Feb. 4, 1930. C. G. MAHANA 1,745,630

RAILWAY MOTOR CAR

Filed Jan. 3, 1927 3 Sheets-Sheet 1

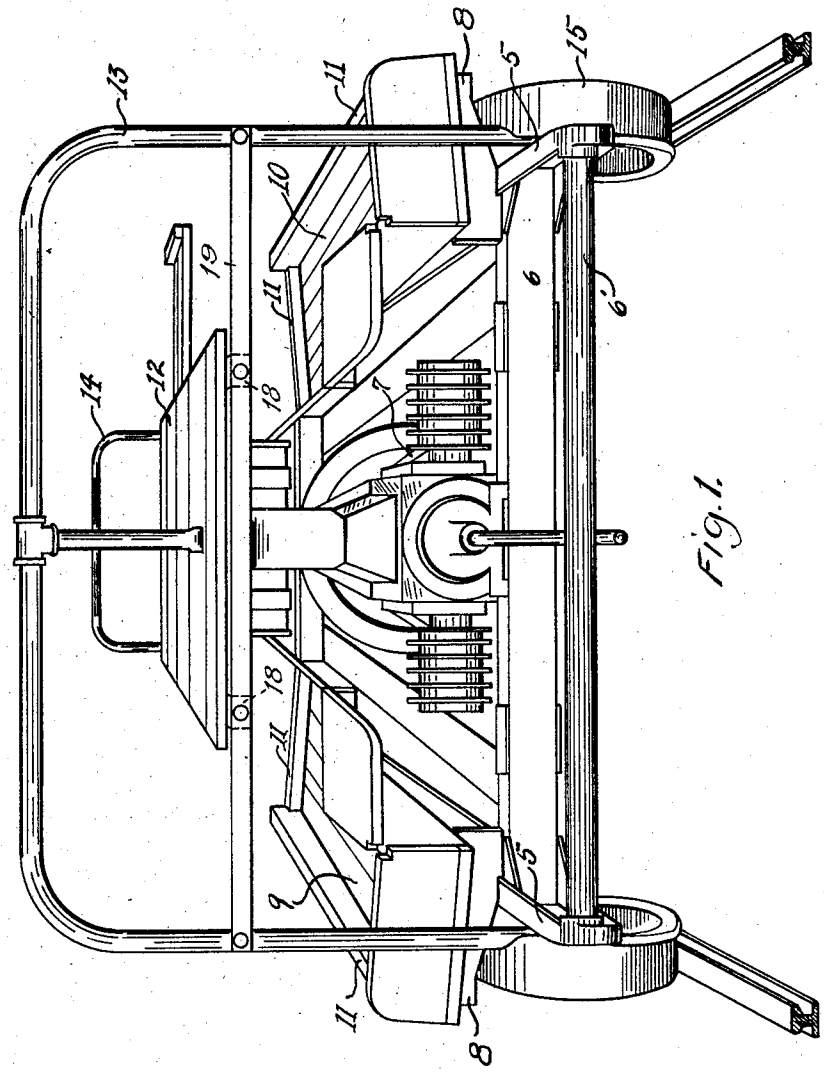


Fig. 1.

