June 21, 1938. A. R. BABCOCK 2,121,494

NONREPEATING INDICATOR

Filed Jan. 2, 1936 3 Sheets-Sheet 1

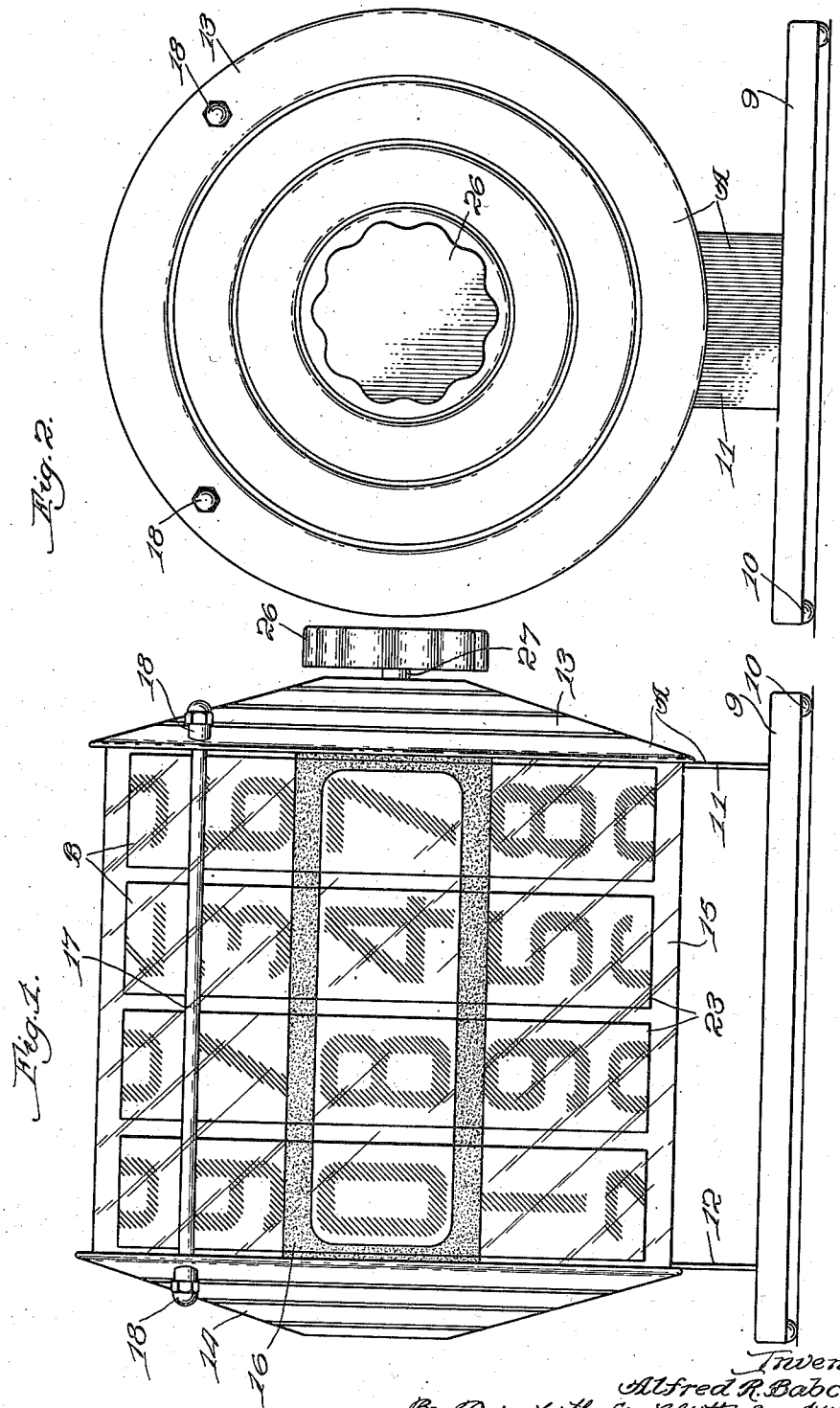


Fig. 2.

Fig. 1.

