March 21, 1944. J. DE HAES 2,344,853

COOKING TIMER

Original Filed July 16, 1938

Fig. 1

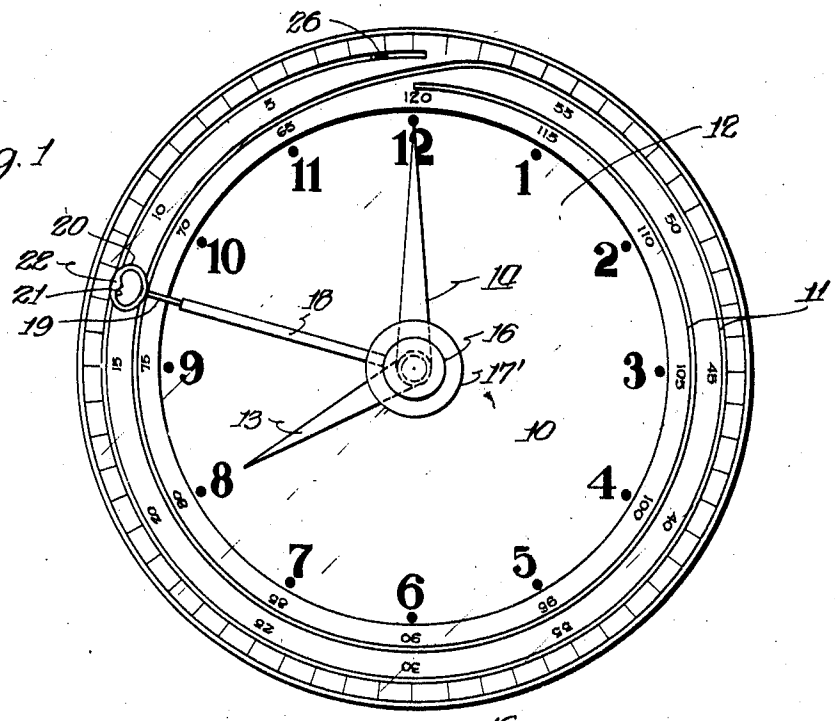
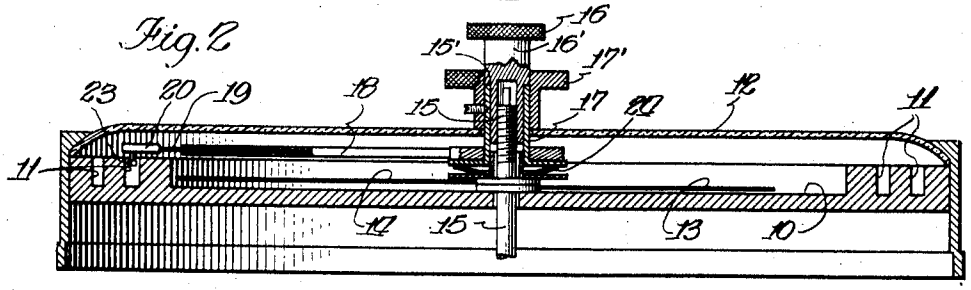


Fig. 2



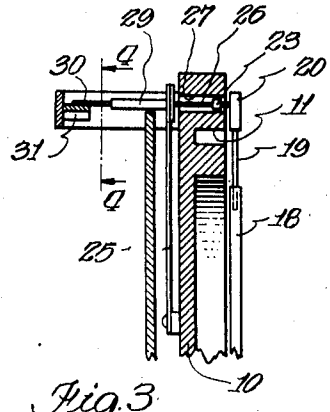


Fig. 3

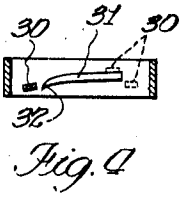


Fig. 4

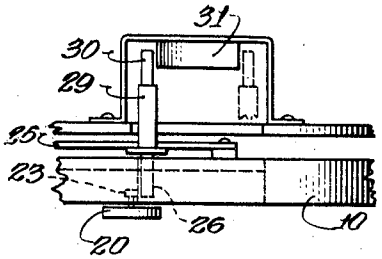


Fig. 5

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UNITED STATES PATENT OFFICE

2,344,853

COOKING TIMER

Jerome De Haes, Chicago, Ill., assignor of one-half to Albert S. Malecki, Chicago, Ill.

