United States Patent [19]

Kinslow, Jr.

[11] **3,851,343**

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[54] **INFANT SEAT ROCKER**

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[52] **U.S. Cl.** **5/109**, 297/260

[51] **Int. Cl.** **A47d 9/04**

[58] **Field of Search** 5/108, 109, 101, 105, 107; 297/260; 128/33; 272/53.1, 58

[56] **References Cited**

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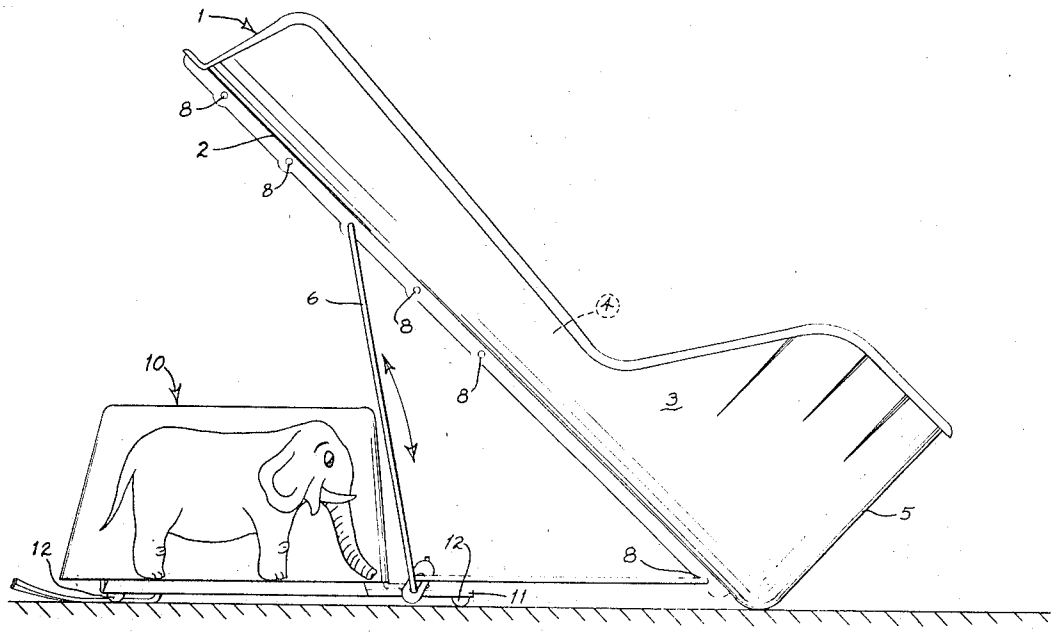
2,595,272	5/1952	Kost	128/33
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3,653,080	4/1972	Hafele	5/108

Primary Examiner—Paul R. Gilliam
Assistant Examiner—Kenneth J. Dorner
Attorney, Agent, or Firm—Wells, St. John & Roberts

[57] **ABSTRACT**

For an infant seat of the type embodying an elongated inclined floor on which the infant is reclined, and embodying side walls and an end wall at the lower end of the floor with a framework beneath the floor holding the floor inclined upwardly away from the end wall, a rocker is provided. The rocker has an elongated main platform. A motor is mounted on the platform and has a shaft extending transversely over the platform. A hollow cover having side walls and end walls and a top encloses the motor and overlies the platform. Pivot means on the platform within the cover mounts the cover for rocking movement over the platform. Lifting arm means beneath the cover near the other end thereof is carried by bell crank means fixed on the shaft. The cover has an exterior seat support on its end most remote from the cover pivot means which support is operable to engage and lift the framework and thereby rock the seat upward as the cover is raised by the lifting arm means.

