

(No Model.)

2 Sheets—Sheet 1.

G. E. SCHLEGELMILCH.

AUTOMATIC TIME RECORDER AND STATION INDICATOR.

No. 321,317.

Patented June 30, 1885.

Fig. 1.

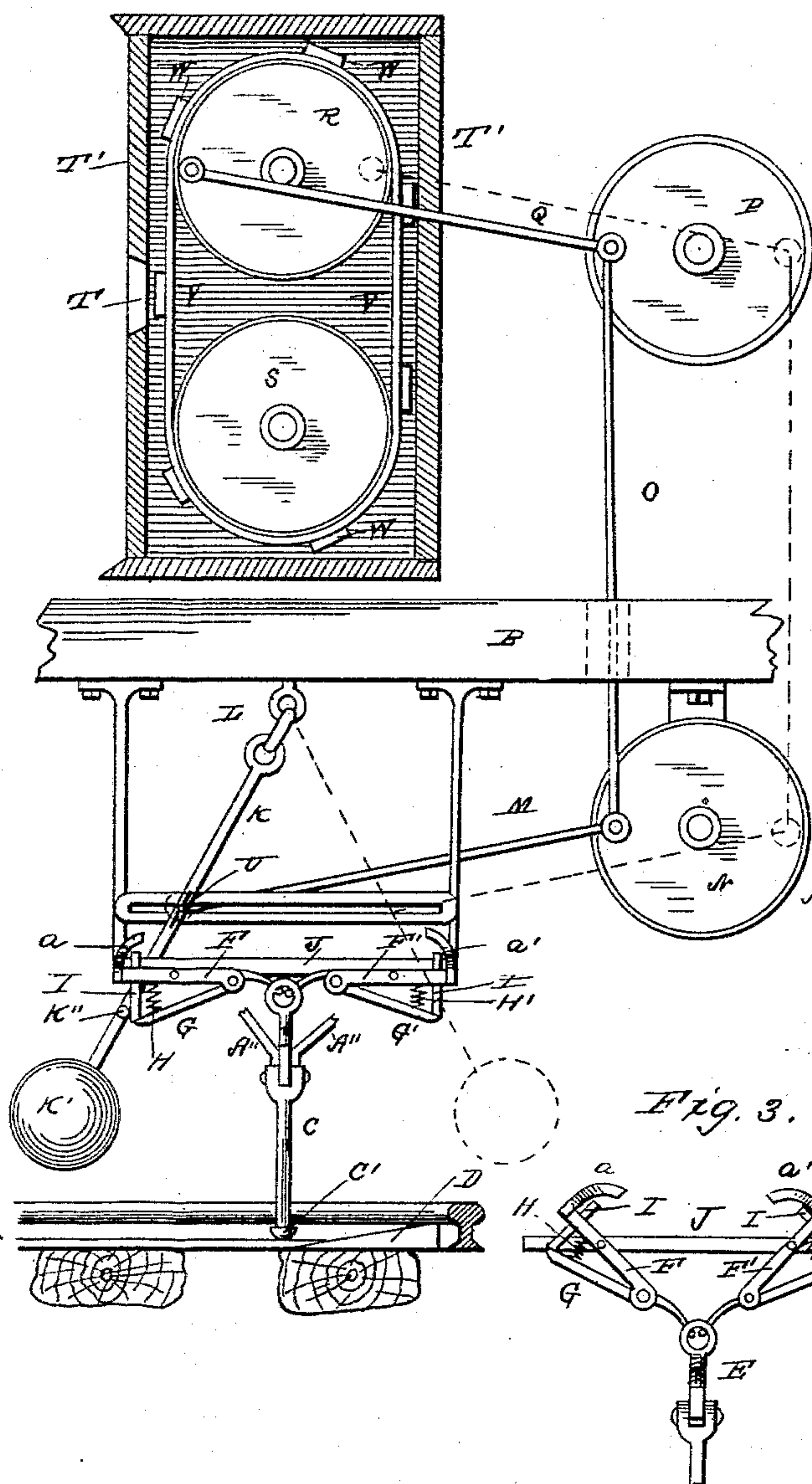


Fig. 2.

