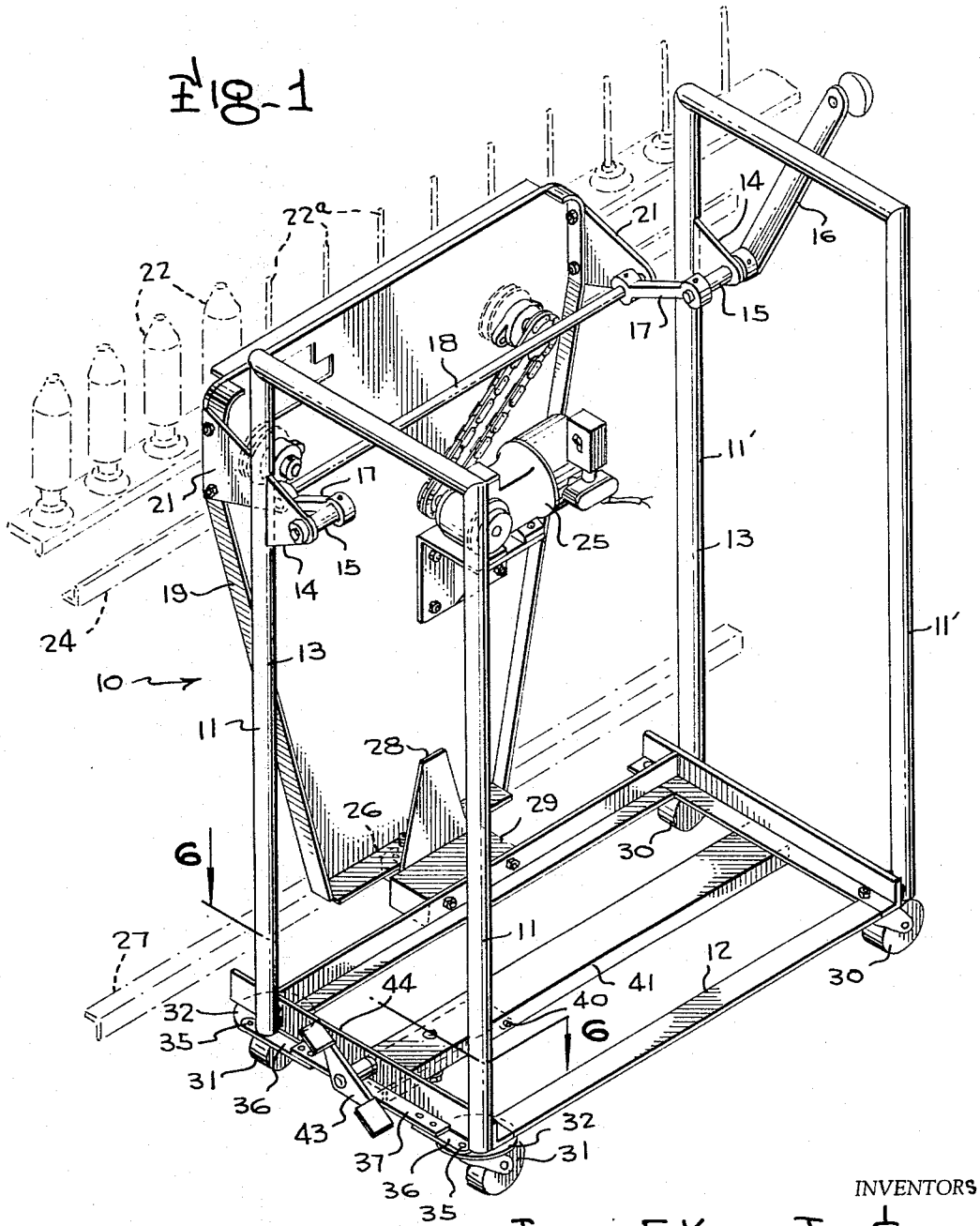
Nov. 22, 1966 J. F. KING, JR., ETAL 3,286,857

