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C. BERGER

MECHANISM FOR DEPOSITING COINS OR OTHER OBJECTS

Filed June 9, 1922

2 Sheets-Sheet 1

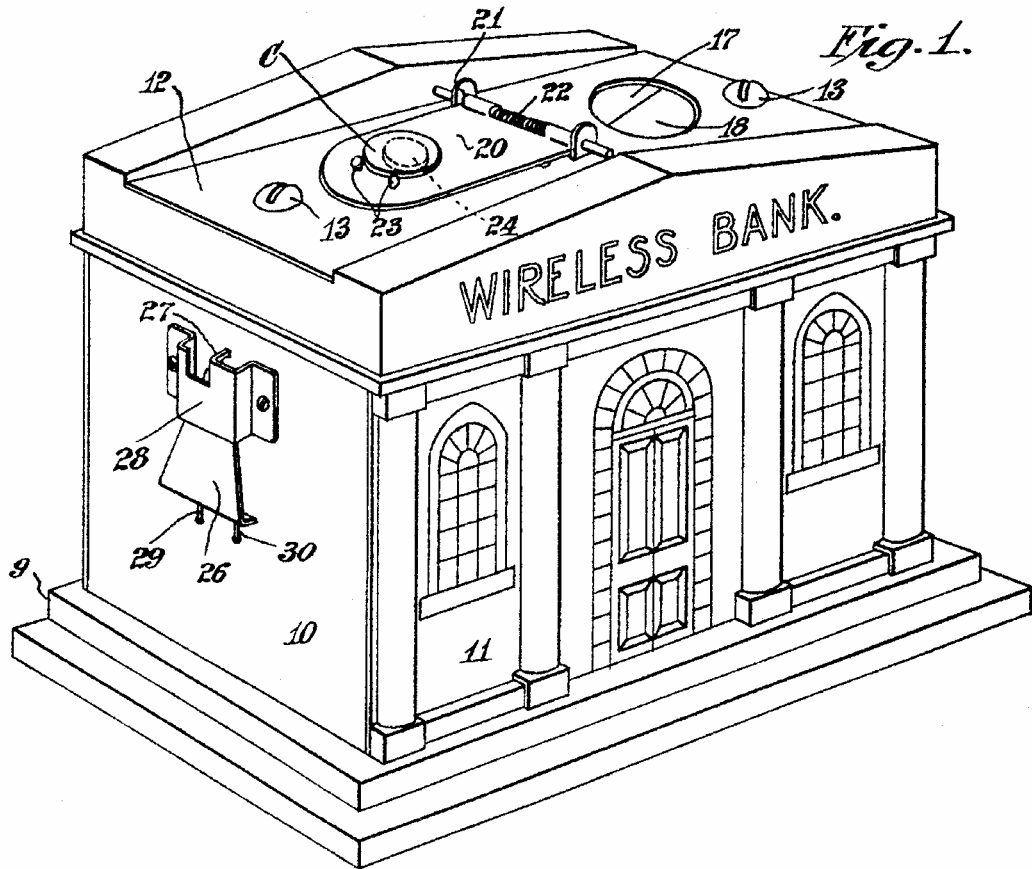
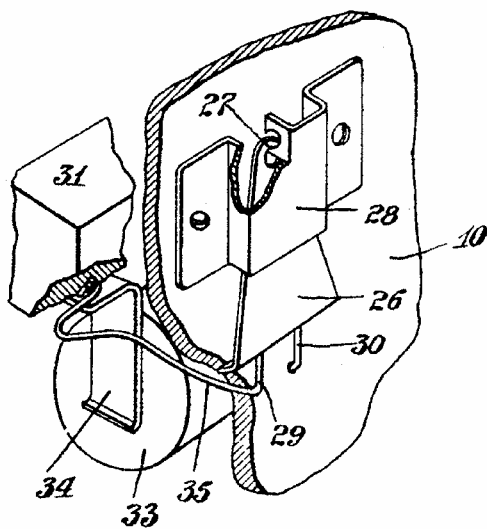


Fig. 2.



