

July 8, 1958

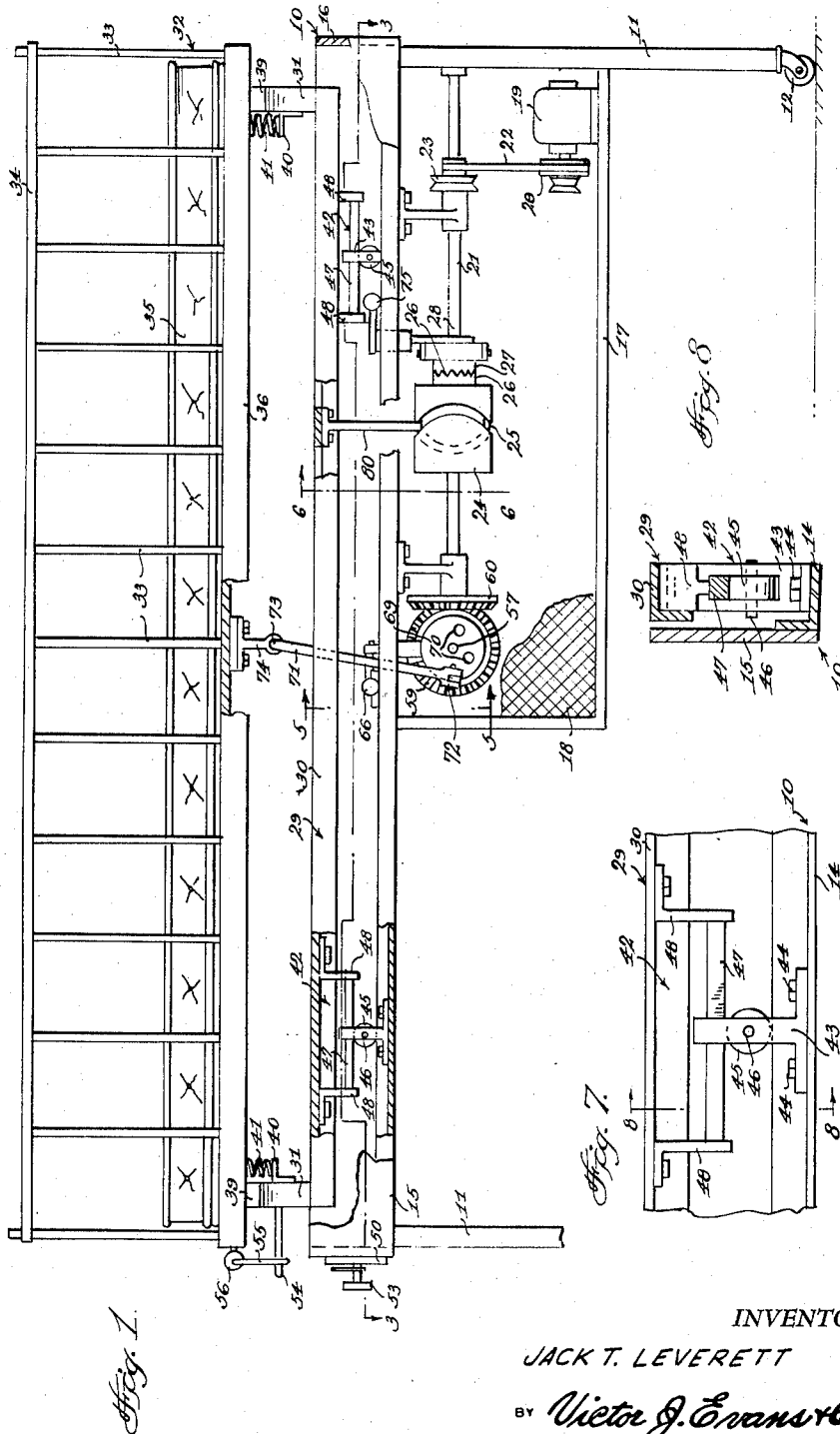
J. T. LEVERETT

2,841,802

COMBINED CRIB OR BED ROCKER AND SHAKER

Filed May 12, 1955

3 Sheets-Sheet 1



INVENTOR.

JACK T. LEVERETT

BY Victor J. Evans & Co.

ATTORNEYS

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Fig. 4.

