No. 804,653. PATENTED NOV. 14, 1905.

W. A. GARRIS.

TIME ALARM.

APPLICATION FILED JAN. 19, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

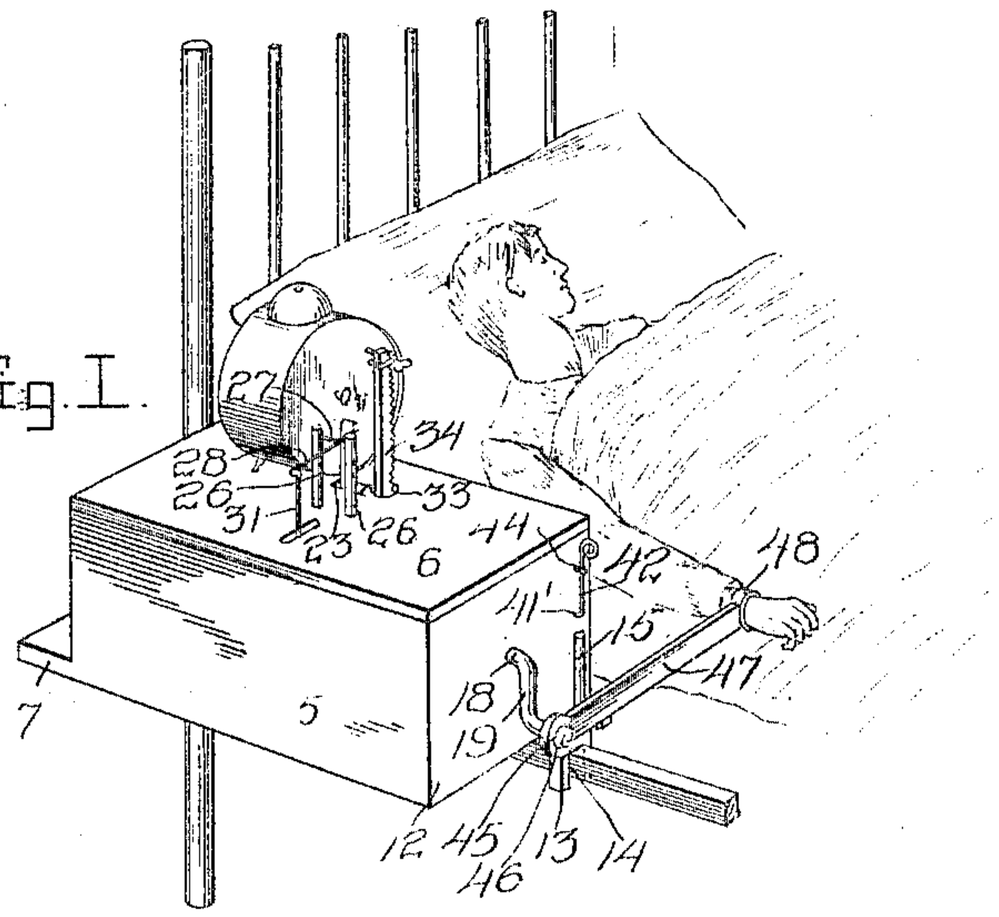
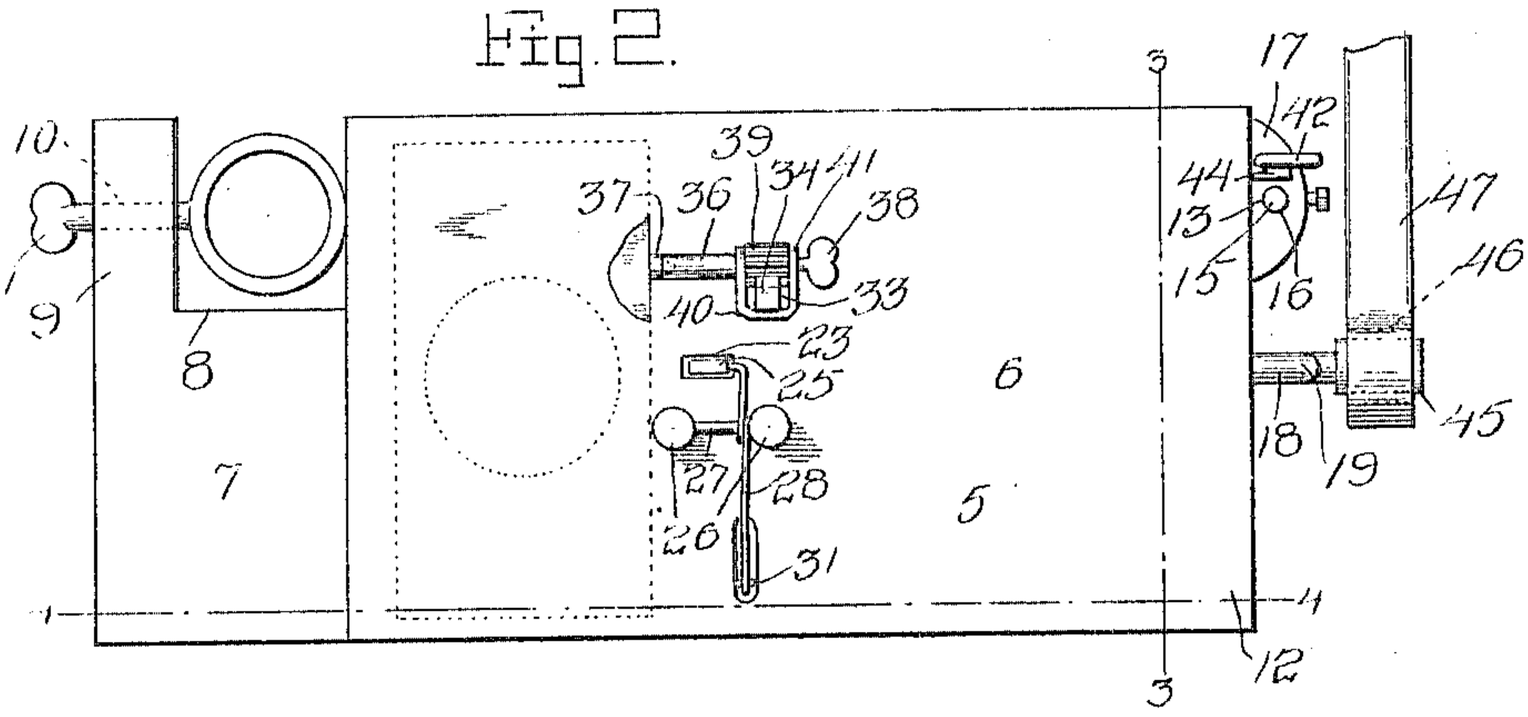



