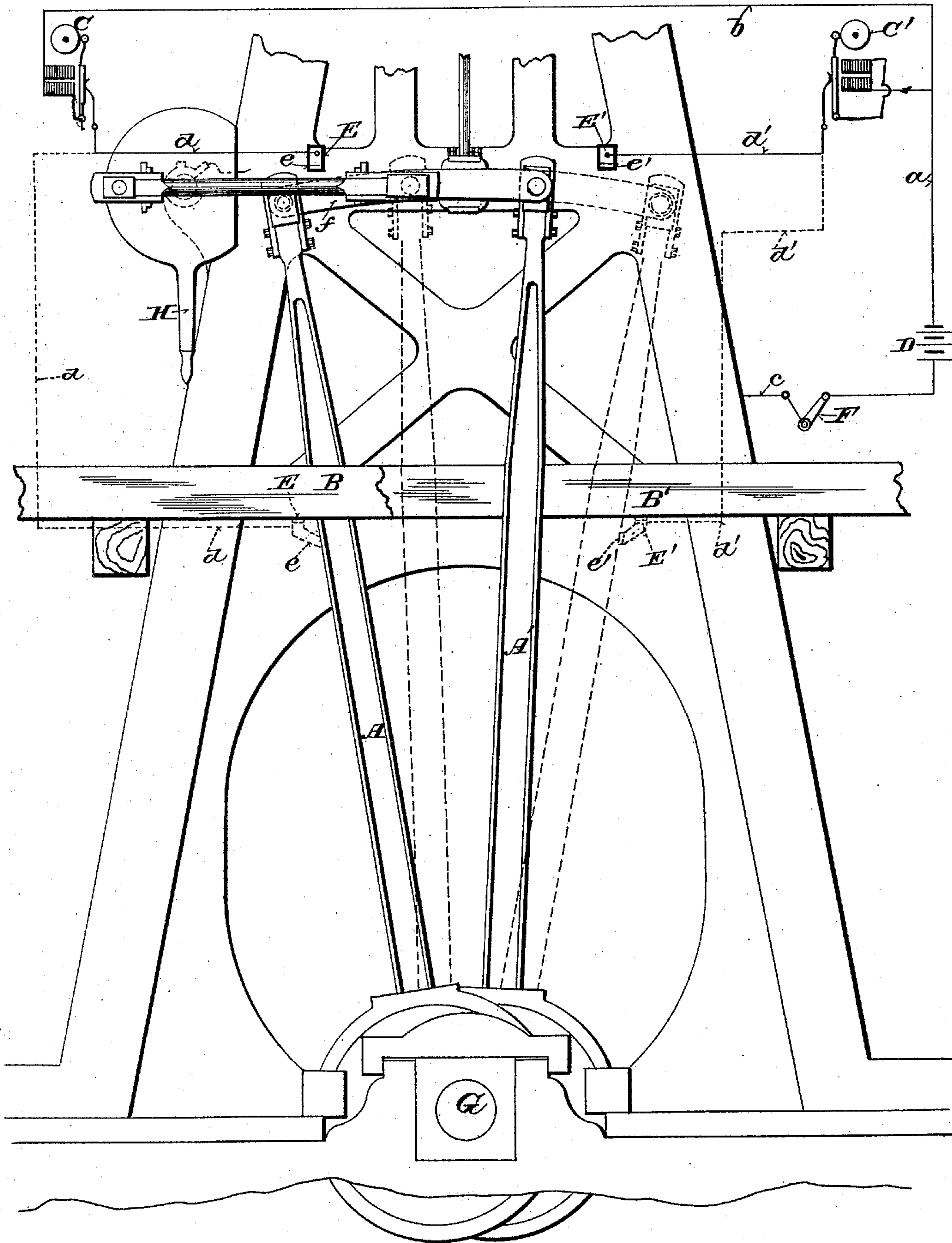


(No Model.)

M. CONLEY.
ELECTRIC SIGNAL FOR ENGINES.

No. 442,104.