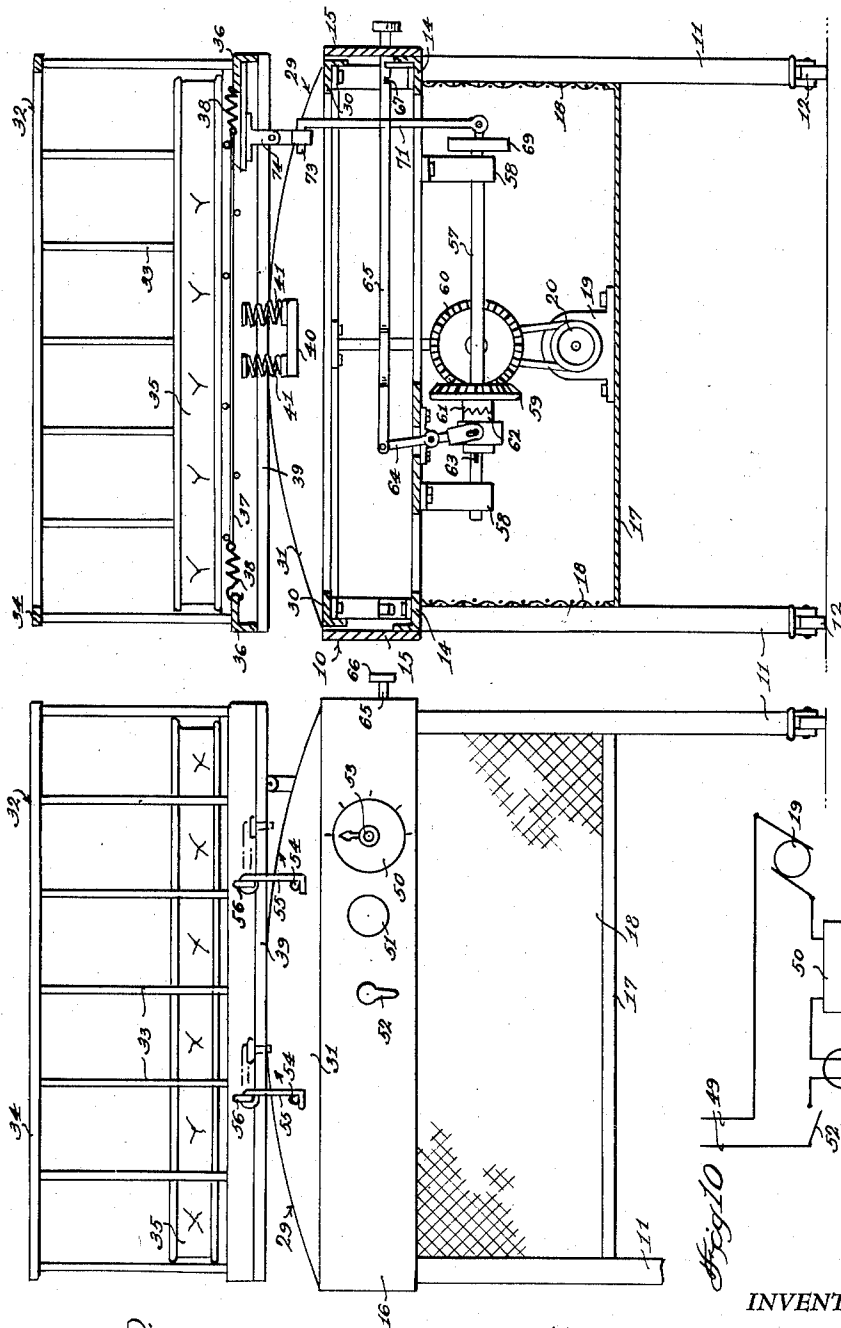


Fig. 2

Fig. 10

INVENTOR.

JACK T. LEVERETT

BY Victor J. Evans & Co.