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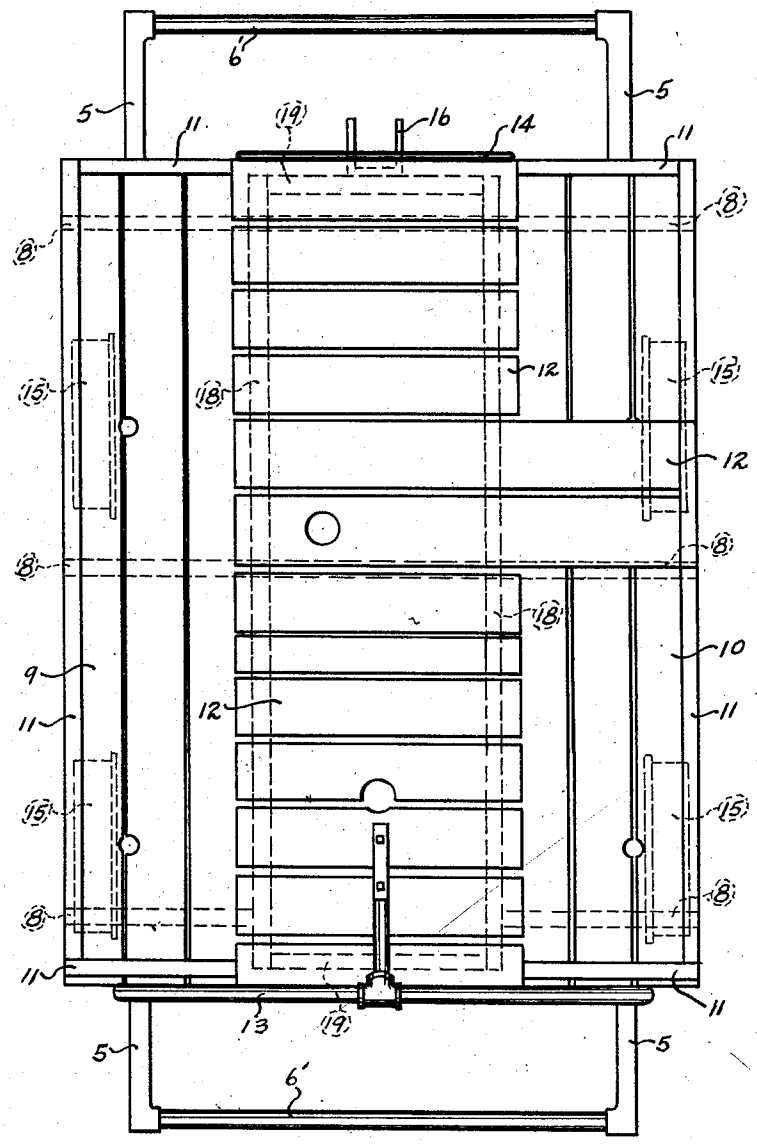


FIG. 2

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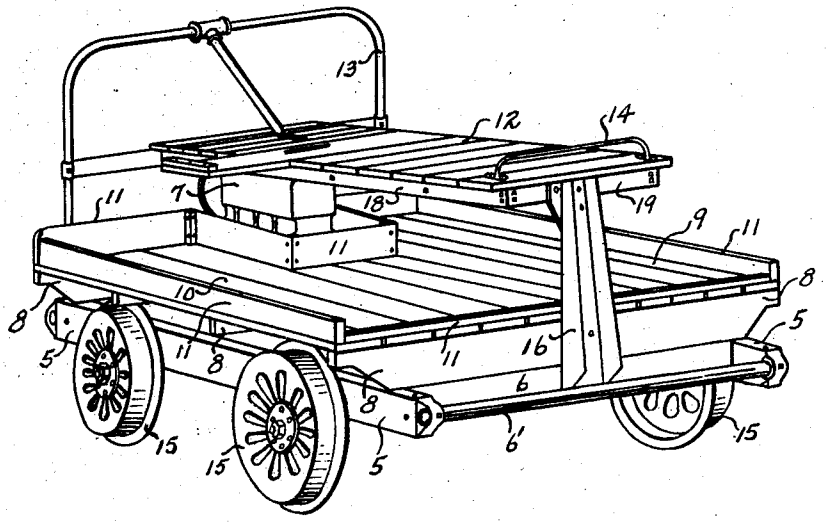


FIG. 3

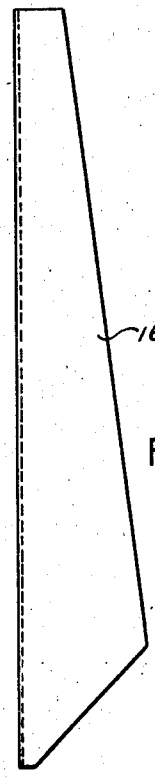


FIG. 4

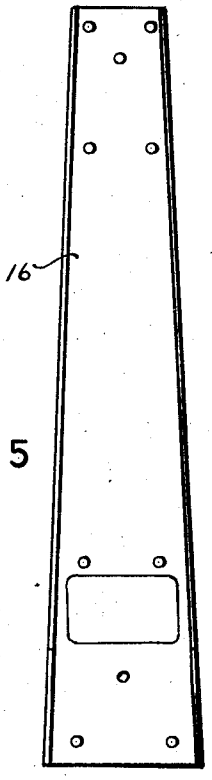


FIG. 5

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UNITED STATES PATENT OFFICE

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RAILWAY MOTOR CAR

Application filed January 3, 1927. Serial No. 158,605.

