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TOY CLOCK

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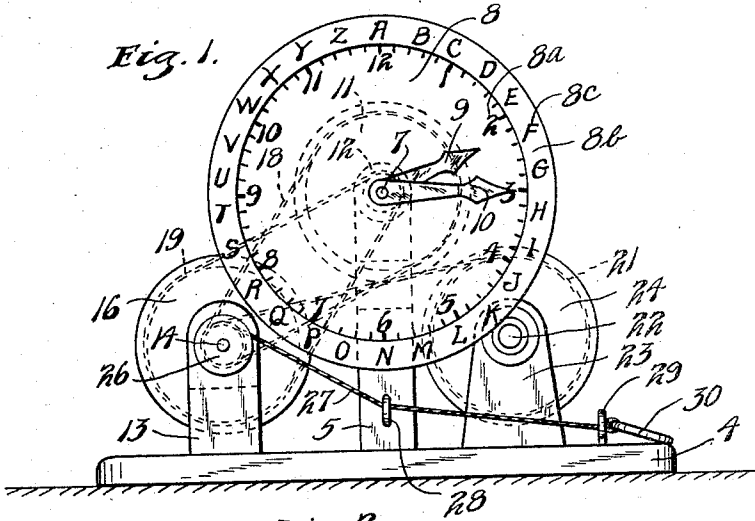


Fig. 1.

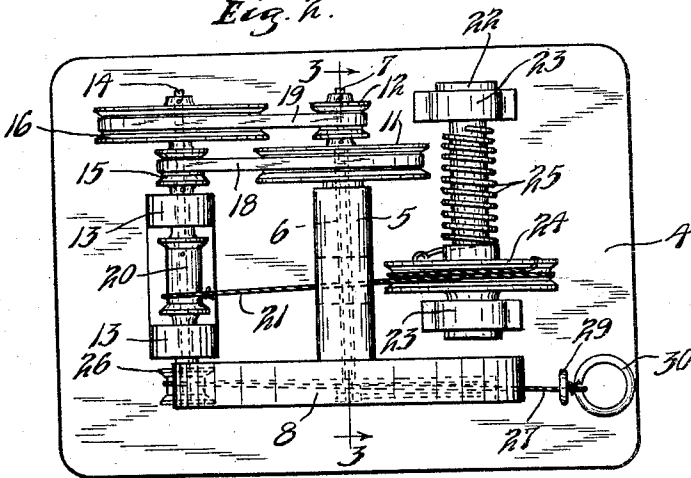


Fig. 2.

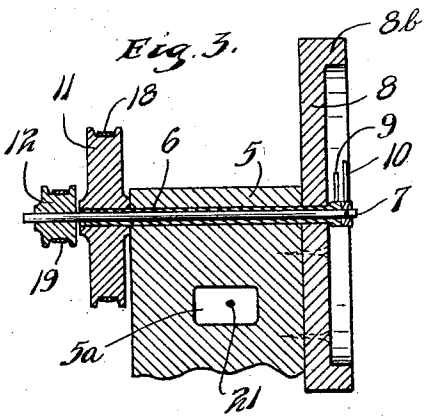


Fig. 3.

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# UNITED STATES PATENT OFFICE

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## TOY CLOCK

Application filed April 24, 1930. Serial No. 446,912.

This invention relates to toy clocks, and to devices for teaching children to read clock dials and to familiarize themselves with the alphabet.

It is the object of this invention to provide a novel and improved toy clock of cheap and simple construction, which will afford amusement to children and at the same time will teach them to tell time and learn the alphabet.

To these ends, the invention consists in the novel parts and novel combinations of parts, hereinafter defined in the claims and described in the following specification, made in connection with the accompanying drawing, wherein like reference characters refer to the same or similar parts throughout the various views, and, in which,

Fig. 1 is a view in front elevation illustrating the toy clock of the present invention;

Fig. 2 is a plan view of the clock, and

Fig. 3 is a vertical section taken on the line 3-3 of Fig. 2, as indicated by the arrows.

