J. F. COMEE.

CAR DOOR.

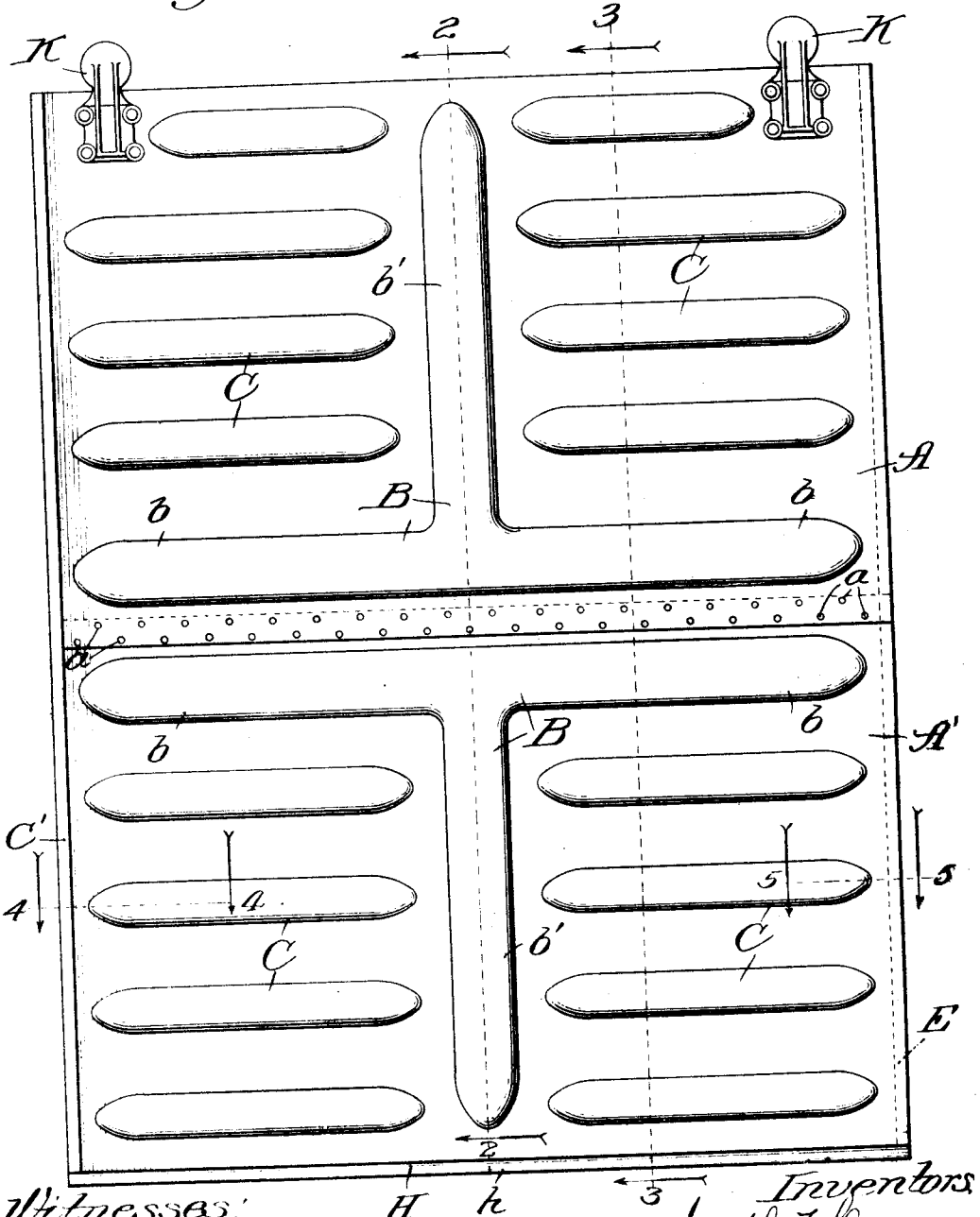
APPLICATION FILED JUNE 7, 1913.

Patented Aug. 25, 1914.

1,108,139.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
E. C. Gaylord.
Chas. H. Buell.

Inventors
Joseph F. Comee
By Paine Fisher & Clapp
Attys

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2 SHEETS—SHEET 2.

Fig. 2.

