(No Model.)

H. J. PARCHMAN.

STOP MOTION FOR STEAM ENGINE INDICATORS.

No. 549,389. Patented Nov. 5, 1895.

Fig. 1.

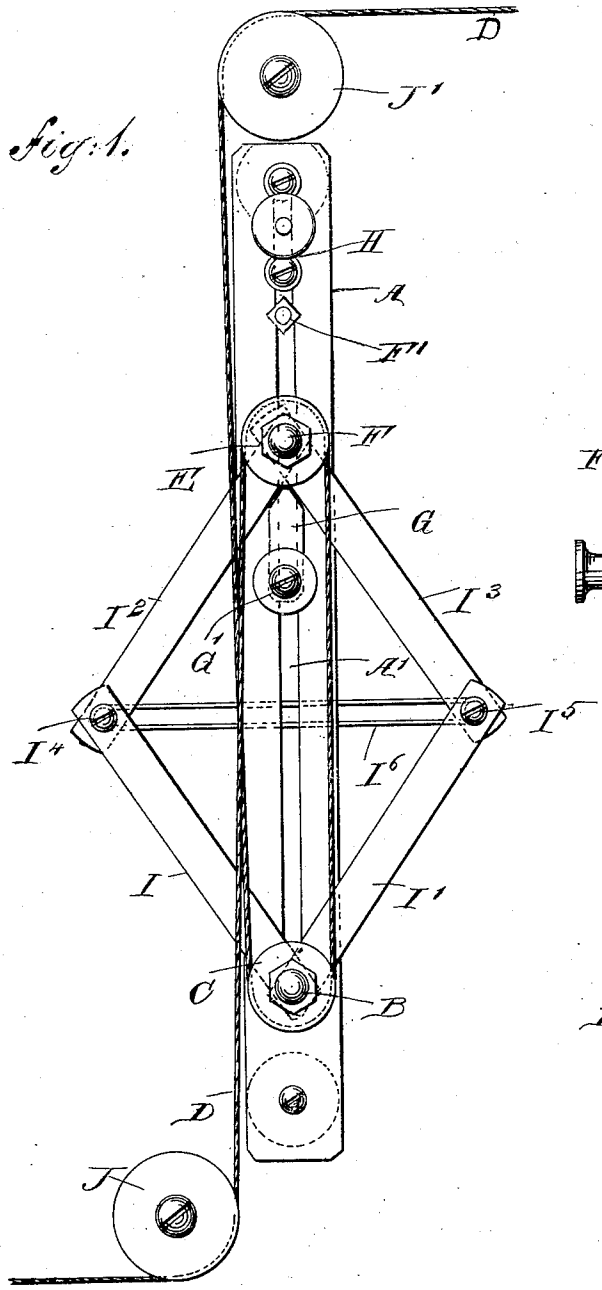
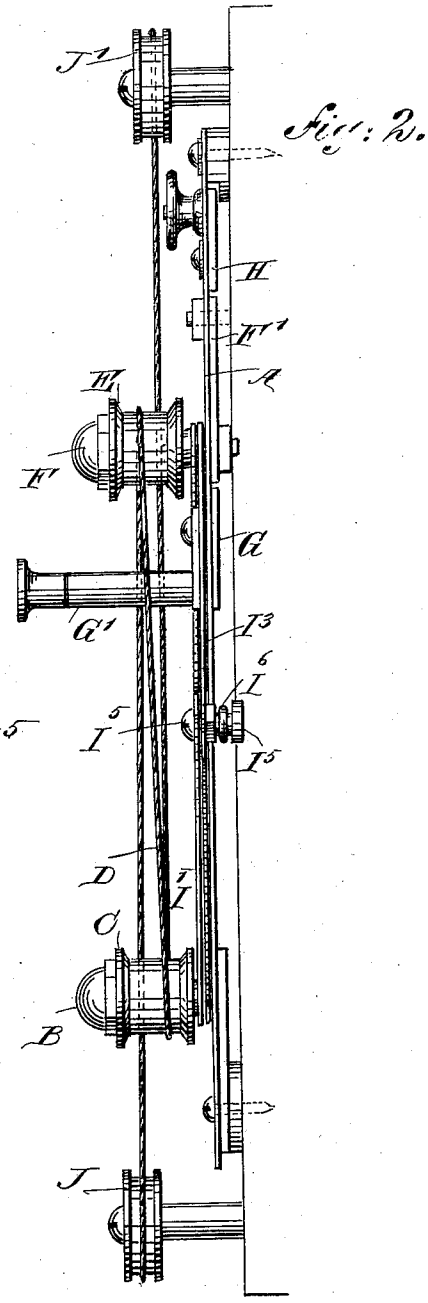


