

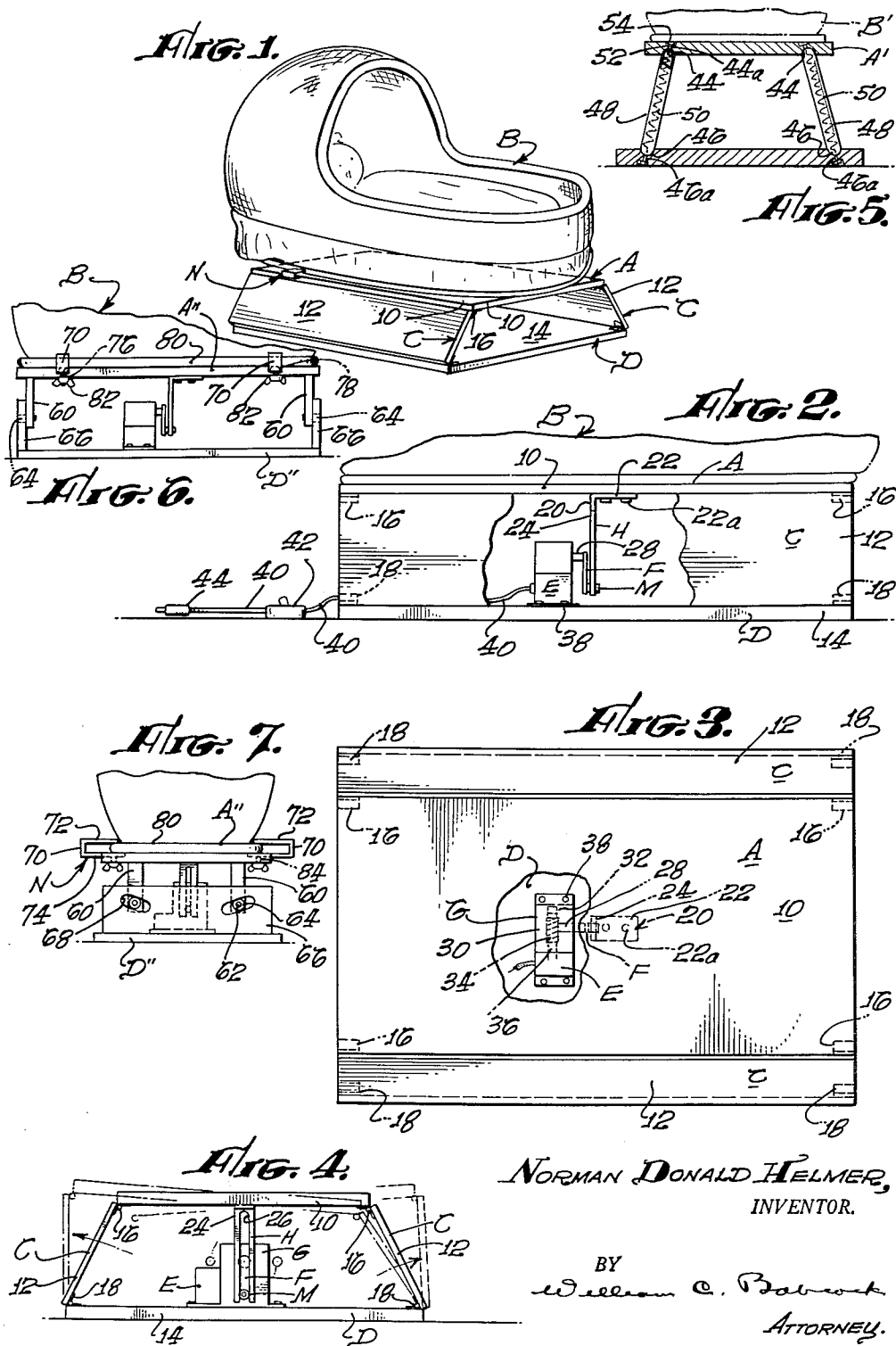
April 18, 1961

N. D. HELMER

2,979,735

POWER-OPERATED DEVICE FOR RECIPROCATING A BASSINET

Filed March 2, 1959



NORMAN DONALD HELMER,
INVENTOR.

BY
William C. Babcock
ATTORNEY.

