Jan. 5, 1937. C. H. WILLIAMSON 2,067,035

HOUSE CAR

Filed July 3, 1935 2 Sheets-Sheet 1

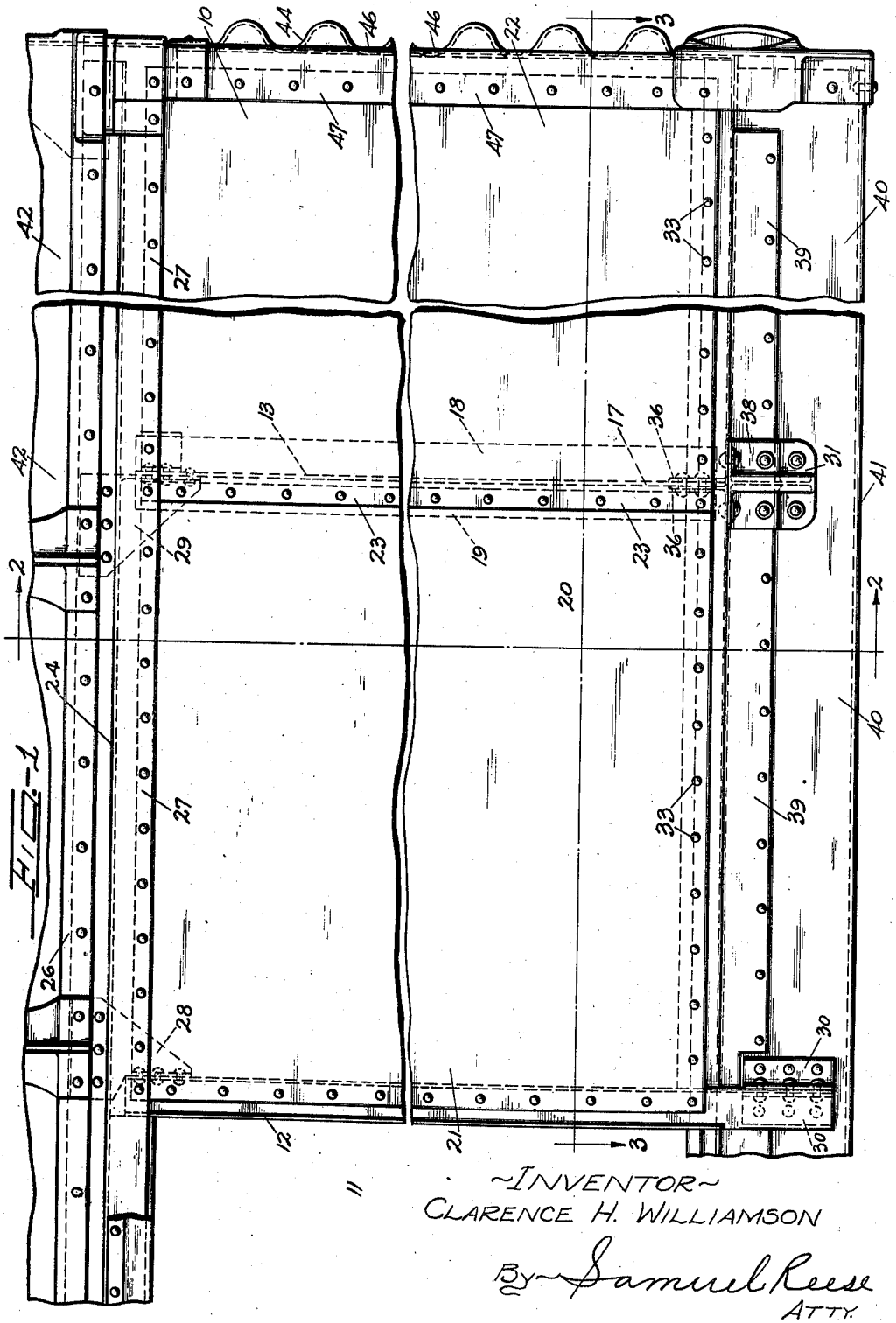


FIG. 1

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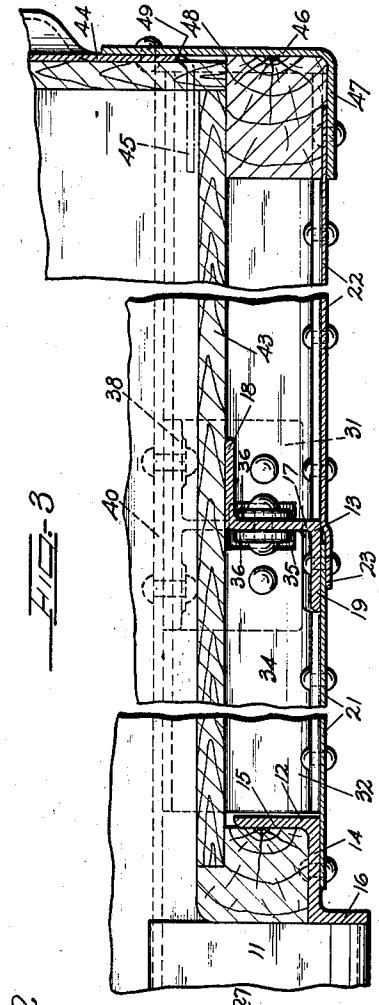


FIG. 3

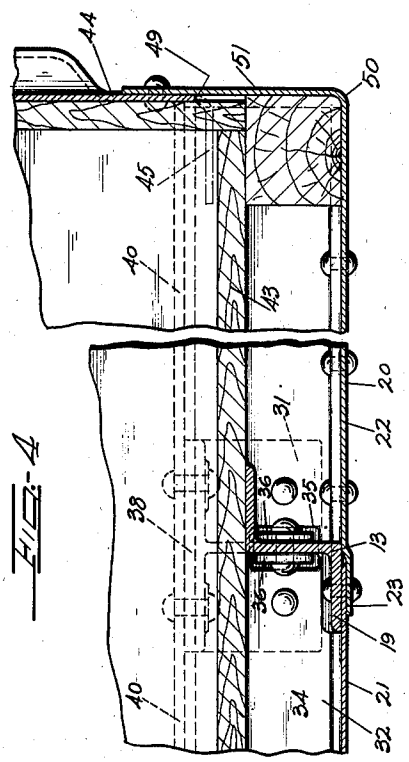


FIG. 4

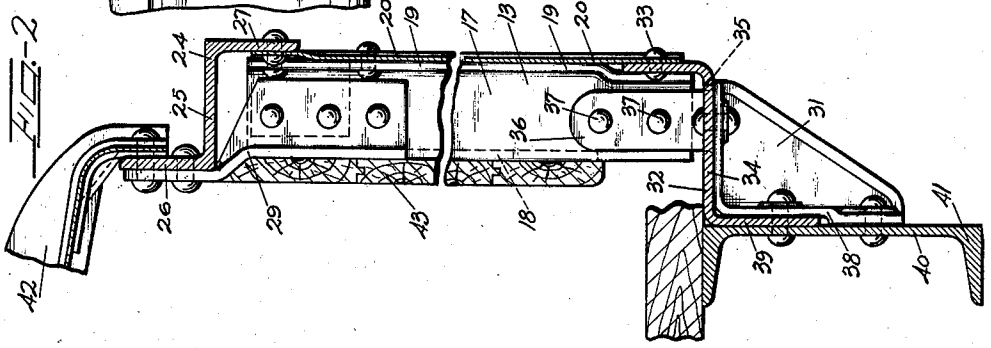


FIG. 2

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Patented Jan. 5, 1937

2,067,035

UNITED STATES PATENT OFFICE

2,067,035

HOUSE CAR

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Application July 3, 1935, Serial No. 29,710

1 Claim. (Cl. 105—409)

This invention relates to house cars.

The railroads of this country in the past have been confronted with a very serious problem of the effective and economical disposition of their railway house cars of single and double wood sheathed construction. These cars, as originally constructed, embody sturdy metallic under frames, including metallic side sills, metallic roofs, metallic side plates and metallic ends, but their sides are sheathed with wood. Normal deterioration of the wooden side sheathing and the abuse thereof encountered in the use of these cars have destroyed the utility of the cars even though the metallic parts, enumerated above, are still serviceable. To resheath the sides of the cars in kind would merely invite recurring relatively rapid deterioration and cause the cars to be relegated from active revenue producing service to unprofitable storage upon car sidings. This grave problem has been solved for the railroads in a substantial measure. The solution involves essentially the conversion of the unproductive wood sheathed cars into sturdy long-lived revenue producing metal sheathed cars, in a facile and economical manner. The cost of this conversion is far less than the cost of new cars inasmuch as it salvages all of the metallic parts of the original cars which are still serviceable. In addition, the conversion actually enhances the revenue yield of the cars since it permits the attainment of cars of increased cubical capacity. This increase in the cubical capacity of the cars is obtained by increasing the inside width thereof and, if desired, by increasing the inside height of the cars.