Original application July 16, 1938, Serial No. 219,550, now Patent No. 2,230,135, dated January 28, 1941. Divided and this application December 26, 1940, Serial No. 371,657

2 Claims. (Cl. 161—1)

The invention relates to improvements in cooking timers especially adapted for use in conjunction with stoves for controlling cooking operations, the primary object of the invention being the provision of a construction of the character indicated equipped with means for adjusting the same whereby the length of the cooking operations may be readily controlled which is of simple construction and highly efficient in use, the present application being a division of my prior application filed July 16, 1938, Serial No. 219,550, now Patent No. 2,230,135, granted on January 28, 1941.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawing forming a part of this specification and in which

Fig. 1 is a face view of an electric clock employed in a timer embodying the invention;

Fig. 2 an enlarged transverse medial section taken through the clock face;

Fig. 3 an enlarged detailed vertical section taken through the upper portion of the clock face;

Fig. 4 a section taken substantially on line 4—4 of Fig. 3; and

Fig. 5 a top plan view corresponding with Fig. 3.

The embodiment of the invention illustrated in the drawing comprises an ordinary electric clock provided with a face the central portion 10 of which constitutes the usual clock dial. A guide groove 11 is formed in said face outside of said clock dial and extends as shown twice around said dial. A transparent cover 12 is arranged as indicated in Fig. 2 over said clock face and the usual hour hand 13 and minute hand 14 are provided for cooperation with said clock dial. The hour hand 13 is carried by the usual hollow or sleeve shaft, not shown, but extending through the space in the face 10 around the minute hand shaft 15. The minute hand shaft 15 is extended as shown through the cover plate 12 and carries a stem 16' threaded thereon and provided at its extreme outer end with a knurled wheel 16 by means of which said minute hand may be adjusted when desired. An adjusting sleeve 17 is loosely mounted on the shaft 15 and has its end abutting against a shoulder 15' on stem 16'. The sleeve 17 carries a radially extending control arm 18 telescoping with an extension 19 provided at its outer end with a head 20 having sight opening 21 therein and an indicator point 22 at the outer central part of said opening. A pin 23 is provided on the rear side of the head 20 which operates in the groove 11 and a friction washer 24 is interposed between the hub of the minute hand 14 and the hub of the sleeve 17 thereby frictionally connecting the sleeve 17 with the shaft 15 so that the control arm 18—19 will always move with the minute hand of the clock mechanism. The frictional connection thus provided between the control arm 18—19 and the minute hand shaft 15 is readily adjustable by means of wheel 16 when the stem 15 is held from rotation and may thus be made of less force and effect than the usual frictional connection between the shaft 15 and the clock mechanism proper, not shown, so that the minute hand shaft 15 may be adjusted by means of the wheel 16 even when the control arm 18—19 is locked at the ends of the groove 11 against movement. The sleeve 17 is provided as shown, outside of the cover plate 12, with a knurled wheel 17' whereby the control arm 18—19 may be readily adjusted from outside the cover plate, with reference to the minute hand 14.

