

C. W. DAKE.

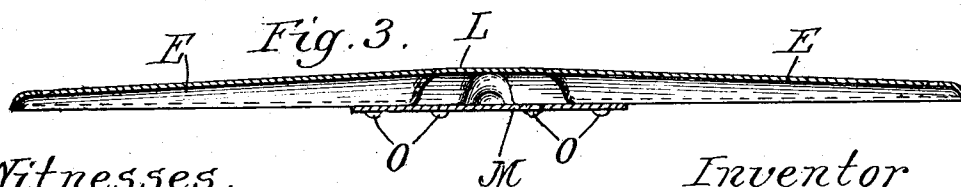
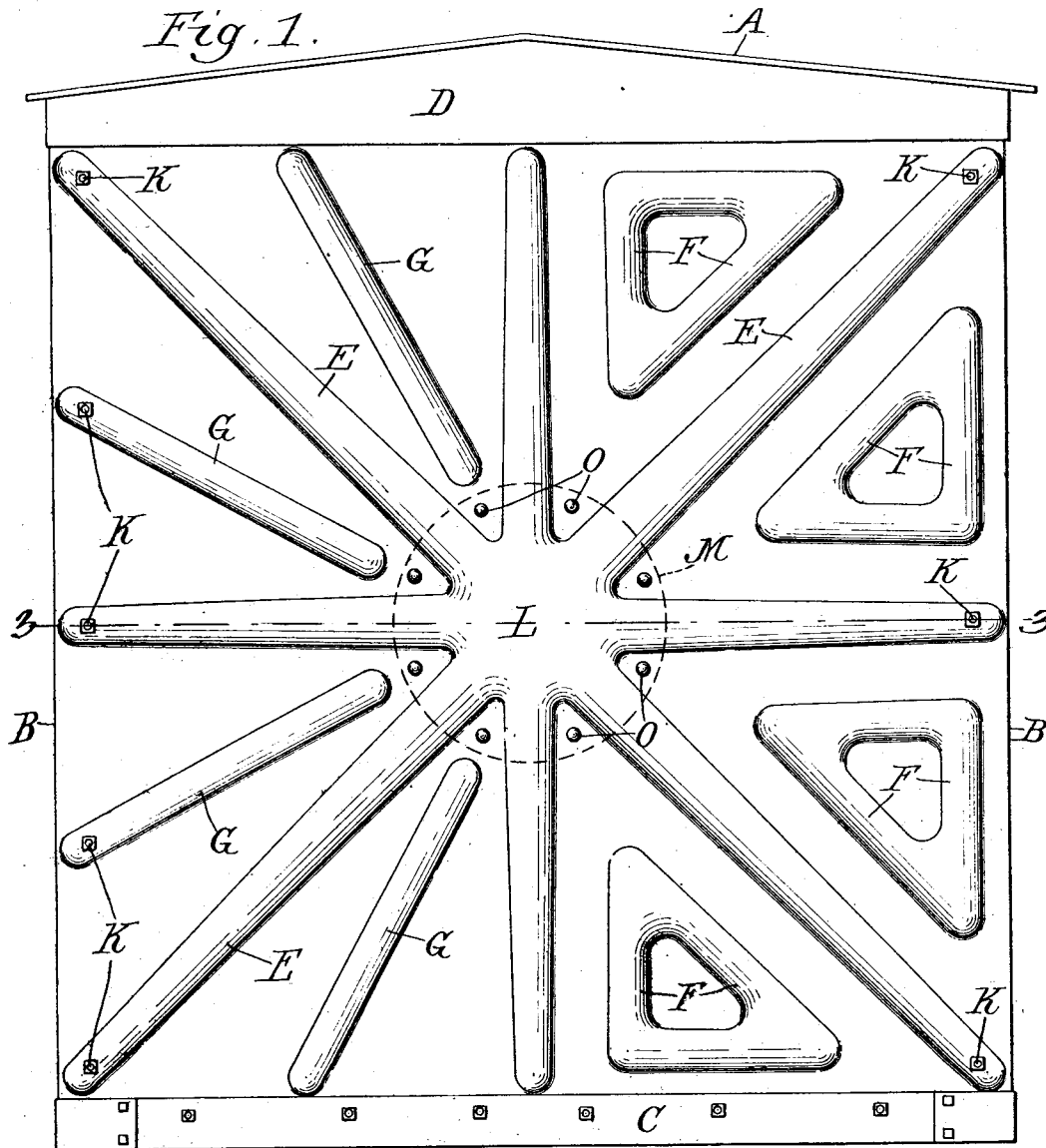
CAR END.

