

No. 849,456.

PATENTED APR. 9, 1907.

G. BROWN.
INDICATOR.

APPLICATION FILED APR. 2, 1906.

2 SHEETS—SHEET 1.

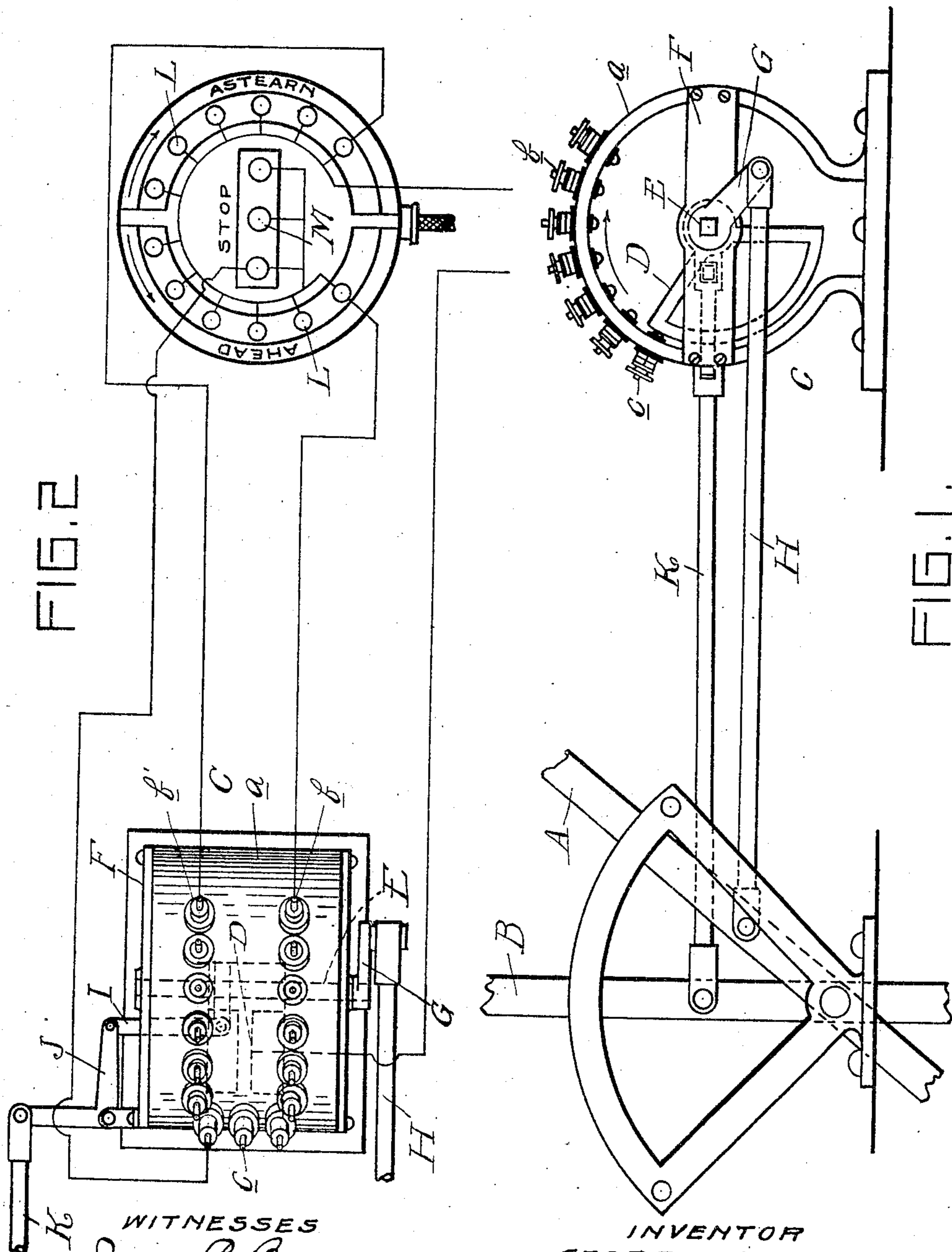