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# UNITED STATES PATENT OFFICE.

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## MECHANISM FOR DEPOSITING COINS OR OTHER OBJECTS.

Application filed June 9, 1922. Serial No. 567,070.

*To all whom it may concern:*

Be it known that I, CHRISTIAN BERGER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Mechanism for Depositing Coins or Other Objects, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention is a novel mechanism for depositing coins or other objects. In its embodiment, the invention is primarily a toy bank in which money is to be deposited, but the features of the invention are available for analogous purposes such as the depositing of various objects in various sorts of receptacles.

A purpose of the invention is to afford an operable depositing device by which the coin or other object may be thrown, flipped, released or otherwise deposited in the receptacle in a novel and effective manner. A particular purpose is to bring about the depositing action by control from a distance, for example by wave control, sound waves being herein shown as a suitable embodiment of the invention. A further purpose is to afford a manufacture of the nature specified which will be interesting or amusing, and therefore, in the case of a toy bank, conducive to the depositing and saving of money. Other and further objects and advantages of the present invention will be set forth in the hereinafter following description or will be apparent to those conversant with the subject matter.

To the attainment of the aforesaid objects and advantages the present invention consists in the novel article of manufacture, herein illustrated or described, and the novel features of combination, arrangement, operation, design and detail illustrated or described.

In the accompanying drawings showing an embodiment of the invention Figure 1 is an exterior perspective view of the same as applied to a toy bank in which coins are to be deposited.

Figure 2 is a detail perspective view showing parts of the acoustic detector means and connections.

Figure 3 is a longitudinal vertical section of the embodiment shown in Figure 1.

Figure 4 is an interior top view of certain details.

In the particular embodiment which the drawings illustrate is comprised a base 9 for the housing or walls which include the coin receptacle. An end wall 10 is shown and this may be used as a vibratable element for the purposes of the acoustic detector to be described. Wood forms a suitable material for this wall. A front wall 11 is shown which may be decorative to simulate the front of a savings bank building. The third and fourth walls may be analogous. The roof may comprise a metallic plate 12, and bolts 13 are shown extending from roof to base for holding the entire structure together.

On the interior the housing may be provided with a partition 14 dividing the space into a coin chamber 15 and a control chamber 16. One of the walls, preferably the top wall is formed with an entrance or aperture 17 to admit coins to the interior. A suitable trap 18 is shown below the opening 17, designed to deliver the coins by gravity through a slot 19 into the chamber 15, while making it difficult to extract the coins by inverting the bank.

One of the elements of the present invention is an operable device 20, which may be termed a depositor, for causing the deposit of the coins or other objects in the receptacle. This may take various forms, being shown as a flap or swinging plate located in such position that a coin laid upon the flap will be delivered into the aperture 17. The depositor 20 further is arranged so that it may be set in the position shown in Fig. 1, and restrained or held there until allowed to operate, swinging into position, shown in Fig. 3. The flap 20 is shown fulcrumed at 21, a spring 22 being the actuating influence to cause the device, when released, to swing over and project the coin into the receptacle. Small projections 23 are indicated on the depositor to assist in properly positioning the coin, C, the latter being indicated in Figs. 1 and 3.

