

J. FEND & J. W. STEVENSON.

Railway Time-Signals.

No. 145,057.

Patented Dec. 2, 1873.

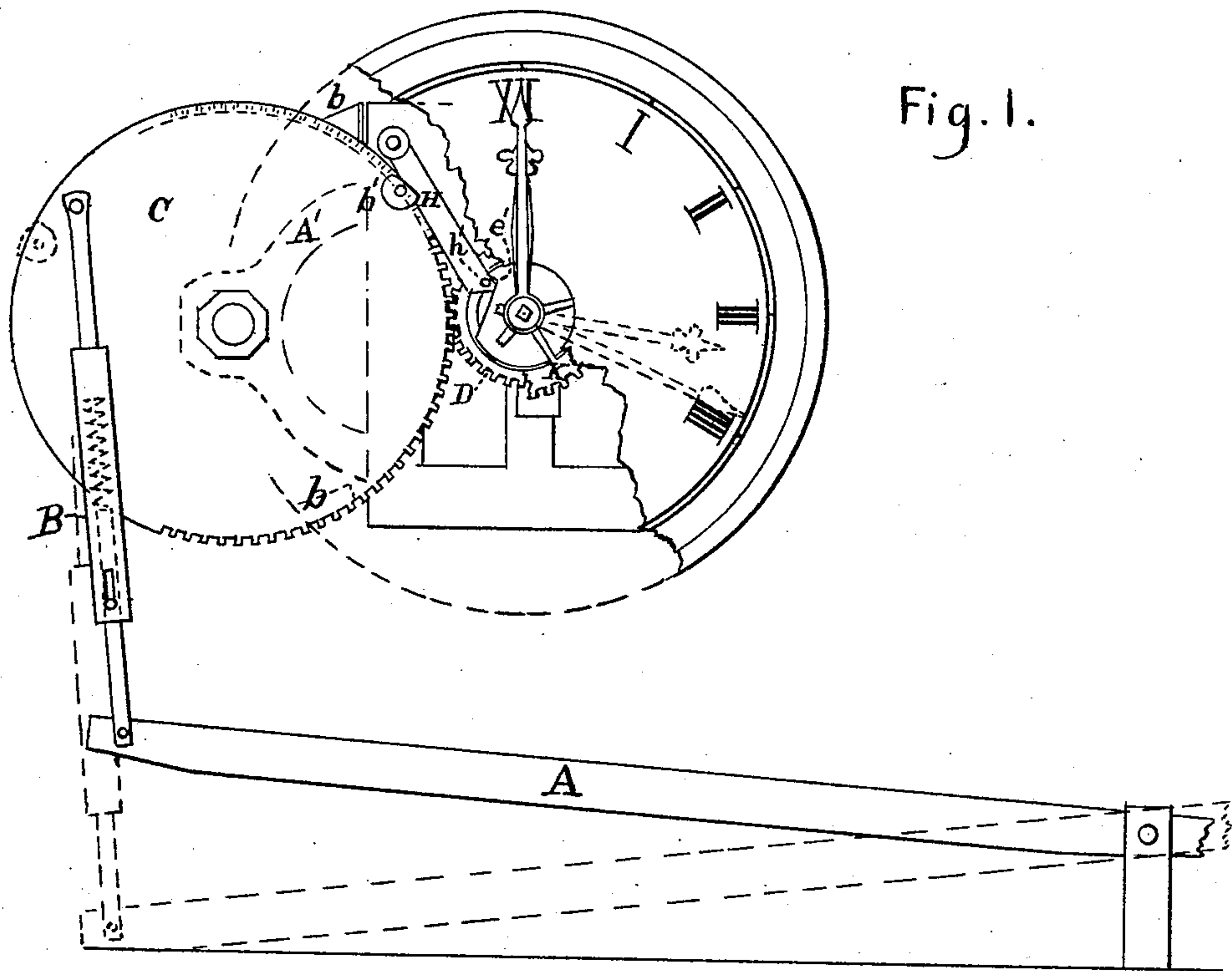


Fig. 1.

