Oct. 26, 1926. 1,604,551

M. DE CESARE

DOLL CRADLE, CRIB, AND IMPELLER

Filed Dec. 31, 1925 2 Sheets-Sheet 1

Fig. 1.

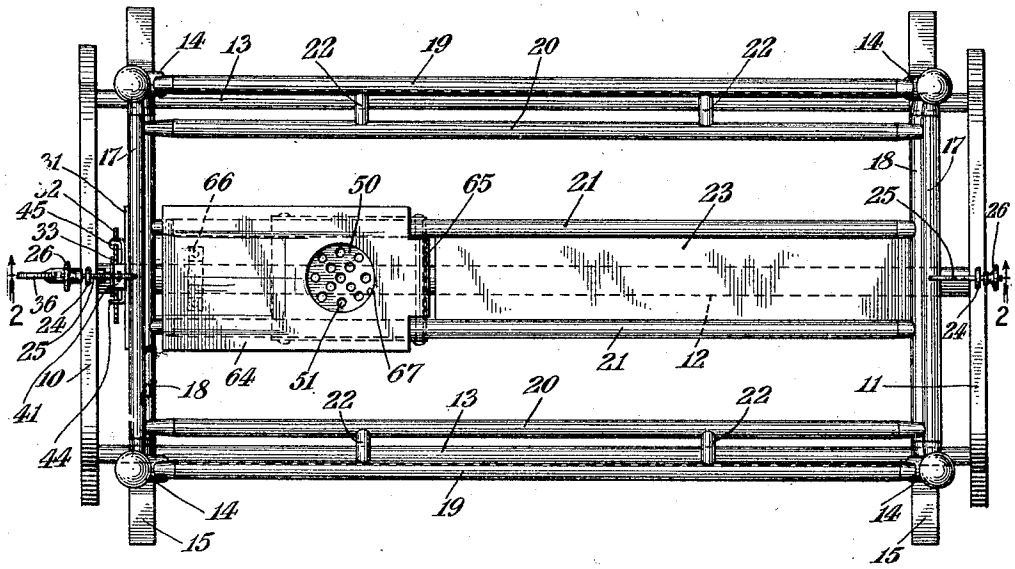
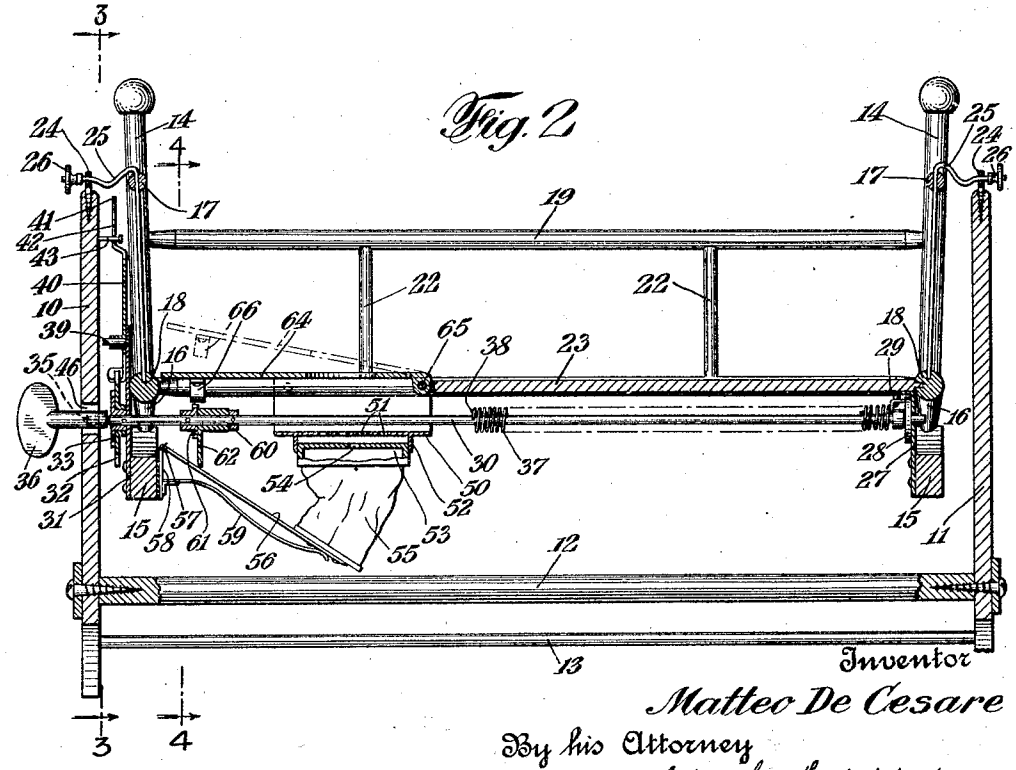


Fig. 2.



