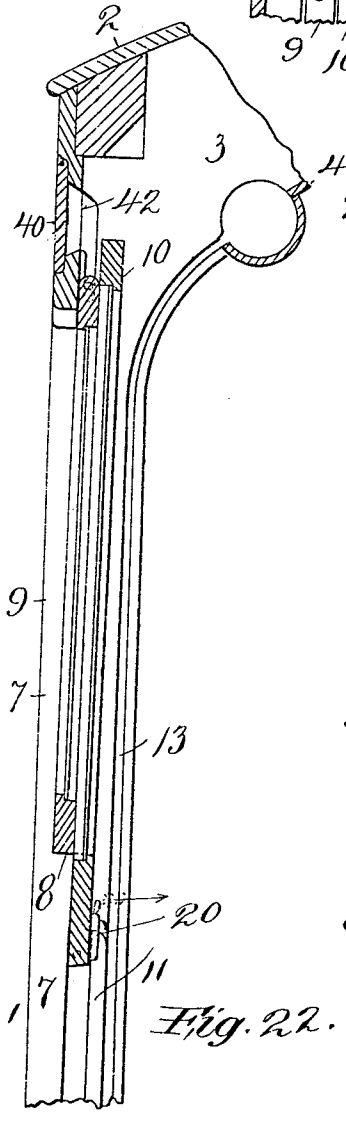


Fig. 22.

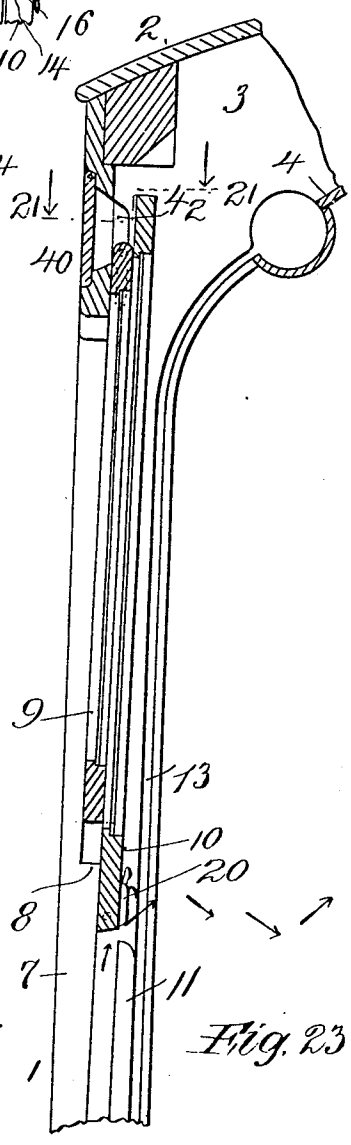


Fig. 23.

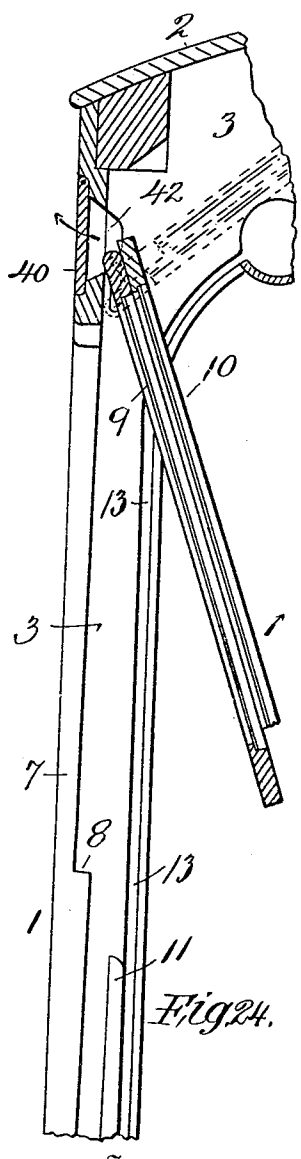


Fig. 24.

Witnesses
Gustine Blumer.
B. V. Mohan.

Inventor
C. W. Benjamin
By his Attorney
Josh L. Lowe

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES W. BENJAMIN, OF NEW YORK, N. Y., ASSIGNOR TO J. A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

CAR.

No. 852,816. Specification of Letters Patent. Patented May 7, 1907.

Application filed December 31, 1906. Serial No. 350,121.

To all whom it may concern:

Be it known that I, CHARLES W. BENJAMIN, a citizen of the United States, and a resident of the city of New York, county of Kings, and State of New York, have invented a new and useful Improvement in Cars, of which the following is a specification.

