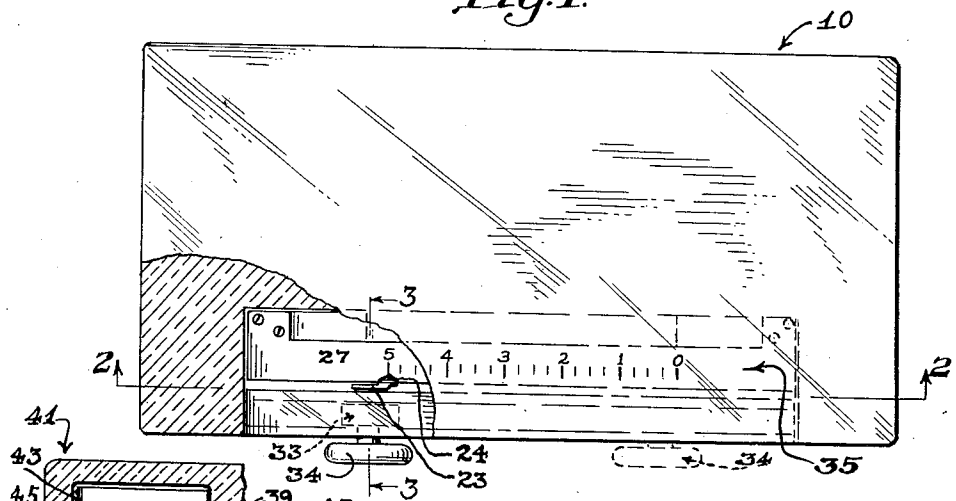
Nov. 28, 1944. R. R. GREENE 2,363,726

MIXING TABLET

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Fig. 1.



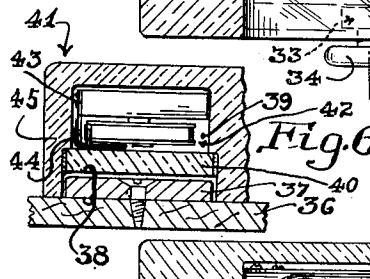
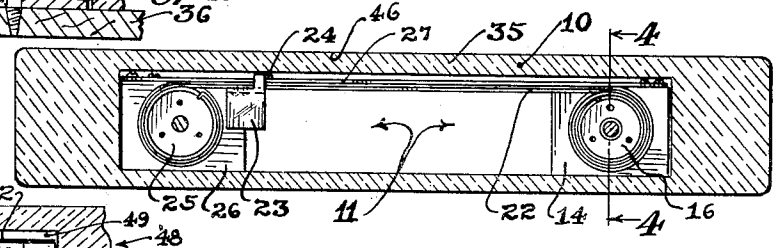




Fig. 6.

Fig. 2.



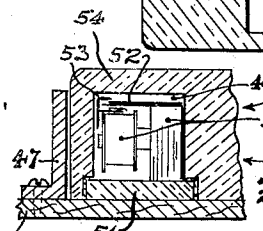




Fig. 7.

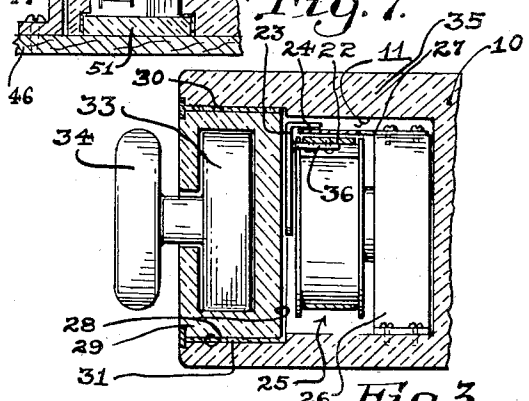
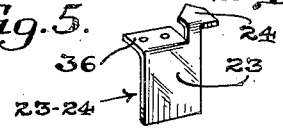



Fig. 3.

Fig. 5.