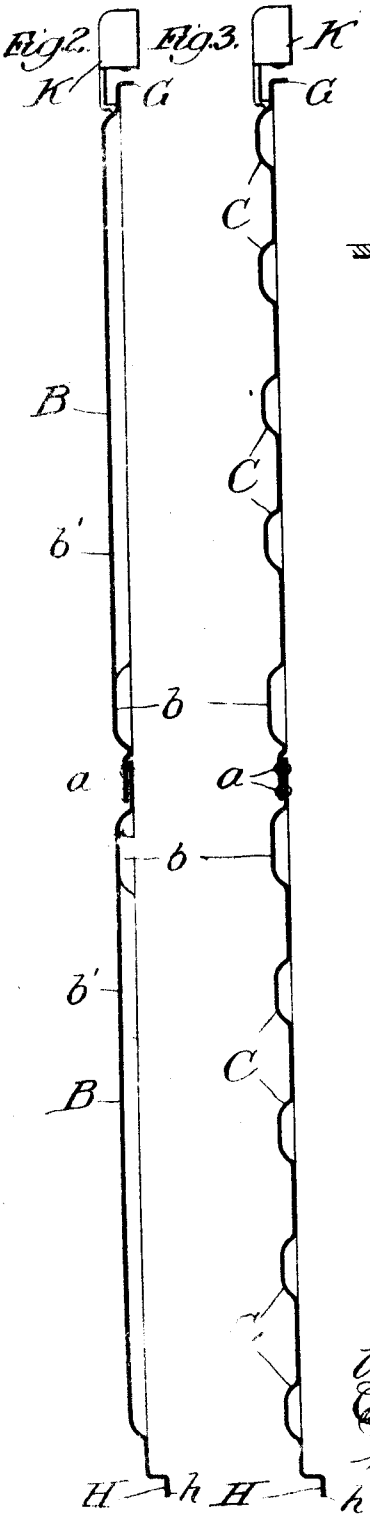


Fig. 3.

Fig. 4.

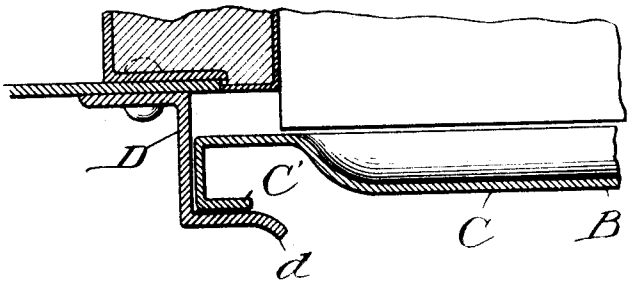
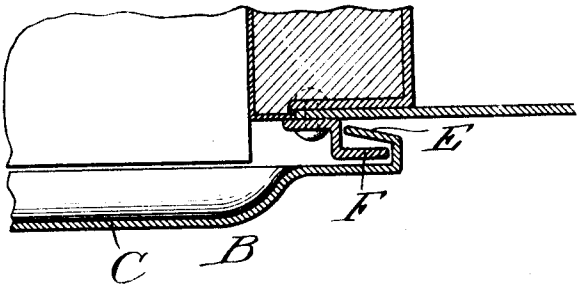


Fig. 5.



Witnesses:
E. E. Gaylord.
Chas. H. Buell.

Inventor:
Joseph F. Comee
By Rowe Fisher Telegraph
Attys.

UNITED STATES PATENT OFFICE.

JOSEPH F. COMEE, OF CHICAGO, ILLINOIS, ASSIGNOR TO CAMEL COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF MAINE.

CAR-DOOR.

1,108,139. Specification of Letters Patent. Patented Aug. 25, 1914.

Application filed June 7, 1913. Serial No. 772,408.

To all whom it may concern:

Be it known that I, JOSEPH F. COMEE, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Car-Doors, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

The present invention has for its object to provide an improved construction of freight car door formed from sheet metal and the invention consists in the features of novelty hereinafter described, illustrated in the accompanying drawing and particularly pointed out in the claims at the end of this specification.

Figure 1 is a view in front elevation of a car door embodying my invention. Fig. 2 is a view in central vertical section on line 2—2 of Fig. 1. Fig. 3 is a view in transverse section on line 3—3 of Fig. 1. Fig. 4 is a view in horizontal section through the front edge portion of the door and through the front stop plate that is mounted upon the adjacent door post. Fig. 5 is a view in horizontal section through the rear edge of the door and through a weather strip mounted upon the adjacent door post.

