Dec. 27, 1966 S. H. ENOCHIAN 3,294,035

MULTI-PURPOSE RAILWAY CARS OF THE PIGGYBACK TYPE INCORPORATING IMPROVED HAND BRAKE MECHANISMS

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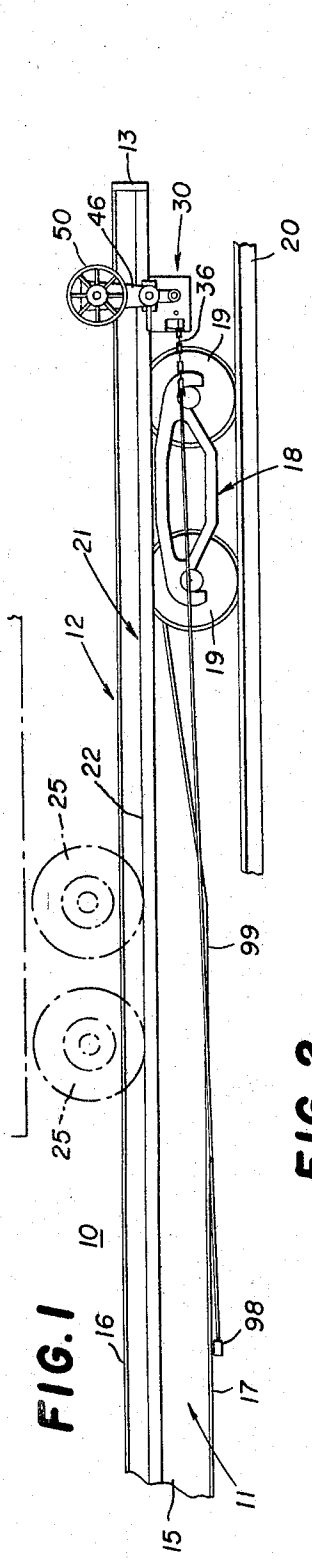


FIG. 1

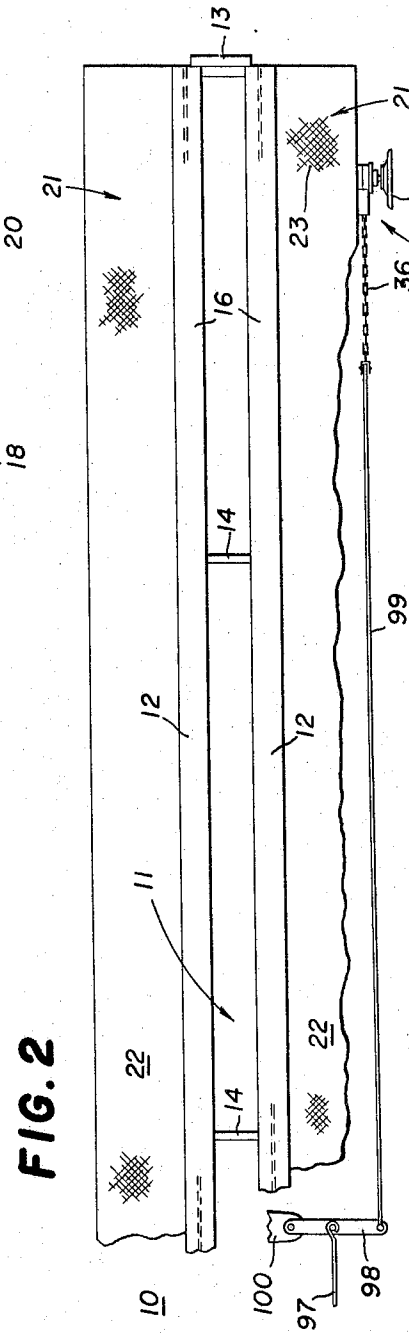


FIG. 2

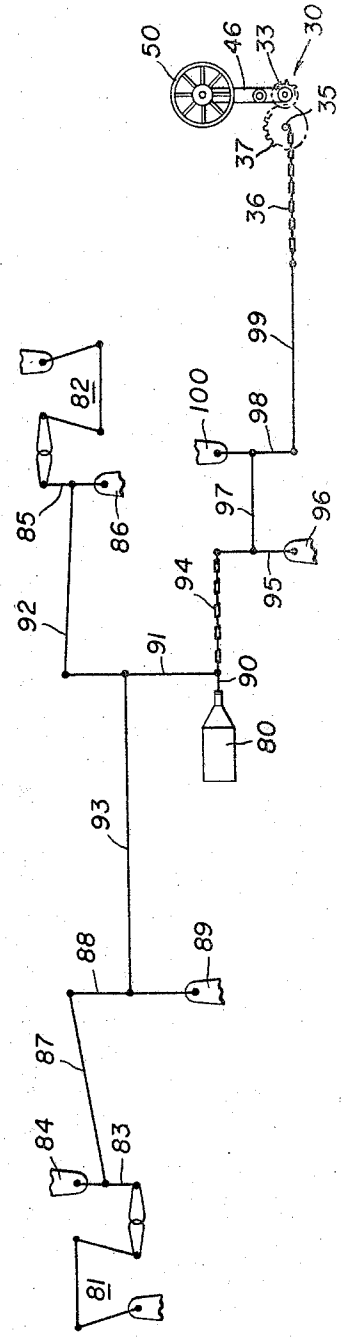


FIG. 3

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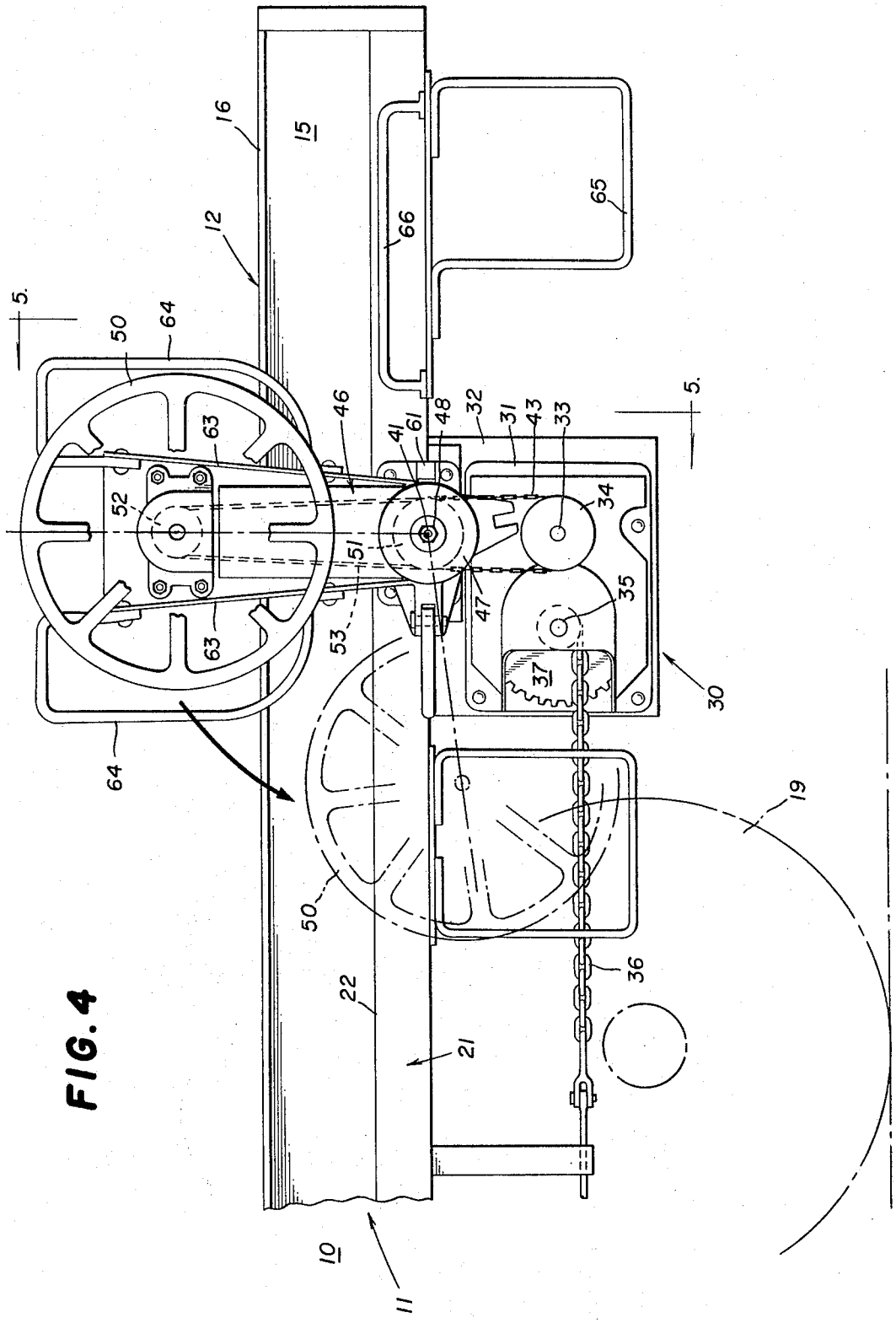
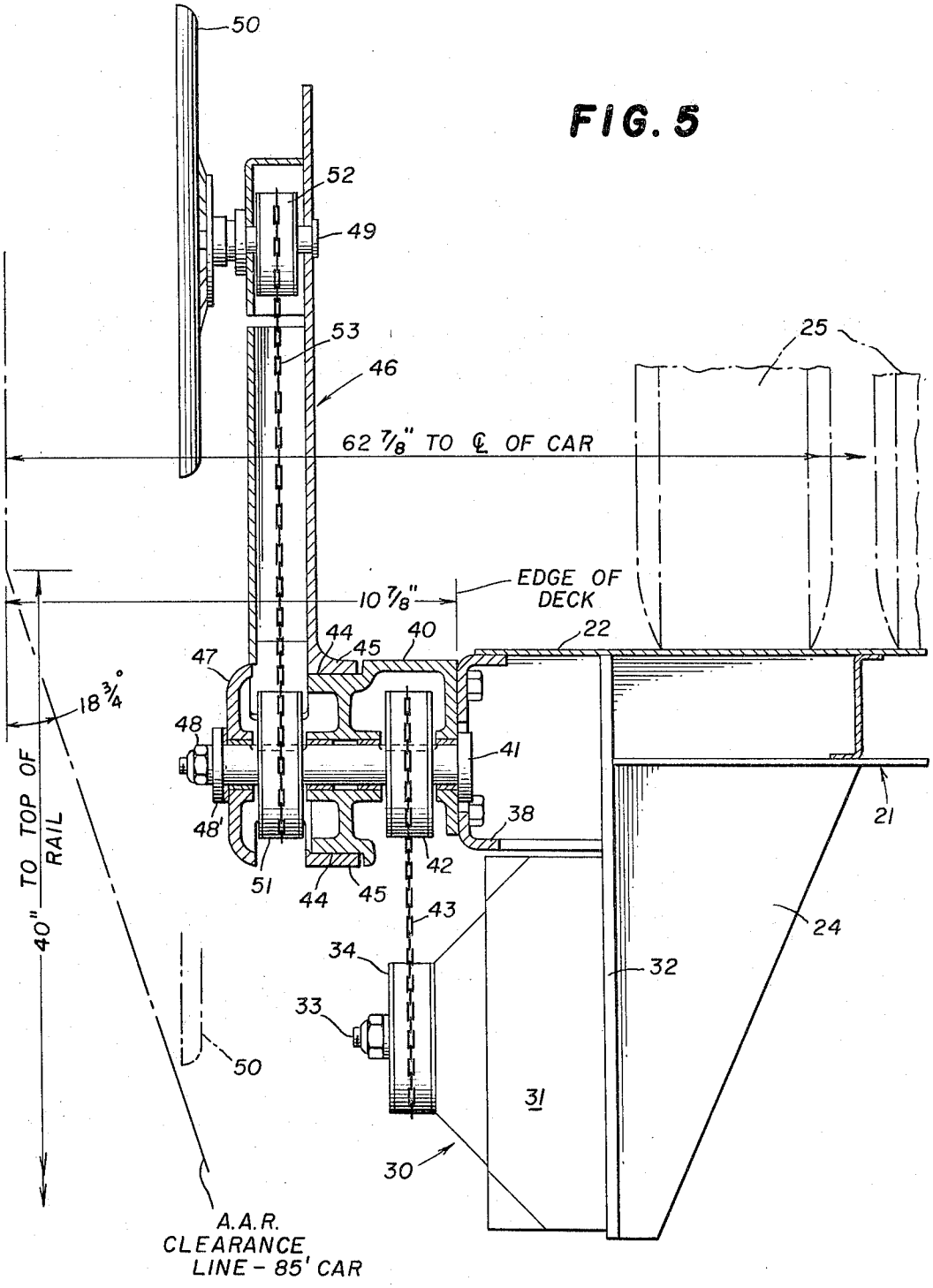