Fig. 2.

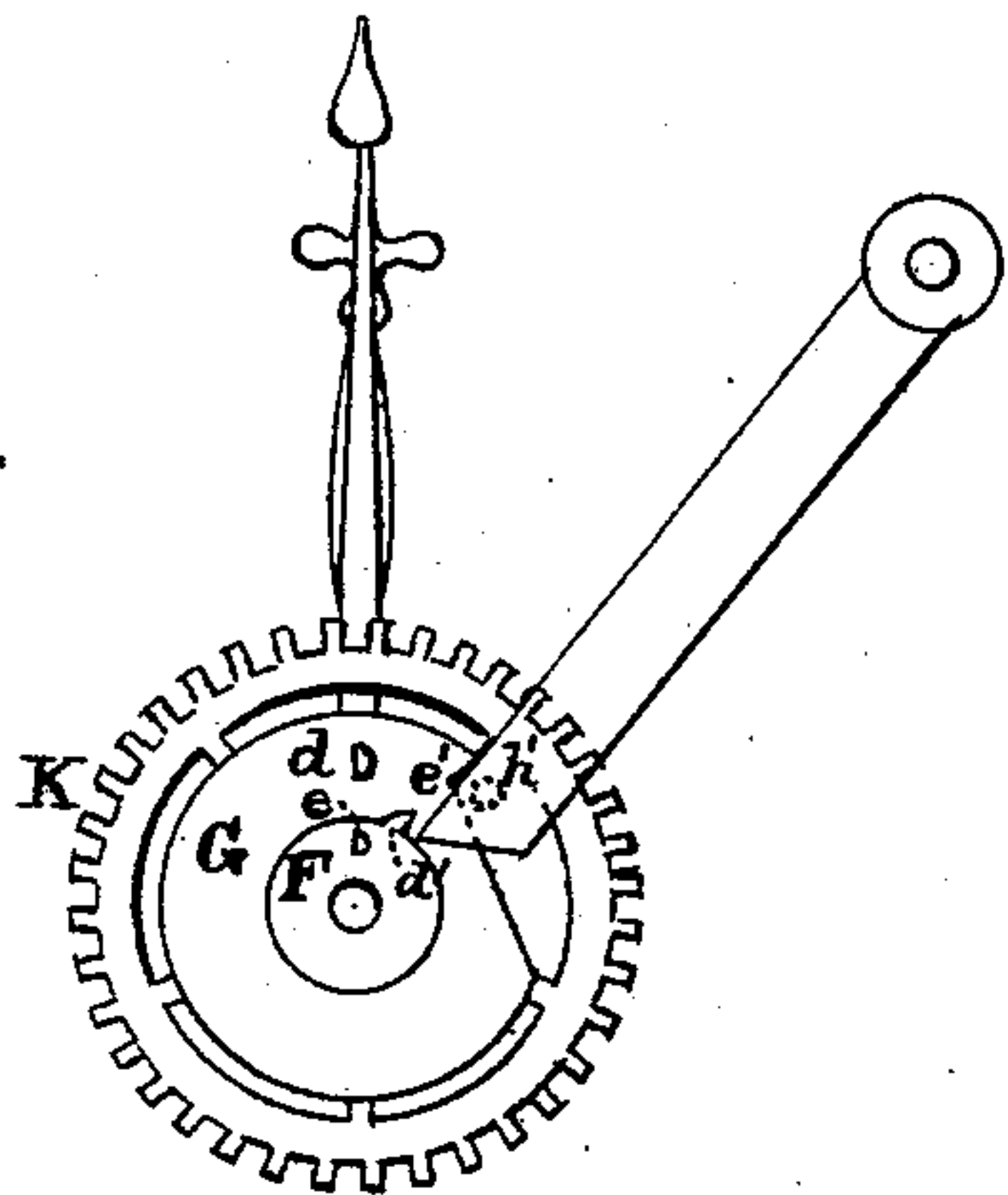
