

March 13, 1928.

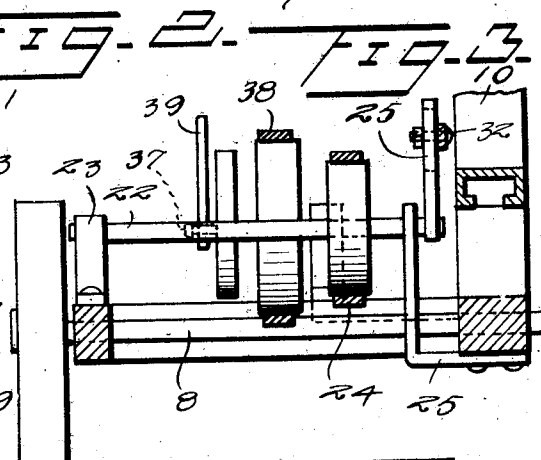
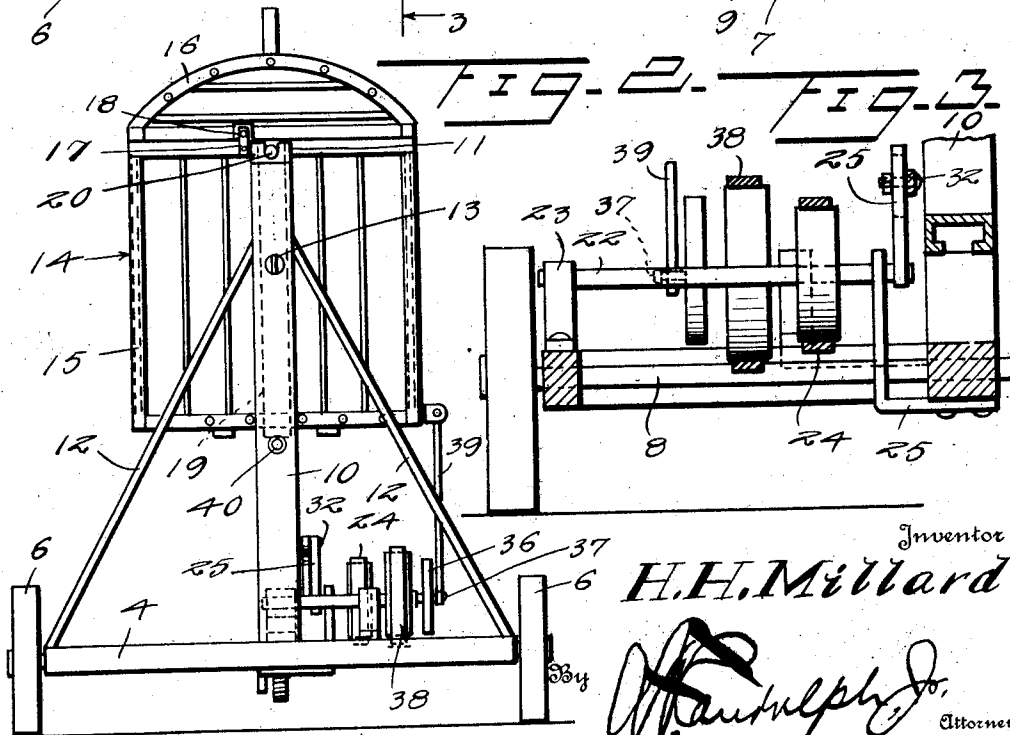
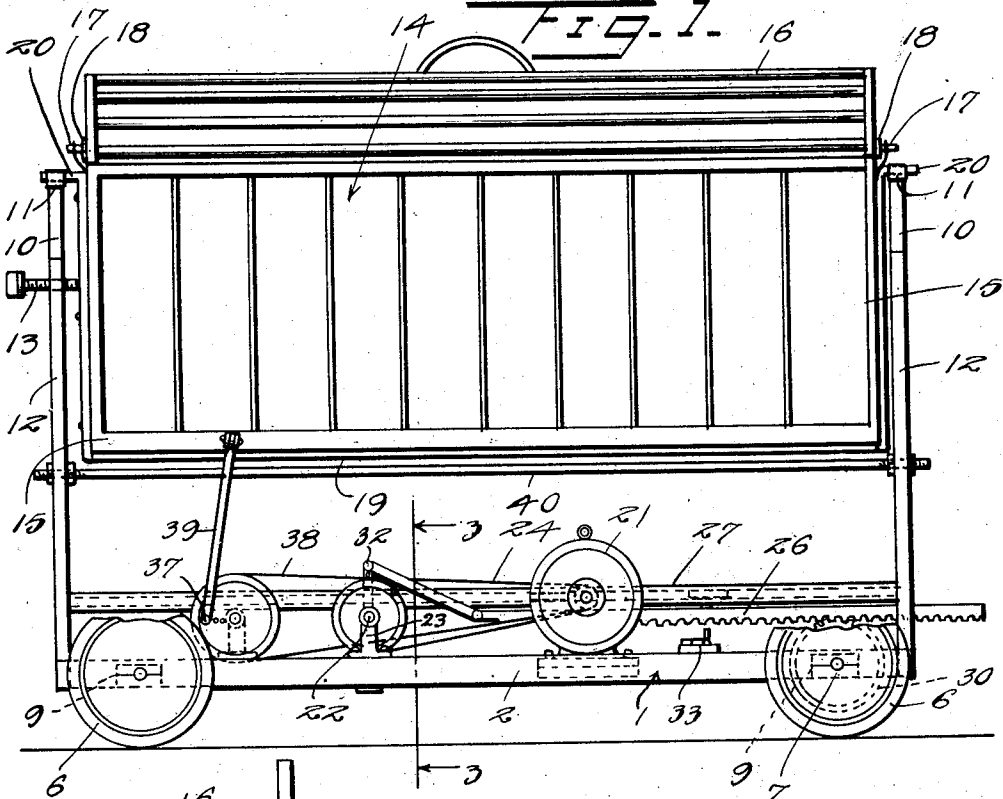
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H. H. MILLARD