ATTORNEYS

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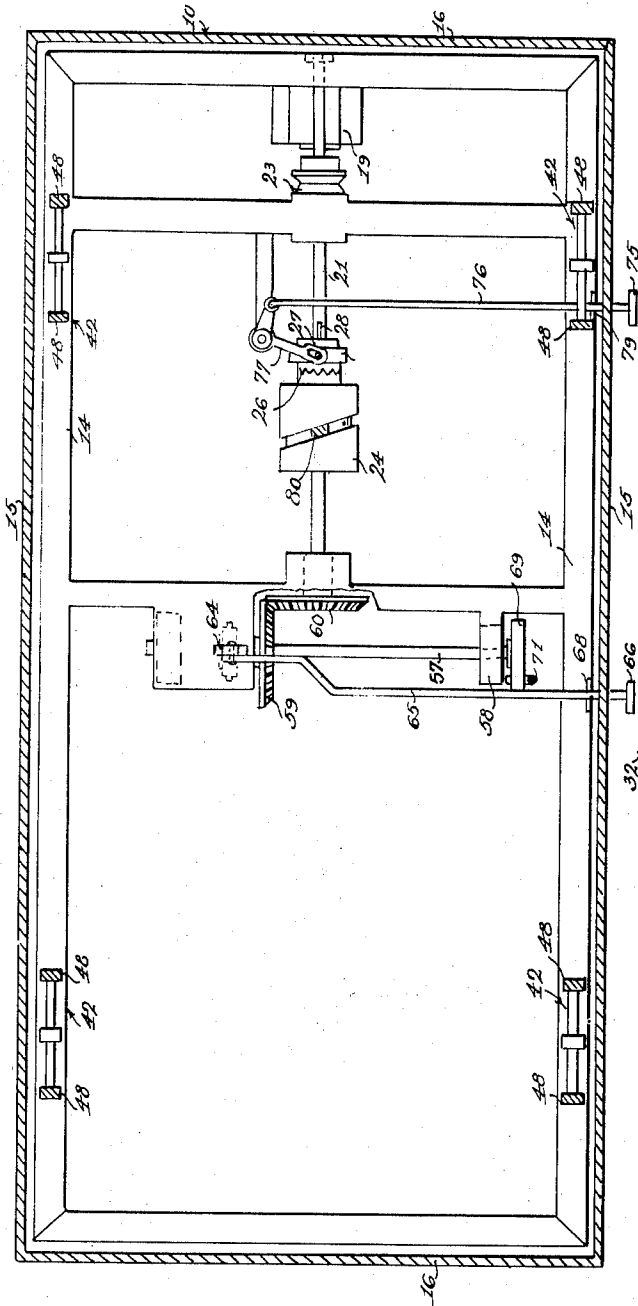


Fig. 3.

Fig. 9.

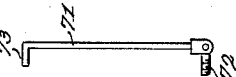
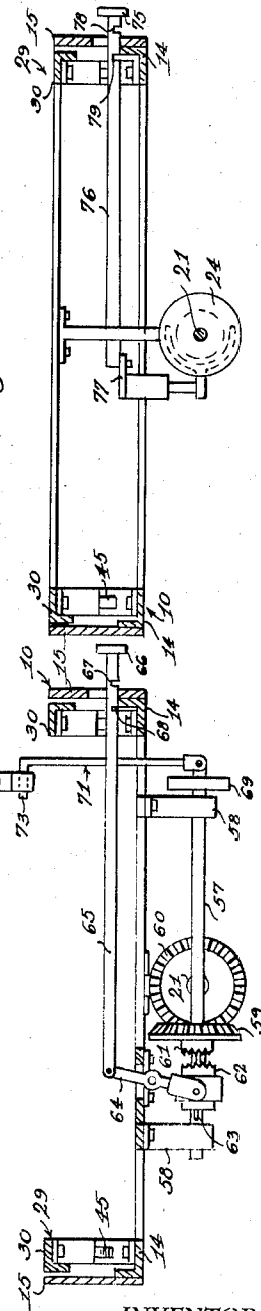


Fig. 6.

Fig. 5.



INVENTOR.

JACK T. LEVERETT

BY Victor G. Evans & Co.

ATTORNEYS

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## COMBINED CRIB OR BED ROCKER AND SHAKER

Jack T. Leverett, Brooklyn, N. Y.

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2 Claims. (Cl. 5—109)

This invention relates to a bed or crib, and more particularly to a bed or crib which is adapted to be rocked and shaken.

The object of the invention is to provide a crib or bed which is adapted to be automatically shaken or rocked whereby the occupant of the crib such as a baby will be easily rocked to sleep and pacified.

Another object of the invention is to provide a movable bed or crib for holding a child or baby whereby the mechanism can be set to operate for a predetermined time so that the baby will be rocked or shaken to sleep gently without the necessity of having the parent stand by the baby whereby the parent can readily perform other tasks while the baby is being rocked to sleep.

Another object of the invention is to provide a combined rockable and movable crib which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a side elevational view of the crib and operating mechanism therefor, with parts broken away and in section.

Figure 2 is an end elevational view of the mechanism of the present invention.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a transverse sectional view taken through the mechanism and showing the clutch for the driven shaft engaged.

Figure 5 is a sectional view taken on the line 5—5 of Figure 1.

