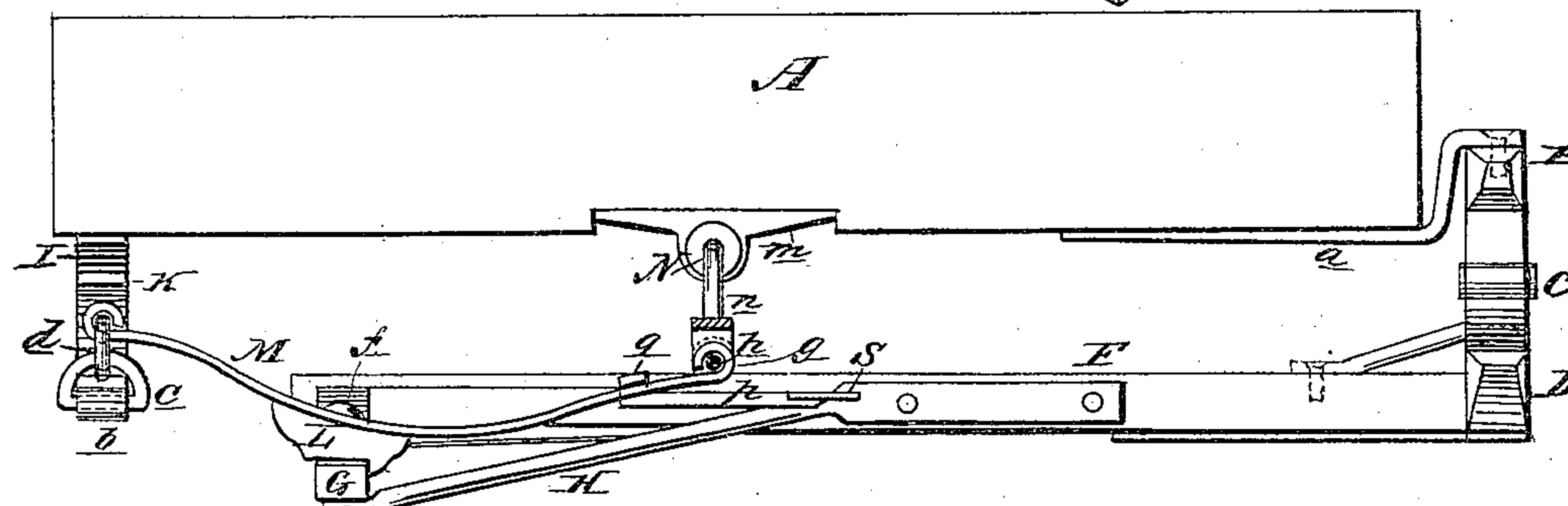
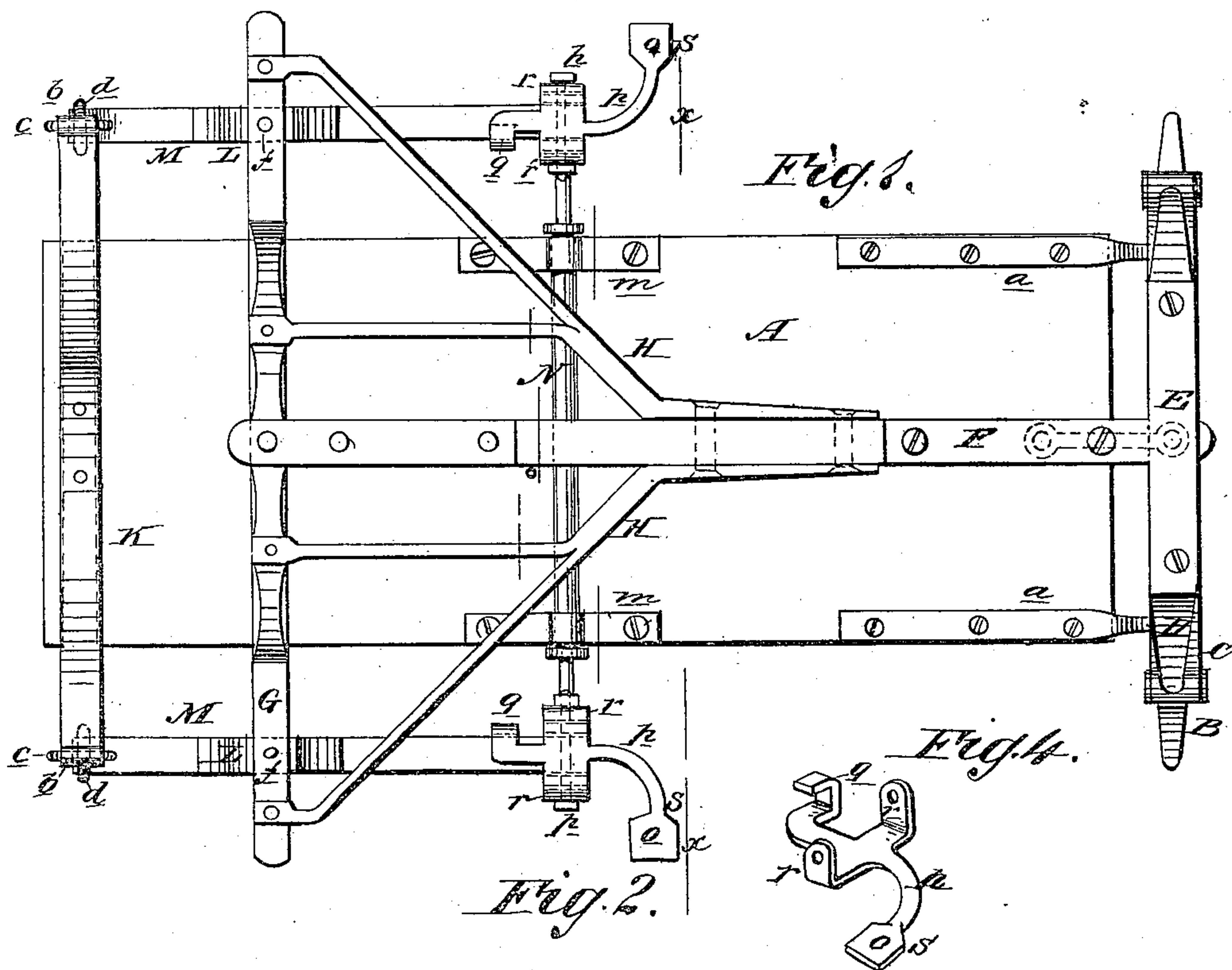