TRANSPORTING CARRIAGE FOR AUTOMATIC DOFFING APPARATUS AND THE LIKE

Filed June 30, 1964 4 Sheets-Sheet 1

Fig. 1



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TRANSPORTING CARRIAGE FOR AUTOMATIC DOFFING APPARATUS AND THE LIKE

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FIG-2

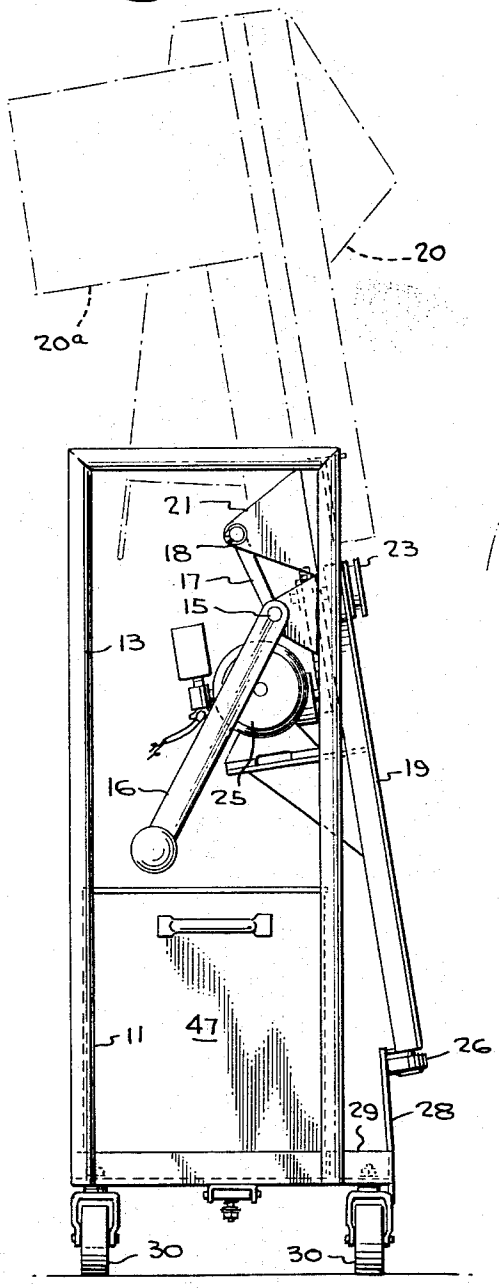
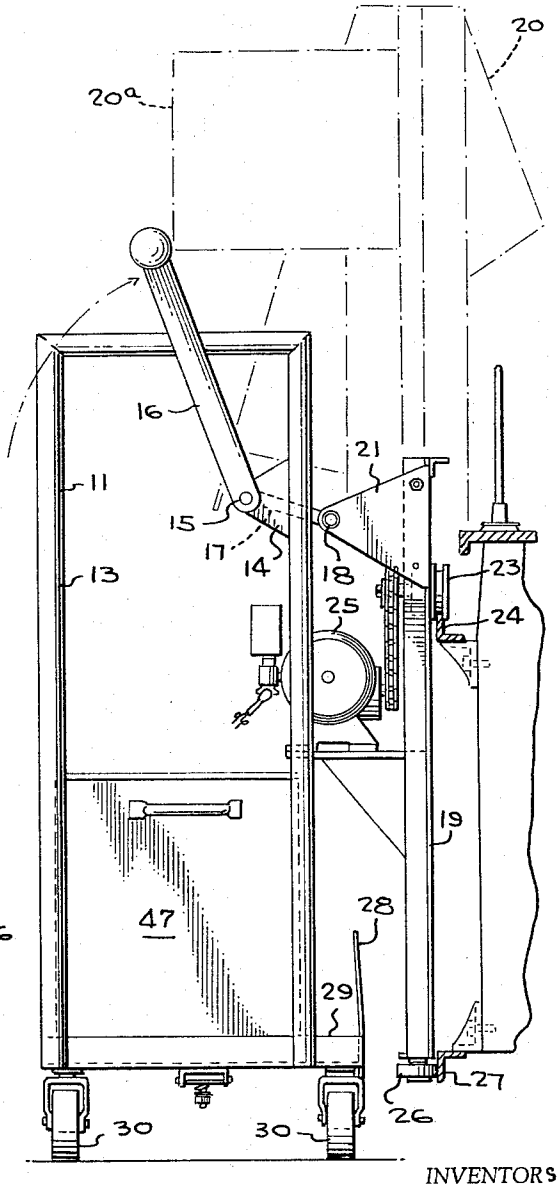