AUTOMATIC REVERSING SELF ROCKING CRADLE CARRIAGE

Filed Feb. 10, 1927

2 Sheets-Sheet 1



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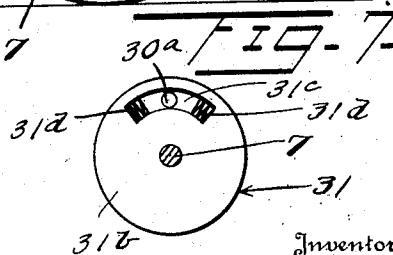
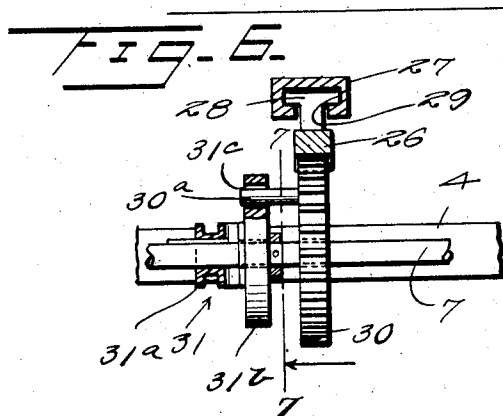
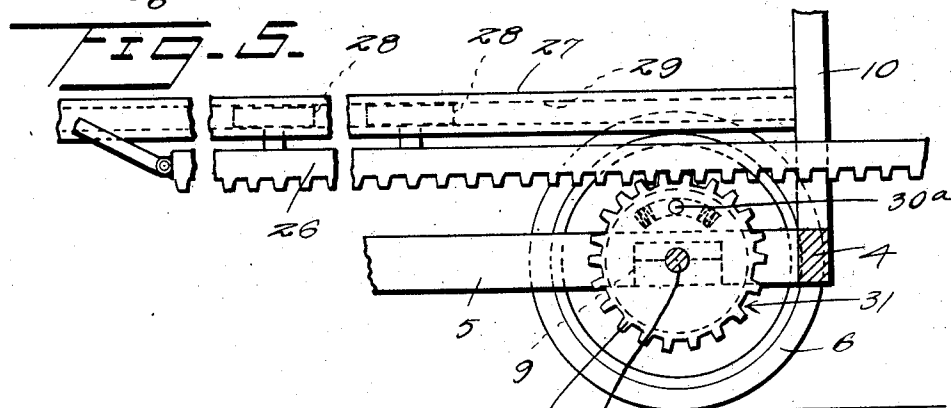
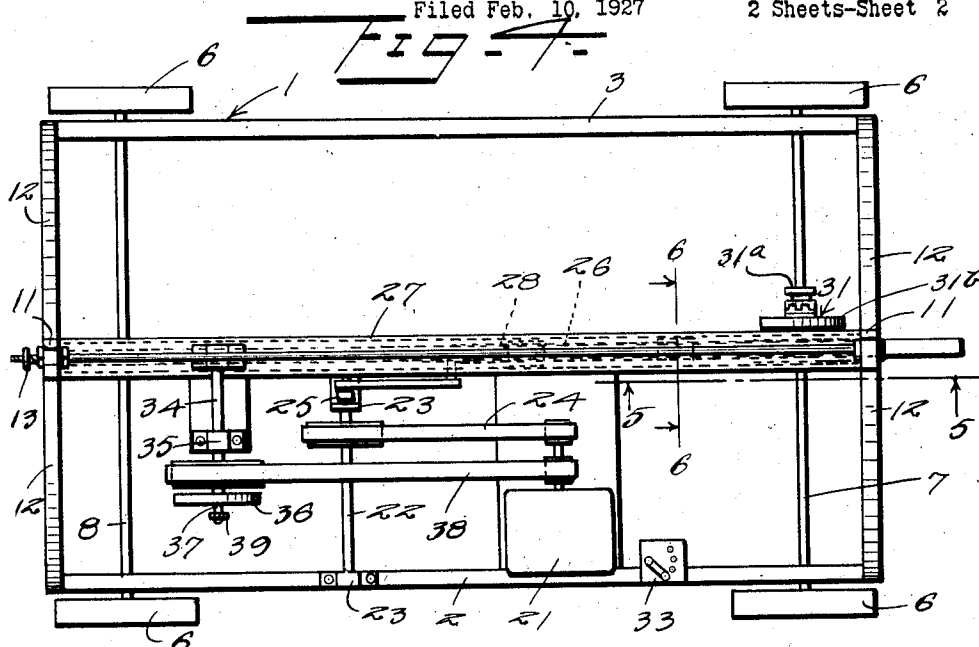
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

