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CAST METAL CAR BODY

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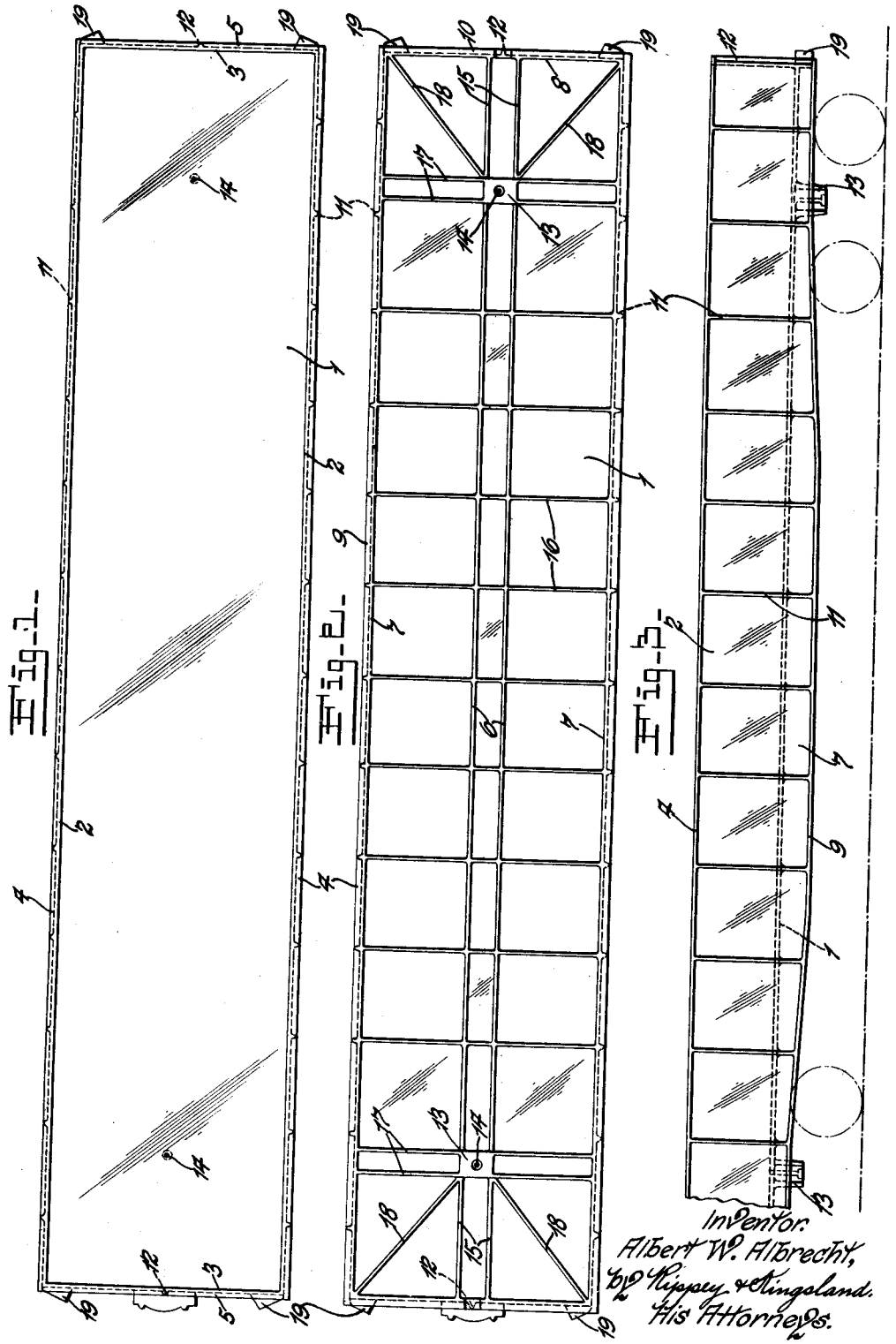


Fig. 1.

Fig. 2.

Fig. 4.

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CAST-METAL CAR BODY

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This invention relates to a cast-metal car body, and an object is to provide a car body comprising a unitary casting including a floor and side walls made of cast steel and its equivalent so as to dispense with the necessity of using rivets or bolts or other fasteners while at the same time the weight is not substantially increased but greater strength and durability is obtained.