Different modes might be employed of holding the depositor in set position. In-

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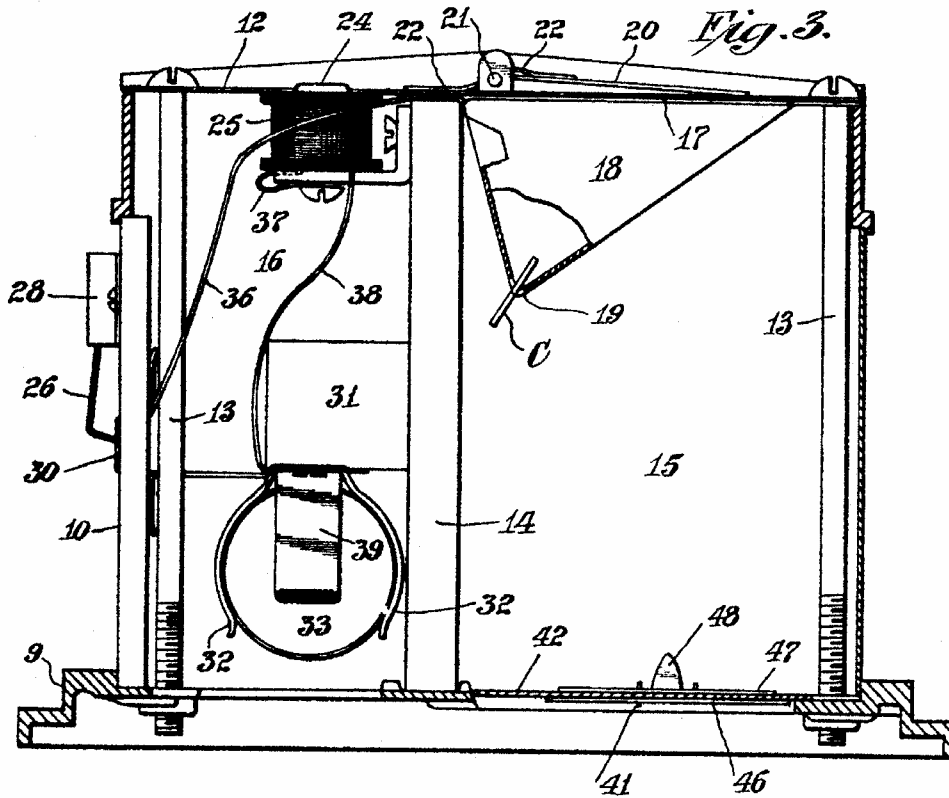
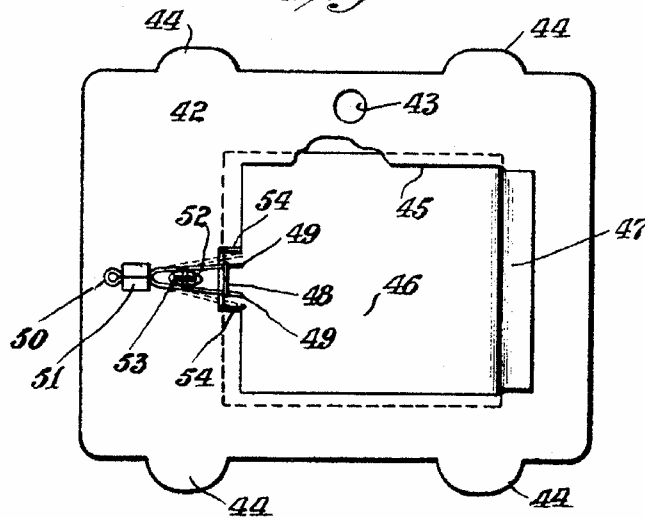


Fig. 4.



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stead of a mechanical hook or trigger, however, I prefer a magnet for restraining the action. The magnet or restrainer 24 is able to hold the set depositor by a magnetic pull, the depositor being constructed of iron.

The magnet 24 is not a permanent magnet but is energized by a coil 25 so that it may be readily de-energized, as a means of releasing the depositor when the latter is to operate.

As a means for causing such release I prefer a wave-operated detector. For example, the impingement of sound waves on the wall 10 may cause vibrations, which, through the detector, will cause the breaking or changing of the circuit in the magnet coil 25 as to release the depositor. An acoustic detector or circuit-controller 26 is shown in the form of a light pendulum or armulet hanging from a fulcrum 27 formed on a fulcrum piece 28 mounted directly on the wall 10. The lower edge of the detector 26 rests against a rear contact or wire 29 and a similar front contact 30, forming a bridge, which completes the circuit to be described, but effectively interrupts the current by the action of acoustic vibration, so as to give the desired releasing action.