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Fig. 3.

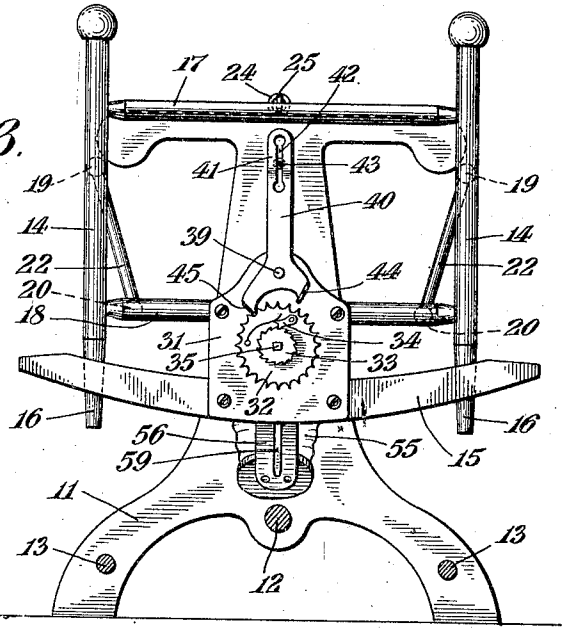
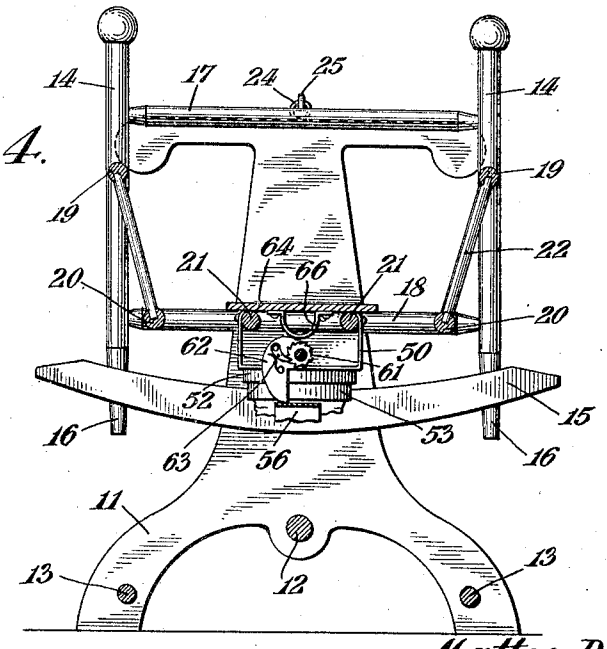


Fig. 4.



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UNITED STATES PATENT OFFICE.

MATTEO DE CESARE, OF NEWARK, NEW JERSEY, ASSIGNOR TO MYRTLE TOY COMPANY, INC., OF JERSEY CITY, NEW JERSEY, A CORPORATION OF NEW JERSEY.

DOLL CRADLE, CRIB, AND IMPELLER.

Application filed December 31, 1925. Serial No. 78,542.

This invention relates to toys and playthings for children and has for one of its objects to provide a composite toy simulative of a cradle having automatic operating means for causing oscillation for a considerable period of time, or which may be used as a stationary crib for a doll.

A further feature is in the provision of means by which a doll disposed in a recumbent position in the structure has its head and shoulder portions partially raised and thereafter lowered in a realistic manner.

It is a further and important aim to provide a mechanical structure embodying the foregoing objects, that is capable of affording much amusement and entertainment and which can be manufactured at a moderate cost, all parts being simple and inexpensive.

These aims, objects and purposes are attained by the novel construction, combination and arrangement of parts hereafter described and illustrated in the accompanying drawings, constituting an important part of this disclosure, and in which:—

Figure 1 is a top plan view of an embodiment of the invention.

Figure 2 is a longitudinal sectional view taken on line 2—2 of Fig. 1.

