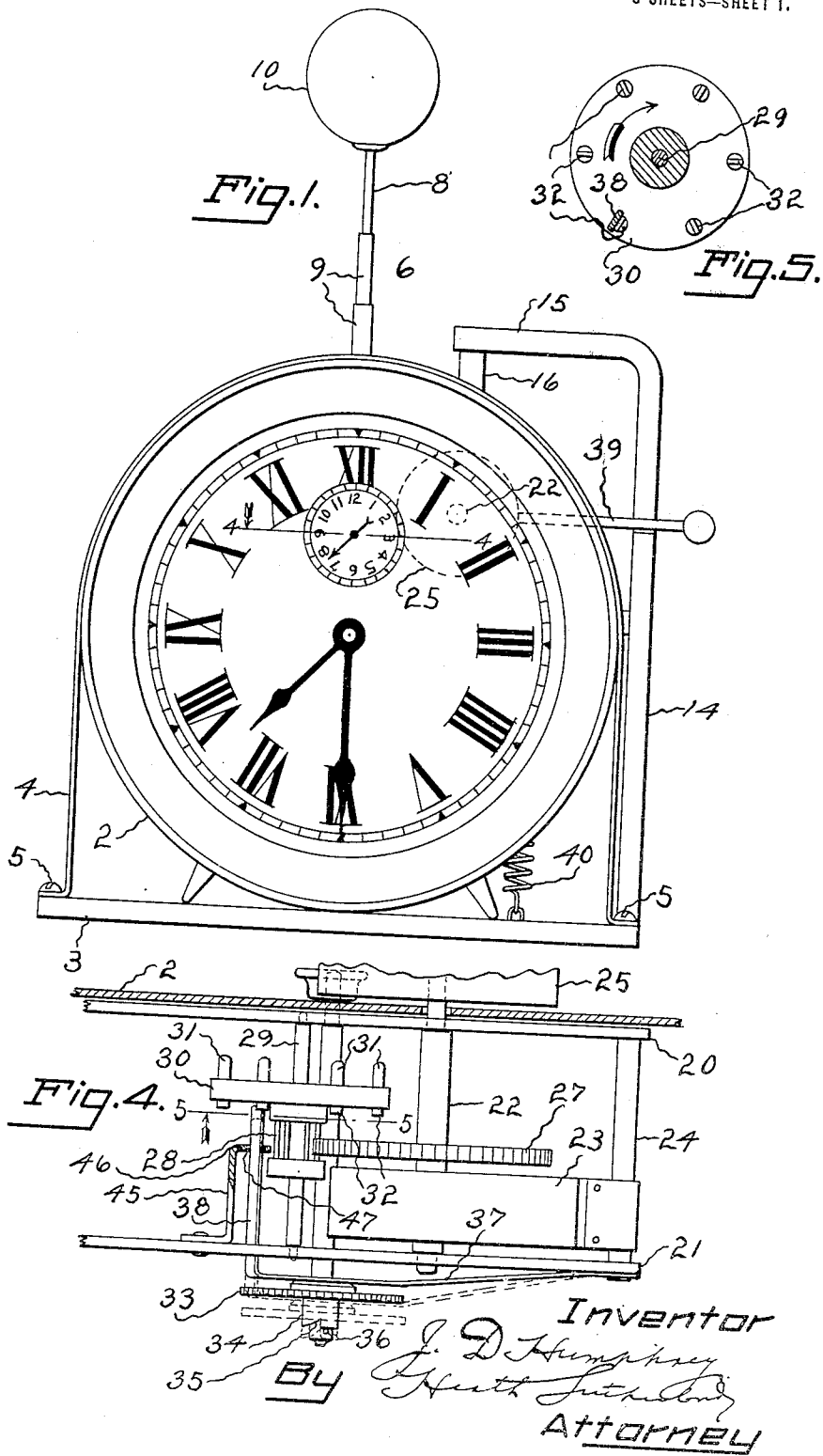


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TIME CONTROLLED MECHANISM.
APPLICATION FILED SEPT. 3, 1918.

Patented Feb. 4, 1919.
3 SHEETS—SHEET 1.

