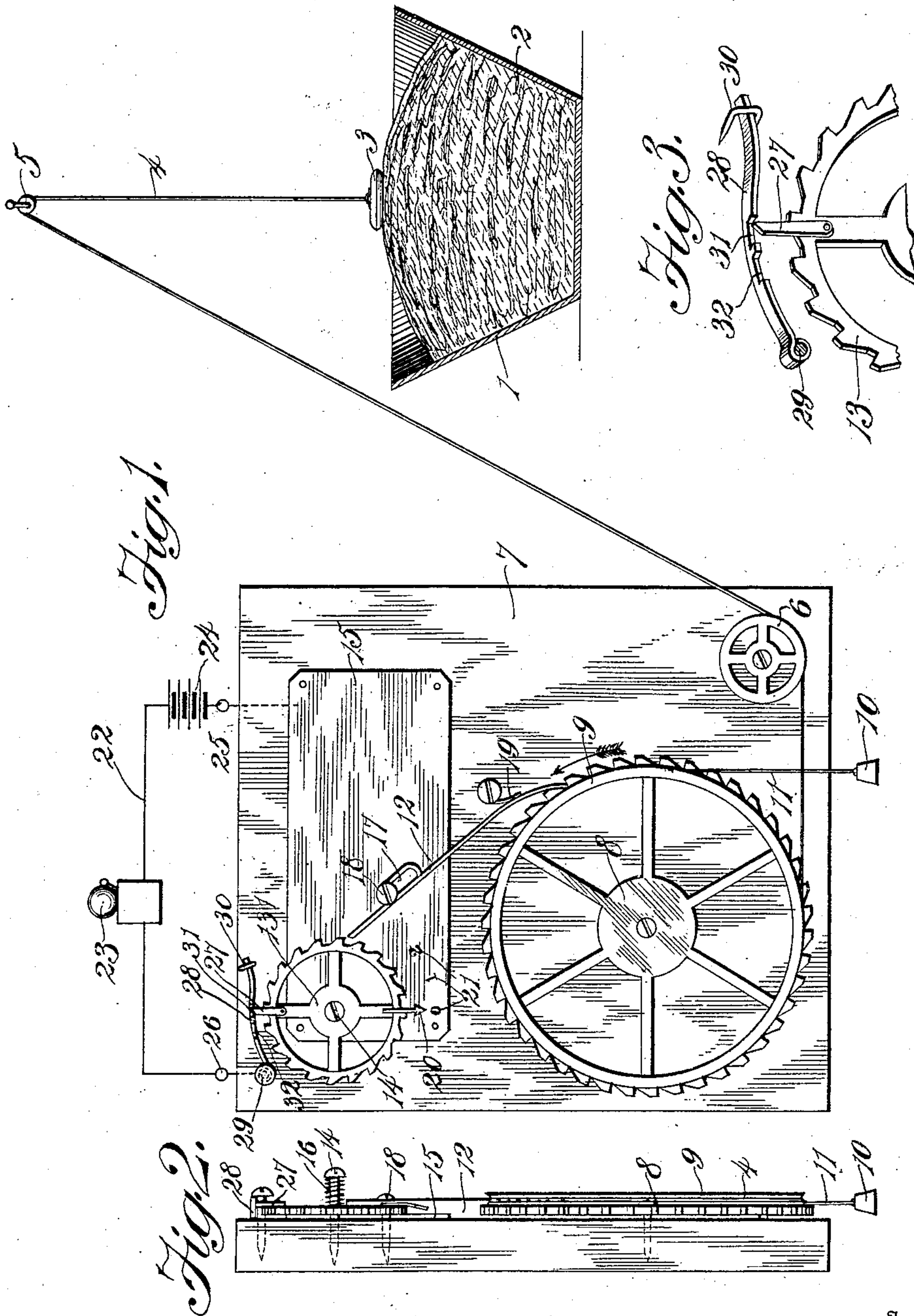


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SPONGE INDICATING AND ALARM DEVICE.
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SPONGE INDICATING AND ALARM DEVICE.

No. 917,095.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDERICK MERSFELDER, Sr., a citizen of the United States, residing at Canal Dover, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Sponge Indicating and Alarm Devices, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in bakers' sponge indicating and alarm devices and consists of the features of novelty hereinafter fully described and claimed.

The object of the invention is to provide a simple, inexpensive, reliable and efficient device of this character which will notify the baker of the condition of his sponge or dough and thereby enable him to give it the attention at the proper time and reduce all liability of its souring.

Another object of the invention is to provide a device of this character which will sound a short alarm upon the first drop of the sponge and a long continuous one when the sponge drops the second time.

