W. P. MURPHY.

CAR DOOR.

APPLICATION FILED DEC. 27, 1913.

1,151,375.

Patented Aug. 24, 1915.

2 SHEETS—SHEET 1.

Fig. 1.

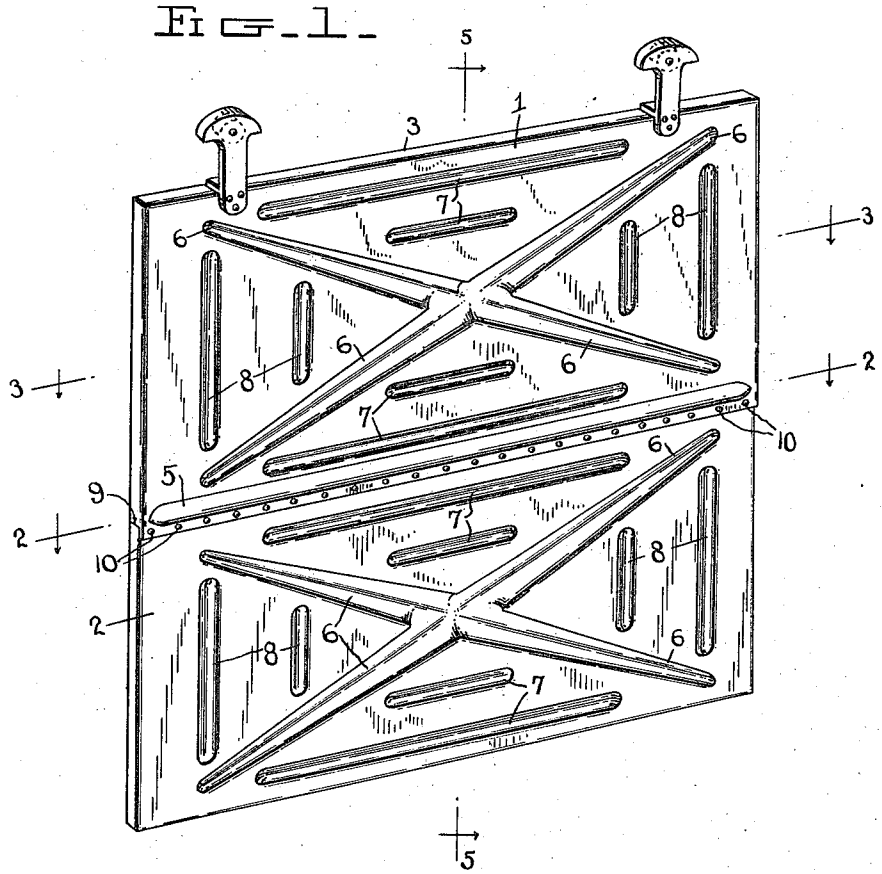


Fig. 2.

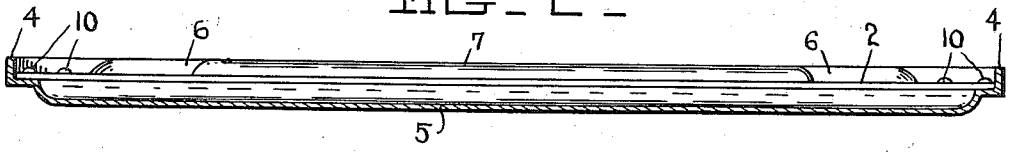
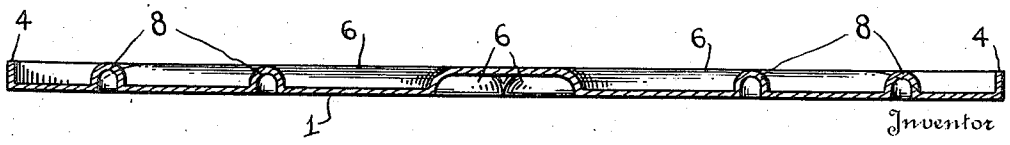


Fig. 3.



Inventor

Witnesses

L. B. James

D. T. Stanley

Walter P. Murphy

By Edwin A Clarkson

his Attorney

W. P. MURPHY.

CAR DOOR.

APPLICATION FILED DEC. 27, 1913.

1,151,375.

Patented Aug. 24, 1915.

2 SHEETS—SHEET 2.

Fig. 4.