FIG. 4

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FIG. 5



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FIG. 6

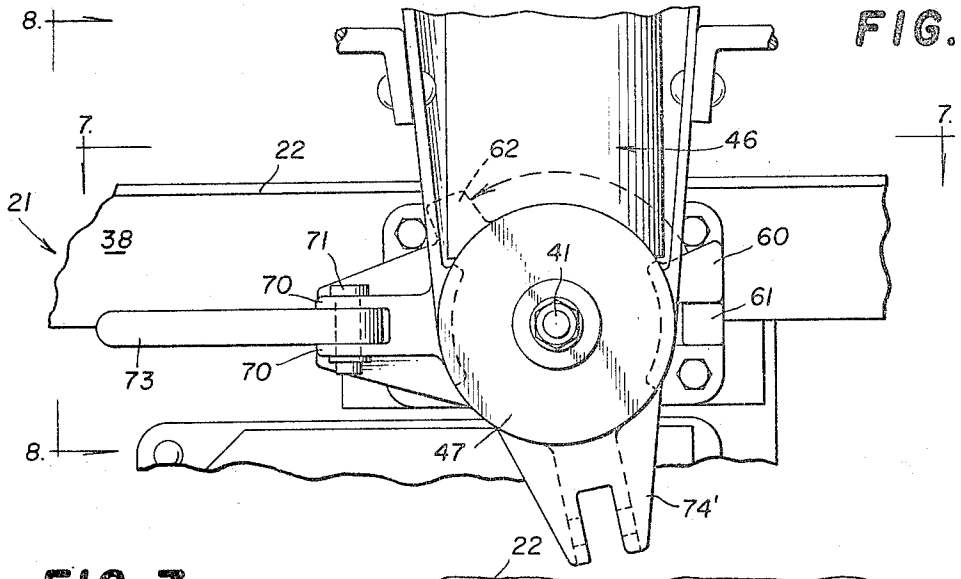


FIG. 7

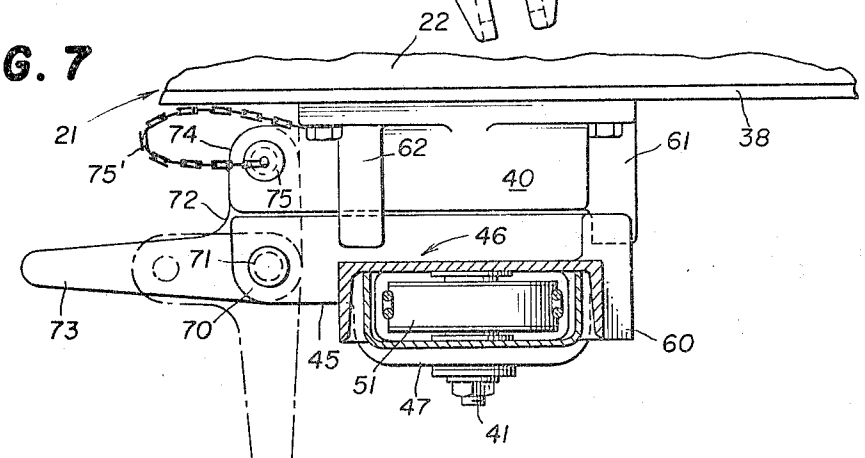
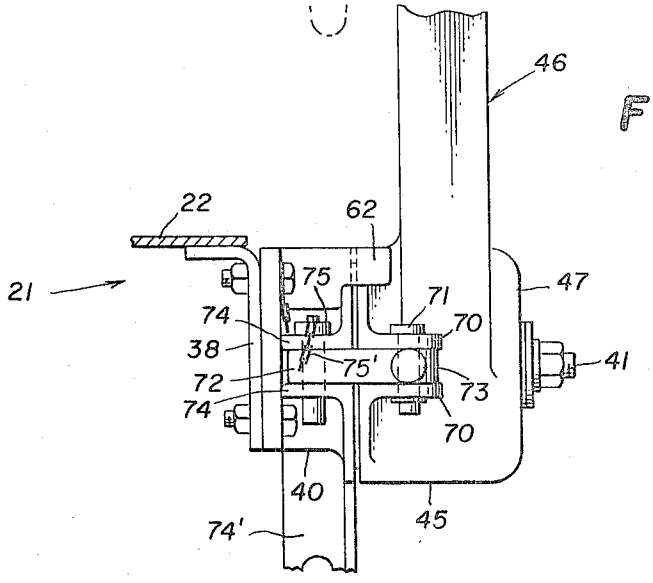


