

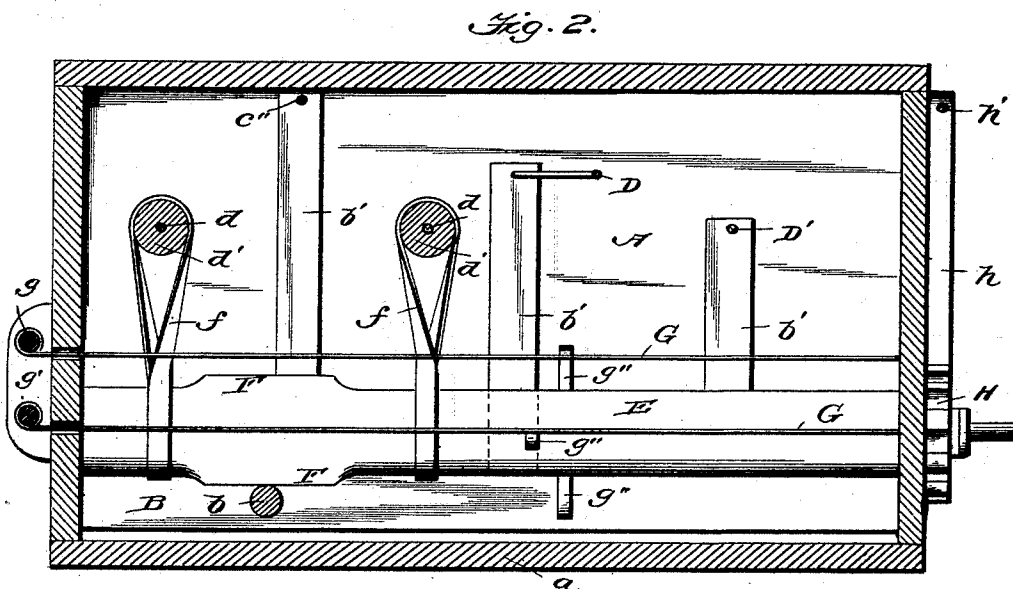
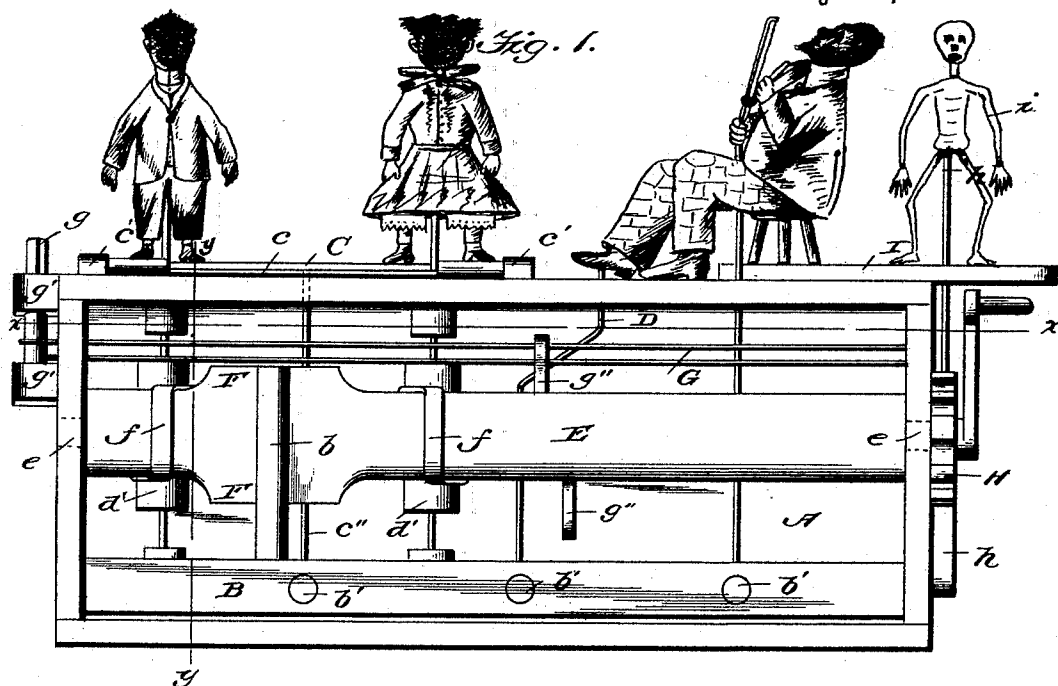
(No Model.)

