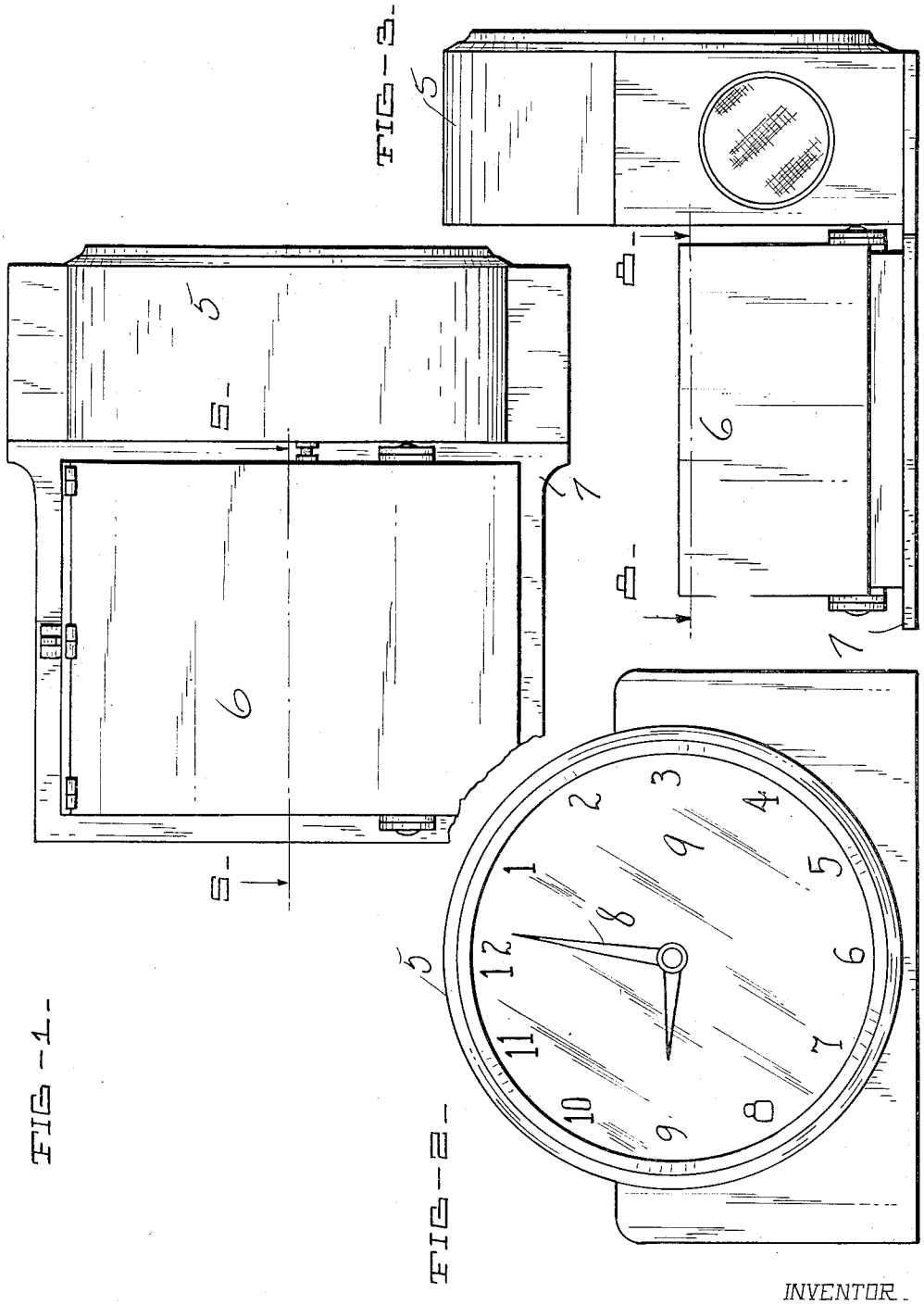
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CLOCK MECHANISM

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INVENTOR.
CLAUDE R. BANKS.
BY Victor J. Evans & Co
ATTORNEYS.

