July 18, 1939. D. S. MUNRO ET AL 2,166,475

STOCK CAR

Filed May 20, 1936 2 Sheets-Sheet 1

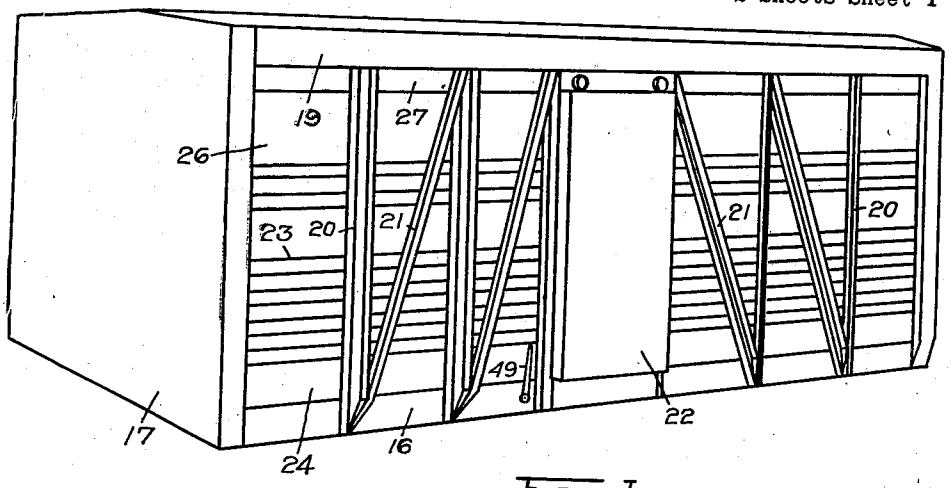


Fig 1

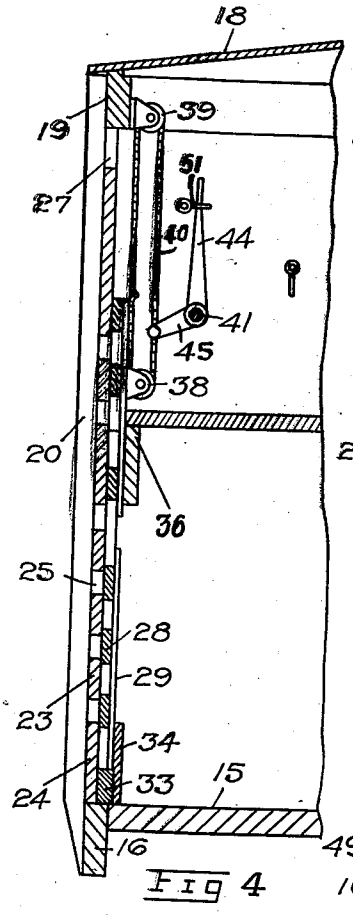


Fig 4

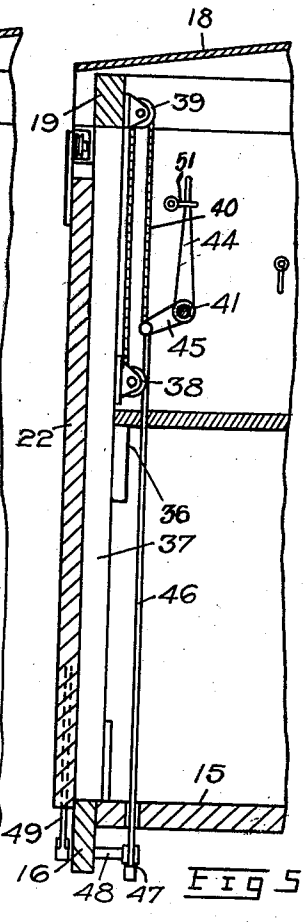


