(No Model.) 2 Sheets—Sheet 1.

R. H. TWIGG.

TIME CIRCUIT CLOSER.

No. 491,692. Patented Feb. 14, 1893.

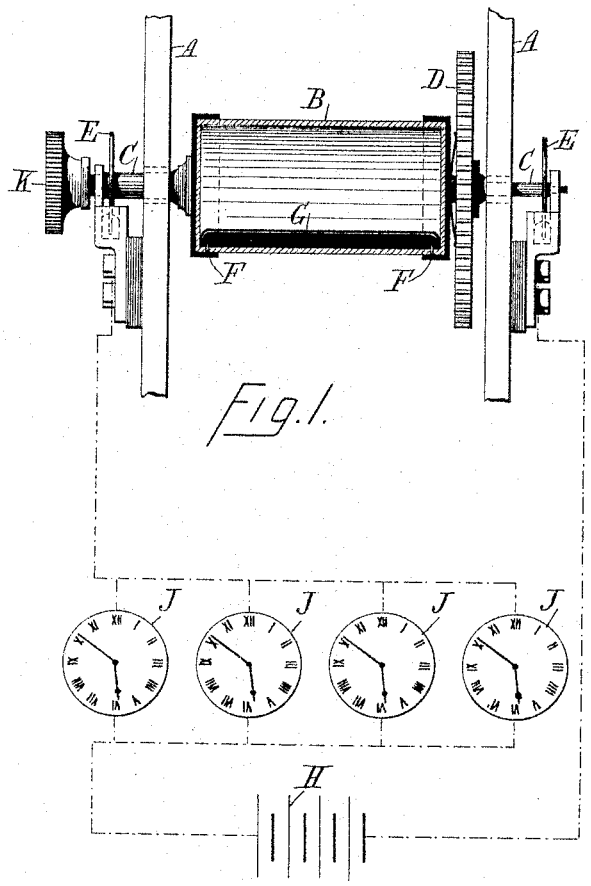

Fig. 1.

Witnesses:
George Barry.
Fred Haynes

Inventor:
Robert H. Twigg
by attorneys
Brown & Seward

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

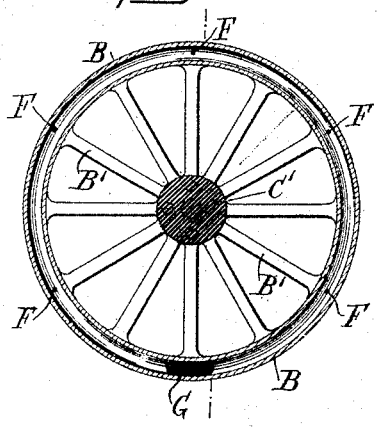
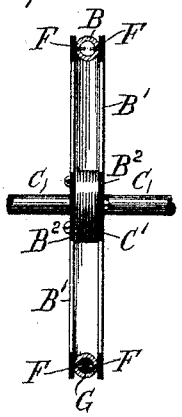


Fig. 3.



Witnesses:-
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Fred' Haynes

Inventor:-
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by attorneys
Brown & Seward

UNITED STATES PATENT OFFICE.

ROBERT H. TWIGG, OF LONDON, ENGLAND.

TIME-CIRCUIT CLOSER.

SPECIFICATION forming part of Letters Patent No. 491,692, dated February 14, 1893.

Application filed August 9, 1892. Serial No. 442,607. (No model.)

To all whom it may concern:

Be it known that I, ROBERT HARKNESS TWIGG, civil engineer, of 14 Victoria Street, in the city of Westminster, London, England, have invented a certain new and useful Improved Apparatus for Periodically Passing Currents of Electricity Through a Conductor, of which the following is a specification.

The object of this invention is to provide a simple apparatus to be adapted to a clock, for the purpose of periodically making and breaking contact between two parts of a conductor, in order that a current of electricity may be passed through, for the purpose of actuating time dials.

The apparatus consists of a closed receptacle of insulating material, to contain mercury, mounted on suitable pivots, and provided with contact pins or points, which project on the inside, to make contact periodically with the mercury, and on the outside are connected with the ends of the electrical conductor, preferably through the pivots. The pivots work in insulated supports, and may be connected to the conductors through disks turning in mercury cups or otherwise. The receptacle is rotated so that contact will be made periodically, and the current will be sent through the conductor, at that interval, to any number of time dials in the circuit, to operate the hands.

In the accompanying drawings,—Figure 1 shows a cylinder arrangement of apparatus suitable for ordinary use; and Figs. 2 and 3 show a tubular arrangement of apparatus more particularly suitable for use on board ship.

The same letters refer to corresponding parts in the several figures.

A represents a frame in which the receptacle is mounted and B is the closed receptacle of insulating material which in Fig. 1 is a hollow cylinder and is provided with metal pivots C which turn in insulated bearings attached to the frame A. The ends of the cylinder (Fig. 1) are shown inserted in metal caps, and the pivots C attached to said caps may each be formed in one piece with its respective cap. The pivots are insulated from each other by the receptacle B.

D is a wheel, which may be the escape wheel, or any other convenient wheel of the clock mechanism, mounted loosely on one pivot, and by which the cylinder is rotated, the connection between the cylinder and the wheel being preferably frictional.

E are disks mounted on the pivots, and turning in mercury cups forming part of the circuit; or any other convenient means may be employed to connect the pivots with the conductors.

F F are contact pins inserted through the walls of the receptacle, and in permanent connection with the metal caps.

G is the mercury, which, as the receptacle rotates, comes at the right moment in contact with the contact pins F, and completes the circuit.

H is the battery, and J J J represent clock dials arranged in the circuit.

The mechanism of the dials may be of any convenient arrangement, and forms no part of the present invention.

K represents a milled head by which the cylinder may be rotated irrespective of the clock mechanism, in order to regulate the dial movements.

In Figs. 2 and 3, the receptacle B consists of an annular tube, which is supported on both sides by radial arms or spokes B′, extending from central disks B^2, which are each formed in one with a pivot C, and are secured by screws or otherwise to a hub C′ of insulated material.

The contact pins F project from the arms B′ through the tube on both sides, opposite alternate spokes.

G represents the mercury.

The wheel thus formed is connected with a wheel of the clock mechanism, and as it rotates therewith, the mercury rolls round inside, and on coming into contact with the contact pins F, completes the circuit.

The number of contact points as well as the spokes to the wheel, will be regulated according to the periods at which it is desired

to make the contacts, and according to the speed at which the wheel is caused to rotate.

What I claim is:—

The combination of a receptacle of insulating material containing mercury, separate metal pivots insulated from each other on said receptacle, and contact pins connected with said pivots for making contact with said mercury and thereby periodically closing an electric circuit through said pivots, substantially as herein set forth.

ROBERT H. TWIGG.

Witnesses:
H. K. WHITE,
A. W. SPACKMAN.