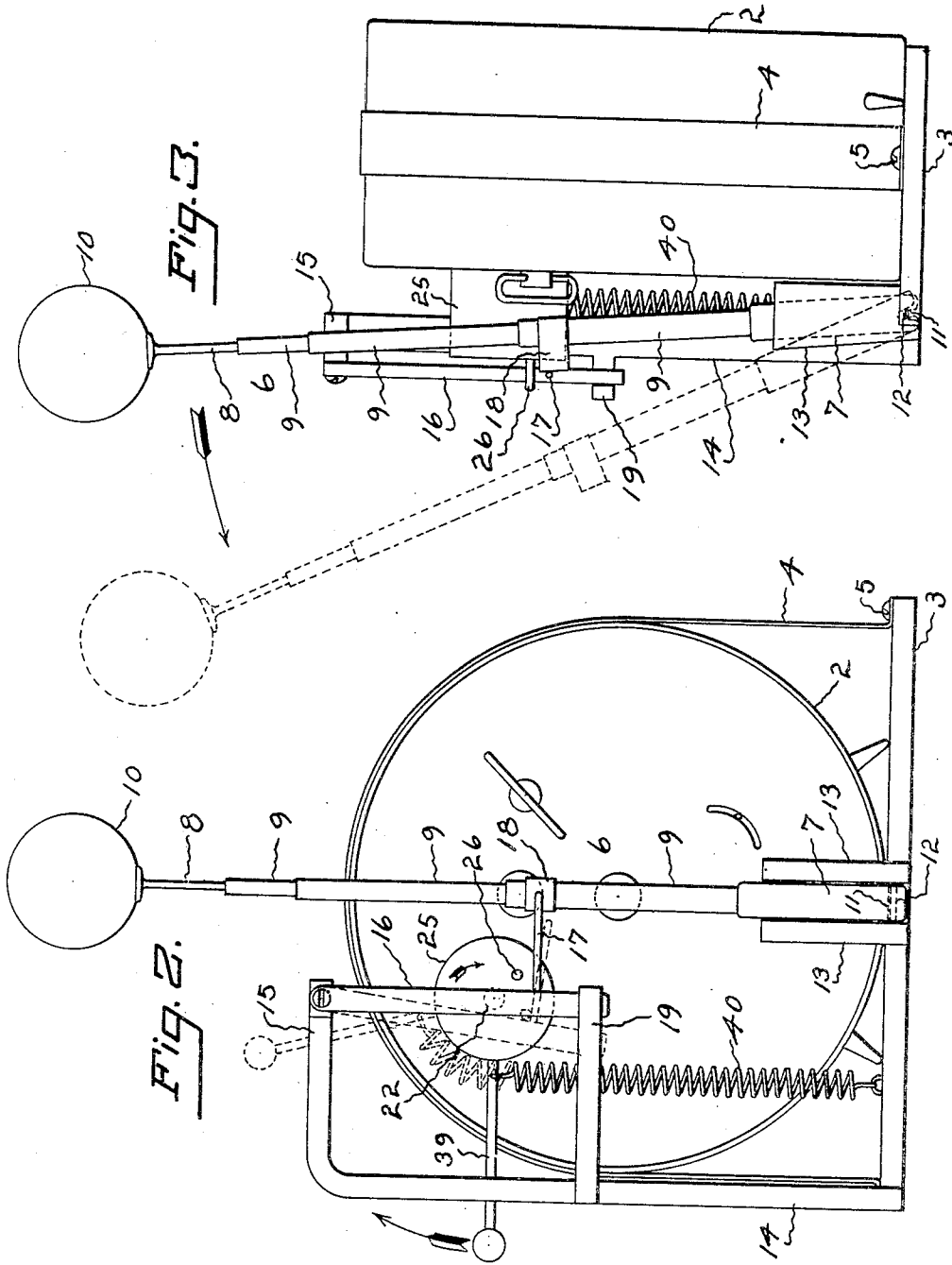


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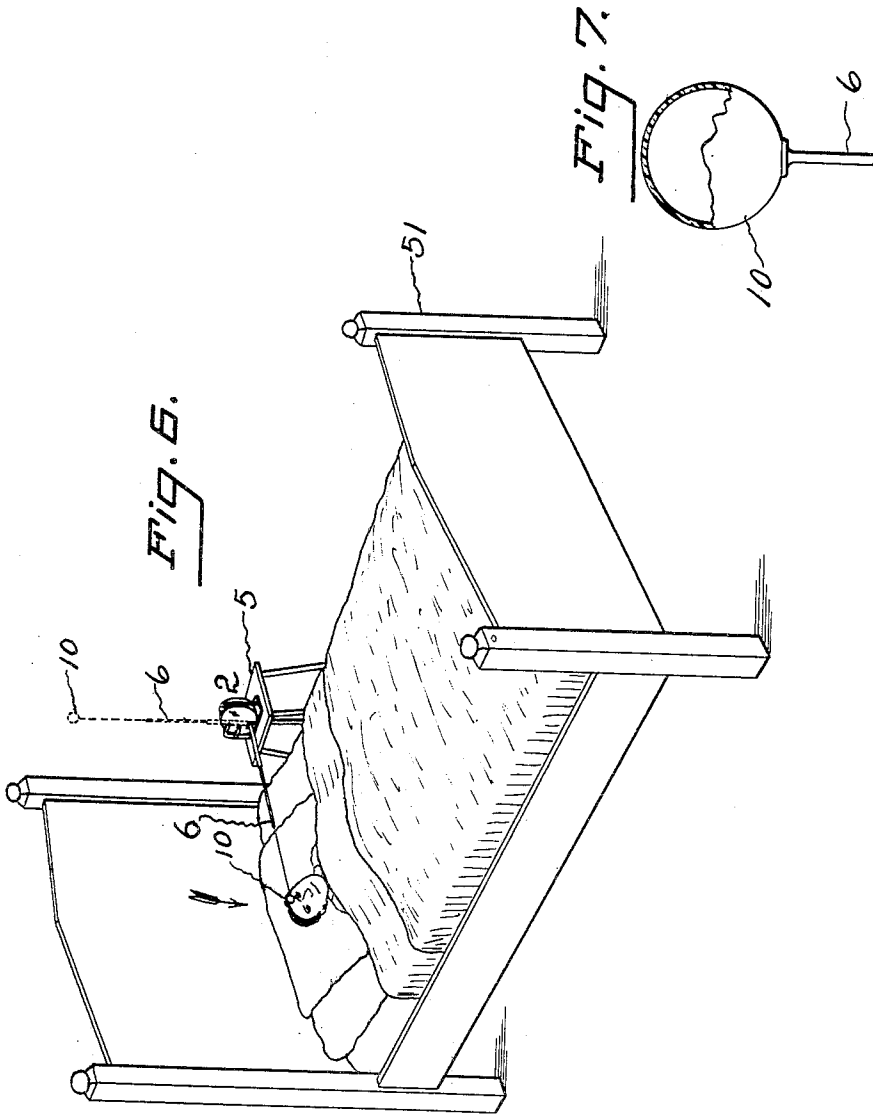


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J. D. Humphrey Inventor
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UNITED STATES PATENT OFFICE.

JOHN D. HUMPHREY, OF WATERBURY, CONNECTICUT, ASSIGNOR OF ONE-HALF TO
GEORGE H. CLARK, OF WATERVILLE, CONNECTICUT.

TIME-CONTROLLED MECHANISM.

1,293,102.

Specification of Letters Patent.

Patented Feb. 4, 1919.

Application filed September 3, 1918. Serial No. 252,315.

To all whom it may concern:

Be it known that I, JOHN D. HUMPHREY, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Time-Controlled Mechanism, of which the following is a specification.

This invention relates to a time controlled apparatus, the principal object of the invention being the provision of an article of this character which is simple in construction and positive and certain in action, and wherein the alarm is silent or practically so, being of such nature as to impart a blow to an individual. While the device is susceptible of general employment, it is of particular utility, however, for use by deaf persons and nurses for invalids, the latter being not only awakened but frequently affected more or less seriously by the ringing of a bell, gong or similar noise producing apparatus.