Before further describing the circuit I will state that I prefer to include in the circuit the magnet core 24 and the depositor flap 20, so that the circuit will be broken and current saved, except when the depositor has been set in contact with the magnet, and this arrangement further renders the apparatus more sensitive and reliable.

In the control chamber 16 is shown a block 31 secured to the partition wall 14 and having mounted on it, opposite curved clips 32 for removably holding a cell of battery 33.

From the battery the circuit may extend through a rear battery contact 34 from which extends a wire 35 to the rear detector contact 29, before mentioned. The pendulous detector 26 bridges across from contact 29 to contact 30 and from the latter a wire 36 is shown extending to the metallic roof 12 and thereby to the swinging flapper or depositor 20. In Fig. 3 the device has been operated and the circuit is opened, but in Fig. 1 the depositor 20 is in contact with the magnet core 24, so that the circuit passes through the core. At the lower end of the core is shown a wire 37 connecting the core with one terminal of the magnet coil 25. From the other terminal of the coil extends a wire 38 to a metallic contact 39 pressing against the front end of the battery cell. This completes the circuit.

The operation may be as follows. The operator swings over the flapper 20, against its spring pressure, to the position shown in Fig. 1, contacting the magnet core. This at once closes the circuit, the current flowing in series through the various parts of the

circuit including the detector or bridge 26 and the magnet coil 25. The strength of the magnet is sufficient to overcome the spring 22, so that the parts remain set. A coin will be laid upon the depositor, as indicated in Fig. 1.

By now causing sound vibrations the imperceptible movement of the wall 10, acting upon the detector 26 suspended at its side, operates to break the circuit, where the detector contacts the wires 29 or 30, or effectively destroy the conductivity of the circuit, so that the magnet becomes materially weakened, thus releasing the depositor. The spring 22 thereupon operates to throw the depositor over to the Fig. 3 position and the coin is thereby projected into the opening 17, so that it will fall through the trap 15 and slot 19 into the coin chamber 13.

The apparatus can be operated from a fair distance, from partway across an ordinary room, that is, at a point a number of feet from the toy. A sharp exclamation will serve, for example uttering the word "cash" in a forcible manner; or the clapping of the hands, or other sound will serve the purpose.

The acoustic detector is very sensitive. This is because there are two contact points either of which may be disturbed with the effect of breaking the circuit. Thus there is no danger that the contact would be at a node in the vibratory wall, which, with a single contact might render it inoperative. Moreover the circuit interrupting effect at one contact is reinforced by that at the other, giving a highly sensitive effect. This is much enhanced by the placing of the spring flap and magnet core in series with the magnet coil, for, with the slightest weakening of the current the armature spring 22 pulls upon the armature or flap 20, tending to decrease the pressure and conductivity of this part of the circuit. This further renders it substantially impossible that with cessation of sound the magnet can again resume its full strength and hold the armature or flap against the desired retracting action.

As a means of removing the coins when desired I have shown an arrangement whereby the lower side of the coin chamber may be opened. The base casing 9 is formed with an opening at 41 of nearly the size of the coin chamber and in this opening rests a bottom plate 42, shown separately in Fig. 4. This has a hole 43 through which the bolt 13 passes, and lugs 44 by which the plate is held down in place by the upright walls of the apparatus and by the partition 14. The plate 42 has a square opening 45 below which is placed a removable door or cover 46. At the front end of the door, its right end in Fig. 4, is an offset extension 47 extending above and to the inner side of the bottom plate 42. At its