Figure 6 is a sectional view taken on the line 6—6 of Figure 1.

Figure 7 is a fragmentary elevational view illustrating the construction of one of the guide assemblies.

Figure 8 is a sectional view taken on the line 8—8 of Figure 7.

Figure 9 is an elevational view of one of the cranks which can be removed.

Figure 10 is a view illustrating the wiring arrangement for the present invention.

Referring in detail to the drawings, the numeral 10 designates a base which can be made of any suitable material, and the base 10 includes vertically disposed spaced parallel legs 11 which have caster wheels 12 mounted on their lower ends whereby the device can be moved from place to place as desired. The base 10 further includes a pair of longitudinally extending spaced parallel horizontally disposed beams 14, Figure 4, and secured to the beams 14 and extending upwardly therefrom is a pair of spaced parallel side walls 15. The base 10 further includes a pair of spaced parallel end walls 16.

Secured to certain of the legs 11 is a horizontally disposed platform 17 which supports a motor 19 that can be connected to a suitable source of electrical energy. A

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screen 18 surrounds the motor 19 and its working parts so as to prevent a person from accidentally hurting himself or herself by contacting the moving parts. The motor 19 drives a pulley mechanism 20, and journaled above the platform 17 is a drive shaft 21 which has a pulley mechanism 23 thereon, there being an endless belt 22 trained over the pulleys 20 and 23, Figure 1.

Loosely mounted on the drive shaft 21 is a cam 24 which is provided with a curved groove or trackway 25, and formed integral with an end of the cam 24 is a clutch piece 26. A clutch member 27 has teeth that are mounted for movement into and out of meshing engagement with the teeth on the clutch piece 26, and the clutch member 27 may be keyed to the shaft 21 through the medium of a keyway 28 so that by manually moving the clutch member 27, the cam 24 and shaft 21 can be caused to rotate in unison.

There is further provided a movable frame 29 which includes a pair of spaced parallel horizontally disposed bars 30 which may be made of angle iron. Curved end pieces 31 extend between the ends of the bars 30 and are secured thereto for a purpose to be later described. Movable mounted above the frame 29 is a bed or crib 32 which includes a plurality of upstanding posts 33 which have guard rails 34 connected to their upper ends, and a mattress 35 is provided for supporting the child or baby. The bed 32 includes a pair of spaced parallel side members 36 which also may be made of angle iron. Flat springs 37 may extend between the side members 36 and they have coil springs 38 connected thereto for increasing the comfort of the bed.

Horizontally disposed transversely extending straps or bars 39 may be secured beneath the ends of the side members 36, and these straps 39 are adapted to engage and rock on the curved end pieces 31 of the frame 29. Brackets 40 may be secured to the inner surfaces of the end pieces 31, and coil springs 41 extend upwardly from the brackets 40 and are connected to the bottom of the bed 32 so as to provide a spring mounting therefor.

A plurality of guide mechanisms 42, are provided for maintaining the frame 29 in its proper position as it shifts back and forth longitudinally with respect to the stationary base 10. Each of the guide mechanisms 42 has the same construction and one of these mechanisms is shown in detail in Figure 7 and includes a bearing 43 which extends upwardly from the beams 14 of the base 10 and is secured thereto as by means of bolts 44. A roller or wheel 45 is journaled in each bearing 43 by means of a pin 46, and straps or bars 47 engage the rollers 45, the straps 47 being connected to clips or brackets 48 which are secured to the members 30 of the frame 29, Figures 7 and 8. Thus, the construction shown in Figures 7 and 8 insures that the frame 29 will remain in its proper position as it is moved back and forth in a direction parallel to the longitudinal axis of the bed or base.

Referring to Figure 10 there is shown a wiring diagram for the present invention wherein the numerals 49 designate the wires which are adapted to be connected to a suitable source of electrical energy, and the motor 19 is electrically connected to a time switch 50 which may be controlled by means of a knob 53 which can be mounted on an instrument panel at an end of the base 10, Figure 2. A signal light 51 which may be red, is electrically connected in the circuit, and the signal light 51 may glow when the mechanism is being actuated. An off and on switch 52 is provided for controlling actuation of the electrical components.

Extending outwardly from an end piece 31 of the frame 29 is a pair of spaced parallel horizontally disposed lugs 54 which are adapted to be selectively engaged by hooks 55. The hooks 55 may be pivotally connected to mem-

bers 56 which project outwardly from the bottom of the bed 32.