It has long been recognized as desirable to form a flat car door from sheet metal, but great difficulty has been experienced in producing a sheet metal car door that will not bend or warp under the severe strains to which such doors are subjected. By my present invention, I have succeeded in producing an extremely strong and efficient car door that will most effectively resist the warping or twisting strains, so that even under conditions of severest service, the door will remain straight and true.

In the preferred form of my invention which is illustrated in the accompanying drawing, my improved door is made from two sheets of metal A and A′, the edges of which overlap about the central portion of the door and are securely held together by "spot welding" or by rivets *a* or both, if desired. By thus forming the door of a plurality of sheets of metal, I am enabled to use the same dies for forming corrugations in different parts of the door and moreover, the overlapping joint of the metal sheets materially aids in increasing the strength of the door against twisting or warping strains.

Each of the metal sheets A and A′ forming the upper and lower portions of the door, is formed with a T-shaped corrugation B and the corrugations of the upper and lower sections of the door are oppositely disposed. The horizontal portions *b* of the corrugations B extend approximately from side to side of the door adjacent its center and give great strength to this part of the door, while the vertical portions *b′* of the T-shaped corrugations B extend from the horizontal portions *b* of the corrugations to points adjacent the top and bottom of the door. By this arrangement of the T-shaped corrugations, I have found that the most effective resistance is secured to the strains to which doors of this character are subjected.

At each side of the vertical portions *b′* of the corrugations B I prefer to employ supplemental corrugations C that are arranged at an angle to the vertical portions *b′* of the corrugations B, as shown. Preferably, the supplemental corrugations at the top of the door are shortened, so as to leave flat spaces at the corners of the door for the attachment at such points of the hangers K whereby the door will be suspended in manner free to slide upon the usual track that extends across the door opening in the side of the car. A metal car door embodying my invention, while comparatively light, is exceedingly strong and maintains its outline even under the severest strains to which such doors are exposed.

The front edge of my improved door is formed with an outwardly turned, reverted flange C′ preferably integral with the body of the door, that forms a vertical U-shaped channel extending from top to bottom of the door. This U-shaped channel is designed to coöperate with a stop bar D that will be suitably mounted upon the left hand door post of the car, such stop bar being preferably Z-shaped in cross-section. The front edge of the stop bar D is outwardly flanged at *d*, so that, as the door is forced to closed position, the U-shaped channel at its front edge will securely engage with the inner surface of the bar D and form there-

with a most effective guard to prevent the access of rain, snow, dust or the like, to the interior of the car.

The rear edge of my improved door is provided with an inwardly turned flange E forming a channel adapted to receive a weather strip F when the door is moved to closed position, and this inwardly turned and reverted flange E coöperates with the weather strip F in securely guarding against access of rain, snow, cinders or the like to the interior of the car.

The upper edge of my improved door is preferably formed with a flange G bent inwardly at right angles to the body of the door, this flange not only adding strength to such portion of the door, but also cooperating with adjacent parts in closing the space between the top of the door and the side wall of the car.

The lower edge of my improved door is formed with a Z-shaped flange H, the lower portion *h* of which is adapted for engagement with the usual guides for holding the lower part of the car door snugly in place as it is moved back and forth. This Z-shaped flange also aids in materially strengthening such part of the door.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. A car door formed of two sheets of metal having overlapping edges secured together and extending transversely of the door adjacent its center, each of said metal sheets being formed with T-shaped corrugations, the horizontal portions of said corrugations extending approximately across the central portion of the door above and below said overlapping edges and the vertical portions of said corrugations extending from said horizontal portions to points adjacent the top and bottom of the door.

2. A car door formed of sheet metal having oppositely disposed T-shaped corrugations, the horizontal portions of said corrugations extending from side to side of the central portion of the door and the vertical portions of said corrugations extending from said horizontal portions to points adjacent the top and bottom of the door, and a plurality of individual corrugations at each side of said vertical portions and arranged at an angle thereto.

JOSEPH F. COMEE.

Witnesses:
GEO. P. FISHER,
J. G. ANDERSON.