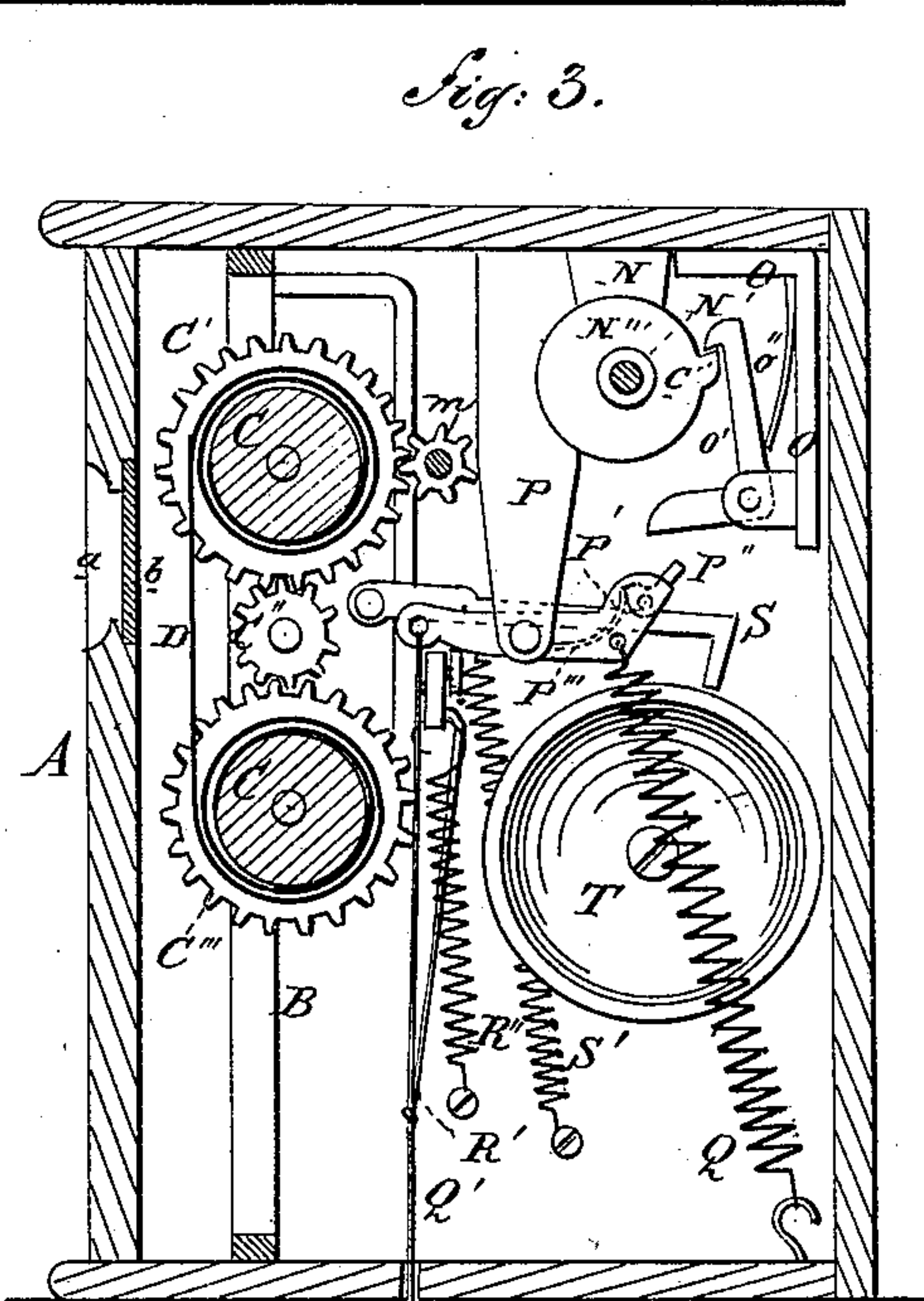
