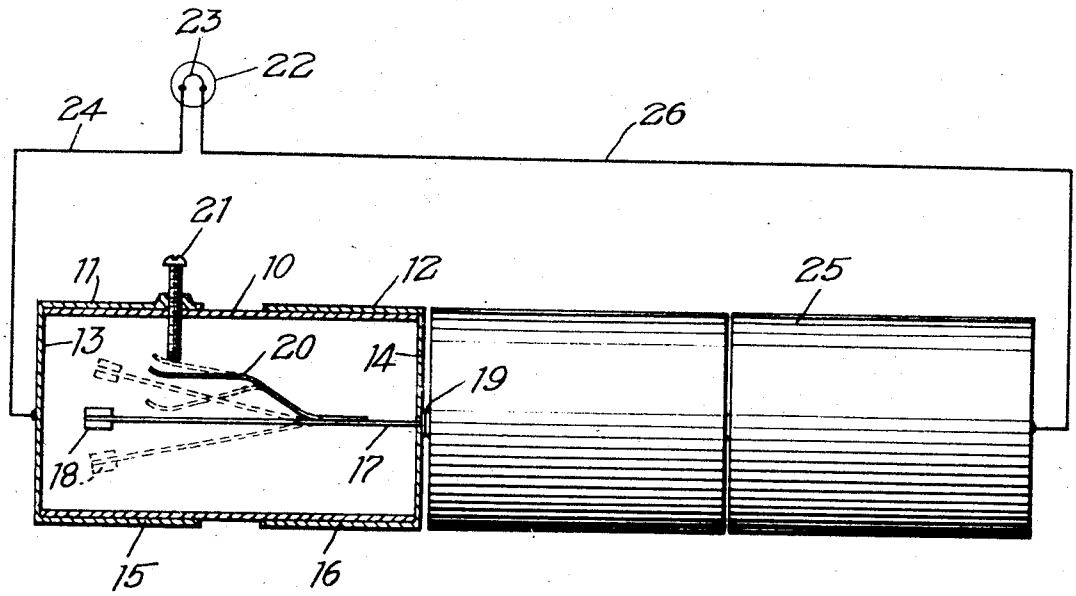
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OSCILLATING PULSATOR

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OSCILLATING PULSATOR

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The invention relates to improvements in oscillating pulsators, and more particularly to pulsators used for closing and opening an electric circuit successively.

Among the principal objects which the invention has in view are: To provide an oscillating pulsator adapted for use in a multiplicity of places; to provide an oscillating pulsator which is responsive to slight oscillations and yet will not be injured by severe oscillations; to enable the pulsator to be adjusted to the type of oscillation desired to be indicated; to provide on oscillating pulsator which is small and adapted to be carried and one which may be operated by dry cells; to enable the device to fit within the shell of a flashlight as well as in convenient assemblies; to secure simplicity of construction and operation; and to obtain other advantages and results as may be brought out in the following description.

In the drawing:

The figure represents an oscillating pulsator in accordance with the present invention shown associated with a light circuit and dry cells.

As one exemplification of the invention, there may be provided an insulatory sleeve 10 open at both ends and at any varied shape, for instance cylindrical as shown. This sleeve 10 receives a cap 11 at one end thereof, and a cap 12 at the other end, said caps having end portions 13 and 14 respectively which close the end of the sleeve when assembled thereon and also each provide side portions 15 and 16 respectively, which telescope with respect to the sleeve preferably on the outside thereof and in frictional engagement therewith so as to retain the caps normally assembled upon the sleeve. The inner edges of the telescopic portions 15, 16 of the two caps are separated from each other so as not to enable a flow of current to pass directly from one cap to the other. There is accordingly an intervening portion of the insulator sleeve 10 which provides an electrical gap between the caps.

One of the caps, here shown as 12, carries a pulsator 17 preferably in the nature of a spring pendulum. To this end, the pulsator 17 is preferably a straight piece of flat spring material with one end thereof secured to the end portion 14 of the cap 12. As here shown, the pulsator 17 is normally axially disposed with respect to the sleeve and extends from the end portion 14 of the cap 12 to a position close to the end portion 13 of the other cap 11, at which end a suitable weight or mass 18 is attached to the pendulum so as to utilize the momentum of the mass to oscillate the pulsator 17 back and forth for a considerable period of time when the oscillation has once been started. The attached end of the pulsator may preferably extend through the cap and form a protruding contact 19 for introduction of an electric current to the pulsator.

Attached to the pulsator 17 as part thereof is a spring switch or arm 20 having the outer end thereof spaced from the pulsator 17 and substantially parallel thereto. A screw or other contact 21 may be threaded through the outer cap 11 and passed through the insulating sleeve 10 into proximity to the said outer end of the arm 20. By utilizing a screw or other adjustable means, the inner end thereof may be brought to any desired distance from the spring arm and will therefor govern the response of the device to slight oscillations if so desired or only to greater oscillations if not desired to detect the slight vibrations. The pulsating pendulum 17 is shown in full lines in its normal position. When the device is subjected to a jolt, the pulsating pendulum 17 then swings back and forth for a period as indicated in the dotted lines, and in so doing, the arm 20 comes into contact with screw 21 in one position and moves away from such contact as shown in lower dotted position. By virtue of the resiliency of the arm 20, a contact is maintained for a definite period dependent upon the amount of movement of the pendulum toward the said screw 21. This varied length of contact may be utilized in practice to gauge the severity of the jolt or other instigating vibration.

As one means of rendering the oscillation visible, I have diagrammatically shown an electric lamp 22 having a filament 23, one end of which is connected by a wire 24 or oth-

er means to the outer cap 11 carrying the screw 21, while the other end of the filament is connected to one pole of a battery 25 by a wire 26 or other means, the other pole of the battery being connected to cap 12 and pulsator 17. While the battery 25 here shown may conveniently comprise dry cells arranged to end as customary in the art, it is to be understood that in the broad aspects of the invention the battery 25 exemplifies any suitable source of electric current or potential. The particular arrangement shown, is one very conveniently mounted in the shell or a flashlight or suitable receptacle so as to be self-contained. In this respect it is convenient to construct the insulatory sleeve 10 and caps 11, 12 of substantially the same diameter of the batteries so the same can be inserted with the batteries in a flashlight shell or other container as well as be clear from the specific embodiment of the invention illustrated in the drawing.

The invention is applicable to many uses, amongst which may be mentioned the use of the electric light to obtain a pulsation of some part of a toy, such as the eyes of a doll, or stuffed animals; or may be used to give illuminated twinkling response when an object is shaken, such as an animated form, a target, and the like, or may be used in the arts to detect bridge instability, blasting effects and other structural pulsations, or may be used to indicate human nervousness, motor and explosion pulsation and many other applications unnecessary to enumerate with greater particularity.

I claim:

An oscillating pulsator comprising a housing having an insulatory portion circumferentially disposed and having a metallic portion carried at one end of the insulatory portion for providing external electrical contact and another contact at the other end of said housing electrically separated from the first said metallic portion by the said insulatory portion, a screw projecting through said metallic and insulatory portions radially thereof, and a vibratory member longitudinally positioned within the said housing supported by and in electrical contact with the second mentioned contact and opposed to but normally out of contact from said screw and adapted to vibrate into contact with said screw whereby an electric circuit will be intermittently completed between said metallic portion and said contact.

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