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MIXING TABLET

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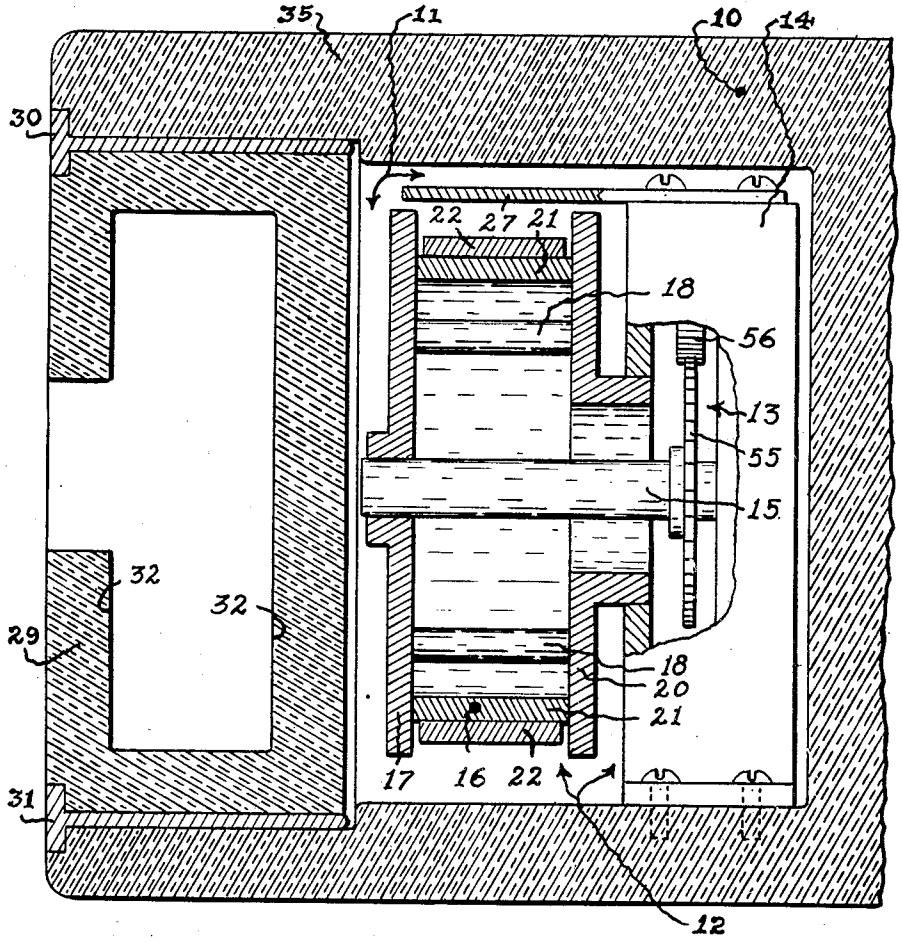



Fig. 4.

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# UNITED STATES PATENT OFFICE

2,363,726

## MIXING TABLET

Rose Rosenfeld Greene, Los Angeles, Calif.

Application August 21, 1941, Serial No. 407,776

6 Claims. (Cl. 161—15)

My invention relates to mixing tablets or slabs, such as are used by members of the dental and other professions for mixing various substances for the filling of teeth, for the cementing of metallic crowns and for similar purposes.

In the case of dental mixing tablets, they are usually of glass because they must be inert chemically and adaptable to being washed with soap and hot water, to being sterilized with boiling water or with alcohol or other suitable means and mediums.

It is the practice to dispose an ordinary watch or stop watch near the mixing tablet for supervision of the duration of mixing, drying or the like. The period, in the case of the dental profession, ranges generally from one-half to five minutes, depending on the nature and mass of the particular ingredients. This use of a watch is not always convenient or desirable. It may fall to the floor or be soiled by the mixing ingredients or, as often happens, water or chemicals may penetrate into the interior of the watch and rust or disintegrate the various parts.