The above and other objects of the invention are attained in its preferred embodiment illustrated in the accompanying drawings, in which—

Figure 1 is a diagrammatic view of my improved sponge indicating and alarm device, the circuit closing mechanism being in elevation; Fig. 2 is an edge view of the circuit closing mechanism; and Fig. 3 is a detail view of one of the contact members.

In the drawings 1 denotes a trough or other receptacle for the sponge or dough which is indicated at 2 and 3 denotes a follower adapted to rise and fall with the sponge and to actuate a circuit closer and an indicating device. The follower member 3 is here shown in the form of a plate or disk attached to one end of a cord 4 passed over one or more pulleys or similar guides 5, 6. As shown, the pulley 5 is arranged in a block which may be attached to the ceiling or any other support and the pulley 6 is journaled upon a base or support 7 which may be arranged at any suitable point and upon which the circuit closing and indicating devices are mounted. It will be understood that any other guide devices may be substituted for the cord or flexible element 1 and that the receptacle 1 and support 7 may be arranged at adjacent or at distant points.

Suitably journaled upon the support or base 7 is a ratchet wheel 8 carrying a grooved pulley 9 around which one end of the cord 4 is passed and to which it is connected. The cord 4 actuates the ratchet wheel in one direction and it is adapted to be actuated in the other direction by a counterbalancing weight 10 suspended from a cord 11 which is attached to and wound upon the pulley 9 in the opposite direction to that of the cord 4. The weight 10 counterbalances the follower 3 so that as the latter rises and falls with the dough or sponge 2 the ratchet wheel will be rotated first in one direction and then in the opposite direction. The ratchet wheel 8 is adapted to actuate a sliding and swinging member 12 in the form of a double ended pawl which is adapted in turn to actuate a ratchet wheel 13. This wheel 13 forms a part of both the indicating device and the circuit closer of the alarm device and is rotatably mounted on a journal pin 14 which is carried by the support 7 and extends through a metal plate 15 arranged upon said support. A coil spring 16 surrounds the pin or stud 14 and is confined between its head and the outer face of the wheel 13 so as to secure an effective electrical contact between said wheel and the plate 15. The pawl or member 12 is slidably and pivotally mounted by providing it with a slotted portion 17 to receive a pivot 18 and its curved lower end is held in engagement with the ratchet wheel 8 by a coil spring 19. The straight upper end of the member or pawl 12 is adapted to engage the teeth of the ratchet wheel 13 and is adapted to drop by gravity out of contact with the same.

The indicating device comprises a pointer or indicating finger 20 fixed to the wheel or ratchet 13 and an indicator dial in the form of marks 21 arranged upon the plate 15 and adapted to co-act with the pointer 20. As illustrated, three of the points 21 are provided and they are marked "0", "1", "2", the first one being "0" to indicate the normal position of the apparatus, the second one being "1" to indicate the first drop of the sponge and the third one being "2" to indicate the second drop of the sponge.

The alarm device comprises an electric circuit 22 in which is included an electric alarm bell 23 or any other electrically operated alarm device, a battery 24 or any other source of electrical supply, two binding posts 25, 26 upon the support or base 7, the metal

plate 15, the ratchet wheel 13 and two contact members 27, 28, the former of which is in the form of a radially projecting finger secured to the ratchet wheel and the latter of which is in the form of a plate or strip pivotally mounted upon the support 7. Said contact plate or strip 28 has a portion curved concentric with the pivot 14 of said ratchet wheel 13 and one of its ends is pivoted at 29 and its other or free end arranged for swinging movement in a loop or staple 30 which serves both as a guide and a stop. In one edge of the curved portion of the contact plate or strip 28 are two notches or recesses 31, 32 which form between them a projection 33. When the ratchet wheel 13 has its pointer 21 indicating "0" the contact finger 27 projects into the recess 31 in the contact plate 28, which latter has its free end resting upon the bottom of the stop loop 30 so that when said ratchet wheel is actuated the finger 27 will, in passing under the projection 33, close the circuit 22 for a brief period and thereby sound a short alarm, the latter being stopped when the finger enters the second recess 32 and breaks the circuit; and when said ratchet wheel is actuated the second time the contact finger will engage the inner portion of the plate 28 to close the circuit a second time and permanently, to sound a long continuous alarm.

In operation, the parts of the device or apparatus are arranged as clearly shown in Fig. 1 so that as the sponge 2 rises the follower 3 will rise and the weight 10 will rotate the ratchet wheel 8 to the right, the teeth of said wheel slipping under the lower end of the pawl. When the sponge drops for the first time the follower 3 will be carried down with it by the suction or adhesion of the dough and will turn the ratchet wheel 8 to the left thereby causing the pawl 12 to move upwardly and to rotate the ratchet wheel 13 to the left a distance sufficient to cause the pointer to move from "0" to the mark "1" and the contact finger 27 to move from the recess 31 to the recess 32 in the contact plate 28 and in passing under and contacting the projection 33 to sound a short alarm. When the sponge rises a second time the ratchet wheel 8 will move again to the right and the pawl 12 will drop by gravity to its normal position. When the sponge drops the second time the ratchet wheel 8 will be again turned to the left and will cause the pawl 12 to actuate the ratchet 13 a second time so that its pointer 20 will be turned to the mark "2" and the contact finger 27 will be moved out of the recess 32 in the plate 28 and into engagement with the inner portion of the latter, thereby completing the circuit 32 a second time to sound a long continuous alarm.