Fig. 2.



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STOP-MOTION FOR STEAM-ENGINE INDICATORS.

SPECIFICATION forming part of Letters Patent No. 549,389, dated November 5, 1895.

Application filed March 21, 1894. Serial No. 504,488. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. PARCHMAN, of Cedar Falls, in the county of Dunn and State of Wisconsin, have invented a new and Improved Stop-Motion for Steam-Engine Indicators, of which the following is a full, clear, and exact description.

The invention relates to steam-engine and other indicators; and its object is to provide a new and improved stop-motion which is comparatively simple and durable in construction and arranged to enable the operator to readily and temporarily interrupt or stop the motion of the paper-drum for conveniently changing the cards or for other purposes and without disconnecting the operating-cord.

The invention consists in a compensating device arranged in the cord connecting the pantograph with the indicator.

The invention also consists in certain parts and details and combinations of the same, as will be fully described hereinafter, and then fully pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which the same letters of reference indicate the same or corresponding parts in both the figures.

Figure 1 is a front elevation of the improvement, and Fig. 2 is a side view of the same.

The improved stop-motion is provided with a frame A, adapted to be secured to the engine or other support, so as to be in close proximity to the cord connecting the pantograph or other reducing device with the indicator proper. On the frame A is secured a stud B, on which is mounted to rotate loosely a pulley C, under which passes the cord D, leading from the pantograph to the indicator, the said cord also passing over a second pulley E, journaled loosely on a stud F, provided with a slide F′, fitted to move in a slot A′ in the frame A. The slide F′ is adapted to be locked in place in the frame A by stops G and H, held adjustably in the frame A, and of which the stop G is provided with a suitable handle G′ for conveniently moving the said stop up or down in the slot A′ of the frame A to permit the slide F′ to move up or down in the said slot whenever the operator changes the card on the indicator or otherwise desires the motion of the indicator to be interrupted. Each stop G H is provided with a back plate (see Fig. 2) and a bolt which extends through the slot A′ and engages with its head (or nut) the front face of the frame. By loosening the bolt or screw the stop may be moved up or down on the frame and held in the adjusted position by tightening the bolt or screw.

The cord D after leaving the pantograph (not shown) passes under a pulley J, to then extend upward and over the pulley E, as previously described, the cord then extending downward and under the pulley C, and then up over a second pulley J′, to then extend to the indicator, so that the several pulleys are rotated on the forward and backward movement of the cord.

On the stud B are fulcrumed the levers I and I′, pivotally connected with levers I^2 and I^3, respectively, fulcrumed on the stud F, the said levers I and I^2 being connected with each other by the pivot I^4 and the levers I′ and I^3 by a pivot I^5. The two pivots I^4 and I^5 are connected with each other by a spring I^6, having a tendency to close the sets of levers I I^2 and I′ I^3 against the pull of the operating-cord D.

