(No Model.)

C. H. FOWLER.

SPEED INDICATOR.

No. 418,608. Patented Dec. 31, 1889.

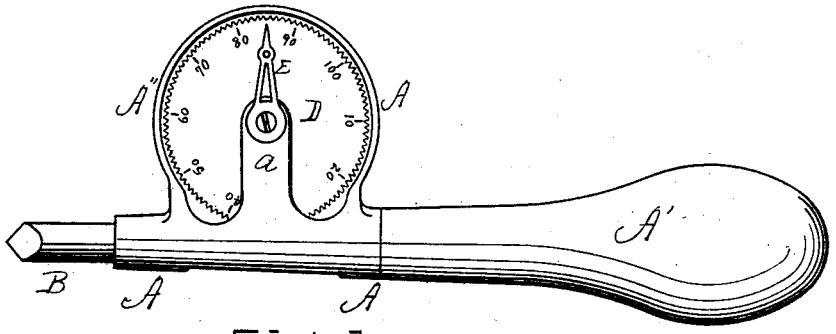

Fig. 1.

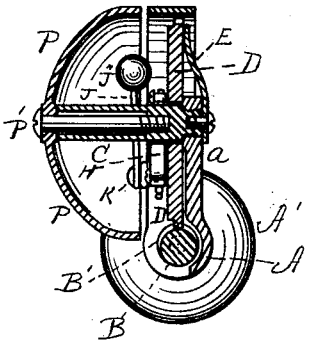

Fig. 2.

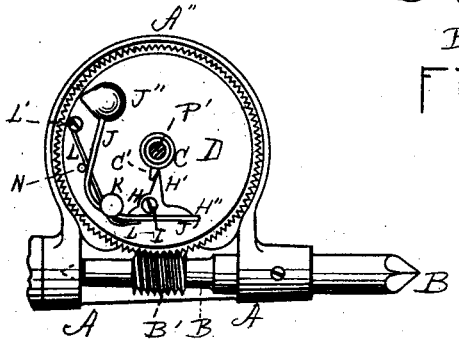

Fig. 3.

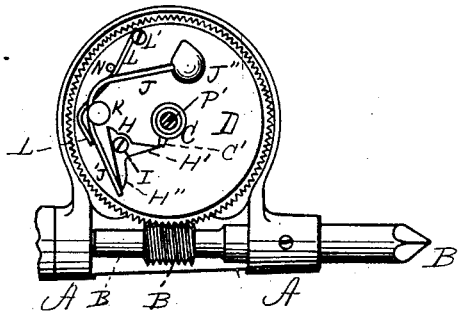

Fig. 4.

WITNESSES.

E. M. Millis

J. M. Brown

INVENTOR.

Charles H. Fowler,

By his attys,

Henry W. Williams.

UNITED STATES PATENT OFFICE.

CHARLES H. FOWLER, OF BOSTON, MASSACHUSETTS.

SPEED-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 418,608, dated December 31, 1889.

Application filed August 7, 1889. Serial No. 320,032. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. FOWLER, of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Speed-Indicators, of which the following is a specification.

This invention relates to a device for indicating rotary speed; and it consists in the novel combination and arrangement of parts hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved speed-indicator. Fig. 2 is a transverse vertical section of the same. Figs. 3 and 4 are rear views with the gong removed and the handle broken off and the mechanism in the different positions below described.

Similar letters of reference indicate like parts.

A is the frame, to which is fixed the handle A′.

B is a shaft free to rotate in the frame, with its outer end pointed and squared, so as to fit into the center of a shaft or pulley whose speed is to be indicated, and provided with the worm B′, all as now common in indicators of this character. The frame A extends at A″ into a ring or flange, as shown, and is also provided with an integral standard *a*, extending up to the center of the ring and supporting the tubular rod C. This rod C forms a bearing for the gear-wheel D, which is provided with one hundred teeth, engaged by the worm B′ in such manner that one rotation of the shaft B produces one one-hundreth of a rotation of the gear-wheel. The front surface of this gear-wheel is marked from one to one hundred next the teeth, and the wheel is therefore both a gear-wheel and a dial.

C′ is a pin secured to the bearing-tube C on the rear side of the gear-wheel.

H is a pawl pivotally secured at I to the rear side of the gear-wheel and provided with two teeth H′ and H″, the former being for engagement with the pin C′, and the latter pressed by the tail J′ of the lever J, pivotally secured at K to the rear side of the wheel D, and provided with a hammer J″.

L is a spring secured at L′ to the rear of the wheel D, and held by the stud N against the tail J′ of the lever J, thereby pressing it against the pawl H.

P is a gong secured by a screw P′, which extends into the tube C, which is threaded for the purpose.

In Figs. 1, 2, and 3 the dial is at 85—*i. e.*, the shaft has made eighty-five revolutions. Now as the shaft continues to rotate the turning wheel D causes the tooth H′ on the pawl to slowly ride up onto the pin C′ and the tooth H″ to press down the tail J′ of the lever J against the power of the spring L until the mechanism is in the position shown in Fig. 4, when the pointer is almost at 100 and the hammer J″ is swung back as far as possible. In a fraction of another rotation the tooth H′ will have slipped by the pin C′ and the spring L will have acted on the tail J′ of the lever J and caused the hammer J″ to strike the gong P, thus announcing one hundred rotations of the shaft B, the same being also indicated by the pointer on the dial.

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

The herein-described improved speed-indicator, consisting, essentially, of the shaft B, provided with the worm B′, frame A A″, standard *a*, pointer E, and tubular rod C, provided with the pin C′, pawl H H′ H″, lever and hammer J J′ J″, spring L, and gong P, all combined and arranged substantially as and for the purpose set forth.

CHARLES H. FOWLER.

Witnesses:

HENRY W. WILLIAMS,

B. W. WILLIAMS.