Figure 3 is a transverse sectional view taken on line 3—3 of Fig. 2.

Figure 4 is a similar sectional view taken on line 4—4 of Fig. 2.

As shown in the drawings the cradle structure is composed of a pair of end frames 10 and 11, respectively at the head and foot, the same being of any preferred profile, preferably with widely extended feet, these frames being rigidly connected by a central rod 12 and smaller side rods 13 between the feet.

The crib is shown as composed of corner posts 14, their convergently inclined lower ends being set in rockers 15 and 15′ below which extend legs 16 so that the crib may rest without rocking upon any level surface when not engaged in the cradle supports.

The posts may be provided with ornamental finial knobs and are connected in pairs, at the head and foot, by cross bars 17 and 18, and extending lengthwise between the pairs are side bars 19.

Similar longitudinal bars 20, 21 extend between the cross bars 18, and short bars 22 reach from the bars 19 to the bars 20, constituting a basket-like formation to receive a mattress and the crib clothing.

A thin plate 23 extends over and between the inner longitudinal bars 21 forming a partial flooring which may be extended laterally if preferred.

A pair of screw eyes 24 are fixed centrally in the upper edge of the frame members 10, 11, and fixed in the bars 18, to pass upward through the bars 17, at their centers, are oppositely extending rods 25, passing through the eyes 24 and provided with means to retain them in position therein, as the thumb nuts 26, these devices acting as pivotal supports upon which the crib swings in the manner of a cradle.

A metal plate 27 is fixed on the inner surface of the rocker 15, at the foot of the crib, its upper edge being secured to the lower sides of the inner bars 21, and fixed to the plate is a hubbed disc 28 from which extends a rigid pin 29.

A shaft 30 is rotatably mounted in the disc 28 and its supporting plate, the rod extending through another plate 31 fixed on the outer side of the rocker 15 at the head of the crib, and also secured to the cross bar 18 thereabove.

An escapement wheel 32 is mounted to freely rotate on the shaft 30, adjacent the plate 31, and pinned to the shaft is the hub of a ratchet wheel 33, the hub retaining the escapement wheel in place and the ratchet wheel communicating rotary motion to it, in one direction, by reason of a spring pressed pawl 34 engaging the teeth of the ratchet and being pivoted on the face of the escapement wheel.

The continuing end of the shaft 30 is squared, as at 35, to engage a winding key 36 by which the shaft may be rotated in winding a torsional, coiled spring 37, encircling the shaft, and having one end of the spring secured to it, as at 38, the

opposite end of the spring being turned outwardly to engage the fixed pin 29.

Fixed in a raised extension of the plate 31 is a post 39 on which is pivoted a lever 40 having an offset upper end 41 containing a slot 42 engaging a headed pin 43 fixed in the inner side of the support frame 10.

The lower end of the lever is shaped to produce two pallets 44, 45, engageable with the escapement wheel 32 on opposite sides of its axis.

It will now be seen that when the key 36 is entered through an opening 46 in the frame side 10 and engaged with the shaft 30, the spring 37 may be wound by rotating the shaft, the ratchet wheel 33 rotating under the pawl without conveying motion to the escapement wheel.

When this has been done the spring 37, exerting its torsional force through the shaft, actuates the ratchet wheel in a reverse direction, and through the pawl 34 communicates motion to the escapement wheel 32.

This escapement wheel actuates the pallets 44, 45 alternately, causing the lever 40 to swing on the pivot pin 43, and the fulcrum post 39, set in the plate 31, causes the cradle structure to oscillate in the manner of a pendulum on the pivots 25, moving the cradle with a regular rocking motion.

A short low rectangular casing 50 has its sides fixed on the inner bars 21 forming a pendant bridge, the lower member of which contains a plurality of perforations 51 below which is an annular band 52 and fixed therein is a thin cylindrical casing 53 containing an opening 54.

Secured in the lower rim of the casing 53 is a flexible bellows 55 and fixed on the outer free end of the bellows is a plate 56 connected by a hinge 57 to a second plate 58 fixed on the inner side of the rocker 15.

A flat spring 59 is secured on the plate 58 and bent to exert pressure at its free end on the hinged plate 56, directly upon the bellows and acting to normally close the same.

