No. 793,047. PATENTED JUNE 27, 1905.

G. BROWN.

INDICATOR.

APPLICATION FILED MAY 16, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

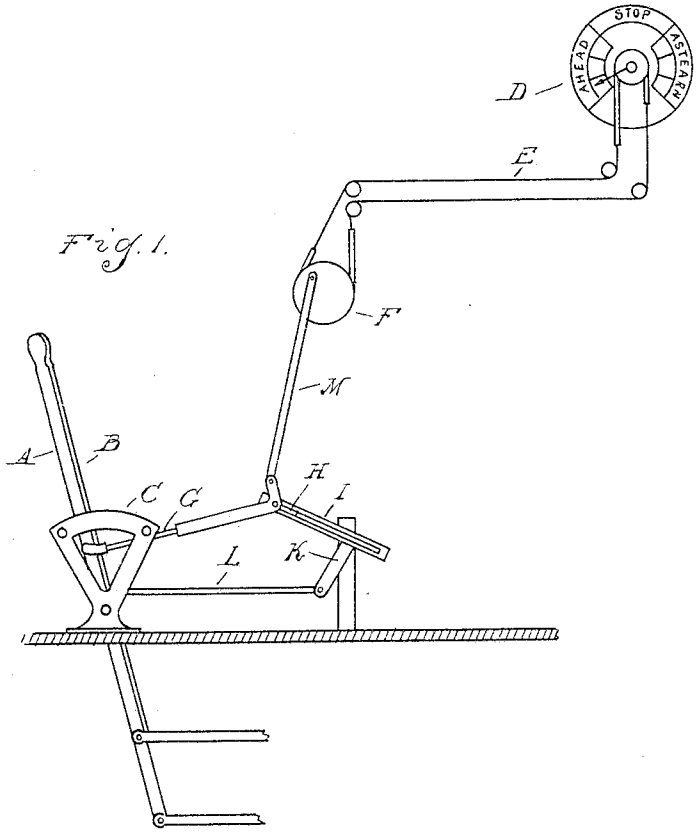
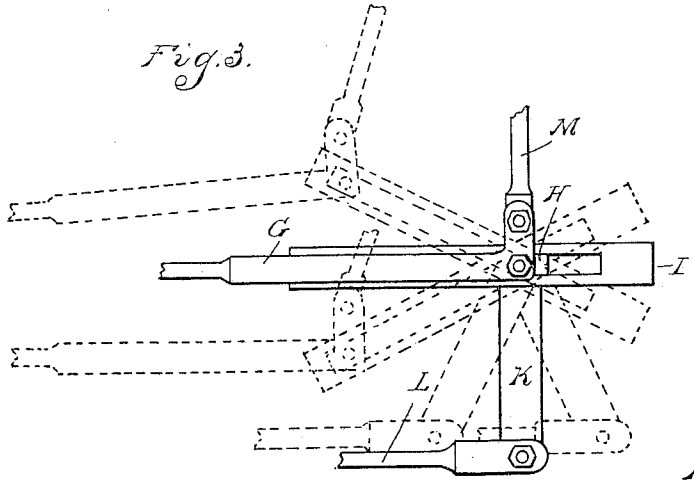


Fig. 3.



Witnesses:
Jas. C. Papy.
H. B. Smith.

Inventor
George Brown
By James Whittemore
Atty.

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2 SHEETS—SHEET 2.

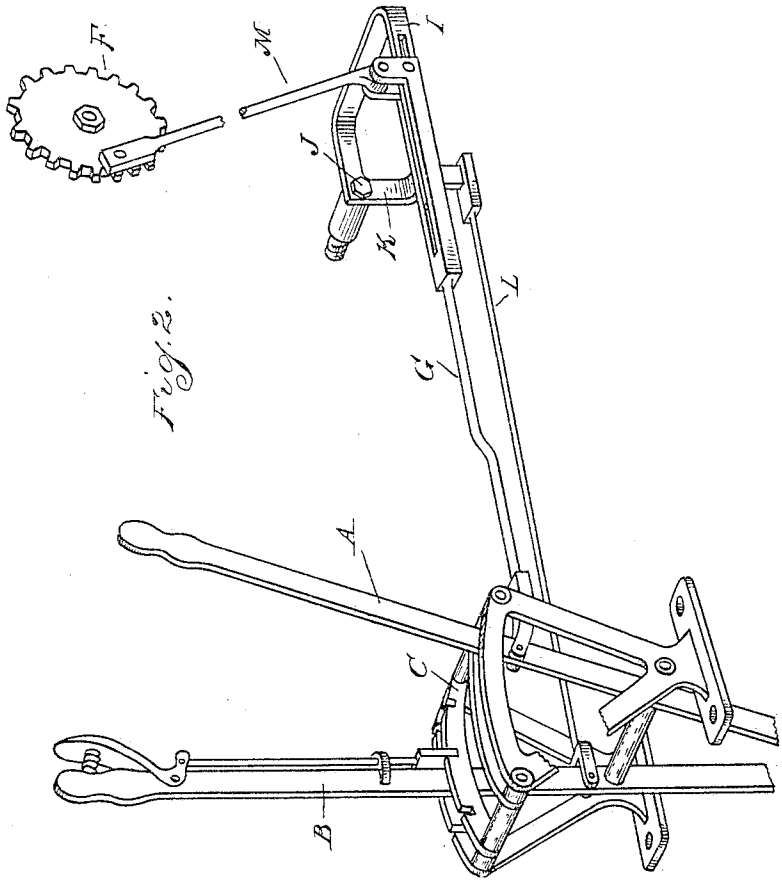

Fig. 2.