FIG-3



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TRANSPORTING CARRIAGE FOR AUTOMATIC DOFFING APPARATUS AND THE LIKE

Filed June 30, 1964 4 Sheets-Sheet 3

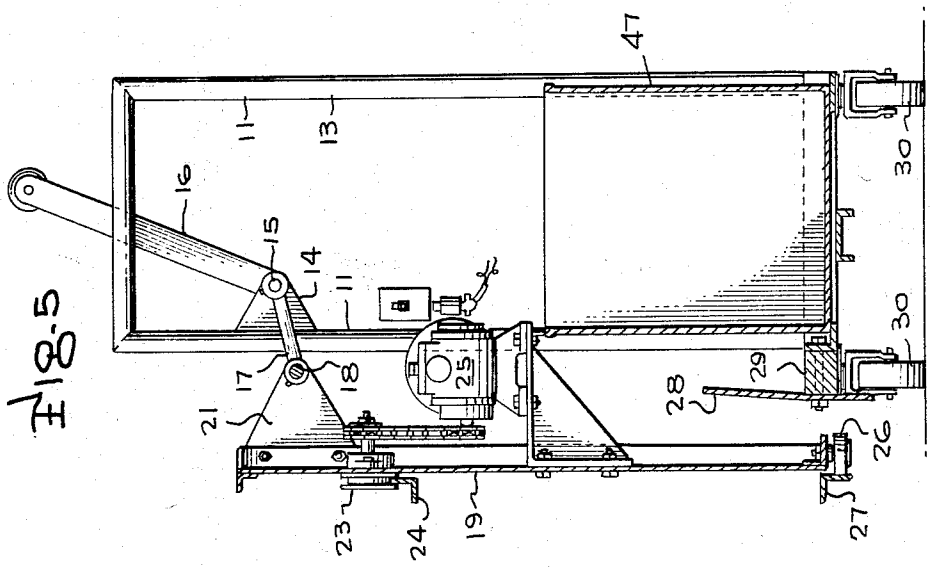


FIG. 5

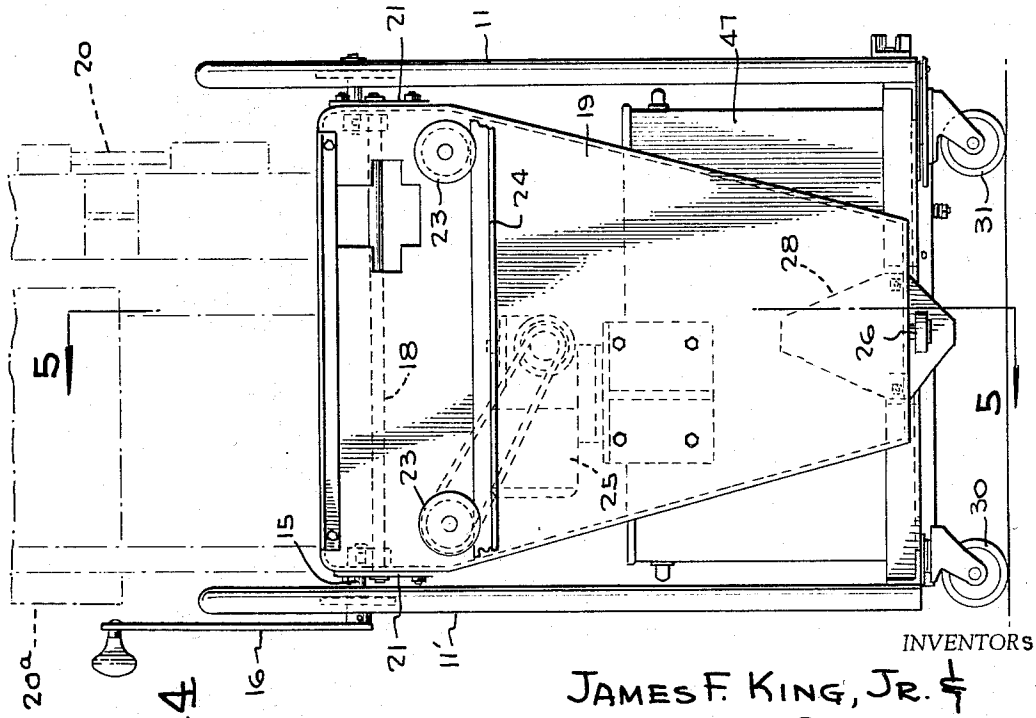


FIG. 4

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TRANSPORTING CARRIAGE FOR AUTOMATIC DOFFING APPARATUS AND THE LIKE

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FIG-6

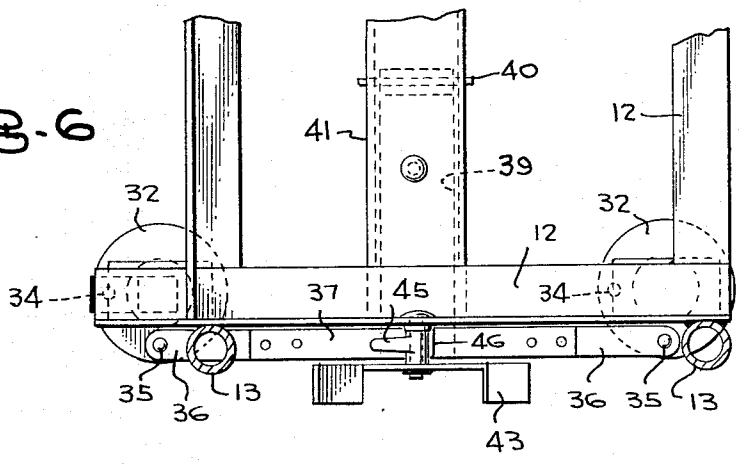


FIG-7

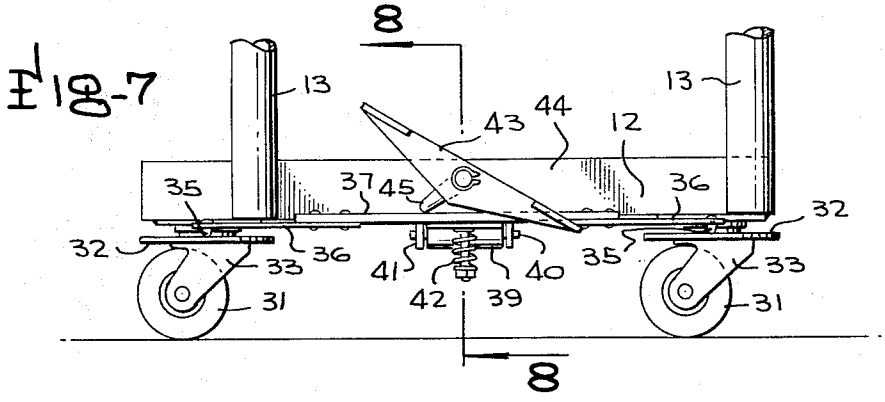


FIG-8

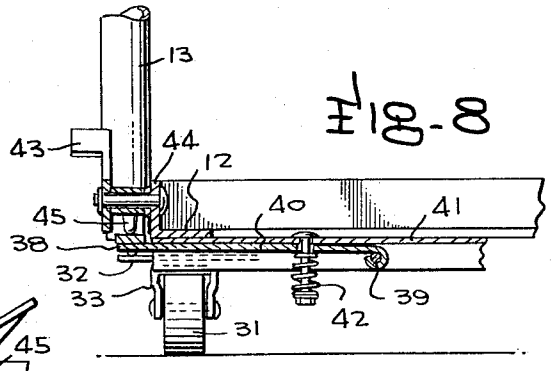
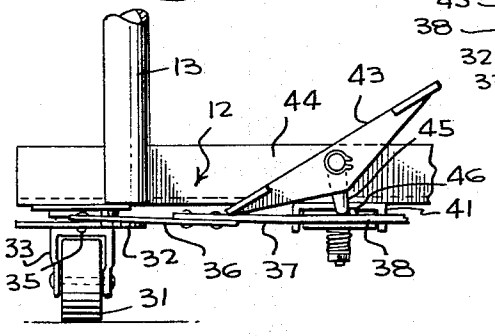


FIG-9



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United States Patent Office 3,286,857
Patented Nov. 22, 1966

3,286,857

TRANSPORTING CARRIAGE FOR AUTOMATIC DOFFING APPARATUS AND THE LIKE

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Filed June 30, 1964, Ser. No. 379,074
12 Claims. (Cl. 214—38)

The present invention relates in general to apparatus transporting and positioning carriages, and more particularly to wheeled carriages for transporting automatic bobbin doffing and/or donning apparatus and removably positioning the same on supporting track rails extending alongside a line of spindles of textile spinning machines to track along the rails and doff and/or don the bobbins relative to the spindles.