other end the door is provided with an upstanding lock device 48 in the shape of a spear-head, with shoulders at both sides for receiving under them the latch springs 49. These springs constitute the ends of a bent wire 50 secured at 51 by bent portions of the plate 42. When the door 46 is pressed upward into place the lock member 48 wedges apart the springs 49 which snap together beneath the lock device into the position shown in Fig. 4. To open the bank it is only necessary to insert, through a slot or key hole 52, a simple key 53, which may then be turned to the dotted line position, which throws apart the springs 49, to their dotted line positions, thus releasing the lock device 48 and the door 46. The plate 42 is formed with a pair of small flanges 54 serving as stops and guards for the springs 49. This door and lock construction is simple, inexpensive and durable.

A modified embodiment of the present invention would be the substitution, for the means of distance control, of a miniature Hertzian wave or wireless system. I have devised a particular radio system adapted for this purpose and for various other minor purposes, including the operation of various toys. The same may be described as comprising a circuit, which may be carried more extensively around the casing of the toy than shown in the embodiment illustrated in the drawings hereof, the said circuit containing the same battery, also an electro-magnet by which the release of the depositor is effected, and in replacement of the acoustic detector a suitable radio receiving device, preferably the well known coherent. In this case I prefer a light latch or trigger to hold the depositor when set, the electro-magnet being arranged to retract the trigger, thus releasing the depositor. The operation may be readily effected by a suitable spark of small power at a distance of a few feet or yards. My plan is to employ a bar of sealing wax partly incased in tin foil or the like, so that by friction, a quantity of electricity can be accumulated, which can be discharged by bringing the covered end of the bar in proximity to a metal rod or analogous discharge means.

Upon setting the depositor and then discharging the spark at a distance the action of the coherer is to give a material increase of current, so that the magnet retracts the trigger and releases the depositor. I do not herein specifically claim the described radio system apart from its use in the described toy bank or the like.

It will thus be seen that I have described a novel mechanism for depositing coins or other objects embodying the principles and attaining the purposes of the present invention. Many matters of combination, arrangement, design and detail may be vari-

ously modified without departing from the underlying principles, and therefore it is not desired to limit the invention to such matters except in so far as set forth in the appended claims.

What is claimed is:

1. In combination, a receptacle for coins or other objects, the same having a coin entrance opening, a spring actuated depositor arranged to deliver a coin into said entrance, a magnetically operated restraining means, whereby a suitable sound will bring about the actuation of the depositor, said restraining means comprising an electro-magnet operating directly on the depositor as an armature, and acting to hold the same when set until sound waves acting through the detector cause the magnet to release the depositor, the magnet circuit including in series a battery, the detector, the depositor, the magnet core and the magnet coil.

2. In combination, a casing, a partition dividing its interior into a control chamber and a coin chamber, a roof having a coin entrance above the coin chamber, a coin trap within said entrance, a spring projector arranged to hold a coin when set and to project the coin into the entrance when released, the same consisting of a hinged flap mounted centrally on the roof and comprising iron in its construction, an electro-magnet in the control chamber, with its core projecting through the roof in position to be contacted by and to hold the projector when set, a battery in said control chamber, a sound operated circuit controller on a wall of said casing, and a circuit including said controller, magnet and battery.

3. In combination, a casing, a roof having a coin entrance, a spring projector arranged to hold a coin when set and to project the coin into the entrance when released, an electro-magnet in the casing, with its core projecting through the roof in position to be contacted by and to hold the projector when set, a battery, a sound operated circuit controller, and a circuit including said controller, magnet and battery.

4. In combination, a receptacle for coins or other objects, a depositor for causing the deposit of the objects in the receptacle, the same arranged with an actuating spring, a restraining magnet for holding the depositor in set position in opposition to said spring, and means controllable from a distance, comprising an acoustic detector associated with an electric circuit for causing said magnet to release said restraining element and thereby actuate the depositor.

In testimony whereof, I have affixed my signature hereto.

CHRISTIAN BERGER,