1

2,979,735

POWER-OPERATED DEVICE FOR RECIPROCATING A BASSINET

Norman Donald Helmer, 6298 E. Ocean Blvd.,
Long Beach, Calif.

Filed Mar. 2, 1959, Ser. No. 796,469

1 Claim. (Cl. 5—109)

The present invention relates to an improved power operated device for mechanically reciprocating a bassinet or other bed-type structure upon which a small child may rest.

A major object of the present invention is to provide an improved power operated rocking device on which a bassinet or other bed-type structure for a baby or infant may be mounted and removably held in place thereon, with the bassinet when so held being concurrently subject to reciprocal lateral and tilting movements of the desired magnitude.

Another object of the invention is to provide a device that subjects a bassinet or other bed-type structure in which a child or infant may rest to reciprocal lateral movement, but without any relative movement occurring between the bassinet or bed-type structure and the platform portion of the invention on which it is removably mounted.

A further object of the invention is to provide an improved power operated rocking device for a bassinet or other bed-type structure that is relatively lightweight and compact, can be moved easily from one place to another, fabricated from standard, commercially available materials, and merchandised at a sufficiently low price as to encourage widespread use thereof.

Still another object of the invention is to supply a power operated rocking device for a bassinet or other bed-type structure that requires the bassinet or bed structure to be raised a minimum distance from the ground to be removably mounted thereon.

Still a further object of the invention is to furnish a power operated rocking device for a bassinet or other bed-type structure that permits the bassinet to be removably mounted thereon without any danger of inadvertent displacement thereof due to movement of the baby or child.

Yet another object of the present invention is to supply a power operated rocking device for a bassinet or other bed-type structure that is completely safe, and one which under no condition can collapse to allow the bassinet supported thereon to fall to the ground with resultant injury to the baby or child resting therein.

These and other objects and advantages of the invention will become apparent from the following description of a preferred and certain alternate forms thereof, and from the accompanying drawings illustrating same in which:

Figure 1 is a perspective view of the preferred form of the invention showing a bassinet resting on the platform thereof;

Figure 2 is a side elevational cutaway view of the invention shown in Figure 1 showing the mechanism used in laterally reciprocating the platform;

Figure 3 is a top plan view of the device shown in Figures 1 and 2;

Figure 4 is an end elevational view of the device shown in Figure 1;

Figure 5 is a combined end elevational and vertical

2

cross-sectional view of a first alternate form of the invention;

Figure 6 is a side elevational view of a second alternate form of the invention; and

Figure 7 is an end elevational view of the second alternate form of the invention shown in Figure 6.

Referring to Figures 1 to 4 of the drawings for the general arrangement of the preferred form of the invention, it will be seen to include a substantially rectangular base A on which a flat-bottomed bassinet B may rest. The longitudinally extending sides of base or platform A are pivotally engaged by two parallel, laterally separated side members C that may be moved concurrently to impart reciprocal lateral movement and tilting to the platform A and bassinet B supported thereon. The lower ends of side members C are pivotally supported from an elongate, substantially rectangular base D, and this base is preferably of larger dimensions than platform A situated thereabove.

A prime mover E, preferably an electric motor, is mounted on the upper side of base D, below platform A, and is adapted to rotate an arm F in a vertical circular path by power transmitted thereto through a transmission G. A driving member M is mounted on arm F that movably engages a rigid driven member H depending downwardly from platform A. As arm F rotates, a lateral reciprocal motion is imparted to platform A and bassinet B.

The height of side members C, the relative widths of platform A and base D, and the length of the arm F are variables which determine the magnitude and configuration of the path through which platform A reciprocates laterally when driven by the prime mover E.

As will be obvious, the radius of rotation of driving member M determines the amplitude of the lateral movement of platform A, first in one direction and then in the opposite direction. It will be apparent from an inspection of Figure 4 that if side members C slope upwardly and inwardly, such as occurs when platform A is narrower than base D, that platform A will tilt each time the platform is reciprocated laterally beyond the horizontal position thereof. The angulation of tilt for each degree of pivotal movement of side members C is determined by the height thereof, as well as the degree at which members C taper inwardly toward platform A when the platform is horizontally disposed as shown in solid line in Figure 4.