While the wheeled carriage of the present invention is useful in many applications involving transportation of relatively bulky or heavy loads from one location to another and accurate positioning of the loads in special relation to apparatus on which the load is to be ultimately supported, it will be specifically described in relation to the particular application of supporting automatic doffing and/or donning apparatus for use with textile processing machines.

Heretofore, considerable effort has been directed toward the development of apparatus for automatically doffing bobbins from the spindles of textile spinning machines, and in many cases to concurrently don empty bobbins on the doffed spindles, to reduce the time and labor expense incident to the usual manual doffing and donning of the bobbins and reduce machine shut-down time. Such doffing and/or donning apparatus are designed in some instances, to be removably hung on track rails fixed to the spinning frame adjacent and below each line of spindles at the sides of the spinning machine by means of rollers riding on the rails, one of which rollers is preferably motorized, so that the apparatus will automatically track on the rails in proper relative position to the successive bobbins and spindles and successively doff and/or don the bobbins. An example of a preferred form of doffing apparatus to be supported by the wheeled carriage of the present invention is disclosed in application Serial No. 379,170, filed June 30, 1964, entitled, Automatic Bobbin Doffing Apparatus. Such apparatus, in use, is to be moved from spinning machine to spinning machine about the spinning room, to serve all or a large number of the machines therein, and in each instance must be carefully located relative to the track rails on the spinning machines to insure proper tracking of the apparatus on the rails and proper location of the active bobbin doffing or donning components relative to the line of spindles. Obviously, frequent transportation and careful positioning of such apparatus of considerable mass or bulk is a difficult task.

An object of the present invention is the provision of a novel wheeled carriage for transporting loads having means facilitating careful and precise positioning of the load relative to a support on which the load is to be received.

Another object of the present invention is the provision of a novel wheeled carriage for transporting apparatus designed to be received on track rails in a specially oriented position, wherein means are provided for supporting the apparatus in a position of improved balance during transport and for conveniently shifting the apparatus to its specially oriented position at the track rail location and concurrently locating the same on the track rails.

Another object of the present invention is the provision of a castered carriage for transporting apparatus and positioning the same, wherein novel means are provided for releasably locking the trailing casters of the carriage in parallelism aligned with a selected direction of travel to facilitate movement of the carriage over long distances and permitting freeing of all casters to facilitate orientation and alignment of the apparatus with other equipment.

Another object of the present invention is the provision of a novel wheeled carriage for transporting automatic doffing and/or donning apparatus for textile spinning machines which facilitates transportation of the apparatus between spinning machines and proper alignment of the apparatus on supporting track rails provided on the spinning machines.

Other objects, advantages and capabilities of the present invention will become apparent from the following detail description, taken in conjunction with the accompanying drawings illustrating a preferred embodiment of the invention.

In the drawings:

FIGURE 1 is a perspective view of a transport carriage embodying the present invention, illustrating the same in the normal condition of use to automatically track along the track rails of a textile spinning frame to doff filled bobbins from the spindles thereof;

FIGURE 2 is a front elevation view of the transport carriage, viewed from the right-hand side of FIGURE 1, and illustrating diagrammatically in broken lines a bobbin doffing and donning mechanism thereon, with the carriage components in transport position;

FIGURE 3 is a rear elevation view of the structure illustrated in FIGURE 2, showing the components in tracking position to automatically doff bobbins from the spinning frame;

FIGURE 4 is a side elevation view of the transport carriage viewed from the side proximate to the spinning frame;

FIGURE 5 is a vertical transverse section view taken along the line 5—5 of FIGURE 4;

FIGURE 6 is an enlarged fragmentary horizontal section view illustrating details of the bottom frame portion, taken along the line 6—6 of FIGURE 1;

FIGURE 7 is an enlarged fragmentary rear elevation view of the bottom frame portion, as viewed from the left-hand side of FIGURE 1, with the trailing casters in unlocked or free condition;

FIGURE 8 is an enlarged fragmentary vertical section view taken along the line 8—8 of FIGURE 7; and

FIGURE 9 is an enlarged fragmentary elevation view similar to FIGURE 7 but illustrating one of the trailing casters in locked condition.

Referring to the drawings, wherein like reference characters designate corresponding parts throughout the several figures, the transporting and positioning carriage of the present invention comprises a rigid carriage frame, indicated generally by the reference character **10**, formed of upright front and rear frame portions **11**, **11'** preferably constructed of welded tubular steel members, and a substantially horizontal bottom frame portion **12** formed of angle iron and steel scrap members, the upright frame portions and bottom frame portion together defining an upwardly opening, substantially U-shaped framework, wherein the front and rear frame portions are spaced from each other along the direction of predominant travel of the frame. The tubular steel members, herein designated by the reference character **13**, at the proximal side of the carriage frame **10** relative to the spinning frame along which it is to automatically track, have welded thereto a pair of bearing brackets **14** extending inwardly toward the center of the carriage

