E. C. COVERT.

METAL CARLINE.

APPLICATION FILED MAR. 24, 1909.

1,003,435. Patented Sept. 19, 1911.

3 SHEETS—SHEET 1.

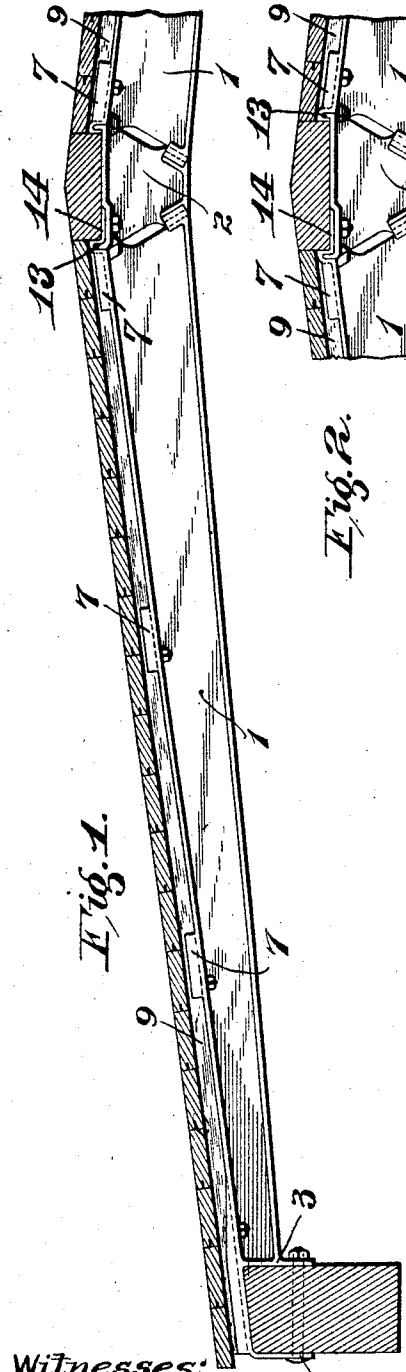

Fig. 1.

Fig. 2.

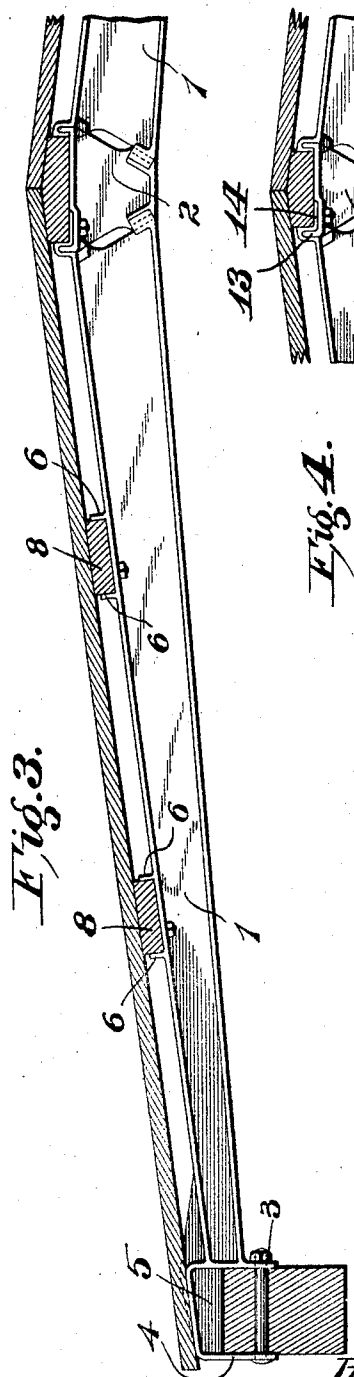

Fig. 3.

Fig. 4.

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3 SHEETS—SHEET 2.

Fig. 5.

