No. 704,135. Patented July 8, 1902.

# H. T. SMITH & A. J. TARRANT.

## STATION INDICATOR.

(Application filed Jan. 14, 1902.)

(No Model.)

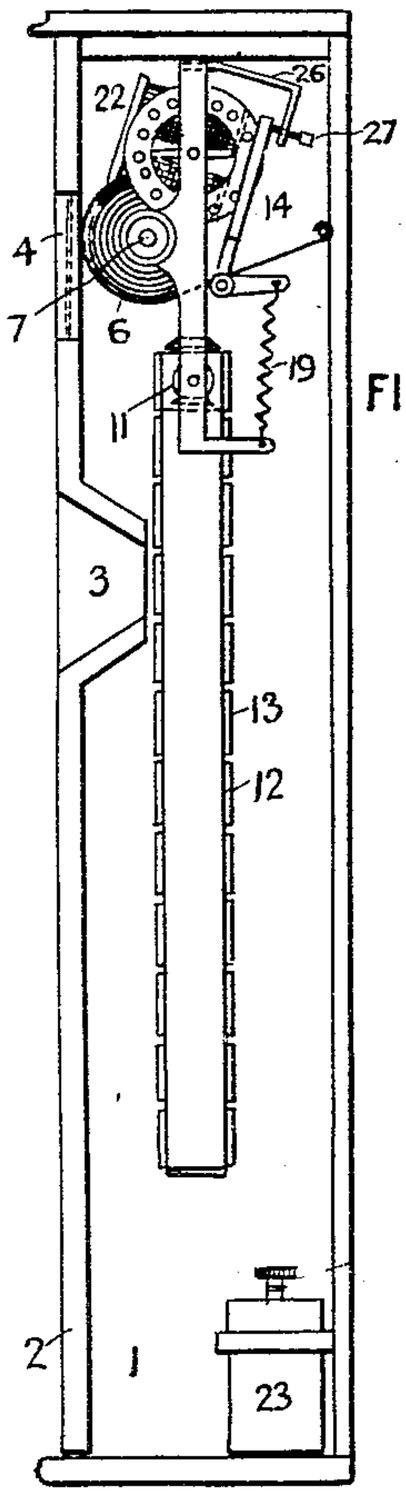


FIG. 1

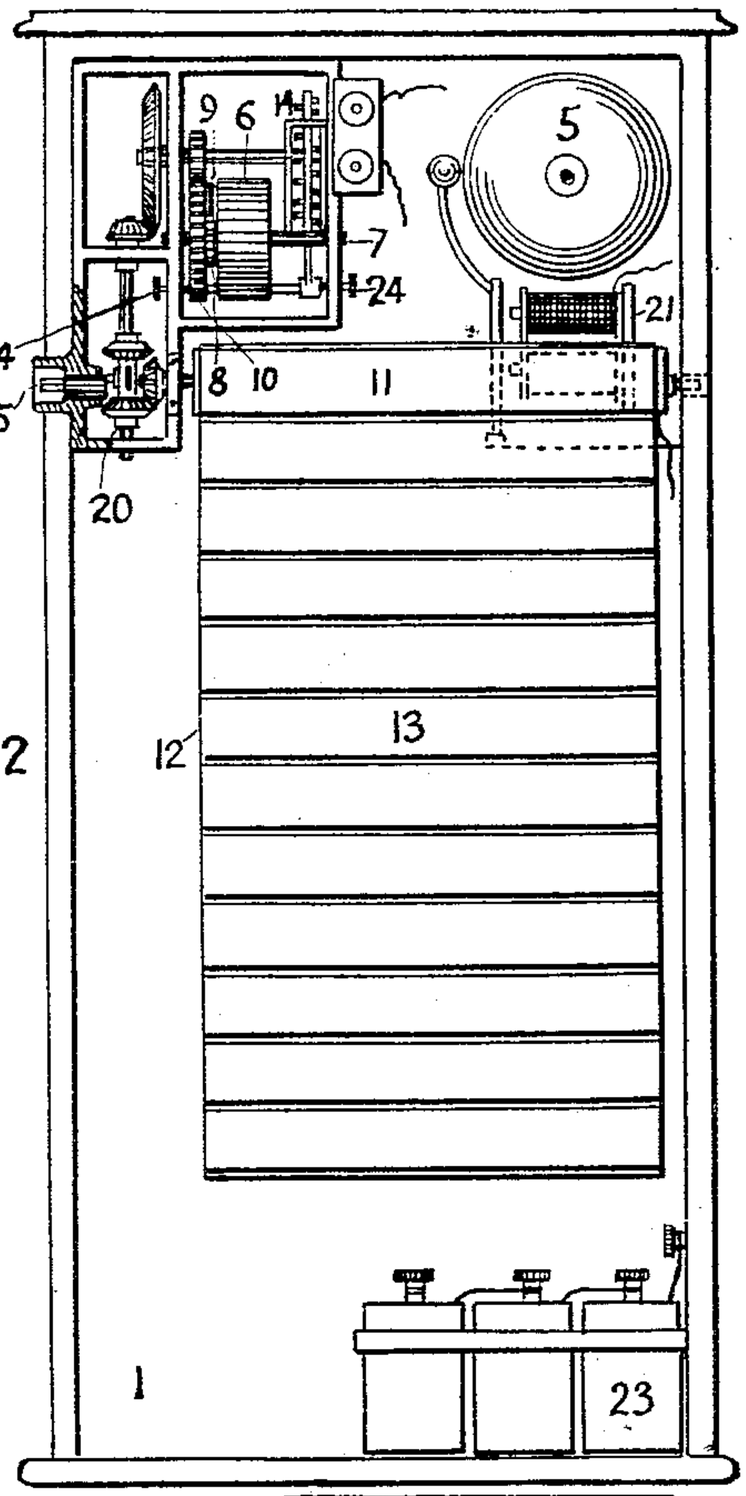


FIG. 2

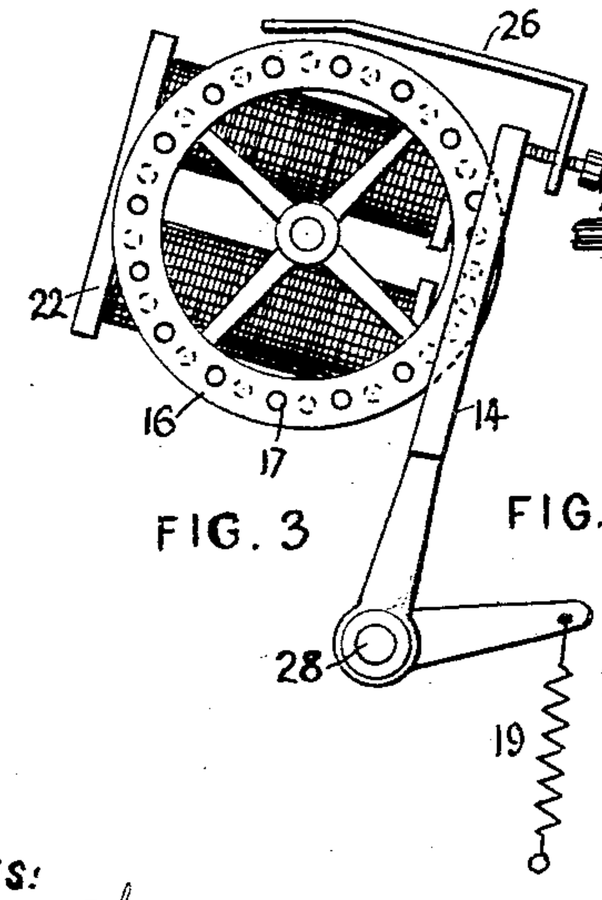


FIG. 3