It is an important object of the instant invention to provide a mixing tablet embodying therewithin a timing mechanism that is securely sealed and isolated from the outside against deterioration of the mechanism by chemicals or otherwise.

Other objects and advantages will disclose themselves in the course of examining this description and the accompanying drawings, which are of three illustrative embodiments, selected from many possible examples, and are of course not at all to be regarded as limitative.

In the drawings—

Figure 1 is a plan view, partly in section, of a tablet characterized by a construction thereof and by therein contained timing mechanism that together constitute the first of the three said embodiments.

Figure 2 is a sectional, side elevation view of the same, as seen in the plane 2—2 thereof.

Figure 3 is a sectional view, as seen in the plane 3—3 of Figure 1.

Figure 4 is a sectional view of the structure of Fig. 1, as seen in the plane 4—4 of Figure 2.

Figure 5 is a sectional view of a certain magnet-responsive indicating member, used in the foregoing mechanism.

Figure 6 is a sectional view, similar to the views of Figures 3 and 4, but illustrating what I term the second of said three embodiments.

Figure 7 is a sectional view, also similar to the views of Figures 3 and 4, but illustrating what I term the third of said embodiments.

Referring to Figures 1, 2, 3, 4 and 5, the numeral 10 designates a tablet, which may be entirely of completely or partly transparent glass, entirely of some completely or partly transparent other substance, or of a combination of the foregoing. The upper or mixing surface of the tablet is indicated by 46.

A well or enclosure or recess, specifically termed a primary recess, 11, adapted to contain therewithin a timing mechanism 12, is provided adjacent a margin of the tablet. Timing mechanism 12 includes a suitable windable clock-movement 13, installed in case 14 at what I term the right end of the tablet, see Figure 4. Timing mechanism 12 includes also a shaft 15, mounting a thereto fixed and therewith rotating primary wheel 16, whose disc is indicated by 17, the numeral 18 designating two axially parallel pins securing discs 17 and 20 together.

Secured to rim 21 of wheel 16 is flexible belt or strip 22, to which in turn is fastened, by flange 36, to travel therewith, indicating member 23—24, made of magnet-responsive metal, although conceivably it may be made of two parts 23 and 24, held together, and of which only part 23 need be magnet-responsive, part 24 being referred to as the pointer part.

At the left end of the tablet is disposed spring-mounted, secondary wheel 25, to which the opposed end of belt 22 is secured, the supporting bracket for wheel 25 being designated by 26.

Screwed to the upper parts of case 14 and bracket 26 is substantially straight, attenuated dial 27, adapted to permit movement of indicating member 23—24 therealong with pointer part 24 superposed over the dial, which is suitably graduated to show several minutes, in this instance, five minutes.

Continuing to refer to Figures 1, 2, 3, 4 and 5, I provide, adjacent primary recess 11, secondary recess 28, containing or accommodating sealing block 29, cemented by cement masses 30 or 31 to the defining surfaces of recess 28, block 29 serving to isolate and seal primary recess 11 and the contents thereof effectively against the outside, so that no dirt, dust, chemicals, water or otherwise can contact the contents. Block 29 may be of glass or other suitable substance.

Block 29 is provided with a long groove or recess 32, accommodating magnet 33, which is provided with handle 34 and adapted, by manual manipulation thereof, for translational movement in and along groove 32.

That part of tablet **10** that overlies dial **27**, indicated by **35**, is transparent in order to render dial **27** visible from the outside.