frame and located near the upper end thereof, in which are journaled a pair of short shafts **15** axially aligned with each other and forming a stationary pivot axis located between the proximal and distal sides of the carriage frame. To one of these short shafts **15** is connected a crank handle **16** for manual angular positioning of the associated short shaft **15** as will be hereinafter described, while the other short shaft **15** has a lock collar (not shown) on its outboard end to absorb longitudinal thrust loads. The corresponding ends of a pair of eccentric links or overcenter arms **17** are rigidly fixed to the inboard ends of the short shafts **15** and carry on their other ends a long shaft **18** spanning the distance between the eccentric links **17** and forming a movable pivot axis. The long shaft **18** forms the upper support for a large rigid mounting plate **19**, there shown to be of truncated triangular configuration, forming a supporting base for a bobbin doffer unit, here indicated schematically in FIGURES 2–4 in broken lines by the reference character **20**, and if desired an automatic bobbin donner unit indicated schematically and designated by reference character **20*a***, the upper portion of the mounting plate **19** being connected to the shaft **18** by bearing brackets **21** extending from the edges of the mounting plate and journaled on the shaft **18**. The mounting plate is designed to assume a laterally projected position in a substantially vertical plane alongside the spinning frame to support the doffer unit and donner unit in proper position relative to the line of bobbins and spindles, here designated by reference characters **22** and **22*a*** and to automatically move along the length of the line of spindles while maintaining proper relative position with respect thereto. A pair of upper, preferably peripherally grooved, track wheels **23** are journaled on the mounting plate **19** to be fitted on upper track rail **24** fixed on the side of the spinning frame, at least one of the track wheels **23** being preferably driven by an electric motor unit **25** carried by the mounting plate **19**. The lower end portion of the mounting plate **19** is stabilized in proper position by a lower track wheel **26**, which in this instance, is a smooth surface wheel, riding against the smooth lateral surface of a lower track **27** on the spinning frame. When the mounting plate **19** is maintained in vertical position by the track rails **24** and **26**, the lower track wheel **26** being urged by a gravitational moment into continuous engagement with the lower track rail **27** by the weight of the mounting plate **19** and the components carried thereby, the lower track wheel **26** is spaced slightly outwardly from a fixed slide plate **28** carried by a supportig block **29** fixed to the bottom frame portion **12** of the carriage frame **10**.

It will be observed from FIGURES 1, 3 and 5 of the drawings that the location of the fixed pivot axis defined by the short shafts **15** and the length of the eccentric arms **17** are such that the mounting plate **19** is wholly disposed in laterally spaced relation beyond or outside of the bounds of the carriage frame **10** thus disposing the load of the mounting plate and components supported thereon at or adjacent one side (the proximal side) of the carriage frame, producing an inconvenient balance condition for transport of the carriage frame between spinning frames or from one location to another in the spinning room. To facilitate transport of the carriage frame **10** and the load support thereby, the mounting plate **19** and its supported components are shifted to a transport position illustrated in FIGURE 2, disposing the doffer unit **22** and donner unit **22*a*** generally above the center of the carriage frame with the center of mass located between the proximal and distal sides thereof. This is accomplished by moving the crank handle **16** from the FIGURE 3 position to the FIGURE 2 position, about the stationary pivot axis of shafts **15**, thereby rotating the eccentric links **17** and the movable pivot axis defined by long shaft **18** "overcenter" with respect to the shafts **15** or through the vertical plane including the axes of the shafts **15**, to the FIGURE 2 position. The mounting plate **19** is gravitationally stabilized at this position by engagement of upper portions of the mounting plate **19**, for example rearwardly projecting flanges thereof, with the short shafts **15**, while wheel **26** rests against the side plate **28**. This movement of the eccentric links **17** carries the upper portion of the mounting plate **19** upwardly and inwardly toward the center of the carriage frame **10** through a sufficient arc to dispose the upper end of the mounting plate **19** within the bounds of the carriage frame **10** or between the proximal and distal sides thereof, while the lower end of the mounting plate **19** is restricted to limited inward movement by engagement of the lower track wheel **26** with the side plate **28** and sliding movement of the wheel **26** against the plate **28** to the FIGURE 2 position.

The carriage frame **10** has four caster wheels depending from the bottom thereof, the leading wheels during normal transport of the carriage frame between spinning machines being designated by the reference character **30** and the trailing wheels being designated by the reference character **31**. While these castered wheels **30, 31** should be freely rotatable about vertical axes to render the carriage frame maneuverable in all directions to aid in positioning and aligning the mounting plate **19** with the track rails **24, 27**, such an arrangement makes it difficult to move the carriage frame over long distances. To avoid this difficulty, the trailing castered wheels **31** may be selectively locked in the fore and aft direction to facilitate movement and control of the carriage frame for relatively long distance transport. The trailing caster wheels **31** therefore each includes an annular disk **32** attached to the swiveled yoke portion **33** so that its center axis is perpendicular and concentric with that of the caster wheel swivel axis. Each disk **32** has an eccentric hole **34** therein capable of receiving a locking pin **35** and so positioned that the caster wheels **31** will be locked in the desired direction when the locking pins **35** engage the holes **34**. The locking pins **35** are fixed on the remote ends of spring straps **36**, the inner ends of which are fixed to ends of the cross head **37** of a T bar member **38**, the perpendicular leg **39** of the T bar being pivoted, as indicated at **40** within a fore and aft extending channel member **41** forming part of the bottom portion **12** of the carriage frame and located between the distal and proximal sides of the frame. The T bar member **38** is normally held in the upward position illustrated in FIGURES 7 and 8 by a spring **42** carried by the channel member **41**. A foot pedal **43** is pivoted at its center to the bottom frame portion **12**, as by pivotally mounting the same on the upright web of an angle iron **44** and has a rigid cam or projection **45** bearing against an eccentric portion of the T bar member **38** relative to its pivot **40**. The foot pedal **43** normally occupies the position illustrated in FIGURE 7, wherein the T bar member **38** is held in its uppermost position by spring **42** locating the locking pins **35** and spring straps **36** slightly above the upper surfaces of the disks **32** so that the locking pins **35** do not enter the holes **34** or interfere with free rotation of the castered wheels **31**.

When the foot pedal **43** is rotated counterclockwise from the FIGURE 7 position and the cam **45** passes through the line of force between the T bar member **38** and the pivot axis of the pedal **43**, the came **45** detents, as for example by engagement with a stop shoulder **46** on the T member **38**, at a position such as that illustrated in FIGURE 9 wherein the T bar member **38** is forced downwardly about its pivot **40** to a position locating the ends of the spring straps **36** fixed thereto at a lower level, for example in or below the planes of the disks **32**, wherein the locking pins **35** are urged downwardly against the adjacent surfaces of the disks **32**. This spring loads the locking pins **35** against the disks **32** so that movement of the carriage spring **10** in the direction chosen for transport will permit rotation of the disks **32** and their associated castered wheels **31** with the pins **35** loaded

thereagainst until the holes **34** align with and receive the locking pins **35**, after which further rotation of the castered wheels is prevented until the foot pedal **43** is again shifted clockwise to the FIGURE 7 position.