Another object of the invention is to provide a car body of the type and embodying the construction mentioned and including means at the ends of the car body for supporting the coupling devices.

Other objects will appear from the following description, reference being made to the accompanying drawing in which

Fig. 1 is a top plan view of my improved car body.

Fig. 2 is an under side plan view of my improved car body.

Fig. 3 is a side elevation.

As shown in the accompanying drawing my improved car body including the side walls, the floor and the reinforcing and strengthening means is a unitary structure. The floor 1 has a smooth upper surface and is of less thickness than the usual floors of cars of this type which will be recognized as a car suitable for the transportation of coal and other materials and articles. The floor 1 is a unitary structure extending the full length and width of the car. From each longitudinal side edge of the floor 1 a wall 2 rises to the proper height, the same being integral with and forming an impervious connection with the side edges of the floor. Obviously, openings may be formed through the walls 2, if desired. The end walls 3 extend transversely across the ends of the floor 1 and have integral union with said floor and with the ends of the walls 2. Thus, the floor 1 and the walls 2 and 3 form an enclosure which is well adapted for use in transporting coal and other materials as well as manufactured articles. The upper edges of the walls 2 are strengthened by an outwardly extended rib or flange 4 and the upper edges of the walls 3 are strengthened by an outwardly extended transverse flange 5. The ends of the flanges 4 and 5 merge integrally at the corners of the car.

The frame 1 is strengthened by a pair of spaced longitudinal depending flanges 6 which are spaced equally from the sides of the car and the side edges of the car are strengthened by a pair of longitudinal depending flanges 7 extending from end to end of the car floor 1. The ends of the car are strengthened by transverse depending flanges 8, the ends of which merge integrally with the ends of the flanges 7. The flanges 7 and 8 are in vertical alinement with the walls 2 and 3 respectively. The flanges 7 are strengthened along their lower edges by outwardly extending ribs or flanges 9 and the flanges 8 are strengthened along their lower edges by outwardly extended transverse flanges 10, the ends of which merge integrally with the ends of the flanges 9. The side walls of the car are strengthened by vertical ribs or flanges 11 which are integral with said side walls and the upper and lower ends of which merge integrally with the flanges 4 and 9 respectively. Similarly, the end walls 3 are strengthened by vertical flanges 12 which are integral with said end walls and the upper and lower ends of which merge integrally with the flanges 5 and 10 respectively.

The ends of the flanges 6 are integrally united with depending bosses 13 having holes 14 to receive bolts or pins for connecting the car with the truck or supporting bolsters. The bosses 13 are solid and integral with the floor 1 and the connecting flanges 5 are arranged in such a relationship as to withstand longitudinal and torsional strains as well as to strengthen the floor to support the weight of the load.

From each boss 13 a pair of depending flanges 15 extend from integral connection with said bosses and in integral connection with the under side of the floor to integral connection with the flanges 8. The space between these flanges 15 is designed and adapted to receive and contain coupling devices for which the bosses 13 constitute abutments.

The floor of the car is further strengthened by a series of transverse depending flanges

16 having their ends integral with the walls 2 and extending the full width of the car floor and intersecting the flanges 6, as clearly shown in Fig. 2. The bosses 13 are integrally connected with the walls 2 by spaced flanges 17 extending from integral connection with the corners of said bosses to integral connection with the flanges 7. The corner portions of the car floor are strengthened by integral flanges 18 extending from integral connection with the corners of the bosses 13 to integral connection with the corners of the car floor.

The corners of the car body thus constructed are formed with integral bumper elements 19 to receive the shocks of colliding cars.

From the foregoing it is apparent that my improved car body is a unitary casting in the form of a box-like structure of not much greater weight, if any, than the usual cars having wood floors or wood side walls. The car body is much stronger and much more durable than cars made of assembled pieces and parts and may be manufactured with greater economy. Thus, many desirable results are obtained.