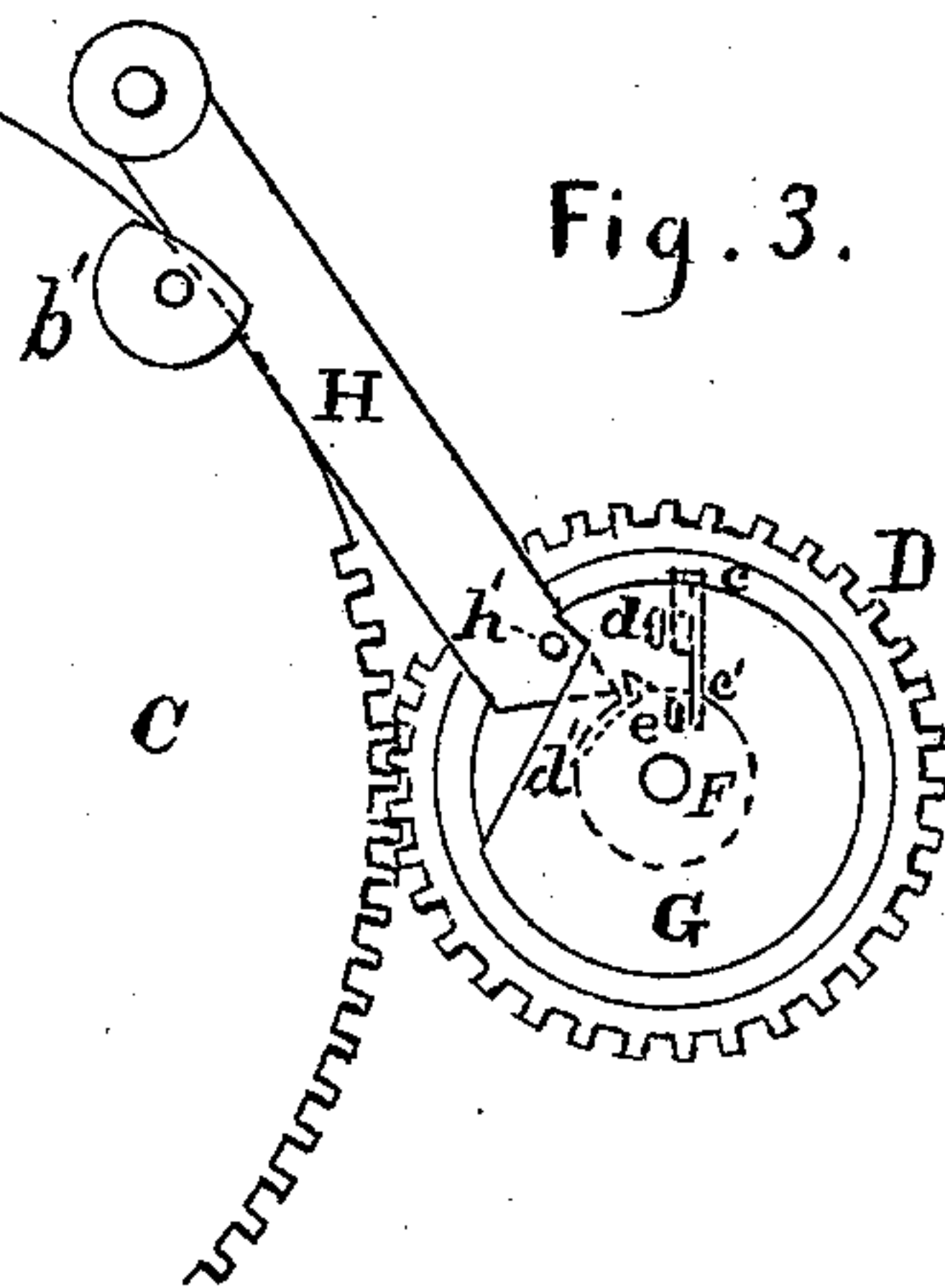


