C. W. COOK.

ALARM CLOCK.

APPLICATION FILED FEB. 13, 1914.

1,120,030.

Patented Dec. 8, 1914.

Fig. 1.

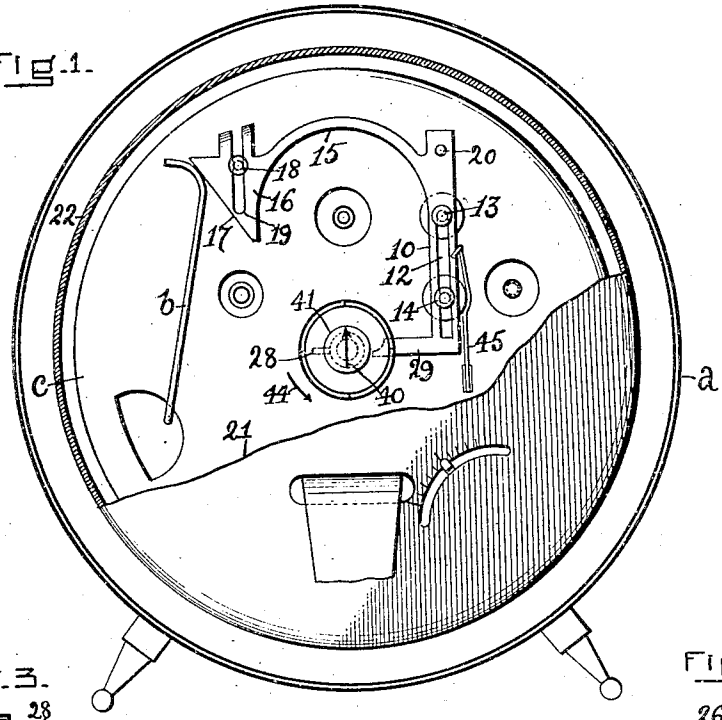


Fig. 3.

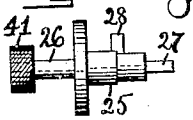


Fig. 4.

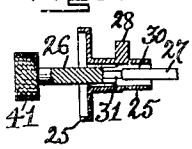
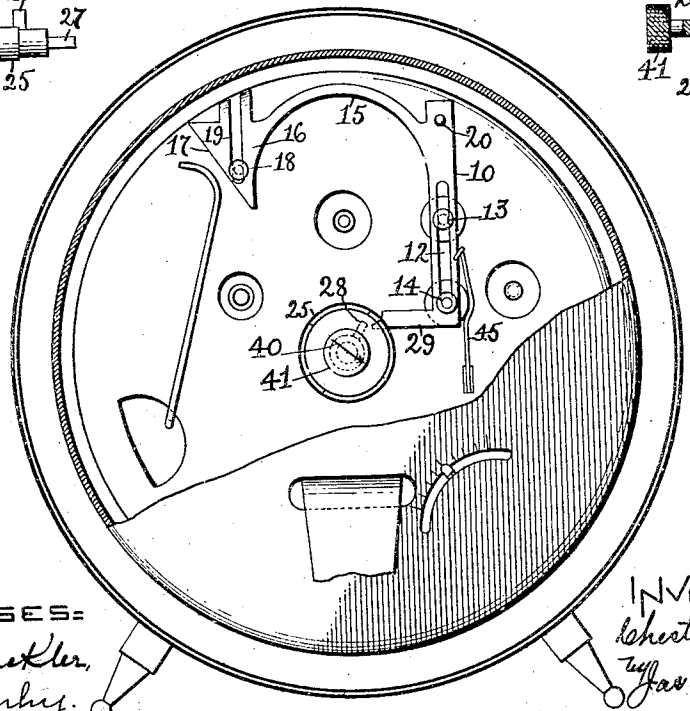


Fig. 5.



Fig. 2.



WITNESSES:
John Buckler,
J. Murphy.

INVENTOR:
Chester W. Cook
by Jas. H. Churchill
Atty.

UNITED STATES PATENT OFFICE.

CHESTER W. COOK, OF SAUGUS, MASSACHUSETTS.

ALARM-CLOCK.

1,120,030. Specification of Letters Patent. Patented Dec. 8, 1914.

Application filed February 13, 1914. Serial No. 818,594.