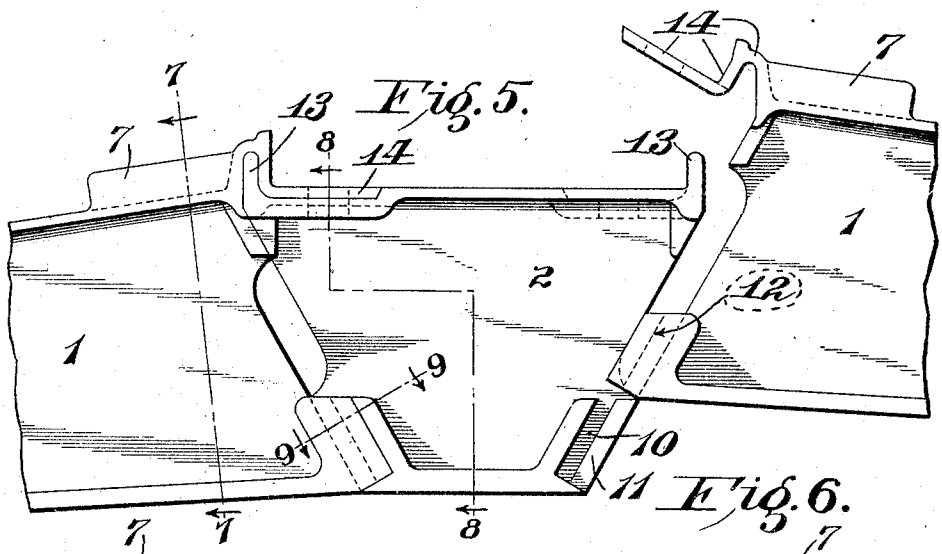


Fig. 6.

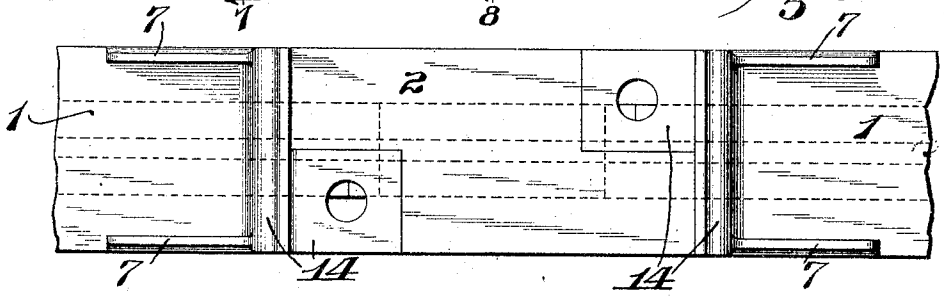


Fig. 7.

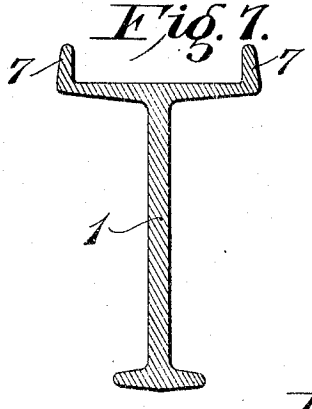


Fig. 8.

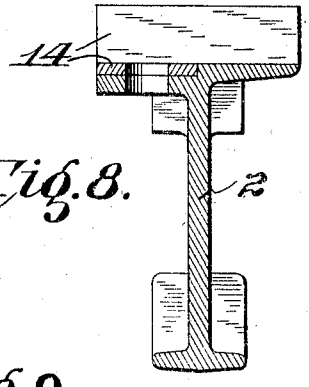
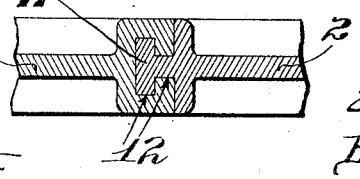


Fig. 9.



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3 SHEETS—SHEET 3.

Fig. 10.