FIG. 8



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FIG. 9

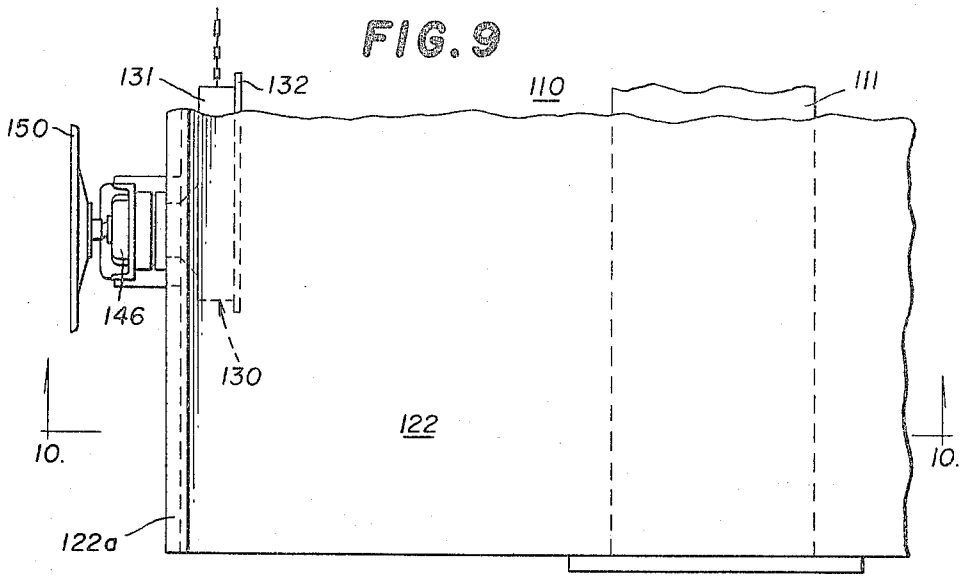


FIG. 10

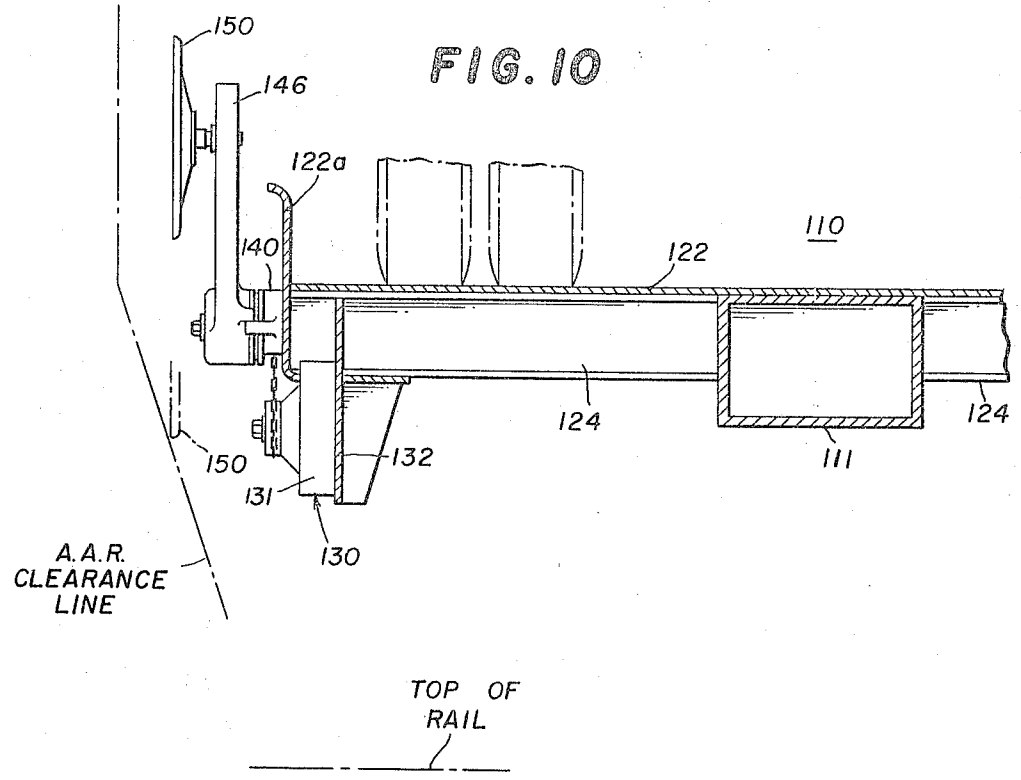


FIG. 11

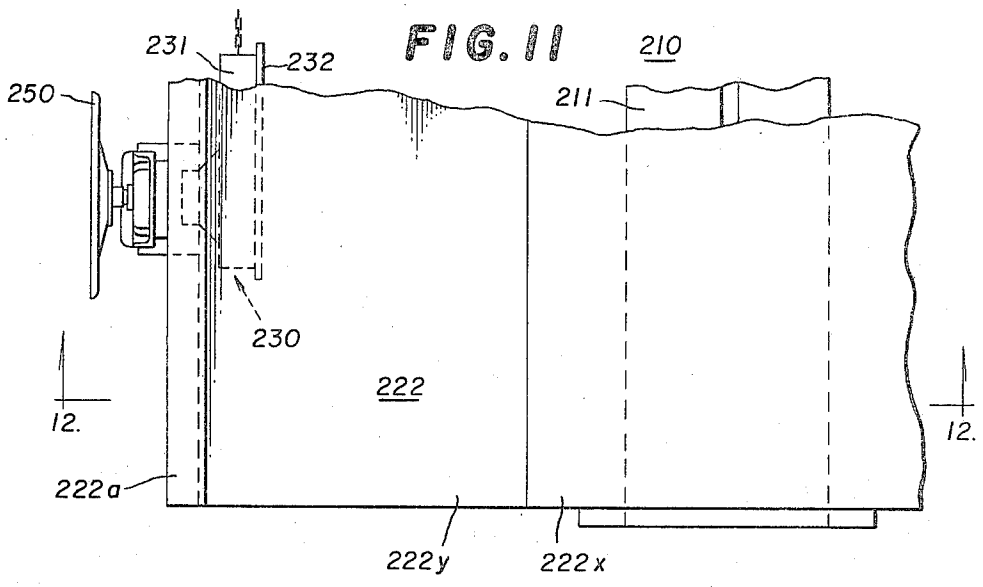
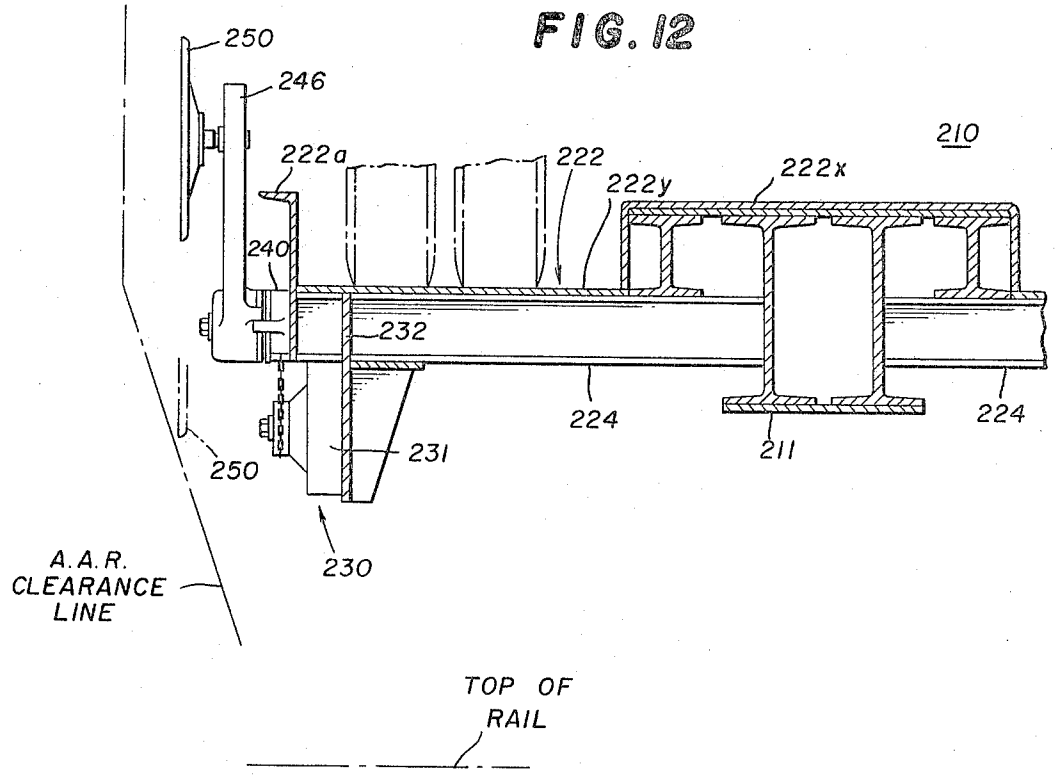

231
232
210
250
211
230
222
12.
12.
222a
222y
222x

FIG. 12


250
246
210
222a
222
222y
222x
240
232
224
224
211
250
231
230
A.A.R.
CLEARANCE
LINE
TOP OF
RAIL

United States Patent Office 3,294,035
Patented Dec. 27, 1966

3,294,035

MULTI-PURPOSE RAILWAY CARS OF THE PIGGY-BACK TYPE INCORPORATING IMPROVED HAND BRAKE MECHANISMS

Samuel H. Enochian, Thornton, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Feb. 1, 1965, Ser. No. 429,493
14 Claims. (Cl. 105—368)

The present invention relates to multi-purpose railway cars of the piggyback type, and more particularly to such railway cars incorporating an improved arrangement and disposition of the hand brake mechanisms thereof, so as to prevent interference by the hand brake mechanisms with various loading and unloading operations employed in conjunction with the railway cars.

In U.S. Patent No. 3,143,978, granted on August 11, 1964, to Deodat Clejan, there is disclosed a railway car of the piggyback type that comprises an elongated longitudinally extending narrow beam having a length between the opposite ends thereof in excess of about 85 feet, a pair of wheeled trucks respectively supporting the opposite end of the beam, and a pair of elongated longitudinally extending and laterally spaced-apart treadways respectively carried by the opposite sides of the beam. The top of the beam defines an elongated longitudinally extending centrally disposed substantially horizontal narrow platform; and the pair of treadways are positioned in a substantially horizontal plane located below the top of the platform. The platform is adapted to support two freight containers mounted in tandem relation on top of the beam; and the pair of treadways are adapted respectively to support the laterally spaced-apart road wheels of each of two road semi-trailers mounted in tandem relation on top of the beam. The longitudinal distance between the opposite ends of the platform is at least 85 feet and the lateral distance between the opposite outer sides of the platform is about 40 inches. The longitudinal distance between the opposite ends of each of the treadways is at least about 85 feet; the lateral distance between the opposite outer sides of the treadways is at least about 100 inches; and the vertical distance between the top of the platform and the plane of the top of the treadways disposed therebelow is not substantially greater than about 8 inches so as to prevent interference by the platform with the underframe of a road semi-trailer mounted on top of the beam.

In the use of this railway car, the road semi-trailers and the containers are both loaded and unloaded with respect to the top of the beam by a variety of freight handling systems involving end-handling, side-handling and overhead-handling; whereby, heretofore, no really satisfactory location has been found for the hand brake mechanism for controlling the braking mechanisms respectively incorporated in the wheeled trucks respectively supporting the opposite ends of the beam, so that the hand brake mechanism does not seriously interfere with the loading and unloading operations involved in one of the freight handling systems mentioned.

Accordingly, it is a general object of the invention to provide in a railway car of the piggyback type, an improved disposition and arrangement of the hand brake mechanism, wherein it is convenient and readily accessible, wherein the same does not interfere in any way with loading and unloading operations involved in any of the known systems of freight-handling, and wherein the same is within the A.A.R. clearance line for the car.

Another object of the invention is to provide an arrangement of the hand brake mechanism of the character described, wherein the same is carried by one side of the

frame of the railway car adjacent to one end thereof and disposed below the adjacent side of the deck of the railway car and positioned laterally inwardly of the adjacent outer side of the deck, wherein the hand brake mechanism includes a manually operable hand wheel projecting laterally outwardly therefrom and positioned closely adjacent to and laterally outwardly of the adjacent outer side of the deck, and whereby the hand wheel may be readily operated by a brakeman either from a position on top of the adjacent side of the deck or from a position on the ground.

A further object of the invention is to provide an arrangement of the hand brake mechanism of the character described, wherein all of the elements of the railway car and all of the parts carried by the frame thereof, and including the hand wheel, are arranged laterally inwardly, so that no one of them projects beyond the A.A.R. clearance line for the railway car, notwithstanding the great width of the deck of the railway car.

A still further object of the invention is to provide a multi-purpose railway car of the piggyback type that is adapted to transport simultaneously two road semi-trailers, or two freight containers, or one road semi-trailer and one freight container, and comprising an improved arrangement and location of the hand brake mechanism, so as to prevent any interference whatsoever with loading and unloading operations involved in any known freight-handling system that may be used in conjunction with the railway car.

