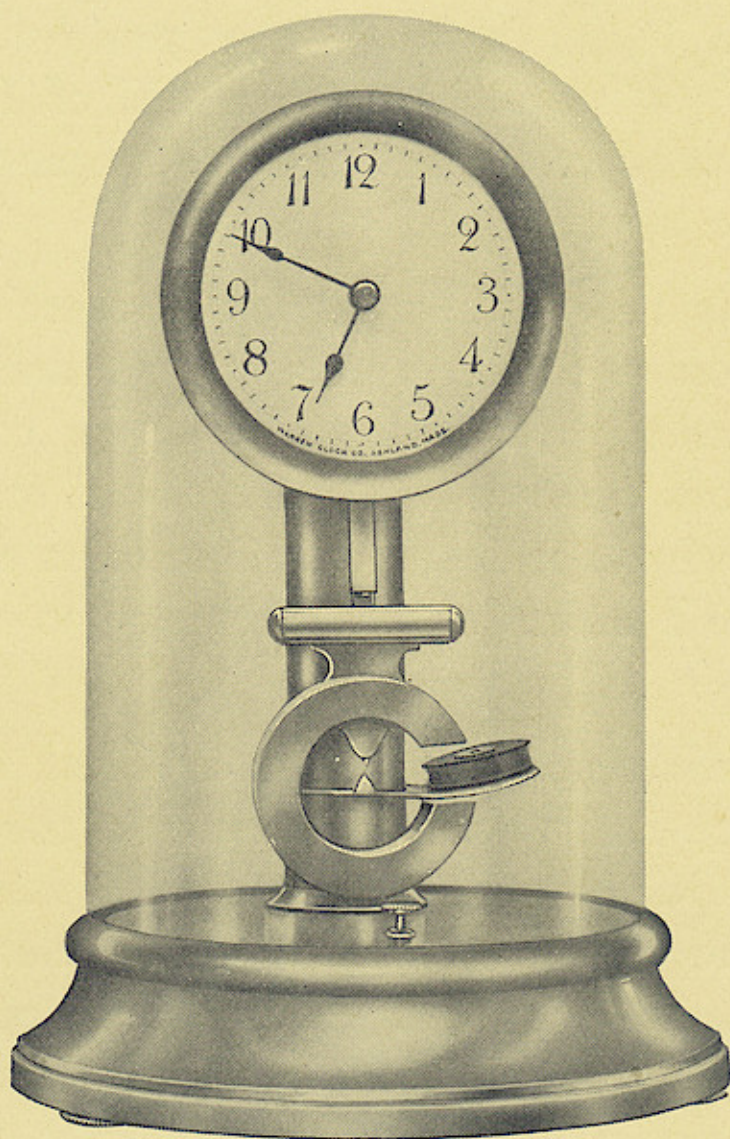


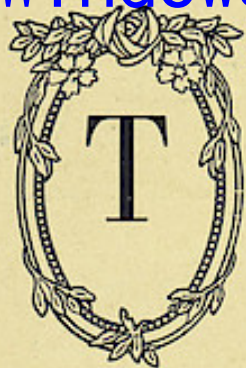
THE STORY OF THE WARREN ELECTRIC CLOCK



Colonial Pattern

WARREN CLOCK COMPANY
ASHLAND, MASSACHUSETTS

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THE Warren Electric Clock is operated by means of attraction which exists between a permanent magnet forming the pendulum weight and a coil of fine insulated wire rigidly mounted near the base of the clock.

This force of attraction is exercised across a considerable air space and is practically unaffected by weather conditions or dust. The attractive force upon the pendulum is the same as that which causes an electric motor to revolve.

In the case of the Warren Clock the force acts momentarily at each stroke of the pendulum, and is of such a nature as to keep the swing of the pendulum practically constant. There are no open or exposed contacts which might wear or gather dust, and thus interrupt the action.

There is, however, mounted upon the pendulum rod just above the C-shaped

magnet, a small sealed tube from which air has been thoroughly exhausted and within this tube there is a drop of mercury, which, as the pendulum swings, moves back and forth just like the shuttle of a loom. As the mercury moves, at each stroke of the pendulum it closes an electric current momentarily, and the current which passes through the coil before mentioned keeps the pendulum in motion.

A small and very efficient dry battery contained within the column supplies the necessary electric current. The amount needed to keep the clock running for a whole year is no more than is used by an ordinary incandescent lamp in fifteen minutes and consequently a single cell of battery is able to drive the clock for one and a half years or more.

Motion is transmitted from the pendulum to the hands of the clock by a novel use of magnetism which permits the clock movement to be sealed and maintained practically air-tight. The most

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important revolving parts have bearings of sapphire jewels and are partially submerged in oil, so as to be protected from rust and thoroughly lubricated. The supply of oil furnished should be sufficient for many years.

In consequence of the novel means of transmitting motion from the pendulum to the clock movement, there is an almost entire absence of friction, wear and vibration so that the work of the pendulum is practically constant, which tends towards accurate time keeping, great durability and absolute freedom from noise.

Since the moving parts of the clock are doubly enclosed against dust and atmospheric influences there is no reason why the clock should not continue to run for many years without attention, except for the renewal of the battery. The life of the battery is guaranteed by the Warren Clock Company and renewals will be furnished free for a period of one thousand days.