

June 28, 1966

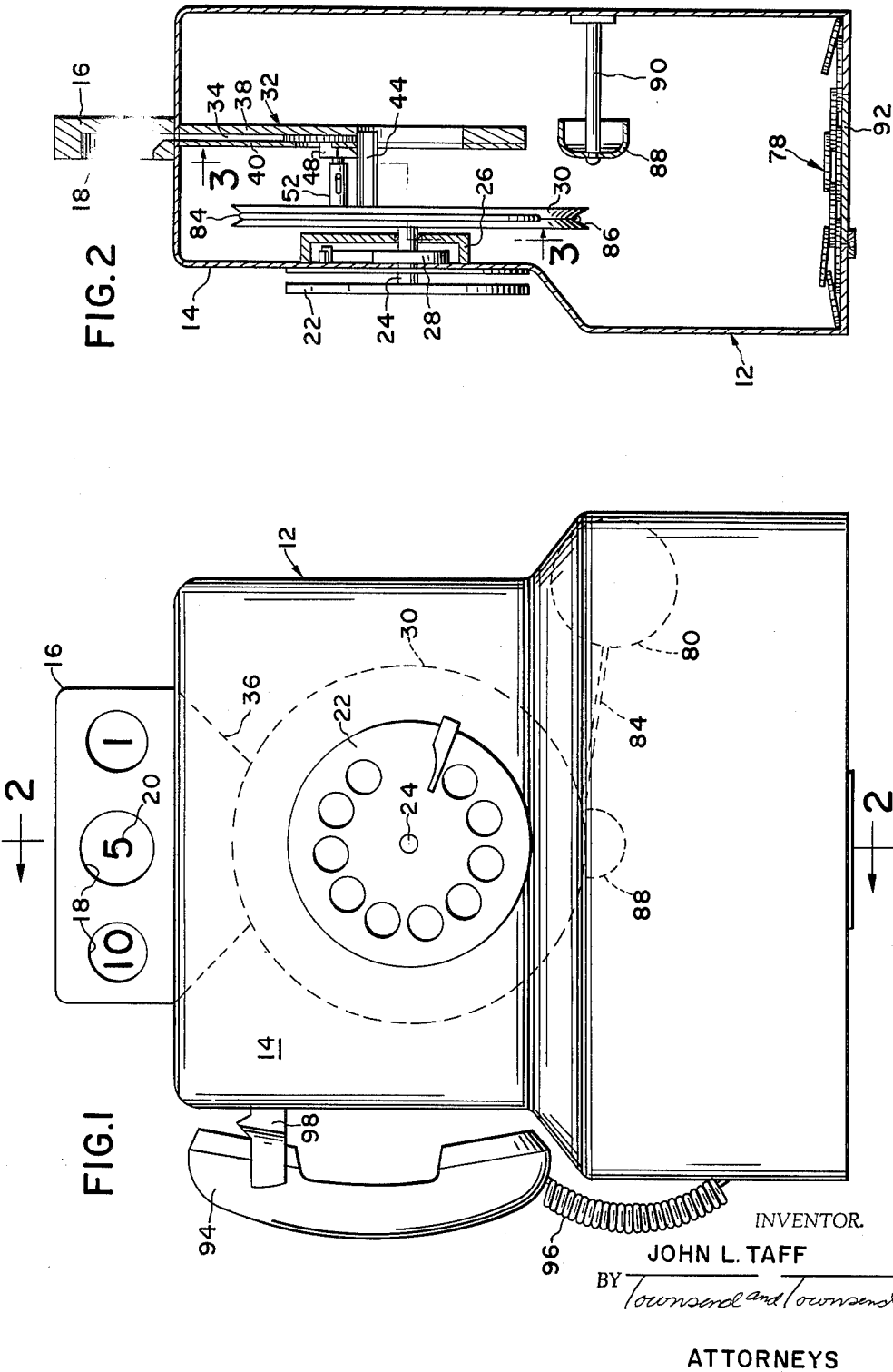
J. L. TAFF

3,258,100

TOY TELEPHONE MUSICAL BANK

Filed July 14, 1965

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FIG. 3

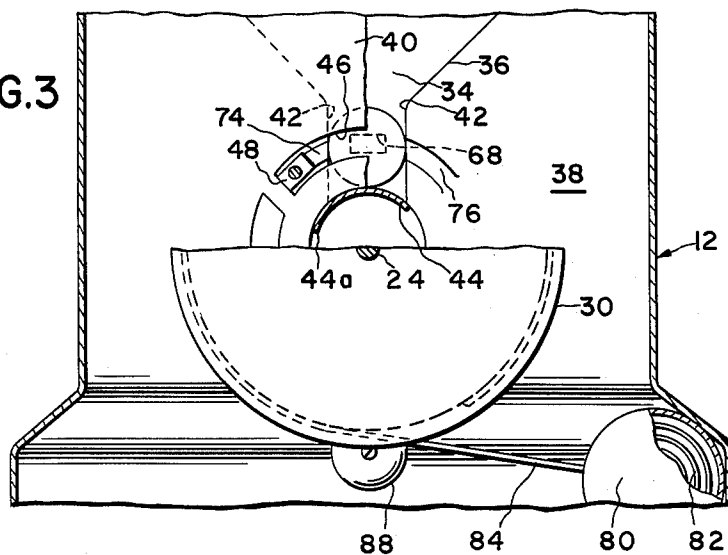


FIG. 4

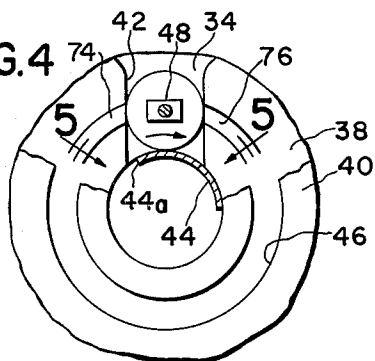


FIG. 5

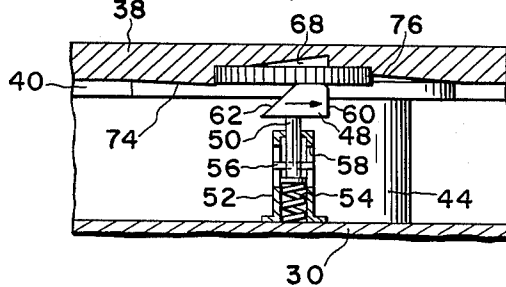
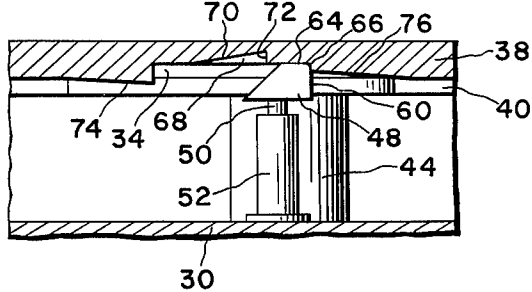


FIG. 6



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TOY TELEPHONE MUSICAL BANK

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4 Claims. (Cl. 194-92)

This invention relates to a coin bank formed to simulate a pay telephone station and including a music or like sound-producing device that is actuatable by rotation of a dial and which dial can be turned only when a coin is deposited into a device.

The device of the present invention encourages saving and instills habits of thrift, as well as providing entertainment to the user of the device by being operable only on deposit of a coin thereinto. The structure includes a sound-producing device of conventional type that can be energized only by inserting a coin into one or more coin-receiving apertures provided in the structure. Consequently, the user of the device is encouraged to save, is entertained, and is given instruction and practice in the use of dial telephone apparatus.

An object of the present invention is to provide a structure affording the foregoing advantageous characteristics.

A more specific object of the present invention is to provide mechanism of extremely simple construction that inhibits rotation of a telephone dial finger wheel until insertion of a coin into the device. Attainment of this object encourages the user of the device to deposit coins into the device since such are necessary for its full operation.

Another object is to provide a device of the type hereinabove mentioned that includes a sound-producing device and elements that permit actuation of the device only on insertion of a coin thereinto.

A further object is to provide apparatus of the type mentioned above that is extremely simple and inexpensive to construct, foolproof in operation, and operable without the necessity of electric power of any kind.

