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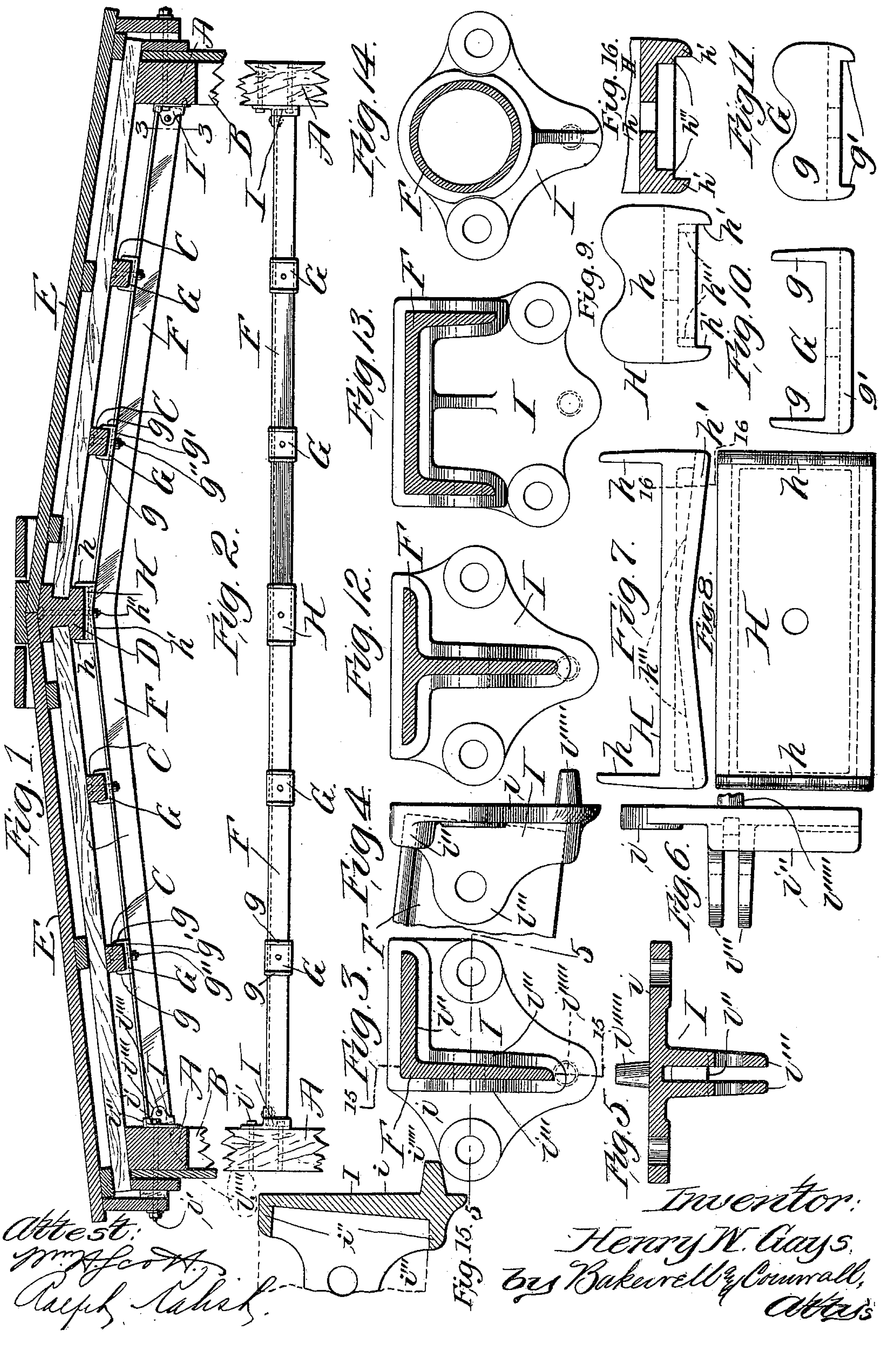
H. W. GAYS.

CARLINE.

(Application filed Oct. 29, 1898.)

(No Model.)



UNITED STATES PATENT OFFICE.

HENRY W. GAYS, OF ST. LOUIS, MISSOURI.

CARLINE.

SPECIFICATION forming part of Letters Patent No. 619,952, dated February 21, 1899.