It has been stated heretofore that the original cars have metallic ends and that these ends are utilized in the converted metal sheathed cars. The car ends are provided with angularly related flanges along their vertical margins directed toward the center of the car to which the wooden sheathing is secured. In the conversion of the wood sheathed cars the wooden sheathing is removed and metallic sheathing substituted therefor, this sheathing being placed outwardly relative to the position occupied by the wooden sheathing in order to obtain an increase in the inside width of the cars. This disposition of the metallic sheathing necessarily positioned the vertical margins thereof at the ends of the cars outwardly of the flanges of the car ends. Where the increase in width was relatively small the vertical margins of the metallic sheathing were crimped or offset and secured to the car end flanges. However, where the increase in inside width was substantially large, as in the conversion of a single or double wood sheathed car having an inside width of 8'6" to a metal sheathed car having an inside width of 9'2" or in the conversion of single wood sheathed cars in which the ends are relatively narrow having an inside width of 8'6" to metal sheathed cars having an inside width of 8'9", the crimping of the vertical ends of the metallic sheathing has been found to be excessive. In addition to the foregoing, another obstacle was encountered even if the metallic sheathing could be crimped. It was found that the inner wooden lining of the car sides which lies against the posts of the car sides was positioned outwardly of the flanges of the car ends thereby rendering the cars unacceptable to the railroads. These projecting flanges of the car ends interfered with the loading of the car, reduced its capacity, prevented driving of nails and was injurious to certain kinds of lading.

It is, consequently, the main object of this invention to provide for the widening of railway cars adjacent the ends thereof in a simple and inexpensive manner while utilizing almost all of the metallic car ends.

Other objects are to obtain widening of railway cars which will permit extension of the wooden lining of the cars continuously, uninterruptedly and without the necessity of gaining such lining to the ends of the cars; to provide for driving of nails into the lining as far as the ends of the car and to provide complete protection of the lading in the cars against contact with metallic parts thereof.

With these enumerated objects and others which will hereinafter appear as the description of this invention proceeds, the invention embodies the novel structure and combination of parts hereinafter described and more particularly pointed out and defined in the appended claim.

In the drawings forming part of this specification—

Figure 1 is an elevation of substantially one half of a car side embodying the instant invention, parts thereof being broken away to accommodate the view on the sheet.

Figure 2 is a vertical section taken on line 2—2 of Figure 1.

Figure 3 is a horizontal section taken on line 3—3 of Figure 1.

Figure 4 is a horizontal section showing a modified form of the invention.

Referring particularly to Figures 1, 2 and 3 of the drawings, the numeral 10 designates a portion of a car side wall construction, it being understood that the remaining portion of said car

side wall on the opposite side of the door opening 11 is complementary to that portion illustrated and that the side wall construction on the opposite side will be substantially the same. The side wall 10 which, if desired, may be constructed as a unit for subsequent assembly into a railway car, embodies door posts, one of which is illustrated at 12, and intermediate side posts, one of which is shown at 13. With particular reference to Figure 3 of the drawings, it will be seen that the door post 12 comprises a substantially Z shaped member disposed with its web 14 parallel to the car side wall, its flange 15 directed inwardly and its flange 16 extending outwardly. Each intermediate side post 13 comprises a Z shaped preferably structural member disposed with its web 17 at right angles to the car side wall, one flange 18 lying inwardly and parallel to the car side wall and the other flange 19 disposed outwardly in parallel relationship to the side wall. Metallic sheathing 20 comprising metallic sheets such as 21 and 22 are disposed upon the outside of and secured to the door and intermediate side posts. The vertical margins of the metallic sheets are overlapped at the side posts, as indicated at 23.

The upper ends of the door and intermediate side posts and the upper end of the metallic sheathing are secured to a metallic side plate 24 arranged with its web 25 extending outwardly, one flange 26 directed vertically upwardly and its other flange 27 directed vertically downwardly. The upper ends of the door and intermediate posts are secured to the upwardly directed flange 26 by means of gusset plates 28 and 29, while the upper end of the metallic sheathing is secured to the downwardly extending flange 27 of the side plate.

At their lower ends each door post 12 is provided with angle clips 30—30. Each intermediate side post 13 has secured to the lower end thereof a bracket 31. A Z shaped member 32 is secured to the lower margin of metallic sheathing 20 as by means of rivets 33. The Z shaped member 32 extends continuously from the door post 12 to substantially the end of the car and in order to permit the attachment of a bracket 31 to the lower end of an intermediate post 13, the web 34 of the Z shaped member 32 is coped, as indiacted at 35, in order to permit extension of the attaching flanges 36—36 of the brackets 31—31 through the Z shaped member 32. These flanges 36—36, as clearly illustrated in Figure 3 of the drawings, lie upon opposite sides of the web 17 of the intermediate post and are secured thereto by means of rivets 37.