To all whom it may concern:

Be it known that I, CHESTER W. COOK, a citizen of the United States, residing in Saugus, in the county of Essex and State of Massachusetts, have invented an Improvement in Alarm-Clocks, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to an alarm clock and has for its object to provide the same with means for manually interrupting the alarm and for automatically releasing the alarm within a specified time as for instance an hour and at a length of time after the alarm has been stopped, which may and preferably will be determined by the operator or person who sets the alarm.

The invention may be embodied in an alarm clock of ordinary construction and can be applied thereto at a minimum cost.

The particular features of the invention will be pointed out in the claims at the end of this specification.

Figure 1 is a rear elevation of one form of alarm clock embodying the invention, with part of the rear casing broken away, the stop mechanism being shown in its operative position. Fig. 2, a similar view showing the stop mechanism in its inoperative position and Figs. 3 and 4, details of the adjustable release mechanism to be referred to.

Referring to the drawing *a* represents an alarm clock of known construction, which has an oscillating crank, lever or arm *b* attached to or forming part of the alarm mechanism of the clock, which is not shown but is of well known construction. The crank or arm *b* is oscillated in a manner well understood when the alarm mechanism is set off by the clock at any predetermined or selected time.

In accordance with this invention, provision is made for stopping the alarm at the will of the operator, and for this purpose the back wall *c* of the clock case has attached to it a manually operated stop mechanism, which is herein shown as sliding bar 10 provided with a slot 12, through which extend screws 13, 14 for guiding the bar in its movement and for limiting the movement of the bar in opposite directions.

The slide bar 10 has extended from its upper end a curved arm 15 provided at its end with an enlargement or head 16, having an inclined surface 17, which is movable into and out of the path of movement of the arm *b* and which is guided in its movement as herein shown, by a screw 18 extended through a slot 19 in said head. The slide bar 10 may and preferably will be provided with a stud or pin 20, which extends from it and is of sufficient length to extend through the rear casing 21, so as to be accessible to the operator, and by means of which the operator can depress the slide bar 10 and bring the head 16 into the path of movement of the arm *b* as shown in Fig. 1, and thereby stop the same and interrupt the ringing of the alarm or bell, which in the clock herein shown is the annular rim or flange 22 on the rear casing 21. The operator, who is the person awakened by the alarm, may desire to remain in bed for a limited time after the alarm has gone off, and yet is desirous that he should be awakened at the expiration of the limited period of time, in case he or she should fall off to sleep. For this purpose, I have provided means for releasing the alarm mechanism from the influence of the stop mechanism, so as to permit the alarm mechanism to resume its operation and sound the alarm.

The release mechanism may and preferably will be made adjustable so as to become active at different portions of a predetermined period of time, whereby the sleeper or operator is permitted to select how long a portion of the predetermined length of time the alarm will remain inactive. In the present instance the predetermined length of time the alarm can remain inactive and then become active, is one hour, and provision is made whereby the alarm again becomes active at any portion of one hour at the will of the operator. In the present instance, I have shown one construction for accomplishing this result, and to this end, I have provided a sleeve 25, see Figs. 3 and 4, which is mounted on a spindle 26 secured to or forming part of the minute arbor 27 of the clock, said sleeve being longitudinally movable and rotatable on said spindle, and provided with a lug or ear 28, which coöperates with a laterally extended arm 29 on the slide bar 10 to effect movement of said bar from its operative or active position shown in Fig. 1 into its inoperative or non-active position shown in Fig. 2. In order that the release mechanism may be applied to clocks now in use, the spindle 26 is made detachable from

the minute arbor 27, and is provided at its end with a socket 30, which is capable of being slipped over the end of the minute arbor 27, and whose walls are provided with longitudinal slits 31 to form clamping fingers, which are adapted to be moved toward each other so as to firmly grip the minute arbor, by the sleeve 25, when the latter is moved longitudinally on the spindle to engage the said sleeve with the split walls of the socket 30, as shown in Figs. 3 and 4, and when the sleeve 25 is in this position, which may be termed its operative position, the said sleeve is frictionally secured to the spindle 26 to revolve therewith, and the said spindle is clamped to the minute arbor 27 to revolve therewith.