April 22, 1941. C. R. BANKS 2,239,215

CLOCK MECHANISM

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FIG - 4

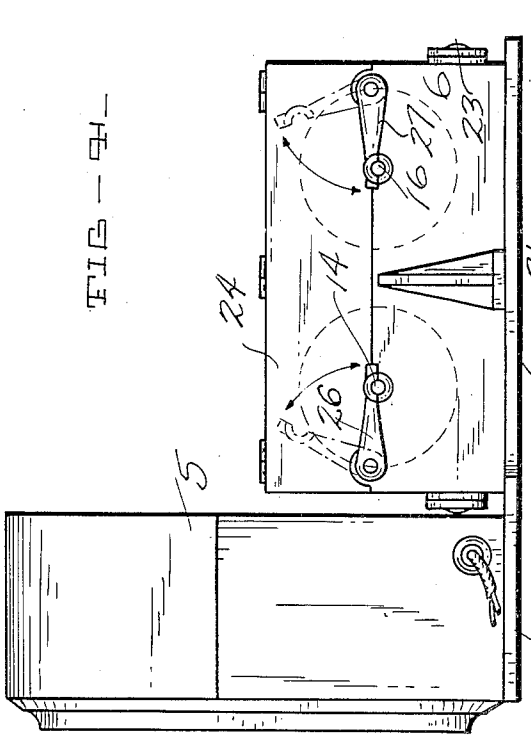


FIG - 3

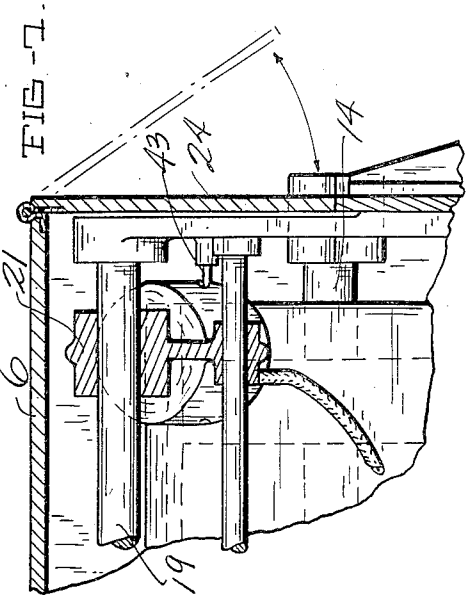


FIG - 5

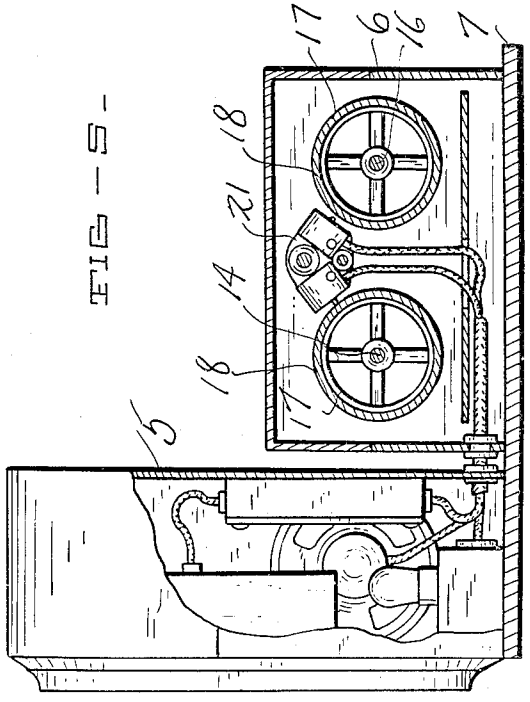
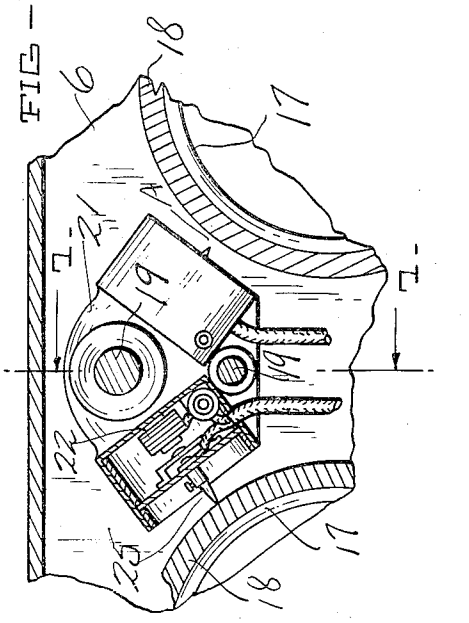