The side wall construction above described may be applied as a unit to a railway car and to this end the vertical flange 38 of the bracket 31 and the vertical depending flange 39 of the Z shaped member 32 are riveted to the web 40 of an existing side sill 41 of a converted car or to the web of the side sill of a new car construction. With particular reference to Figures 2 and 3 of the drawings, it will appear that by the described construction, the door and intermediate side posts are spaced outwardly of the web 40 of the side sill a substantial distance in order to provide for an increase in the cubical capacity of a converted car or of a new car. The roof of the car designated in its entirety by the numeral 42 is secured to the upstanding vertical flanges 26 of the side plates. Referring to Figure 3 of the drawings it will be clear that by virtue of the attainment of increased cubical capacity of the car by the disposition of the door and intermediate side posts outwardly of the side sill, the wooden lining 43 of the car, which is disposed against the inside of the intermediate posts, will lie outwardly of the vertical side flanges of the car ends. One of these ends is indicated at 44 and one of the side vertical flanges thereof is indicated at 45. It is apparent in view of the disposition of the side flange 45 of the car end that this flange projects into the car and, hence, interferes with the increase in cubical capacity adjacent the ends of the car. It is apparent, moreover, that such flange would be detrimental to the lading of the car and that it would preclude the driving of nails into the wooden lining in order to fasten lading within the car.

In order to overcome the objections above enumerated, the instant invention proposes in the considered embodiment thereof to utilize an angular member 46. This enumerate member is preferably L-shaped in section and provides flanges 47 and 48. The angular member 46 extends between the side plate 24 and the Z shaped member 32. The flange 47 thereof is riveted to the vertical margin of the metallic sheathing 20, while the flange 48 thereof is riveted to the adjacent portion of the car end 44, the flanges 47 and 48 being disposed in overlapping engagement with the sheathing and the car end. By virtue of this construction the flanges 45 may be removed as by being burned off, as indicated at 49, so that the lining 43 for the side walls of the car may be available for its entire length for nailing. Additionally, the end vertical marginal portion of the sheathing 20 may extend continuously in a single plane and thereby crimping or offsetting of this marginal portion is avoided. The increase in the cubical capacity of the car is, therefore, rendered uniform from end to end thereof.

In Figure 4 of the drawings there is illustrated a modified form of the invention. The sheathing 20 is bent, as indicated at 50, in order to provide an angularly relative flange 51 disposed in overlapping relationship with the adjacent portion of the car end 44. By this modified construction, one row of rivets required in the previous embodiment of the invention to secure the flange 47 of the angular member 46 to the metallic sheathing 20 is eliminated. As in the first described embodiment of the invention, the side flange 45 of the car end 44 is removed, as indicated at 49, thereby making the wooden lining 43 available for the driving of nails at the ends of the lining.

While the foregoing description relates essentially to the conversion of a wood sheathed car, it is clear that the described construction may be utilized as readily in a new car construction. It will also be apparent that the instant invention may be utilized where too great an offset would be required at the vertical marginal end portion of the metallic sheathing for connection with the car end, even though the side vertical flanges of the car end would not fall within the wooden lining of the side walls.

This application is a continuation in part of application No. 696,369, filed November 2, 1933.

It will be apparent that numerous changes and modifications of the details of the instant invention may be resorted to by those skilled in the art. It is, therefore, intended to comprehend all such changes and modifications within the purview of the invention, which is to be limited only by the appended claim.

I claim:

A metallic railway house car having an inside width not less than 8'9" converted from a wooden sheathed house car having originally an inside

width not greater than 8'6'', metallic side sills and side plates and metallic car ends provided with vertical side flanges, said converted house car comprising metallic side walls and the existing side sills, each said side wall including a metallic side plate, metallic side and door posts secured to said sill and side plate in outwardly spaced relation to said side sill, said side and door posts being disposed outwardly of the side flanges of said existing car ends, metallic sheathing secured to the outside of said side and door posts and to said side plate and sill, said sheathing between said sill and side plate being spaced outwardly of said sill and car ends and lying substantially parallel to said sill and side flanges of said car ends, means for closing the space between said sheathing and said sill, a wooden lining disposed against the inside of said side posts, the plane of said lining includng said side flanges of said car ends, said side flanges being removed whereby said lining extends continuously from each door post to said car ends and an angular metallic extension carried by said sheathing overlapping and secured to the vertical margins of said car ends formed by the removal of said vertical side flanges.

CLARENCE H. WILLIAMSON.