The object of my invention is to provide a car with large windows closed by a plurality of sashes, which sashes are adapted to be shifted and stored in roof chambers when not in use, and at the same time to preserve the conventional lines of car construction. This object is accomplished by my invention by providing one sash with a pivot and holding flanges for the other sash so that when the sashes are moved abreast, they may be swung together into chambers provided for them, or vice versa, they may be swung out of the chambers and into proper grooves to close the windows.

For a more particular description of my invention, reference is to be had to the accompanying drawings, forming a part hereof, in which,

Figure 1 is a sectional view of one embodiment of my invention, the sashes being shown partially swung. Fig. 2 is a similar view to Fig. 1 except that the sashes are in their lower or closed position. Fig. 3 is a perspective view of a portion of the sashes. Fig. 4 is an enlarged view of a part of the structure shown in Figs. 1 and 2, the sashes being shown in a different position. Figs. 5 and 6 are sectional views taken on the lines 5—5 and 6—6 of Fig. 4, looking in the direction of the arrows. Fig. 7 is a sectional view of a further modification. Fig. 8 is a front elevation of a portion of the assh construction shown in Fig. 7. Fig. 9 is a sectional view on the line 9—9 of Fig. 7, looking in the direction of the arrows. Fig. 10 is a perspective view of a portion of the sash construction shown in Fig. 9. Fig. 11 is a sectional view similar to Fig. 7 except that the sashes are shown stored. Fig. 12 is a view showing a portion of a headlining and curtain box. Fig. 13 shows a detail of the upper car construction. Fig. 14 is a sectional view taken on the line 14—14 of Fig. 15, looking in the direction of the arrows. Fig. 15 is a sectional view of the lower part of the window, the sashes being closed. Figs. 16 and 17 show details of the upper sash. Figs. 18 and 19 are sectional views of a third embodiment of my invention. Fig. 20 is a side elevation of a portion of the same. Fig. 21 is a sectional view taken on the line 21—21 of Fig. 23, looking in the direction of the arrows. Figs. 22, 23 and 24 are further sectional views showing several positions occupied by the sashes.

Throughout the various views, similar reference characters designate similar parts.

In the construction shown in Figs. 1 to 6 inclusive, the car 1 is provided with the usual roof 2, stanchion 3, head lining 4, as well as a window sill 5 and letter board 6. The stanchions 3 are each provided with the customary outside parting strip 7 which extends from the window sill 5 to the letter board 6, and this parting strip 7 contains the usual step 8 on which the upper sash 9 rests which is overlapped by the lower sash 10, which is preferably made larger than the sash 9. An inside parting strip 11 extends about four-fifths the length of the lower sash 10, and forms a slideway for this sash when in or near its lowest position. Above this parting strip 11, the stanchion 3 is free of all projections, except that outside parting strip 7. This stanchion 3 is provided with a pintle groove 12 which runs parallel with the parting strip 7, except when it runs diagonally a short distance to avoid the step 8 and it terminates a little above the inside parting strip 11. There is also a curtain groove 13, but as this in no way relates to my invention, further description is unnecessary. The upper sash 9 is provided on each side with a metallic flange 14 with inturned edges 15, which enter corresponding grooves 16 on the side edges of the lower sashes 10. At the top of each flange 14 is an outwardly extending pintle 17 which may be withdrawn by a handle 18 working through the slot 19. A screw 21 keeps the pintle 17 in place. By withdrawing this screw the pintle may be brought in flush with the flange 14. This permits a complete withdrawal of the sashes when desired. The upper end of pintle groove 12 is a hole adapted to receive the usual bolt 20 to hold the sashes 9 and 10 in their elevated positions. The other ends of these sashes are supported by springs 24 or other suitable means. Assuming the sashes to be as indicated in Fig. 2, they are shifted by raising the lower sash 10 which is then

guided by the parting strips 11 and 7 and flanges 14 which work in the grooves 16 which extend about the length of the upper sash 9. The sash 10 is raised until its lower edge is above the level of the strip 11 when it is swung inwardly and the two sashes are shifted into the position shown in Fig. 1 in the full lines, then the sashes are shifted as indicated in dotted lines in said figure and finally stored in the roof pockets. They are restored to their lower position by a reverse of the above operation. Holes 23 enable the sashes to be held in other positions.