Fig. 2.



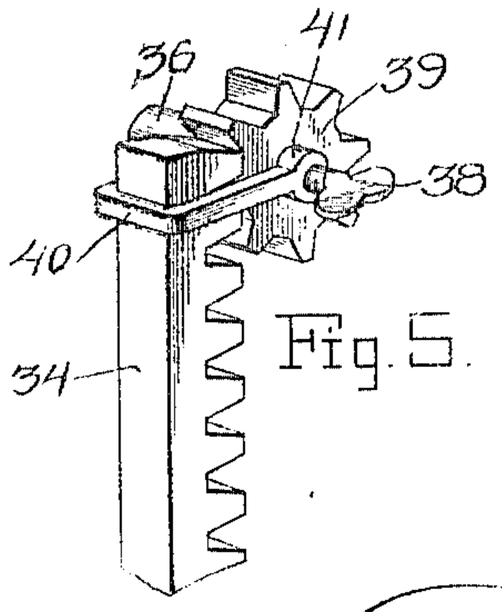




Fig. 5.

Witnesses
C. K. Reichenbach
H. M. Baldwin

Inventor
W. A. Garris
by
Brandlee & Brandlee
Attorneys

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2 SHEETS—SHEET 2.

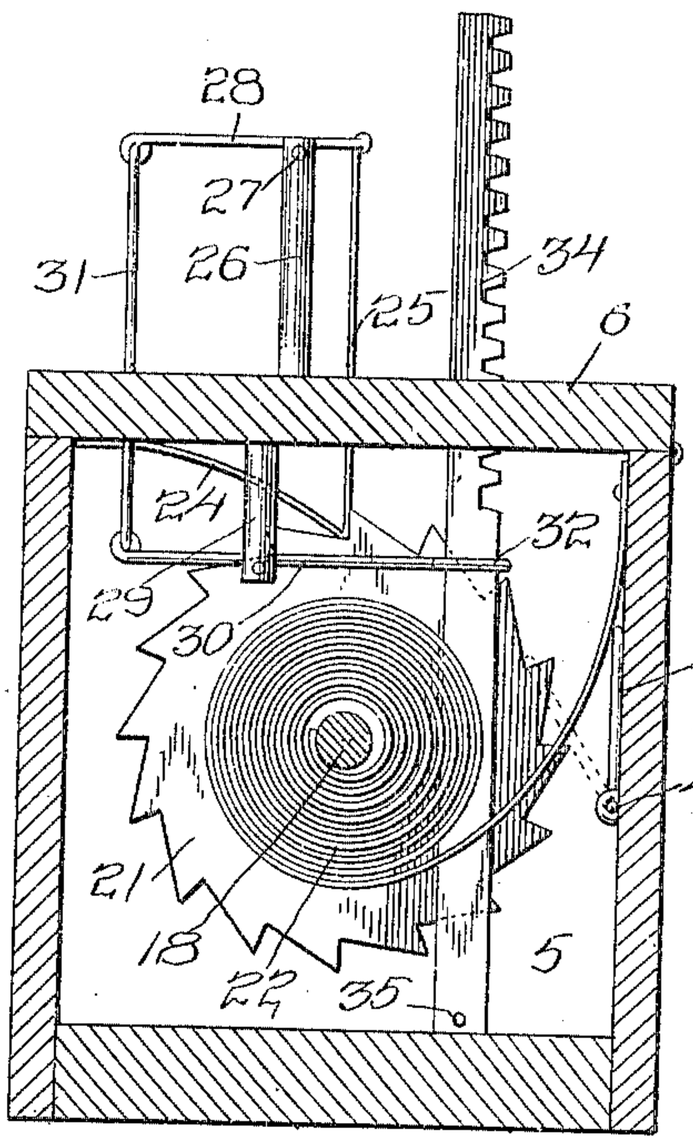


Fig. 3.

