Feb. 23, 1971 S. J. NELSON 3,564,626

BABY CARRIAGE ROCKER DEVICE

Filed April 3, 1969 2 Sheets-Sheet 1

FIG. 1

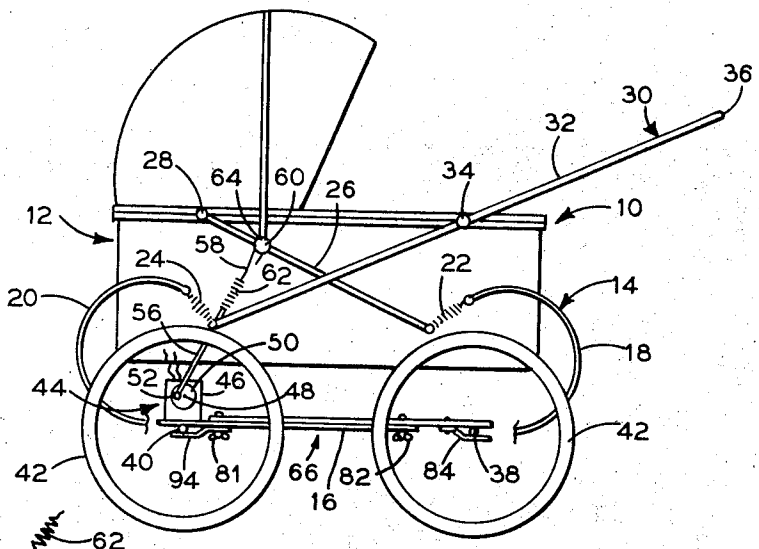


FIG. 2

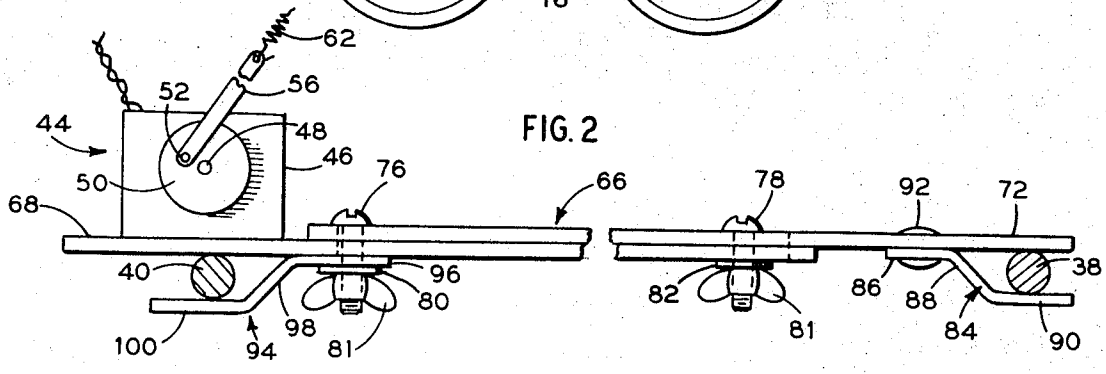
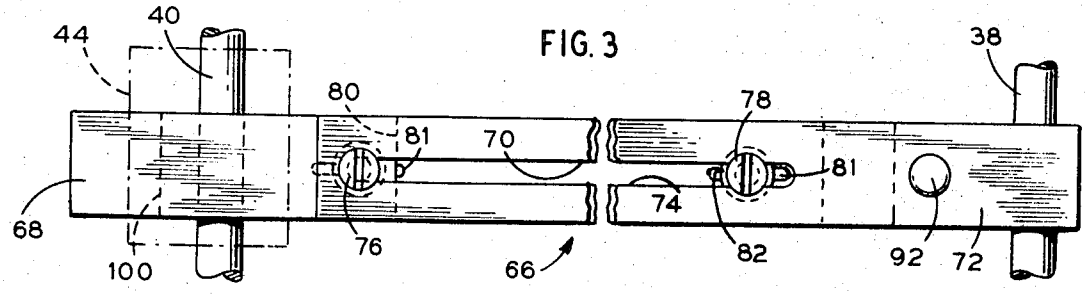