Fig 5

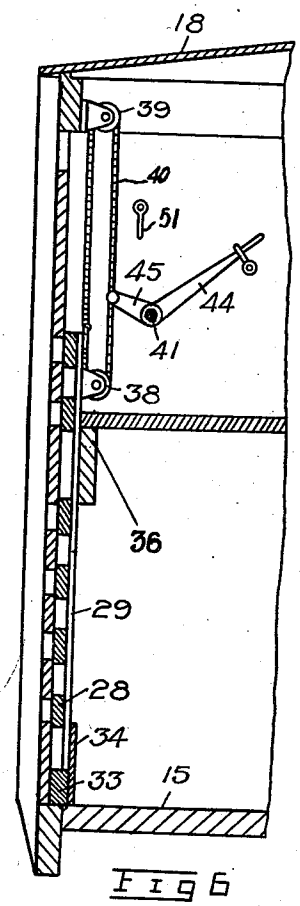


Fig 6

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STOCK CAR

Filed May 20, 1936 2 Sheets-Sheet 2

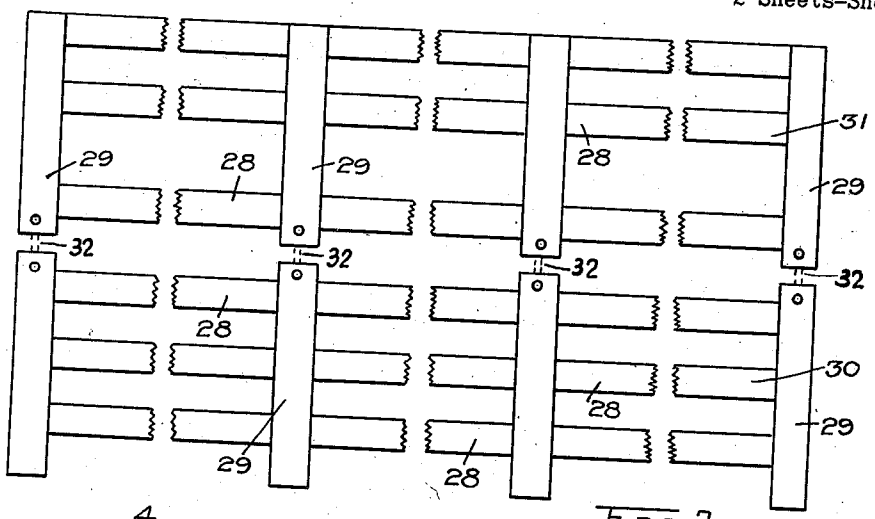


Fig. 2.

