rod **31** under the influence of cross arm **36** and hence the movement of diaphragm **33** is relatively rapid thus producing a snap action and a beat sound amplified in the resonant chamber **30**.

During this clockwise movement of the balance wheel the insulated portion **39** of cross arm **36** impinges upon rod **31** so no connection is made and the balance wheel continues to rotate in a clockwise direction carrying arm **36** away from rod **31** in a further clockwise direction of less than 360°.

At the end of the clockwise stroke, hairspring **20** returns the balance wheel and cross arm **36** in a counterclockwise direction to the position shown in Figure 2 where conductive portion **41** of cross arm **36** again engages rod **31** to thus establish electrical connection through coil **11** imparting a second energizing pulse to the balance wheel in a counterclockwise direction.

It is apparent that during operation the resonant chamber is energized upon both the clockwise and counterclockwise strokes whereas the balance wheel is energized only during the counterclockwise movement thereof and is returned in the clockwise direction in the conventional manner by means of hairspring **20**.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by United States Letters Patent is:

1. A heartbeat simulating mechanism comprising a balance wheel and staff mounted for rotation, electromagnetic energizing means for rotating said wheel and staff, harispring means coupled to said wheel and staff, means carried by said wheel and staff for periodically

coupling said energizing means to said wheel and staff for producing oscillations thereof, said coupling means including rigid means projecting outwardly from said staff, a resonant chamber including a diaphragm positioned adjacent said staff, second rigid means projecting from said diaphragm in the direction of said staff in the path of movement of said first rigid means carried by said staff, said first rigid means including an electrically conductive portion for establishing electrical contact through said second means to said energizing means during rotation of said wheel and staff in only one direction.

2. A mechanism as defined in claim 1 in which said energizing means comprises an electromagnet connected to a battery.

3. A mechanism as defined in claim 2 in which said means carried by said wheel and staff comprises a longitudinally adjustable cross bar carried by said staff.

4. A mechanism as defined in claim 3 in which said cross bar is formed of two separate sections, one of insulating material and the other of electrically conductive material.

5. A mechanism as defined in claim 3 in which said cross bar comprises a laminated rod, one of said laminations serving as an electrical conductor for connecting said battery to said electromagnet, the other lamination forming an electrical insulator.

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