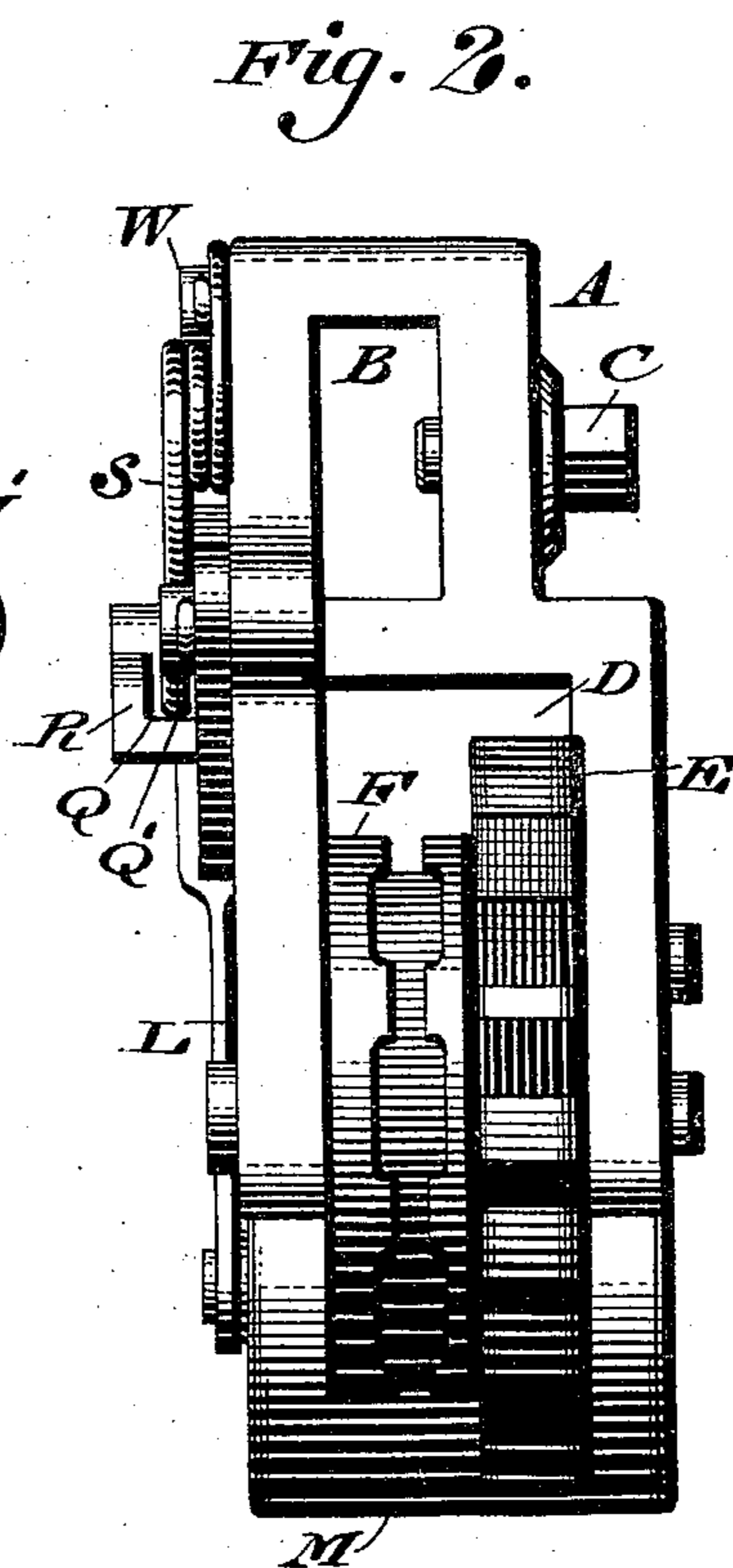
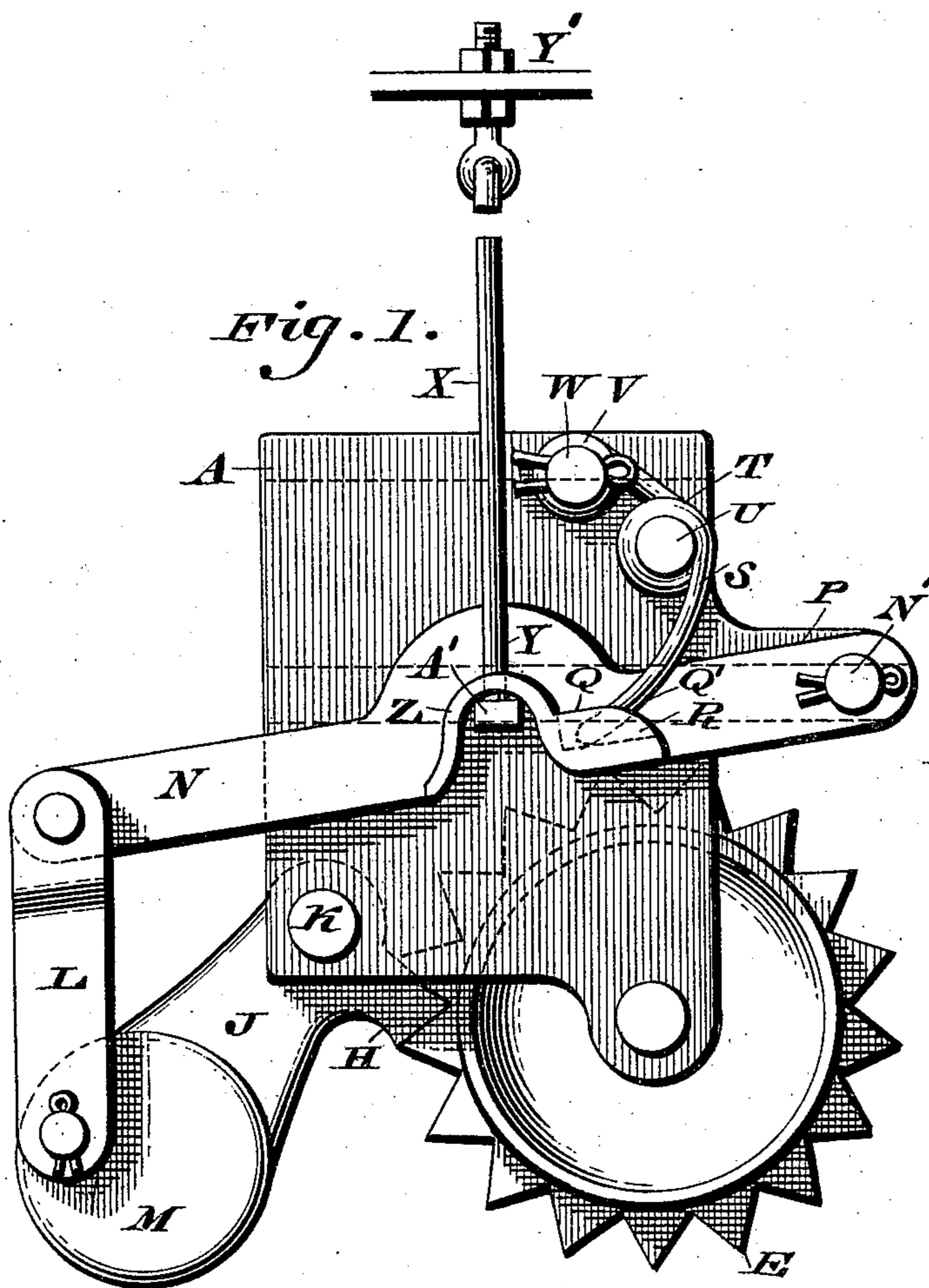