FIG - 6



INVENTOR.
CLAUDE R. BANKS.
BY Victor J. Evans & Co.
ATTORNEYS

April 22, 1941. C. R. BANKS 2,239,215

CLOCK MECHANISM

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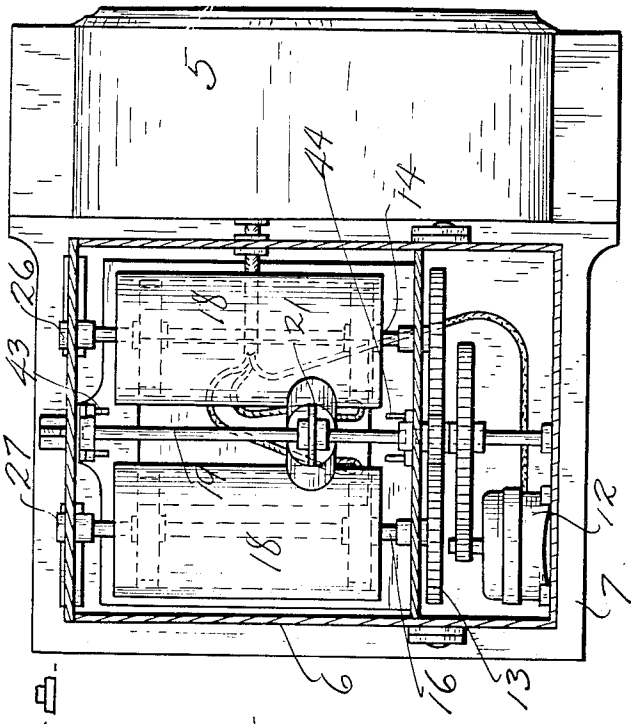