Referring to the drawing, in accordance with the present invention a base 4 is provided upon which is mounted a standard 5 in upstanding relation. The standard 5 in the embodiment shown is merely a block and in the upper end of this standard, there is a sleeve 6 journaled. The sleeve 6 projects beyond the forward and rear edges of the standard 5 and journaled within this sleeve is a shaft 7 which projects at its forward and rear ends beyond the ends of the sleeve. A dial 8 is secured to the forward edge of the standard 5 and is preferably circular in shape and has printed designations 8a thereon corresponding to the printed designations on the dial of a clock. The dial 8 also may be provided with a circumferential forwardly projecting flange 8b upon which the letters 8c of the alphabet are printed. The forward ends of the sleeve 6 and shaft 7 project through the central portion of the dial 8 and the sleeve 6 carries a small or hour hand 9 adapted to work over the face of a dial, while the shaft 7 carries a large or minute hand 10 also adapted to work over the face of the dial. A pulley 11 is secured to the rear end of the sleeve 6, while a pulley 12 is secured to the rear end of the shaft 7.

Mounted on the base 4 adjacent the standard 5 and at one side thereof, is a suitable bracket 13 forming bearings for a horizontal shaft 14. The shaft 14 carries adjacent its rear end a pulley 15 in alinement with the pulley 11 and a pulley 16 in alinement with the pulley 12. An endless belt 18 runs over the pulleys 15 and 11, while an endless belt 19 runs over the pulleys 16 and 12. The pulleys 11 and 15 and 12 and 16 are of such size that when the shaft 14 is rotated, the sleeve 11 will be rotated at one-twelfth the speed of shaft 7. Also secured to the shaft 14, is a winding drum 20 to which one end of a cord 21 is secured. A horizontal shaft 22 is mounted in suitable brackets 23 secured to the base 4 at the opposite side of the standard 5 from the bracket 13 and shaft 14. Journaled on the shaft 22 opposite the winding drum 20 is a winding drum 24. The cord 21 extends through a rectangular opening 5a in the standard 5 and is normally wound about the drum 24 and secured thereto. A coiled spring 25 surrounds the shaft 22 and is fixed at one end to the shaft and is secured at its other end to the winding drum 24. This spring is normally under tension to cause all free portions of the cord 21 to be wound on the drum 24 and to be unwound from the drum 20. Secured to the forward end of the shaft 14 is a small winding drum 26 having secured thereto a cord 27 which when the free portion of the cord 21 is wound on the drum 24, has a considerable portion of its length wound on the drum 26. The cord 27 extends from the drum 26 through an eye 28 secured to the front edge of the standard 5, and through an eye 29 secured to the base 4. The cord 27 is secured at its free end to a ring 30 which normally is in engagement with the eye 29.

The operation of the toy is probably obvious. When it is desired to move the hands 9 and 10 so that they point toward any desired designations 8a or 8c on the dial 8, the ring 30 will be grasped and pulled away from the eye 29, whereupon the shaft 14 will be rotated against the tension of the spring 25 to cause certain portions of the cord 21 to be unwound from the drum 24 and to be wound onto the drum 20. The sleeve 6 and shaft 7

will be driven from the shaft 14 at a one to twelve ratio and the hands 9 and 10 will, accordingly, be turned in a one to twelve ratio of speed after the ordinary manner of the hands on a real clock. When the hands have been turned to point towards the desired designations 6a or 8c on the dial 8, the ring 30 may be held. Upon release of the ring, the spring 25 will return the parts to their normal position to cause the free portions of the cord 21 to be entirely wound on the drum 24 and the free portions of the cord 27 to be entirely wound on the drum 26. Engagement of the ring 30 with the eye 29 will limit the rotation of the shaft 14 during this return movement. In practice, when the parts are in their normal position, both hands 9 and 10 will point to the twelve point of the designations 8a, the hands 9 and 10 being shown out of their normal position in the drawing in order that they may be better illustrated. The cords 21 and 27 are sufficiently long to permit the hand 9 to make one complete revolution over the face of the dial and to permit the hand 10 to make twelve complete revolutions over the face of the dial, when the ring 30 is moved away from the eye 29 from the position illustrated in Figs. 1 and 2 to its extreme limits.

The toy is interesting for a child to play with as he will be intrigued with the mechanical operation of the device and the toy has certain educational advantages, inasmuch as a child while operating the same will, of necessity, familiarize himself with the movements of the hands of a clock dial. With very little instruction, the child may be readily taught to tell time by use of the present device, and he may also be taught to read the alphabet by use of the toy. The toy clock is also found useful in the class room by teachers to instruct his pupils in the telling of time and in the recognition of the various letters of the alphabet.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of the present invention.

