W. K. LAVIS.

CARLINE.

APPLICATION FILED AUG. 12, 1912.

1,055,766.

Patented Mar. 11, 1913.

2 SHEETS—SHEET 1.

Fig. 1

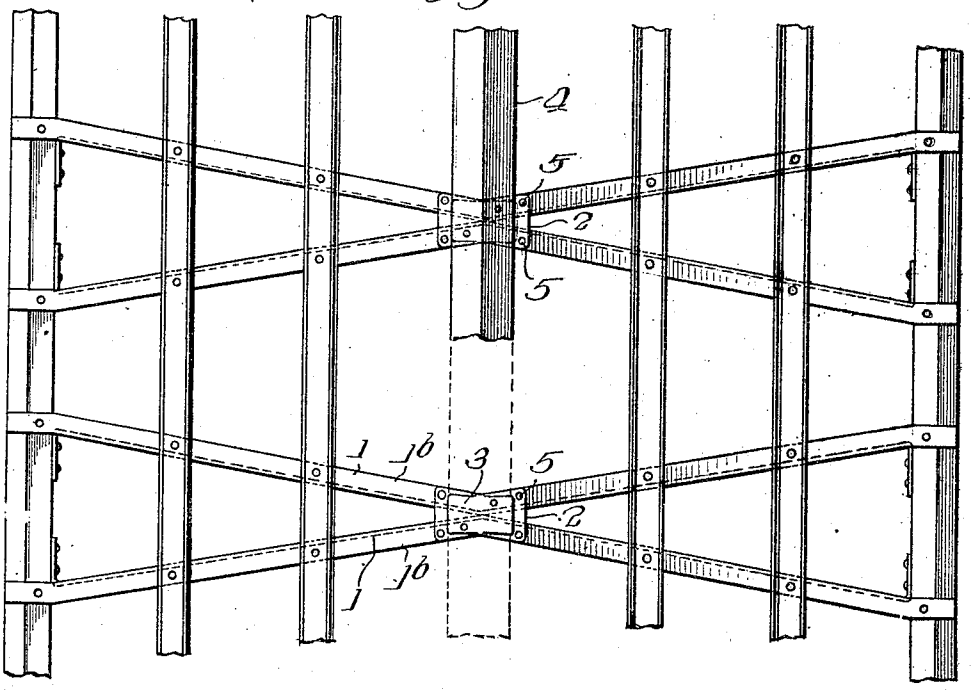


Fig. 2.

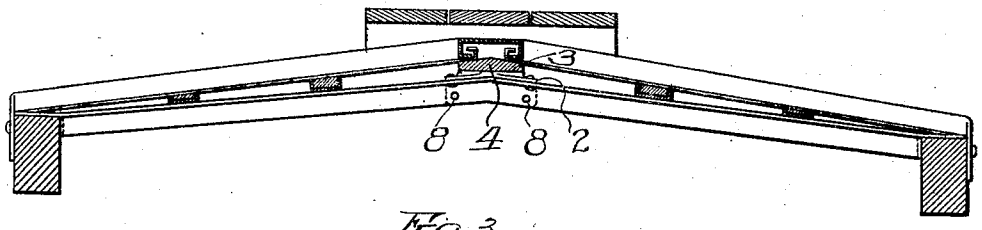
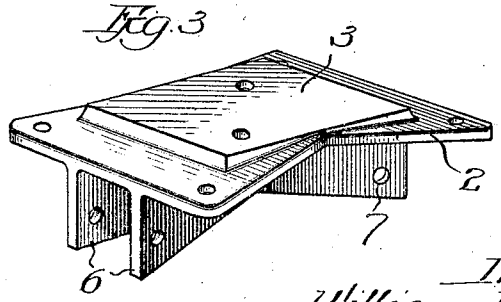


Fig. 3



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2 SHEETS—SHEET 2.

Fig. 4.

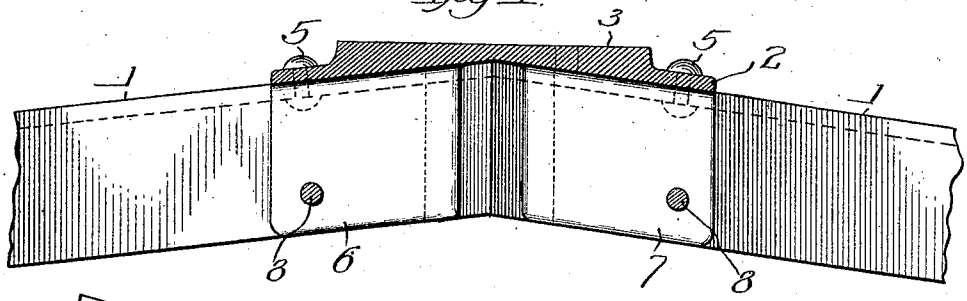


Fig. 5.