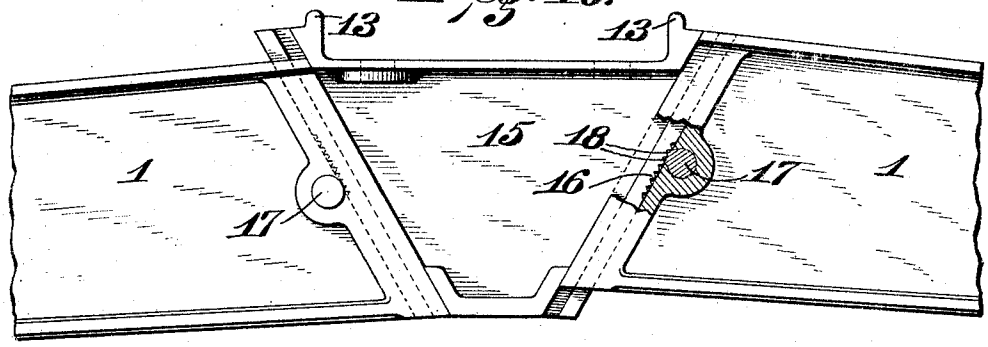


Fig. 11.

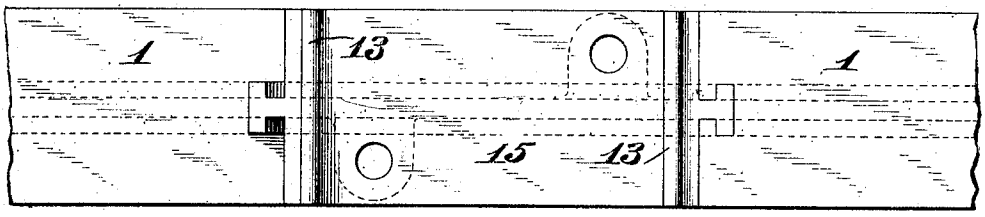
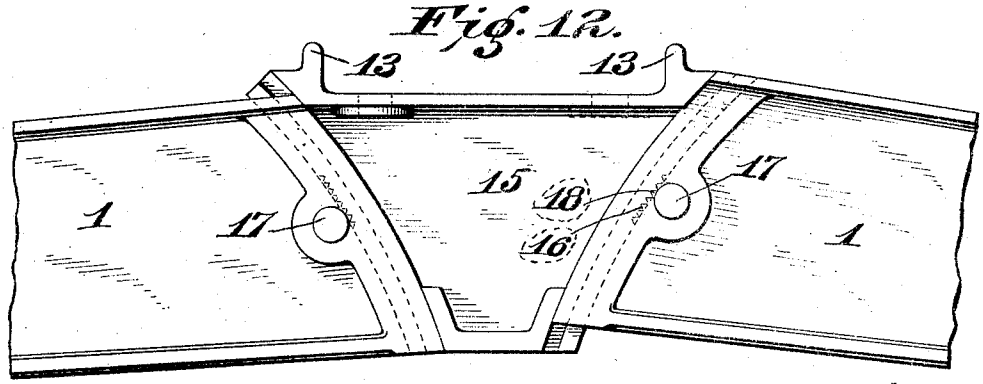


Fig. 12.



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UNITED STATES PATENT OFFICE.

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METAL CARLINE.

1,003,435. Specification of Letters Patent. Patented Sept. 19, 1911.

Application filed March 24, 1909. Serial No. 485,481.

To all whom it may concern:

Be it known that I, EDSON C. COVERT, a citizen of the United States, and a resident of New Kensington, county of Westmoreland, State of Pennsylvania, have invented a new and useful Improvement in Metal Carlines, of which the following is a specification.

My invention relates to metal carlines and has for its principal objects to provide for the manufacture of carlines of malleable iron; to facilitate the repair thereof by making it of interchangeable parts; to conform the carline to roofs of various pitches, to cars of various widths, and to ridge poles of various dimensions; and to secure other advantages hereinafter appearing.

The invention consists principally in making the carline of two body members of malleable iron and an intermediate connecting member.