Application filed October 29, 1898. Serial No. 694,931. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. GAYS, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Carlines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical sectional view of the skeleton framing of a car, showing the application of my improved carline. Fig. 2 is a plan view of my improved carline, showing the pockets arranged thereon for the reception of the ridge-pole and purlins and a portion of the side plates of a car and the castings employed for securing said carline to said side plates. Fig. 3 is a vertical sectional view on line 3 3, Fig. 1, illustrating in side elevation the casting employed for securing the carline to the side plate. Fig. 4 is a side elevational view of the same. Fig. 5 is a horizontal sectional view on line 5 5, Fig. 3. Fig. 6 is a top plan view of the same. Fig. 7 is a side elevational view of the casting or pocket secured to my improved carline for the reception of the ridge-pole. Fig. 8 is a plan view of the same. Fig. 9 is an end elevational view of the same. Fig. 10 is a side elevational view of the pocket secured to my improved carline for the reception of the purlins. Fig. 11 is an end elevational view of the same. Fig. 12 is a side elevational view of a casting employed in securing my improved carline to the side plates of a car, the same illustrating a slightly-modified form of shape wherein a T-iron is employed. Fig. 13 is a side elevational view of a casting employed in securing my improved carline to the side plates of a car, illustrating a slight modification wherein a channel-iron is used. Fig. 14 is a side elevational view of a casting employed in securing my improved carline in position to the side plates of a car, showing a slightly-modified form wherein a tube is employed. Fig. 15 is a vertical longitudinal view on line 15 15 of Fig. 3, and Fig. 16 is a vertical sectional view on the line 16 16 of Fig. 7.

This invention relates to a new and useful improvement in carlines, the object being to provide a carline which will be light, strong, durable, and effective, as well as simple in construction, and also saving the laborious work of mortising as is employed in wooden carlines and dispensing with the necessity of a skilled mechanic.

The essential features of this invention reside in the construction of the carline, which is formed of commercial rolled metal, preferably steel, of any desired shape, together with the use of suitable pockets secured thereto for the reception of the ridge-pole and purlins of the car, and also together with hangers employed in securing my improved carline in position upon the side plates of the car.

Other features of invention reside in the novel construction, arrangement, and combination of the several parts, all as will hereinafter be fully described and afterward pointed out in the claims.

In the drawings I have shown a portion of the skeleton framing of a car in connection with which my improved carline is used; but it will be obvious that there are other uses to which my invention could be put without in the least departing from the principle of the same.

In the drawings, A indicates the side plates; B, the end posts; C, the purlins; D, the ridge-pole; and E, the roofing, all of said parts being of common and well-known construction.

F indicates my improved carline as an entirety, the same being of any well-known shape of commercial rolled steel or iron—namely, angle-iron, T-iron, channel-iron, or tubular structure.

G indicates the pockets secured in any suitable manner to my improved carline, the same being for the reception of the purlins of the car.

H indicates a pocket secured to my improved carline in any suitable manner, designed for the reception of the ridge-pole.

I indicates a suitable hanger, preferably a metallic casting, which is employed for securing and supporting the ends of my improved carline in position to and on the side plates of the car.

The various shapes referred to in regard to the commercial rolled-metal carline are obviously equally adaptable in car construc-

tion; but I have illustrated the use of angle-iron herein as the preferred construction, which is best shown in Figs. 1, 2, and 3.

The pocket H, which, as stated, is for the reception of the ridge-pole, is preferably formed of a metallic casting, the same being preferably rectangular in plan view, and is provided with suitable ribs or flanges *h*, which, together with the base of the casting, form a channel or pocket for supporting and embracing the ridge-pole. *h'* indicates suitable depending flanges transversely disposed to the flanges *h* and are for the purpose of embracing the edges of the angle-iron forming the body portion of the carline. *h''* indicates a through-bolt, which secures said carline and pocket H to the ridge-pole. From this construction of the pocket it will be seen that I am enabled to secure said pocket to said carline and said carline and said pocket to the ridge-pole by the use of only one bolt.

Between the flanges *h'* is formed a channel which conforms to the apex of my improved carline, and also within said channel, formed by the flanges *h'*, is a shoulder *h'''*, which is designed to rest upon said carline. This shoulder *h'''* is tapered from the center of the casting in line with the carline downwardly and provides a seat which conforms to the shape of the carline without necessitating the increased thickness in the casting from its center to its ends, which would be objectionable, especially in a malleable casting. The upper face of this casting H is perfectly horizontal for the reason that the bottom edge of the ridge-pole is horizontal.

The pocket G is quite similar in construction to the casting H, with the exception that its base proper is of one thickness throughout, there being no camber of the carline at the points between the ridge-pole and its ends where the purlins are located. Flanges *g* are formed on each of its ends rising upwardly therefrom and, together with the base of pocket G, form a channel or pocket which receives and embraces said purlin. *g'* indicates downwardly-extending flanges transversely disposed to the flanges *g* and, together with the lower face of the base of casting G, form a channel for the reception and retention of the carline. *g''* indicates through-bolts which are designed to pass through the purlins, casting G, and the carline, securing said parts together, and also only one bolt is here needed to secure the purlin-pocket in position, as the flanges *g* and *g'* prevent any tendency of said casting to twist.