In Figure 1, the handle **34** of magnet **33** is indicated, by solid line at the left, where the magnet is disposed, having attracted toward itself, magnet-responsive indicating member **23—24**. This movement has of course caused belt **22** to move correspondingly, thereby winding the mainspring (not shown) of the movement **13** through the medium of wheel **16** and shaft **15** connected to one end of the mainspring. Leaving magnet **33** in its leftwardly displaced position adjacent member **23—24**, as shown in Figure 1, the mechanism is allowed to begin functioning. Responding to the relatively strong force exerted upon belt **22**, it is now free to and is thereupon automatically reeled back onto wheel **16** because the tension of the spring in clock movement **13** is much stronger than the spring retaining secondary wheel **25**, whose strength need not be any more than that necessary to keep belt **22** taut while it is being reeled back onto wheel **16**. To regulate the speed with which belt **22** is reeled back, there is provided an escapement mechanism (not shown) connected to the high speed end of a step-up gear train, the opposite end of the train terminating in a gear **55** (Fig. 4) connected to shaft **15** through a slip clutch not shown. The details of the specific timing mechanism driving shaft **15** and which include the slip clutch and escapement mechanism are conventional and in themselves form no part of the invention. In the course of said rereeling, magnet **33** travels toward the right while remaining, because of magnetic pull, adjacent to member **23—24**, the interior surfaces of the magnet recess and of the therewith faying surfaces of the magnet being smooth, thereby reducing friction between them to a minimum. Since a clock movement of this kind, wound by a flexible attenuated member, which is gradually withdrawn into the movement as the energy of the spring inside of it is expended, has been a familiar device, particularly to the drivers of automobiles, it is not thought necessary to show more than the parts immediately associated with the shaft **15** and of course no claim is made to such a device as original or forming any part of the instant invention from the inventive standpoint.

Obviously, to provide the timing mechanism with a bell or buzzer or light to make the person in charge cognizant of the expiration of the period set appropriately to any given operation of mixing or otherwise, is possible to persons skilled in the art without involving inventive application on their part. When a briefer period than the dial's maximum is necessary, a correspondingly shorter displacement of the magnet and of the magnet-responsive member toward the left is of course indicated.

Referring to Figure 6, I show an alternative construction of tablet and use of it in association with a magnet that, instead of being contained within the tablet, is accommodated by a recess thereof, the magnet being secured to a supporting object, such as a table top, immovably therefrom, the magnet-responsive member being displaced in the tablet to wind the movement by moving the tablet itself relatively to the fixed magnet, as contrasted with the thereto opposite procedure with the precedingly described embodiment.

In Figure 6, a table top or the like **36** is shown fragmentarily. To it is screwed magnet **37**, accommodated by secondary recess **38**, provided adjacent primary recess **39** in tablet **41**, sealing block **40** intervening between the recesses and cemented by its edges to the tablet. Disposed within primary recess **39**, and of course isolated from the outside, is timing mechanism **42**, the straight, attenuated dial and the magnet-responsive indicating member therein being designated respectively by **43** and **44**. In this construction it is not mandatory but preferable that transparent part of the tablet be at the side wall instead of at the upper or mixing surface. The transparent part is indicated by **45**.

In Figure 7, I show still another embodiment, the third, with an externally disposed magnet secured to a table top or the like, the tablet being, as in the case of Figure 6, adapted to be moved relatively to the fixed magnet in order to displace the magnet-responsive indicating member for winding of the movement.

The table top and the thereto screwed, fixed magnet are indicated respectively by **46** and **47**, the tablet and the primary recess thereof, respectively by **48** and **49**, the primary recess containing therewithin timing mechanism **50** and being sealed from the outside by thereto suitably cemented block **51**. In this third embodiment, obviously there is no need of a secondary recess to accommodate the magnet. The dial and the magnet-responsive indicating member are indicated respectively by **52** and **53** and the transparent part of the tablet, through which dial **52** is rendered visible from the outside, is, as with the first embodiment, disposed adjacent the upper or mixing surface **54**.

From the foregoing, it is apparent that I have invented a simple, novel, useful and economically made and maintainable mixing tablet meeting the rigorous sterilization standards of the dental and other professions.

