W. F. SILL & J. M. FELDHAUS.

MOTOR OSCILLATED CRIB.

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Patented June 26, 1917.

1,231,078.

Fig. 1

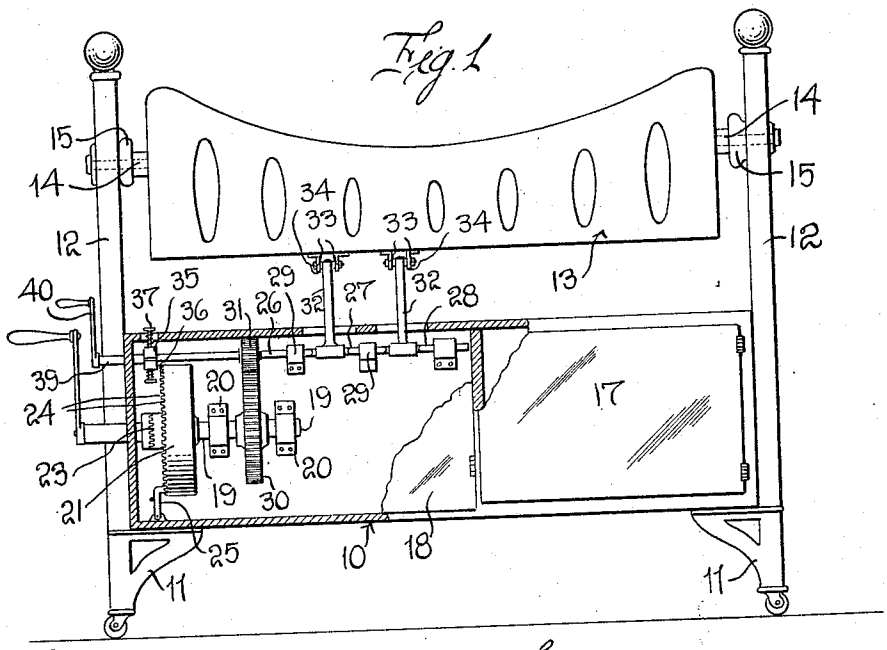


Fig. 2

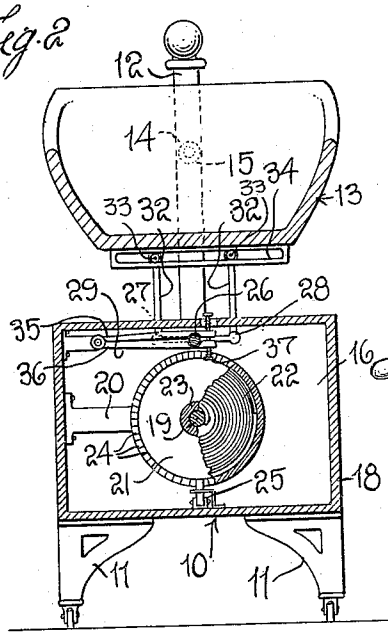


Fig. 4

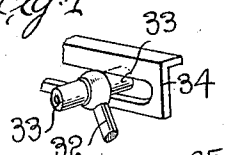
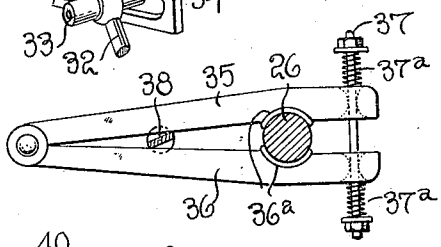


Fig. 3



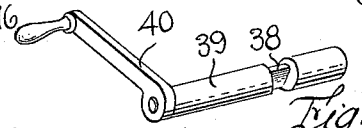


Fig. 5

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MOTOR-OSCILLATED CRIB.

1,231,078. Specification of Letters Patent. Patented June 26, 1917.

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To all whom it may concern:

Be it known that we, WILLIAM F. SILL and JOHN M. FELDHAUS, citizens of the United States, residing at St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Motor-Oscillated Cribs, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to cribs and particularly to cribs which are suspended upon suitable standards so that they may rock and in which motor operated means is used for rocking the crib.

The general object of this invention is to provide a crib of the character described and provide very simple spring motor operated means for rocking the crib and a further object in this connection is to provide means for regulating the speed of the motor operated means so that the rate of oscillations of the crib may be readily controlled and regulated.

Other objects will appear in the course of the following description.

Our invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of the crib, the motor compartment being broken away to show the motor;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a side elevation of the speed controlling device, the shaft being shown in section;

Fig. 4 is a perspective view of one of the tracks on the bottom of the crib and the adjacent end of the connecting rod;

Fig. 5 is a perspective view of the cam for operating the speed controlling device.

Referring to these figures it will be seen that our improved crib includes a base designated generally 10, the base being supported upon legs 11 and having the oppositely disposed upwardly extending standards 12 which may be made of any desired ornamental design. Mounted between the standards is the crib proper designated 13 and having at its ends the outwardly extending pivots 14 engaging journal bearings 15 mounted upon the standards. The crib may be of any ornamental form or configuration and, as illustrated, is about 18 inches deep and any desired width. Disposed above the base 10 and inclosed within a suitable casing 16 is a spring motor. This spring motor is designed to take up half the length of the casing 16, the other half of the length of the casing forming a compartment which may constitute a wardrobe for instance, this half of the casing being closed by a door 17. The motor, as before stated, is contained within the other half of the casing and the motor compartment is closed by a door 18, these doors being hinged to the end walls of the casing.