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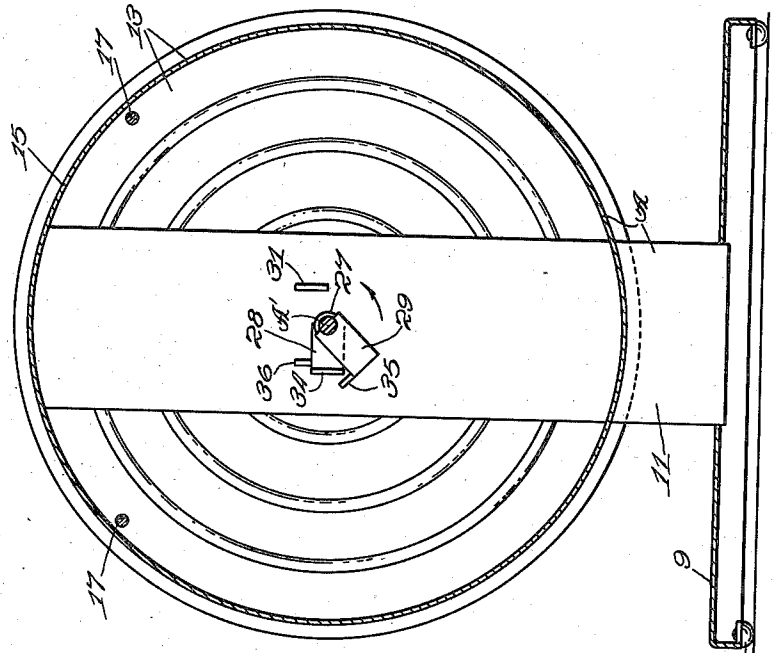


Fig. 4.

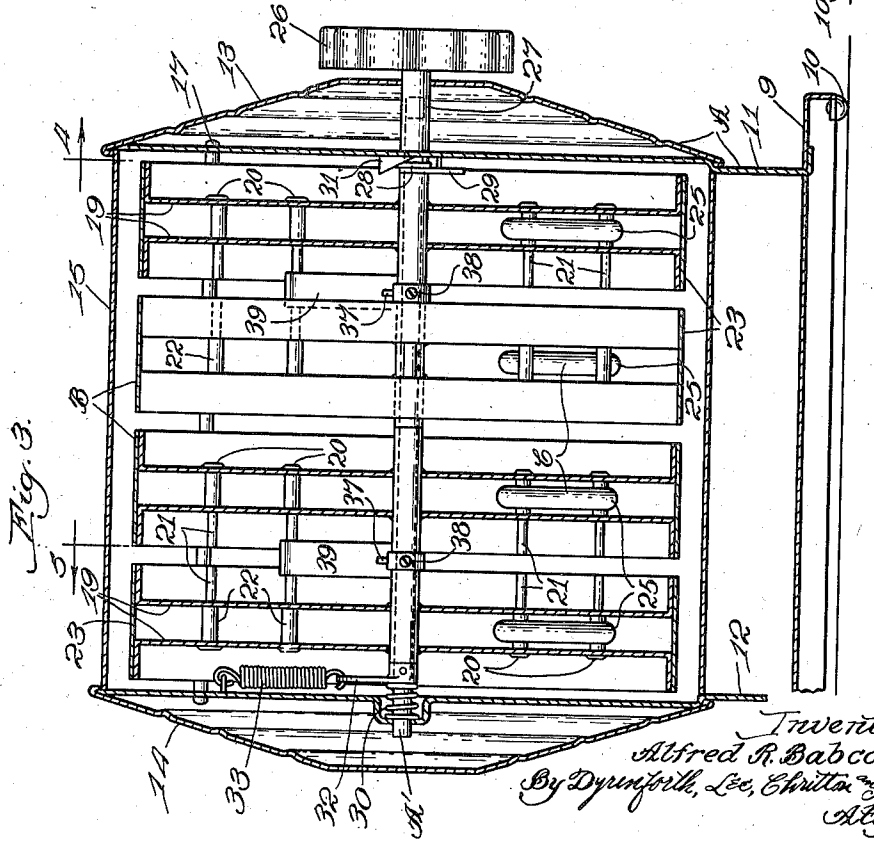


Fig. 3.

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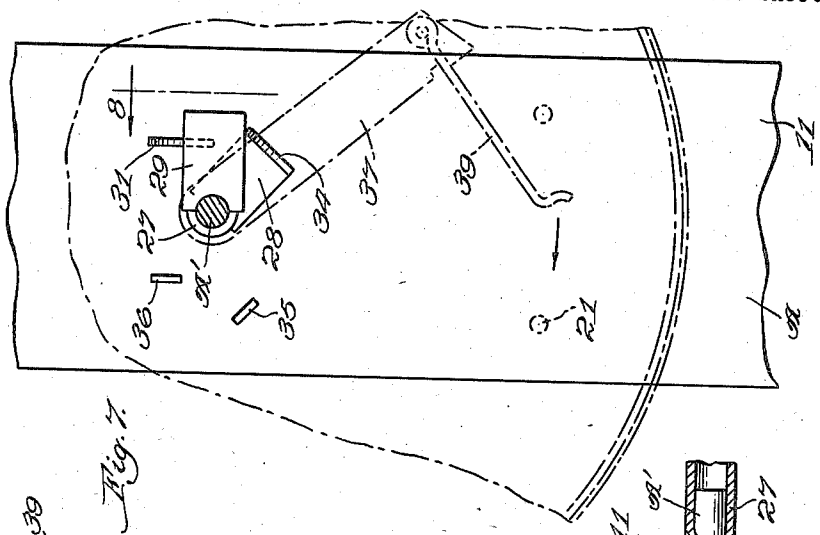


Fig. 7.