I claim:

1. In association with a magnet, a mixing tablet constituted, respecting at least a part thereof, of transparent substance, and recessed, adjoining said transparent part, to provide a primary recess adapted to contain therewithin a timing mechanism including a windable clock movement, a dial and a magnet-responsive part, said magnet and said magnet-responsive part and other parts constituting said tablet being dimensioned and being locally and functionally related to one another in a manner whereby said movement is windable by virtue of displacement of said magnet-responsive part induced by suitable displacement of said tablet and said magnet relatively to one another, said dial being visible through said transparent part.

2. In association with a magnet, a mixing tablet constituted, respecting at least a part thereof, of transparent substance, and recessed, adjoining said transparent part to provide a primary recess adapted to contain therewithin a timing mechanism including a windable clock movement, a substantially straight, attenuated dial and an indicating member adapted to travel along said dial, said indicating member having at least a part thereof magnet-responsive, said magnet, said magnet-responsive part and other parts constituting said tablet being dimensioned and being locally and functionally related to one another in a manner whereby said movement is windable by virtue of displacement of said magnet-responsive part induced by suitable displacement of said tablet and said magnet relatively to

one another, said dial being visible through said transparent part.

3. In association with a magnet, a mixing tablet constituted, respecting at least a part thereof, of transparent substance, and recessed, adjoining said transparent part to provide a primary recess adapted to contain therewithin a timing mechanism including a windable clock movement, a dial and an indicating member adapted to move suitably relatively to said dial, said dial being visible through said transparent part, said indicating member having at least a part thereof magnet-responsive, said tablet being recessed, adjacent said primary recess, to provide a secondary recess adapted to accommodate said magnet, said magnet and said magnet-responsive part and other parts constituting said tablet being dimensioned and being locally and functionally related to one another in a manner whereby said movement is windable by virtue of displacement of said magnet-responsive part induced by suitable displacement of said tablet and said magnet relatively to one another.

4. In association with a magnet, a mixing tablet constituted, respecting at least a part thereof, of transparent substance, and recessed, adjoining said transparent part, to provide a primary recess adapted to contain therewithin a timing mechanism, including a windable clock movement, a substantially straight, attenuated dial and an indicating member adapted to travel along said dial, said dial being visible through said transparent part, said indicating member having at least a part thereof magnet-responsive, said tablet being recessed, adjacent said primary recess, to provide a secondary recess adapted to accommodate said magnet, said magnet, said magnet-responsive part and other parts constituting said tablet being dimensioned and being locally and functionally related to one another in a manner whereby said movement is windable by virtue of displacement of said magnet-responsive part induced by suitable displacement of said tablet and said magnet relatively to one another.

5. A mixing tablet constituted, respecting at least a part thereof, of transparent substance, and recessed, adjoining said transparent part, to provide a primary recess adapted to contain therewithin a timing mechanism, including a windable clock movement, a dial and an indicating member adapted to move suitably relatively to said dial, said dial being visible through said transparent part, said indicating member having at least a part thereof magnet-responsive, said tablet being recessed, adjacent said primary recess, to provide a secondary recess adapted to contain therewithin said magnet, said magnet, said magnet-responsive part and other parts constituting said tablet being dimensioned and being locally and functionally related to one another in a manner whereby said movement is windable by virtue of displacement of said magnet-responsive part induced by displacement of said magnet in said secondary recess.

6. A mixing tablet constituted, respecting at least a part thereof, of transparent substance, and recessed, adjoining said transparent part, to provide a primary recess adapted to contain therewithin a timing mechanism, including a windable clock movement, a substantially straight, attenuated dial and an indicating member adapted to travel along said dial said indicating member having at least a part thereof magnet-responsive, said dial being visible through said transparent part, said tablet being recessed, adjacent said primary recess, to provide a secondary recess adapted to contain therewithin said magnet, said magnet, said magnet-responsive part and other parts constituting said magnet being dimensioned and being locally and functionally related to one another in a manner whereby said movement is windable by virtue of displacement of said magnet-responsive part induced by displacement of said magnet in said secondary recess.

ROSE ROSENFELD GREENE.