I am aware that the construction and arrangement may be varied within equivalent limits without departure from the nature and principle of the invention. I do not restrict myself unessentially but what I claim and desire to secure by Letters Patent is:—

1. A unitary cast-metal car body comprising a single casting including a floor, two integral longitudinal side walls rising from and extending throughout the length of said floor, end walls rising integrally from the ends of the floor and integrally connected with the ends of said side walls, integrally formed means on the under face of the floor adjacent to each end thereof for connecting the car body to the trucks, and means under the ends of said floor for receiving coupling devices.

2. A unitary cast-metal car body comprising a single casting including a floor, two integral longitudinal side walls rising from and extending throughout the length of said floor, end walls rising integrally from the ends of the floor and integrally connected with the ends of said side walls, means under the ends of said floor for receiving coupling devices, bosses integral with the under side of the floor forming abutments for coupling devices, and longitudinal flanges integral with the under side of the floor and with said bosses.

3. A unitary cast-metal car body comprising a single casting including a floor having a smooth upper surface, two integral longitudinal side walls rising from and extending throughout the length of said floor, end walls rising integrally from the ends of the floor and integrally connected with the ends of said side walls, means under the ends of said floor for receiving coupling devices, bosses integral with the under side of the floor forming abutments for coupling devices, longitudinal flanges integral with the under side of the floor and with said bosses, and transverse flanges under the floor intersecting said longitudinal flanges.

4. A unitary cast-metal car body comprising a single casting including a floor having a smooth upper surface, two integral longitudinal side walls rising from and extending throughout the length of said floor, end walls rising integrally from the ends of the floor and integrally connected with the ends of said side walls, means under the ends of said floor for receiving coupling devices, bosses integral with the under side of the floor forming abutments for coupling devices, longitudinal flanges integral with the under side of the floor and with said bosses, transverse flanges under the floor intersecting said longitudinal flanges, and depending side flanges integral with the side edges of the floor merging integrally with the ends of said transverse flanges.

5. A unitary cast-metal car body comprising a single casting including a floor having a smooth upper surface, side and end walls rising integrally from the floor and integrally united with each other at the corners of the car body, side and end flanges integral with and depending from the sides and ends of the floor in vertical alinement with said walls, reinforcing ribs integral with the outer sides of said flanges and said walls, longitudinal strengthening flanges integral with the under side of said floor, bosses integral with the ends of said longitudinal flanges, and means between said bosses and the ends of the car for confining coupling devices.

6. A unitary cast-metal car body comprising a single casting including a floor having a smooth upper surface, side and end walls rising integrally from the floor and integrally united with each other at the corners of the car body, side and end flanges integral with and depending from the sides and ends of the floor in vertical alinement with said walls, reinforcing ribs integral with the outer sides of said flanges and said walls, longitudinal strengthening flanges integral with the under side of said floor, bosses integral with the ends of said longitudinal flanges, means between said bosses and the ends of the car for confining coupling devices, and diagonal flanges extending from integral connection with said bosses to the corners of the car body.

7. A unitary cast-metal car body comprising a single casting including a floor extending the full length and width of the car body, side and end walls rising integrally from the floor and integrally united with each other at the corners of the car body, flanges inte-

grally united with and extending downwardly from the under side of the car body and extending longitudinally thereof, supporting bosses for the car body integral with the floor and with the ends of said flanges, and means between said bosses and the ends of the car body for supporting coupling devices.

8. A unitary cast-metal car body comprising a single casting including a floor extending the full length and width of the car body, side and end walls rising integrally from the floor and integrally united with each other at the corners of the car body, flanges integrally united with and extending downwardly from the under side of the car body and extending longitudinally thereof, supporting bosses for the car body integral with the floor and with the ends of said flanges, means between said bosses and the ends of the car body for supporting coupling devices, and reinforcing flanges extending from integral connection with said bosses to the side edges of the car body.

9. A unitary cast-metal car body comprising a single casting including a floor extending the full length and width of the car body, side and end walls rising integrally from the floor and integrally united with each other at the corners of the car body, flanges integrally united with and extending downwardly from the under side of the car body and extending longitudinally thereof, supporting bosses for the car body integral with the floor and with the ends of said flanges, means between said bosses and the ends of the car body for supporting coupling devices, reinforcing flanges extending from integral connection with said bosses to the side edges of the car body, and integral longitudinal flanges depending from the side edges of the car body.

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