In detail, the structure of the preferred form of the invention is quite simple. Platform A is preferably fabricated from a rectangular piece of sheet material 10, such as plywood or the like. Also side members C are preferably fabricated from rigid rectangular sheets of material 12. Base D is rectangular and wider than platform A. If desired, base D may be fabricated from a rigid sheet material 14 of the same type as used in the fabrication of platform A. A number of conventional hinges 16 are provided, portions of which are affixed to the longitudinal lower surfaces of platform A and the upper interior surfaces of side members C (Figure 4). Additional hinges 18 are disposed adjacent the longitudinal upper edge surfaces of platform D, and portions thereof are affixed thereto, as well as to the lower interior surfaces of side members C.

Driving member H is preferably comprised of an L-shaped rigid member 20 having a first leg 22 affixed in a longitudinally extending position to the under side of platform A by screws, bolts, or the like 22a. A second leg 24 depends from first leg 22. Leg 24 is bifurcated as a slot 26 extends upwardly therein from the lower edge thereof. Slot 26 is sufficiently wide to permit slidable and rotatable engagement thereof with the driven member M as arm F is rotated.

3

Arm F is mounted on the outer extremity of a horizontal shaft 28 that extends inwardly through a housing 30 forming a part of unit G. A gear 32 is rigidly affixed to the end of shaft 28 disposed in housing 30. Gear 32 is rotatably engaged by a worm gear 34 rigidly mounted on a shaft 36 that is driven by motor E. Motor E and unit G are rigidly affixed to the upper surface of base D by bolts 38, or other conventional holding means.

Bassinet B may rest freely on the upper surface of platform A if the platform is very slowly reciprocated with but a slight amount of tilt. However, if there is any possibility that the rate of reciprocation of platform A, or the activity of the infant in bassinet B would cause displacement of the bassinet from the platform, the bassinet may be removably maintained thereon by the use of clamping means N of the type generally shown in Figure 1. The detailed structure of one such clamping means N adapted for this use is shown in Figures 6 and 7 in conjunction with the second alternate form of the invention.

Operation of the first form of the invention is so simple as to require practically no description. When assembled, ready for use, the device has the appearance shown in Figures 2, 3 and 4, with the bassinet resting on the upper surface of platform A. If an electric motor, the prime mover preferably has an electrical conduit 40 leading therefrom to an electric switch 42, from which a conduit 40 extends to a plug 44 that removably engages a source of domestic electrical power (not shown). When the switch 42 is placed in the closed position, the motor E is actuated and caused to rotate arm F. As arm F rotates at a relatively slow speed due to the gear-reduction unit G, the bifurcated second leg 24 is caused to move platform A and the upwardly and inwardly tapered side members C laterally. As side members C pivot they impart a tilting movement to platform A, first in one lateral direction and then in an opposite direction. As previously mentioned, the degree of platform tilt during each lateral movement in one of the two possible directions is determined by the height of members C and the degree to which they tilt inwardly toward one another when the platform A is in a horizontal position, as shown in solid line in Figure 4. The degree of tilt of the platform A is shown in phantom line in Figure 4.

A first alternate form of the invention is shown in Figure 5 wherein the platform A and base D are substantially the same shape and configuration as that of the preferred form of the invention. The platform and base of the first alternate form are designated by the letters A' and D' respectively. Platform A' has two sets of laterally spaced recesses 44 formed in the lower surface thereof, which are of generally semi-spherical configuration. Platform D' also has two sets of laterally separated recesses 46 formed therein that are likewise of semi-spherical configuration, but the spacing between the recesses 46 in each set are greater than the lateral distance between recesses 44. Bores 44a are formed in platform A' which extend upwardly from recesses 44, and bores 46a are formed in base D' which extend downwardly from recesses 46. Four tubular legs 48 are provided that have curved end portions which pivotally engage recesses 44 and 46. Helical springs 50, or other suitable fastening means, are disposed within the confines of legs 48, and portions 52 of this spring project into bores 44a and 46a. The outer extremities of portions 52 of springs 50 have suitable stop means 54 such as nuts or the like, affixed thereto which maintain the spring portions 52 within the confines of bores 44a and 46a.

The balance of the first alternate form of the invention is the same as the preferred form and operates in the same manner, but the lateral and tilting movements are imparted to platform A' by the pivotal movement of legs 48 relative thereto in the same manner as when side members C pivot, as shown in Figure 4.