Arranged above the platform 17 and positioned at right angles to the drive shaft 21 is a driven shaft 57. The shaft 57 may be journaled in bearings 58, and a bevel gear 59 is mounted on the shaft 57, the bevel gear 59 meshing with a bevel gear 60 which is mounted on the drive shaft 21. A clutch piece 61 is formed integral with the bevel gear 59, and a clutch member 62 is mounted for movement into and out of engagement with the clutch piece 61, the clutch member 62 being keyed by means of a keyway 63 to the shaft 57. A link 64 is pivotally connected to the clutch member 62, and a lever or arm 65 is pivotally connected to the clutch member 62, and the lever 65 is pivotally connected to the link 64, there being a handle 66 on the end of the lever 65 for actuating this clutch. The lever 65 is provided with a plurality of notches or cutouts 67 which are adapted to engage or receive therein a keeper or latch 68 whereby the parts can be maintained immobile in their adjusted positions. Secured to an end of the driven shaft 57 is a cam or disc 69 which is provided with a plurality of openings 70. A crank 71 includes a finger 72 which is adapted to be mounted in one of the openings 70 in an off center or eccentric manner, and the crank 71 further includes a transverse portion 73 which is connected to a bracket 74, and the bracket 74 depends from and is secured to the lower surface of the bed 32. Thus, as the shaft 57 rotates, the disc 69 will rotate and this will cause the crank 71 to travel in an eccentric manner to thereby cause rocking movement of the bed 32.

A manually operable means is provided for shifting the clutch member 27 so as to control rotation of the cam 24, and this means comprises a handle 75 which is secured to the outer end of a lever or arm 76, and the lever or arm 76 is pivotally connected to linkage 77 which is pivotally connected to the clutch member 27, Figure 3. The lever 76 is provided with cutouts 78 which are adapted to receive or engage a keeper or latch 79 whereby the clutch 27 can be locked so that it is in engagement with the clutch piece 26 or else it can be locked so that it is out of engagement with the clutch piece 26.

From the foregoing, it is apparent that there has been provided a crib or bed which can be rocked or shaken so that a child or baby in the bed 32 will be readily rocked or shaken to sleep. By means of the time switch 50, the mechanism can be set to operate for any desired length of time. With the present invention the child's mother will be able to rest or continue working while the baby is being rocked or shaken to sleep. The present invention is especially suitable for use in nurseries, hospitals and the like and it can also be used in the home.

In using the mechanism of the present invention, the child may be placed in the bed 32 and the mattress 35 will provide a comfortable support for the child or baby. The motor 19 can be connected to a suitable source of electrical energy by means of the wires 49, and then the pointer or knob 53 of the time switch 50 can be set to coact with the indicia or scale shown in Figure 2 whereby the bed will be rocked or shaken for a definite period of time. A finger 80 has its lower end projecting into the trackway or groove 25. The bars 30 of the frame 29 fit within the hollow base 10 as shown in the drawings so that there is a space between the bars 30 and the side walls 15 as shown in Figure 4. Similarly, there is a space or clearance between the ends of the frame 29 and the end wall 16 so as to permit the frame 29 to move longitudinally in the base 10. As the motor 19 is actuated, the shaft 21 is rotated due to the provision of the belt 22. For causing the bed 32 to move longitudinally with respect to the base 10, the crank 71 is disengaged from the bracket 74 and from the disc 69, and this crank when removed is shown in Figure 9. At the same time the clutch 62 can be disconnected or disengaged from the clutch piece 61 by means of the handle 66. Then, with the motor 19 running, the shaft 21 will rotate and the

clutch 27 is moved into engagement with the clutch piece 26 to cause the cam 24 to rotate. At the same time, the hooks 55 are moved to the position shown in Figure 1 so that they engage the lugs 54 whereby the bed 32 is locked to the frame 29, the springs 41 being compressed in this position. Thus, the hooks 55 will prevent a rolling or rocking movement of the bed 32 but will permit the bed 32 and frame 29 to shift longitudinally in unison, and this longitudinal shifting movement will be parallel to the longitudinal axis of the base 10. As the shaft 21 rotates, with the parts arranged as shown in Figure 1, the cam 24 will rotate so that the lower end of the finger 80 will follow the curved trackway 25 in the cam 24 and this will cause the frame 29 to move back and forth as the cam 24 rotates. As the frame 29 moves back and forth the bed 32 will move back and forth therewith to thereby impart a pleasing movement to the bed so that the child will be readily pacified and will fall asleep.