Fig. 3.



Witnesses.

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Fig. 4.

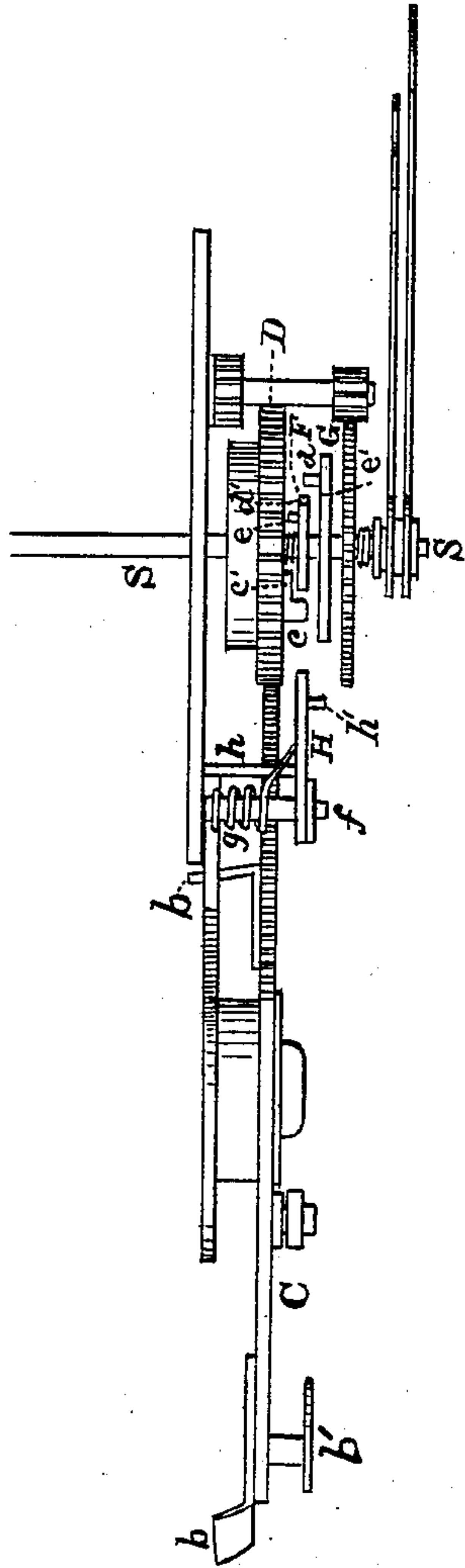


Fig. 7.

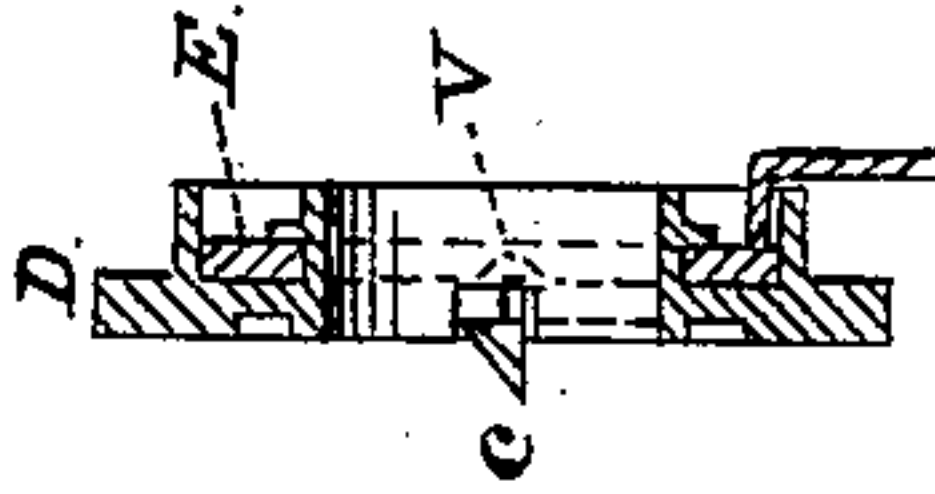


Fig. 6.