A swinging lever 25 is pivoted as shown at the rear of the clock face and is provided with an outwardly extending arm 26 operating in a segmental slot 27 in the clock face, said arm 26 thus extending outwardly into the path of the pin 23 on the head 20 of the control arm 18—19. The swinging lever 25 is weighted as more fully shown and described in my said application, Serial No. 219,550 so as to hold said lever normally in its initial position before being engaged by the pin 23. By this arrangement, it will be noted, that when the pin 23 is moved upwardly in the groove 11 until it passes the slot 27, it will engage the protruding end of the arm 26 and thus carry the swinging lever 25 with it. The swinging lever 25 is also provided with a rearwardly extending electric contact arm 29 having a spring extension 30 which is set as shown in the path of the stationary electric contact 31 having depressed and beveled nose or tip 32, best shown in Fig. 4. The stationary contact 31 is connected with an electric alarm buzzer and the contact arm 29—30 is connected with the other electric lead of the clock mechanism as more fully shown and described in my said application, Serial No. 219,550, and so that whenever the extension 30 makes rubbing contact with the stationary electric contact 31 the circuit through the buzzer is closed thus sounding an alarm signal.

In use and in operation, when it is desired to control the length of a cooking or other operation, the control arm 18—19 is adjusted by means

of the wheel 17' the required number of minutes away from the twelve o'clock point on the clock dial. Thus in the position of the parts indicated in Fig. 1, the control arm 18—19 is shown as set twelve and one-half minutes away from the twelve o'clock point on the clock dial. As the minute hand shaft 15 moves under the usual operation of the clock mechanism, the control arm 18—19 will be carried along with it, due to the frictional engagement effected by the washer 24 and when the pin 23 engages the arm 26 the contact 30 will be swung into engagement with the contact 31 thus closing the circuit to the buzzer and sounding the alarm and notifying the operator that the allotted time has elapsed. Obviously, the further the control arm 18 is thus set away from the twelve o'clock point on the clock dial, the longer the time consumed before the same is carried with the minute hand into operative contact with the arm 26. Should it be desired to set the control arm for a period longer than sixty minutes, the wheel 17' is manipulated to carry the pin once entirely around the clock dial and thence into the inner portion of the groove 11 to effect any desired setting thereof. As the arm 26 is thus engaged by the pin 23, the spring contact 30 is moved into engagement with the beveled nose of the contact 31, thereby riding up over the top of said contact 31 and closing the circuit of the alarm buzzer as long as this contact is maintained. The arrangement is such that the contact 30 rides off of the contact 31 just before the arm 26 reaches the end of the movement permitted by slot 27, at which time the said arm 30 springs downwardly below the contact 31 as indicated by the dotted lines in Fig. 4. When arm 18 is reset, the weighted arm 25 operates automatically to return the contact 30 to initial position, as indicated by the full lines in Fig. 4, thus resetting the mechanism for another operation when desired. The specific control mechanism described constitutes no part of the present invention, constituting the subject matter of my said application, Serial No. 219,550 and therefore, requires no further description here.

By this arrangement a simple and effective timer is provided which may be utilized in cooking or other operations; which is accurate and dependable in use; in which the control arm may be readily set from outside of the clock mechanism and without disturbing the clock mechanism; in which the ordinary hands of the clock may be readily set without disturbing the timer mechanism; and which is of simple construction and highly efficient in use.

While I have illustrated and described the preferred form of construction for carrying the invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I therefore do not wish to be limited to the precise details disclosed, but desire to avail myself of such variations and modifications as fall within the scope of the appended claims.

I claim:

1. A timer comprising a clock having a face, a transparent cover for said face, and a cooperating time shaft; a setting extension on said time shaft extending through said cover; a timer control arm mounted on said shaft and having frictional engagement therewith; and a setting member arranged co-axially with said extension and connected with said control arm and extending through said cover and whereby both the time shaft and control arm may be set from in front of said cover.

2. A timer comprising a clock having a face, a transparent cover for said face, and a cooperating time shaft having the usual frictional engagement with the clock mechanism permitting setting of said time shaft; a sleeve loosely mounted on said time shaft and provided with a setting extension stem threaded on the outer end of said time shaft and extending beyond said cover; a sleeve loosely mounted on said stem, there being a shoulder on said stem abutting the end of said sleeve; means for manipulating said sleeve; a frictional connection between said sleeve and time shaft adjustable by rotation of said stem with respect to the time shaft; and a timer control arm carried by said sleeve.

JEROME DE HAES.