(No Model.)

J. W. & J. R. JONES.
SPRING ACTUATED LEVER MECHANISM FOR COMPENSATING DEVICES
FOR RAILROAD SIGNALS, &c.

No. 574,431.

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SPRING-ACTUATED LEVER MECHANISM FOR COMPENSATING DEVICES FOR RAILROAD-SIGNALS, &c.

SPECIFICATION forming part of Letters Patent No. 574,431, dated January 5, 1897.

Application filed November 3, 1896. Serial No. 610,925. (No model.)

To all whom it may concern:

Be it known that we, JOSHUA W. JONES, residing at Harrisburg, in the county of Dauphin, and JOSEPH R. JONES, residing in the city and county of Philadelphia, State of Pennsylvania, citizens of the United States, have invented a new and useful Improvement in Spring-Actuated Lever Mechanism for Compensating Devices for Railroad Signals, Switches, &c., which improvement is fully set forth in the following specification and accompanying drawings.

Our invention relates to compensating devices for railway switches, signals, &c.; and it consists more especially in the application of a spring-actuated lever to the pawl-and-ratchet mechanism shown in a contemporaneously-pending application filed by us September 23, 1896, Serial No. 606,951, in which application a spring is shown as engaging a suitable portion of the pawl. We have found, however, that under certain conditions it is more desirable that the action of the spring should be applied directly to the lever and transmitted thence by an intermediate link to the pawl or dog employed, since by this construction the action is quickened and we lose as little motion as possible in engaging and disengaging the dog from its ratchet; and to this end our invention consists of the novel device hereinafter fully set forth, and specifically pointed out in the claims.

Figure 1 represents a side elevation of a yoke having applied thereto a spring-actuating lever for a compensating device embodying our invention, the operating-lever, standards, chains, &c., being omitted for the sake of clearness of illustration. Fig. 2 represents an end elevation of Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

Referring to the drawings, A designates the yoke employed, which is provided with an opening B therein, through which passes an arm of the operating-lever, all reference to the construction of the latter being omitted in the present case, since the same is well known and forms no part of the present invention.