FIG. 2

FIG. 1

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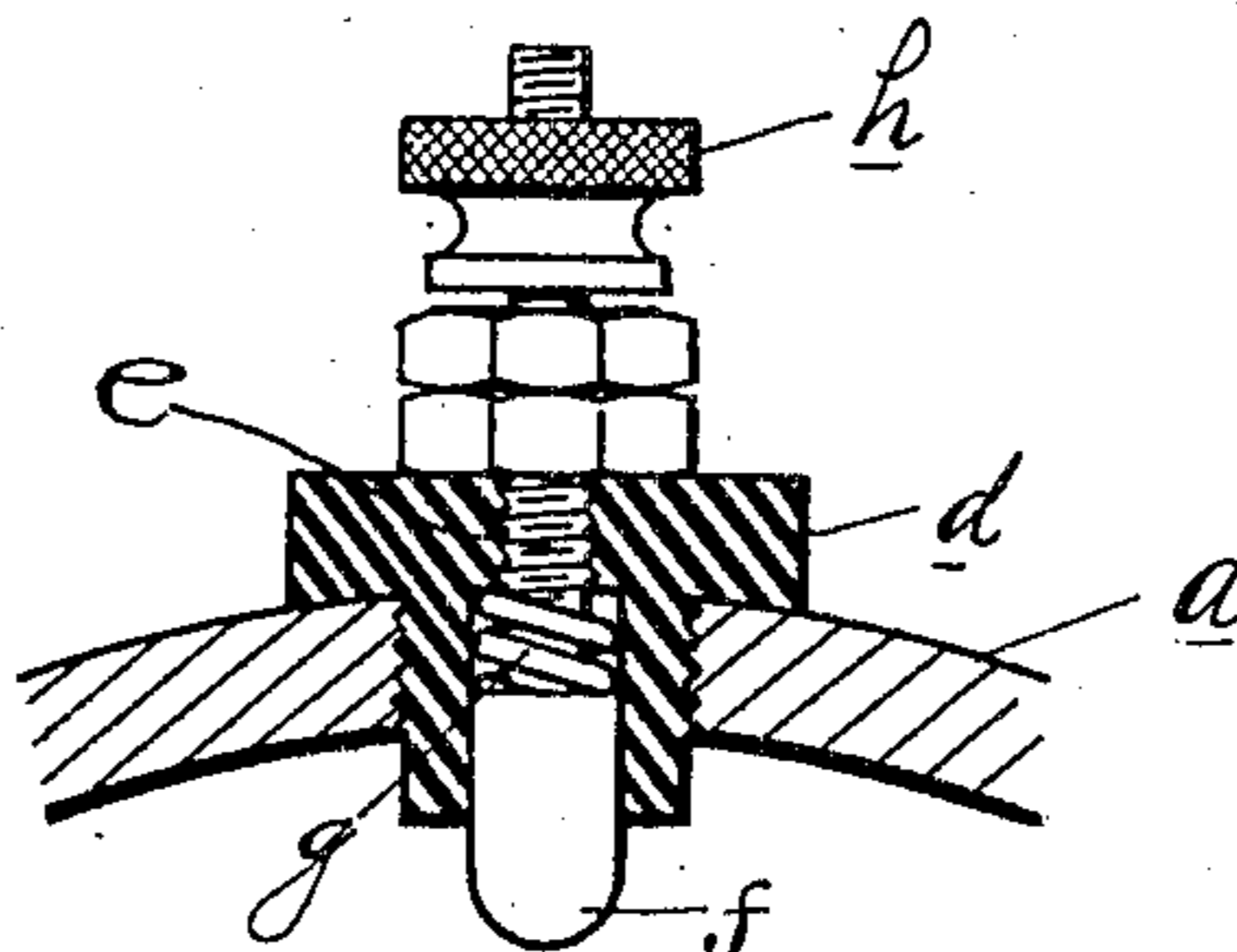


FIG. 3.

FIG. 4.