It also consists in making the parts separable.

It also consists in adapting the body members for use with interchangeable connecting members adapted to vary the length or pitch of the carline.

It also consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawing, which forms part of this specification, and wherein like symbols refer to like parts wherever they occur, Figure 1 is a transverse section through a portion of a car roof showing a metal carline embodying my invention; Fig. 2 is a fragmentary transverse section showing a modification of the key member; Fig. 3 is a transverse section through a car roof showing a modification of the body member of the carline; Fig. 4 is a fragmentary view showing a further modification of the key member; Fig. 5 is an enlarged fragmentary view illustrating the manner of connecting the body members to the key member; Fig. 6 is a top plan view of the portions shown in Fig. 5; Fig. 7 is a section on the line 7—7 of Fig. 5; Fig. 8 is a section on the line 8—8 of Fig. 5; Fig. 9 is a section on the line 9—9 of Fig. 5; Fig. 10 is a fragmentary view partly in elevation and partly in section showing a modification of the body members and key member; Fig. 11 is a top plan view of the parts shown in Fig. 10 and, Fig. 12 is a further modification of the body members and key member.

The carline illustrated in the accompanying drawing comprises two body members 1 and an intermediate key or connecting member 2. The body members are of any suitable cross section; but in order to adapt them for manufacture by casting malleable iron, they are preferably made of I-section, wherein the metal is of substantially the same thickness at all points in the section. Each body member preferably tapers or inclines toward its outer end, where it is provided with parallel downturned flanges 3, 4 integral therewith and adapted to straddle the side plate of the car. In order to reinforce these downturned flanges, they may be connected by a vertical web 6 provided therefor on the underside of the end of the carline, as illustrated in Fig. 3. Preferably, these body members are provided with upwardly extending flanges 6, 7 on top thereof which are arranged transversely in pairs to form seats for purlins 8, or arranged longitudinally along the margins to form seats for wooden nailing strips 9.

The inner end of each body member is adapted to interlock with the intervening key or connecting member. This key member is preferably made in the form of a blunt wedge block whose narrower end is lowermost. Inclined slots 10 are formed in the sides of the wedge block adjacent to the inclined edges of said key member or wedge block, whereby the marginal portions of said key constitute undercut lugs or headed tongues 11. The lower portion of the inner end of each of the body members is thickened and in the edge of each side face thereof is formed a T-slot or groove 12 which is the counterpart of the headed tongue of the wedge block. The top of the key or wedge block is provided at its ends with upwardly extending lugs 13 integral therewith and with sockets adjacent to said lugs. The top of the inner end of each body member is provided with a projecting "strap" 14 integral therewith. At its point of attachment to the body, this strap projects upwardly and thence is rebent downwardly and thence substantially horizontally, to make it fit over the lug and have its end countersunk in the adjacent socket of the key.

In assembling the parts, the headed tongue

of the key is centered below the T-slot or groove 12 of the body member, and the two members are caused to interlock by sliding the tongue into the groove until the top of the lug on the key comes in contact with the top of the groove in the rebent strap. The body members and the key member thus assembled hold together without the use of bolts, and consequently, they may be disengaged whenever required. For instance, a broken member of the carline may be replaced with a new member. It is noted, however, that the ridge poles rest flush against the top of the key member and that the bolts for securing said ridge pole to its seat extend through said key member and the strap thereon.

The separability of the members of the carline has the important advantage of adapting such members for use with roofs of various pitches and with cars of various widths. For instance, the length of the carline may be increased to a limited extent by replacing one key member or wedge block with another key member or wedge block of greater width. Of course, the same key member or wedge block may be used interchangeably with body members of various lengths, whereby the range of adjustment is increased. So, too, the pitch of the carline may be increased by replacing one key member or wedge block with another whose sides have a greater inclination.