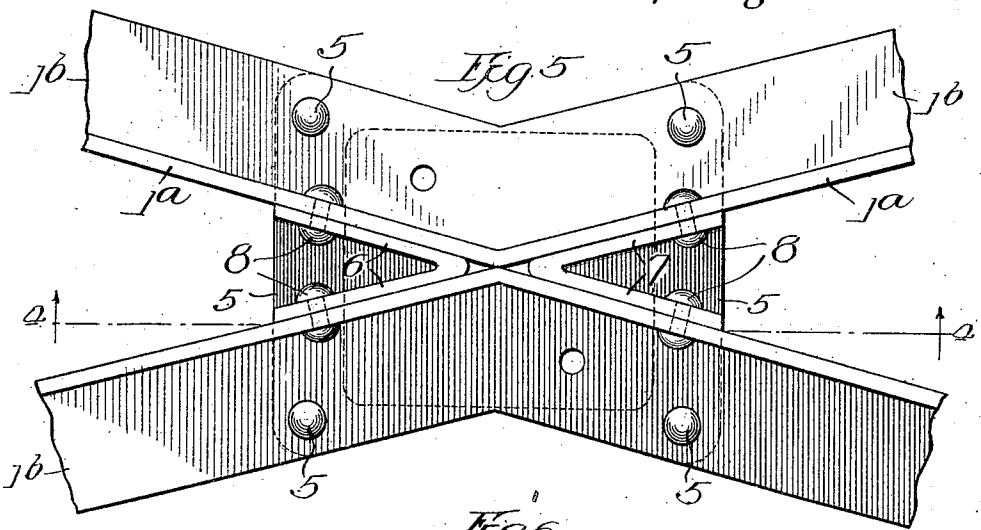


Fig. 6.

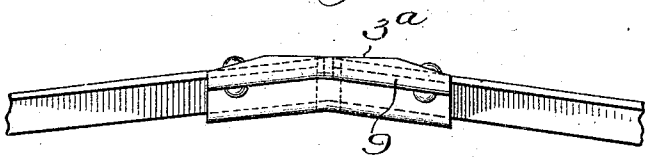
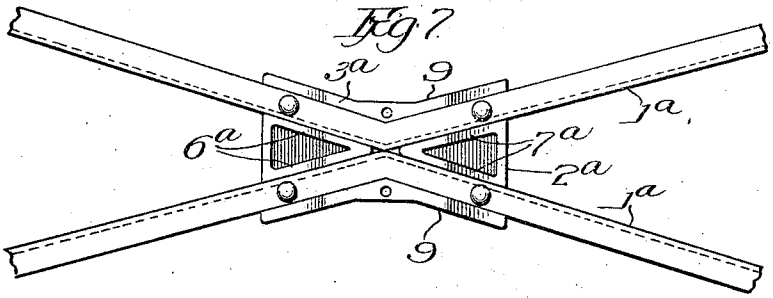


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM K. LAVIS, OF LA GRANGE, ILLINOIS, ASSIGNOR OF ONE-HALF TO MORGAN K. BARNUM, OF LA GRANGE, ILLINOIS.

CARLINE.

1,055,766. Specification of Letters Patent. Patented Mar. 11, 1913.

Application filed August 12, 1912. Serial No. 714,539.

To all whom it may concern:

Be it known that I, WILLIAM K. LAVIS, citizen of the United States, residing at La Grange, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Carlines, of which the following is a full, clear, concise, and exact description.

My invention relates to a carline and more particularly to a carline for freight cars. Its object is to provide a compound carline of simple construction, light weight and great strength, particularly to withstand strains in all directions.

A further object of my invention is to provide an X-shaped carline composed of two similar complementary bars rigidly coupled together at their longitudinal centers.

One feature of my invention relates to the coupling means whereby two complementary bars, preferably angle-bars, are secured together at their longitudinal centers to form an X-shaped carline. Said coupling means is provided with angle-irons fitting in the opposite angles formed in the divergent branches of the two bars, said angle-irons being secured to the vertical flanges of the bars.

In its preferred embodiment my invention includes coupling means for securing together at their longitudinal centers two complementary angle-bars having branches of which diverge downwardly from the center of the carline, said coupling means comprising a cap or saddle-plate constituting the apex of the carline, said saddle-plate being provided with vertical flanges in the form of angle-irons fitting the angles formed between the divergent branches of the angle-bars. With the coupling thus constructed the angle-bars may be secured to said coupling by bolts or the like which secure both flanges of each angle-bar to said coupling.

The several features of my invention may be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a top plan view of a car-roof with parts broken away so as to show more fully the construction of the carline; Fig. 2 is a vertical, transverse section of a car-roof showing one of the carlines of my invention in side elevation; Fig. 3 is a perspective view of the cap or saddle-plate constituting the coupling for securing the angle-bars together; Fig. 4 is an enlarged, transverse, central section through the apex of the carline; Fig. 5 is a bottom, plan view of the apex of the carline; Fig. 6 is a side elevation of the apex of a carline showing a modified form of coupling; and Fig. 7 is a top, plan view of the modified coupling shown in Fig. 6.