2 Claims, 5 Drawing Figures



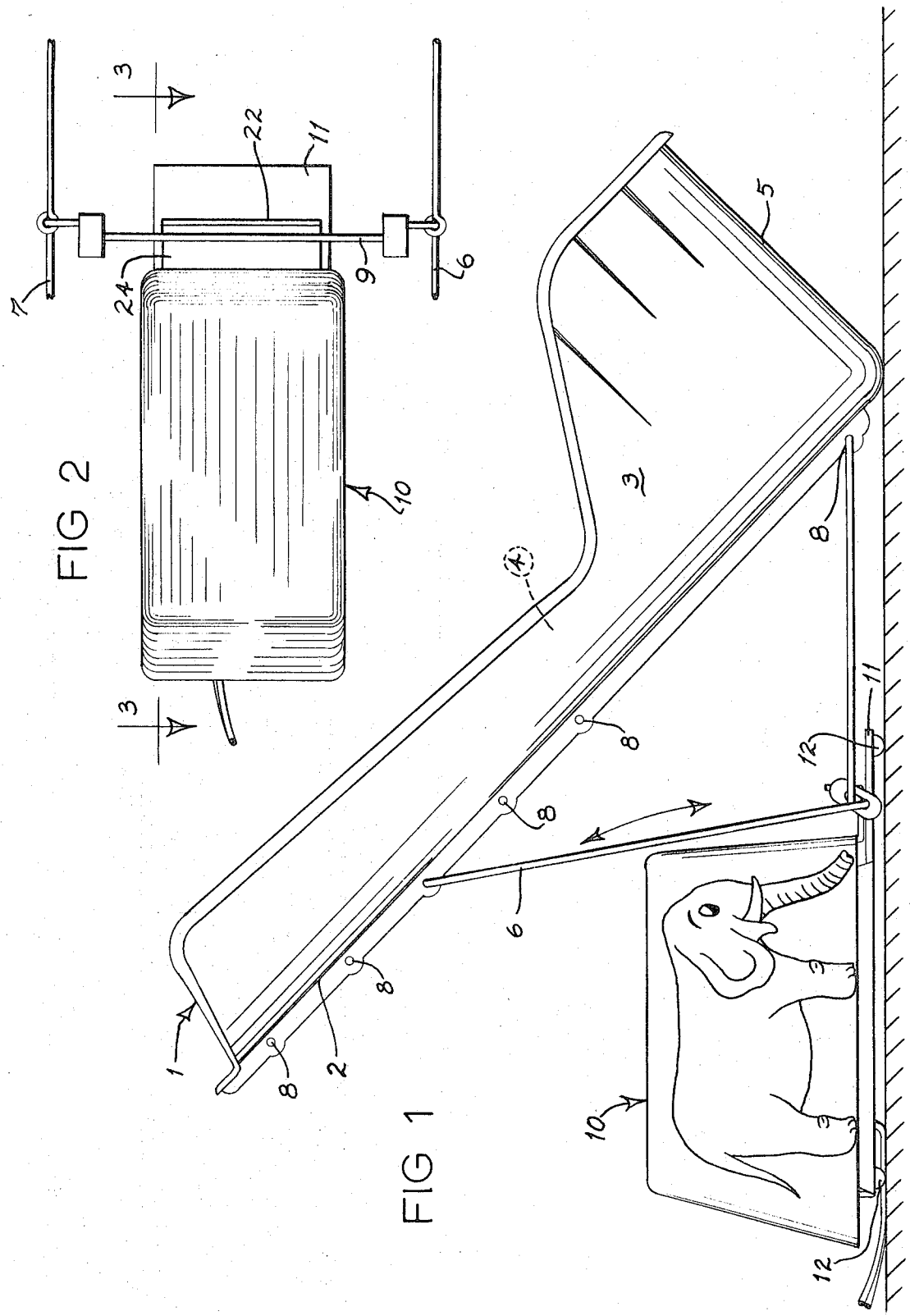
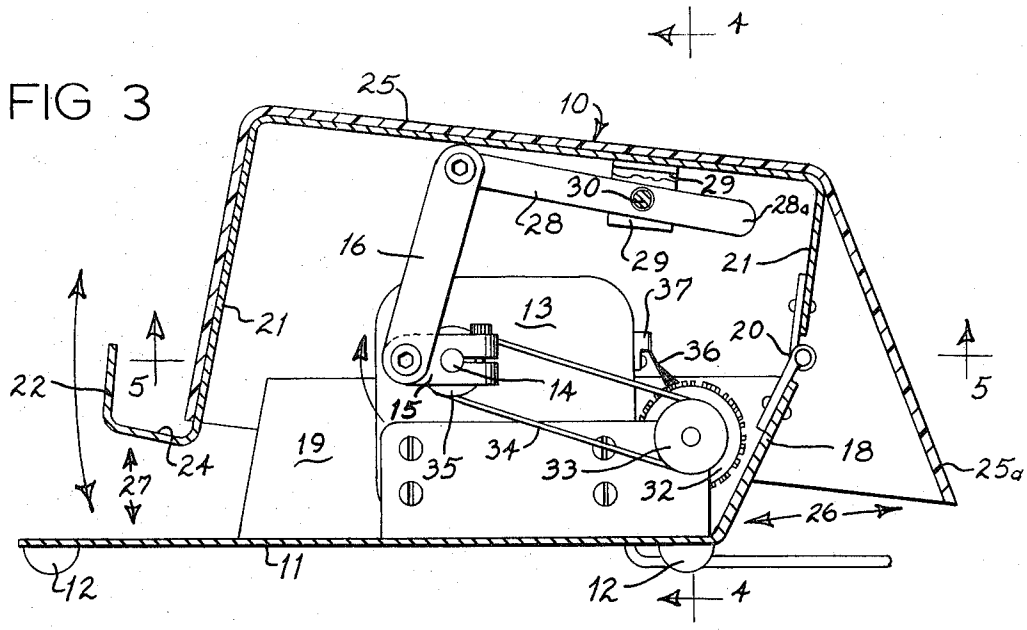