FIG. 3



INVENTOR.
Steve J. Nelson

BY Irving Seidman

ATTORNEY

Feb. 23, 1971 S. J. NELSON 3,564,626

BABY CARRIAGE ROCKER DEVICE

Filed April 3, 1969 2 Sheets-Sheet 2

FIG. 4

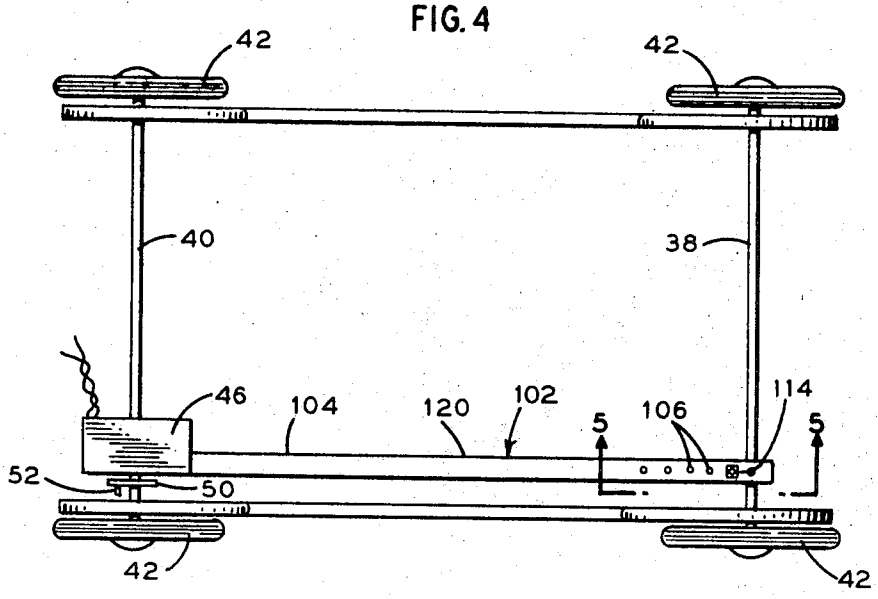


FIG. 5

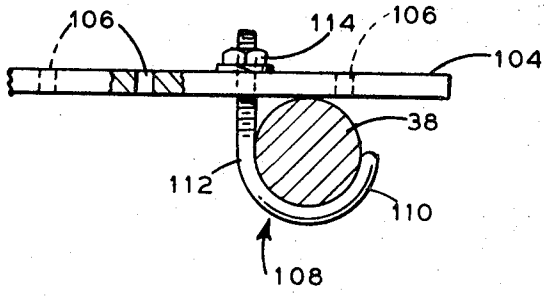
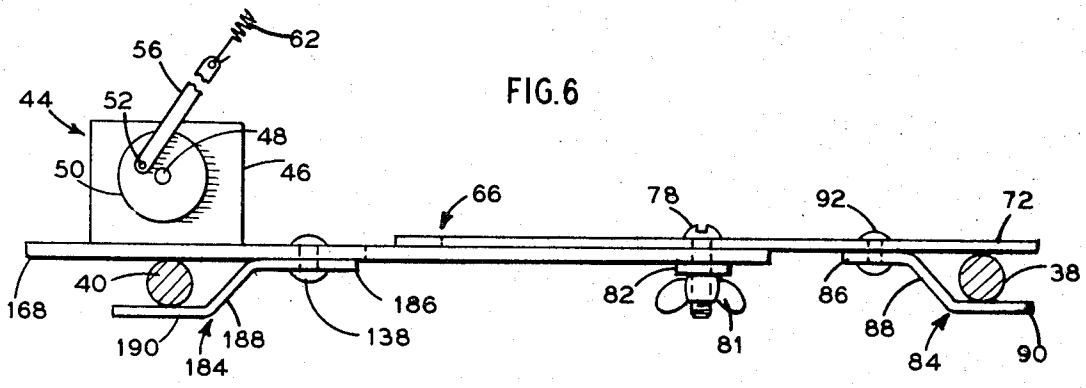