When it is desired to rock the bed 32 so that the bed has a rolling or rocking movement from side to side, it is only necessary to disconnect the hooks 55 from the lugs 54. At the same time, the crank 71 is replaced to the position shown in Figure 4 for example, so that the upper portion 73 of the crank 71 engages the bracket 74, while the lower portion 72 of the crank 71 engages one of the openings 70 in the disc 69. Then, the clutch member 27 is moved out of engagement with the clutch piece 26 by means of the handle 75. At the same time the other clutch member 62 is moved into engagement with the clutch piece 61 by means of the handle 66. Thus, with the motor 19 actuated, the shaft 21 will rotate and this in turn will rotate the bevel gear 60 which meshes with the bevel gear 59 and since the bevel gear 59 is in engagement with the clutch 62, then the shaft 57 will also rotate. As the shaft 57 rotates, the disc 69 will rotate and this will cause the crank 71 to travel in an eccentric path whereby the bed 32 will be rocked from side to side, since the straps 39 which are secured transversely below the bed 32 engage the arcuate end pieces 31 of the frame 29.

In the previously described longitudinal shifting or shaking movement of the bed 32 and frame 29, the guide members 42 maintain the parts in their proper positions during this movement.

I claim:

1. In combination, a base including a plurality of spaced parallel vertically disposed legs, a plurality of spaced parallel horizontally disposed beams secured to the upper ends of said legs, a pair of spaced parallel vertically disposed side walls and a pair of spaced parallel vertically disposed end walls secured to said beams, a horizontally disposed platform secured to certain of said legs, a motor mounted on said platform, a drive shaft journaled above said platform, belt and pulley means connecting said motor to said drive shaft, a cam mounted on said shaft and provided with a curved trackway, a frame movably mounted above said base and including spaced parallel bars interposed between the walls of said base, curved end pieces extending between said bars and secured thereto, a bed movably mounted above said frame and including a pair of spaced parallel side members, brackets secured to the inner surfaces of the end pieces, coil springs extending upwardly from the brackets and connected to the bottom of the bed for providing a spring mounting therefor, straps on the bottom of said bed for engagement with the curved end pieces, a driven shaft arranged at right angles with respect to said drive shaft and journaled above said platform, intermeshing beveled gears connecting said drive and driven shafts together, a disc mounted on an end of said driven shaft, a bracket depending from said bed, a removable crank connecting said disc to said bracket, and a finger depending from said frame and engaging the trackway in said cam.

2. In combination, a base including a plurality of

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spaced parallel vertically disposed legs, caster wheels mounted on the lower ends of said legs, a plurality of spaced parallel horizontally disposed beams secured to the upper ends of said legs, a pair of spaced parallel vertically disposed side walls and a pair of spaced parallel vertically disposed end walls secured to said beams, a horizontally disposed platform secured to certain of said legs, a motor mounted on said platform and adapted to be connected to a source of electric energy, a drive shaft journaled above said platform, belt and pulley means connecting said motor to said drive shaft, a screen surrounding said motor for preventing a person from accidentally hurting himself or herself by contacting the moving parts, a cam loosely mounted on said shaft and provided with a curved trackway, a frame movably mounted above said base and including spaced parallel horizontally disposed bars interposed between the walls of said base, curved end pieces extending between said bars and secured thereto, a bed movably mounted above said frame and including a pair of spaced parallel side members, brackets secured to the inner surfaces of the end pieces, coil springs extending upwardly from the brackets and connected to the bottom of the bed for providing a spring mounting therefor, straps on the bottom of said bed for engagement with the curved end pieces, a driven shaft arranged at right angles with respect to said drive shaft and journaled above said platform, intermeshing bevel gears connecting said drive and driven shafts together, a disc mounted on an end of said driven shaft, a bracket depending from said bed, a removable crank connecting said disc to said bracket, a finger depending from said

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frame and engaging the trackway in said cam, a time switch, signal light and on and off switch electrically connected to said motor, a knob for controlling said time switch, lugs extending outwardly from said frame, hooks pivotally connected to said bed for engagement with said lugs, a manually operable clutch for controlling rotation of said cam, a manually operable clutch for controlling rotation of said driven shaft, and guide means interconnecting said frame and base together, said guide means comprising bearings extending upwardly from the base and secured thereto, a roller journaled in each bearing, straps engaging said rollers, and clips connected to said last named straps and secured to said frame so that the frame will remain in its proper position as it is moved back and forth in a direction parallel to the longitudinal axis of the base.

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