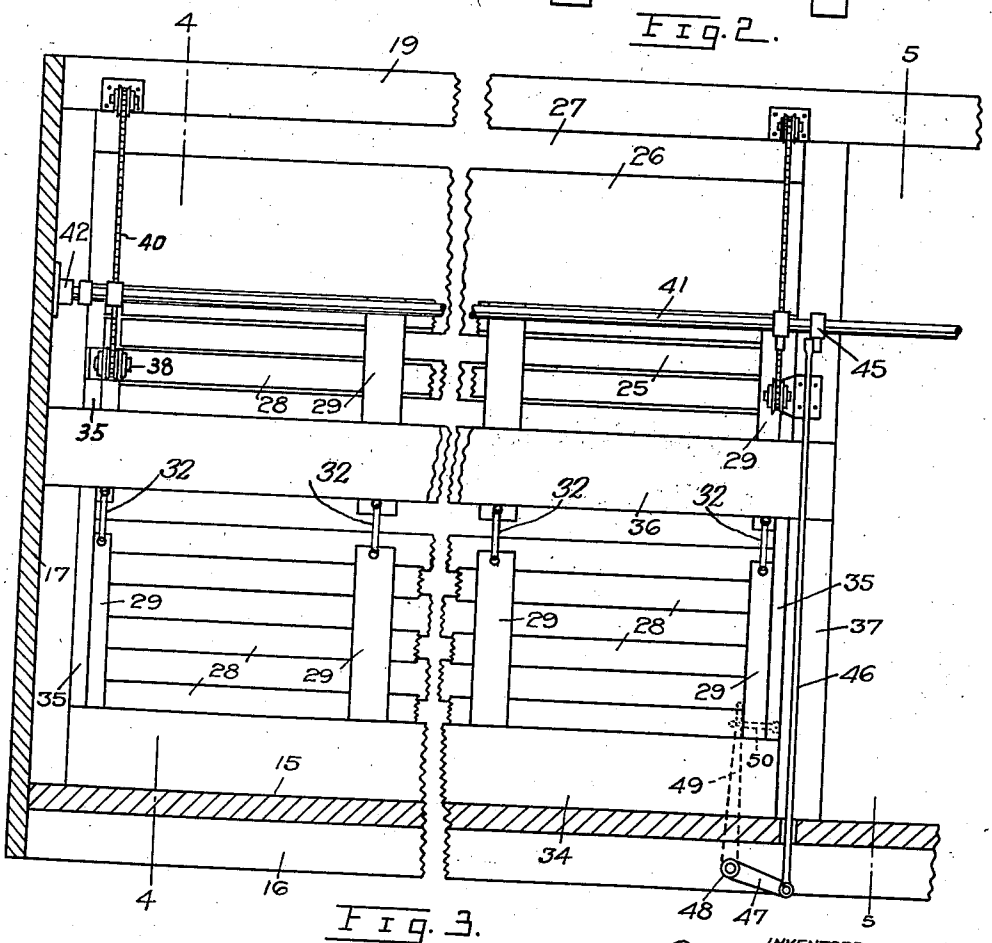


Fig. 3.

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UNITED STATES PATENT OFFICE

2,166,475

STOCK CAR

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Westmount, Quebec, Canada

Application May 20, 1936, Serial No. 80,804

2 Claims. (Cl. 119—8)

The invention relates to a stock car as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially of the novel features of construction pointed out broadly and specifically in the claims following a description containing an explanation in detail of an acceptable form of the invention.

The objects of the invention are to insure comfort for cattle, horses and other animals large or small, in transit by railway during all weathers, thereby avoiding inhumane treatment of the stock, and incidentally saving heavy depreciation thereof as well as death and disease and the consequent property loss; to enable the attendants to give constant care notwithstanding the sudden and severe changes in temperature due to varying climate conditions during comparatively long journeys extending over many differently situated sections of country, to furnish selective ventilation high and low or to one side or the other, depending on weather conditions and the type of stock being carried, to furnish operating gear which will be protected from the weather and from damage and which can be operated from many different locations inside and outside; to furnish a car which can readily be converted for carrying different types of stock while retaining the necessary ventilation, and generally to provide a stock car which will give the greatest protection and comfort and at the same time provide efficient and economical transportation.

Referring to the drawings,

Figure 1 is a perspective view of a stock car showing the ventilating openings.

Figure 2 is an elevational view of the upper and lower shutter members.

Figure 3 is a longitudinal sectional view of one half of a stock car showing the inside and outside shutter operating mechanism.

Figure 4 is a vertical sectional view of one of the side walls of the car on the line 4—4 of Figure 3 showing the shutter members disconnected with the lower ventilating slots closed and the upper slots open.

Figure 5 is a view similar to Figure 4 on the line 5—5 of Figure 3.

Figure 6 is a view similar to Figure 4 with the shutter members connected and in the closed position.

Like numerals of reference indicate corresponding parts in the various figures.

The frame of the car consisting of the floor 15 supported on the side rails 16 and the end walls 17 is according to modern construction of stock cars, and supports the roof 18 through the top rail members 19.

Intermediate vertical brace members 20 and 21 support the frame throughout its length, while doors 22 provide an entrance to the car on each side at the center.

A series of longitudinal slats 23 spaced above the base board 24 provide ventilating spaces 25, while at the top broad slat 26 is spaced down from the top of the car to provide the permanent ventilator opening 27.

This represents standard construction of cars of this type and it is from now on that I proceed to describe the particular features of my invention.

Shutter forms comprising longitudinal slats 28 are mounted on the vertical standards 29 and are made in two sections 30 and 31, which can be joined together or separated by means of the attachment 32 which is here shown in the form of a bolt joining the abutting ends of the vertical standards 29.

A block 33 and box board 34 provide a recess and guide for the lower section 30, while the ends of the sections are held in place by the guide bars 35.