In the operation of the carriage frame, the mounting plate **19** and the apparatus carried thereby are normally disposed in the transport position illustrated in FIGURE 2 wherein the center of mass of the mounting plate and its supported apparatus lies above and approximately midway between the castered wheels and the proximal and distal sides of the frame and, for transport over relatively long distances, the foot pedal **43** is in the FIGURE 9 position and the locking pins **35** are engaged in the holes **34** of the disks **32** associated with the trailing caster wheels **31**. Assuming the mounting plate **19** is to be fitted on the track rails **24, 27** of a spinning frame, the carriage frame **10** is moved to a position near the rails **24, 27** and the foot pedal **43** is shifted over center clockwise to release the trailing caster wheels **31** for free rotation. The carriage frame **10** is then maneuvered toward the track rails **24, 27** until the lower track wheel **26** is immediately adjacent the lower track rail **27** and the crank handle **16** is then shifted in a clockwise direction as viewed in FIGURES 2 and 3 to move the shaft **18** overcenter with respect to the shafts **15** to the FIGURE 3 position, during the terminal portion of which the lower track wheel **26** butts against the lower track rail **27** and the upper track wheels **23** move in a downward arc onto the upper track rails **24**. This downward and forward movement of the mounting plate **19** during the terminal portion of its arcuate movement to the laterally projected position of FIGURE 3 considerably eases the job of properly interfitting the peripheral grooves of the upper track wheels **23** onto the track rail **24**. The motor and doffing and/or donning instrumentalities are then energized and the mounting plate **19** and doffing and/or donning units then track down the length of the track rails **24, 27**, the carriage frame **10** being freely carried thereby alongside the track rails due to their interconnection with the mounting plate **19** and the free castered condition of the wheels **30, 31**. At the completion of the run along the length of rails **24, 27**, the procedure is reversed to withdraw the mounting plate **19** and its supported instrumentalities to the retracted position of FIGURE 2 by merely rotating the crank handle **16** counterclockwise from the FIGURE 3 position to the FIGURE 2 position.

To facilitate collection of the doffed bobbins, the bottom frame portion **12** of the carriage frame is preferably formed of angle irons along three sides and a flat strap iron along the fourth side, as shown in FIGURE 1, to provide a convenient base opening to the side of the carriage frame opposite plate **19** to support a collecting pin or receptacle **47**. The receptacle **47** is thus conveniently disposed to receive doffed bobbins from the doffer unit **20** and is readily removable from the carriage frame when it is filled.

While but one preferred example of the present invention has been particularly shown and described, it is apparent that various modifications may be made therein within the spirit and scope of the invention, and it is desired, therefore, that only such limitations be placed on the invention as are imposed by the prior art and set forth in the appended claims.

What is claimed is:

1. A wheeled carriage for transporting a load over a floor and positioning the same in selectively aligned relation on a load receiving structure, comprising a rigid carriage frame having means defining a stationary horizontal pivot axis spaced above the floor, a plurality of floor engaging wheels journalled in said frame arranged in a pair of laterally spaced wheel zones lying on opposite sides of said pivot axis whereby said pivot axis lies between said wheel zones, a generally vertically arranged, vertically elongated rigid movable mounting panel having an upper portion located near the vertical level of said stationary pivot axis for supporting the load and a lower portion located below said stationary pivot axis, eccentric members rotatable about said stationary pivot axis having means pivoted to the upper portion of said panel defining a movable pivot axis paralleling and spaced eccentrically of said stationary pivot axis, and means for rotating said eccentric members about said stationary pivot axis between an inboard transport position disposing said movable pivot axis and the load supporting upper portion of said panel between said wheel zones for convenience of transport and a load transfer position disposing said movable pivot axis and the load supporting upper portion of said panel between said wheel zones for convenience of transport and a load transfer position disposing said movable pivot axis and the load supporting portion of said panel outboard of said wheel zones and projected laterally from one of the wheel zones to engage the load receiving structure.

2. A wheeled carriage for transporting a load over a floor and positioning the same in selectively aligned relation on a load receiving structure as defined in claim **1**, including means for restraining the lower portion of said panel adjacent said last-mentioned wheel zone to cause the panel to assume an upwardly and inwardly inclined orientation upon movement of said eccentric members to said inboard position to dispose the load substantially midway between said wheel zones.

3. A wheeled carriage for transporting a load over a floor and positioning the same in selectively aligned relation on a pair of vertically spaced horizontal tracks arranged in a substantially vertical track plane, comprising a rigid carriage frame having means defining a stationary horizontal pivot axis spaced above the floor, a plurality of floor engaging caster wheels journalled in said frame arranged in first and second laterally spaced wheel zones lying on opposite sides of said pivot axis to be disposed respectively adjacent and remote from said tracks for transfer of the load thereto, a generally, vertically arranged, vertically elongated rigid movable mounting panel having an upper portion located adjacent the vertical level of the uppermost of said tracks for supporting the load and a lower portion located adjacent the vertical level of the lowermost of said tracks, eccentric members rotatable about said stationary pivot axis having means pivoted to the upper portion of said panel defining a movable pivot axis paralleling and spaced eccentrically of said stationary pivot axis, and means for rotating said eccentric member about said stationary pivot axis between a first position disposing said movable pivot axis and the upper panel portion between said wheel zones for convenience of transport and a second position disposing said movable pivot axis outboard of said first wheel zone with said panel pivotally suspended in vertically depending relation therefrom in a plane substantially paralleling said track plane and projected laterally of said frame and first wheel zone to engage said tracks and conform to the track plane defined thereby.