In the drawings accompanying and forming part of the present specification I have shown in detail a form of embodiment of the invention which I will set forth fully in the following description. I do not necessarily restrict myself to this particular disclosure; I may depart therefrom in several respects within the scope of the invention defined by the claims following said description.

Referring to said drawings:

Figure 1 is a front elevation of an apparatus involving the invention.

Fig. 2 is a rear elevation of said apparatus, the dotted lines showing certain parts in a shifted position.

Fig. 3 is an elevation as seen from the left in Fig. 2, the dotted lines showing the striker member in motion.

Fig. 4 is a horizontal section on the line 4-4 of Fig. 1, looking in the direction of the arrow, certain of the parts being shown in different positions by full and dotted lines.

Fig. 5 is a transverse section on the line 5-5 of Fig. 4, also looking in the direction of the arrow.

Fig. 6 is a perspective view of the device in action with respect to the occupant of a bed which is also shown.

Fig. 7 is a detail of a ball partly broken away.

Like characters refer to like parts throughout the several views which are on different scales.

As will be inferred the appliance involves in its structure time controlled means or instrumentalities by which a certain function can be obtained at a pre-selected moment. The time controlled means is preferably represented by a practically standard alarm clock. The alarm clock, however, will not have the usual bell or gong but in lieu of it has means by which a sleeper will be struck usually a light blow, to awaken him at the proper time.

A clock such as meets my requirements is denoted by 2. This clock is sustained by a base or foundation as 3. It is generally rigid with the foundation, and this result can be obtained by the employment of a securing device such as the strap 4 which fits around the upper part of the clock, and the ends of which are offset and connected as by screws 5 or equivalent means with the base.

As will be understood the arrangement comprises a suitable striker and that denoted in a general way by 6 meets my requirements in a satisfactory manner. This striker consists of a base section as 7 and a cap section as 8 and intermediate sections as 9 which are telescopically connected as shown. This provides a convenient way of securing the longitudinal or endwise adjustment of the striker. The base section is mounted in some convenient way, preferably detachably, and I will hereinafter explain a way of accomplishing this result. The cap section as I have considered it is provided with a striker member as 10, which may be in the form of a rubber sphere or ball attached suitably to the cap section or short rod 8. The base section as shown has in its lower end an opening or slot as 11 to receive the pin 12 between the companion uprights 13 rising from the rear side of the base 3. From this it will be clear that the striker is detachably mounted.

In Fig. 3 the full lines show the striker 6 in set relation, in which condition it is held by time controlled mechanism as I will hereinafter set forth. When the striker is set, it stands at a comparatively slight outward slant, in view of which circumstance when it is released it can immediately fall as shown for instance by the dotted

lines and arrow in said Fig. 3, and the apparatus as a unit having been previously set, the ball or striking member 10 will hit the desired part of a person and thus
 5 awoken him without unnecessary shock. The face, the forearm, trunk or in fact any other suitable part of a sleeper may be struck by the striker member 10, and if he be sleeping, will instantly awaken him.
 10 The means for holding the striker 6 in set relation, which I have shown, will now be set forth. From a rear back corner of the base rises the upright 14 having an over-
 15 hanging arm 15 to which is pivoted the pendent detent member or latch 16, furnished near its lower end with a lateral extension or pin 17, constituting the active or effective
 20 portion of the detent member or latch, the pin by its own weight or automatically constantly standing vertical, so that when the striker 6 is set as already described, the pin
 25 17 can engage the projection 18 rigid with the striker as shown by full lines in both Figs. 2 and 3. When the detent or latch
 30 16 is moved laterally toward the left as shown in Fig. 2 and as represented by dotted lines therein, the pin 17 will be disengaged from the projection 18, and as a result will
 35 release the striker 8, so that it can fall. The upright 14 is provided with an inward projection or arm 19, constituting a suitable guide and adapted to be traversed by the
 40 detent on its movements.