FIG-4-

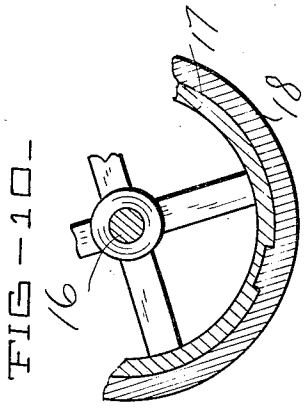


FIG-10-

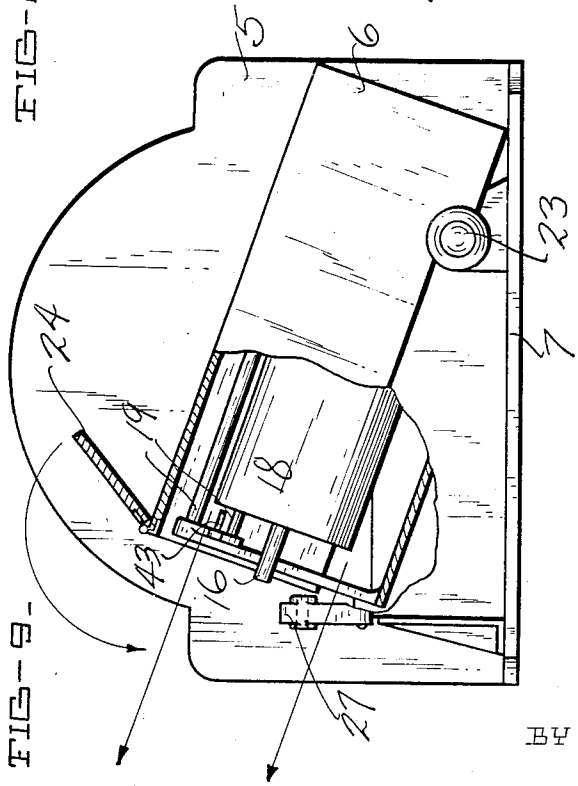


FIG-9-

INVENTOR.
CLAUDE R. BANKS.
BY Victor J. Evans & Co.
ATTORNEYS.

April 22, 1941. C. R. BANKS 2,239,215

CLOCK MECHANISM

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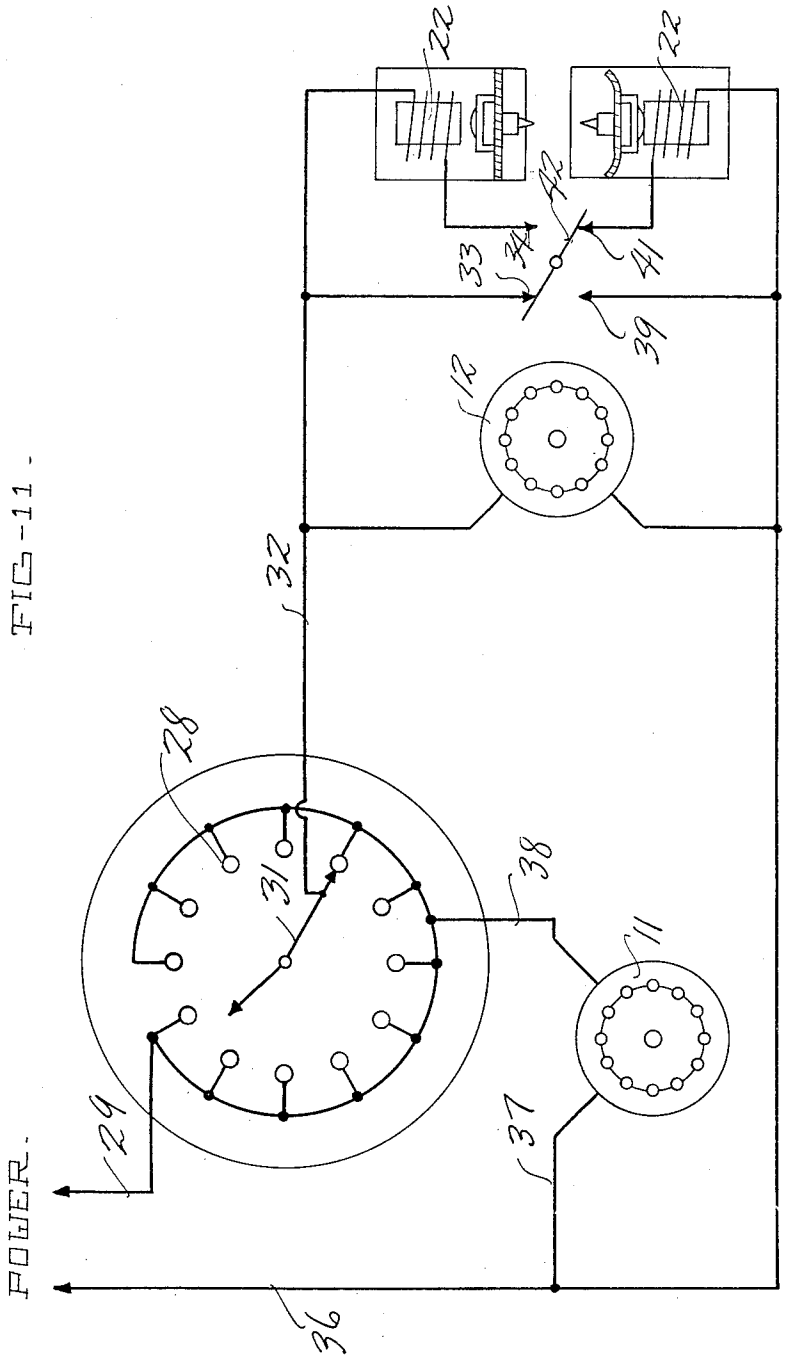


FIG-11.