The casting I, which, as before stated, secures the ends of my improved carline to the side plates of the car, is formed with a flat face *i*, which is preferably perforated with openings for the reception of through-bolts *i'*, which secure said casting to the framing of the car, as is best shown in Figs. 1 and 2. *i''* indicates a pocket of a shape conforming to the section or end of the carline, and from the edges of said pocket extend, upon each side of the vertical member of the carline, lugs *i'''*, designed to stiffen the juncture of said carline and said casting. These lugs *i'''* are preferably perforated, as is also the carline, for the reception of a through-bolt or rivet *i''''* for securing the carline and casting together. *i'''''* indicates a suitable dowel secured to the opposite side of the casting I to that upon which the face *i* is located and is designed to enter a suitable dowel-hole formed in the side plate, said dowel answering the same purpose as another bolt inasmuch as any tendency to twist of said casting is concerned.

Fig. 12 illustrates a similar construction to that illustrated in the preferred construction, with the exception that the pocket I is T-shaped for the reception of a T-iron when it is desired to use such a shape for the body portion of the carline. In all other respects this casting is exactly like that illustrated in Figs. 3 to 6, inclusive, this casting also having openings for the reception of the bolts for securing said casting to the side plates and the dowel before referred to.

Fig. 13 is a view of a casting provided with a channel-shaped pocket for a channel-iron when it is desired to use same as the body portion of the carline and, like the castings of Figs. 12 and 3, is provided with the openings for the reception of the bolts for securing the same to the side plates and the dowel, for the purpose before mentioned.

Fig. 14 illustrates a casting provided with a tubular-shaped pocket for the reception of a tubular-formed carline when it is desired to use the same, this casting being also provided with the holes and dowel, as the castings of Figs. 3, 12, and 13.

In all the various-shaped castings I represented it will be understood that the edges of the pocket are neither vertical nor horizontal, but conform to the rise or pitch of the carline—that is, the abutting edge for the carline is preferably at right angles to the pitch of said carline, whereby a perfect fit of the ends of the same is insured.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my construction may be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In a carline, the combination of a cambered commercially-rolled metal body, hangers provided with pockets for the reception of the ends of said cambered body, said pockets being so arranged and proportioned as to conform to the pitch and shape of said cambered body, and lugs extending from said pockets for the reception of bolts, or rivets, for securing said hangers to said cambered body, substantially as described.

2. In a carline, the combination with a cambered commercially-rolled metal body, hangers provided with pockets for the reception of the ends of said cambered body, said pockets being so arranged and proportioned as to conform to the pitch and shape of said cambered body, lugs extending from said pockets for the reception of bolts or rivets, for securing said hangers to said cambered body, and dowels formed on said hangers for securing said hangers to the side plates, substantially as described.

3. In a carline, the combination of a cambered commercially-rolled metal body, pockets arranged on said body for the reception of the purlins, flanges rising from said pockets for embracing said purlins, transverse flanges depending from said pockets for embracing said cambered body, and holes formed through said pockets and said cambered body for the reception of bolts, substantially as described.

4. In a carline, the combination of a cambered body formed of commercially-rolled metal, a pocket arranged on the top face of said cambered body for the reception of the ridge-pole, flanges rising from said pocket for embracing said ridge-pole, transverse flanges depending from said pocket for embracing said cambered body, said flanges and the bottom face of said pocket being of a corresponding shape to that of the cambered body, and a hole formed through said pocket and said body for the reception of a bolt, substantially as described.

5. In a carline, the combination of a cambered body formed of commercially-rolled metal, pockets secured to said cambered body for the reception of the ridge-pole and purlins, hangers secured to the ends of said cambered body, pockets formed in said hangers for the reception of said cambered body, said pockets being so proportioned as to conform to the shape and pitch of said cambered body, and means for securing said hangers to the side plates; substantially as described.

6. In a carline, the combination with a body formed of commercially-rolled metal, of pockets secured thereto for the reception of the ridge-pole and purlins, hangers formed with pockets for the reception of the ends of the commercially-rolled metal body, lugs extending inwardly from said last-mentioned pockets for bracing the ends of said body, said lugs, also, being designed to receive bolts or rivets for securing said brackets to the body, and dowels formed on said hangers for engaging the side plates, substantially as described.

7. In combination with the side plates of a car, of a carline formed of a cambered commercially-rolled metal body, pockets secured to said body for the reception of the ridge-pole and purlins, and hangers provided with pockets for the reception of the ends of said cambered body, said pockets being so arranged and proportioned as to conform to the shape and pitch of said cambered body, means for securing said hangers to said cambered body, and means for securing said hangers to said side plates; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 12th day of October, 1898.

HENRY W. GAYS.

Witnesses:
WM. H. SCOTT,
RALPH KALISH.