These and other objects will be more apparent after referring to the following specification and accompanying drawings in which:

FIG. 1 is a front elevation view of a toy telephone musical bank constructed in accordance with the present invention;

FIG. 2 is a cross-sectional view taken substantially along line 2-2 of FIG. 1;

FIG. 3 is a partial cross-sectional elevation view taken along line 3-3 of FIG. 2 to reveal certain internal details of construction;

FIG. 4 is an enlarged fragmentary view of the interior structure of the invention showing further details of operation;

FIG. 5 is a cross section view on enlarged scale taken along line 5-5 of FIG. 4; and

FIG. 6 is similar to FIG. 5 showing operation of the elements for inhibiting rotation of the finger wheel when no coin is in place.

Referring more particularly to the drawing, reference numeral 12 indicates a housing for the apparatus of the present invention that includes a front wall 14 formed to simulate a conventional pay telephone station. Extending from the top of housing 12 is a hood 16 defining a plurality of coin-receiving apertures 18. In the exemplary embodiment shown in the drawings, three apertures 18 are provided having diameters sized to receive a dime, a nickel and a penny respectively, indicia 20 being provided to designate the size of each aperture.

A finger wheel 22 of conventional form is provided and is secured to a shaft 24 journaled for rotation in panel 14 by a bearing support bracket 26. Finger wheel 22 is shown in FIG. 1 in a start position; a spiral spring

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28 is provided for biasing the finger wheel toward the start position. Mounted to shaft 24 interior of housing 12 is a circular disc 30. Depending into housing 12 adjacent disc 30 and shaft 24 is a structure 32 for defining a coin channel 34. As shown in FIG. 1 coin channel 34 has downwardly converging side walls 36 that direct coins deposited in any one of apertures 18 into a centrally-disposed channel.

Channel defining structure 32 includes a member defining a rear wall 38 and a front wall 40 which in one structure designed in accordance with my invention were spaced apart by an amount sufficient to admit the thickness of a nickel into the channel. Channel 34 also includes side walls 42 laterally spaced from one another by an amount slightly in excess of the diameter of the largest coin to be accommodated (a nickel in the above mentioned specific example of the invention). Front wall 40 terminates above shaft 24 in an arcuate portion so as to admit into the coin channel an arcuate flange 44 carried by disc 30 concentrically of shaft 24. Flange 44 is adapted to arrest passage of a coin through channel 34 when finger wheel 22 and shaft 24 reside in the start position. The flange terminates at a trailing edge 44a so that a coin arrested thereby will be released on movement of the finger wheel away from the start position.

Front wall 40 of the coin channel of flange 44 is provided with an arcuate slot 46 which is spaced above flange 44 by an amount approximately equal to the nominal diameter of a coin. Carried on the rear face of disc 30 is a pawl 48 which is sized to pass through slot 46 and extend into channel 34. The pawl is mounted on a pin 50 which is telescoped into a tubular member 52 secured to disc 30, a compression spring 54 being provided for biasing pawl 48 into coin channel 34. A cross pin 56 is provided in rod 50 for preventing rotation of pawl 48, elongate slots 58 being provided in tubular member 52 in cooperation with the cross pin. Pawl 48 includes a leading face 60 that is approximately perpendicular to the axis of shaft 24 and a trailing face 62 that defines a sloped plane to permit return of finger wheel 22 and shaft 24 to a start position without restriction as the pawl traverses the channel in the return direction (counterclockwise as viewed in the drawing). Pawl 48 also includes a bearing face 64 having a width at least as large as the difference in diameter between the largest and smallest coins to be accommodated by the device. In the example specifically shown in the drawings, wherein a nickel is the largest coin and a dime is the smallest coin, face 64 has a width in excess of one-eighth inch ($1\frac{3}{16}$ minus $1\frac{1}{16}$ equals $\frac{1}{8}$). Consequently, even with the smallest size coin disposed in channel 34 opposite slot 46, pawl 48 is prevented from making full entry into the channel. The leading corner edge 66 of pawl 48 is rounded at 66 to permit pawl 48 to move without restriction over the roughened face of a coin.