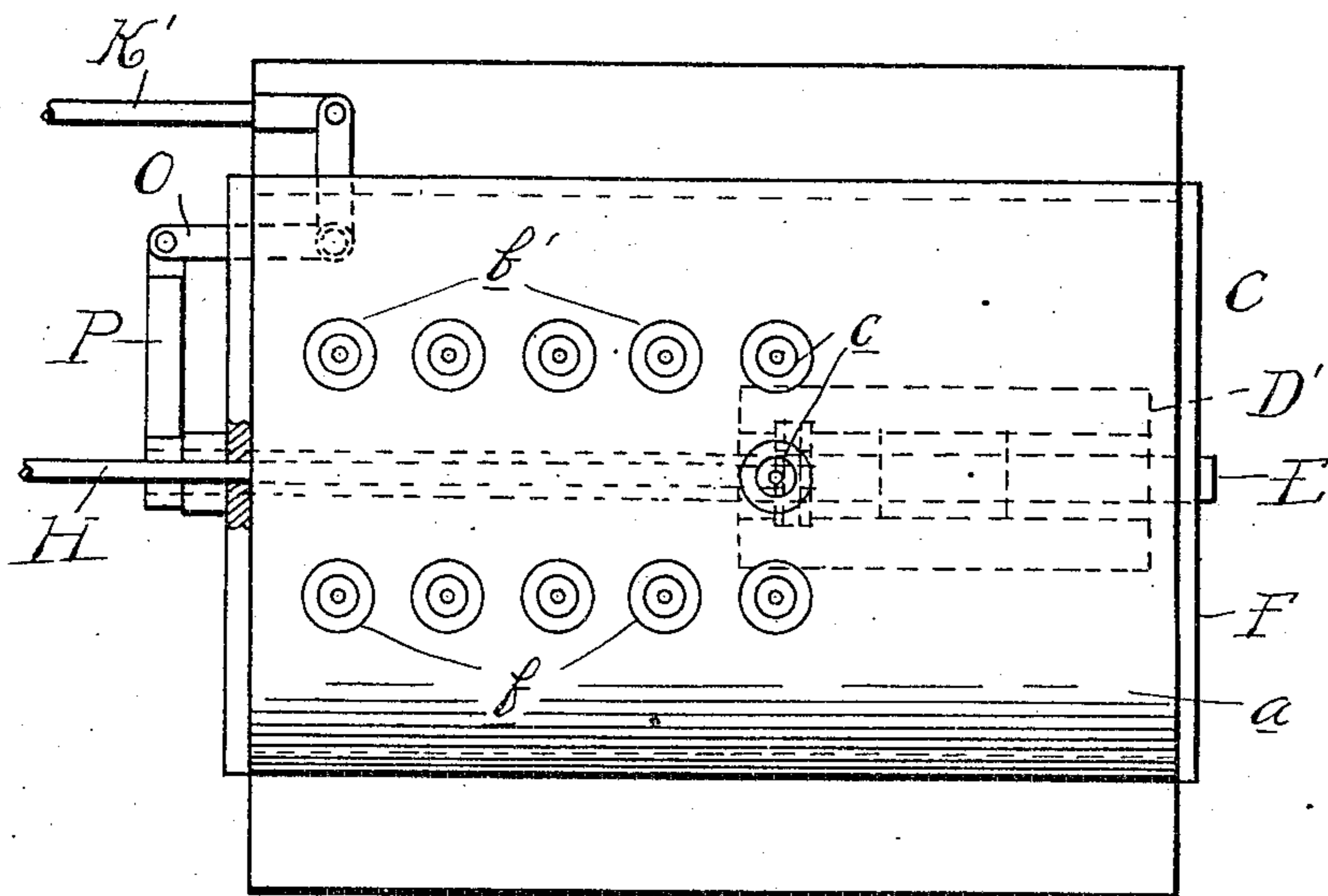
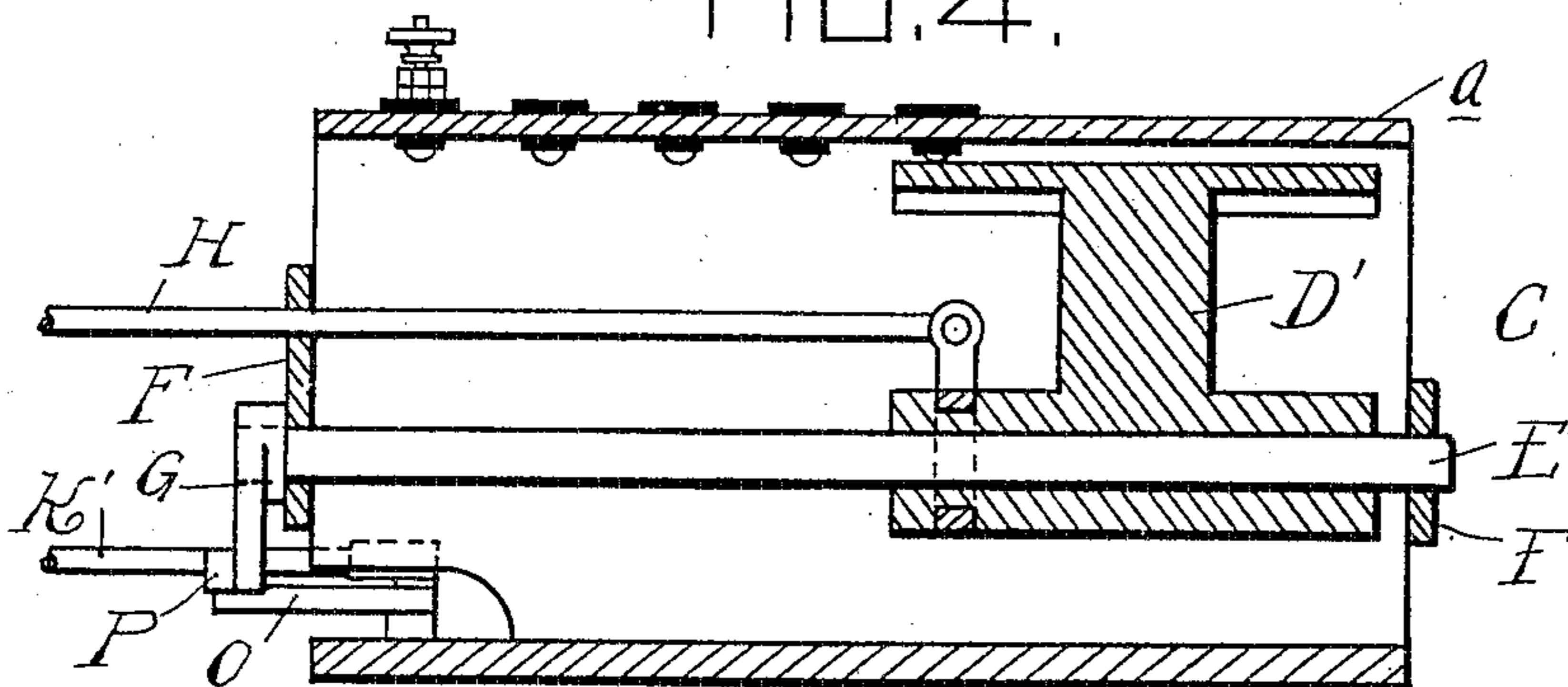