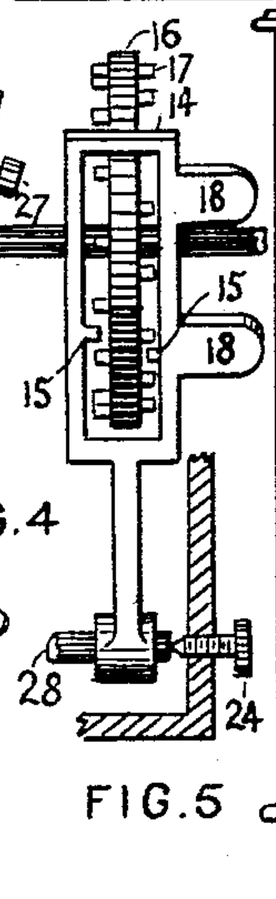


FIG. 4

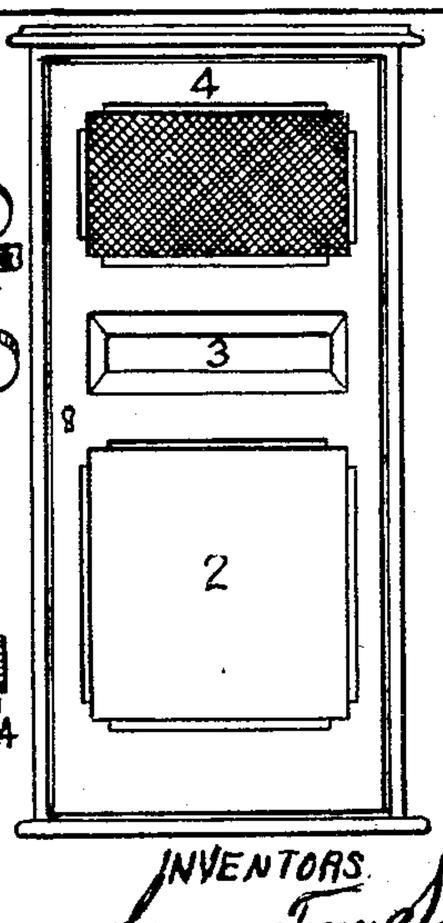


FIG. 5

WITNESSES:
Isabella Haldron
Adelaide Claire Gleason

INVENTORS.
Harry Tom Smith
Arthur James Tarrant
BY Richards & Co
ATTORNEYS

# UNITED STATES PATENT OFFICE.

HARRY TOM SMITH AND ARTHUR JAMES TARRANT, OF CHRISTCHURCH, NEW ZEALAND.

## STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 704,135, dated July 8, 1902.

Application filed January 14, 1902. Serial No. 89,690. (No model.)

*To all whom it may concern:*

Be it known that we, HARRY TOM SMITH, residing at City Sawmills, Christchurch, and ARTHUR JAMES TARRANT, residing at Tuam street, Christchurch, in the Colony of New Zealand, British subjects, have invented certain new and useful Improvements in Station-Indicators, of which the following is a specification.

This invention relates to an improved station-indicator wherein the names of stations or stopping-places are exhibited on a vehicle or vessel.

The invention consists of the special construction and combination of parts composing the station-indicator, all as hereinafter described and claimed.

Referring to the drawings which form a part of this specification, Figure 1 represents a side elevation of the apparatus. Fig. 2 represents a front elevation of same with door removed. Fig. 3 represents an enlargement of the escapement-lever and disk as shown in Fig. 1. Fig. 4 represents an end view of same. Fig. 5 represents the case with the door closed.

The same reference-numerals represent the same parts.

1 is the case containing the working parts and provided with a door 2, having an opening 3 for exhibiting the name of the station and displaying an advertisement and a grating 4 to facilitate the emission of sound from an electric bell 5, situated inside the case for the purpose of sounding an alarm. The working parts consist, in particular, of a coiled spring 6, attached to and turning a spindle 7, having one end squared for winding same, a ratchet-wheel 8, secured to said spindle 7, which by means of a pawl 9, pressed by a spring into teeth of said ratchet-wheel 8 and attached to a toothed wheel 10, running loose on said spindle 7, operates suitable gearing, such as illustrated, to rotate a removable four-sided roller 11, carrying an endless belt 12, having laths 13 attached thereto, with station-names and advertisements inscribed on said laths. The rotation of said four-sided roller 11 is controlled step by step by a slotted escapement-lever 14, provided with two opposite stops 15 15 inside of said slot and spanning an escapement-disk 16, provided with studs 17. Said escapement-lever 14 has an armature 18 attached and is attracted by electromagnets 22 when a current passes, so as to allow a stud on said disk to pass a stop on said escapement-lever. A spiral spring 19 withdraws said escapement-lever when the current is broken and allows another stud on the opposite side of said disk to pass. Beveled wheels 20 are secured to a sleeve grooved for a pin of a lever to slide in, said sleeve having a slot through which a pin is secured to the spindle, said beveled wheels being operated by a key acting on the squared end of spindle 25 to reverse the movement of said roller. Separate electromagnets 21 22, operating said bell and escapement-lever, respectively, are connected electrically in parallel with any convenient source of current, such as the batteries 23, placed inside the case. The spindle 28 and escapement-lever 14 are adjustable with respect to disk 16 and its studs by means of the milled nuts 24. The bracket 26, with set-screw 27, adjusts the travel of the escapement-lever at its upper end.

The invention may be operated by a conductor or other official as the vehicle or vessel approaches a station or stopping-place by completing the electric circuit, whereupon the bell rings, the escapement-lever is attracted, the disk moves around a space, and by means of the gearing the roller revolves, allowing the name of the station to be displayed with or without an advertisement at the opening in the door. At the end of the journey the direction of rotation of the roller is reversed.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A station-indicator comprising a case provided with a door, an opening and grating in said door, a wound coiled spring attached to and turning a spindle, a ratchet-wheel secured thereto, a spring-compressed pawl secured to a toothed wheel running loose on said spindle and engaging said ratchet-wheel, intermediate gearing operating a removable four-sided roller carrying an endless belt having laths attached thereto for the inscription of station-names, a slotted escapement-lever with two stops spanning an escapement-disk

provided with studs, said escapement-lever carrying an armature attracted by a magnet, and a spiral spring to withdraw same, beveled gearing to reverse the movement of said roller, and magnets to operate said escapement-lever connected electrically with any convenient source of current all substantially as described.

2. A station-indicator comprising a case provided with a door, an opening and grating in said door, a wound coiled spring attached to and turning a spindle, a ratchet-wheel secured thereto, a spring-compressed pawl secured to a toothed wheel running loose on said spindle and engaging said ratchet-wheel, intermediate gearing operating a removable four-sided roller carrying an endless belt having laths attached thereto for the inscription of station-names, a slotted escapement-lever with two stops spanning an escapement-disk provided with studs, said escapement-lever carrying an armature attracted by a magnet, and a spiral spring to withdraw same, beveled gearing to reverse the movement of said roller, in combination with an electric bell, and magnets to operate said escapement-lever and bell connected electrically in parallel with any convenient source of current all substantially as described.

In witness whereof we have hereunto set our hands in presence of two witnesses.

HARRY TOM SMITH.
ARTHUR JAMES TARRANT.

Witnesses:
C. A. THOMAS,
A. J. ALLARD.