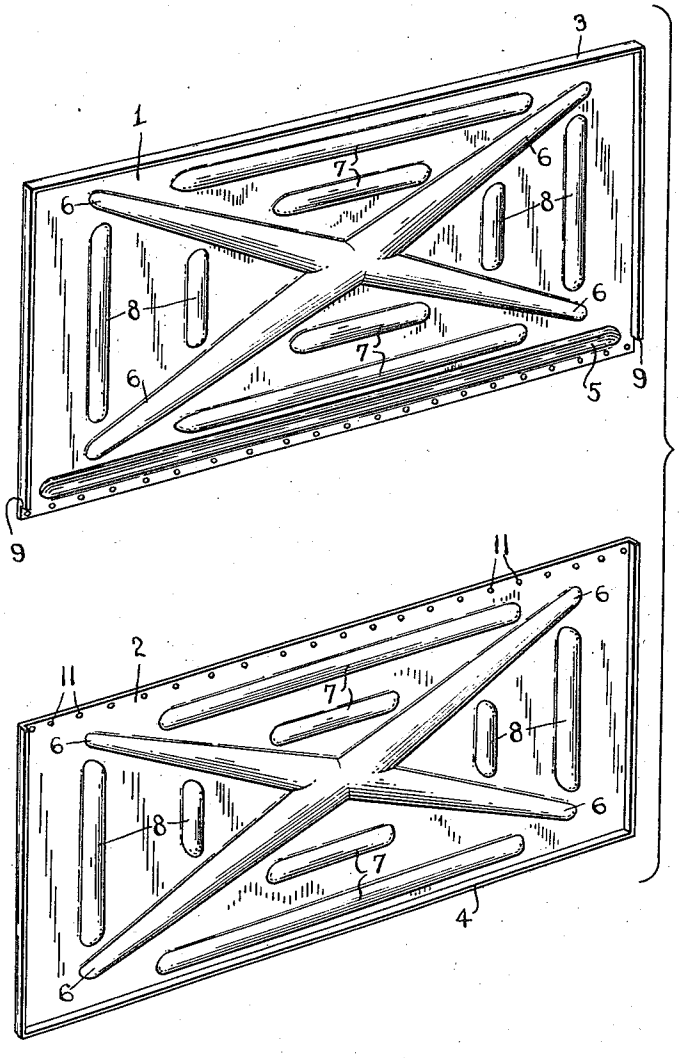
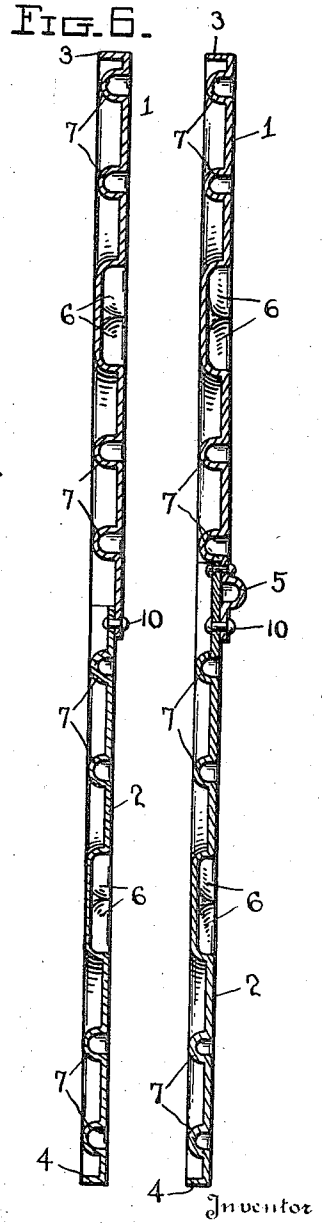


Fig. 5.

Fig. 6.



Witnesses

L. B. James

F. T. Stanley

Inventor

Walter P. Murphy

By Edwin S. Clarkson

his Attorney

UNITED STATES PATENT OFFICE.

WALTER P. MURPHY, OF CHICAGO, ILLINOIS.

CAR-DOOR.

1,151,375. Specification of Letters Patent. Patented Aug. 24, 1915.

Application filed December 27, 1913. Serial No. 809,027.

To all whom it may concern:

Be it known that I, WALTER P. MURPHY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Doors, of which the following is a specification.

In the drawings: Figure 1 is a perspective view of a car door embodying my invention. Fig. 2 is a sectional view of the section on the line 2—2, Fig. 1 looking in the direction of the arrow. Fig. 3 is a sectional view on the line 3—3, Fig. 1, looking in the direction of the arrow. Fig. 4 is a rear perspective view of the plates of my improved door detached. Fig. 5 is a vertical sectional view on the line 5—5, Fig. 1, looking in the direction of the arrow. Fig. 6 is a view similar to Fig. 5 omitting the longitudinal rib or corrugation.