FIG. 5.

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UNITED STATES PATENT OFFICE.

GEORGE BROWN, OF SARNIA, ONTARIO, CANADA.

INDICATOR.

No. 849,456.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed April 2, 1906. Serial No. 309,569.

To all whom it may concern:

Be it known that I, GEORGE BROWN, a subject of the King of Great Britain and Ireland, residing at Sarnia, in the county of Lambton and Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Indicators, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to signals particularly designed for use in connection with signal systems upon boats and having for its object the indication in the pilot-house of the position of the controlling-levers of the engine.

The invention consists in the novel construction of means employed for this purpose, as hereinafter set forth.

In the drawings, Figure 1 is an elevation of the controlling-levers of the engine with the signal mechanism attached thereto. Fig. 2 is a plan view of the signal-transmitting mechanism. Fig. 3 is a sectional elevation of one of the electric contacts. Fig. 4 is a longitudinal section through a modified construction of signal-transmission mechanism, and Fig. 5 is a plan view thereof.

A is the throttle-controlling lever, and B the link controlling or reversing lever of a marine engine. C is the signal-transmitting mechanism, controlled by said levers and of the following construction: *a* is a cylindrical casing having parallel series of insulated electric contacts secured thereto. As illustrated in Figs. 1 and 2, these series of contacts *b b'* extend circumferentially about the casing, while at one end is a transversely-extending series of contacts *c*. D is a movable contact member in the form of a segment, mounted upon a rock-shaft E, arranged axially of the cylinder and journaled in bearings F at opposite ends thereof. G is a crank-arm on said rock-shaft, which is connected by a rod H with the throttle-lever A. The contact D is also longitudinally movable in relation to the cylinder, preferably by being sleeved upon a complementary portion of the shaft E. I is a link connecting said contact member D with a bell-crank lever J, and K is a rod connecting the opposite arm of the bell-crank with the lever B.