4. A wheeled carriage for transporting an automatic bobbin doffer unit between textile spinning machines and transferring the same to a pair of vertically spaced horizontal elonagted track rails extending along a tracking axis on the side of a spinning machine for self-propelled tracking movement on the rails in preselected relation to a line of bobbin spindles to doff the bobbins therefrom, comprising a rigid carriage frame including a base frame portion having spaced opposite lateral edges adapted to be disposed respectively adjacent and remote from said rails during said tracking movement, a plurality of floor engaging caster wheels journalled on said base frame portion at said opposite lateral edges, said frame having means defining a horizontal pivot axis fixed relative to the frame and spaced above said base frame portion between the caster wheels at said lateral edges to be arranged in parallelism with the tracking axis, a vertically elongated rigid mounting panel having a lower portion adjacent said

base frame portion and an upper portion adjacent the level of the uppermost track rail for supporting said doffer unit at the upper portion of said panel, eccentric links rotatable about said fixed pivot axis having means pivoted to the upper portion of said panel defining a movable pivot axis paralleling and spaced from said fixed pivot axis, and means for rotating said eccentric links upwardly about said fixed pivot axis between a first position locating said movable pivot axis above said base frame portion between the lateral edges thereof to dispose the upper panel portion and doffer unit supported thereby at an intermediate position between said lateral edges and a second position locating said movable pivot axis in outwardly projected relation outboard of said lateral edges and toward said track rails for suspending said panel therefrom to engage the track rails and assume a selected orientation responsive thereto.

5. A wheeled carriage for transporting an automatic bobbin doffer unit between textile spinning machines and transferring the same to a pair of vertically spaced horizontal elongated track rails extending along a tracking axis on the side of a spinning machine for self-propelled tracking movement on the rails in preselected relation to a line of bobbin spindles to doff the bobbins therefrom, comprising a rigid carriage frame including a base frame portion having spaced opposite lateral edges adapted to be disposed respectively adjacent and remote from said rails during said tracking movement, a plurality of floor engaging caster wheels journalled on said base frame portion at said opposite lateral edges, providing support points for said frame spaced apart transversely of said tracking axis to stabilize the frame against lateral tilting, said frame including spaced upright members to be disposed in a plane paralleling said tracking axis having means defining a horizontal pivot axis fixed relative to the frame and spaced above said base frame portion between the caster wheels at said lateral edges to be arranged in parallelism with the tracking axis, a vertically elongated rigid mounting panel having a lower portion adjacent said base frame portion and an upper portion adjacent the level of the uppermost track rail for supporting said doffer unit at the upper portion of said panel, eccentric links rotatable about said fixed pivot axis having means pivoted to the upper portion of said panel defining a movable pivot axis paralleling and spaced from said fixed pivot axis, means for rotating said eccentric links upwardly about said fixed pivot axis between a first position locating said movable pivot axis above said base frame portion between the lateral edges thereof to dispose the upper panel portion and doffer unit supported thereby at an intermediate position between said lateral edges and a second position locating said movable pivot axis in outwardly projected relation outboard of said lateral edges and toward said track rails for suspending said panel therefrom to engage the track rails and assume a selected orientation responsive thereto, said panel having a pair of outwardly projecting upper grooved track wheels to interfit on the uppermost track rail and support said panel therefrom and a lower track wheel to bear laterally against the lowermost track rail for orienting said panel.

6. In a wheeled carriage as defined in claim 5, said base frame portion having a stop surface spaced slightly inwardly toward the frame from the lowermost track wheel when said panel occupies the projected outboard position to engage said lowermost track wheel upon movement of the upper panel portion to the intermediate position and restrain the lower panel portion adjacent the lateral edge of the base frame portion and outwardly of the first position of said movable pivot axis whereby the panel assumes an upwardly and inwardly inclined orientation at said intermediate position.

7. A wheeled carriage for transporting an automatic bobbin doffer unit or the like over the floor of a textile spinning room and positioning the same for self-propelled tracking movement along a line of travel on a pair of vertically spaced horizontal rails at the side of a spinning machine in a preselected path and orientation relative to a line of bobbin spindles, comprising a rigid carriage frame having a pair of upright members spaced from each other extending to substantially the height of the uppermost of said rails adapted to be arranged in a common plane paralleling and spaced transversely from said rails, a plurality of floor engaging caster wheels journalled on said frame, a rigid vertically elongated panel member forming a support for the doffer unit located between said upright members adapted to be located in a vertical plane adjacent said rails and projected laterally from the frame relative to said line of travel, said panel member having a pair of upper track wheels in the upper region thereof projecting therefrom toward the rails to be positioned on the uppermost rail and a lower track wheel at a lower portion thereof for engaging the lowermost rail to coactively support said frame member in said vertical plane and drive the same and said carriage frame along said path, eccentric arms pivoted to said upright members about a fixed pivot axis lying within said frame and pivotally coupled to an upper part of said panel member about a movable pivot axis paralleling said fixed axis for supporting the panel member from said upright members for movement between a transport position locating the center of mass of said panel member and the doffer unit thereon within said carriage frame and said projected position wherein said center of mass is located to one side of the carriage frame, said movable pivot axis moving through an arc above said fixed pivot axis during movement between said positions whereby the upper track wheels move through a downward arcuate path from a point of maximum elevation spaced above the uppermost rail during the terminal portion of movement thereof toward said projected position to facilitate mounting of the track wheels on said rails.