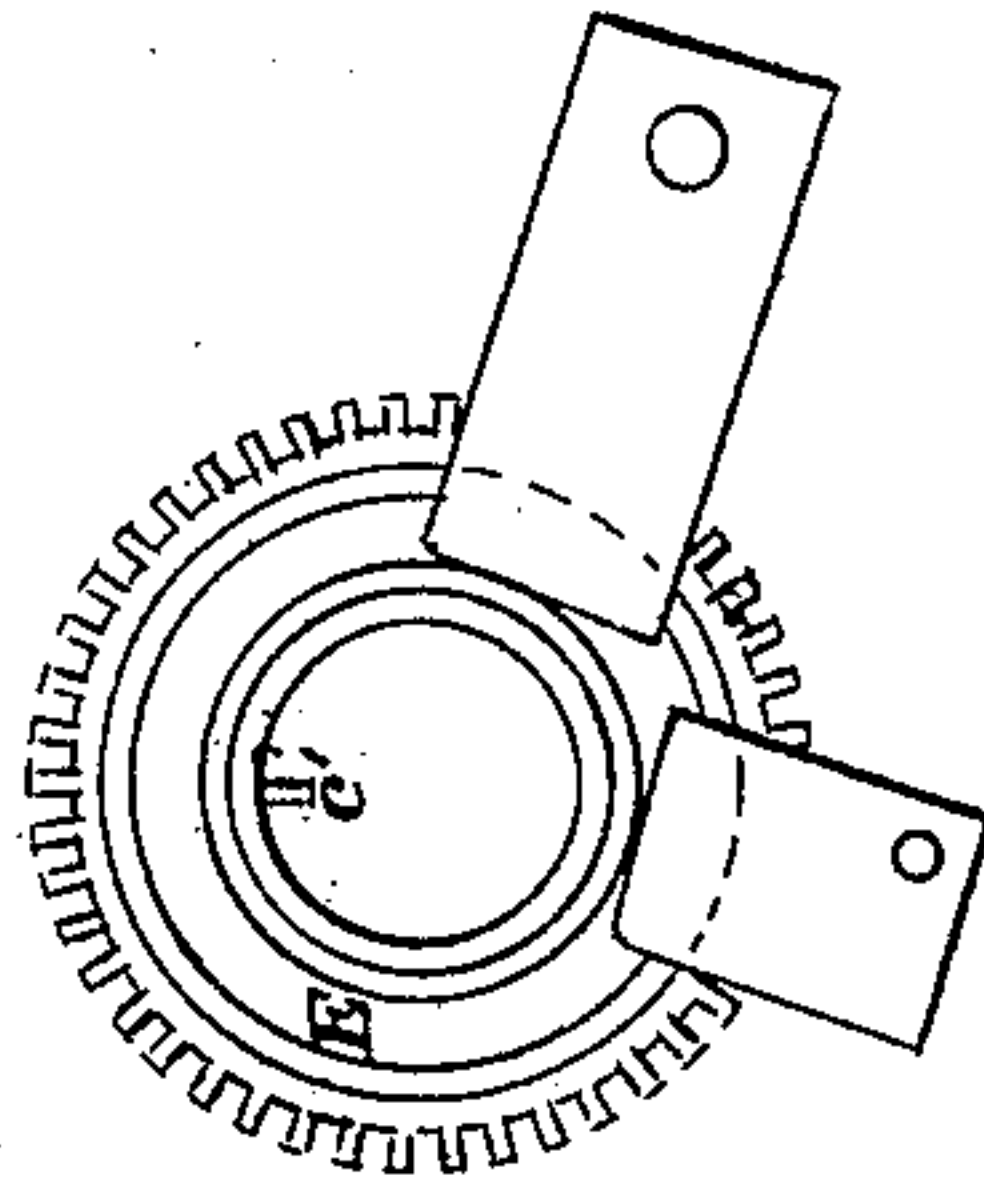