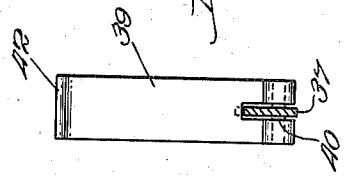


Fig. 6.

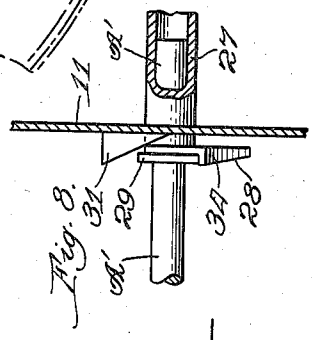


Fig. 8.

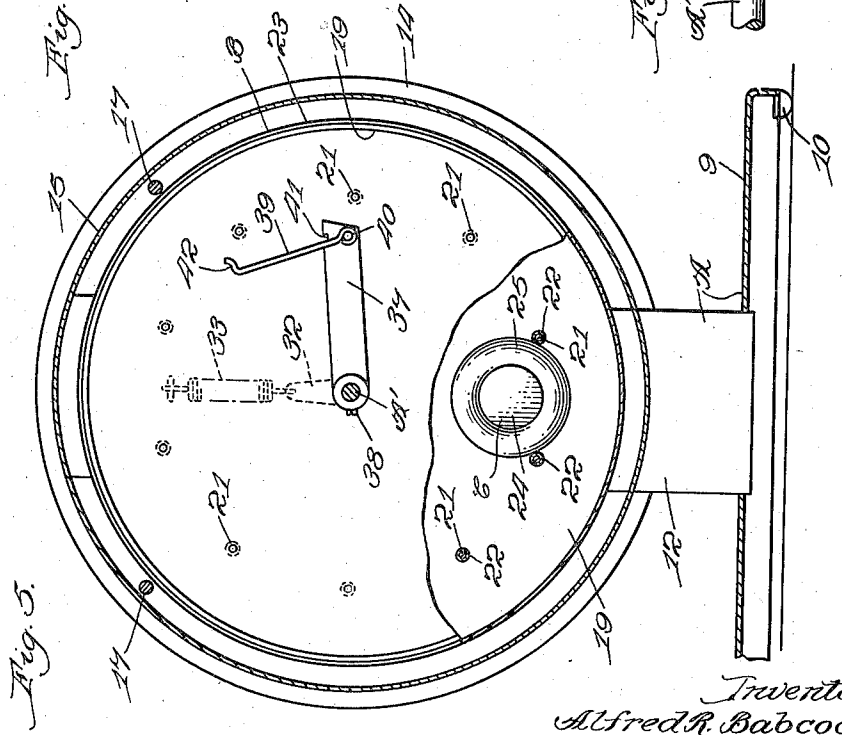


Fig. 5.

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UNITED STATES PATENT OFFICE

2,121,494

NONREPEATING INDICATOR

Alfred R. Babcock, Chicago, Ill.

Application January 2, 1936, Serial No. 57,286

9 Claims. (Cl. 273—143)

This invention relates to non-repeating indicators adapted for use in connection with games, sales promotion contests, and the like.

The primary object of the invention is to provide a device which cannot be tampered with or controlled by the user and will provide an equal chance for any of the individual characters appearing in the window of the device after each operation.

A further object of the invention is to provide a machine which is of inexpensive but durable construction and has its working parts, for the most part, exposed to the user's view.

The invention is illustrated in a preferred embodiment in the accompanying drawings, in which—

Fig. 1 is a front elevational view of a machine embodying the invention; Fig. 2 an end elevational view of the same; Fig. 3 a broken longitudinal view of the machine partly in section; Fig. 4 a sectional view taken as indicated at line 4 of Fig. 3; Fig. 5 a broken sectional view taken as indicated at line 5 of Fig. 3; Fig. 6 a fragmentary view showing a crank, in section, with its associated driving arm; Fig. 7 a fragmentary view showing a portion of the starting mechanism and cam release; and Fig. 8 an enlarged broken sectional view of the cam release taken as indicated by the line 8 of Fig. 7.