FIG 2

FIG 1

FIG 3



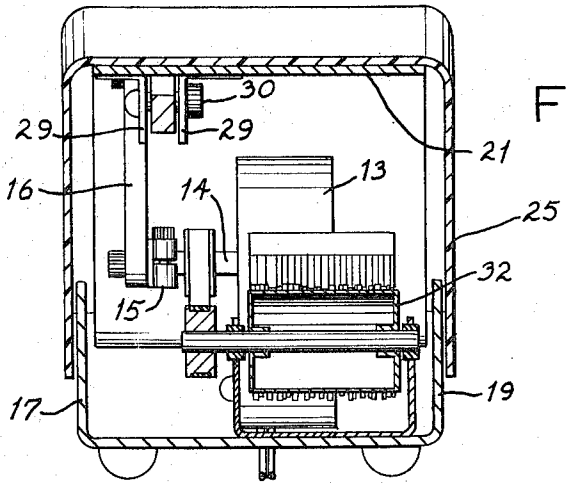
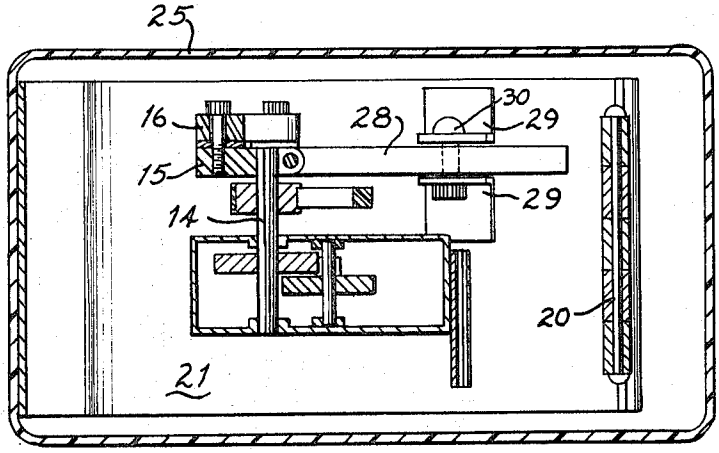


FIG 4

FIG 5



INFANT SEAT ROCKER

BACKGROUND OF THE INVENTION

Infant seats of the type shown herein are found in such prior patents as U.S. Pat. No. 3,272,556 to Rocker and U.S. Pat. No. 3,653,080 to Hafele. To rock such an infant seat Hafele modified the framework that holds the seat inclined to provide a rocking mechanism as a part of this framework which mechanism includes a lift arm and a bell crank forming part of the framework. He provided a motor carried by the framework to operate the bell crank.

A crib rocking device was already known in the U.S. Pat. to Pinto No. 2,765,478 in which a spring mounted crib was caused to rock by means of a motor driven bell crank and a strand 14 that pulled down on the crib to compress the springs mounting the crib and then allow the springs to raise the crib. The bell crank and its motor were mounted on a base 12 and enclosed in a housing 7 affixed to the base 12.

PURPOSE OF THE INVENTION

It is the purpose of this invention to provide a novel device by which an infant seat, having a framework secured to it beneath the seat to hold the seat inclined, can be rocked about its lower corner. The device embodies a main platform which can rest on the surface which supports the seat. A cover is mounted on the platform and is pivotally supported thereon so as to rock up and down. The cover has a hook for carrying the framework, and the platform carries a motor and bell crank mechanism operably connected to the cover for rocking it.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side view of the infant seat and the mechanism for rocking the seat.

FIG. 2 is a plan view of the rocking device which shows how it hooks to the framework of the seat.

FIG. 3 is a longitudinal sectional view taken substantially on the line 3—3 of FIG. 2.

FIG. 4 is a sectional view on the line 4—4 of FIG. 3.

FIG. 5 is a sectional view on the line 5—5 of FIG. 3.

GENERAL DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

The invention is shown in connection with an infant's seat 1 having a bottom wall 2, side walls 3 and 4, and and an end wall 5. A framework comprising side jointed rods 6 and 7 at each side of the seat is connected to the seat 1 by ears 8 through which the ends of the rods are secured. The rods 6 and 7 form parallel triangles with one leg of each triangle being the seat bottom wall 2. The two triangles thus formed are joined by a crossbar 9. The function of the present invention is to move the crossbar up and allow it to come back down thus to rock the infant seat 1 about its lowermost corner where the bottom wall 2 and the end wall 5 meet. This corner may be shaped to avoid wear on the floor.