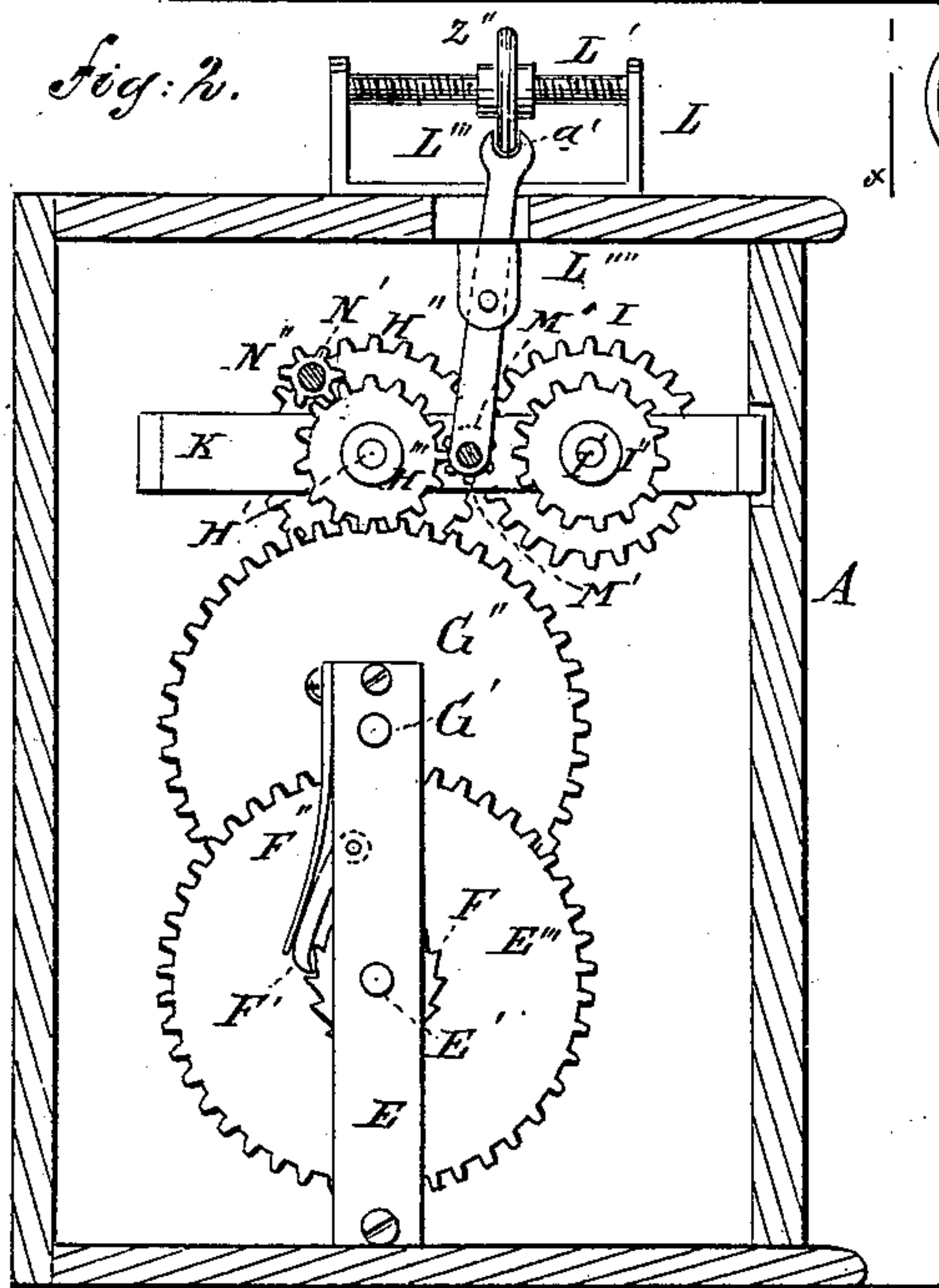