Yet another object of the invention is to provide in a railway car of the piggyback type, an improved arrangement for selectively controlling the brake mechanisms that comprises brake rigging carried by the railway car frame for simultaneously controlling the brake mechanisms respectively incorporated in the trucks, brake actuating mechanism carried by one side of the frame adjacent to one end thereof and disposed below the adjacent one of the treadways and positioned laterally inwardly of the adjacent outer side of the one treadway, the brake actuating mechanism including a rotatably mounted operating shaft operatively connected to the brake rigging, a jack shaft carried by the one side of the frame and mounted thereupon for rotation about its own axis, the jack shaft being positioned adjacent to the brake actuating mechanism and disposed below the one treadway and operatively connected to the operating shaft, a mast carried by the one side of the frame laterally outwardly of the one treadway and mounted adjacent to the inner end thereof for movement about the jack shaft between a generally horizontal retracted position and a generally vertical projected position, the outer end of the mast being disposed adjacent to the top of the one treadway when the mast occupies its retracted position and the outer end of the mast being disposed well above the top of the one treadway when the mast occupies its projected position, a manually operable hand wheel carried by the outer end of the mast and mounted thereupon for rotation about its own axis and also movable with the mast between its retracted and projected positions, the hand wheel being arranged so that the top thereof does not project upwardly any substantial distance above the top of the one treadway when the mast occupies its retracted position, whereby the hand wheel when it occupies its retracted position is in non-interfering relation with respect to loading and unloading of the road semi-trailers and the freight containers with respect to the top of the frame, and an operative connection between the hand wheel and the jack shaft; and wherein all of the elements of the car and all of the parts carried by the frame, and including the hand wheel, are arranged laterally inwardly so that

no one of them projects laterally outwardly beyond the A.A.R. clearance line for the car.

Further features of the invention pertain to the particular arrangement of the elements of the railway car, whereby the above-outlined and additional operating features thereof are attained.

The invention, both as to its organization and method of operation, together with further objects and advantages thereof, will best be understood by reference to the following specification, taken in connection with the accompanying drawings, in which:

FIGURE 1 is a fragmentary side elevational view of a railway car of the piggyback type incorporating an arrangement and location of hand brake mechanism embodying the present invention;

FIG. 2 is a fragmentary plan view, partly broken away, of the railway car, as shown in FIG. 1;

FIG. 3 is a diagrammatic illustration of the brake rigging and the hand brake mechanism that are incorporated in the railway car, as shown in FIGS. 1 and 2;

FIG. 4 is an enlarged side elevational view of one end of the railway car, as shown in FIG. 1;

FIG. 5 is a greatly enlarged lateral vertical sectional view of one outer side of the railway car, this view being taken in the direction of the arrows along the line 5—5 in FIG. 4;

FIG. 6 is a greatly enlarged fragmentary side elevational view of the lower portion of the mast and the locking mechanism therefor that are incorporated in the hand brake mechanism;

FIG. 7 is a greatly enlarged fragmentary horizontal sectional view of the lower portion of the mast and the locking mechanism, this view being taken in the direction of the arrows along the line 7—7 in FIG. 6;

FIG. 8 is a greatly enlarged fragmentary end elevational view of the lower portion of the mast and the locking mechanism, this view being taken in the direction of the arrows along the line 8—8 in FIG. 6;

FIG. 9 is a fragmentary plan view of a modified form of the railway car;

FIG. 10 is a fragmentary lateral vertical sectional view of the railway car, this view being taken in the direction of the arrows along the line 10—10 in FIG. 9;

FIG. 11 is a fragmentary plan view of another modified form of the railway car; and

FIG. 12 is a fragmentary lateral vertical sectional view of the railway car, this view being taken in the direction of the arrows along the line 12—12 in FIG. 11.

Referring now to FIGS. 1 and 2 of the drawings, the railway car **10** there illustrated, and embodying the features of the present invention, is preferably of the general construction and arrangement of that disclosed in the previously mentioned patent of Deodat Clejan; whereby the railway car **10** is of the multi-purpose piggyback type that is adapted to transport two road semi-trailers mounted in tandem relation on the top thereof, or two freight containers mounted in tandem relation on the top thereof, or one road semi-trailer and one freight container mounted in tandem relation on the top thereof; which freight items may be loaded and unloaded from either end of the car **10** or from either side of the car **10** or from overhead of the car **10** employing a gantry crane, or the like; which freight-handling systems are well known and are not here particularly described in the interest of brevity.

Specifically, the railway car **10** essentially comprises an elongated longitudinally extending narrow beam **11** constituting a center sill, and including a pair of I-beams **12** extending longitudinally and arranged in laterally spaced-apart relation; the opposite ends of the I-beams **12** are tied together with a pair of striker plates **13**; and the intermediate portions of the I-beams **12** are tied together by a plurality of laterally extending and longitudinally spaced-apart tie plates **14** arranged in upstanding positions. The beam **11** has a length between the opposite ends thereof in excess of 85 feet and a width between the opposite sides thereof of about 40 inches As best shown in FIGS. 1 and 4, each of the I-beams **12** includes an upstanding web **15** and top and bottom flanges **16** and **17**; and the top flanges **16** are arranged in a substantially horizontal upper plane to define a corresponding platform on the top of the beam **11**. The opposite ends of the beam **11** are supported by two wheeled trucks **18**; and the beam **11** is of fish-belly configuration, as best shown in FIG. 1. Each of the trucks **18** is of conventional construction, including track wheels **19** engaging the rails **20** of a cooperating railway track, as indicated in FIG. 1; and each of the trucks **18** incorporates the usual brake mechanism, not shown, including brake shoes cooperating with the individual track wheels **19**. The trucks **18** are of standard rail gauge; whereby the beam **11** is located entirely between the planes of the inner sides of the track wheels **19**, as indicated in FIG. 2.

The opposite sides of the beam **12** carry a pair of elongated longitudinally extending and laterally spaced-apart box-like structures **21**, each including a top plate **22** constituting a treadway, the upper surface of which is provided with non-skid beads or formations, as indicated at **23** in FIG. 2. As best shown in FIG. 5, each of the structures **21** is suitably internally reinforced, so that it is of strong rigid construction. The pair of structures **21** are suitably supported upon a number of pairs of laterally extending side arms **24** carried by the opposite sides of the beam **12** and arranged in longitudinally spaced-apart relation. In the arrangement, the pair of treadways **22** are disposed in a substantially horizontally disposed lower plane and constitute a composite deck for the railway car. Each of the structures **21** has a length of at least about 85 feet; the lateral distance between the opposite outer sides of the treadways **22** is at least about 100 inches; the inner sides of the treadways **22** are disposed substantially below the outer side edges of the top flanges **16** of the adjacent I-beams **12**; and the vertical distance between the upper plane of the tops of the top flanges **16** and the lower plane of the tops of the treadways **22** is about 8 inches.

The platform defined by the top flanges **16** of the I-beams **12** is adapted directly to engage and to support the bottom surfaces of the two freight containers that may be mounted in tandem relation on top of the beam **11**; and the treadways **22** are adapted to engage and to support the laterally spaced-apart road wheels, indicated at **25** in FIGS. 1 and 5, of each of the two road semi-trailers that may be mounted in tandem relation on top of the beam **11**. Also the beam **11** comprises first hitch facility for securing in place the individual road semi-trailers, and second hitch facility for securing in place the individual freight containers, and cushioning facility for preventing the transmission of severe longitudinal shocks from the beam **11** to the individual hitch facilities; which equipment forms no part of the present invention and has not been illustrated in the interest of brevity; however, such equipment is fully disclosed in the previously mentioned Clejan patent and is hereby incorporated herein by reference for purposes of completeness.

Further, the railway car **10** comprises brake actuating mechanism **30** of conventional construction and arrangement, and preferably of Equipco Type 375OD, a non-spin type of brake actuating mechanism; which mechanism **30** is arranged and located in accordance with the present invention. Specifically the brake actuating mechanism **30** is carried by one side of the beam **11** adjacent to one end thereof and disposed below the adjacent one of the treadways **22** and positioned laterally inwardly of the adjacent outer side of the one treadway **22**, as shown in FIGS. 1, 2, 4 and 5. More particularly, the mechanism **30** is located about 3 feet from the adjacent one

end of the beam **11**, as shown in FIGS. 1, 2 and 4; and as illustrated in FIG. 5, the casing **31** of the mechanism **30** is directly secured to a mounting plate **32** that is directly secured in place to the adjacent structure **21**. Specifically, in order to conserve space, the mounting plate **32** projects both upwardly into the adjacent hollow structure **21** and downwardly therebelow; the casing **31** of the mechanism **30** is directly secured to the outer side of the mounting plate **32**; and the top of the casing **31** is positioned somewhat below the adjacent plate constituting the treadway **22**. As best shown in FIG. 4, the mechanism **30** comprises a rotatably mounted operating shaft **33** that has a chain pulley **34** rigidly secured thereto, a rotatably mounted arbour **35** operatively connected to a pull chain **36**, and gearing **37** operatively interconnecting the operating shaft **33** and the arbour **35**.

Referring now to FIGS. 4 and 5, a mounting bracket **38** is secured to the side of the adjacent structure **21** and to the mounting plate **32** directly above the mechanism **30**; which mounting bracket **38** supports a housing **40** in which there is rotatably mounted a laterally extending jack shaft **41**. A chain pulley **42** is rigidly secured to the inner portion of the jack shaft **41** adjacent to the outer side of the mounting bracket **38**; and the two chain pulleys **34** and **42** are operatively interconnected by an endless chain **43**. The outer end of the housing **40** terminates in a cylindrical bearing member **44** disposed in concentric relation and in surrounding position with the intermediate portion of the jack shaft **41**; which bearing member **44** supports a surrounding bearing strap **45** constituting the inner end of a hollow mast **46**. The extreme outer end of the housing **40** terminates in an end wall **47** through which the extreme outer end of the jack shaft **41** projects. The jack shaft **41** is clamped in position within the housing **40** by a clamping collar **48'** disposed in engagement with the outer side of the end wall **47** and a cooperating nut **48** carried on the extreme outer threaded end of the jack shaft **41**.

The mast **46** is rotatable between a projected position, as shown in FIG. 5 and as shown in full lines in FIG. 4, and a retracted position, as shown in broken lines in FIG. 4, since the bearing strap **45** is readily rotatable about the outer cylindrical surface of the bearing member **44**; all for a purpose more fully explained below. The outer end of the mast **46** carries a wheel shaft **49** rotatably mounted therein; which wheel shaft **49** projects laterally outwardly from the outer end of the mast **46** and carries on the extreme outer end thereof a hand wheel **50** rigidly secured thereto. The outer portion of the jack shaft **41** carries a chain pulley **51** rigidly secured thereto; the inner end of the wheel shaft **49** carries a chain pulley **52** rigidly secured thereto; and the two chain pulleys **51** and **52** are operatively interconnected by an endless chain **53** that is enclosed within the hollow mast **46**.