The bull bar 36 which is rigidly mounted between the door post 37 and the end wall of the car provides a guide for the upper section 31 which also slides behind the guide bars 35.

The spacing of the slats 29 on the lower section 30 is arranged to cover the lower slots 25 except the one immediately below the bull bar 36, this particular slot and the ones between the bull bar and the slot 26 are shut off when the upper section 31 of the shutter is lowered.

Operating mechanism for controlling the shutter forms is provided, operable from both inside and outside the car, and consists of chain and pulley gear at the ends of the forms. The pulleys 38 are mounted on brackets on the door post at one end, while the pulleys 39 are mounted on brackets on the top rail 19 in vertical alignment with the lower pulleys 38.

A chain 40 is led over these pulleys 38 and 39 and has its ends secured to the top of the vertical standard 29 of the upper section 31.

A bar 41 extends the full length of the car and is rotatably mounted in the end bearing brackets 42 and can be suitably supported throughout its length. Levers 43 are keyed to the bar 41 and are secured at their other ends to the chains 40 in any suitable manner, and extend into operating hand levers 44.

In the length of the car there are therefore four sets of operating mechanism, one on either side of the door and one at each end of the car, and this arrangement is duplicated in the opposite side of the car.

The inside operating mechanism consists of a crank lever **45** rigidly secured on the bar **41** adjacent the door of the car and connects with a rod **46** extending downwards through an opening in the floor **15** of the car, to connect with the crank lever **47** mounted on the end of the stub shaft **48** journalled in the side rail **16**. A hand lever **49** is mounted on the stub shaft **48** outside the side rail **16**. This inside operating mechanism is also duplicated on the other side of the car, and being centrally placed with respect to the length of the car ensures efficient operation of the shutter forms.

Suitable latches or hooks **50** are provided on the car frame to hold the lever **49** in its set position, and similar latches or hooks **51** hold the levers **44**.

In the operation of this invention the upper and lower sections of the shutter form are connected or disconnected depending on the amount of ventilation required, so that all of the ventilatory slots **25** can be closed or opened at one time when the two sections are connected, or when the sections are disconnected, the lower section **30** rests on top of the block **33** and the slats **28** close the lower three openings **25**, as shown in Figure 4 of the drawings, while the upper section **31** can be raised or lowered by the operating mechanism to close or open the remaining slots **25**.

The chain and lever operating mechanism is positive in its action and is thoroughly protected from the effects of weather, while it is quite out of the way of the cattle, and is more or less out of reach against casual or accidental movement of the levers.

The outside operating mechanism is direct, with no loose parts to wear out or become affected by the weather.

With this device it is possible to have ample ventilation, as should the lower section become frozen in or be clogged by dirt, it is always possible to open the upper slots as they are above the point of being affected by weather or dirt, and together with the slot **27** which is always open, give a large degree of ventilation.

Where cars are equipped with a platform for carrying hogs or such smaller animals, there can always be ventilation of the first level as the platform is set in at the level of the bull bar and the slot immediately below is controlled by the upper section **31** of the shutter.

Where deemed necessary the operating mechanism can be encased for further protection and while a chain and pulley method of operating the shutter sections is shown the applicants do not limit themselves of this particular construction and wires or rods may be substituted.

What we claim is:

1. In a stock car, a box frame mounted on a suitable running gear and having slotted sides and entrances and exits, a bull bar at approximately midway of the height of the car and forming a base for a platform, an upper slotted frame mounted in ways and adapted to cover the slots of the side above and immediately below the said bull bar, and a lower slotted frame set in the way below said upper frame and adapted to be connected thereto, and operating means connected to the upper frame and adapted to slide the same independent of the lower frame.

2. In a stock car, a box frame mounted on a suitable running gear and having slotted sides and entrances and exits, guideways mounted on said box frame, upper and lower slotted frames sliding in said guideways and forming temporary closures, an operating mechanism comprising vertically spaced pulleys, endless chains trained on said pulleys and fixedly connected to the upper slotted frame, a bar extending the length of the car and rotatively mounted and cranks mounted on said bar opposite each of said chains and permanently secured thereto on one side, and means to connect the lower frame to the upper frame.

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