INVENTOR.
CLAUDE R. BANKS.
BY Victor J. Evans & Co
ATTORNEYS

Patented Apr. 22, 1941 2,239,215

UNITED STATES PATENT OFFICE

2,239,215

CLOCK MECHANISM

Claude R. Banks, San Francisco, Calif.

Application August 15, 1938, Serial No. 225,052

4 Claims. (Cl. 58—14)

This invention relates to improvements in clock mechanisms and has particular reference to a clock which will indicate audibly the time in any desired manner as, for instance, by playing a record upon which information is contained, which information may be spoken words, chimes, ship's bells, or any other desired sound.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same—

Fig. 1 is a top plan view of my device;

Fig. 2 is a front elevation thereof;

Fig. 3 is a side elevation thereof;

Fig. 4 is a side elevation taken from the opposite side of the device from that shown in Fig. 3;

Fig. 5 is a cross sectional view taken on the line 5—5 of Fig. 1;

Fig. 6 is an enlarged fragmentary detailed view of the reproducer mechanism;

Fig. 7 is a cross sectional view taken on the line 7—7 of Fig. 6;

Fig. 8 is a cross sectional view taken on the line 8—8 of Fig. 3;

Fig. 9 is a rear elevation partly broken away and showing the manner in which the record holder is tipped to remove the records;

Fig. 10 is a fragmentary detailed view of the manner of retaining the record on the mandrel; and

Fig. 11 is a diagrammatic view showing the wiring arrangement.

Ordinarily, clocks merely indicate the hour by the position of the hands, or, in some instances, a striking mechanism indicates the hour, half hours, and the quarter hours. These clocks are very expensive, particularly those having chime mechanisms. Moreover, a clock of this kind will always give out the same audible sounds.

It is my intention to provide means whereby the clock may give out at definite intervals any desired information; for instance, in a home it might be that a very soft chime would be most acceptable, while in a store it might be advantageous to have the boom of a big bell, such as "Big Ben." Also, advertising material may be placed upon the records for store use. It will be apparent, therefore, that my invention consists in operating in conjunction with a clock a speaker mechanism.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates a clock casing; and the numeral 6, a reproducer mechanism casing, both being mounted upon the base 7. Of course, the clock has the customary hands 8 and face 9 upon which the hour designations are marked. It is assumed that the clock is an electric clock operated by a motor 11, as designated in Fig. 11. Within the casing 6 is mounted a motor 12 which drives gearing, designated as a whole by the numeral 13, which in turn drives shafts 14 and 16, upon which shafts are mounted mandrels 17 carrying records 18, which records have the customary grooves in their surfaces extending from end to end thereof. Mounted between the records and above the plane of the shafts 14 and 16 are guide rods 19 upon which a reproducer carrier 21 slides. This carrier serves to support two reproducers each having a stylus 25 which is adapted to engage its individual record. An electromagnet 22 is mounted above each stylus whereby when the same is energized, the stylus will be drawn away from the record, as shown at the point A in Fig. 6. The casing 6 is hinged as shown at 23 so that it may be tipped after the door 24 has been swung to open position, as indicated in Fig. 9, and the upper bearing supports 26 and 27 have been moved to open position, as indicated in dotted lines in Fig. 4. At this time the casing 6 can be pivoted to the position of Fig. 9, and the records removed, and a new record placed thereon. Any desired amplifying device may be employed for increasing the volume of the reproducer action, but the same has been omitted from the drawings to simplify the same.