APPLICATION FILED JAN. 27, 1915.

1,182,147.

Patented May 9, 1916.

2 SHEETS—SHEET 1.



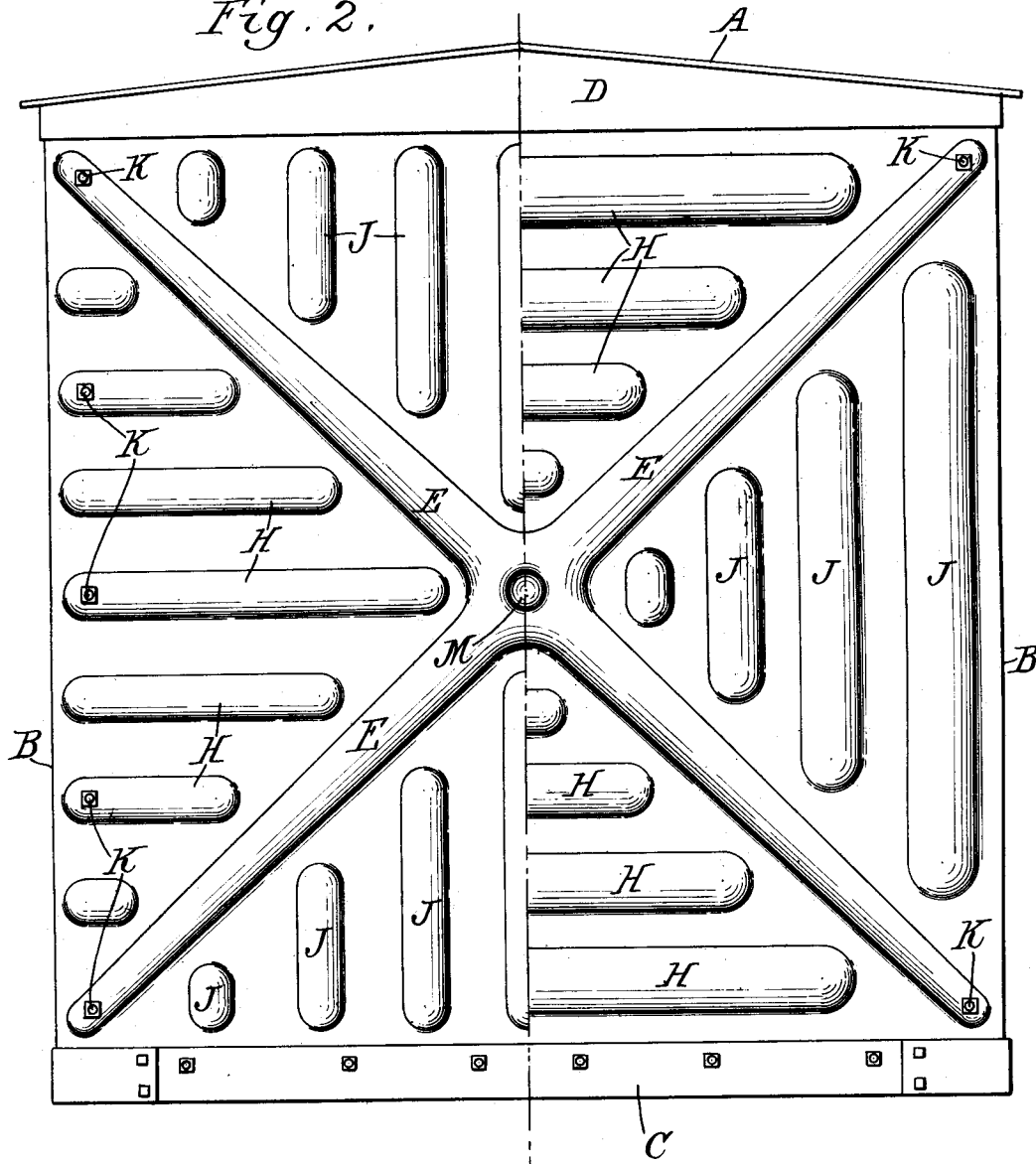
Witnesses.
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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CAR END.

1,182,147.

Specification of Letters Patent.

Patented May 9, 1916.

Application filed January 27, 1915. Serial No. 4,609.

To all whom it may concern:

Be it known that I, CHARLES W. DAKE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Car Ends, of which the following is a specification.