The doors of freight cars are subjected to very rough usage and are a source of considerable expense to railroads in the matter of repairs and replacements.

The principal object of my invention is to construct a metal car door from a plurality of pieces of metal, each piece being reinforced or stiffened by means of ribs or corrugations, thereby providing an inexpensive simple and strong construction of door, which can be readily utilized in connection with an ordinary wooden car as well as in connection with an all metal car.

A further object of my invention is to construct a metal car door of sections, each of which is alike, that is to say the sections are duplicates, for all intents and purposes, thus making it possible to use one die in stamping up the sections and reducing the number of repair parts carried at repair stations along the line. By forming ribs or corrugations on the sections I am enabled to use a thinner metal which results in a lighter door without sacrificing the efficiency of the door; and with these and minor objects in view my invention consists of the parts and combination of parts as will be hereinafter more fully pointed out.

In the construction illustrated my improved metal car door is composed of a plurality of sections 1 and 2, the marginal edges of each of which are bent rearwardly to form a rearwardly projecting marginal flange 3 and 4 which constitute, in effect, marginal stiffening ribs. The fourth marginal edge of each section terminates in the plane of the body of the section.

The section 1 is provided near its fourth marginal edge with a rib or corrugation 5 extending longitudinally nearly the width of the section and constitutes in effect a transverse beam which materially stiffens and strengthens the door without adding to the weight of the door; the side marginal edge of the section adjacent this rib being, as above stated in the plane of the body of the section as more clearly shown in Fig. 5.

Each section is pressed with diagonally disposed corrugations or ribs 6 which are shown as crossing each other on the respective sections and forming a star like figure. Above and below these star like figures are formed longitudinally disposed ribs or corrugations 7 while on each side of the star like figures are formed a series of vertically disposed ribs or corrugations 8. The longitudinally disposed ribs or corrugations 7 coact with the diagonally disposed ribs or corrugations in strengthening the sections in their longitudinal dimension, while the vertical ribs or corrugations coact with the diagonal ribs in strengthening the sections in their vertical dimension. It will be noted that all of the ribs or corrugations formed in the body of the section terminate short of the marginal edges of the sections.

The side marginal flanges of one of the sections terminate short of the said fourth marginal edge of the section as indicated at 9 as shown in Figs. 1 and 4 in order that the said fourth marginal edge may overlap the fourth marginal edge of the other section as shown in Figs. 1, 5 and 6 whereby said fourth marginal edges may be secured together with an overlapping joint by means of rivets 10 or by spot welding, as found most desirable. When the sections are to be secured together by rivets the fourth marginal edges are punched with rivet holes 11.

From Fig. 5 it will be seen that the rib or corrugation 5 not only serves as a beam for the door but also serves as a water shed whereby water is shed from the upper part of the door before it reaches the joint between the sections, thereby materially reducing the action of rust around the heads of the rivets 10.

In Fig. 6 I have illustrated a door em-

bodying the same construction as that shown in the other figures with the exception of the beam 5 which is omitted.

By forming the car door in sections a considerable saving is effected in the initial cost of construction of the door, and also in the cost of repairs thereto, and comparatively small sections are used in the construction of the door; they can be more easily handled by the workman during the formation of the ribs or corrugations than where a single large piece of metal is used to form said

By disposing the ribs or corrugations as shown, any force tending to distort the door will be distributed over a large area of the sections and not applied at any one point thereof. By using the oppositely disposed diagonal, longitudinal, and vertical corrugations or ribs I thereby secure an area which includes transverse and longitudinal lines of corrugations as well as corrugations directed at angles therebetween.

I claim:

1. A metal car door comprising two sections, overlapping at their adjacent edges, the overlapping marginal edge portion of one of the sections being formed with a longitudinal corrugation terminating in a flange in the same plane as the body of the section, said corrugation and flange overlapping the other section.

2. A metal car door comprising two sections each having three marginal edges bent inwardly at right angles, the fourth marginal edge of one of said sections being formed with a longitudinal corrugation terminating in a flange in the same plane as the body of the section, said corrugation and flange overlapping the other section, said sections being secured together at said flange and at the opposite side of said corrugation.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER P. MURPHY.

Witnesses:
P. F. McSHANE,
JOSEPHINE HARTWELL.