The motor for rocking the crib comprises a shaft 19 supported in suitable bearings 20 and surrounding one end of this shaft is a drum 21, this drum being rotatably mounted with relation to the shaft and inclosed within the drum is a coil spring 22, one end of which is attached to the shaft and the other end of which is attached to the drum. The drum is provided upon its exterior face at its center with an outwardly projecting hub 23 formed with teeth upon its extremity for engagement with a crank handle. The periphery of the drum is also formed with notches 24 and a spring pawl 25 suitably mounted engages these notches and prevents a reverse rotation of the drum. It will be obvious now that a rotation of the drum in one direction will wind up the spring and that a reverse rotation of the drum will be prevented by the spring pawl 25. Extending parallel to the shaft 19 is a counter crank shaft 26 having thereon the cranks 27 and 28. This crank shaft is mounted in suitable bearings 29. A relatively large gear wheel 30 is mounted upon the shaft 19 and engages with a relatively small gear wheel 31 mounted upon the crank shaft 26. It will be obvious, therefore, that the rotative power of the spring will be transmitted to the counter crank shaft. The cranks 27 and 28 carry upon them the connecting rods 32, these connecting rods extending upward and carrying at their upper ends the pairs of rollers 33 which engage with tracks 34 mounted upon the under side of the crib proper 13. It will thus be obvious that a rotation of the shaft

26 will cause an oscillation of the crib and that the rapidity of this oscillation will depend upon the speed of rotation of the crank shaft. For the purpose of regulating the speed of rotation of the crank shaft and, therefore, the speed of oscillation of the crib, I provide a controller which is adapted to be operated or regulated from the exterior of the casing within which the motor is disposed, this controller comprising oppositely disposed members 35 and 36 pivoted or bolted to each other at one end, these members being preferably of wood. These members extend on each side of the crank shaft and are formed with semi-circular seats 36ª which embrace the crank shaft. These seats are preferably lined with rubber or like material. Passing through the free ends of the members 35 and 36 is a rod 37 and disposed on this rod are the springs 37ª which bear against the free ends of the members 35 and 36 and resiliently force them against the crank shaft. These members 35 and 36, therefore, act as brakes impeding the rotation of the crank shaft to an extent depending upon the strength of the springs and the frictional engagement between the members 35 and 36 and the crank shaft. For the purpose of regulating the amount of this frictional engagement we provide a cam 38 formed upon a rod 39 or shaft which shaft passes between the members 35 and 36. The shaft is formed with a crank handle 40 whereby it may be rotated. It will be obvious now that when the cam is rotated in one direction it will permit the springs 37ª to force the members 35 and 36 with considerable braking power against the shaft and thus prevent the rotation of the shaft. On the other hand, when the shaft 39 is rotated through a quarter of a circle it will entirely lift the members 35 and 36 from engagement with the crank shaft and the crank shaft will rotate unimpeded. When the cam shaft 39 is rotated partially it will partially separate the members 35 and 36 and they will then only partially impede the rotation of the crank shaft. Thus it is possible to entirely regulate the speed of oscillation of the crib. The end of the casing within which the motor is inclosed may be provided with a scale over which the crank handle 40 will operate so that the speed brakes may be adjusted with considerable nicety.

The operation of this invention will be obvious from what has gone before. Assuming the spring is wound up, then upon releasing the members 35 and 36 from their engagement with the crank shaft, the spring will cause the relatively slow rotation of the shaft 19 and the relatively more rapid rotation of the shaft 26 and the oscillation of the crib. By regulating the speed, the oscillation may be very gentle or it may be made more rapid as desired.

The cranks 27 and 28 are disposed in opposite relation and it will be obvious that upon a rotation of the crank shaft, each one of the connecting rods 32 will move in a path having a vertical component and a slight horizontal component. For instance, assuming that the shaft 26 is rotating in a counterclockwise direction then the connecting rod 32 at the righthand of Fig. 2, will move upward tilting or swinging the crib upon its pivot and moving along the slotted track 34 toward the outer end of the track. As the crank moves over to the left-hand side of Fig. 2, the roller of the connecting rod will travel back along the slot until the crank commences to move downward, when the pull will be directed downward and shift the crib in the other direction. The purpose of connecting the crib to the crank shaft by means of connecting rods having rollers moving in slots is to provide for a relatively gentle movement of the crib at the point where the direction of movement of the crib changes.

While we have illustrated the construction which we have found to be very practical and which may be made very ornamental, yet it is obvious that many modifications might be made in this device without departing from the spirit of the invention.

Having described our invention, what we claim is:

1. The combination with a swinging crib, of a motor, a shaft operatively connected to the motor and having oppositely disposed cranks, connecting rods extending from the crank shaft to the crib, the adjacent ends of the connecting rods having sliding engagement with the crib.

2. The combination with a swinging crib, of means for oscillating the crib comprising a crank shaft having oppositely disposed cranks, connecting rods extending from the cranks to the crib, and having rollers, and transversely extending tracks on the crib with which the rollers engage.

3. In a structure of the character described, vertically extending standards, a crib disposed between said standards and having trunnions operatively supported by the standards, the trunnions being disposed above the bottom of the crib, transversely extending tracks on the bottom of the crib, a motor driven crank shaft, and connecting rods pivotally connected to the cranks of said shafts and having sliding engagement with said tracks.

4. The combination with an oscillatory crib, of a spring motor therefor comprising a shaft, a driving spring operatively connected to the shaft, means for winding up the spring, a crank shaft, means for driv-

ing the crank shaft from the motor shaft, connecting rods extending from the crank shaft, rollers carried upon the outer ends of the connecting rods, and tracks on the bottom of the crib with which said rollers engage.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

WILLIAM F. SILL.
JOHN M. FELDHAUS.

Witnesses:
FREDERICK WOLKE,
CHARLES H. GARTHE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."