8. A wheeled carriage for transporting an automatic bobbin doffer unit or the like over the floor of a textile spinning room and positioning the same for self-propelled tracking movement along a line of travel on a pair of vertically spaced horizontal rails at the side of a spinning machine in a preselected path and orientation relative to a line of bobbin spindles, comprising a rigid carriage frame having a pair of upright members spaced from each other extending to substantially the height of the uppermost of said rails adapted to be arranged in a common plane paralleling and spaced transversely from said rails, a plurality of floor engaging caster wheels journalled on said frame, a rigid vertically elongated panel member forming a support for the doffer unit located between said upright members adapted to be located in a vertical plane adjacent said rails and projected laterally from the frame relative to said line of travel, said panel member having a pair of upper track wheels in the upper region thereof projecting therefrom toward the rails to be positioned on the uppermost rail and a lower track wheel at a lower portion thereof for engaging the lowermost rail to coactively support said frame member in said vertical plane and drive the same and said carriage frame along said path, eccentric arms pivoted to said upright members about a fixed pivot axis lying within said frame and pivotally coupled to an upper part of said panel member about a movable pivot axis paralleling said fixed axis for supporting the panel member from said upright members for movement between a transport position locating the center of mass of said panel member and the doffer unit thereon within said carriage frame and said projected position wherein said center of mass is located to one side of the carriage frame, said movable pivot axis moving through an arc above said fixed pivot axis during movement between said positions whereby the upper track wheels move through a downward acurate path from a point of maximum elevation spaced above the uppermost rail during the terminal portion of movement thereof

toward said projected position to facilitate mounting of the track wheels on said rails, and stop surface means on said frame for engaging said lower track wheel upon movement of said eccentric arms from said projected position to said transport position to maintain the lower panel member portion at a position spaced laterally of and below the movable pivot axis disposing said panel member in upwardly and inwardly inclined relation at said transport position.

9. A wheeled carriage as defined in claim **1** wherein said wheels are journalled in said frame for free swiveling movement about vertical axes, said wheels including a leading wheel and a trailing wheel in each wheel zone relative to a selected direction of travel, latching means for selectively restraining the trailing wheels in said zones against swiveling movement from planes paralleling said selected direction of travel, and foot pedal means for selectively positioning said latching means in restraining relation to said trailing wheels and withdrawing the latching means to a release position freeing the trailing wheels for free swiveling movement.

10. A wheeled carriage as defined in claim **4** wherein said wheels are journalled in said frame for free swiveling movement about vertical axes, said wheels including a leading wheel and a trailing wheel in each wheel zone relative to a selected direction of travel, latching means for selectively restraining the trailing wheels in said zones against swiveling movement from planes paralleling said selected direction of travel, and foot pedal means for selectively positioning said latching means in restraining relation to said trailing wheels and withdrawing the latching means to a release position freeing the trailing wheels for free swiveling movement.

11. A wheeled carriage for transporting an automatic bobbin doffer unit or the like over the floor of a textile spinning room between spinning machines therein and positioning the same for self-propelled tracking movement on horizontal track means at the side of a spinning machine in a preselected path and orientation relative to a line of bobbin spindles, comprising a rigid carriage frame including a rectangular base frame portion having parallel lateral edges and leading and trailing ends relative to a selected direction of travel paralleling said track means, means extending upwardly from said base frame portion for supporting said doffer unit at substantially the level of said spindles, a plurality of floor engaging caster wheels journaled on said base frame portion for swiveling movement about vertical axes including a leading wheel and a trailing wheel adjacent each side of said base frame portions relative to said selected directions, detent means adjacent each of the trailing caster wheels adjustable to an active position latching the same in wheel planes paralleling said sides and said selected direction of travel and to an inactive position releasing said trailing wheel for free swiveling movement, and foot pedal means for conjointly adjusting said detent means to said active and inactive positions, said detent means comprising a horizontal disk on each of said trailing wheels each having a socket therein at a selected angular position, a spring member adjacent each disk having a detent projection extending toward the associated disk in the path of the socket therein, a pivoted support for the spring members normally biased to an elevated position spacing said detent projections above said disks out of coactive engagement therewith, and said foot pedal means having a pivoted cam engaging said support eccentrically of the pivot axis thereof adjustable to a first angular position allowing said support to assume said elevated position and a second angular position forcing said support to a lower position wherein said detent projections are biased against said disks to enter said sockets when the trailing wheels align with said wheel planes.

12. A wheeled carriage for transporting an automatic bobbin doffer unit or the like over the floor of a textile spinning room between spinning machines therein and positioning the same for self-propelled tracking movement on horizontal track means at the side of a spinning machine in a preselected path and orientation relative to a line of bobbin spindles, comprising a rigid carriage frame including a rectangular base frame portion having parallel lateral edges and leading trailing ends relative to a selected direction of travel paralleling said track means, means extending upwardly from said base frame portion for supporting said doffer unit at substantially the level of said spindles including eccentric pivot means for moving the doffer unit laterally from a transport position overlying said base frame portion to a tracking position projecting portions of the doffer unit laterally outwardly from the frame, a plurality of floor engaging caster wheels journalled on said base frame portion for swiveling movement about vertical axes including a leading wheel and a trailing wheel adjacent each side of said base frame portions relative to said selected directions, detent means adjacent each of the trailing caster wheels adjustable to an active position latching the same in wheel planes paralleling said sides and said selected direction of travel and to an inactive position releasing said trailing wheel for free swiveling movement, and foot pedal means for conjointly adjusting said detent means to said active and inactive positions, said detent means comprising a horizontal disk on each of said trailing wheels each having a socket therein at a selected angular position, a spring member adjacent each disk having a detent projection extending toward the associated disk in the path of the socket therein, a pivoted support for the spring members normally biased to an elevated position spacing said detent projections above said disks out of coactive engagement therewith, and said foot pedal means having a pivoted cam engaging said support eccentrically of the pivot axis thereof adjustable to a first angular position allowing said support to assume said elevated position and a second angular position forcing said support to a lower position wherein said detent projections are biased against said disks to enter said sockets when the trailing wheels align with said wheel planes.

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