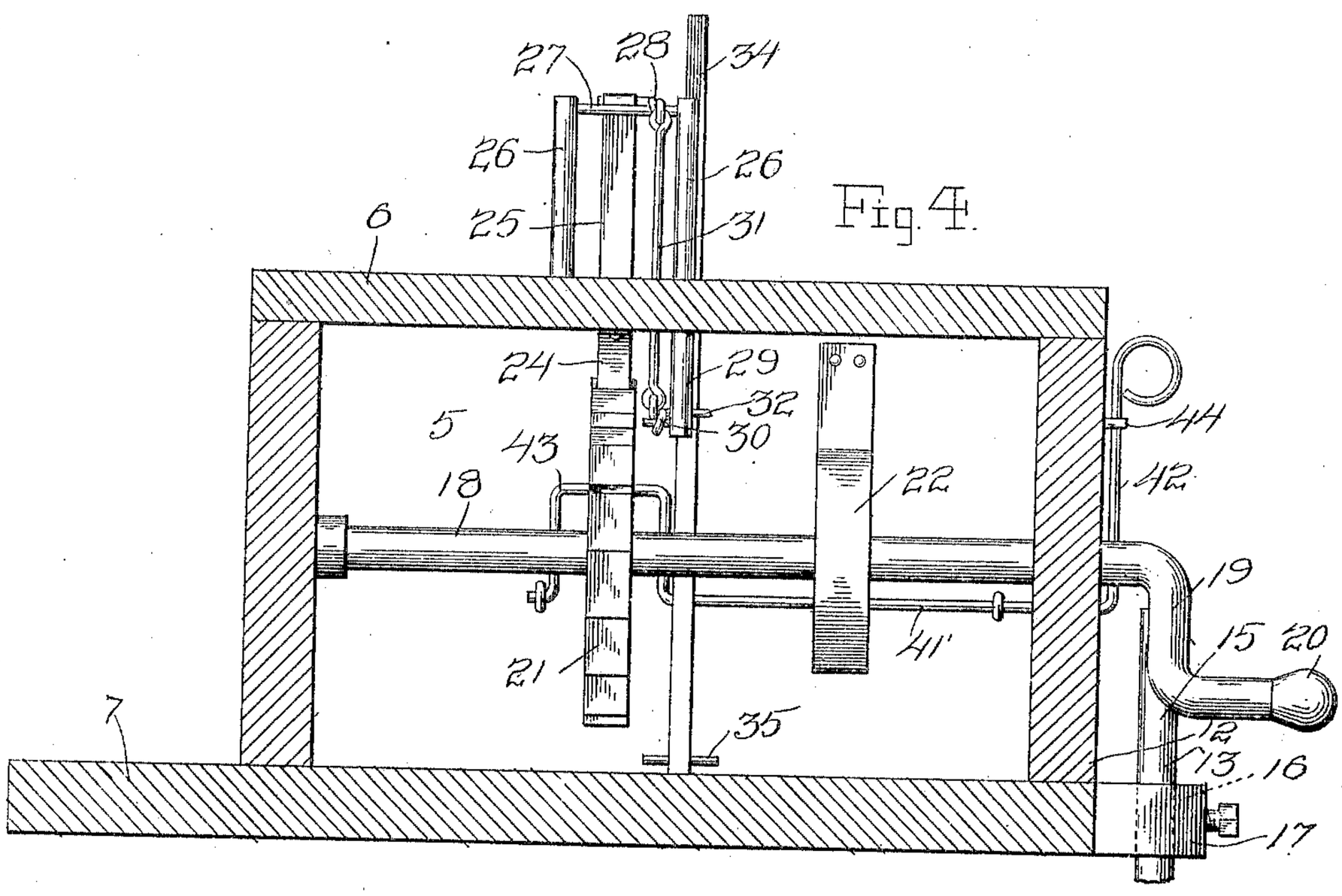


Fig. 4.

Witnesses
C. K. Ruckenbach.
H. M. Baldwin

Inventor
W. A. Garris.
by
Brandlee & Brandlee
Attorneys

# UNITED STATES PATENT OFFICE.

WILLIAM A. GARRIS, OF WESTCHESTER, PENNSYLVANIA.

## TIME-ALARM.

No. 804,653. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed January 19, 1905. Serial No. 241,822.

*To all whom it may concern:*

Be it known that I, WILLIAM A. GARRIS, a citizen of the United States, residing at Westchester, in the county of Chester, State of Pennsylvania, have invented certain new and useful Improvements in Alarms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to alarms, and more particularly to alarms for awaking sleepers, and has for its object to provide an alarm which may be used in connection with an alarm-clock of the usual form and which will be so arranged that it may be connected with the clock for operation thereby after the clock has begun to sound its alarm, the present invention being adapted to be attached to a person and being arranged for operation to shake the person to whom it is attached when it is set in operation.

Another object is to provide a mechanism embodying the above features which will be provided with means for preventing this operation should the ringing of the alarm of the clock awaken the sleeper.

Other objects and advantages will be apparent from the following description, and it will be understood that modifications of the specific construction shown may be made and any suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a view of the present invention, showing it attached to a bed and showing it connected with the arm of a sleeping person, the connection of the clock with the alarm mechanism being illustrated. Fig. 2 is a top plan view of the invention. Fig. 3 is a section on line 3 3 of Fig. 2, and Fig. 4 is a section on line 4 4 of Fig. 2. Fig. 5 is a detail view of the stem and the portions carried thereby.