FIG. 6



United States Patent Office 3,564,626
Patented Feb. 23, 1971

3,564,626

BABY CARRIAGE ROCKER DEVICE

Steve J. Nelson, 351 W. 18th St.,
New York, N.Y. 10011

Filed Apr. 3, 1969, Ser. No. 813,227
Int. Cl. A47d 9/02
U.S. Cl. 5—109 3 Claims

ABSTRACT OF THE DISCLOSURE

A baby carriage rocker device for a baby carriage of the type having a coach resiliently mounted on a frame wherein the frame is supported by at least two spaced axles, the device includes a motor having a rotatable shaft which mounts a disc provided with an eccentrically located pin. The motor is supported by means which extends between and is connected to the axles so that the weight of the motor does not unbalance the carriage. The pin is connected to one side of the frame by a spring connection so that the rotation of the shaft affects rocking of the carriage.

This invention relates generally to a baby carriage rocker device and, more particularly, pertains to a safe and effective device for automatically rocking a baby carriage.

Practically all commercially available baby carriages manufactured today include a coach or a body portion which is resiliently mounted on a frame. The coach is adapted to be rocked by grasping the handle of the frame and applying an up and down motion thereto to relax and/or soothe an infant and induce the infant to sleep. However, an operator is required to impart this rocking motion to the coach and, accordingly, is essentially tied up during this interval so that the rocking of a child to sleep becomes an extremely time consuming operation. Additionally, this operation becomes even more of a problem when taken into consideration that the operator is the mother of the child who must also oversee the other children in the family at the same time.

In an effort to ameliorate the above problem, automatic rocking devices have been proposed in the past. These devices are mounted on the carriage and, in some manner, connected to the coach so that actuation of the rocking device affects rocking of the coach. However, these devices are usually heavy as compared to the weight of the carriage and, when mounted on the carriage, usually unbalance the same. Hence, a simple shift in weight of the infant from one side of the carriage to the other may overturn the carriage. Thus these devices present an even greater problem than the problem they are designed to solve.

Accordingly, an object of this invention is to provide an improved automatic rocker device for a baby carriage.

A more specific object of this invention is to provide a baby carriage rocker device which is simple in construction and reliable in operation.

Another object of the invention resides in the novel details of construction which provide a baby carriage rocker device of the type described which is securely supported by the frame of the carriage thereby eliminating the possibility of overturning of the carriage due to the rocker device.

A further object of the invention is the provision of a rocker device which is compatible for use with practically all makes of presently available baby carriages.

Accordingly, a rocker device constructed in accordance with the present invention is adapted to be used in conjunction with a baby carriage of the type having a frame

which includes at least two spaced axles and a coach resiliently mounted on the frame. The device comprises a motor having a rotatable shaft which mounts a disc. Eccentrically mounted on the disc is a pin and connecting means is provided for connecting the pin to the frame so that rotation of the disc affects rocking of the carriage. Support means is provided for supporting the motor. The support means has clamping means at each end for engaging respective ones of the axles to fix the support means securely in place between the two axles.

A feature of the present invention is to provide a rocking device for a baby carriage which is connected to the axles of the carriage to provide a safe and secure support.

Other features and advantages of the present invention will become more apparent from a consideration of the following detailed description when taken in conjunction with the accompanying drawing, in which:

FIG. 1 is a front elevational view of a baby carriage provided with a rocker device constructed according to the present invention;

FIG. 2 is a detailed front elevational view, with parts broken away, of the support means of the present invention;

FIG. 3 is a top plan view of a portion of the support means illustrating how the length of the support means is varied;

FIG. 4 is a top plan view of a modified embodiment of a support means of the device of the present invention;

FIG. 5 is a detail view, to an enlarged scale, of a portion of the device shown in FIG. 4 illustrating a clamping arrangement for connecting the support means to an axle of the carriage; and

FIG. 6 is a detailed front elevational view, with parts broken away and partially in section, of a modified embodiment of support means constructed according to the present invention.

