D. C. MARKHAM.

Vehicle-Spring Equalizer.

No. 198,948. Patented Jan. 8, 1878.

Fig. 2.

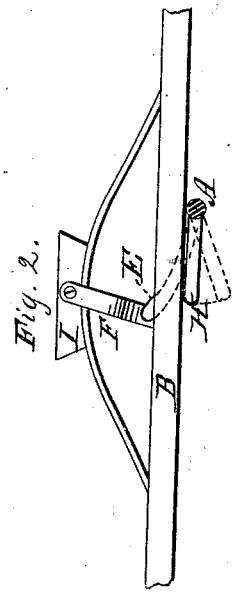


Fig. 3.

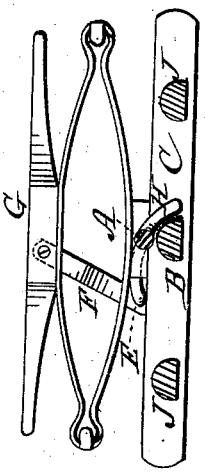


Fig. 4.

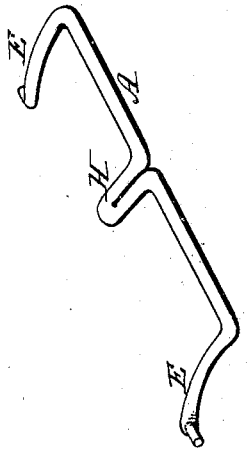
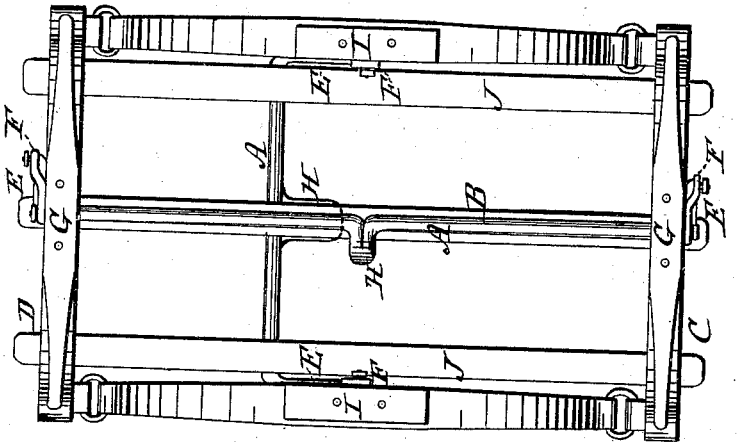


Fig. 1.



Witnesses.

A. G. Johnson

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Inventor:

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by C. Storey

Atty

UNITED STATES PATENT OFFICE.

DEWITT C. MARKHAM, OF COLLINSVILLE, NEW YORK.

IMPROVEMENT IN VEHICLE-SPRING EQUALIZERS.

Specification forming part of Letters Patent No. **198,948**, dated January 8, 1878; application filed June 29, 1877.

To all whom it may concern:

Be it known that I, DEWITT C. MARKHAM, of Collinsville, in the county of Lewis and State of New York, have invented certain new and useful Improvements in Devices for Equalizing the Action of Springs of Vehicles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

I have improved the means for equalizing the action and preventing the undue expansion of the springs of a vehicle. Spring-equalizing devices have been used in connection with means for preventing the too great expansion of the springs; and I do not claim, broadly, devices for effecting these results.

In my plan the device is arranged to act in connection with the reach of the running-gear, to prevent the too great expansion of the springs, and it has no direct attachment to the springs, but is connected directly to the running-gear of the vehicle and to the spring-bars or pillow-blocks. The cranked rod equalizes the action of the springs by links, and, whether it is arranged along the reach or across the reach, a stop-arm is arranged upon said rod, in position to turn away from the reach when the springs are compressed; but the expansion of the latter beyond their normal condition brings the stop-arm in contact with the reach, and stops the rod from turning and the springs from opening too much.

This construction is durable and easily applied.

In the drawings, Figure 1 represents a top view, showing my improvement applied to elliptical and side springs; Fig. 2, a longitudinal section; Fig. 3, a cross-section; and Fig. 4 the crank-rod, with its stop-arm for action with the reach.

The device may be applied to elliptical or to side springs, and the drawings show both plans.

The crank-rod A lies upon the reach B, and is secured in suitable bearings in the hind axle C and the front bar or bolster D, with a crank, E, at each end, which is united by a link, F, to the spring-bar G, in which arrangement the normal positions of the cranks are horizontal and the links oblique; and their connection effects the equal compression of the springs under all circumstances by the direct and equal depression of the cranks through the links.

The crank-rod has a stop or arm, H, arranged to act upon the reach B, and prevent the springs from opening too far by preventing the cranks from rising above the point of the normal expansion of the springs. The crank-rod having the stop-arm, in combination with the reach, serves to equalize the springs and to prevent injuring them by too great expansion, and makes a very simple and durable appliance for the purpose.

In adapting the device for side springs the links are connected to the pillow-blocks I I, and the crank-rod has its bearings in side bars or additional reaches J J fastened into the hind axle and the bolster. In both cases the stop-arm H acts in the same manner to open or turn away from the reach as the springs are compressed, and to abut against the reach when the springs open to their fullest extent, and stop them from expanding beyond such point.

I claim—

The crank-rod A E, provided with the intermediate extension H, and journaled in the frame beneath the springs, in combination with the reach B and the connecting-links F, pivoted to either the spring-bar G or the pillow-block I, all constructed and arranged as shown and described, for operation with the springs.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

DEWITT C. MARKHAM.

Witnesses:

M. J. HOYT,

J. A. COTTERELL.