Similar letters of reference refer to similar parts throughout the several views.

The carline of my present invention includes two similar, complementary bars 1, 1, each of which extend transversely from one side of the car to the other side thereof, said bars being contiguous to each other at their longitudinal centers, that is at the apex of the carline. From the apex of the carline said bars are bent downwardly and divergently, there being thus formed upon each side of the center of the carline an acute angle between the divergent branches of the two bars. The transverse bars are preferably in the form of angle-bars having a vertical flange 1^a and a flange 1^b extending outwardly and at a right angle from the upper edge of the vertical flange.

The coupling for securing together the angle-bars at their longitudinal centers preferably comprises, as shown in Figs. 1 to 5 inclusive, a cap or saddle-plate 2, which fits over the top of said bars at their contiguous central portions, said saddle-plate being provided with a flat, upper surface 3 for receiving the usual ridge-pole 4. The upper flanges 1^b of the bars are secured to said saddle-plate by bolts or rivets 5 which extend through the corners of the plate 2. The under surface of the plate 2 is provided with depending flanges 6, 7 in the form of oppositely disposed angle-irons which fit in the opposite angles formed between the divergent branches of the angle-irons. The angle-irons 6 and 7 are secured to the vertical flanges 1^a by bolts or rivets 8, 8. The saddle-plate 2 and the flanges 6, 7 are in the form of a casting.

In the modified form of coupling shown in Figs. 6 and 7, the saddle-plate 2^a underlies the angle-bars and is provided with upstanding flanges 6^a, 7^a, each in the form of an angle-iron which fits between the angle formed by the divergent branches of said bars. The plate 2^a is also preferably provided with side flanges 9 between which and the flanges 6^a and 7^a are formed channels

into which the angle bars 1, 1 fit. The upper edges of the flanges of the coupling member are shaped so as to form a flat upper portion 3^a for receiving the usual ridge-pole.

My invention thus provides a compound X-shaped carline consisting of two complementary angle-bars reinforced by a saddle-plate and rigidly secured thereto by means of rivets or bolts which extend both in a vertical and a horizontal direction, thus opposing any strain which may be brought upon said carline.

What I claim is:

1. In a car-roof, a carline comprising a pair of transverse bars contiguous at their longitudinal centers and there bent downwardly and divergently, and a coupling to which each of said bars is secured, said coupling comprising a casting having a pair of opposed angle-irons fitting in the opposite angles formed between the divergent bars of said carline.

2. In a car-roof, a carline comprising two complementary angle-bars, each bar having a vertical flange and a flange extending outwardly at a right angle from the upper edge of said vertical flange, each angle-bar being bent outwardly at an obtuse angle at its longitudinal center, said complementary angle-bars being assembled with the vertices of said obtuse angles abutting each other, said angle-bars upon the opposite sides of said center inclining downward and diverging from each other, and coupling means for tying said bars together at their longitudinal centers, comprising a saddle-plate overlying said bars at the apex of the carline and secured to the upper flange of each of said bars and additional means for tying said vertical bars to each other.

3. In a car-roof, a carline comprising a pair of transverse bars contiguous at their longitudinal centers and there bent downwardly and divergently, and a coupling to which each of said bars is secured, said coupling comprising a saddle-plate having flanges constituting opposed angle-irons fitting in the opposite angles formed between the divergent bars of said carline.

4. In a car-roof, a carline comprising a pair of transverse bars contiguous at their longitudinal centers and there bent downwardly and divergently, and a coupling to which each of said bars is secured, said coupling comprising a saddle-plate constituting the apex of said carline, said saddle-plate being provided with depending flanges fitting in the angles formed between the divergent bars of said carline.

5. In a car-roof, a carline comprising a pair of transverse bars contiguous at their longitudinal centers and there bent downwardly and divergently, and a coupling comprising a saddle-plate overlying said bars at the apex of the carline and secured at its corners to the divergent bars, said saddle-plate having depending flanges fitting in the opposite angles formed between the divergent bars and secured to said bars.

6. In a car-roof, a carline comprising two complementary angle-bars, each bar having a vertical flange and a flange extending outwardly at a right angle from the upper edge of said vertical flange, the vertical flanges of said angle-bars being contiguous to each other at the longitudinal center of the carline, said angle-bars upon the opposite sides of said center inclining downward and diverging from each other, and a saddle-plate secured to the upper flange of each of said bars and provided with depending flanges secured to the vertical flanges of said angle-bars.

In witness whereof, I, hereunto subscribe my name this 25th day of July A. D., 1912.

WILLIAM K. LAVIS.

Witnesses:

ALFRED H. MOORE,

MCCLELLAND YOUNG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."