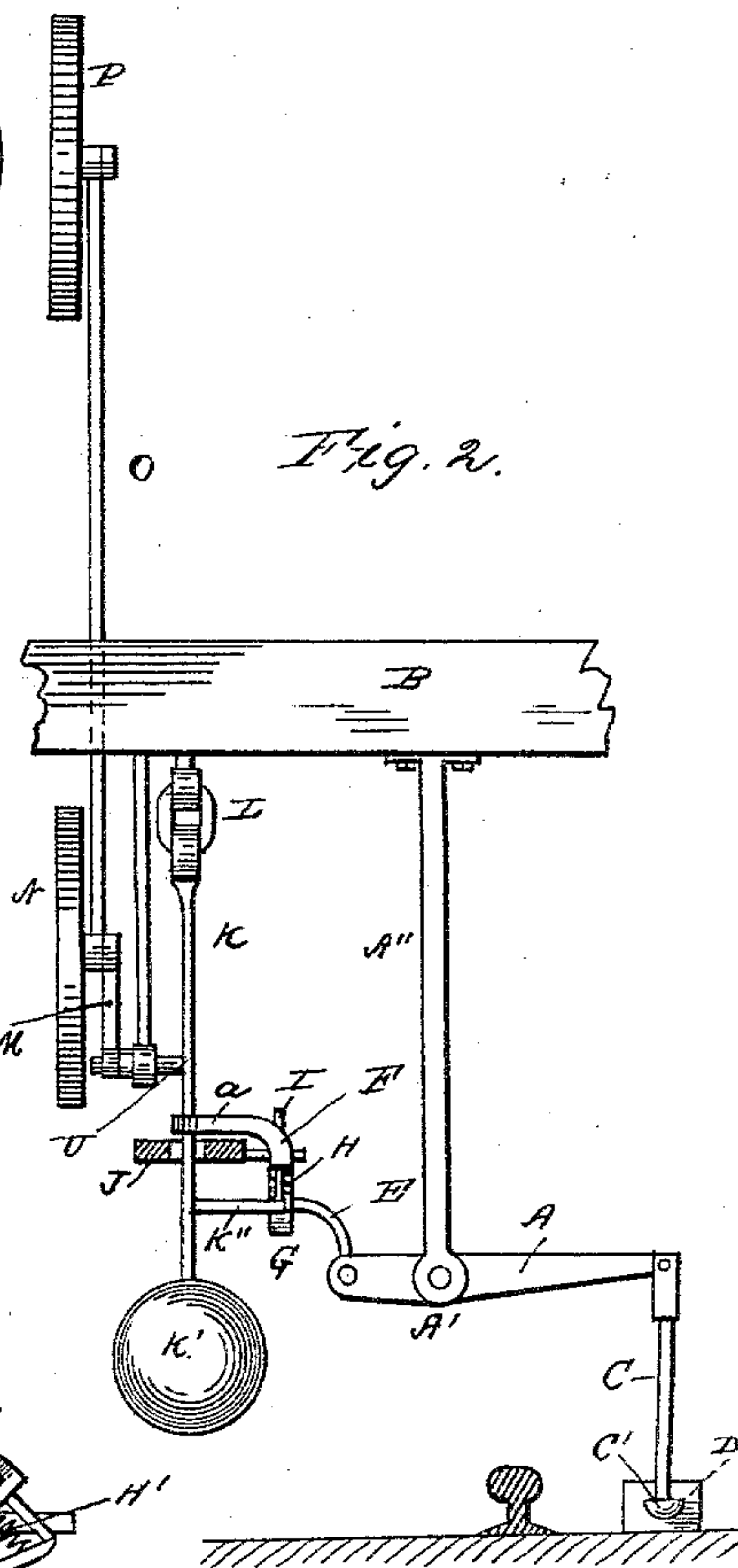