Fig. 12 illustrates a construction wherein the relation of the body member to a given key member or wedge block may be varied to adjust the pitch of the carline. In this construction, the inner ends of the body members are curved in arcs whose centers are adjacent to the outer ends of the carline, and the sides of the key member or wedge block 15 are concaved to conform to the curvature of the body member. As in the construction above described, the key member and the body members are provided with interlocking tongues and grooves, which, in the present instance, are disposed in circular arcs. By this arrangement, the body members and the key member are adapted to interlock throughout a considerable range of variation of the pitch. The members are locked together by any suitable means. For instance, the concave edges of the key member have transversely arranged teeth 16 thereon, and the end portions of the respective body members have transverse bolt holes slightly overlapping said teeth. In these holes are withdrawable bolts 17 which have longitudinal ribs or ridges 18 adapted to interlock with the teeth of the key member and thereby secure the members of the carline together. In Fig. 12, the left hand body member is shown of lower pitch than the right hand body member.

The construction shown in Fig. 10 shows the key member serrated along its edges and locked by ridged bolts, as described with reference to Fig. 12.

Obviously, my device admits of considerable modification without departing from my invention, and therefore I do not wish to be limited to the specific construction shown and described.

What I claim as my invention and desire to secure by Letters Patent is:—

1. A three-piece malleable iron carline consisting of two body members and an intermediate connecting member removably interlocking therewith.

2. A car roof comprising a plurality of cast metal carlines adapted to support the superstructure, each of said carlines comprising two elongated body members and an intermediate replaceable key member detachably secured to said body members, the outer ends of said body members having downwardly turned portions adapted to straddle the respective side plates of the car.

3. A metal carline comprising two body members and an intermediate key member adapted to vary the pitch of the car line.

4. A metal carline comprising body members and removable key members adapted to interlock with the adjacent ends of said body members to vary the pitch of the carline.

5. A metal carline comprising upwardly inclined body members having inclined upper ends and removable wedge-shaped key members adapted to interlock interchangeably with the adjacent ends of said body members to adjust the pitch and length of the carline.

6. A complete cast metal carline comprising two upwardly inclined body members and an intermediate key member, adjacent portions of said body and key members having counterpart locking devices integral therewith adapted to separably fasten said members together and thereby constitute a complete carline, the outer ends of said body members being adapted to straddle the side plates of the car.

7. A metal carline comprising two upwardly inclined body members and an intervening key member having an interlocking tongue and groove engagement with each other, said members being separable by transverse relative movement.

8. A metal carline comprising two upwardly inclined body members and an intervening key member, the inner ends of said body members being inclined and having T-slots therein, and said key member having headed lugs adapted to interlock with said slots.

9. A metal carline comprising two upwardly inclined body members and an intervening key member, the inner ends of

said body members being inclined and having T-slots therein, and said key member having headed lugs at its sides adapted to interlock with said slots and having upwardly extending lugs at its top, and said body members having rebent straps integral therewith adapted to engage lugs on the top of the connecting member.

10. A car roof comprising a plurality of spaced independent carlines, a ridge pole supported thereby, and a superstructure, each of said carlines being a three-piece cast malleable iron carline comprising body members and an intermediate connecting member removably secured to the inner ends thereof, said connecting member having upwardly extending lugs adapted to accommodate the ridge pole.

11. A metal carline comprising two body members and an intermediate key member, said body members having integral down-turned flanges arranged transversely on the underside to straddle the side plates of the car, and having marginal upturned flanges arranged longitudinally on the top adjacent to the ends of the carline.

12. A carline comprising two cast malleable iron body members and an intermediate key member separably interlocking therewith, said body members having integral down-turned flanges arranged transversely on the underside to straddle the side-plates of the car, and having marginal upturned flanges arranged longitudinally on the top adjacent to the ends of the carline.

13. A series of interchangeable carline parts providing for variation in length and adjustment of pitch of the carline.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses this 23rd day of March, 1909, at Pittsburg, Pennsylvania.

EDSON C. COVERT.

Witnesses:

J. GARFIELD HOUSTON,

EDW. P. KYLE.