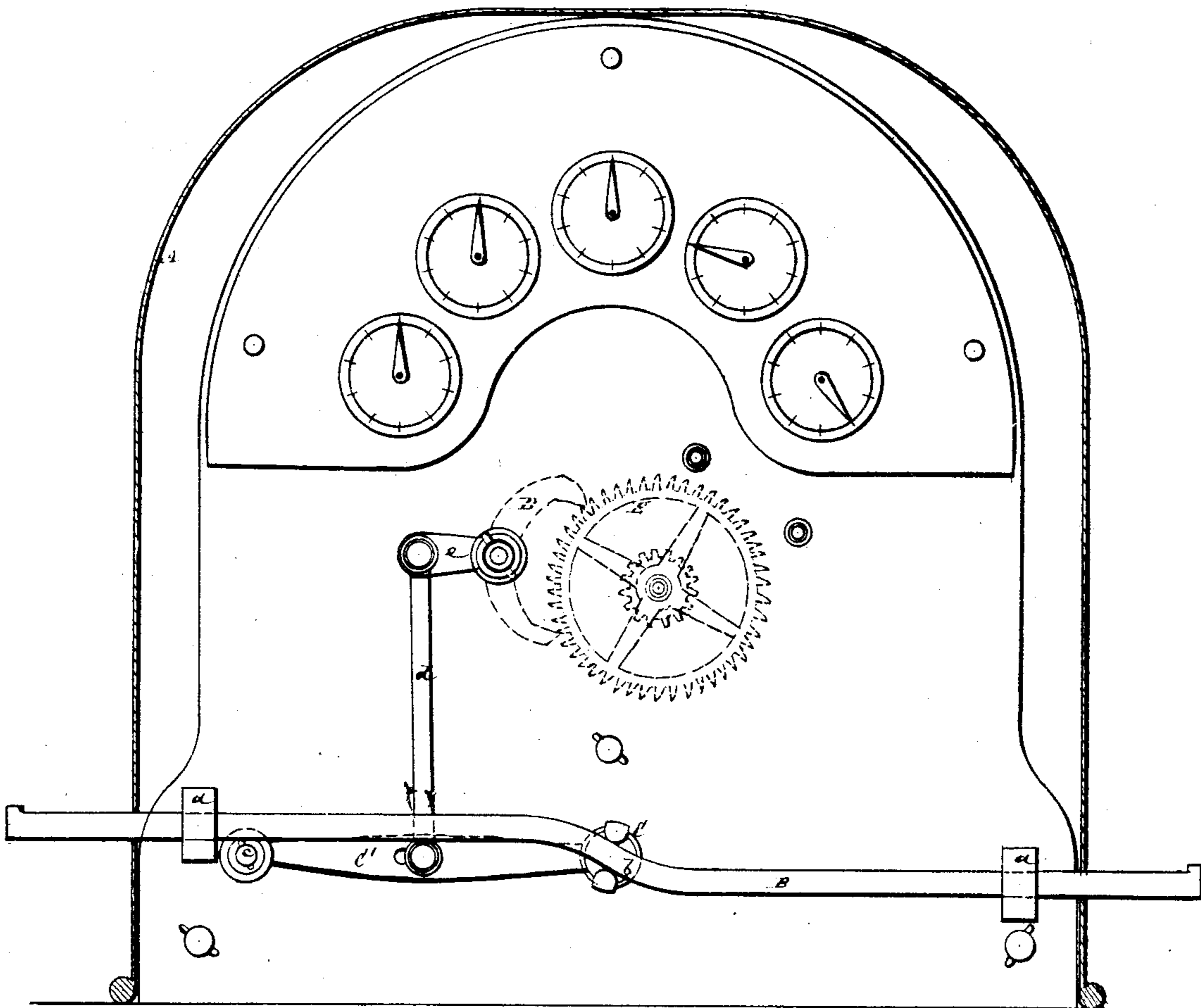


W. YORKE.

Register for Odometers.

No. 103,272.

Patented May 17, 1870.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM YORKE, OF PORTLAND, MAINE.