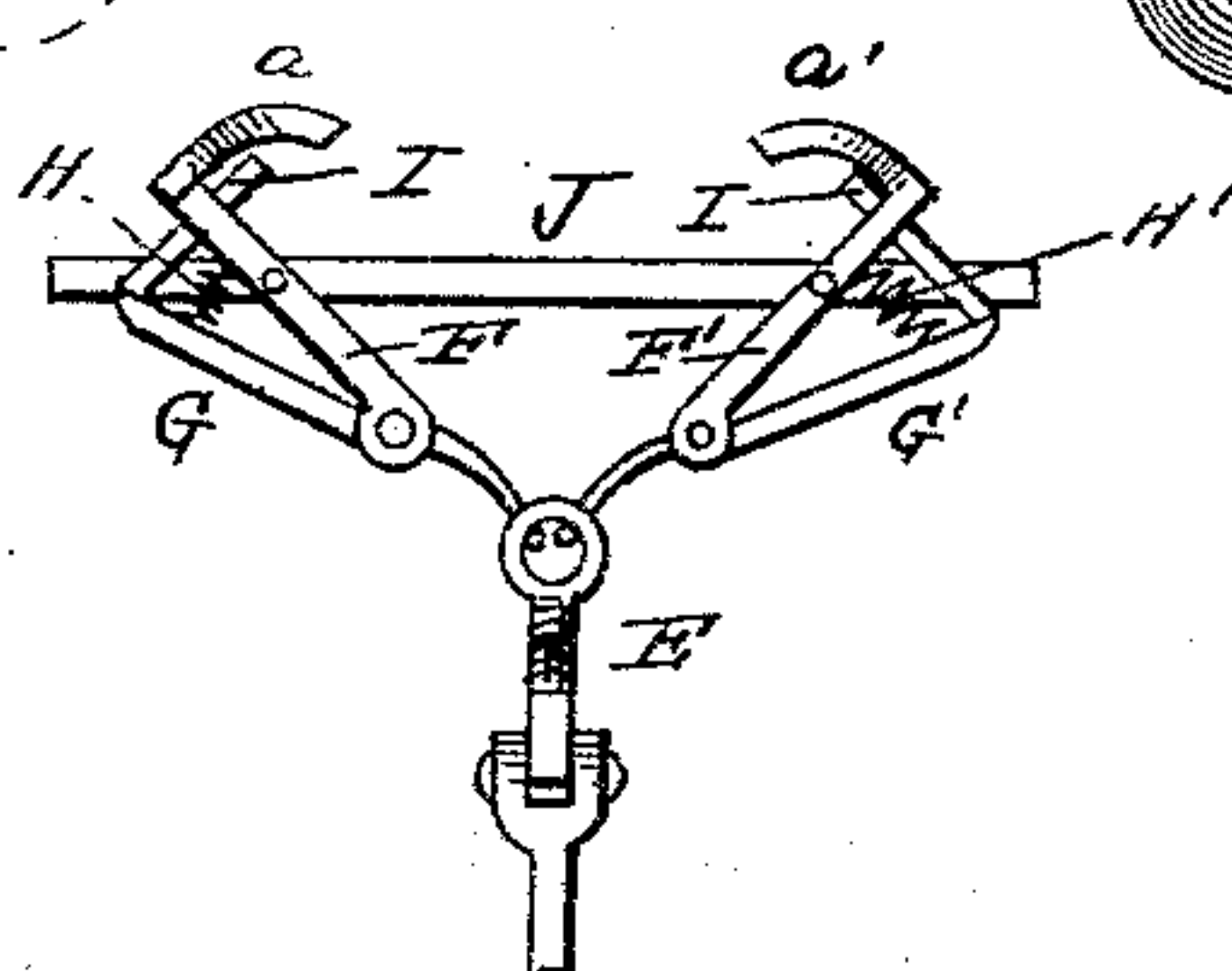