Referring now to the drawings, the present invention comprises a hollow body portion 5, having the form of an oblong box, which is provided with a hinged top 6. At one end of the box, at the bottom thereof, there is an extension 7, having a recess 8 in one edge, and formed through the portion 9 of the extension which lies beyond the recess there is a horizontal threaded passage 10, which communicates with the recess, and engaged in this passage there is a set-screw 11. It will be seen from the drawings that the device may be disposed with the recess 8 so located that the edge of the head of the bed extends thereinto, the set-screw 11 being clamped against the head of the bed to prevent disengagement of the mechanism therefrom. The body portion 5 extends in the direction of the foot of the bed, and its remaining end 12 is supported by a foot-piece 13, having a notch 14 in its lower end, in which the adjacent rail of the bed is engaged, the foot-piece having an upwardly-extending stem 15, which is engaged in a vertical passage 16, formed through a block 17, which is secured to the end 12 of the body portion, this block having a set-screw which may be operated to engage the stem 15, thus holding it against movement within the opening 17.

Journaled longitudinally within the body portion there is a shaft 18, which extends outwardly beyond the end 12 of the body portion and has its outwardly-extending portion bent to form a crank 19 for a purpose to be presently described. The outer end of this crank is hollow and is interiorly threaded for the reception of a removable head 20.

Mounted upon the shaft 18 within the body portion there is a ratchet-wheel 21, which is arranged for rotation with the shaft, and secured at one end to the shaft there is a coil-spring 22, adapted to be wound upon the shaft when the latter is rotated in one direction, the remaining end of the spring being secured to the inner face of one of the walls of the body portion.

Formed through the top 6 there is a passage 23, which lies above the ratchet-wheel 21, and secured to the under face of the top at one end there is a strap-spring 24, which extends downwardly at an angle away from the top to a point beneath the opening 23, where it is turned upwardly, as shown at 25, and extends through the opening 23 above the upper face of the clock, the portion of the spring 24 at the angle 25 lying normally in engagement with the teeth of the ratchet-wheel 21 to prevent rotation of the shaft 18 under the action of the spring 22.

Mounted adjacent to the opening 23 upon the upper face of the top 6 there are a pair of spaced uprights 26, which are connected at their tops by a horizontal rod 27, and pivoted upon this rod between its ends there is a lever 28, which extends transversely of the body portion, and at one end this lever is pivotally

connected with the upwardly-extending portion of the spring 24, so that when the lever is moved upon the rod in one direction the spring is raised to bring it out of engagement with the ratchet-wheel 21, thus preventing the shaft 18 rotating under the action of the spring 22. Depending from the under face of the top there is a hanger 29, to the lower end of which there is pivoted for vertical movement a lever 30, the pivot-point being located between the ends of the lever, and this lever is similar to the lever 28. One end of the lever 30 is connected with the end of the lever 28 opposite to that to which the spring 24 is connected, this connection of the levers being through the medium of a link 31, and the opposite end of the lever 30 carries a loop 32, this loop lying normally beneath a passage 33, formed in the top 6.

A rack-bar 34 is provided and is slidably engaged in the passage 33, this bar being also slidably engaged in the loop 32 and having a transverse pin 35, located below the loop, which prevents disengagement of the bar from the loop. It will thus be seen that if the bar be moved vertically to bring its pin 35 into engagement with the loop and then be further moved the lever 30 will be operated to operate the lever 28, which will raise the angular portion 25 of the spring 24, bringing it out of engagement with the ratchet-wheel 21 and permitting of rotation of the shaft 18 by the spring 22.

To automatically raise the bar 34 at a predetermined hour, an alarm-clock of the form shown in the drawings is employed, and in preparing such a clock for use in connection with the present invention the device shown in Fig. 5 is used. This device is substituted for the winding-key of the alarm and consists of a stem 36, arranged at one end for engagement with the winding-shaft of the alarm, as shown at 37, and having a finger-piece 38 at its opposite end. Between the end 37 and the finger-piece 38 the stem is provided with a pinion 39 of a size to engage the teeth of the rack-bar 34. A yoke 40 is provided, having loops 41 at the ends of its legs, and these loops are engaged with the stem at opposite sides of the pinion, the yoke being of a size for the passage of the rack-bar 34 therethrough.