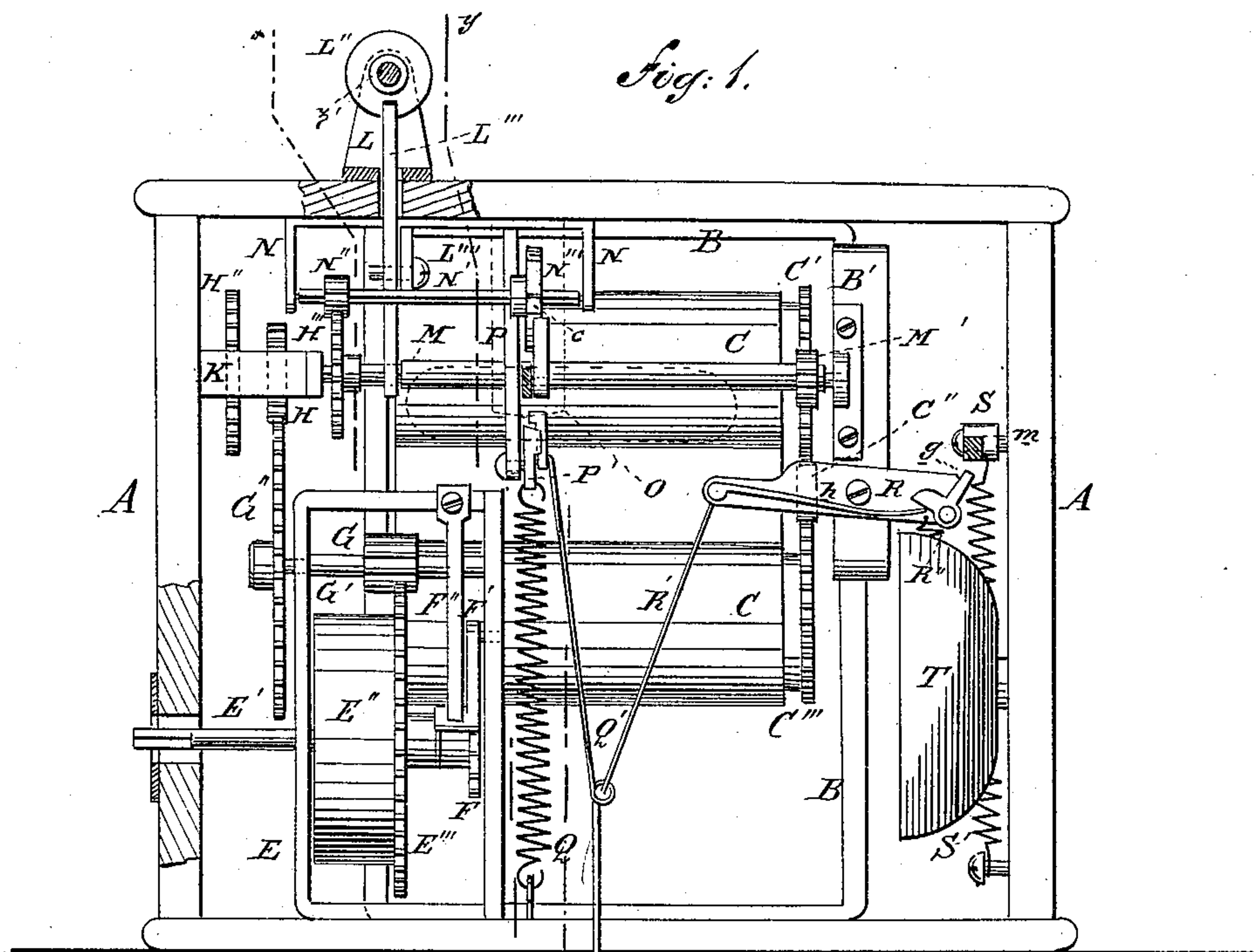