2 Sheets—Sheet 1.

J. W. ZINN.
TOY.

No. 497,974.

Patented May 23, 1893.



Witnesses:

Wm. D. Baskie,
William O. Belt.

Inventor:

John W. Zinn.
By *Edson B. Burt*
Att'y's.

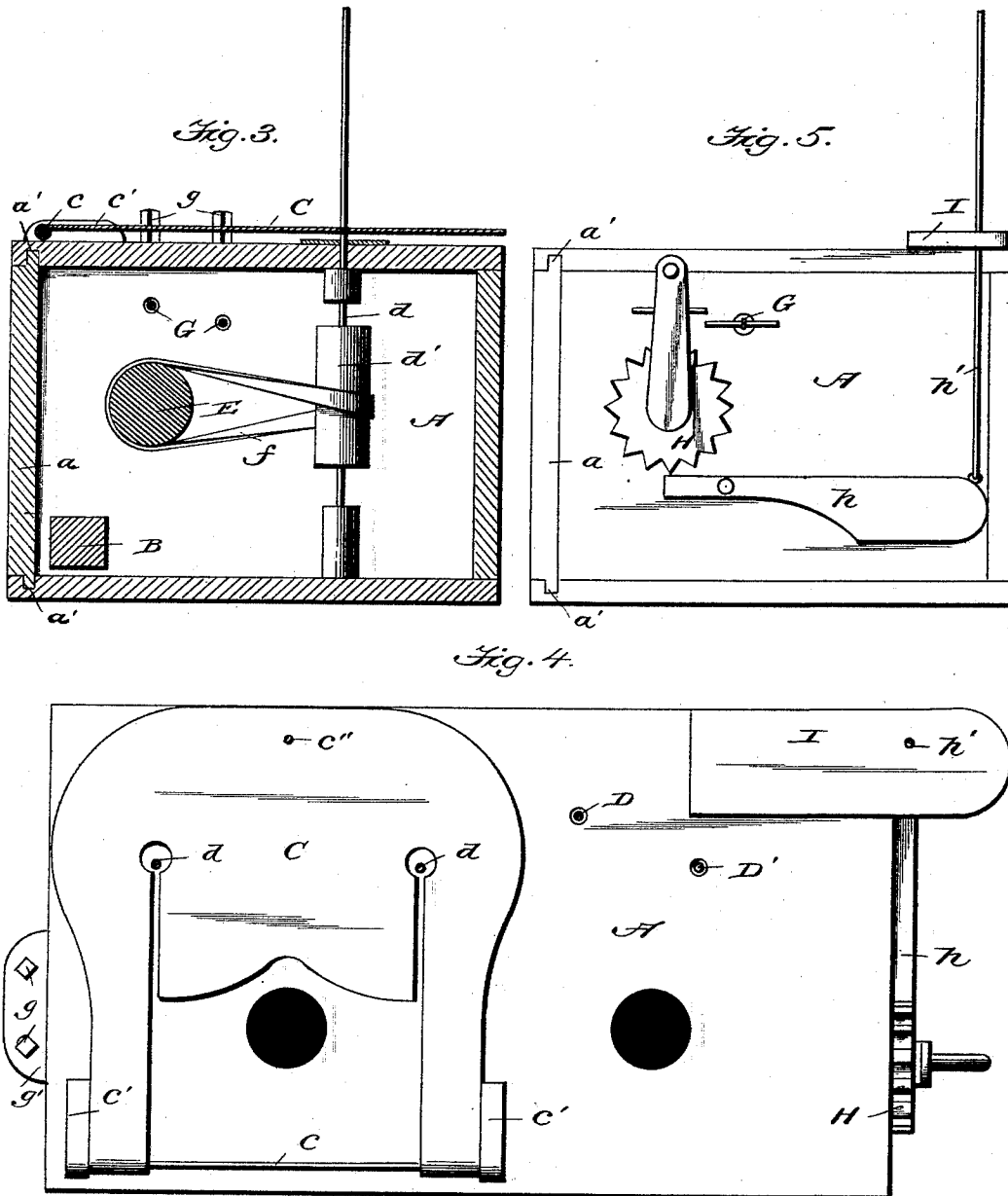
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2 Sheets—Sheet 2.