Fig. 3.



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Fig. 4.

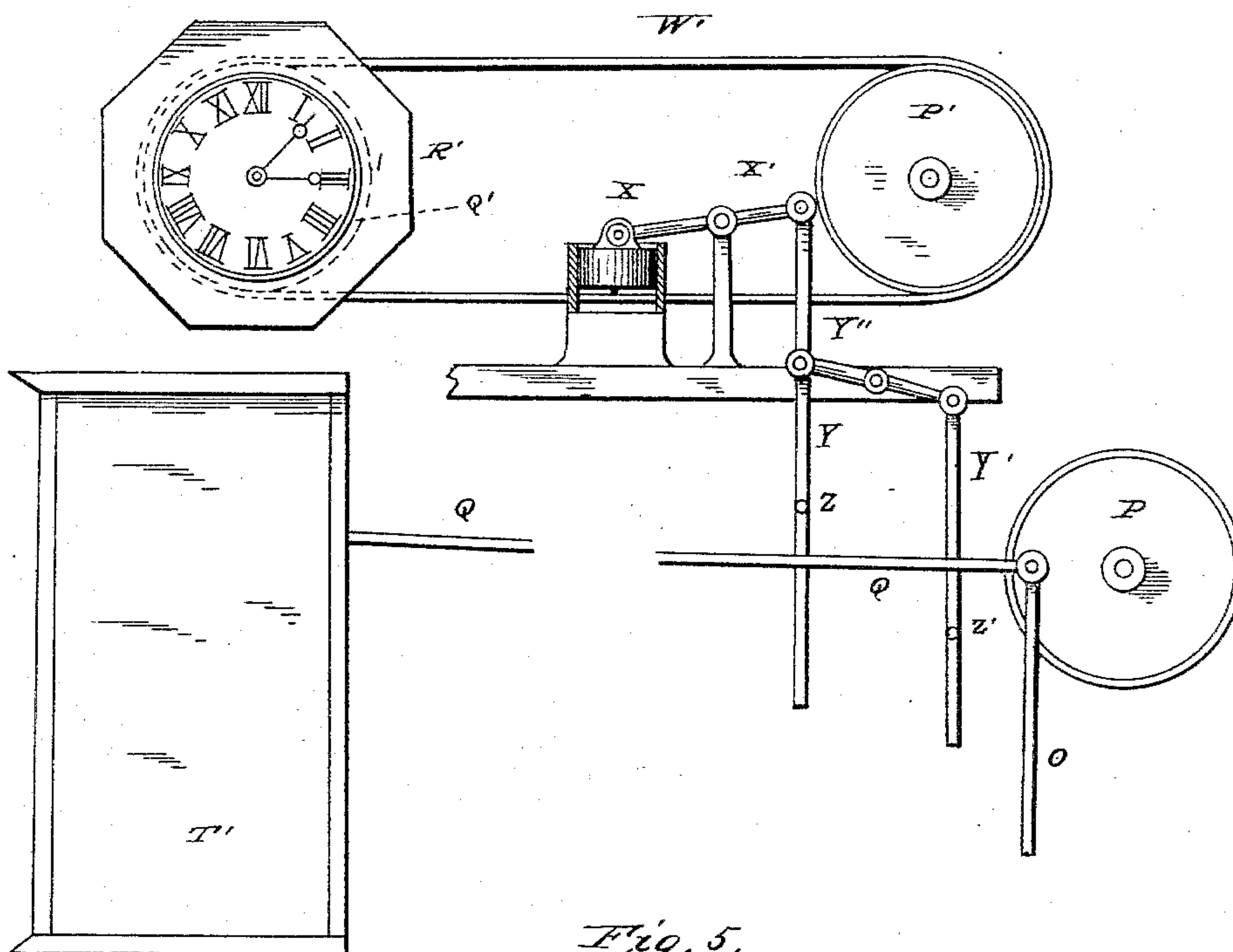
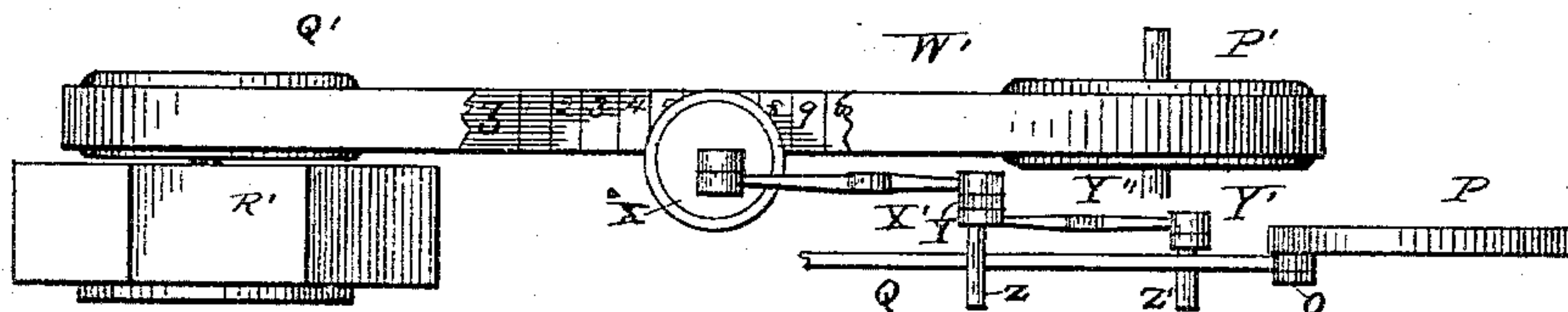


Fig. 5.