The device 10 shown embodies a main platform 11 of generally rectangular configuration and having pads 12 at its two ends to support it on a floor. The platform 11 is elongated enough to extend under the crossbar 9 and carries a power unit 13 near one end which unit

comprises a commercially available electrical or spring motor geared to operate its drive shaft 14 at a suitable speed to rock the infant seat at a comfortable rate for the infant. The drive shaft 14 has a bell crank 15 that raises and lowers a link 16. The platform 11 has upstanding flanges 17, 18 and 19 along its edges with the side edge flanges 17 and 19 terminating before they reach the end of the platform that is most remote from the power unit 13. The flange 18 has a hinge 20 at its top. A wide metal frame 21 is carried by the hinge. This frame extends upward and over the power unit 13 then forwardly and down toward the platform, between the ends of the flanges 17 and 19 and the front pad 12 of the platform. The frame 21 has an upturned end 22 so that a wide seat 24 is provided to receive the crossbar 9. The bell crank 15 raises the link 16 which is connected to the frame 21 to swing it up and cause the seat 24 to lift the crossbar 9.

A cover 25 is secured on the frame 21 and covers it as well as the power unit 13. This cover 25 is a decorative cover and preferably is molded of a synthetic resin or plastic. The cover 25 fits snugly alongside the flanges 17 and 19, but, because of the movement up and down of the frame 21 and the cover 25, there is a pinch space 26 at the end of the device between the end flange 18 and the cover end 25a. The space 26 is a wide clearance and the cover 25 is somewhat flexible so there is really no chance for damage at 26. The space 26 closes on the up movement of the seat 24. There is a pinch space 27 between the seat 24 and the platform 11. This space 27 closes on the down movement of the seat 24.

The connection of the frame 21 to the upstanding link 16 provides safety means to prevent the down pull of the link 16 from exerting a pinching pull downward upon the frame 21 in the event that something is caught in the pinching space 27. This safety means comprises a link 28 pivoted to the top of the link 16 and normally extending over the unit 13 to a pair of ears 29 turned down on the frame 21. The link 28 is secured by a pivot pin 30 to the ears 29. The link 28 extends beyond the pivot pin 30 about one third of the distance between the link 16 and the pivot pin 30. The operation of this safety mechanism is such that in the normal lift movement of the bell crank 15 and the link 16, the link 16 presses the link 28 up against the frame 21 where it is shown in FIG. 3. Now, on the downward movement of the link 16, the frame 21 will normally keep the link 28 in this position. However if something foreign gets in the pinch point 27 that will stop the frame 21 from going down far enough to allow the bell crank 15 to complete its low point of travel, the link 16 will pull the link 28 down away from the frame 21, turning the link 28 on the pivot pin 30 and moving the free end 28*a* of the link 28 up toward the frame 21. Whatever force downward on the seat 24 by the crossbar 9 that is due to the load in the infant seat will pinch the foreign object in the pinch space 27 but this load can be tolerated and is always present.

The hinge 20 is placed near the top of the total movement of the seat 24 so that the up and down movement of the crossbar 9 seated in seat 24 will follow the same path and not create horizontal pull on the crossbar 9 and thus not cause the corner of the infant seat 1 to rub on the floor.

The device may also include means for providing music when the seat is being rocked. A music drum 32

is rotated by a pulley **33** which is driven by a belt **34** that in turn is driven by a pulley **35.** A stylus **36** of a sound producer **37** rides on the drum and supplies the vibrations to the sound producer.

Having described a preferred embodiment of my invention, I claim:

1. A rocker for a separate conventional infant seat, said infant seat having an elongated floor with side walls and an end wall upstanding from the floor to support the infant and having a framework beneath the floor operable to support the infant seat with the seat floor inclined upwardly away from a horizontal plane;

said rocker comprising an elongated main platform;

a motor mounted on the main platform having a shaft extending transversely of and above the platform;

a hollow cover over the motor having a top wall, side walls and end walls forming together an enclosure over the platform and surrounding the motor;

pivot means within the enclosure adjacent to one end wall pivotally mounting the cover on the platform;

lifting means beneath the cover operable to lift the cover up and down about said pivot means; and

means operably connecting the lifting means to the motor shaft;

and an infant seat supported on the end of the cover most remote from the pivot means operable to receive and support the framework to transmit the pivotal up and down movement of the cover to the infant seat to rock an infant residing in the infant seat, said infant seat support comprises an upwardly opening transverse hook for openly receiving and supporting the infant seat framework therein.

2. The device defined in claim **1** wherein the last named means comprises a bell crank on the motor shaft;

a link extending upwardly from the bell crank and means connecting the link to the cover.

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