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Wm. C. Dashiell.
William O. Belt.

Inventor:

John W. Zinn.

By *Edwin B. Smith.*
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UNITED STATES PATENT OFFICE.

JOHN W. ZINN, OF HAWTHORN, FLORIDA.

TOY.

SPECIFICATION forming part of Letters Patent No. 497,974, dated May 23, 1893.

Application filed May 20, 1892. Serial No. 433,746. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. ZINN, a citizen of the United States, residing at Hawthorn, in the county of Alachua and State of Florida, have invented certain new and useful Improvements in Toys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in toys, and its object is to provide an amusing device adapted to be operated by a single shaft to set in motion several jointed automata.

With these ends in view, the invention comprises a suitable casing or box, a rock-shaft journaled in bearings therein and having rigid arms projecting therefrom, which arms are connected at their ends with automata on the top of the box, a vibrating platform pivoted on the box-top and adapted to be operated by one of the arms of the rock-shaft to give a dancing motion to the feet or limbs of the automata, a main shaft journaled in bearings in the box and operated by a crank on one end thereof, said shaft having cam surfaces to engage an upright post on the rock shaft and actuate the latter, a ratchet wheel rigid on the main shaft and a pivoted lever arranged to engage with said wheel and communicate a peculiar motion to a skeleton automaton.

My invention consists further of certain details of construction and arrangement of parts which will be fully described hereinafter and pointed out in the claims.

In the accompanying drawings—Figure 1 is a front elevation of the toy with the movable side on the front of the box removed. Fig. 2 is a horizontal sectional view on the line $x-x$ of Fig. 1. Fig. 3 is a transverse sectional view on the line $y-y$ of Fig. 1, and Fig. 4 is a top plan view of the toy with the figures removed. Fig. 5 is an end elevation.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the casing or box which may be of suitable ornamental design and which contains all the operating mechanism, said casing being provided with

a removable front a adapted to slide in ways or grooves a' . In the bottom of this box, and preferably near the front thereof, is a rock shaft B which is journaled in suitable bearings in the ends of the box, and this shaft has an upright post b which is rigid therewith, for a purpose hereinafter described. On the inner side of this rock shaft are three or more arms b' which are rigidly secured thereto and project very nearly to the opposite side of the box, and when the shaft rocks the arms will be oscillated in a limited space. The automata are arranged on the outside of the box, and to give one or more of them a dancing movement I provide a vibrating platform C which is pivoted in any suitable way near the front edge of the box top, preferably on a shaft c journaled in the bearings c' . This platform extends across the box-top and is connected to one of the arms b' by a rod or link c'' passing down through the box-top, so that the plate will move rapidly up and down when the rock shaft and arms b' are operated. The dancing automata are suitably supported above this platform, with their legs hanging loosely from their bodies and their feet resting upon the platform, and as said platform is actuated and the automata revolved their feet will be moved to simulate dancing movements.

Any number of the automata may be provided consistent with the size and proportions of the other parts, but in the drawings I have shown two dancers and a figure representing a fiddler, the latter being seated on a chair or other article, the foot and arm of the seated figure being automatically operated by rod connections D, D', with two of the arms b' . By this arrangement the dancing automata and the foot and arm of the fiddler are actuated at the same time by the rock shaft B, and the vertical movement of the rods D, D', causes the foot, and the arm carrying a bow, to have regular movements. The dancing automata are mounted on vertical shafts d which are journaled in bearings in the top and bottom of the box and they are provided with suitable drums d' within the box to receive belts from the power shaft, whereby the automata are caused to turn or rotate on vertical axes.