Rear wall 38 of channel 34 is formed with a depression 68 opposite slot 46. Depression 68 includes a gradually inclined rear surface 70 and a perpendicular, inhibiting forward surface 72. The depression has a height sufficient to admit pawl 48 thereinto. Thus it will be seen that when no coin is supported in channel 34 by flange 44, pawl 48 can enter depression 68 and thereby inhibit rotation of shaft 24 by engagement of the leading pawl face 60 with depression surface 72. For clarity, pawl 48 is shown in FIG. 6 in contact with the right lateral edge 42 of channel 34. In actual operation, however, the pawl enters depression 68 in absence of a coin.

It will be realized that in the absence of a coin, rotation of dial 22 is substantially inhibited as pawl 48 engages depression 68. When a coin is dropped into one of apertures 18, however, its downward movement is termi-

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nated by flange 44 thereby holding the coin opposite slot 46 and covering depression 68. Consequently when the dial is moved in a clockwise direction, as viewed in the drawings, pawl 48 is moved rightwardly as viewed in FIG. 5, and thereby permits full rotation of finger wheel 22, shaft 24 and disc 30. To assure smooth movement of face 64 onto and over the surface of the coin an upwardly sloping plane 74 is formed leftwardly of channel 34 as viewed in FIG. 6, and a downwardly sloping plane 76 is provided rightwardly of the channel. The distance of plane 74 from the rear wall of channel 34 is at least as great as the thickness of the thickest coin (a nickel in the present example) and the distance of plane 76 from the rear of the channel is equal to or less than the thickness of the thinnest coin to be accommodated (a dime in the present example).

Full rotation of shaft 22 also causes rotation of flange 44 with the result that on passage of edge 44a of the flange out of channel 34, the coin is no longer supported in the channel and drops. A coin chamber 78 is provided for receiving the coins so released. A further consequence of rotation of shaft 24 and disc 30 is that a sound-producing device 80 is actuated. Sound-producing device 80 is a conventional element and need not be explained in detail herein other than to say that such device typically includes a spring 82 which, when tensioned by a cord or like flexible tension member 84, will energize the sound-producing device, be it a music box movement or a miniature wire recorder or the like. To effect tensioning of cord 84 the periphery of disc 30 is formed with a concave groove 86 in which groove cord 84 is secured. Consequently, rotation of the dial winds cord 84 onto disc 30 and thereby imparts the necessary energy to spring 82 so as to commence operation of sound-producing device 80. Realism is afforded to the device by the provision of a bell 88 supported below and in vertical alignment with channel 34 so that a coin released by the rotary movement of flange 44 will strike the bell upon its passage to coin chamber 78. The bottom wall of the coin chamber can be provided with a door 92 for removing coins therefrom. Also enhancing the realism of the present device is a simulated telephone handset 94 joined to housing 12 by a wire or cord 96 and normally adapted to repose in a cradle 98 of conventional form.

The operation of the invention is as follows: with finger wheel 22 and shaft 24 at the start position (see FIG. 3), channel 34 is unrestricted by pawl 48 but is closed at the bottom thereof by flange 44. Consequently, when a coin is deposited, its downward movement will be arrested by the flange. With the coin residing on flange 44 in channel 34 rotation of finger wheel 22 is permitted, because pawl 48 moves across the face of the coin and therefore permits full rotation of finger wheel 22. When edge 44a clears channel 34 the coin drops into receptacle 78 sounding bell 88 on its downward traverse. Because pawl 68 clears channel 34, disc 30 can be fully rotated so as to energize spring 82 in sound-producing device 80. Consequently, the particular audio material provided by sound-producing device 80 will be sounded.

When no coin is in place in channel 34 opposite slot 46, attempted rotation of finger wheel 22 moves pawl 48 into depression 68 and consequently inhibits further rotation of finger wheel 22. Thus the user of the device is induced to save by securing an audio presentation only on deposit of the coin.

Thus it will be seen that the present invention provides an extremely straightforward mechanism for encouraging thrift as well as providing familiarization with telephone usage, without expensive or hazardous apparatus.

While one embodiment of the present invention has been shown and described it will be obvious that other adaptations and modifications can be made without departing from the true spirit and scope of the invention.