(No Model.)

R. MATTHAI & C. A. CLINTON.
Station Indicator.

No. 231,138.

Patented Aug. 10, 1880.



WITNESSES:

Chas. Nida.
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UNITED STATES PATENT OFFICE.

RICHARD MATTHAI AND CHARLES A. CLINTON, OF SAN FRANCISCO, CAL.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 231,138, dated August 10, 1880.

Application filed May 22, 1880. (No model.)

To all whom it may concern:

Be it known that we, RICHARD MATTHAI and CHARLES A. CLINTON, of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Street and Station Indicator for Cars, of which the following is a specification.

The object of this invention is to provide a simple device for indicating to railroad-car passengers the names or numbers of streets and stations on the line of the road as the car approaches them.

The invention consists of a box or case containing rollers over which is rolled an index-strip having the names or numbers of the streets and stations printed on it, which names or numbers are exhibited in proper succession through an aperture in the box as the rollers are revolved; and it consists, further, of a novel combination of wheels, springs, levers, and other devices, whereby the said rollers are moved and a bell simultaneously sounded when desired; and, further, of a device for reversing the motion of the rollers and index, all of which is hereinafter described.

Figure 1 is an elevation of the device, partly in section, with the back of the box and other parts removed to exhibit the other operating mechanism. Fig. 2 is a sectional side elevation on line *x x*, Fig. 1. Fig. 3 is a sectional side elevation on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the inclosing box or case, in whose front is an aperture, *a*, preferably closed with a glass, *b*. Supported on the frame B, within the said box or case A, are the two rollers C C, set one above the other.

D is the index or index-strip, of paper or other flexible material, containing the names of the streets and stations along the line of the road, and said index D has an end secured to each roller C, so that as said rollers revolve in opposite directions the said index B shall simultaneously wind upon one roller as it unwinds from the other.

E is an upright frame secured within the box A, in rear of the rollers C C, and supporting the horizontal shaft E', on which is fastened and around which is coiled the mainspring E'', that actuates the mechanism of the

device. Said mainspring E'' is secured upon the cog-wheel E''', which is loose on the shaft E', so that the uncoiling of said spring causes the said wheel E''' to revolve. On the inner end of said shaft E' is keyed a ratchet-wheel, F, and the shaft E' is prevented from turning under the tension of the mainspring E'' by the engagement in said ratchet-wheel F of the pawl F', that is hinged to the frame E, and is held in place by the spring F'', that is also secured to the said frame E above the wheel E''', and meshing therewith is a pinion, G, fixed on the horizontal shaft G', which is journaled in the frame E, and on the outer end of this shaft G' is keyed a cog-wheel, G², that gears into a cog-wheel, H, which is keyed on the shaft H' and causes the same to revolve. On the outer end of said shaft H' is secured a cog-wheel, H'', and on the inner end of the same shaft is secured a cog-wheel, H'''. The cog-wheel H'' gears with a corresponding cog-wheel, I, which is keyed on the shaft I', which is journaled on the shaft H' in the horizontal frame K, and on the end of this shaft I' that is nearest the rollers C is a cog-wheel I''.

On the top of the box A is a standard, L, supporting a horizontal screw, L', on which is a wheel, L², whose edge is entered into a vertical slot or groove, *a'*, formed in the top of the lever-hanger L''', that passes down through the top of the said box A and is pivoted on the support L'''. Journaled on this hanger L''', and in the offset or brace B' of the frame B, is a horizontal shaft, M, that is parallel with and immediately in the rear of the upper roller, C. On the end of this shaft M that is journaled in the brace B' is a pinion, M', which meshes with the cog-wheel O' on the end of the upper roller, C, while on the other end of the shaft M is another pinion.

By means of the wheel L'', which can be screwed along on the screw L' and the lever-hanger L''', the end of the shaft M may be moved so as to bring the pinion M' in gear with either the cog-wheel H'' or the cog-wheel I'' at will, so that when the mechanism of the device is in operation the motion of the rollers C C can be reversed, these rollers C C being connected with each other by means of the pinion O'', that meshes into their respective cog-wheels O' O'''.

Secured on the inside of the top of the box

A is a hanger, N, supporting the horizontal shaft N', on which is keyed a pinion, N'', and a wheel, N''', the latter provided with a peripheral detent or stop, c, and said pinion N'' gears into the cog-wheel H'''.