As clearly illustrated in FIGS. 4 and 5, when the mast **46** occupies its projected position, it is disposed in a generally vertical position and the top of the hand wheel **50** is positioned, well above the adjacent treadway **22**. As indicated in FIG. 4, when the mast **46** occupies its retracted position, it is disposed in a generally horizontal position and the top of the hand wheel **50** is positioned only somewhat above the adjacent treadway **22**, and no substantial distance thereabove; whereby the hand wheel **50**, when the mast **46** occupies its retracted position, is in non-interfering relation with respect to loading and unloading of the road semi-trailers and the freight containers with respect to the top of the beam **11**.

At this point it is mentioned in conjunction with FIG. 4, that when the hand wheel **50** is manually rotated in the clockwise direction, the elements **49**, **51**, **41**, **42**, **34** and **33** are likewise rotated in the clockwise direction, so as to effect counter-clockwise rotation of the arbour **35**, with the consequent reeling-in of the pull chain **36**, and with the result that both of the brake mechanisms, not shown, respectively incorporated in the trucks **18** are set. On the other hand, when the hand wheel **50** is manually rotated in the counter-clockwise direction, as viewed in FIG. 4, the elements **49**, **51**, **41**, **42**, **34** and **33** are likewise rotated in the counter-clockwise direction, so as to effect clockwise rotation of the arbour **35**, with the consequent reeling-out of the pulll chain **36**, and with the result that both of the brake mechanisms, not shown, respectively incorporated in the trucks **18** are released. These operations are described in greater detail hereinafter in conjunction with the brake rigging of FIG. 3, but are discussed at this point in connection with FIG. 4, so that it will be appreciated that rotations of the hand-wheel **50**, as described above, produce precisely the same actions with respect to setting and to releasing the brake mechanisms mentioned, regardless of the position of the mast **46**. Also, it will be understood that when the mast **46** occupies either of its positions, the hand wheel **50** is readily accessible to a brakeman on the ground on the brake wheel side of the car **10**. Similarly, the hand wheel **50** is readily accessible to a brakeman on the car **10**, when the mast **46** occupies either of its positions. However, as explained more fully below, it is contemplated that the mast **46** will occupy its projected position, as illustrated in FIGS. 4 and 5, at all times, except during actual loading and unloading of the freight items mentioned upon the top of the beam **11**. Thus, the mast **46** is operated into its retracted position only during the loading and unloading operations; and thereafter, the mast **46** is then returned into its normal or projected position, as shown in FIGS. 4 and 5. Obviously this arrangement is highly advantageous, since the hand wheel **50**, when the mast **46** occupies its projected position, is in a very convenient location or position to be operated by a brakeman either on the car **10** or on the ground, as explained above. Accordingly, it will be appreciated that when the car **10** is in transit, it is contemplated that the mast **46** will occupy its normal or projected position, which is the usual position expected by a brakeman unfamiliar with the actual constructional details of the car **10**. Also, this arrangement permits a brakeman conveniently to approach the brake wheel side of the car **10** for the purpose of setting or releasing the brake mechanisms, as may be required, since the upstanding brake wheel **50** is clearly visible to the brakeman, when the mast **46** occupies its normal or projected position, as shown in FIGS. 4 and 5.

Referring now to FIGS. 4, 6, 7 and 8, the bearing strap **45**, constituting the inner or lower end of the mast **46**, carries a stop **60** projecting outwardly therefrom and radially outwardly with respect to the jack shaft **41**; which stop **60** cooperates with two angularly displaced stops **61** and **62** carried by the housing **40**. The two stops **61** and **62** are disposed in the path of arcuate movement of the stop **60**, thereby to limit the arc of rotation of the bearing strap **45** with respect to the bearing member **44**, and the consequent angle of rotation of the mast **46** about the jack shaft **41**. Specifically, the stop **61** is engaged by the stop **60**, as shown in FIG. 6, when the mast **46** is rotated into its projected position; whereby the stop **61** is called a vertical or up stop. On the other hand, the stop **62** is engaged by the stop **60**, when the mast **46** is rotated into its retracted position; whereby the stop **62** is called a horizontal or down stop. The stops **61** and **62** are angularly displaced upon the housing **40** so that the centerline of the mast **46** is rotatable through an angle of about 98°. Thus, when the mast **46** occupies its up position the centerline thereof is approximately in a true vertical position. On the other hand, when the mast **46** occupies its down position, the centerline thereof is in a position slightly below (about 8°) a true horizontal position. This arrangement insures that the top of the hand wheel **50** is disposed in

fact below the horizontal plane of the top flanges **16** of the I-beams **12** of the beam **11**, when the mast **46** occupies its down or retracted position, as indicated in FIG. 4; thereby positively to prevent interference with the side-loading of freight containers upon the top of the beam **11**, when the mast **46** occupies its down or retracted position.

In order to facilitate the ready movements of the mast **46**, between its positions described above, the same carries a pair of side straps **63** respectively carrying a pair of side hand-grasp bars **64**. The hand-grasp bars **64** not only partially envelope the hand wheel **50**, so as to protect the same against being struck by external objects, but constitute reaction grasps, so as to enable a brakeman readily to rotate the hand wheel **50** relative to the mast **46**, as required in applying and removing the "brakes" with respect to the car **10**. Further, the adjacent end of the structure **21** carries, near the brake wheel **50**, a convenient step bar **65** and hand bar **66**, as shown in FIG. 4, so as to accommodate climbing upon this end of the car **10** by a brakeman, in the usual manner.

Again referring to FIGS. 4, 6, 7 and 8, the bearing strap **45** further carries a pair of lugs **70** on one side thereof between which there is pivotally mounted by a pin **71** a lock member **72** having an operating handle **73**. The lock member **72** is selectively operative by the handle **73** between lock and unlock positions with respect to either one of two pairs of keeper lugs **74** and **74'** carried by the housing **40** and arranged in angularly spaced-apart relation with respect to each other. Specifically, when the mast **46** occupies its up or projected position, as illustrated in FIGS. 6, 7 and 8, the stop **60** cooperates with the vertical stop **61** and the lock member **72** cooperates with the keeper lugs **74**; and particularly, the lock member **72** is laterally aligned with respect to the space between the keeper lugs **74**, so that the lock member **72** may be selectively operated by the handle **73** between its lock and unlock positions with respect to the keeper lugs **74**. On the other hand, when the mast **46** occupies its down or retracted position, the stop **60** cooperates with the horizontal stop **62** and the lock member **72** cooperates with the keeper lugs **74'**; and particularly, the lock member **72** is laterally aligned with respect to the space between the keeper lugs **74'**; so that the lock member **72** may be selectively operated by the handle **73** between its lock and unlock positions with respect to the keeper lugs **74'**. Accordingly, the lock arrangement accommodates locking of the mast **46** either in its up position or in its down position, as desired.

When the lock member **72** occupies its lock position with respect to the keeper lugs **74**, as shown in FIG. 8, it may be restrained by a fastening pin **75** that cooperates with aligned openings formed in the outer end of the lock member **72** and in the keeper lugs **74**. Similarly, when the lock member **72** occupies its lock position with respect to the keeper lugs **74'**, it may be restrained by the fastening pin **75** that cooperates with the alinged opening formed in the outer end of the lock member **72** and aligned openings formed in the keeper lugs **74'**. The pin **75** is connected by a chain **75'** to the housing **40** to prevent loss thereof; which chain **75'** is long enough to accommodate the insertion of the pin **75** into either set of cooperating openings, as described above.

This locking arrangement prevents rotation of the hand wheel **50** from effecting rotation of the mast **46**, when it is desired to activate the two brake mechanisms respectively incorporated in the two trucks **18**, as explained more fully below.

Before proceeding with further description of the railway car **10**, it is well to explain and to define the term "A.A.R. clearance line" that is involved in the construction and arrangement of the car **10**. Fundamentally, the A.A.R. clearance line for this railway car **10** starts at a point disposed 62⅞" laterally outwardly from the longitudinal center line of the car **10** and 40" above the top of the heads of the rails **20**, as clearly shown in FIG. 5; which line extends vertically upwardly from the point noted and which line extends downwardly and inwardly at an angle of 18¾° from the point noted. The line also has other boundary configurations toward the top thereof and toward the bottom thereof that are not here pertinent to the construction of the car **10**. Now, every element and component of the railway car **10** must be located laterally inwardly of this A.A.R. clearance line in view of the extreme length of the beam **11** and in view of the extreme width of the deck defined by the two structures **21**, or otherwise the same could not enter certain tunnels or make certain track curves involved in the network of American railways upon which the car **10** must be transported. More particularly, this specification of the A.A.R. clearance line has been assigned to this particular railway car **10** by the I.C.C. and the same must conform thereto to be permitted interchange. Accordingly, the hand wheel **50** of the brake actuating arrangement is also located and arranged entirely laterally inwardly of the A.A.R. clearance line, as shown in FIG. 5; whereby the peculiar lateral inward mounting thereof insures that the hand wheel **50** is disposed within the A.A.R. clearance line and is located so that it is readily accessible to the brakeman from the adjacent top side of the deck of the car **10**.

Referring to FIG. 3 the railway car **10** further comprises an air brake control system, only the main brake cylinder **80** of which is indicated, and brake rigging interconnecting the brake mechanism, indicated at **81** and **82**, and respectively incorporated in the trucks **18**, and the brake actuating mechanism **30** and the main brake cylinder **80**. Specifically, the brake mechanism **81** is operatively connected to the free end of a link **83**, the other end of which is pivoted to a fixed support **84**; and likewise, the brake mechanism **82** is operatively connected to the free end of a link **85**, the other end of which is pivoted to a fixed support **86**. The intermediate portion of the link **83** is pivoted to one end of a bar **87**, and the other end of the bar **87** is pivoted to a fixed support **89**. The piston of the main brake cylinder **80** is connected to a piston rod **90** that is pivoted to one free end of a floating link **91**; the other free end of the floating link **91** is pivoted to one end of a rod **92**; and the intermediate portion of the floating link **91** is pivoted to one end of a rod **93**. The other end of the rod **92** is pivoted to the intermediate portion of the link **85**; and the other end of the rod **93** is pivoted to the intermediate portion of the link **88**. Also, the piston rod **90** is connected by a chain **94** to the free end of a link **95**, the other end of which is pivoted to a fixed support **96**. The intermediate portion of the link **95** is pivoted to one end of a rod **97**; the other end of the rod **97** is pivoted to the intermediate portion of a link **98**; the free end of the link **98** is pivoted to a pull rod **99**; and the other end of the link **98** is pivoted to a fixed support **100**. The other end of the pull rod **59** is connected to the chain **36** forming a part of the brake actuating mechanism **30**, as previously described.