My invention relates to car ends and has for its object to provide a stiffened sheet metal car end adapted to be secured to the car in any desired manner whether the car frame be of steel or wood. It is here shown somewhat diagrammatically and not in detail because the details of attachment to the car are no part of the present invention.

Figure 1 is an end elevation showing my car end attached in position with two modifications of the corrugations; Fig. 2 is a similar view of a modified structure with two modifications of the corrugations; Fig. 3 is a cross section through the structure of Fig. 1 on the line 3—3 of Fig. 1.

Like parts are indicated by the same letter in all the figures.

A is a car roof, B, B the sides, C the bottom sill and D a plate intermediate the roof and the car end.

E, E are radial corrugations from near the center of the plate to its corners. These corrugations are wider and deeper at the center and diminish preferably in both respects toward the ends. The intermediate spaces between them may be filled with any kind of corrugations or the plate could be left flat. Such corrugations are shown at F, F as continuous triangles, at G, G as radial corrugations, and these may be either wider or deeper or both at the inner ends or at the outer ends, at H, H as horizontal corrugations and at J, J as vertical corrugations intermediate the radial.

K, K are bolts whereby the plate may be secured to the car frame. It will be understood, however, that any other method of securing could be employed either with or without the bolts in question. Such other methods being no part of the present invention are not here dealt with.

L is the central portion of the plate in which the corrugations meet.

M is a circular central portion, and it may be small as shown or any other size. It covers the inner ends of the radial corrugations. This center is of any proper shape to snugly fit the parts at the center

and thus form a strengthening portion and a tie to connect together all the radiating members. It is preferably secured in position by the bolts O, O.

It will be understood, of course, that these drawings are in an important sense diagrammatic and that the particular shapes and arrangements of the corrugations could be greatly altered without departing from the spirit of my invention.

The use and operation of my invention are as follows: In the preferred form the radiating corrugations are wider and deeper at the center than near the edges or corners. At least this is true as to some of the corrugations and particularly those which run from the center to the corners. The object of this arrangement is to give greater strength and rigidity to the center of the plate so as to enable it the better to resist pressure from either direction and either side of the plate can be turned toward the inside of the car. These corrugations may be diminished in depth or width or both toward their outer ends where less strength is required. I have not shown the details of the connections of the securing bolts with the outer ends of the corrugations, as these may be of any desired nature. The essential point, so far as this feature of my invention is concerned, is that the bolts are associated with the ends of the corrugations where the sheet or plate of which the car end is formed is strengthened by the ends of the corrugations. The corrugations in this sense serve as beams to give a truss effect. As previously stated, the spaces between the radiating corrugations, whether they be diagonal, vertical or horizontal, are preferably filled up with indentations or corrugations of any desired size, form or shape. If such corrugations extend, as in the preferred form they should, to the edge of the plate, then their outer ends are utilized as points of attachment to the car frame by means of the bolts which pass through the frame and the plate. The central plate serves to tie the members of the radiating corrugations together and to strengthen the entire plate. The car end may be made of any desired number of plate sections secured together in any desired manner.

I have described my invention as a car end. It will be obvious, however, that ex-

cept for such arrangements as are made for the attachment of the plate or plates to the car end, the sheet metal structure is equally applicable for any other purpose and particularly for the building up of the sides of cars. I wish, therefore, my expression car end, so far as it applies to the sheet metal structure itself, at least to be understood as relating to and covering sheet metal structures of the kind suitable for car ends or for other purposes.

I claim:

1. A car end consisting of a plate with radiating corrugations wider near the center and diminishing in width toward the ends and securing bolts passing through the outer ends of such corrugations whereby they are secured to the car frame.

2. A car end consisting of a plate with radiating corrugations deeper at the center and diminishing in depth toward the ends and securing bolts passing through the outer

ends of such corrugations whereby they are secured to the car frame.

3. A car end consisting of a plate with radiating corrugations wider and deeper near the center and diminishing in depth toward the ends and securing bolts passing through the outer ends of such corrugations whereby they are secured to the car frame.

4. A car end consisting of a plate with radiating corrugations wider and deeper near the center and diminishing in width toward the ends and securing bolts passing through the outer ends of such corrugations whereby they are secured to the car frame.

In testimony whereof, I affix my signature in the presence of two witnesses this 23rd day of January, 1915.

CHARLES W. DAKE.

Witnesses:

BESSIE S. RICE,

MINNIE M. LINDENAU.