What is claimed is:

1. A toy telephone musical bank comprising a housing

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having a panel, a shaft transpiercing said panel and journaled for rotation relative thereto, a finger wheel mounted on said shaft exterior of said housing, means mounted on said shaft interior of said housing for rotatively biasing said shaft and finger wheel to a start position, means defining a coin channel within said housing, said coin channel terminating adjacent said shaft, means mounted on said shaft for arresting passage of a coin through said channel when said finger wheel is at the start position, said arresting means being formed to permit passage of a coin through said channel when said shaft is rotated from the start position, means mounted on said shaft and protruding into said channel for inhibiting rotation of said shaft when said channel lacks a coin therein, said inhibiting means being operable by the presence of a coin in said channel to permit rotation of said shaft, a spring-driven sound-producing device mounted within said housing, and means coupling said sound-producing mechanism to said shaft so that on rotation of said finger wheel energy is stored in the spring so as to activate said sound-producing device.

2. A toy telephone musical bank comprising a housing having means defining a generally vertically extending coin channel therein, said coin channel defining means including a wall having a slot therein extending transverse of the channel, a shaft rotatively mounted on said housing along an axis spaced from said slot, a rigid member extending radially from said shaft and secured thereto for rotation therewith, a pawl mounted on said rigid member for movement along said slot in response to rotation of said shaft, means for biasing said pawl into said coin channel through said slot, said pawl being formed to inhibit movement of said shaft when a coin is absent from said channel opposite said slot, an arcuate flange secured to said shaft for rotation therewith and protruding into said coin channel below said slot to support a coin opposite said slot, said arcuate flange being formed so that on rotation of said shaft said flange is rotated out of coin supporting relation to said coin channel, a finger wheel mounted on said shaft exterior of said housing and having at least one finger hole therein, and means responsive to rotation of said shaft for producing a sound, whereby said sound-producing means can be actuated only by placing a coin in said coin channel.

3. A toy telephone musical bank comprising a housing having a front panel simulating a coin telephone station, a shaft journaled for rotation in said panel and having a finger wheel including at least one finger hole mounted on said shaft exterior of said panel, means mounted on said shaft interior of said housing for resiliently biasing said shaft to a start position, a disc mounted on said shaft for rotation therewith interior of said housing, means in said housing for defining a generally vertically extending coin channel, said channel being disposed to transport a coin adjacent said disc with a face of said coin generally parallel to said disc, said coin channel defining means having a front wall forming an arcuate slot therein concentric with said shaft, a pawl extending from said disc into said slot, means for resiliently biasing said pawl into said channel through said slot, said pawl being disposed so that when the shaft is in the start position said pawl resides exterior of said coin channel, means mounted on said shaft and protruding into said channel for retaining a coin in said channel opposite said arcuate slot when the shaft is in the start position, said pawl having a leading face engageable with a side wall of said channel for inhibiting rotation of said shaft, said side wall being dimensioned so that when a coin is positioned opposite said slot said leading pawl edge clears said side walls to permit rotation of said shaft, a flexible tension member having one end fixed to the periphery of said disc, a spring-operated winding device having a spring therein, the other end of said flexible tension member being operatively connected to the spring in said sound-producing device for tensioning said spring on rotation of said disc.

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4. In combination, a housing simulating a pay telephone station and having at least one aperture therein for receiving a coin, a finger wheel, a shaft carrying said finger wheel at one end thereof and extending into the interior of said casing, means defining a coin channel from said aperture to a site interior of said housing above said shaft, said channel having a front wall, a rear wall, and opposite side walls arranged to define an elongate rectangular channel, said front wall defining an arcuate slot concentric with said shaft, said rear wall defining a depression opposite said slot which depression has a bearing wall extending generally radially of said shaft, an arcuate flange carried by said shaft for rotation therewith and extending into said coin channel for arresting passage of a coin therethrough and positioning a coin in said channel between said slot and said depression, a pawl carried by said shaft and disposed in alignment with said

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slot, means biasing said pawl into said slot so that in absence of a coin in said channel on said arresting means said pawl will enter said depression and inhibit rotation of said shaft, and a sound-producing device actuatable only on rotation of said shaft in response to movement of said finger wheel.

References Cited by the Examiner

UNITED STATES PATENTS

10	1,313,032	9/1919	Webster	-----	194—67	X
	2,531,495	11/1950	Baggott	-----	46—3	X
	2,952,093	9/1960	Matthay	-----	46—3	X

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