The piston of the main brake cylinder **80** normally occupies a retracted position; and the brake actuating mechanism **30** normally occupies its release position; whereby the elements of the brake rigging occupy their positions, as illustrated in FIG. 3; with the result that the brake mechanisms **81** and **82** normally occupy their released positions, as illustrated in FIG. 3.

Now assuming that the brake mechanisms **81** and **82** are to be actuated into their brake positions by the air braking control system, the piston is expanded in the main brake cylinder **80** moving the piston rod **90** to the right, as viewed in FIG. 3. This movement of the piston rod **90** drives the lower end of the floating lever **91** toward the right, so as to effect movement of the rod **93** toward the right and movement of the rod **92** toward the left. Movement of the rod **93** toward the right effects corresponding movements of the lever **88** and the rod **87**.

Movement of the rod **87** toward the right effects corresponding movement of the lever **83** and the consequence actuation of the brake mechanism **81** into its set position; and movement of the rod **92** toward the left effects corresponding movement of the lever **85** and the consequent actuation of the brake mechanism **82** into its set position. In order to release the brake mechanisms **81** and **82**, by the air braking system, the piston is contracted in the main brake cylinder **80**, moving the piston rod **90** to the left, and back into its normal position, as illustrated in FIG. 3; whereby reverse movements of the various elements **91**, etc., take place, with the consequent actuation of the brake mechanisms **81** and **82** into their brake release positions.

Now assuming that the brake mechanisms **81** and **82** are to be actuated into their braking positions, by the brake actuating mechanism **30**, the hand wheel **50** is rotated in the clockwise direction; whereby the pull chain **36** is reeled upon the arbour **35**, with the consequent pull upon the pull bar **99** effects movement of the link **98** toward the right, so that the bar **97** moves toward the right to move the link **95** toward the right. This movement of the link **95** pulls on the chain **94** moving it and the piston rod **90** toward the right; whereby the other elements of the brake rigging are moved in the manner previously described; whereby the brake mechanisms **81** and **82** are actuated into their set positions. In order to release the brake mechanisms **81** and **82**, by the actuating mechanism **30**, the hand wheel **50** is rotated in the counterclockwise direction; whereby the tension in the chain **36** is relaxed, with the result that the piston is again moved into its contracted position in the main brake cylinder **80**, so as to return the elements of the brake rigging into their positions, as illustrated in FIG. 3, in order to actuate the brake mechanisms **81** and **82** into their brake release positions.

Referring now to FIGS. 9 and 10, a modified form of the railway car **110** is there illustrated that differs from the railway car **10** only with respect to the lateral vertical profile of the frame and the deck. Specifically, the car **110** is also adapted to transport two road semi-trailers mounted on the top thereof in tandem relation, or two freight containers mounted on the top thereof in tandem relation, or one road semi-trailer and one freight container mounted on the top thereof in tandem relation. More particularly, the car **110** comprises an elongated longitudinally extending box-like center sill **111** that is supported at the opposite ends thereof by a pair of wheeled trucks, not shown, a plurality of pairs of laterally extending side arms **124** carried by the opposite sides of the center sill **111** and arranged in longitudinally spaced-apart relation, and a flat deck **122** formed of sheet steel or the like and secured in place upon the top of the center sill **111** and the side arms **124**. In this case, the opposite sides of the deck **122** carry a pair of elongated longitudinally extending and upwardly and laterally outwardly projecting side structures **122***a* constituting side guards. The dimensions of the fundamental elements of the car **110** correspond to those of the car **10**; whereby the longitudinal distance between the opposite ends of the deck **122** is at least about 85 feet and the lateral distance between the opposite sides of the deck **122** is at least about 100 inches. The side guards **122***a* project upwardly above the top at the deck **122** about 8 inches in order to prevent the possibility of a freight item mounted on the top of the deck **122** from being accidentally displaced laterally therefrom, since the deck **122** is of flat configuration from side to side thereof. The facilities for securing in place the road semi-trailers and the freight containers that may be mounted upon the top of the deck **122**, have not been illustrated, since they form no part of the present invention and may be of conventional construction and arrangement.

Further, the car **110** comprises the brake actuating mechanism **130** that includes the casing **131** secured to the mounting plate **132** carried below the outer portion of the deck **122** by the adjacent side arm **124**, the mechanism **130** being located about 3 feet from the adjacent end of the deck **122**. The housing **140** is mounted upon the lower portion of the outer side of the adjacent side structure **122***a* and directly above the mechanism **130**. The mast **146** is rotatably mounted upon the housing **140** in the manner previously explained; and the outer end of the mast **146** carries the hand wheel **150**. When the mast **146** occupies its up or projected position, the hand wheel **150** is disposed well above the top of the adjacent side structure **122***a*. On the other hand, when the mast **146** occupies its down or retracted position, the top of the hand wheel **150** is disposed below the top of the adjacent side structure **122***a*. Also, all of the elements of the car **110**, including the hand wheel **150**, are arranged laterally inwardly of the A.A.R. clearance line indicated for the car **110**.

The mode of operation of the car **110** and of the brake actuating mechanism **130**, are substantially identical to those of the car **10** and the brake actuating mechanism **30**, and are not repeated in the interest of brevity.

Referring now to FIGS. 11 and 12, another modified form of the railway car **210** is there illustrated that differs from the railway car **110** only with respect to the lateral vertical profile of the frame and the deck. Specifically, the car **210** is also adapted to transport two road semi-trailers mounted on the top thereof in tandem relation or two freight containers mounted on the top thereof in tandem relation, or one road semi-trailer and one freight container mounted on the top thereof in tandem relation. More particularly, the car **210** comprises an elongated longitudinally extending box-like center sill **211** that is supported at the opposite ends thereof by a pair of wheeled trucks, not shown, a plurality of pairs of laterally extending side arms **224** carried by the opposite sides of the center sill **211** and arranged in longitudinally spaced-apart relation, and a composite deck **222** formed of sheet steel or the like and secured in place upon the top of the center sill **211** and the side arms **224**.

In this case, the composite deck **222** comprises the elongated longitudinally extending central platform portion **222***x* and the pair of elongated longitudinally extending laterally and spaced-apart treadway portions **222***y* respectively disposed on opposite sides of the platform portion **222***x*, the platform portion **222***x* being disposed in an upper substantially horizontal plane and the treadway portions **222***y* being disposed in a lower substantially horizontal plane, the two planes being spaced-apart by a vertical distance of about 6". Also, in this case, the opposite sides of the deck **222** carry a pair of elongated longitudinally extending and upwardly and laterally outwardly projecting side structures **222***a* constituting side guards. The dimensions of the fundamental elements of the car **210** correspond to those of the car **10**; whereby the longitudinal distance between the opposite ends of the deck **222** is at least about 85 feet, and the lateral distance between the opposite sides of the deck **222** is at least about 100 inches. The side guards **222***a* project upwardly above the top of the treadway portions **222***y* of the deck **222** about 8 inches in order further to prevent the possibility of a freight item mounted on the top of the deck **222** from being accidentally displaced laterally therefrom, the platform portion **222***x* of the deck **222** preventing lateral displacement therefrom of road semi-trailers, in an obvious manner. The facilities for securing in place the road semi-trailers and the freight containers that may be mounted upon the top of the deck **222** have not been illustrated, since they form no part of the present invention and may be of conventional construction and arrangement.

Further, the car **210** comprises the brake actuating mechanism **230** that includes the casing **231** secured to

the mounting plate **232** carried below the outer portion of the treadway portion **222***y* of the deck **222** by the adjacent side arm **224**, the mechanism **230** being located about 3 feet from the adjacent end of the deck **222**. The housing **240** is mounted upon the lower portion of the outer side of the adjacent side structure **222***a* and directly above the mechanism **230**. The mast **246** is rotatably mounted upon the housing **240** in the manner previously explained; and the outer end of the mast **246** carries the hand wheel **250**. When the mast **146** occupies its up or projected position, the hand wheel **250** is disposed well above the top of the adjacent side structure **222***a*. On the other hand, when the mast **246** occupies its down or retracted position, the top of the hand wheel **250** is disposed below the top of the adjacent side structure **222***a*. Also, all of the elements of the car **210**, including the hand wheel **250**, are arranged laterally inwardly of the A.A.R. clearance line indicated for the car **210**.

The mode of operation of the car **210** and of the brake actuating mechanism **230**, are substantially identical to those of the car **10** and the brake actuating mechanism **30**, and are not repeated in the interest of brevity.

In view of the foregoing, it is apparent that there has been provided in a multi-purpose railway car of the piggyback type, an improved arrangement and location of the hand brake mechanism, so that the same is readily accessible to a brakeman either from a position on top of the deck of the car or from a position on the ground, and so that the hand brake mechanism is in non-interfering relation with loading and unloading operations involved in all of the known types of freight-handling systems previously employed in conjunction with such cars.

While there has been described what is at present considered to be the preferred embodiment of the invention, it will be understood that various modifications may be made therein, and it is intended to cover in the appended claims all such modifications as fall within the true spirit and scope of the invention.