From the foregoing it will be seen that my invention is exceedingly simple and inex-

pensive in construction and reliable and efficient in operation. The provision of the indicating device enables the condition of the dough or sponge to be quickly and accurately determined at any time and the provision of the alarm device and its peculiar construction and operation enables the baker to give the sponge the proper attention at the proper time without constantly watching it. The first alarm notifies him of the first drop of the dough and the second alarm being long and continuous insures the calling of his attention to it so that he can stiffen or otherwise handle it at the second drop and avoid all possibility of it becoming sour.

While I have shown and described in detail the preferred embodiment of my invention it will be understood that I do not wish to be limited to the precise details set forth since various changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention what I claim is:

1. In a device of the character described, the combination of an electric signal or alarm circuit including a circuit closer, a pawl and ratchet device for actuating said circuit closer and means controlled by the sponge or dough for operating said pawl and ratchet.

2. In a device of the character described, the combination of an electric signal or alarm circuit including a circuit closer, a ratchet wheel carrying one member of the circuit closer, a second ratchet wheel, means for actuating the latter in one direction, a double pawl to co-act with both of said ratchet wheels and a follower controlled by the sponge or dough for actuating the second ratchet wheel in the other direction.

3. In a device of the character described, the combination of an electric signal or alarm circuit including a circuit closer adapted when operated to successively close and open the circuit, a pawl and ratchet device for actuating said circuit closer and means controlled by the sponge or dough for operating said pawl and ratchet device.

4. In a device of the character described, the combination of an electric signal or alarm circuit including a circuit closer adapted when operated to successively close and open the circuit, a ratchet wheel carrying one member of the circuit closer, a second ratchet wheel means for actuating the latter in one direction, a double pawl to co-act with both of said ratchet wheels and a follower controlled by the sponge or dough for actuating the second ratchet wheel in the other direction.

5. In a device of the character described, the combination of an electric signal or alarm circuit including a circuit closer, a

ratchet wheel carrying one member of the circuit closer; a second ratchet wheel carrying a pulley, a double ended spring pressed pawl slidably and pivotally mounted and adapted to co-act with both of said ratchet wheels, a weight attached to and suspended from said pulley to actuate the same in one direction, a follower controlled by the sponge or dough, guides, and a cord attached to the follower passed over said guides and attached to and wound upon said pulley for actuating it in the other direction.

6. In a device of the character described, the combination of an electric signal or alarm circuit including a circuit closer having a pivoted contact plate formed with recesses and an intermediate projection, means for limiting the swinging movement of said contact plate, a movable member carrying a contact finger to project into the recesses in said plate and to engage said projection and a portion of said plate adjacent to one of the recesses, and means controlled by the sponge or dough for actuating said movable member.

7. In a device of the character described, the combination of an electric signal or alarm circuit including a circuit closer, a ratchet wheel for actuating one member of said circuit closer, a second ratchet wheel, means for actuating the latter in one direction, a follower controlled by the sponge or dough for actuating the second ratchet wheel in the other direction and a double ended pawl slidably and pivotally mounted to co-act with both of said ratchet wheels.

8. In a device of the character described, the combination of an indicating mechanism, the latter including a dial and a pointer, a pawl and ratchet device for actuating said pointer and means controlled by the sponge or dough for operating said pawl and ratchet device.

9. In a device of the character described, the combination of an indicating mechanism, the latter including a dial and a pointer, a ratchet wheel carrying said pointer, a second ratchet wheel means for actuating the latter in one direction, a double ended pawl to co-act with both of said ratchet wheels and a follower controlled by the sponge or dough for actuating the second ratchet wheel in the other direction.

10. In a device of the character described, the combination of an indicating mechanism, a ratchet wheel for carrying said pointer, a second ratchet wheel carrying a pulley, a double ended spring pressed pawl slidably and pivotally mounted and adapted to co-act with both of said ratchet wheels, a weight connected to and suspended from said pulley for actuating it in one direction, a cord attached to and wound upon the pulley in the other direction, guides for the cord, and a follower attached to the cord and controlled by the sponge or dough.

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

FREDERICK MERSFELDER, SR.

Witnesses:

FRED. H. MERSFELDER,

JOHN A. HOSTETLER.