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AUTOMATIC REVERSING SELF-ROCKING CRADLE CARRIAGE.

Application filed February 10, 1927. Serial No. 167,292.

This invention relates to apparatus of that type comprising a carriage and a baby cradle rockably mounted on the carriage.

The invention has for one of its objects to provide a novel, simple and highly efficient apparatus of this character which shall comprise means adapted to automatically move the carriage back and forth in a path of predetermined length and at the same time automatically rock or swing the cradle from side to side.

A further object of the invention is to provide an apparatus of the character stated wherein the carriage propelling and cradle rocking means shall be of such construction as to permit the cradle to be held against rocking movement while the carriage is in motion or to permit the carriage to remain at rest while the cradle is in motion.

With the foregoing and other objects in view, the nature of which will become apparent as the description proceeds, the invention consists of the construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, wherein:

Figure 1 is a view in side elevation of the apparatus,

Figure 2 is a view in end elevation of the apparatus,

Figure 3 is a sectional view taken on the vertical plane indicated by the line 3—3 of Figure 1,

Figure 4 is a top plan view of the carriage of the apparatus,

Figure 5 is a sectional view taken on the vertical plane indicated by the line 5—5 of Figure 4,

Figure 6 is a sectional view taken on the vertical plane indicated by the line 6—6 of Figure 4, and

Figure 7 is a similar view taken on the plane indicated by the line 7—7 of Figure 6.

Referring to the drawings by reference characters, 1 designates the carriage of the apparatus. This part comprises a frame which is of elongated rectangular formation and comprises side bars 2 and 3, front and rear end bars 4 and a bar 5 positioned centrally between the side bars and secured to the end bars. The frame is supported by wheels 6 which are fixed to axles 7 and 8. The axles 7 and 8 are journaled in bearings 9 fixed to the side bars 2 and 3. Standards

or uprights 10 are secured to the end bars 4 centrally between the side bars 2 and 3, and are provided at their upper ends with open bearings 11. Braces 12 are secured to the end bars 4 and to the standards 10, and one of the standards carries a thumb bolt 13.

The cradle 14 which may be made of any suitable material and of any suitable configuration, comprises a body 15 and a top or cover 16. The top or cover 16 is removably secured to the body 15 by spring pressed bolts 17 which are secured to the body and retractably engaged with keepers 18 secured to the top. The cradle 14 is rockably mounted on the carriage 1 through the medium of a yoke 19 to and within which the body 15 is secured. The yoke 19 is provided at its upper ends with trunnions 20 which are mounted in the bearings 11. The cradle 14 may be held against rocking movement with respect to the carriage 1 by turning the thumb bolt 13 into engagement with the adjacent end member of the yoke 19.