What is claimed is:

1. A railway car especially adapted to transport simultaneously two road semi-trailers and comprising an elongated longitudinally extending frame having a length between the opposite ends thereof in excess of about 85 feet, a pair of wheeled trucks respectively supporting the opposite ends of said frame, a pair of brake mechanisms respectively incorporated in said trucks, brake rigging carried by said frame for simultaneously controlling said brake mechanisms, a pair of elongated longitudinally extending and laterally spaced-apart treadways respectively carried by the opposite sides of said frame and adapted respectively to support the laterally spaced-apart road wheels of each of two road semi-trailers mounted in tandem relation on top of said frame, the longitudinal distance between the opposite ends of each of said treadways being at least about 85 feet and the lateral distance between the opposite outer sides of said treadways being at least about 100 inches, brake actuating mechanism carried by one side of said frame adjacent to one end thereof and disposed below the adjacent one of said treadways and positioned laterally inwardly of the adjacent outer side of said one treadway, said brake actuating mechanism including a laterally extending and rotatably mounted operating shaft, an operative connection between said operating shaft and said brake rigging, a laterally extending jack shaft carried by said one side of said frame and mounted thereupon for rotation about its own axis, said jack shaft being positioned adjacent to said brake actuating mechanism and disposed below said one treadway, an operative connection between said jack shaft and said operating shaft, a mast carried by said one side of said frame laterally outwardly of said one treadway and mounted adjacent to the inner end thereof for rotation in an upstanding plane about said jack shaft and between a generally horizontal retracted position and a generally vertical projected position, the outer end of said mast being disposed adjacent to the top of said one treadway when said mast occupies its retracted position and the outer end of said mast being disposed well above the top of said one treadway when said mast occupies its projected position, a manually operable hand wheel carried by the outer end of said mast and mounted thereupon for rotation about its own axis and also movable with said mast between its retracted and projected positions, said hand wheel being arranged so that the top thereof does not project upwardly any substantial distance above the top of said one treadway when said mast occupies its retracted position, whereby said hand wheel when said mast occupies its retracted position is in non-interfering relation with respect to loading and unloading of the road semi-trailers with respect to the top of said frame, and an operative connection between said hand wheel and said jack shaft, all of the elements of said car and all of the parts carried by said frame and including said hand wheel being arranged laterally inwardly so that no one of them projects beyond the A.A.R. clearance line for said car when said mast occupies either its retracted position or its projected position.

2. The railway car set forth in claim **1**, wherein said last-mentioned operative connection is unaffected by the position of said mast, so that said hand wheel is selectively manually rotatable to effect setting and releasing of said brake mechanisms independently of the position of said mast.

3. The railway car set forth in claim **1**, and further comprising stop mechanism cooperating between said one side of said frame and said mast for preventing rotation of said mast in one direction beyond its retracted position and for preventing rotation of said mast in the opposite direction beyond its projected position.

4. The railway car set forth in claim **1**, and further comprising latch mechanism having a latch position restraining said most in its projected position and an unlatch position releasing said mast in its projected position.

5. The railway car set forth in claim **1**, wherein said brake actuating mechanism is of conventional non-spin type.

6. The railway car set forth in claim **1**, wherein the longitudinal distance between said brake actuating mechanism and the adjacent end of said frame is about 3 feet.

7. A railway car especially adapted to transport simultaneously two road semi-trailers or two freight containers or one road semi-trailer and one freight container and comprising an elongated longitudinally extending narrow beam having a length between the opposite ends thereof in excess of about 85 feet, a pair of wheeled trucks respectively supporting the opposite ends of said beam, a pair of brake mechanisms respectively incorporated in said trucks, brake rigging carried by said beam for simultaneously controlling said brake mechanisms, said beam defining an elongated longitudinally extending centrally disposed substantially horizontal narrow platform on the top thereof upon which two freight containers are adapted to be mounted in tandem relation, the longitudinal distance between the opposite ends of said platform being at least about 85 feet and the lateral distance between the opposite outer sides of said platform being about 40 inches, a pair of elongated longitudinally extending and laterally spaced-apart treadways respectively carried by the opposite sides of said beam and positioned in a substantially horizontal plane located below the top of said platform and adapted respectively to support the laterally spaced-apart road wheels of each of two road semi-trailers mounted in tandem relation on top of said beam, the longitudinal distance between the oppposite ends of each of said treadways being at least about 85 feet and the lateral distance between the opposite outer sides of said treadways being at least about 100 inches,

the vertical distance between the top of said platform and the plane of the top of said treadways disposed therebelow not being substantially greater than about 8 inches so as to prevent interference by said platform with the underframe of a road semi-trailer mounted on top of said beam, brake actuating mechanism carried by one side of said beam adjacent to one end thereof and disposed below the adjacent one of said treadways and positioned laterally inwardly of the adjacent outer side of said one treadway, said brake actuating mechanism including a laterally extending and rotatably mounted operating shaft, an operative connection between said operating shaft and said brake rigging, a laterally extending jack shaft carried by said one side of said beam and mounted thereon for rotation about its own axis, said jack shaft being positioned adjacent to said brake actuating mechanism and disposed below said one treadway, an operative connection between said jack shaft and said operating shaft, a mast carried by said one side of said beam laterally outwardly of said one treadway and mounted adjacent to the inner end thereof for rotation in an upstanding plane about said jack shaft and between a generally horizontal retracted position and a generally vertical projected position, the outer end of said mast being disposed adjacent to the top of said treadway when said mast occupies its retracted position and the outer end of said mast being disposed well above the top of said one treadway when said mast occupies its projected position, a manually operable hand wheel carried by the outer end of said mast and mounted thereupon for rotation about its own axis and also movable with said mast between its retracted and projected positions, said hand wheel being arranged so that the top thereof does not project upwardly any substantial distance above the top of said one treadway when said mast occupies its retracted position, whereby said hand wheel when said mast occupies its retracted position is in non-interfering relation with respect to loading and unloading of the road semi-trailers and the freight containers with respect to the top of said beam, and an operative connection between said hand wheel and said jack shaft, all of the elements of said car and all of the parts carried by said frame and including said hand wheel being arranged laterally inwardly so that no one of them projects beyond the A.A.R. clearance line for said car when said mast occupies either its retracted position or its projected position.

8. A railway car especially adapted to transport simultaneously two road semi-trailers and comprising an elongated longitudinally extending frame having a length between the opposite ends thereof in excess of about 85 feet, a pair of wheeled trucks respectively supporting the opposite ends of said frame, a pair of brake mechanisms respectively incorporated in said trucks, brake rigging carried by said frame for simultaneously controlling said brake mechanisms, a pair of elongated longitudinally extending and laterally spaced-apart treadways respectively carried by the opposite sides of said frame and adapted respectively to support the laterally spaced-apart road wheels of each of two road semi-trailers mounted in tandem relation on top of said frame, the longitudinal distance between the opposite ends of each of said treadways being at least about 85 feet and the lateral distance between the opposite outer sides of said treadways being at least about 100 inches, a pair of elongated longitudinally extending and laterally spaced-apart side structures respectively carried by the outer sides of said treadways and respectively projecting upwardly therefrom to form side guards therefor, the longitudinal distance between the opposite ends of each one of said side guards being substantially commensurate with the length of the adjacent one of said treadways and the vertical projection of each one of said side guards above the top of the adjacent one of said treadways being in the general range 4 inches to 8 inches and the lateral distance between the tops of said side guards being somewhat in excess of 100 inches but not in excess of 120 inches, brake actuating mechanism carried by one side of said frame adjacent to one end thereof and disposed below the adjacent one of said side guards and laterally inwardly of the adjacent outer side of said one side guard, said brake actuating mechanism including a laterally extending and rotatably mounted operating shaft, an operative connection between said operating shaft and said brake rigging, a laterally extending jack shaft carried by said one side of said frame and mounted thereupon for rotation about its own axis, said jack shaft being positioned adjacent to said brake actuating mechanism and disposed below the top of said one side guard, an operative connection between said jack shaft and said operating shaft, a mast carried by the outer side of said one side guard and mounted adjacent to the inner end thereof for rotation in an upstanding plane about said jack shaft and between a generally horizontal retracted position and a generally vertical projected position, the outer end of said mast being disposed below the top of said one side guard when said mast occupies its retracted position and the outer end of said mast being disposed below the top of said one side guard when said mast occupies its projected position, a manually operable hand wheel carried by the outer end of said mast and mounted thereupon for rotation about its own axis and also movable with said mast between its retracted and projected positions, said hand wheel being arranged so that the top thereof does not project upwardly any substantial distance above the top of said one side guard when said mast occupies its retracted position, whereby said hand wheel when said mast occupies its retracted position is in non-interfering relation with respect to loading and unloading of the road semi-trailers with respect to the top of said frame, and an operative connection between said hand wheel and said jack shaft, all of the elements of said car and all of the parts carried by said frame and including said hand wheel being arranged laterally inwardly so that no one of them projects beyond the A.A.R. clearance line for said car when said mast occupies either its retracted position or its projected position.

9. A railway car especially adapted to transport simultaneously two road semi-trailers and comprising an elongated longitudinally extending frame having a length between the opposite ends thereof in excess of about 85 feet, a pair of wheeled trucks respectively supporting the opposite ends of said frame, a pair of brake mechanisms respectively incorporated in said trucks, brake rigging carried by said frame for simultaneously controlling said brake mechanisms, an elongated longitudinally extending deck carried by said frame and having a substantially flat top and defining a pair of elongated longitudinally extending and laterally spaced-apart treadways respectively disposed adjacent to the opposite sides of said deck and adapted respectively to support the laterally spaced-apart road wheels of each of two road semi-trailers mounted in tandem relation on top of said frame, the longitudinal distance between the opposite ends of said deck being at least about 85 feet and the lateral distance between the opposite outer sides of said deck being at least about 100 inches, brake actuating mechanism carried by one side of said frame adjacent to one end thereof and disposed below the adjacent one side of said deck and positioned laterally inwardly of the outer side of said one side of said deck, said brake actuating mechanism including a laterally extending and rotatably mounted operating shaft, an operative connection between said operating shaft and said brake rigging, a laterally extending jack shaft carried by said one side of said frame and mounted thereupon for rotation about its own axis, said jack shaft being positioned adjacent to said brake actuating mechanism and disposed below the top of said one side of said deck, an operative connection between said jack shaft and said operating shaft, a mast carried by said one side of said

frame laterally outwardly of the outer side of said one side of said deck and mounted adjacent to the inner end thereof for rotation in an upstanding plane about said jack shaft and between a generally horizontal retracted position and a generally vertical projected position, the outer end of said mast being disposed below the top of said one side of said deck when said mast occupies its retracted position and the outer end of said mast being disposed well above the top of said one side of said deck when said mast occupies its projected position, a manually operable hand wheel carried by the outer end of said mast and mounted thereupon for rotation about its own axis and also movable with said mast between its retracted and projected positions, said hand wheel being arranged so that the top thereof does not project upwardly any substantial distance above the top of said one side of said deck when said mast occupies its retracted position, whereby said hand wheel when said mast occupies its retracted position is in non-interfering relation with respect to loading and unloading of the road semi-trailers with respect to the top of said frame, and an operative connection between said hand wheel and said jack shaft, all of the elements of said car and all of the parts carried by said frame and including said hand wheel being arranged laterally inwardly so that no one of them projects beyond the A.A.R. clearance line for said car when said mast occupies either its retracted position or its projected position.