In Figs. 7 to 17 inclusive is shown another modification of my invention. This construction also has in the car 1, the roof 2, stanchions 3, head lining 4, letter board 6, the roof 2, window sills 5, outside parting strip 7, inside parting strip 11, curtain groove 13, sashes 9 and 10, upper and lower respectively, sash bolt 20, upper pintle 17, handle 18, slot 19 and screw 21, as well as the flanges 14 with their inturned edges 15, which enter corresponding grooves 16 in the lower sash. Bolt holes 22 and 23 are also provided at suitable locations. There are also certain differences from the structure above described as to Figs. 1 to 6 inclusive. The head lining 4 is hinged at 25 to the deck rail 26 and carries with it the curtain rail 27 and the curtain 28 and its supports or bearings 29. This headlining 4 also carries the spring 24, or other suitable supporting means for the upper ends of the sash when in the roof pockets, and a brace 30 to stiffen the head lining and also suitable bolts 31 which may engage holes 32 to secure the head lining in its raised or closed position. The flanges 14 are each provided with suitable stops 33 which limit the movement of the sash 10 between the flanges 14. The pintles 17 slide in grooves 34 which are much shorter than the grooves 12 in Fig. 1 and extend only back of the letter board 6 and practically throughout its width. The bolts 20 slide in grooves 35 between the strips 7 and 11 and nearly up to the step 8. Assuming the sashes to be as shown in Fig. 15, they are shifted to the position shown in Fig. 11, and vice versa, as follows:—The bolts 31 are shifted and the head lining 4 lowered to the position shown in dotted lines in Fig. 11, and in full lines in Fig. 7. The sash 10 is then raised until abreast of the sash 9 and the two are then swung on the pintles 17 as pivots, until into the position shown in Fig. 11, meanwhile the bolt 20 has been withdrawn from the groove 35 as shown in Fig. 8. The headlining is closed on the sashes and the spring 24 supports them in their raised positions. By reversing these movements, the sashes may be lowered. If a wide open window is desired, the sash may be moved vertically, as shown in Fig. 7 in dotted lines.

Yet another modification of my idea is found in Figs. 18 to 24 inclusive. This differs from the first modification in the following respects:—The letter board 6 is provided with a door 40 hinged in a recess 41 and from this recess 41 extends the pintle way 42 in which slides the pintle 17. The sashes are shifted from the position shown in Fig. 19 in full lines, to the position shown in dotted lines in Fig. 24, as follows:—The lower sash 10 is raised abreast of the sash 9 and then the two are raised together and swung out, the upper ends striking the doors 40 and forcing the same to open when they have been moved a little beyond the position shown in Fig. 24, and then moved longitudinally as shown in Fig. 18. This longitudinal movement continues until the sashes have been moved far enough to clear the curtain rail 27 when the inner ends are moved upwardly, and the outer, downwardly, until in the right position when the sashes 9 and 10 shift into the roof chamber where their inner ends are supported by the spring 24, and their outer ends by the pintle 17 which has been returned to the part 22 of the groove 42. By reversing these operations, the sashes may be restored to their original positions.

Various other modifications of my invention may be made as indicated by the annexed claims.

What I claim is:—

1. In a car, a roof and headlining, stanchions, a pair of sashes and means for permitting one sash to slide abreast of the other and then both swing together so that one end of each sash is swung into the car and clear of the stanchions and then the sashes may be shifted between said roof and headlining.

2. In a car, a roof, a headlining, stanchions, a pair of sashes, one of which is provided with flanges engaged by the other, parting strips on said stanchions, and means permitting one of said sashes to slide abreast of the other and then both swing together and be free of the stanchions at one end of each sash and be adapted to be shifted into roof pockets.

3. In a car, stanchions, a roof supported thereby, a pair of sashes and flanges on one engaging the other, means for permitting one sash to slide abreast of the other and then both swung together and partly free from the stanchions into an elevated position.

4. In a car, stanchions, a roof, a head lining under said roof, an upper and a lower sash, flanges on said upper sash and means on said lower sash engaging said flanges, a pivot pintle at the upper end of said upper sash and pintle grooves in said stanchions so that the sashes may be swung together above the head lining and below the roof.

5. In a car, stanchions, a roof, a head lining under said roof, an upper and a lower sash, flanges on said upper sash and means for engaging said flanges on said lower sash re-

movably mounted pintles at the upper end of said upper sash and pintle grooves on said stanchions so that said sashes may be swung and moved into the space under the roof and over the head lining.

6. In a car, stanchions, a roof, a head lining under said roof, an upper and a lower sash, means on one sash to cause it to engage the other when the two are moved abreast, pintles on said upper sash near the upper end thereof, outside parting strips on said stanchions, and a pintle groove running parallel with said parting strip both above and below the upper sash when in its closed position so that one end of each of said sashes may be swung clear of said stanchions and into said car and adapted to be shifted between the roof and headlining.

7. In a car, stanchions, a roof, a head lining under said roof, upper and lower sashes, means on one sash to cause it to engage the other when the two are moved abreast, removable pintles on said upper sash near the upper edge and pintle grooves in said stanchions extending a short distance above and below said upper sash when in its closed position so that one end of each of said sashes may be swung clear of said stanchions and into said car and adapted to be shifted between the roof and headlining.

CHARLES W. BENJAMIN.

Witnesses:
GUSTAVE I. AIRNOW,
B. V. MOHAN.