In the embodiment illustrated, A designates a housing frame in which is journalled a supporting shaft A'; B, rotatable members independently journalled on the shaft A'; and C, weighted members for automatically aligning characters carried by the members B with a desired portion of the housing frame A.

The housing frame may be of any suitable construction, and is shown with a sheet metal base 9, provided with legs 10 and upwardly extending standards 11 and 12, in which is journalled the shaft A'. Ornamental sheet metal discs 13 and 14 serve as end closures for a transparent cylinder 15, which may be made of glass, celluloid, or the like. The transparent cylinder, preferably, is provided with a suitably designated window 16, in which the characters, carried by the rotatable members, will appear when the rotation is stopped. The ends 13 and 14 may be held together by suitable tie rods 17, equipped at their end portions with threaded caps 18.

The rotatable members B are freely journalled on the shaft A' and preferably comprise light hollow sheet metal cylinders formed by securing cup-shaped members 19 together in spaced relation by means of capped studs 20 having a free end 21 projecting outwardly. The cup-shaped members 19 may be held in proper spaced relation by means of tubular spacing members 22, which may be slipped over the studs 20 before the members are secured together. The extensions 21 co-operate with the starting mechanism, as will be described below. The members 19, preferably, are provided with a circumferential band 23, on which may be painted or attached suitable characters such as numbers, playing cards, pictures, or the like.

In order that the members B will stop with their characters in proper alignment with the window 16, after being rotated freely, a weighted member C is provided in each member B. The members may comprise a heavy disc portion 24, which is encircled by a rubber tire 25 having a diameter somewhat larger than the distance between the equally spaced spacing members 22. In operation, when the members B are rotated rapidly, the weighted members will also rotate in fixed position with respect to the member, due to the action of centrifugal force. However, when the rotation is diminished sufficiently, the weighted members will drop out of the notches and will fall into some one of the other notches arbitrarily. Through the action of gravity, the weighted member will cause the member B to seek its lowest level, and this in turn will cause a corresponding character to become aligned or framed within the window 16. If desired, the weights may be different in the various members B and this will cause the various rotatable members to stop their rotation in the order desired.

In order to start rotation, a handle 26 is provided outside of the end 13, having a recessed shaft 27 extending through the standard 11 and adapted to receive one end of the shaft A'. The inner end of the shaft 27 is provided with a crank arm 28, which is adapted to abut against and partially rotate a crank 29, fixedly secured to the shaft A'. The opposite end of the shaft A' is provided with a compression spring 30, adapted to abut against the standard 12 and permit the entire shaft, with the members B, to be shifted slightly to the left, as viewed in Fig. 3. The standard 11 is provided with a fixed cam 31, over which the crank 29 must ride when driven by the handle crank 26. The shaft A' is further provided with a fixed crank 32, which is connected to the standard 12 by means of a tension spring 33. Thus, it will be understood that when the shaft A' is turned counterclockwise, as viewed in Fig. 4, through the action of

crank 28 against crank 29, the movement will be against the tension of spring 33. As the rotation is continued, the crank 29 will ride up on cam 31, causing the shaft A' to shift and compress spring 30. The cam 31 thereby causes the crank 29 to separate from the crank 28 until the crank 29 slips over the widened beveled portion 34 of the crank 28. When this occurs, the spring 33 will cause the shaft A' to rotate violently in the opposite direction. In starting the cranking action, the handle 26 is first rotated clockwise sufficiently to pass beneath and beyond the crank 29. Thus, it will be understood that the beveled portion 34 in this movement will again move the shaft against the compression of spring 30 sufficiently to permit the cranks to get into the position shown in Fig. 4. The standard 11 is provided with a stop 35 for the crank 29, and a stop 36 for the crank 28, at the starting position just described.

As shown in Fig. 3, the members B are arranged in pairs, with studs 21 extending toward each other. Between each pair of members, is provided a crank 37, fixed to the shaft A' by means of a set screw 38. Near the end of the crank, is a forked driving arm 39, which is pivotally secured to the crank by means of a pin 40. The crank 37 is provided with a notch 41, so that the driving arm 39 can make but limited movement with respect thereto. The end of the driving arm has a curved contact portion 42, which is adapted to engage studs 21. Normally, the crank 37 is held up in the position indicated in Fig. 5, and through the action of gravity the driving arm 39 swings back out of the path of the studs 21, so that the members B may rotate freely. However, when the shaft is cranked up by means of the handle 26, the crank 37 swings downwardly and the contact portion 42 swings into the path of the studs 21 and will exert a quick driving action on them as soon as the shaft is released.