10. A railway car especially adapted to transport simultaneously two road semi-trailers and comprising an elongated longitudinally extending frame having a length between the opposite ends thereof in excess of about 85 feet, a pair of wheeled trucks respectively supporting the opposite ends of said frame, a pair of brake mechanisms respectively incorporated in said trucks, brake rigging carried by said frame for simultaneously controlling said brake mechanisms, an elongated longitudinally extending deck carried by said frame and having a substantially flat top and defining a pair of elongated longitudinally extending and laterally spaced-apart treadways respectively disposed adjacent to the opposite sides of deck and adapted respectively to support the laterally spaced-apart road wheels of each of two road semi-trailers mounted in tandem relation on top of said frame, the longitudinal distance between the opposite ends of said deck being at least about 85 feet and the lateral distance between the opposite outer sides of said deck being at least about 100 inches, a pair of elongated longitudinally extending and laterally spaced-apart side structures respectively carried by the outer sides of said deck and respectively projecting upwardly therefrom to form side guards therefor, the longitudinal distance between the opposite ends of each one of said side guards being substantially commensurate with the length of said deck and the vertical projection of each one of said side guards above the top of said deck being in the general range 4 inches to 8 inches and the lateral distance between the tops of said side guards being somewhat in excess of 100 inches but not in excess of 120 inches, brake actuating mechanism carried by one side of said frame adjacent to one end thereof and disposed below the adjacent one of said side guards and laterally inwardly of the adjacent outer side of said one side guard, said brake actuating mechanism including a laterally extending and rotatably mounted operating shaft, an operative connection between said operating shaft and said brake rigging, a laterally extending jack shaft carried by said one side of said frame and mounted thereupon for rotation about its own axis, said jack shaft being positioned adjacent to said brake actuating mechanism and disposed below the top of said one side guard, an operative connection between said jack shaft and said operating a shaft, a mast carried by the outer side of said one side guard and mounted adjacent to the inner end thereof for rotation in an upstanding plane about said jack shaft and between a generally horizontal retracted position and a generally vertical projected position, the outer end of said mast being disposed below the top of said one side guard when said mast occupies its retracted position and the outer end of said mast being disposed well above the top of said one side guard when said mast occupies its projected position, a manually operable hand wheel carried by the outer end of said mast and mounted thereupon for rotation about its own axis and also movable with said mast between its retracted and projected positions, said hand wheel being arranged so that the top thereof does not project upwardly any substantial distance above the top of said one side guard when said mast occupies its retracted position, whereby said hand wheel when said mast occupies its retracted position is in non-interfering relation with respect to loading and unloading of the road semi-trailers with respect to the top of said frame, and an operative connection between said hand wheel and said jack shaft, all of the elements of said car and all of the parts carried by said frame and including said hand wheel being arranged laterally inwardly so that no one of them projects beyond the A.A.R. clearance line for said car when said mast occupies either its retracted position or its projected position.

11. A railway car especially adapted to transport simultaneously two road semi-trailers or two freight containers or one road semi-trailer and one freight container and comprising an elongated longitudinally extending frame having a length between the opposite ends thereof in excess of about 85 feet, a pair of wheeled trucks respectively supporting the opposite ends of said frame, a pair of brake mechanisms respectively incorporated in said trucks, brake rigging carried by said frame for simultaneously controlling said brake mechanisms, an elongated longitudinally extending deck carried by said frame and defining an elongated longitudinally extending centrally disposed substantially horizontal narrow platform on the top of said frame upon which two freight containers are adapted to be mounted in tandem relation and defining a pair of elongated longitudinally extending and laterally spaced-apart treadways on the top of said frame and positioned in a substantially horizontal plane located below the top of said platform and adapted respectively to support the laterally spaced-apart road wheels of each of two road semi-trailers mounted in tandem relation on top of said deck, the longitudinal distance between the opposite ends of said platform being at least 85 feet and the lateral distance between the opposite outer sides of said platform being at least about 40 inches, the longitudinal distance between the opposite ends of each of said treadways being at least about 85 feet and the lateral distance between the opposite outer sides of said treadways being at least about 100 inches, the vertical distance between the top of said platform and the plane of the top of said treadways disposed therebelow not being substantially greater than about 8 inches so as to prevent interference by said platform with the underframe of a road semi-trailer mounted on top of said frame, brake actuating mechanism carried by one side of said frame adjacent to one end thereof and disposed below the adjacent one side of said deck and positioned laterally inwardly of the outer side of said one side of said deck, said brake actuating mechanism including a laterally extending and rotatably mounted operating shaft, an operative connection between said operating shaft and said brake rigging, a laterally extending jack shaft carried by said one side of said frame and mounted thereupon for rotation about its own axis, said jack shaft being positioned adjacent to said brake actuating mechanism and disposed below the top of said one side of said deck, an operative connection between said jack shaft and said operating shaft, a mast carried by said one side of said frame laterally outwardly of the outer side of said one side of said deck and mounted adjacent to the inner end thereof for rotation in an upstanding plane about said jack shaft and between a generally horizontal retracted position and a generally vertical projected position, the outer end of said mast being disposed below the top of said one side of said deck when said mast occupies its retracted position and the outer end of said

mast being disposed well above the top of said one side of said deck when said mast occupies its projected position, a manually operable hand wheel carried by the outer end of said mast and mounted thereupon for rotation about its own axis and also movable with said mast between its retracted and projected positions, said hand wheel being arranged so that the top thereof does not project upwardly any substantial distance above the top of said one side of said deck when said mast occupies its retracted position, whereby said hand wheel when said mast occupies its retracted position is in non-interfering relation with respect to loading and unloading of the road semi-trailers and the freight containers with respect to the top of said frame, and an operative connection between said hand wheel and said jack shaft, all of the elements of said car and all of the parts carried by said frame and including said hand wheel being arranged laterally inwardly so that no one of them projects beyond the A.A.R. clearance line for said car when said mast occupies either its retracted position or its projected position.

12. A railway car especially adapted to transport simultaneously two road semi-trailers or two freight containers or one road semi-trailer and one freight container and comprising an elongated longitudinally extending frame having a length between the opposite ends thereof in excess of about 85 feet, a pair of wheeled trucks respectively supporting the opposite ends of said frame, a pair of brake mechanisms respectively incorporated in said trucks, brake rigging carried by said frame for simultaneously controlling said brake mechanisms, an elongated longitudinally extending deck carried by said frame and defining an elongated longitudinally extending centrally disposed substantially horizontal narrow platform on the top of said frame upon which two freight containers are adapted to be mounted in tandem relation and defining a pair of elongated longitudinally extending and laterally spaced-apart treadways on the top of said frame and positioned in a substantially horizontal plane located below the top of said platform and adapted respectively to support the laterally spaced-apart road wheels of each of two road semi-trailers mounted in tandem relation on top of said deck, the longitudinal distance between the opposite ends of said platform being at least about 85 feet and the lateral distance between the opposite outer sides of said platform being at least about 40 inches, the longitudinal distance between the opposite ends of each of said treadways being at least about 85 feet and the lateral distance between the opposite outer sides of said treadways being at least about 100 inches, the vertical distance between the top of said platform and the plane of the top of said treadways disposed therebelow not being substantially greater than about 8 inches so as to prevent interference by said platform with the underframe of a road semi-trailer mounted on top of said frame, a pair of elongated longitudinally extending and laterally spaced-apart side structures respectively carried by the outer sides of said deck and respectively projecting upwardly therefrom to form side guards therefor, the longitudinal distance between the opposite ends of each one of said side guards being substantially commensurate with the length of said deck and the vertical projection of each one of said side guards above the top of said deck being in the general range 4 inches to 8 inches and the lateral distance between the tops of said side guards being somewhat in excess of 100 inches but not in excess of 120 inches, brake actuating mechanism carried by one side of said frame adjacent to one end thereof and disposed below the adjacent one of said side guards and laterally inwardly of the adjacent outer side of said one side guard, said brake actuating mechanism including a laterally extending and rotatably mounted operating shaft, an operative connection between said operating shaft and said brake rigging, a laterally extending jack shaft carried by said one side of said frame and mounted thereupon for rotation about its own axis, said jack shaft being positioned adjacent to said brake actuating mechanism and disposed below the top of said one side guard, an operative connection between said jack shaft and said operating shaft, a mast carried by the outer side of said one side guard and mounted adjacent to the inner end thereof for rotation in an upstanding plane about said jack shaft and between a generally horizontal retracted position and a generally vertical projected position, the outer end of said mast being disposed below the top of said one side guard when said mast occupies its retracted position and the outer end of said mast being disposed well above the top of said one side guard when said mast occupies its projected position, a manually operable hand wheel carried by the outer end of said mast and mounted thereupon for rotation about its own axis and also movable with said mast between its retracted and projected positions, said hand wheel being arranged so that the top thereof does not project upwardly any substantial distance above the top of said one side guard when said mast occupies its retracted position, whereby said hand wheel when said mast occupies its retracted position is in non-interfering relation with respect to loading and unloading of the road semi-trailers and the freight containers with respect to the top of said frame, and an operative connection between said hand wheel and said jack shaft, all of the elements of said car and all of the parts carried by said frame and including said hand wheel being arranged laterally inwardly so that no one of them projects beyond the A.A.R. clearance line for said car when said mast occupies either its retracted position or its projected position.

13. The railway car set forth in claim 1, and further comprising latch mechanism selectively operative to latch and to unlatch said mast either in its projected position or in its retracted position.

14. The railway car set forth in claim 13, wherein said latch mechanism comprises a latch member carried by said mast and movable therewith, and two latch parts carried by said frame and disposed in angularly spaced-apart relation with each other, and wherein said latch member cooperates with a first of said latch parts when said mast occupies its projected position and cooperates with a second of said latch parts when said mast occupies its retracted position.

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