As noted hereinabove, the rocker device of the present invention is adapted to be utilized with a carriage of the type shown in FIG. 1 and designated generally by the reference number **10**. More specifically, the carriage **10** includes a body or a coach portion **12** which receives the infant. The coach **12** is mounted on a frame which is designated generally by the reference number **14**. The frame **14** includes a bottom member having a substantial horizontal portion **16** and opposed inwardly curved end portions **18** and **20**. A similar bottom member is located on the other side of the carriage. Connected to the ends of curved portions **18** and **20** are respective springs **22** and **24**. A coach supporting strut **26** is provided. One end of the strut **26** is connected to the coach at **28** and the other end of the strut **26** is connected to the spring **22**. An elongated U-shaped handle member **30** similarly is provided. A leg **32** of the member **30** extends along one side of the coach **12** and the other leg (not shown) extends along the far side of the coach. As shown in FIG. 1, the end of the leg **32** is connected to the spring **24** and a rivet **34** connects an intermediate portion of the leg **32** to the coach **12**. The bight **36** of the member **30** forms the handle of the carriage. A similar supporting arrangement is located on the far side of the carriage.

It will now be apparent that the coach **12** is resiliently supported on the frame **14**. In other words, the springs **22** and **24** provide a floating connection for the coach **12** to the bottom member so that the carriage may easily be rocked by exerting an up and down movement on the handle **36**. As is conventional in constructions of this type, longitudinally spaced axles **38** and **40** are provided which are fixedly received in appropriate aperatures in the respective bottom members. The ends of the axles **38** and **40** rotatably mount wheels **42** so that the carriage **12** may be wheeled easily from place to place.

Alternatively, the axles **38** and **40** may be rotatably received in the bottom members and the wheels received on the ends of the axles.

It is emphasized that the carriage described above is for illustrative purposes only and is not to be interpreted as a limitation on the present invention. That is, the device of the present invention is adapted to be used with any carriage having a coach portion which is resiliently mounted on a frame, and is not limited to a coil spring connection between the coach and the frame, as shown above, but may be a leaf spring or any other type of resilient mounting.

The device of the present invention is designated generally by the reference numeral **44** in FIG. 1 and includes a motor **46** having a rotatable output shaft **48**. Fixably received on the output shaft **48** is a disc **50** having an eccentrically located pin **52** thereon. Pivotally connected to the pin **52** is a rod **56**. A member **58** having a hook end **60** is connected to the rod **56** by a spring **62**. The member **58** and/or the rod **56** may be fabricated from a dielectric material so that the rod and the member are insulators which effectively prevent the transfer of current from the motor **46** to the metal frame in case of a malfunction to eliminate the possibility of shock hazard. The hooked end **60** of the member **58** engages an outwardly projecting knob **64** on the strut **26**.

As noted above, a disadvantage of similar prior rocker devices resided in the fact that the motor, when placed on the frame **14**, unbalanced the frame to such a degree that a shifting weight of the infant in the coach **12** could cause the whole carriage to overturn. In contradistinction thereto, the present invention includes a supporting device designated generally by the reference numeral **66** and shown in detail in FIGS. 2 and 3, which securely and safely mounts the motor **46** on the frame **14**. To be more specific, the supporting device **66** includes a first substantially rectangular member **68** which is provided with an elongated slot **70** adjacent to one end thereof. A second rectangular member **72** is provided which is received in superposed relationship to the member **68** and which is similarly provided with an elongated slot **74** adjacent to one end. Spaced screws **76** and **78** extend through the slot **74** and **70** in the members **72** and **68**. Received on the screws **76** and **78** are washers **80** and **82** which have diameters in excess of the width of the slots **74** and **70** and which abut the undersurface of the member **68**. Winged nuts **81** are received on the ends of the screws **76** and **78** and are adapted to be screwed down tightly to cause the washers **80** and **82** to affixably abut the undersurface with sufficient force to prevent relative movement between the members **68** and **72**. Accordingly, it will be obvious that the overall length of the supporting device **66** may be changed simply by loosening the winged nuts on the screws **76** and **78** so that the members **68** and **72** may be moved relative to each other. That is, if the members **68** and **72** are moved away from each other the length of the supporting device **66** will increase. On the other hand, if the members are moved toward each other the overall length of the device **66** will decrease. After the correct length has been chosen, the winged nuts again may be tightened to prevent relative movement of the members **68** and **72** thereby fixing the length of the supporting device **66**.