A second alternate form of the invention is shown in

4

Figures 6 and 7. This alternate form includes a platform A'' and base D'' that are rectangular and may be of substantially the same size. Four legs 60 depend from the corner portions of platform A''. A pin 62 projects outwardly from the lower portion of each leg 60 and a roller 64 is rotatably mounted on each of these pins. Two end members 66 extend upwardly from base D'', with each end member being located adjacent two of the legs 60. Each end member 66 is formed with two transversely extending, angularly disposed, laterally separated slots 68 that are so arranged as to receive two of the rollers 64 intermediately disposed therein when the platform A'' is in a substantially horizontal position.

The driving mechanism for the second alternate form of the invention is the same as previously described in conjunction with the preferred form thereof, and the same identifying numerals are used for the component parts shown in Figures 6 and 7 as used in Figures 2 to 4 inclusive, except that double primes have been affixed thereto.

One form of holding means N previously mentioned in conjunction with the preferred form of the invention is shown in detail in Figures 6 and 7. Each holding means N includes a rigid U-shaped member comprising a web 70 and two parallel legs 72 and 74 that extend therefrom and are normal relative thereto. A number of transverse grooves 76 are formed in platform A'' which extend inwardly from the longitudinal edges of the platform. Grooves 76 are generally triangular cross section and are defined by upwardly and inwardly extending side walls 78. Legs 74 are also of generally triangular transverse cross section and are adapted to be slidably supported in grooves 76. When the holding members are moved inwardly, the upper legs 72 thereof engage a lower projecting portion 80 of the bassinet B'' which is removably but rigidly held in place on platform A''.

A number of thumb screws 82 are threadedly mounted in tapped bores 84 that extend upwardly through platform A'' to communicate with grooves 76. When these thumb screws 82 are appropriately rotated, portions thereof engaging bores 84 may be moved upwardly to frictionally engage leg 74 and maintain holding means N in a bassinet-gripping position. When the prime mover E'' is actuated, platform A'' and legs 60 move laterally relative to the end members 66, and due to the rollers 64 resting on inclined surface portions of slots 68, the platform A'' is tilted in the same manner as occurs when the preferred form of the invention is used.

Use of the second alternate form of the invention is, of course, identical to the preferred form and a description of the operation and use thereof need not be repeated.

Although the invention herein described and claimed is fully capable of achieving the objects and providing the advantages hereinbefore mentioned, it is to be understood that it is merely illustrative of the preferred embodiments thereof, and that I do not mean to be limited to the details of construction, other than as defined in the appended claim.

I claim:

A power operated device for reciprocating a bassinet having a flat supporting body, said device comprising: a generally rectangular base member having substantially parallel side edges and a predetermined length approximately equal to the length of said bassinet, said base member being horizontally disposed; a planar rectangular platform adapted to have said bassinet rest thereon, said platform being substantially rectangular in configuration and having a length approximately equal to the length of said base, said platform having substantially horizontal side edges and being of substantially lesser width than said base, said platform being horizontally disposed above said base parallel thereto; side members pivotally connected to one side edge of said platform and the respective first side edge of said base and between the opposite

side edge of said platform and the respective second side edge of said base, said base, platform and side members being symmetrically disposed and forming an equilateral trapezoid at the at-rest position of said device; a rigid driven member affixed to said platform; a rigid driving member that engages said driven member; an arm that rotates in a circular path in a vertical plane and supports said driving member on the outermost end thereof; a prime mover mounted on said base; and power transmission means having a driven shaft and a driving shaft, said driving shaft being connected to the innermost end portion of said arm, with said driven shaft being connected to said prime mover, which transmission means offers sufficient resistance to rotation when a rotational force is applied to said driving shaft to hold said platform in a fixed position when said prime mover is not

operating and a bassinet and infant are supported on said platform.

References Cited in the file of this patent

UNITED STATES PATENTS

153,647	Wiggers	July 28, 1874
188,581	Buchanan	Mar. 20, 1877
2,302,387	Greene et al.	Nov. 17, 1942
2,516,712	Maurer	July 25, 1950
2,529,017	Hall	Nov. 7, 1950
2,570,676	Henderson	Oct. 9, 1951
2,758,319	Fehrman	Aug. 14, 1956
2,805,427	Edgmon	Sept. 10, 1957

FOREIGN PATENTS

557,338	Italy	Feb. 14, 1957
---------	-------	---------------