The means for automatically moving the carriage 1 back and forth in a path of predetermined length, comprises an electric motor 21 of approximately one-eighth horse power and secured to the bars 2 and 5. A shaft 22 extending transversely of the carriage 1 and journaled in bearings 23 carried by the bars 2 and 5, is driven from the motor 21 by a belt 24, and is provided with a crank 25. A rack bar 26 extending longitudinally of the carriage 1 and connected to the crank 25, is suspended from a combined supporting and guiding bar 27 which also extends longitudinally of the carriage and is secured to the standards 10. The rack bar 26 is slidably connected to the supporting and guiding bar 27 by headed members 28 secured to the former and positioned in a slot 29 in the latter. The rack bar 26 meshes with a pinion 30 which is loosely mounted on the axle 7 and which is adapted to be engaged with and disengaged from the axle through the medium of a clutch 31.

The reciprocation of the rack bar 26 imparts a forward and backward movement to the carriage 1. The distance that the carriage 1 is moved may be varied by adjusting the pin 32 on the crank 25 with respect to the shaft 22. The rate of motion of the carriage 1 can be varied through the medi-

um of a rheostat 33 which is included in the circuit of the motor 21 and secured to the bar 2.

The means for rocking the cradle 14 comprises a shaft 34 journaled in a bearing 35 carried by the bar 5 and provided with a disk 36 having a wrist pin 37. The shaft 34 is driven from the motor 21 by a belt 38. A link 39 is connected to the cradle 14 and to the wrist pin 37 so that the shaft 34 will when in motion impart a rocking movement to the cradle.

The clutch 31 comprises a member 31^a splined to the axle 7 and a member 31^b loose on the axle. The member 31^b is provided with an arcuate slot 31^c for the reception of a pin 30^a projecting laterally from the pinion 30, and buffers 31^d are secured within the slot at opposite sides of the pin. The clutch 31 is of such construction and so connected to the pinion 30 that the carriage 1 is stopped at the limit of its movement in each direction and its direction of travel reversed without appreciable jar. To render it impossible for a child to tilt the cradle 14 far enough to dislodge the infant from the cradle, a horizontal rod 40 is secured to and between the standards 10 at a point below and in close proximity to the bottom of the cradle. The position of the rod 40 with respect to the cradle 14 is such that the bottom of the cradle will contact therewith before the cradle reaches such an angular position as to cause the infant to roll or fall therefrom.

The cradle 14 may be rocked while the carriage 1 is in motion, and the angle through which it is moved may be varied by adjusting the wrist pin 37 on the disk 36 with respect to the shaft 34. When it is desired to secure the cradle 14 against rocking movement the thumb bolt 13 is turned into engagement with the yoke 19 and the belt 38 is shifted off of its pulley on the shaft 34. The rate of the rocking movement of the cradle 14 may be regulated through the medium of the rheostat 33. When it is desired to permit the carriage 1 to remain at rest while the cradle 14 is being rocked, it is only necessary to throw out the clutch 31 or throw off the belt 24.

It should be understood that the drawings are merely illustrative and do not pretend to give exact proportions. Furthermore, the said drawings are illustrative of a preferred construction, it being my expectation that

various changes and modifications may be made without departing from the spirit and scope of my invention.

What is claimed is:—

1. An apparatus of the character set forth, comprising wheels, axles supported by the wheels, a frame mounted on the axles, up-rights secured to the frame, a guiding and supporting bar secured to the uprights, a rack bar suspended from the guiding and supporting bar, a pinion mounted upon one of the axles and meshing with the rack bar, a shaft journaled in the frame and provided with a crank connected to the rack bar, a cradle rockably supported by the uprights, a shaft journaled in the frame and provided with a crank connected to the cradle, and shaft operating means.

2. An apparatus of the character set forth, comprising wheels, axles supported by the wheels, a frame mounted upon the axles, up-rights secured to the front and rear ends of the frame, a cradle supported between and from the uprights, a horizontal bar secured to and between the uprights, members supported by the bar for sliding movement thereon and longitudinally thereof, a rack bar positioned beneath the rod and supported therefrom by the members, a pinion connected to one of the axles and meshing with the rack bar, and rack bar operating means.

3. An apparatus of the character set forth, comprising a wheel supported frame, up-rights secured to the front and rear ends of the frame, a cradle positioned between the uprights and rockably supported from the upper ends thereof, a horizontal rod secured to and between the uprights in close proximity to the bottom of the cradle and adapted to limit the swinging movement of the cradle, and cradle rocking means carried by the frame and connected to the cradle.

4. An apparatus of the character set forth, comprising wheels, axles supported by the wheels, a frame mounted on the axles, a cradle mounted on the frame, a pinion loose on one of the axles and provided with a pin projecting laterally therefrom, a member connected to such axle and provided with an arcuate slot for the reception of the pin, buffers mounted in the slot at opposite sides of the pin, a rack bar meshing with the pinion, and rack bar operating means.

In testimony whereof I affix my signature.

HERMAN H. MILLARD.