This invention relates to improvements in railway motor cars and more particularly to an improved deck arrangement and superstructure for railway section and inspection cars.

The object of this invention is the creation of a deck structure for a car of the described class which will embody the feature of protecting the feet and clothing of the occupants of the car, from the wheels and other moving parts of the vehicle.

A further object is to provide a deck structure which will afford much more than the usual deck area provided on railway motor cars, and which will serve the purpose usually accomplished by the use of separate wheel guards or toe-boards, and at the same time will provide a secure carrying place for tools and working equipment.

A further object of this invention is the provision of a railway motor car of the kind used by bridge maintenance gangs and section men of railway companies, which car is light in weight, of simple construction, safe to operate and simple and economical to manufacture.

Further objects and advantages of my invention will appear from the drawing and the following description thereof.

Although my invention consists largely in the construction and arrangement of parts hereinafter described and particularly pointed out in the claims, yet I do not limit my invention to the precise form or construction of parts shown or the several parts thereof, inasmuch as various alterations may be made without changing the scope of my invention.

Referring to the drawings, Fig. 1 shows a front elevation in perspective of a railway motor car embodying my invention; Fig. 2 is a plan view, illustrating the deck arrangement; Fig. 3 is a perspective view of a slightly modified form of motor car, showing additional details of the deck and seat construction; Fig. 4 and 5 are side and end elevations, respectively, of a preferred seat supporting member.

Referring by numerals to the drawings, 5 shows an approved location and arrangement of frame side members. The frame also includes transverse end members 6, the members 5 and 6 being preferably of pressed steel construction, and riveted together. These frame members may serve as supports for an engine 7, with related transmission equipment. In lieu of, or in conjunction with the members 6, a tubular end member 6′ may be disposed at one or both ends of the car to strengthen the frame, and serve as lifting handles and bumpers. The members 5 and 6, together with tubular members 6′, when used, constitute the underframe of the vehicle. It will be understood that members 6′ are not absolutely necessary to the described construction, but are preferred as a convenience for the purpose described. Preferably transversely to and above the members 5, are located one or more cross-sills 8. These cross-sills may be formed of wood or other suitable material and bolted, clamped or otherwise fixedly mounted above the frame side members 5. I greatly prefer that cross-sills 8 shall project at least as far as, and preferably beyond the outside of the wheels 15, so that the sills and decking, described below, will serve as a wheel guard, or toe-guard, as well as a car-deck. The prevailing practice is to form the wheel guards as separate attachments, disposed outwardly from, and above the deck hereinafter described. By employing the raised cross-sills 8, extending outwardly beyond the wheels, I have succeeded in combining the decks and wheel guards, and in increasing the available deck width. I have illustrated in Fig. 1, some of the cross-sills 8 as extending only a short distance across each side of the motor car frame. Obviously, I may extend all of the sills 8 completely across the frame of the car by locating the engine or prime mover 7 slightly above or below the position shown in Fig. 1, in which some of the sills 8 are shown as being fragmentary, merely because of the particular position which the engine occupies in the example shown. I prefer, when possible, to use two or more such sills, each of which shall extend from one side of the car clear through to the other. Preferably immediately above sills 8, transverse thereto and supported thereby, are the combined deck members and