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GEORGE E. SCHLEGELMILCH, OF PHILADELPHIA, PENNSYLVANIA.

AUTOMATIC TIME-RECORDER AND STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 321,317, dated June 30, 1885.

Application filed July 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. SCHLEGELMILCH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Station and Time Indicators, of which the following is a specification, reference being had therein to the accompanying drawings, in
10 which—

Figure 1 represents a side view of my invention, showing in vertical section the box which contains an endless band, crosswise upon which are boards or plates containing the
15 names of the stations; Fig. 2, a front view of the working parts of my device; Fig. 3, a detached view of the mechanism which releases and secures the weighted bar which operates the device; Fig. 4, a front view of my mechanism for indicating the time at which a train
20 arrives at or passes any given point or station, and Fig. 5 a plan view of the same.

The nature of my invention will fully appear from the following description and
25 claims.

A is a lever pivoted at A', and suspended from the flooring B of the car by bars or braces A".

C is a bar hung from the outer end of lever A, to which it is hinged or pivoted. This bar terminates below in a foot, C', which, as the car moves along, engages with the inclined block D. The inner end of lever A has attached to it a short rod, E. This rod is attached to
35 two short pivoted rods, F and F', by hinged connection, so that, as this bar E moves upward and downward the outer ends of rods F and F' are lowered or raised, as shown in Fig. 3 of the drawings. These rods F and F' have
40 secured on their outer ends short bent arms a a', which normally rest behind the weighted rod K, and by the movement of the rod F or F' at the moment the said rod K is released, give it a forward impulse, which carries it
45 through its arc of travel. The lower sides of these two bars F and F' are also provided with hinged flaps G and G', which are held open or away from the bars F and F' at their ends by means of the springs H H'. These springs act

as cushions, and will contract or be compressed
50 when strong pressure is applied to the flaps, and force the flaps open again when the pressure is removed. At the end of each of these flaps is a short pin, I, which is hinged to the flap and passes freely through a hole in the
55 end of each short rod F F'.

J is a slotted guide, in the slot of which swings the vibrating weighted rod K.

K' is the weight or ball upon the end of the bar K. This bar is secured to the bottom of
60 the car by the hinged joint L, which joint in the drawings is shown in the form of a link.

Projecting outward from the rod K is a finger or pin, K'', which is long enough to engage with the cushion-stop F, G, H, I, or F',
65 G', H' and I'.

M is a rod, secured at one end to the rod K by a sliding connection, U, which consists of a pin passing from the extremity of the rod M through a slot in the rod K. The other
70 end of the rod M is pivoted to the wheel N, and from the same pivotal connection the rod O, passes, and is similarly pivoted to the wheel P, the rod O thus forming a connecting-rod between the two wheels N and P. A similar
75 connecting-rod, Q, is secured to the wheel P and the drum R.

R and S are two drums, one placed above the other, over which passes an endless band, V, to which are attached the boards or plates
80 W W, which contain the names of the stations. An opening, T, in the box T' exposes to view one of these boards or plates at a time.

The operation of the above is as follows: The bar K is held in place, as shown in Fig. 85 1, by the stop F I G, the pin K'' resting against the rod I. By the movement of the car to which the apparatus is attached the foot C' of the rod C will come in contact with the inclined surface of the block D, and this will
90 throw up the outer end of the lever A, depress its inner terminus, E, upset the stops F I G and F' I' G', as shown in Fig. 3. The rod K will thus be released, and the weight K', with the impulse given by the short arm a, 95 will impel it by a vibratory motion to a position shown in dotted lines, Fig. 1, behind the stop F' I' G'. This motion will push the rod

M and throw the wheel N, rod O, wheel P, and rod Q to the position shown by dotted lines, Fig. 1. By this means the drums R S will be partially turned, so as to expose the names of the stations at the opening T. Immediately after passing the block D the lever A will drop again, and thus restore the stops F I G and F' I' G' to the normal position, and if this occurs before the bar K has completed its swing the weight K', with the assistance of the impulse given by the arm a, will be sufficient to carry the pin K'' beyond the opening-flap G. When the next block D is reached, the weighted rod K will be again released by the method above described and restored to the position shown in Fig. 1. This operation, as above set forth, will serve to turn the wheels N P another half-revolution, thus moving the drums R S so as to expose the names of the next succeeding station to view at the opening T.