C designates a set-screw by means of which the yoke is held in position upon the operating-lever. (Not shown.)

D designates an opening in the yoke, in which is suitably journaled the ratchet-wheel E, which has the sprocket-hub F thereupon, around which passes a chain or other connection leading to the signal, switch, or other device to be operated.

J designates a gravity-weighted pawl or dog which is suitably fulcrumed on the pin K and is provided with the nose H, which is adapted to engage the teeth of the ratchet-wheel E, said gravity-weighted pawl being provided in the present instance with the counterbalance M, to which is attached one end of the link L, the other extremity of the latter being pivoted to the spring-actuated lever N, while the other extremity of the latter is fulcrumed at N' to a suitable portion of the yoke A, as in the present instance the lug P.

R designates a flange or lug, preferably cast on the lever B, thereby forming a pocket or recess Q, within which is contained the end Q' of the spring S, the latter having a portion T encircling the lug or boss U, while its other extremity V encircles the lug or boss W, said spring being held in position on said latter boss by means of a split pin or other similar device.

X designates a rod which has one end hinged to an adjustable fixed point Y', while its other end passes through a suitable portion Z of the lever N and has a nut A' thereon, whereupon it will be evident that when the parts are assembled said rod will lift the spring-actuated lever just before the period that the operating-arm assumes normal position.

The operation is as follows, it being of course understood that the operating-lever is provided with an arm extending laterally in either direction, each arm having mounted thereon the structures seen in Fig. 1, while a weighted chain passes over the sprocket-hubs F and is adapted to lead through the medium of the intermediate connections to the desired point or points, the operating-lever, standards, chains, &c., having been omitted

from the present drawings, since they form no part of the present invention: When the yoke is in depressed position, a pull will be exerted upon the lever U by the engagement of the nut A' on the rod X therewith, and the nose of the dog will be disengaged from its ratchet, thereby allowing the latter and the sprocket-hub to revolve to the desired extent. When the yoke begins to be elevated, the nut A' is moved from contact with the lever N, and by the pressure of the spring S upon the lever N and the weighted portion of the dog or pawl M the nose H of the dog will be caused to instantly engage the ratchet-wheel E and the parts will be locked, and since the rotation of the ratchet-wheel is temporarily checked it will be evident that if the latter and its yoke are raised farther a pull will be exerted upon the chain passing over the sprocket-hub, the above-described operation being familiar to those skilled in the art.

It is desired in the present application to call special attention to the function of the spring S, since it will be seen that the latter exerts its force directly upon the lever N, thereby imparting a quick, positive action thereto under all conditions, it being of course understood that the spring-actuated lever is lifted just before the arm on which the yoke is supported is in normal position, and this action is almost simultaneous with the stoppage of the arm. Emphasis is also laid on the fact that by reason of the direct connections we obtain a positive action and thus avoid lost motion and accident which might be caused by other means, such as chains becoming twisted or tangled, &c.

It will of course be evident that in place of the lugs U and W, cast on the yoke A, we may use pins or studs therefor, this latter construction being of course a full equivalent of the construction shown.

It will further be evident that slight changes may be made by those skilled in the arts in the manner of arranging and assembling the above parts, and we do not therefore desire to be restricted in every instance to the exact construction we have herein shown and described.

Having thus described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

1. In a compensating device a spring-actuated lever, a yoke on which said lever is mounted, and a rod connection supported above the same, hinged on an adjustable movable point said rod passing through said lever and adapted to lift the latter when said yoke is nearly in normal position.

2. In a compensating device, a yoke having a ratchet-wheel journaled therein, a pawl adapted to engage said ratchet-wheel, a lever suitably fulcrumed, a connection intermediate said lever and pawl, a spring suitably supported and having a portion thereof bearing upon said lever, and means for actuating the latter.

3. In a compensating device, a yoke suitably supported and having journaled therein, a ratchet-wheel provided with a sprocket-hub, a gravity-pawl fulcrumed on said yoke and having a nose adapted to engage said wheel, a lever suitably fulcrumed, a link intermediate the latter and said pawl, a recess or pocket located on said lever and a spring having one portion thereof adapted to bear on a suitable fixed point, while its other extremity is adapted to engage said pocket.

4. In a compensating device, a yoke having journaled therein, a ratchet-wheel provided with a sprocket-hub, a gravity-pawl fulcrumed on said yoke and having a nose adapted to engage said ratchet-wheel, a lever suitably fulcrumed and having a link intermediate it and said pawl, a recess or pocket in said lever, a plurality of lugs or pins projecting from said yoke, one of said lugs being adapted to have a spring supported thereupon, the free end of said spring contacting with said lever, while the other end of said spring is adapted to be wound around the other of said lugs.

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