Connected to the supporting device **66** are clamps for securely clamping the supporting device to the frame **14**. More specifically, a clamp **84** is connected to the front end of the member **72** for affixing the supporting device **66** to the axle **38**. The clamp **84** includes a rearwardly extending section **86**, a downwardly and forwardly extending section **88** and a forwardly extending horizontal portion **90**. The section **86** is affixed to the undersurface of the member **72** by a rivet **92**. As shown in FIG. 2, the axle **38** is adapted to be received between the member **72** and the forwardly extending portion **90** of the clamp. In practice, the space between the member **72** and the section or portion **90** is slightly smaller than the diameter of the axle so that the axle **38** will be frictionally retained in place.

Connected to the screw **76** is a rear clamp **94**. Similarly to the clamp **84**, the clamp **94** includes an upper horizontal section **96**, a downwardly and rearwardly extending section **98** and a rearwardly extending horizontal portion **100**. The axle **40** is adapted to be received between the member **68** and the horizontally extending portion **100** of the clamp **94**. Similarly to the clamp **84**, the space between the portion **100** and the member **68** is slightly smaller than the diameter of the axle **40**. The motor **46** is connected to the member **68** in any conventional manner as by screws or the like, and is positioned adjacent the end of the member **68**, as shown in FIG. 2.

In operation, the screws **76** and **78** are loosened so that the members **68** and **72** may be moved relative to each other. The supporting device **66** is collapsed to a small length and is inserted under that carriage coach **12**. The front end of the member **72** is positioned so that the axle **38** is received between the portion **90** of the front clamp **84** and the member **72**. Thereafter, the member **68** is moved rearwardly and with respect to the member **72** until the motor **46** is positioned over the axle **40** of the carriage frame **14**. The screw **78** is then tightened to fix the length of the supporting device **66**. The rear clamp **94** is then moved rearwardly in the slots **74** and **70** until the rear axle **40** is received between the clamp **94** and the member **68**. Thereafter, the winged nut **81** is tightened to affix the clamp in place and securely clamp the supporting device **66** to the axles **38** and **40**. The hook end **60** of the member **58** is then placed around the knob **64** to connect the rocker device **44** with the carriage. The motor **46** is connected to an energizing source by an appropriate lead (not shown).

As the output shaft of the motor **46** rotates, the disc **50** similarly rotates thereby stretching the spring **62** and applying a downward force on the knob **64**. Accordingly, the coach portion **12** is tilted toward the side and the rear portion of the coach is pulled downwardly. As the disc **50** completes a revolution the tension of the spring is relaxed so that the carriage coach portion **12** is allowed to return to its normal position. However, because of the inertia of the coach, it passes beyond its normal position and tilts toward the other side while the rear portion of the coach moves upwardly. Hence, the total movement imparted to the coach is both a rocking movement and a tilting movement thereby enhancing the efficacy of the device of the present invention.

It is to be noted that the supporting device **66** extends between and is securely connected to the axles **38** and **40** thereby distributing the weight of the rocker device of the present invention in such as manner so that the carriage **10** is not unbalanced. Hence, the present device provides a relatively safe means for automatically rocking the carriage. Additionally, in practice the motor **46** is located directly over the axle **40**. Hence, the heaviest portion of the rocker device of the present invention, which is the motor **46**, is supported directly by the frame **14** of the carriage so that no eccentric forces are applied to the carriage **10**.

FIGS. 4 and 5 illustrate a modified embodiment of the present invention which is similar to the embodiment shown in FIGS. 1–3 with the exception that the embodiment of FIGS. 4 and 5 includes a supporting device **102**. The supporting device **102** comprises substantially rectangular member **104** which is provided at the rear end with a clamp similar to the clamp **84**. It is to be understood that the rear axle **40** is received between this clamp and the member **104** and the motor **46** again is located directly over the axle **40**. However, the front end of the member **104** is provided with a plurality of longitudinally spaced holes **106** one of which is adapted to receive the front clamp **108**, as shown in

FIG. 5. The clamp **108** includes a curved portion **110** and a threaded shaft portion **112**.