In use an alarm-clock provided with the just-described device is disposed upon the top of the body portion 5, and the portion of the rack-bar which extends above the body portion is engaged in the yoke, the pinion lying in engagement with the teeth of the rack-bar, and the arrangement is such that when the alarm of the clock is sprung the stem 36 and the pinion 39 are revolved to raise the rack-bar and release the ratchet-wheel, as will be readily understood. As shown in the drawings, the rack-bar lies with its pin 35 some distance below the loop 32, so that the alarm of the clock will ring for some time before the mechanism contained in the body portion 5 is released.

A shaft 41′ is journaled within the body portion and projects beyond the end 12, at which portion it is provided with a handle 42, by which the shaft may be moved. Within the body portion the shaft 41′ is provided with a dog 43, so arranged that it may be moved with the shaft to bring it into and out of engagement with the ratchet-wheel 21 and when in engagement with the ratchet-wheel prevents rotation thereof under the action of the spring 22. A pin 44 projects from the end 12 of the body portion, and the handle 42 may be engaged with this pin to hold the shaft 41′ with its dog out of engagement with the ratchet-wheel. The spring 22 may be energized by rotating the shaft 18 through the medium of the handle 19, and after the spring has been energized the head 20 is removed and a sleeve 45 is slipped upon the crank, this sleeve being engaged in an opening 46, formed at one end of an arm 47, and the arm is pivoted to the sleeve to permit of movement of the arm longitudinally of the sleeve after the mechanism has been connected with a bed, as described above. The outer end of the arm 47 is connected with the arm of the occupant of the bed by means of a strap 48, and it will be seen that when the mechanism is released and the shaft 18 is revolved the arm 47 will be operated to shake the arm of the sleeper. The arm 47 is made of suitable flexible material, and it will be understood that it may be connected with the ankle of a sleeper, if desired, instead of being connected with his arm.

What is claimed is—

1. The combination with an alarm-clock, of a supplemental alarm mechanism comprising a revoluble shaft, means for revolving the shaft, means for holding the shaft against rotation, said means being movable into inoperative position, means connected with the alarm mechanism of the clock and with the shaft-holding means for moving the latter into inoperative position when the alarm mechanism of the clock is sprung, and means for connecting the revolving shaft with the person of a sleeper.

2. In an apparatus of the class described, the combination with a body portion, of a shaft revolubly mounted in the body portion, a spring connected with the shaft to rotate the latter, a ratchet-wheel carried by the shaft, a dog located adjacent to the ratchet-wheel and lying normally in engagement therewith to hold the ratchet-wheel and the shaft against rotation under the action of the spring, said dog being movable out of its normal position, means for moving the dog out of its normal position, said means being adapted for connection with an alarm-clock for operation by the alarm mechanism thereof, a member detachably and eccentrically connected with the shaft for operation thereby, said member

being adapted for attachment to the person of a sleeper, and additional means for preventing rotation of the shaft under the action of the spring.

3. The combination with an alarm-clock, of a pinion connected with the alarm mechanism of the clock for operation thereby, a revolubly-mounted shaft, means for connecting the shaft with the person of a sleeper to shake the sleeper when the shaft is revolved, means for revolving the shaft, means for holding the shaft against rotation, a lever connected with said shaft, holding means for movement of the latter into inoperative position, a loop carried by the lever, a rack-bar engaged in the loop, said rack-bar being engaged in the pinion for movement of the rack-bar through the loop when the pinion is rotated, and a loop-engaging member carried by the rack-bar and disposed for movement into engagement with the loop to move the lever when the rack-bar is moved by the pinion.

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

WILLIAM A. GARRIS.

Witnesses:

ARTHUR P. REID,

JANE B. EACHUS.