With the construction described, whenever either of the levers A or B is adjusted, a corresponding adjustment is made in the position of the contact member D relative to

the series of contacts on the cylinder *a*. Thus where the throttle-lever *a* is in closed position, as shown in Fig. 1, the contact D bears against only the contacts of the transverse series *c*, which series has at least two contacts, and preferably three. The position of the lever B determines the particular contacts in the series *c*, against which the member D bears, preferably all three contacts of the series being closed when the lever B is in its central position, while an adjustment of said lever to either side will cut out contacts from one or the other end of the series. When the lever A is shifted in position, it will cause a rocking of the shaft E and the contact member D, and if the lever B is on either side of its central position one of the series *b b'* of contacts will be traced by said member D. On the other hand, if the lever B is in central position the contact member D will pass between the series of contacts *b b'* without contacting with either.

The signal which is used in connection with the transmitting mechanism just described may be of any suitable construction, but, as shown, consists of two segmental series of lamps L L', corresponding to the series of contacts *b b'*, and a series of lamps M, corresponding to the series of contacts *c*. With the levers in the position shown in Fig. 1 lamps of the series M alone are illuminated, thereby indicating that the link-lever B is in central position, and adjustment of this lever to one end or the other will cut out the corresponding lamps of the series M, so as to indicate in which direction the engine will run when the throttle is opened. When the lever A is adjusted, lamps in one or the other of the series L L' will be successively illuminated, thereby indicating both the direction of movement and the degree of opening of the throttle.

The individual contacts in the series *b b' c* may be of any suitable construction, such as illustrated in Fig. 3, in which *d* is an insulator-sleeve secured in the casing *a*. *e* is a metallic shank passing through said sleeve and having a slidable head *f* thereon and pressed outward by a spring *g*. The opposite end of the shank *e* is threaded to form a binding-post for the engagement of the clamping-nut *h*.

In the constructions illustrated in Figs. 4 and 5 the contact member D' is adjusted longitudinally of the rock-shaft by a rod H', connected with the throttle-lever, and is

rocked, together with said shaft, through a bell-crank lever O, link P, and rod K', actuated by the reversing-lever B. Thus the only difference between the operation of this construction and that of the one previously described is a reversal in the direction of movement by the respective levers.

What I claim as my invention is—

1. The combination with the throttle and reversing mechanism of an engine, of an electric indicating mechanism comprising a contact member movable in directions transverse one to the other, connections between the throttle and reversing mechanism for effecting adjustment of said contact member respectively in transverse directions, a plurality of series of contacts selected by one of the movements of said traveling contact member and successively contacted by said member in its transverse movement.

2. The combination with the throttle and reversing mechanism of an engine, of an electric indicator comprising a plurality of series of contacts and a cooperating traveling contact member, means connected with said throttle and reversing mechanism whereby the operation of one will adjust said traveling contact member in operative relation to one of the series of contacts, and the operation of the other will cause the progressive contacting of said traveling member with the

contacts of the series in connection with which it is adjusted.

3. The combination with the throttle and reversing mechanism of an engine, of an electric indicator comprising a plurality of series of contacts and a common traveling contact member, means controlled by said throttle and reversing mechanism for respectively selecting the series of contacts and actuating said traveling contact-arm in relation thereto, and an indicator having corresponding series of indications connected with said contacts, whereby they will be alternatively selected and displayed.

4. The combination with the throttle and reversing mechanism of an engine, of an electric indicator comprising a cylindrical casing having a plurality of series of insulated contacts secured thereto, a traveling contact member adjustable longitudinally and rotatably in relation to said cylinder to select and trace said series of contacts and connections between the throttle and reversing mechanism for respectively effecting the adjustment of said contact member.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE BROWN.

Witnesses:

EDITH E. BURNLEY,
A. S. BURNHAM.