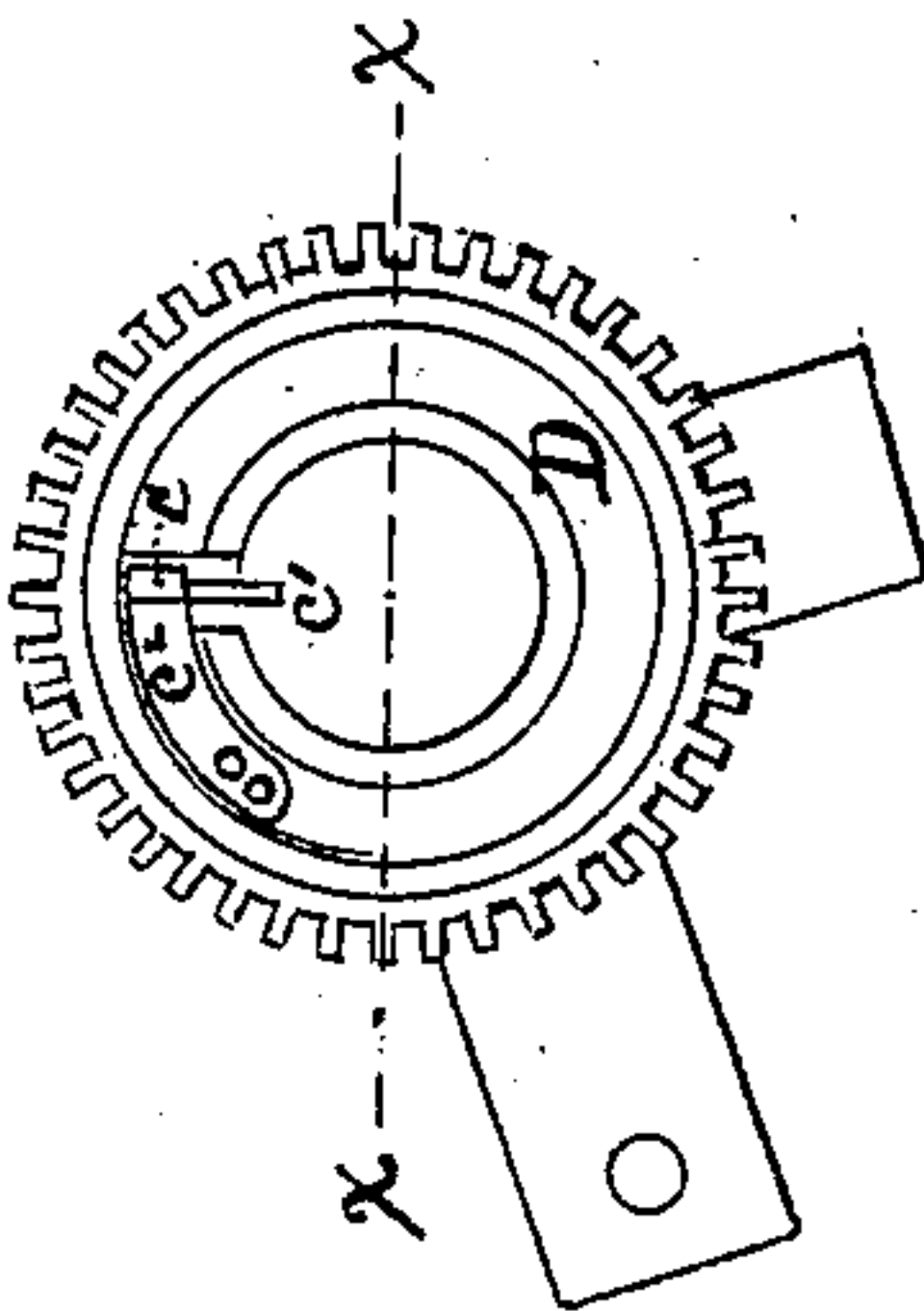