In the rear of the wheel N''' a hanger, O, depends from the top of the box A and carries the hooked angle-lever O', which is made to engage with the stop c of the wheel N''' by means of the spring O'', and thereby to hold all the actuating and moving parts of the device immovable. Also, depending from the top of the box A is a hanger, P, on the lower end of which is pivoted the horizontal arm P', on one end of which is pivoted a finger or trigger, P'', which is operated by the spring P''', that is also secured on said arm P'. To one end of this arm P' is fastened the spiral spring Q, whose other end is secured to the bottom of the box A, while to the other end of said arm P' is fastened the operating wire or rod Q', that extends down through the bottom of the box A, whence it is designed to be conducted within reach of the conductor or engineer on the car.

Pivoted upon the brace B' is a horizontal lever, R, on the face of which is pivoted a finger or trigger, g, which extends beyond the end of said lever, and a spring, h, that operates said finger. The one end of this lever R is connected with the rod Q' by a wire or rod, R', while the other end is connected with the side of the box A by a spiral spring, R''.

S is the gong or bell hammer, pivoted on the side of the box A, extending over and resting on a stud that projects from the side of the box, and having its head resting just above the bell or gong T. A spiral spring, S', whose lower end is secured to the side of the box A, holds said hammer S in position to operate the device.

The mainspring E'' is coiled up around the shaft E by application of a key to turn said shaft, all the parts being then in the position shown in the drawings. Then by pulling upon the rod or wire Q' the arm P' is raised at one end, so that the finger or trigger P'' shall trip the lever O' and release it from the detent or stop c of the wheel N''', when instantly the whole train of wheels and pinions herein shown and described revolves because of the tension of the mainspring E'', the rollers C C turning so as to present at the aperture a the name or number on the index D of a street or station on the line of road; and the same pull upon the rod or wire Q' operates through the rod R' and lever R to raise and trip the hammer S, which is instantly forced down by the spring S', and the gong or bell T thereby sounded to notify the passengers in the car of the near approach to the street or station indicated by the index D at the aperture a. As the rod or wire Q' is released after a pull upon it the spiral spring Q operates by its tension to pull down the end of the arm P', to which it is attached, and to thereby permit the spring O'' to throw

the lever O' in engagement with the wheel N''', so that on the completion of the revolution of the said wheel the detent or stop c engages against the hooked end of said lever O' and said wheel N''', and thereby all the actuating parts of the device are held immovable.

Passengers on street and railroad cars are frequently carried beyond their destination by reason of either want of attention to the conductor when he announces the streets or stations or from his neglect to announce them intelligibly. These inconveniences and annoyances are avoided by the use of the device herein described.

An indicator is to be suspended in the center of each car with a wire attached to the arm P' of each indicator, and connected with a wire or cord that is carried to within reach of the conductor or engineer, so that on approach to a station or street the conductor or engineer will have but to pull said cord or wire to make the name or number of the street or station appear at the aperture a of all the said indicators throughout the train.

With suitable connections the indicator can be operated by steam, air, or mechanical power.

It is designed to construct the indicators with two pairs of rollers with indices on their opposite ends, so that the names or numbers thereon can be read from both sides thereof. A lamp may be placed between the rollers, to be lighted at night in order to render the index transparent, so that the names and numbers thereon can be easily seen, and the bell or gong attached to the indicator will give the car-passengers notice of their approach to the station or street.

Not only the names and numbers of the streets or stations may appear on the index, but the distance in miles of each station from the starting-point, time allowed for stoppages of the train, and other items of information may be made to appear.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with the index-strip D, secured at the ends to rollers C and spring-actuated mechanism, substantially as described, of the horizontal screw L', wheel L'', slotted lever L''', cog-wheels H''' I'', and the shaft M, carrying a pinion, M', meshing with a cog-wheel on the shaft of the upper roller, as and for the purpose specified.

2. The combination, with the cog-wheel H''', of the shaft N', pinion N'', gearing with said wheel H''', the wheel N''', having stop c, the hooked angle-lever O', and the spring O'', as and for the purpose set forth.

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CHARLES A. CLINTON.

Witnesses:

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