Patented Dec. 9, 1890.



Witnesses:

E. A. Johnson
Wm. H. Kug

Inventor:

Michael Conley
By J. H. Stout & H. Underwood
Attorneys.

UNITED STATES PATENT OFFICE.

MICHAEL CONLEY, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO JAMES C. RICKETSON AND FREDERICK B. RICKETSON, OF MILWAUKEE, WISCONSIN.

ELECTRIC SIGNAL FOR ENGINES.

SPECIFICATION forming part of Letters Patent No. 442,104, dated December 9, 1890.

Application filed October 3, 1889. Serial No. 325,850. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL CONLEY, of Chicago, in the county of Cook, and in the State of Illinois, have invented certain new and useful Improvements in Electric Signals for Engines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to electric signals for engines; and it consists in certain peculiarities of construction, as will be fully set forth hereinafter and subsequently claimed.

The drawing is a view of part of a marine engine with my invention applied thereto.

My invention is an improvement on that set forth in Patent No. 356,792, granted February 1, 1887, to James C. Ricketson for an analogous device; and it consists in a simplification of the same, whereby certain of the parts therein set forth may be dispensed with and an equally satisfactory result obtained.

A A' are the eccentric-rods of a marine engine.

B B' represent two of the floor-beams of the engine-room, between which is an open space for the free movement of the said eccentric-rods.

C C' represent electric bells or other annunciators, which may be at any desired point distant from the engine-room—as, for instance, in the pilot-house. In the drawing I have shown bells; but it will be understood that I may use in place thereof or in addition thereto annunciators of any desired form, such as those used in hotels, telephone-exchanges, or the like, which drop or change position when electrical contact is made.

D represents a battery, which may be located at any point in the circuit found most convenient, and this battery is connected by wire *a* to the bell or signal C' and by wire *b* to the bell or signal C and by wire *c* to any convenient metallic part of the engine, such as the shaft crank-arms or other metallic part of the engine.

E E' represent two properly-insulated me-

tallic contact-pieces having preferably spring-arms *e* and *e'*, respectively, which extend out over or adjacent to and in the path of travel of the eccentric-link or other moving part of the engine, the construction described being that shown in full lines in the drawing, while in dotted lines these contact-pieces E E' are shown adjacent to and in the path of travel of the eccentric-rods A A', and from these pieces E E' wires *d d'* run to the bells or signals C and C', respectively. A switch F is located at any convenient point in the circuit, (as the wire *c*), so that said circuit may be broken at any time, inasmuch as when my invention is applied to a boat it is only desired to use the same in entering or leaving port or while making landings.

G is the main shaft of the engine, and H a reversing-lever.

The operation of my invention will be apparent from the foregoing description of its construction taken in connection with the drawing, wherein the eccentric-rod A is shown at its full limit. Now, as the shaft revolves and the link *f* rises the latter will make contact with the spring-arm *e* of contact-piece E, closing the circuit and ringing or actuating the bell or other signal C. Similarly, if the engine is reversed contact will be made between said link and the contact-piece E' *e'* and the bell or signal C' rung or actuated, and thereby the pilot or captain (in the illustration given) will always know instantly and all the time in which direction the shaft is revolving, and therefore whether the boat is going ahead or backing.

It is obvious that my invention is capable of use with any reversible engine, whether on land or water, and if found more convenient to attach the contact-pieces E and E' adjacent to the eccentric-rods of the engine, as shown in dotted lines in the drawing, or other moving part of the engine the result would be precisely the same.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with a reversible engine

and a distant signal in circuit with a metallic
part of said engine, of electrical contact-points
mounted upon the engine and made and
broken directly by a movable part of the en-
5 gine, substantially as described.

In testimony that I claim the foregoing I
have hereunto set my hand, at Chicago, in the

county of Cook and State of Illinois, in the
presence of two witnesses.

MICHAEL CONLEY.

Witnesses:

WM. H. CONDON,
CHARLIE J. SHAFFER.