The operation is repeated every time a block D is passed.

W' is an endless time-band passing over the drum P' and over the time-wheel Q'. The wheel Q', Fig. 5, is actuated by the mechanism which moves the minute-hand of the clock R', and turns at the speed at which the minute-hand moves. The band W' is marked (see Fig. 5) with the hours and minutes corresponding with those of the watch or clock dial.

X is a punch, the point of which is set immediately above the lower part of the endless band W'.

X' is a pivoted lever.

Y Y' are two rods, arranged and pivoted as shown, and connected by a pivoted lever, Y'', by the raising or lowering of which rods the punch X is depressed or elevated.

The operation of this part of my device is as follows: The band W', actuated by the wheel Q', is started by the winding up of the clock R'. Now, when one of the inclined blocks D (see Fig. 1) is passed, the rod O, as before described, will raise the rod Q, which will then abut against the pin Z, throw up the rod Y, and so depress the punch X and puncture the band W'. The weight of the rod Y, when relieved from the pressure of the rod Q, will raise the punch from band W'. The revolution of the wheel P will in its next half-turn throw the rod Q downward, so as to bring this rod in contact with the pin Z', thus throwing the rod Y' downward and elevating the rod Y through the lever Y''. This will again cause the punch X to puncture the band W'.

I make the band W' of paper, properly marked, and it can be removed and substituted by a new one as often as is desired. The band W' will be so adjusted that the point of the punch X will be above that part of the band corresponding with the time indicated by the clock. For instance, seven minutes past three by the clock the point of the punch X will be immediately above the characters in-

dicating seven minutes past three upon the band W', and if at that instant a block should be passed by the train the actuating mechanism above described will cause the punch X to puncture the band at that time. The number of blocks D being known, it will only be necessary for an examining official to take off the band at the end of a trip and count the number of punctures and note the times at which the successive punctures were made to obtain a complete history of the time made by the railroad-train over each mile of the trip.

Instead of the connecting-rods O and Q, belts may be used, and when used to connect the wheels N and P may be crossed to reverse the indicating-band.

What I claim as new is—

1. An operating mechanism for a station and time indicator, consisting of a weighted rod or pendulum suspended from a car in a normally-inclined position and released at the proper moment.

2. In a station and time indicator, a weighted rod or pendulum actuating the indicator, the said pendulum being kept in a normal inclined position by spring-catches and released by a lever which is operated by a stop or incline on the roadway, substantially as described.

3. In a station and time indicator, the combination, with a weighted rod or pendulum actuating the indicator, of a releasing mechanism consisting of two pivoted catches provided at their free or outer ends with projecting arms for giving an impulse to the weighted rod when released, and connected at their inner ends with one end of a lever, the other end of which carries a dependent headed bar which comes in contact with a stop or incline on the roadway, the whole braced and supported on a railway-car, substantially as and for the purpose specified.

4. In combination with an operating pendulum weighted rod, an indicator connected to the said rod by wheels and connecting-rods through which the impulse is given when the rod is released, substantially as described.

5. In combination with a station-indicator, a time-recording mechanism consisting of a numbered or otherwise marked ribbon or band operated by a clock, and a punch engaging with the said ribbon and operated by pivoted rods provided with stops which engage with one of the connecting-rods of the station-indicator, the said pivoted rods being connected together and to the punch by levers, the entire device acting as a complete station and time indicator, substantially as specified.

6. As a complete station and time indicating system, the combination of a pivoted lever with its drop-bar operated by an inclined block or stop on the roadway, a weighted vibrating bar normally held by spring-catches

connected to the lever, connecting-rods and wheels, and drums carrying an endless belt with station-indicating signs or plates thereon, oscillating rods with pins thereon to engage with the connecting-rods, a punching-stamp, a clock mechanism, and a figured time-band, all arranged, supported, and operating substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEO. E. SCHLEGELMILCH.

Witnesses:

CHAS. D. DAVIS,
J. J. MCCARTHY.