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

JACOB FEND AND JOHN W. STEVENSON, OF JOHNSTOWN, PENNSYLVANIA.

IMPROVEMENT IN RAILWAY TIME-SIGNALS.

Specification forming part of Letters Patent No. **145,057**, dated December 2, 1873; application filed June 23, 1873.

To all whom it may concern:

Be it known that we, JACOB FEND and JOHN W. STEVENSON, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Railroad Time Indicator and Signal; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Figure 1 is a front elevation, with part of the dial and wheel connected with the hands broken off. Fig. 2 is a back view of stop-lever, disks, with their lugs, and toothed wheel connected with the hands. Fig. 3 is a front view of disks, stop-lever, and tooth-wheels, by which the hands are thrown back to the 12-mark on the dial. Fig. 4 is a top view, showing the relation of the devices with the clock-works. Fig. 5 is a face view of wheel carrying spring and catches, by which the disks are actuated. Fig. 6 is a back view of the same wheel with blank wheel attached. Fig. 7 is a section of the same wheels on line *xx* of Fig. 5, showing catches and V-shaped recess.

Our invention relates to that class of railroad time-signals which indicate the time elapsed since each train passed the station; and consists in the arrangement and combination of the devices for operating the index-pointers on the dial of a clock, as hereinafter described.

A is a lever, one end of which is connected with the railroad-track in any well-known manner, so as to be operated by the passing cars, and the other end is attached to the lower end of a pitman. B is the pitman, the upper end of which has a pivotal connection with wheel C, which is arranged upon an axle attached to an arm, A', fastened to the clock-frame, as shown in Fig. 1 of the drawings. The wheel C is provided with stops *b b* and pin *b'*, having a guide to hold in place the stop-lever hereinafter described; and a part of the periphery is provided with cogs to engage and actuate the toothed wheel D, which is provided with two lugs, *c c'*, attached to a spring, *c''*. E is a blank wheel attached to the back of wheel D, and is provided with a V-

shaped recess, into which the lugs *c c'* and spring *c''* are thrown back to allow the free movement of the hands by the clock-works. F is a disk attached to the minute-hand, and G is a disk attached to the hour-hand, both arranged to revolve around the center shaft S, and are provided with lugs *d, d'*, and *e*, and notch *e'*. H is a stop-lever attached to a pin, *f*, on the frame of the clock-works, and is provided with a spiral spring, *g*, and pins *h h'*. K is the toothed wheel of the clock-works for actuating the hands. The pitman is made in two parts, the lower end of the upper part being hollow to receive a spiral spring, and to slide over the upper end of the lower part, which is provided with a pin to slide in a slot, as shown in Fig. 1, to prevent sudden strain upon the devices.

Our present mode of operating the time-signal is by attaching the lever A to a fulcrum, as shown in Fig. 1, so that the pressure of the passing cars upon the one end of the lever connected with the track raises the other end of the lever, moving wheel C partly around, and revolving wheel D; and the lugs *c c'* are moved forward, so as to engage the lugs *d e* on the disks, connected with the hands, carrying the hands back to the 12-mark on the dial. The stop-lever H is moved up by pin and guide *b'*, so that the end of the lever catches against the lug *d'*, and pin *h'* catches against the notch *e'*, to prevent the hands from being thrown beyond the 12-mark on the dial. When the cars have passed, the lever drops down, carrying the wheel D back till the catches *c c'* spring back in the recess V, and the hands are allowed to move on in true time by the clock-works, their position on the dial showing the time since the train passed the station, as indicated by dotted lines in Fig. 1.

The dial and hands are made of a large size, and painted in conspicuous colors, and so illuminated at night as that they may be readily seen by the operators and passengers of the passing train.

We claim, in a railroad time-signal—

1. The toothed wheels C and D, the latter carrying the spring *c''*, having the lugs *c c'*, in combination with the disk F, having lugs *e* and *d'*, and disk G, having lug *d* and notch *e'*, the said disks being connected with the hands

of the clock, and arranged substantially as described.

2. The above-described combination, arranged to be operated by a lever and pitman having yielding connections, for preventing sudden strain, and actuated by the passing train, substantially as shown and described.

In testimony that we claim the foregoing we

have hereunto set our hands this 10th day of June, 1873.

JACOB FEND.

JOHN W. STEVENSON.

Witnesses:

JNO. M. BOWMAN,

JOHN P. WATSON.