What is claimed is:

1. A toy clock comprising a suitable standard, a sleeve journaled therein, a shaft journaled in said sleeve and projecting at both ends beyond said sleeve, a clock dial secured to the forward edge of said standard and through which the forward ends of said shaft and sleeve extend, hands secured to the forward ends of said shaft and sleeve for movement over said clock dial, a shaft suitably journaled adjacent said standard, means including a resilient member urging said second mentioned shaft to rotate in one direction, means for driving said first mentioned shaft from said second mentioned shaft, means for driving said sleeve from said sec-

ond mentioned shaft at a different speed than said first mentioned shaft is driven therefrom, and means for rotating said second mentioned shaft against the tension of said resilient element.

2. A toy clock comprising a suitable standard, a sleeve journaled in said standard, a shaft journaled in said sleeve and projecting at both ends beyond said sleeve, a clock dial secured to the forward portion of said standard and through which the forward ends of said sleeve and shaft extend, a minute hand secured to the forward end of said shaft for movement over said dial, an hour hand secured to the forward end of said sleeve for movement over said dial, a driving shaft suitably mounted adjacent said standard, means including a resilient member urging said driving shaft to rotate in one direction, means for driving said first mentioned shaft from said driving shaft, means for driving said sleeve from said driving shaft at one-twelfth the speed of said first mentioned shaft, and means for rotating said driving shaft against the tension of said resilient element.

3. A toy clock comprising a suitable standard, a sleeve journaled therein, a shaft journaled in said sleeve and projecting at both its forward and rear ends beyond said sleeve, a dial secured to the forward edge of said standard and through which the forward ends of said shaft and sleeve extend, hands secured to the forward ends of said shaft and sleeve for movement over said dial, a driving shaft suitably journaled adjacent said standard, means including a resilient element urging said driving shaft to rotate in one direction, means for driving said first mentioned shaft from said driving shaft, means for driving said sleeve from said driving shaft at a different speed than said first mentioned shaft is driven therefrom, a winding drum on said driving shaft, a cord secured to said winding drum, a keeper through which said cord extends and a handle member secured to said cord and adapted to limit rotative movement of said driving shaft as caused by said resilient element striking said keeper.

4. A toy clock comprising a suitable standard, a sleeve journaled in said standard, a shaft journaled in said sleeve, a dial secured to the forward portion of said standard and through which the forward ends of said sleeve and shaft extend, hands secured to the forward ends of said sleeve and shaft for movement over said dial, pulleys secured to the rear ends of said sleeve and shaft, a driving shaft suitably journaled adjacent said standard, a pair of pulleys mounted on said driving shaft, a belt running over one of said first mentioned pulleys and one of said second mentioned pulleys, a second belt running over the other of said first mentioned pulleys

and the other of said last mentioned pulleys, said respective first and second mentioned pulleys being of such size as to cause said sleeve and first mentioned shaft to be driven  
5 from said driving shaft at relative speeds of twelve to one, resilient means urging said driving shaft to rotate in one direction, and means for rotating said driving shaft in the opposite direction.

10 5. A toy clock comprising a suitable standard, a sleeve journaled therein, a shaft journaled in said sleeve and projecting at both its forward and rear ends beyond said sleeve, a dial secured to the forward portion of said  
15 standard and through which the forward ends of said shaft and sleeve extend, hands secured to the forward ends of said shaft and sleeve for movement over said dial, a second shaft suitably journaled adjacent said stand-  
20 ard, means for driving said first mentioned shaft from said second mentioned shaft, means for driving said sleeve from said second mentioned shaft at a different speed than said first mentioned shaft is driven there-  
25 from, a third shaft suitably mounted adjacent said standard, a winding drum carried on said second shaft, a winding drum journaled on said third shaft, a cord secured at its ends to said drums and adapted to be  
30 wound thereon, a spring surrounding said third shaft and secured to said last mentioned winding drum at one end and fixed at its other end, said spring urging said last mentioned winding drum to wind said cord  
35 thereon, and means for rotating said second shaft against the tension of said spring to cause said cord to be chiefly wound on said drum on said second shaft.

6. The structure defined in claim 5, said  
40 last mentioned means comprising a winding drum on said second shaft, a cord secured to said drum and adapted to be wound thereon and a handle member secured to said cord.

In testimony whereof I affix my signature.

45 ARTHUR R. BURKE.

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