Witnesses
Jas. O. Barry.
H. L. Smith.

Inventor
George Brown
By James Whittemore
Atty.

No. 793,047. Patented June 27, 1905.

UNITED STATES PATENT OFFICE.

GEORGE BROWN, OF SARNIA, CANADA.

INDICATOR.

SPECIFICATION forming part of Letters Patent No. 793,047, dated June 27, 1905.

Application filed May 16, 1904. Serial No. 208,262.

To all whom it may concern:

Be it known that I, GEORGE BROWN, a subject of the King of Great Britain, residing at Sarnia, in the county of Lambton and Province of Ontario, 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.

It is the object of the invention to obtain a construction of indicator mechanism which is adapted to indicate the operation of the throttle of the engine and also to show the direction in which the engine is running.

The invention consists in the construction as hereinafter set forth.

In the drawings, Figure 1 is a diagrammatic view illustrating the connecting mechanism between the indicator in the pilot-house and the controlling-levers for the engine. Fig. 2 is a perspective view of the mechanism in connection with the controlling-lever, and Fig. 3 is an elevation illustrating the operation.

A is the throttle-controlling lever of an engine, and B is the reversing-lever, said levers being adapted for adjustment to different positions upon the segments C and having operating connections to the engine.

D is an indicator, preferably arranged in the pilot-house, and E represents connections between said indicator and a rotary wheel or sprocket F in the pilot-room.

The sprocket F is adapted to be rotated by a connection with the throttle-lever A of the engine, and the direction of movement is given by the position of the reversing-lever. The lever A is connected to a rod G, having a bifurcated portion *g* upwardly extended at *g'* and pivotally connected by a pitman M to the sprocket F.

H is a sliding block secured to an adjustable guide I, the latter being pivotally secured at J and provided with an actuating bell-crank arm K, which is connected by a rod L with the lever B.

With the parts in the position shown in Fig. 2 the lever B is in its central position, and the guide I is held by its connection with said lever in a substantially horizontal position, and thus the movement of the lever A in either direction will slide the block H along the guide, moving the pitman M laterally without materially affecting the position of the sprocket F. When, however, the lever B is adjusted to either side of its central position, the guide I will be rocked in inclined position, and as a consequence whenever the lever B is adjusted movement will be imparted to the pitman M by the sliding block H. The direction of this movement of the pitman depends upon the inclination of the guide I and the latter upon the position of the lever B. Thus if the lever B is in position for driving the engine forward the sprocket F will be turned in one direction, and if the lever B is in reverse position the sprocket will be rotated in the opposite direction. The movement of the sprocket F will be communicated through the connections E to the indicator D, thereby showing the pilot the direction in which the engine is running.

In addition to indicating the direction of movement the mechanism described will also show the position of the throttle. This is by reason of the fact that the greater the angular adjustment of the lever A from its normal position the greater will be the inclination of the guide I, and consequently the greater the degree of movement of the sprocket F to the indicator. Thus the pilot is informed both as to the direction of movement of the engine and as to the amount of steam that is being used.

What I claim as my invention is—

1. The combination with the throttle and reversing mechanism of an engine, of an indicator and rotary member for operating the indicator, a pitman connected to said rotary member, a connecting-rod between said pitman and the throttle-actuating mechanism, said connecting-rod having a bifurcated portion, a pivoted guide slidably connected to said rod intermediate the furcations thereof, and a connection between said guide and the reversing mechanism.

2. The combination with a throttle-controlling lever and reversing-lever of an engine of an indicator and rotary member for actuating

said indicator, a pitman connected to said rotary member, a laterally-extending guide for the opposite end of said pitman, a rod connecting to said pitman and extending laterally therefrom to said throttle-lever and a connection between said guide and reversing-lever for inclining it oppositely when said lever is adjusted upon opposite sides of its central position.

3. The combination with the throttle and reversing mechanism of an engine, of an indicator and rotary member for operating the indicator, a pitman connected to said rotary member, a connecting-rod between said pitman and the throttle-actuating mechanism, said connecting-rod having a bifurcated portion, a pivoted guide having a slotted extension slidable intermediate the furcations of said connection, means on the connecting-rod for engaging said slotted portion, and a connection between said guide and the reversing mechanism.

4. The combination of an indicator, a throttle-lever, a rod extending laterally therefrom intermediate its ends, an upwardly-extended pitman connected to the opposite end of said rod, a rotatable member connected to said rod for operating the indicator, an adjustable guide having an elongated extension slidably connected to said rod, a reversing-lever, and a supplemental rod connected at one end to said reversing-lever intermediate its ends, and at its opposite end to said guide.

5. The combination with the throttle and reversing mechanism of an engine, of an indicator, and rotary member for operating the indicator, a pitman connected to said rotary member, a connecting-rod between said pitman and the throttle-actuating mechanism, said rod having a bifurcated upward extension within which the pitman is pivotally secured, and a guide slidably connected to the connecting-rod intermediate the furcations thereof and connected at its opposite end to said reversing mechanism.

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

GEORGE BROWN.

Witnesses:
CHAS. W. MILLETT,
WILLIAM S. STEVENS.