wheel guards 9 and 10 on the right and left sides of the car, respectively. These decks serve as a floor for the car, as guards or toe-boards over the wheels, and as a space for carrying tools and equipment. These deck members are preferably provided with guards or raves near the sides and ends thereof, so as to provide an enclosure for the tools and track equipment ordinarily carried by cars of this sort. The deck raves are indicated at 11. The deck structures 9 and 10 are, by preference, slightly inclined to the horizontal, i. e., slightly inclined toward the center of the car. Where a continuous deck structure is employed, as in Fig. 3, the center portion of the deck may be horizontal, or the slope of structures 9 and 10 may be carried to the center of the car. Preferably above the deck structure referred to, I prefer to locate a seat or secondary deck 12. At 13, is shown a hand rail or grab iron near one end of the car. The grab iron 13 may include a cross bar, as shown, which in turn will suffice for a support for one end of the seat 12. The opposite end of the car is preferably provided with a grab iron 14, which may be riveted to the rear transverse end member 6, or secured to the seat 12, as shown. The rear end of seat 12 is by preference supported centrally, at one point, by a rigid support 16, for example a U shaped channel member riveted to the transverse end member 6. The seat 12 is built up on a pair or more of longitudinal seat sills 18, and transverse seat sills 19. The support 16 may be suitably secured to the rear sill 19, as by riveting. The seat sills 18 and 19 are of sufficient strength to withstand usual loads incident to their use, without requiring the usual intermediate and corner support posts. This arrangement provides an unusual amount of unobstructed deck space, and renders the entire deck space easily accessible and available for larger tools and other equipment of substantial size.

At 15 I have indicated the wheels of the car. These may be of the usual construction and, together with the frame members 5 and 6 and the engine 7, constitute the running gear of the car.

The advantages of the construction described above are thought to be apparent to those familiar with the manufacture and use of railway equipment of this sort. The prevailing practice is to provide a deck structure substantially less in width than the one described. For protection from the wheels and running gear of the car it is known to employ separate wheel guards or toe-boards which assume a variety of forms and which usually consist of separate pieces of sheet metal or a strip of wood extending laterally from the frame and secured thereto by means of brackets or angle bars. It may be seen that the construction herein described affords adequate protection for the occupants of the car from the wheels and other moving parts of the car without the use of accessories, guards, or attachments, this protection being afforded by the deck structure. The feature of inclining the wide deck toward the center and of employing the transverse cross-sills 8 and the decking 9 and 10 for the dual purpose of affording a greater deck area and serving the function of the present toe-boards, will tend toward economy in manufacture, simplicity in construction and greater utility of the vehicle.

What I claim is:

1. In a railway motor car, in combination with the running gear and frame, a combined deck and toe-board structure adapted to be supported by a common cross-member, and having a portion inclined toward the center of the car.

2. In a railway motor car, in combination with the car wheels and frame, a deck structure comprising cross-members extending laterally at least to the outside of said wheels and adapted to support the decking thereabove, portions of the cross-members and decking being inclined toward the center of the car.

3. In a railway motor car, in combination with the running gear and frame, a deck structure comprising cross-sills adapted to receive the decking, said sills extending laterally a distance sufficient to cover said running gear, a seat structure, and means for supporting the seat structure directly from the frame, independently of the deck structure.

4. In a railway motor car having a running gear and frame, a decking arrangement comprising cross-sills adapted to receive a primary decking substantially coextensive with the length of said car and which extends laterally at least coextensively with said running gear, a secondary deck or seat, and supports therefor, connected to the frame outside of the primary decking.

5. In a railway motor car in combination with the running gear and frame, a deck-structure having a portion of upward and outward trend, and adapted to serve as a toe-board, said portion extending laterally substantially to the outside of said running gear.

6. In a railway motor car in combination with the running gear and frame, a deck-structure having a portion adapted to serve as a toe-board and extending laterally substantially to the outside of said running gear, said portion of the deck-structure being at an angle to the plane of said frame.

7. In a railway motor car, in combination with the running gear and frame, a plurality of combined deck and toe-board units, each of said units being inclined inwardly and supported by cross-sills, above said frame.

8. In a railway motor car in combination

with the running gear and frame, a plurality of deck-structures adapted to serve as toe-boards longitudinally substantially coextensive with said frame and laterally at least coextensive with said running gear, said deck-structures being inclined transversely toward the center of said car.

9. In combination in a railway motor car, a running gear and a frame, a primary deck, the lateral extremities of which are adapted to serve as toe-boards, grab irons near one end of said car, and a secondary deck supported by said grab irons; said primary deck being supported by transverse cross-sills, inclined from each side toward the center of said car, said primary deck being provided with marginal raves.

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