Referring to Fig. 11, it will be noted that contacts 28 may be arranged in the clock in any desired manner, which contacts are connected together and to a power wire 29. One of the moving parts of the clock, here indicated as a hand 31, is connected by a wire 32 to the motor 12 of the reproducer driving mechanism, also to a contact 33 and through one of the electromagnets 22 to a contact 34. The remaining power wire 36 is connected through the wire 37 to the clock motor 11, which is in turn connected by a wire 38 to the wire 29 which is connected to the contacts 28. The wire 36 is also connected to the motor 12 and to a contact 39 and through the other electromagnet 22 to the contact 41. A switch blade 42 may be moved so as to bridge the contacts 33 and 41 or contacts 34 and 39. This is brought about by pusher pins 43 and 44 mounted in opposite ends of the device, as will be later explained.

The result of this construction is that when the device is set up as shown in the drawings and in operation, when the contact is made, as, for instance, between the hand 31 and one of the contacts 28, current will flow from the wire 29 through the contact 28, to the moving hand 31, wire 32, through the motor 12, and back to the other side of the line to the wire 36. If the clock is an electric clock, it will, of course, be running through the power of the motor 11 which is tied across the line.

We will now assume that the left-hand record of Fig. 6 is the one being used. Therefore, the stylus 25 will be travelling in the groove of the record, thus moving the carrier 21 along the guide rods 19. At this time, the switch 42 will be in such a position that it will energize the magnet 22 of the right-hand record, thus holding the stylus for this record away therefrom. Consequently, as the contact is made in the clock, the record will be revolved, and the reproducer stylus will be travelling in the groove reproducing the information thereon and will continue until the clock contact is broken. When the next clock contact is made, the same operation will take place. When the carrier has reached the end of its travel, it will engage one of the pusher pins 43 or 44, depending upon the direction of travel, which will reverse the switch 42, thus bridging the contacts 34 and 39. This will result in dropping the stylus onto the other record and removing the stylus from the record just finished. As the groove on the other record moves the carrier back along the guide rods 19 when the end of the record is reached, the device will again reverse itself through the flipping of the switch 42.

Thus it will be apparent that my device will accomplish all the objects above set forth.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In combination with a clock mechanism, of a reproducing mechanism periodically controlled by said clock mechanism, said mechanism including a pair of parallel spaced cylinder records, a reproducer for each of said records, means for moving the reproducers longitudinally between the cylindrical records, means for moving the stylus of one of said reproducers into engagement with one of said records during the travel of said reproducers from end to end of said record, and means for moving said stylus out of engagement with said record and moving the other stylus into engagement with the other of said records.

2. In combination with a clock mechanism, of a reproducing mechanism periodically controlled through an electric circuit by said clock mechanism, said mechanism including a pair of parallel spaced cylinder records, a reproducer for each of said records, means for moving the reproducers longitudinally between the cylindrical records, means for moving the stylus of one of said reproducers into engagement with one of said records during the travel of said reproducers from end to end of said record, means for moving said stylus out of engagement with said record and moving the other stylus into engagement with the other of said records, said means including a reversing switch in said circuit, and independent electromagnetic means for alternately attracting and releasing said stylus.

3. A reproducing mechanism comprising a pair of parallel spaced cylinder records, a carriage adapted to travel back and forth between the cylinder records and longitudinally thereof, two stylus carried by the carriage, means for moving one stylus carried by the carriage into engagement with one of the cylinders, means for moving said stylus out of engagement with the cylinder record when it has reached the end of the cylinder record, and means for simultaneously moving the second stylus into engagement with the second cylinder record when the carriage starts on its backward movement.

4. In combination with a clock mechanism, of a reproducing mechanism periodically controlled by said clock mechanism, said reproducing mechanism including a pair of parallel spaced cylinder records, a reproducer for each of said records between the same and adapted to travel parallel therewith back and forth, a stylus carried by each reproducer, means for moving the stylus of one of said reproducers into engagement with one of the said records during the travel of said reproducers from end to end of the said record, and means for moving said stylus out of engagement with said record, and moving the stylus of the other reproducer into engagement with the other of said records when the reproducer reaches the end of the record and starts back in the reverse direction.

CLAUDE R. BANKS.