## IMPROVEMENT IN REGISTER FOR ODOMETERS, &c.

Specification forming part of Letters Patent No. 103,272, dated May 17, 1870.

*To all whom it may concern:*

Be it known that I, WILLIAM YORKE, of Portland, in the county of Cumberland and State of Maine, have invented a new and useful Improvement in Odometers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and which represents a partly-sectional front view of an odometer, in part, in illustration of my improvement.

My invention is applicable to odometers designed to be used for registering various measurements or movements—as, for instance, for registering the number of strokes made by the engine of a locomotive, or actual travel of the wheels, which frequently is greater, by reason of slip, than the distance run over the ground indicates.

When attached to a locomotive-engine the operating-bar of the odometer may be worked from a rock-shaft or otherwise, and the registering mechanism be multiplied, and the dials divided off to indicate in units, tens, hundreds, thousands, and tens of thousands the number of miles traveled over by the locomotive's wheels, which, as the odometer is worked once each stroke of the engine, of course, is determined by the diameter of the driving-wheels.

When the odometer is attached to a marine engine its dials may be divided off simply to indicate the number of strokes made by the engine.

A leading feature of the invention is to provide against lost motion in the driving-power, and which is not only liable to produce irregularity in the count, but, in all cases where a light machine is driven by a heavy one, as an odometer operated by an engine, is also apt to produce breakage of the lighter mechanism. But my invention not only provides against lost motion, by making it immaterial how much longer than a given stroke the operating-bar is moved each time, but it insures a gradual and smooth action, free from jerk, and uniform as regards the length of feed.

To these ends the invention consists in a reciprocating operating-bar, of crooked or gradually-inclined construction intermediately of its length, for giving motion to a clip as the

bar is reciprocated through it; and the invention further includes, in combination with said devices, an escapement set in motion by the clip, and acting as a driver to an escapement-wheel, which serves to operate the train of registering-wheels.

Referring to the accompanying drawing, A represents the outer case of the odometer, the front of which may have a suitable opening in it for exposure of the several multiplying-dials. B is the operating-bar, arranged to pass through guides *a a*, and having a reciprocating motion, as derived, for instance, from an engine-piston. This bar is crooked, as at *b*, in a gradual manner, which makes of such portion an incline, having easy or rounded terminations, and breaks the continuity in the line of the bar by forming, as it were, two straight-bar portions, arranged to lie in lines which are parallel to each other.

C is the clip, which is operated by the bar B. This clip, through which the crooked portion *b* of the bar, or crooked and straight portions thereof, operate, may either be fitted to have a sliding action transversely to the bar or be carried by a lever, that may either be in direct connection with the train of registering-wheels—as, for instance, by securing it to the spindle of the escapement, hereinafter referred to—or which may be an independent lever, *c'*, pivoted, as at *e*, and serving to actuate the escapement D by a rod, *d*, and crank *e*.

Now, supposing the reciprocating bar B to have at all times a length of stroke not less than will carry its crooked portion *b* entirely through the clip C, the latter will have a given length of stroke secured to it, in a gradual and easy manner, free from all jerk, no matter how fast or irregular the driving-power, and by increasing the stroke of the bar B, to provide against lost motion in the driving-power, no increase to the stroke of the clip will take place, inasmuch as the straight portions of the bar have no operating effect on the clip, and there can be no breakage arising from extra travel of the bar through the clip, which, in having a fixed length of stroke, secures regularity in the feeding motion of the odometer.

To make additional provision, however, in this respect, and to avoid that uncertainty in the feed which is incidental to the use of

pawls and ratchet-wheels, I cause the clip C, either directly or indirectly, as hereinbefore described, to actuate an escapement, D, which, as it is vibrated, gives motion to an escapement-wheel, E, from the spindle of which the train of registering-wheels may be set in motion, said escapement both acting as a driver and as a check to prevent the wheel E being moved more than one tooth at a time.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination of the crooked recipro-

cating bar B with the clip C, and suitable registering devices operated by the latter, substantially as specified.

2. The combination of the escapement D and escapement-wheel E with the clip C and crooked reciprocating bar B, essentially as and for the purpose herein set forth.

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