In Fig. 4 I have shown enough of a clock
 35 movement to indicate the mode of operation of the device. In this view the back and front movement plates are denoted by
 40 20 and 21 respectively. Between these two plates is mounted for rotation the arbor 22, around which is coiled the spring 23, one
 45 end of the spring being connected with the arbor and the other end being fixed to a stationary arbor as 24 fastened between the
 50 back and front movement plates. The rotary arbor 22 extends through the back of the clock case and has rigid and therefore
 55 rotative with it, the disk 25, constituting a suitable operating member and provided with an outwardly extending pin 26, the
 60 purpose of which is to act against the pin 17 to release the detent 16 at the proper time from the striker 8, so that the latter can fall in the manner already described. Rotative
 65 with the arbor 22 is the spur gear 27 in mesh with the lantern wheel 28 on the arbor 29, rotative between the plates 20 and 21. Fixed to this arbor 29 is the wheel 30, having on its back face the pins 31 and on its inner face shorter pins 32 which may be respectively integral if desired.

Between the back and front movement plates 20 and 21 is supported the arbor 32 which slidably receives the spur gear 33 in mesh with and operable by the time train.
 65 This gear is provided with the hub 34 hav-

ing the let-off notch 35 to receive the pin 36 on the arbor 32. The spring 37 fastened at its butt to the front movement plate 21 is provided with an inward extension 38 which is adapted when the clock is set to engage
 70 under one of the pins 32 as shown by full lines in Fig. 4. It will be assumed that the clock is wound and that the parts are in their full line position as shown in Fig. 4, the spring 23 being of course wound and the
 75 disk 25 being in position to maintain the pin or stud 26 in the full line position in Fig. 2. When the time for which the alarm has been set is reached, the notch 35 will be brought opposite the pin 36, thus permitting
 80 the spring 37 to swing outward or to the dotted line position in Fig. 4, thus correspondingly and naturally moving the gear 33 and carrying the extension 38 from under the pin or stud 32 which it has been holding.
 85 This releases the spring 23, so that the arbor 22 can be turned to effect the movement of the disk 25 in the direction of the arrow applied thereto in Fig. 2. On such movement
 90 of the disk, it engages the pin 17 and trips the pin and frees it from the projection 18, so that the striker 6 will be released and can fall as I have previously set forth.

To limit the movement of the disk 25 and eliminate also all noise as far as possible, I
 95 have provided means such as those now to be described. The disk 25 is provided with a peripheral projection 39, to which is connected one end of the coiled spring 40, the
 100 other end of said spring being connected suitably to the base 3. When the disk 25 is released and time operated in the manner set forth, the arm or projection 39 is swung
 105 upward in the direction of the arrow, and as a result the spring 40 is stretched abnormally and noiseless movement as a consequence being taken by the disk 25 and associated parts.

The front movement plate 21 is provided with an inward projection 45 furnished with
 110 a lateral bend 46 having an opening 47 through which the inward portion 38 of the spring 37 extends, to thus maintain said portion 38 in proper relation at all times.

In Fig. 6 I have shown a use of the inven-
 115 tion. In this particular case the clock 2 is supposed to be mounted on a table as 50, next the bed 51. The dotted lines in said Fig. 6 show the striker 6 in its normal position. In this view the striker is supposed to have
 120 been released and by gravity following the direction of the arrow falls until the striking member or ball 10 hits the occupant of the bed 51 and causes him to awake in the manner shown by full lines.
 125

What I claim is:

1. The combination of an automatically movable and longitudinally telescopically adjustable striker, a detent for holding the
 130 striker against movement, and time con-

trolled means to effect automatically the release of the striker at a predetermined point.

2. The combination of a lever normally at a slant and comprising sections associated to secure the longitudinal adjustment of the lever, the latter being provided with a striker member, a detent for holding the lever against movement, and time-controlled means to effect the release of the lever at a predetermined point.

3. The combination of a clock having a disk automatically movable at a pre-selected time, the disk having an eccentric pin, a spring connected with the disk to check the advance thereof, a longitudinally adjustable

striker lever automatically movable and provided with a striker member, and a detent provided with means to engage the striker lever and normally hold it against movement, the pin on the movement of the disk being adapted to engage and trip the detent and thus release the striker lever and permit movement of the same.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN D. HUMPHREY.

Witnesses:

ANNA GODLUND,
HEATH SUTHERLAND.