The portion of the spindle 26 at the rear of the split socket 30 may be made of smaller diameter than the sleeve 25 so that, when the said sleeve is moved back out of engagement with the split socket, it can be turned on the spindle to adjust the lug 28 with relation to a mark on the spindle, herein shown as an arrow 40 on the head 41 of the spindle, so as to adjust the lug 28 with relation to the minute hand of the clock, with which the arrow 40 registers or is in the same plane. After the lug 28 has been adjusted with relation to the arrow, according to what portion of one hour the person desires to remain in bed after the alarm has been sounded in the first instance and before the alarm is sounded in the second instance, the sleeve 25 is slipped over the walls of the split socket 30, and the sleeve is frictionally secured in fixed relation to the spindle 26 and minute arbor 27 and turns therewith. Suppose for instance that the lug 28 has been adjusted into the position represented in Fig. 1. In this case, the sleeve 25 is required to make a half revolution in the direction of the arrow 44 before the lug 28 is engaged with the arm 29, which latter projects into the path of movement of said lug, and as a result one half hour will elapse before the lug 28 engages the arm 29 and moves the slide bar 10 upward into its inoperative position shown in Fig. 2, thereby withdrawing the head 16 from engagement with the arm *b* and releasing the striker or alarm mechanism, which immediately resumes its operation and sounds the alarm a second time. If for instance, the operator desired to remain in bed any other portion of one hour, he would turn the sleeve 25 so as to adjust the lug 28 with relation to the arm 29, so that the desired length of time will elapse before the lug 28 will be engaged with the arm 29 and the alarm released. The slide bar 10 may be frictionally held in its inoperative position, as by a spring 45 which engages therewith.

I have herein shown one embodiment of the invention, but it is not desired to limit the invention to the particular construction shown.

Claims:

1. The combination with an alarm clock provided with an alarm mechanism and with a time mechanism, of a vibrating arm movable with the alarm mechanism of the clock, a stop mechanism movable into and out of the path of movement of said arm to control the operation of the alarm mechanism and prevent the alarm being sounded by the engagement of the stop mechanism with said arm and to permit the alarm mechanism to become active and sound the alarm by the disengagement of said stop mechanism from said arm, and a release mechanism actuated by and movable with the time mechanism of the clock and coöperating with the stop mechanism to move the latter and disengage it from said arm and permit the alarm mechanism to become active.

2. The combination with an alarm clock provided with an alarm mechanism and with a time mechanism, of a vibrating arm movable with the alarm mechanism of the clock, a stop mechanism movable into and out of the path of movement of said arm to control the operation of the alarm mechanism and prevent the alarm being sounded by the engagement of the stop mechanism with said arm and to permit the alarm mechanism to become active and sound the alarm by the disengagement of said stop mechanism from said arm, and a release mechanism actuated by and movable with the time mechanism of the clock and adjustable by the operator with relation to the time mechanism to disengage the stop mechanism from the said arm at a time selected by the operator.

3. The combination with an alarm clock provided with an alarm mechanism and with a time mechanism having a minute hand mounted upon an arbor, of a vibrating arm movable with the alarm mechanism of the clock, a stop mechanism movable into and out of the path of movement of said arm to control the operation of the alarm mechanism and prevent the alarm being sounded by the engagement of the stop mechanism with said arm and to cause the alarm mechanism to become active and sound the alarm by the disengagement of said stop mechanism from said arm, and a release mechanism mounted on the arbor of the minute hand of the clock to rotate therewith and coöperating with the stop mechanism to move the same, substantially as described.

4. The combination with an alarm clock provided with alarm mechanism and with a time mechanism, of a device movable with the alarm mechanism of the clock, a stop mechanism coöperating with said device to permit the alarm mechanism to become audible and to render it inaudible, said stop mechanism being movable by the operator

to render the alarm inaudible, and means actuated by the clock and coöperating with the stop mechanism to move the same and permit the alarm mechanism to become audible, substantially as described.

5. The combination with an alarm clock provided with an alarm mechanism and with a time mechanism, of a device movable with the alarm mechanism of the clock, a stop mechanism comprising a sliding bar having an arm provided with a head coöperating with said device, said bar having a second arm, and a release mechanism comprising a sleeve movable with the time mechanism of the clock and having a lug which cooperates with the second arm on said sliding bar, substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CHESTER W. COOK.

Witnesses:
JAS. H. CHURCHILL,
J. MURPHY.