The operation is as follows: As long as the cord D is positively to connect the pantograph (not shown) with the indicator the slide F′ is securely locked in place on the frame A. Now, when it is desired to change the card on the indicator or to stop the latter for other purposes then the operator loosens the stop G and moves the same downward to permit the slide F′, carrying the stud F and pulley E, to freely slide up and down in the frame A. The pull exerted by the cord D causes the pulley E to slide downward against the tension of the spring I^6, connecting the levers I I^2 and I′ I^3 with each other, as previously explained, the said spring I^6 returning or closing the levers on a release of pressure on the cord, so that the pulley E moves upward and again takes up the slack then existing in the cord.

It will be seen that by this arrangement a yielding connection is introduced in the cord, so as to compensate for the movement of the cord without affecting the indicator. It will

further be seen that the device may be set up in any desired position as long as it is in line with the cord D, between the reducing device and the indicator, and the said device is adapted for use on a high or low speed engine, principally, however, on high-speed engines—that is, there is no part of the device which needs to be handled while in operation. It will further be seen that this device protects the indicator from wear, as there is no part of it in motion except when cards are taken. The device also protects the indicator from shocks induced by the drum snapping against the stop when it is released. The device also facilitates the setting up of the indicator, as the cord is adjusted instantaneously, so that the paper-drum will move centrally between the stops by adjusting stop H in the frame A so as to bring the pulleys C and E closer together or farther apart, thereby lengthening the cord, as required. The device also protects the indicator and cord from strain caused by the cord being too short, as sometimes happens when adjusting by means of a loop. The device will work with indicators of any make, at any speed, in any position, and it can be connected temporarily in a few minutes or may be set up permanently and as elaborately as may be desired.

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

1. A stop motion for steam engine indicators, comprising a pulley journaled on a fixed stud, and a second pulley mounted to turn on a stud held yieldingly, the cord between and connected with the pantograph and indicator passing over and from the said pulleys, substantially as shown and described.

2. A stop motion for steam engine indicators, comprising a pulley held on a fixed stud, a second pulley, a slide on which the second pulley is journaled, and spring-pressed levers connected with the said slide, substantially as shown and described.

3. A stop motion for steam engine indicators, comprising a pulley held on a fixed stud, a second pulley, a slide carrying the said second pulley, the cord extended around said pulleys and therefrom to the pantograph and indicator and means, substantially as described, for limiting the movement of the said slide, and the cord passing over and from the said pulleys and connected with the pantograph and indicator as set forth.

4. A stop motion for steam engine indicators, comprising a slotted frame, a pulley journaled on a stud secured in the said frame, a slide fitted to move in the said frame and carrying a stud, a second pulley held on the said slide stud, and spring-pressed levers connected with the said stud on the slide, substantially as shown and described.

5. A stop motion for steam engine indicators, comprising a slotted frame, a pulley journaled on a stud secured in the said frame, a slide fitted to move in the said frame and carrying a stud, a second pulley held on the said slide stud, spring-pressed levers connected with the said stud on the slide, and stops held adjustably on the said frame to limit the movement of the said slide, as set forth.

6. A drum stop for steam engine indicators comprising a pulley journaled to a fixed support, a second pulley movably supported, means by which this movable pulley may be locked in position and the indicator cord passing over said pulleys, substantially as set forth.

7. The combination with a suitable frame, of a pulley journaled thereto, a journaled pulley movable along said frame, means by which to lock this movable pulley from movement along the frame, devices by which said pulleys are given a tension apart, and the indicator cord, substantially as set forth.

8. In an apparatus substantially as described, the combination of the frame, the indicator cord, a journaled pulley a second pulley movable toward and from the first, means by which to lock said movable pulley in position and a compensating elastic connection by which the pulleys are given a tension apart, substantially as set forth.

9. In a drum stop for steam engine indicators, the combination of a suitable guide frame with pulleys attached, a sliding carriage with tension pulley, and means for controlling the tension of the actuating cord along a slotted path of the guide frame, substantially as herein shown and described.

HENRY J. PARCHMAN.

Witnesses:
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CHAS. WEBER.