A collar 60 is pinned to the shaft 30 and also a ratchet wheel 61, having between them the hub of a cam 62 on which is pivoted a spring pressed pawl 63, the arrangement being such as to permit rewinding of the spring 38 without rotating the cam but permitting the spring to rotate the shaft and actuate the cam.

The arrangement and design of the cam 62 is such as to periodically make contact with the upper side of the plate 56, causing distension of the bellows 55, which when closing by the effect of the spring 59, forces air through the opening 54, raising the clothing of the doll imitative of breathing, once at each full revolution of the shaft 30.

A plate 64 is engaged over the inner bars 21, at the head portion of the structure, by a hinge 65 to swing upward, raising the head and upper part of a doll disposed thereon in a natural manner.

A loop-like bracket 66 is secured on the under side of the plate 64 against which the cam 62 makes contact as the shaft 30 is revolved, thereby raising the plate intermittently.

Air issuing from the opening 54 passes freely out of the open ends of the casing 50, through which the shaft 30 passes, and in order to prevent possible interception of the air current, an opening 67 is made in the plate 64 directly over the perforations 51.

Thus a doll resting recumbently in the cradle will have its head raised at intervals and thereafter lowered, whereupon movement of the doll garments takes place.

When it is desired to use the device as a stationary crib, the nuts 26 are removed and the crip structure removed to be placed with its feet 16 resting on any convenient surface, the sound producing and raising devices being engaged with the crib structure.

Although I have described my improvements with considerable detail and with respect to certain particular forms of my invention, I do not desire to be limited to such details since many changes and modifications may well be made without departing from the spirit and scope of my invention in its broadest aspect.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A doll cradle comprising a support having raised ends, a cradle pivotally suspended on the ends of said support, a spring actuated train to oscillate the cradle, and means for controlling the periodicity of such oscillations.

2. A doll cradle comprising a rigid support frame having raised end members, a cradle pivoted on said end members to oscillate therebetween, a spring actuated clock train mechanism including an escapement to oscillate the cradle in the manner of a pendulum, and means for rewinding said clock train mechanism, said means being operable from the end of the support frame and irrespective of the movement of said cradle.

3. A doll cradle comprising a rigid support frame having raised end members, a cradle detachably pivoted between said members, a shaft rotatably mounted longitudinally of the cradle structure, a torsional spring encircling said shaft and operatively engaged therewith, means for winding the spring, an escapement wheel driven by said shaft when rotated by said spring, a lever pivoted on the cradle, pallets on the lower end of said lever engageable with said escapement wheel, and a pin fixed in the adjacent frame members to operatively engage a

slot in the upper end of said lever whereby the lever is caused to oscillate on said pin and the cradle upon its pivots by action transmitted through the escapement wheel by said spring.

4. A doll cradle comprising a support, a cradle pivotally suspended on the ends of said support, a spring actuated train to oscillate the cradle, said train including a spring winding shaft, a plate hinged in the floor of said cradle to turn upwardly at the front therein, and means on said winding shaft to raise said plate intermittently.

5. A doll cradle comprising a support, a cradle pivotally suspended on the ends of said support, a spring actuated train to oscillate the cradle, said train including a spring winding shaft, an air impelling device carried by said cradle, and a cam on said shaft to actuate said device.

6. A doll cradle comprising a support, a cradle pivotally suspended in said support, a spring actuated train to oscillate the cradle, said train including a winding shaft, a plate hinged in the floor of said cradle to turn upwardly at the front therein, an air producing device on said cradle, and cam means actuated by said winding shaft to raise said plate and operate said air producing device intermittently at opposed intervals.

7. A doll cradle comprising a support having a cradle pivotally suspended between its ends, a spring actuated train to oscillate the cradle, said train including a spring winding shaft, a plate hinged in the floor of said cradle to turn upwardly at the front, means for intermittently producing an air current through the flooring of said cradle, and means to permit manually rotating said shaft without actuation of the air producing device and plate.

8. A doll cradle comprising a support having a cradle pivotally suspended in its ends, a shaft journalled in said cradle below the flooring thereof, a torsional spring encircling the shaft, means actuated by said shaft to oscillate the cradle when driven by the spring, a cam journalled on the shaft, means on the shaft to drive said cam in one direction, a plate hinged in the floor of the cradle to be raised by said cam, and an air compressing device on said cradle actuated by said cam.

In testimony whereof I have signed my name to this application.

MATTEO DE CESARE.