The power shaft E is arranged above and a little to one side of the rock shaft, and it is provided with trunnions *e* which are journaled in bearings in the ends of the box. One of these trunnions projects through the end of the box, and is provided with a crank and handle by means of which the toy is operated. The shaft is provided with a suitable number of cam surfaces or projections F against which the upright post *b* on the rock shaft bears, so that said rock-shaft will be oscillated as the post is forced out by the cam surfaces on the power shaft and bears against the shaft between said cam surfaces. This construction provides for the movement of the fiddler and the dancing of the other automatons, and to revolve the latter I employ belts *f* which are tightly drawn around the power shaft and the drums *d'* on the vertical shafts *d*. Above the power shaft may be arranged a number of musical strings G which are stretched tightly across the box and adjusted by means of the keys *g* operating in brackets *g'* on the outside of the box. These strings are so arranged that they will be struck by spring arms *g''* carried by the power shaft, as the latter rotates, and may be adapted to cause said strings to give sounds which will collectively make a tune. A ratchet wheel H is rigidly secured on the trunnions *e* between the end of the box and the crank, and a lever *h* is pivoted on this end of the box and has one of its ends arranged in engagement with said wheel. The other end of this lever carries a vertical rod *h'* which extends upward through a platform I fastened to the box, and supports another figure *i* preferably made like a jumping-jack or skeleton automaton. As the power shaft rotates the lever *h* will be given a quick oscillating motion by its engagement with the ratchet wheel and this gives the figure *i* a peculiar dancing and jerking motion.

It will be readily observed that all of the automatons or figures will be operated simultaneously by one power shaft, and the peculiar motion of the several parts of these automatons makes them very attractive and amusing.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

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

1. In a toy, the combination with a box or case having a rotating automaton on the top thereof, a rock shaft journaled within the box and provided with a projecting arm, a vibrating platform arranged on the top of the box, below the automaton, and connected with the arm on the rock shaft, and means for impart-

ing motion to the rock shaft, substantially as described for the purpose specified.

2. In a toy, the combination with a box or case having a series of automatons on the top thereof, of a platform pivoted on the box and extending under one or more of the automatons, a power shaft arranged within the box and adapted to rotate the automatons above the pivoted platform, a rock shaft extending parallel to and adapted to be operated by the power shaft, and connections between the rock shaft and the pivoted platform on the box and adapted to vibrate said platform vertically, to give the feet of the rotating automatons a dancing movement, substantially as described.

3. In a toy, the combination with a box and the automatons mounted on vertical shafts extending up through the box, of a power shaft journaled in bearings in said box, the belt passing around said shaft and drums rigid on the vertical shafts, whereby the automatons are revolved, and means, substantially as described, for giving the feet of said revolving automatons a dancing movement, as set forth.

4. In a toy, the combination with a box and the automatons arranged thereon and adapted to revolve, of the rock shaft having projecting arms, a vibrating platform pivoted on the box top and extending beneath the revolving automatons, the rod connecting said plate and one of the projecting arms, the power shaft, and a post rigid with the rock shaft and arranged to engage with the power shaft, whereby the rock shaft is automatically operated as the power shaft rotates, substantially as described.

5. The combination with a revolving automaton, of a pivoted platform arranged beneath the feet of the automaton, a rock shaft journaled below the pivoted platform and provided with a horizontally projecting arm, a vertical rod connecting the horizontal arm on the rock shaft and the pivoted platform, and means for operating the rock shaft to give the pivoted platform a limited vertical movement, substantially as and for the purpose described.

6. In a toy, the combination of a box or case, vertical shafts journaled in the box or case and carrying automatons at their upper ends, a vibrating plate arranged beneath the feet of the automatons, a power shaft having cam surfaces or projections thereon, a rock shaft provided with a projecting post or arm arranged to contact with the cam surfaces on the power shaft, and connections between the rock shaft and vibrating plate, substantially as described.

7. In a toy, the combination with a box and the automatons arranged thereon, a rock shaft having horizontally projecting arms, two of which are connected with the foot and arm of one automaton, a pivoted plate on the box top extending under the other automatons, a rod connecting the pivoted plate and the other

arm on said rock-shaft, a power shaft having
cam surfaces or projections and adapted to
revolve the latter automaton, an upright post
rigid with the rock shaft and arranged to en-
5 gage with the cam surfaces on the power shaft
and a crank for turning said power shaft, sub-
stantially as described.

In testimony whereof I affix my signature in
presence of two witnesses.

JOHN W. ZINN.

Witnesses:

THOMAS J. McRAE,
M. H. McRAE.