To operate the device, the handle 26 is rotated clockwise as far as it will go, which will bring it into the position shown in Fig. 4. The handle is then turned in the opposite direction until it is automatically released and the shaft, through the crank 37 and driving arm 39, will swing in the opposite direction with considerable force under the action of spring 33 and cause the rotatable members to spin. The spring 33 will cause the crank 37 to assume the position shown in Fig. 5 and will not interfere with the turning movement on the members B. When the rotation of the members B is diminished sufficiently through the action of friction, the weighted members C will tumble out of their sockets and drop arbitrarily into the same or other sockets and thereby cause the characters to become aligned with the window 16, when the movement stops.

The foregoing detailed description is given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible in view of the prior art.

I claim:

1. In a device of the character set forth: a frame having a shaft upon which are journalled a plurality of independent rotatable members; and means for simultaneously imparting rotation to said members, comprising a crank arm fixed to the shaft and having a pivotally connected driving arm adapted to engage and drive said rotatable members, and a manually operable handle adapted to turn said shaft.

2. In a device of the character set forth: a frame having a shaft upon which are journalled a plurality of independent rotatable members; means for simultaneously imparting rotation to said members comprising a crank arm fixed to the shaft and having a pivotally connected driving arm adapted to engage and drive said rotatable members, a spring connected to said shaft and adapted to restrain rotation thereof, a handle for turning said shaft against the tension of said spring, and means for releasing the shaft from control of said handle to permit the spring to drive said shaft.

3. In a device of the character set forth: a frame having a shaft upon which are journalled a plurality of independent rotatable members; and means for simultaneously imparting rotation to said members comprising a crank arm fixed to the shaft and having a pivotally connected driving arm adapted to engage and drive said rotatable members, a spring connected to said shaft and adapted to restrain rotation thereof, a handle having an arm adapted to engage a crank provided on said shaft and turn the shaft against the tension of said spring in one direction, and cam means for suddenly separating the last mentioned crank from the arm of said handle to permit the spring to drive said shaft in the opposite direction.

4. In a device of the character set forth: a housing frame provided with a window; a shaft mounted in said frame parallel to said window; a plurality of rotatable members, provided with characters, independently journalled on said shaft; means for automatically aligning a character on each rotatable member with the window when rotation is stopped; and means for starting rotation of all of said rotatable members simultaneously comprising spring-means on said shaft adapted to be wound up and released suddenly to drive the shaft, a crank fixed to said shaft, a driving arm pivotally mounted on said crank for limited oscillation thereon so as to be normally held by gravity out of engagement with said rotatable members and to be moved into driving position with respect to said members when said spring-means is wound up.

5. A device as specified in claim 4, in which the rotatable members are arranged in pairs and are provided with axially projecting driving studs, and one crank and associated driving arm is provided on the shaft for each pair of rotatable members.

6. In a device of the character set forth: a frame in which are mounted a plurality of rotatable members provided with suitable characters, each of said members being in the form of hollow cylinders joined at their ends by rods so as to provide notches between said rods corresponding in number and spacing with said characters; means for starting rotation of said members in said frame simultaneously; and a separate weighted member in each of said rotatable members adapted upon reduction of the speed of rotation to fall arbitrarily into one of said notches and through the action of gravity cause alignment of the corresponding characters with reference to a desired portion of the frame, said weighted members comprising discs provided with rubber tires.

7. In a device of the character set forth: a frame; a shaft journalled in said frame for axial shifting; indicating members rotatably mounted

on said shaft; a crank member on said shaft for imparting rotation to said indicating members; spring-means for urging the shaft to one radial position; a manually operable crank member for turning said shaft against the tension in said spring-means; and cam-means for shifting the shaft axially out of winding engagement with the manually operable crank member.

8. A device as specified in claim 7, in which the crank member is hollow and provides a bearing for the end of the shaft which extends through the frame, said member having a handle outside of the frame and a crank within the frame to engage a crank which is fixed to said shaft.

9. In a device of the character set forth: a frame having an oscillatable shaft on which are rotatably mounted a plurality of indicating members; pawls on said shaft adapted to engage and impart rotation to said indicating members; a spring attached to said shaft so as to oppose oscillation thereof; winding mechanism for turning the shaft against the action of said spring; a cam for shifting said shaft axially with respect to said winding mechanism while the shaft is being turned thereby so as to disengage the winding mechanism and permit the shaft to be oscillated back by its spring; and automatic means for bringing the indicating portions of said members into substantial alignment after being suitably rotated.

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