In operation, the shaft portion **112** is inserted upwardly through the hole **106** which is nearest the axle **38**. The curved portion **110** is engaged beneath the axle **38** and a winged nut **114** is threaded onto the shaft **112** extending above the member **104**. The winged nut is tightened in the conventional manner thereby drawing the curved portion **110** against the axle **38** to affix the rocker device securely in place.

A further modified embodiment is illustrated in FIG. 6, wherein like reference numerals designate identical elements as those shown in FIGS. 1–5. In the embodiment of FIG. 6 the motor **46** is mounted on a platform **168**. Affixed to the underside of the platform **168** by a rivet **138** or the like is a clamp **184** which includes a horizontal upper arm **186**, a downwardly and rearwardly extending intermediate leg **188** and a rearwardly extending bottom arm **190**. The axle **40** is adapted to be received between the arm **190** and the platform **168**. As shown in FIG. 6 the clamp **184** is positioned so that the motor **46** is located over the axle **40** to eliminate the possibility of unbalanced forces being applied to the carriage. Additionally, two or more transversely spaced clamps **184** may be provided to further connect the device of the present invention with the carriage.

Accordingly, a rocker device for a baby carriage has been disclosed which is simple in construction and reliable in operation and which does not create any unbalanced forces which would tend to cause the carriage to become unsafe and be easily overturned by the shifting weight of the infant in the coach portion of the carriage. As an added safety feature, the supporting device **66** is preferably constructed of wood to prevent the transfer of current from the motor **46** to the metal frame in case of a malfunction to eliminate the possibility of shock hazard. It will be further appreciated that by employing winged nuts **81** as heretofore described, the instant rocker device can be quickly and easily mounted on the baby carriage for use, and removed therefrom when desired, for folding, transporting or storing the carriage.

While preferred embodiments of the invention have been shown and described herein it will become obvious that numerous omission, changes and additions may be made in such embodiments without departing from the spirit and scope of the present invention. For example, the motor **46** may be operated from a battery which is positioned on the supporting device **66** or **102** thereby eliminating the need to connect the motor **46** to an external source of energy. Additionally, the motor **46** may be energized from a timing device which times the interval that the motor is energized so that after a preselected interval of time the rocker device will become de-energized to stop the rocking of the carriage.

What is claimed is:

1. A baby carriage rocker device for a baby carriage of the type having a frame including at least two spaced axles and a coach resiliently mounted on said frame, said device comprising a motor having a rotatable shaft, support means for supporting said motor, said support means being adjustable and comprising a first member having an elongated slot and a second member having an elongated slot in superposed relation to said first member, a screw extending through the elongated slots of said first and second member, and tightening means on the end of said screw adapted to tighten said screw in place to prevent relative movement of said first and second members, clamping means at each end of said support means for engaging respective ones of said axles to affix said support means between said two axles, said clamping means including a front clamp connected to one of said members and adapted to receive one of said axles between said front clamp and one of said members, and a movable rear clamp connected to said support means and adapted to be moved to a position wherein said other axle is received between said rear clamp and said support means, and tightening means for tightening said rear clamp in place, a disc connected to said motor shaft and eccentrically mounting a pin thereon, and connecting means for connecting said pin to said frame, whereby rotation of said disc affects rocking of said carriage.

2. A baby carriage rocker device as in claim **1**, in which said motor is located on said support means so that said motor is positioned over one of said axles when said device is connected to a baby carriage.

3. A baby carriage rocker device as in claim **1**, in which said connecting means includes a hooked member adapted to engage a portion of said frame, and a spring connected between said hooked member and said pin.

References Cited

UNITED STATES PATENTS

628,149	7/1899	Sinclair	180—1(B-X)
2,670,969	3/1954	Costikyan	280—47.13
3,075,205	1/1963	Canova	5—109

FOREIGN PATENTS

1,323,337	5/1962	France	5—108

LEO FRIAGLIA, Primary Examiner

R. R. SONG, Assistant Examiner

U.S. Cl. X.R.

280—31, 47.38