(Model.)

W. T. SHAVER.
WAGON GEAR.

No. 246,225.

Patented Aug. 23, 1881.



WITNESSES:
Francis Mc Ardle.
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UNITED STATES PATENT OFFICE.

WILLIAM T. SHAVER, OF ELDORA, IOWA.

WAGON-GEAR.

SPECIFICATION forming part of Letters Patent No. 246,225, dated August 23, 1881.

Application filed January 5, 1881. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM THOMAS SHAVER, of Eldora, in the county of Hardin and State of Iowa, have invented a new and useful Improvement in Wagon-Gears, of which the following is a full, clear, and exact description.

The invention is especially applicable to spring-wagons; and the object is to provide a device whereby the usual strain upon the side springs, reach, and head-block is avoided and the wagon-gear is rendered more elastic.

The invention consists of a rod secured transversely across the bottom of the wagon-box, with its ends turned down and connected with and supporting the front ends of the side springs, said rod being so held as to freely rock or swing fore and aft with the vertical movements of the springs, thereby relieving the reach, head-block, and springs from much of the ordinary strain upon them.

Figure 1 is a plan of the underside of the improved gear in position on a wagon-box. Fig. 2 is a side elevation of the same with step sectioned. Fig. 3 is a transverse sectional elevation on line *xx*, Fig. 1. Fig. 4 is a detailed perspective view of a wagon-step and attached parts.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the wagon-box, whose front end is supported by goose-necks *a* on the spring-bar B, or box set on the spring-bar, which is fastened on top of the elliptical springs C.

D is the bolster or head-block, on which said springs C rest; and E represents the forward axle.

F is the reach, connected with the head-block D, and extending rearward to connect with the rear axle, G; and H are the braces, that firmly secure the reach F and axle G together. These parts hereinbefore mentioned are of the ordinary construction and arrangement.

To the under side of the box A, at its rear end, is secured a block, I, to which is bolted or otherwise fastened a transverse downward-curved spring, K, which extends at either end beyond the wagon-box A, and carries in each of its ends eyes *b*, connecting with the ears or knuckles of the side springs.

On each arm of the rear axle, G, is a block, L, on which is secured, by a vertical bolt or clips *f*, that pass down each side of said block L and axle G, a spring, M, curving upward at its ends, and parallel with the sides of the box A. The rear ends of these springs M are connected with the links *d*, as shown, while the eyes *g* of the forward ends of said springs M hold the transverse coupling-bolts *h*, whose functions will be hereinafter set forth.

On the under side of the wagon-box A, about midway of its length, and at the sides thereof, are secured journal-boxes *m*, that serve as bearings for the transverse rod N, which extends on either side beyond the wagon-box A, and has its forked ends bent downward at right angles or thereabout, as shown at *n*, so that the eyes *g* of the springs M shall be between the said forks, and the coupling-bolts *h* pass through them both, thereby connecting the forward end of each spring M with an end of the rod N, so that said rod N shall rock with the extension and shortening of the springs M, allowing them free and full play, and thereby making the box A ride more easily, and removing the usual strain from said springs, reach, and head-block or bolster. Because this rod N thus operates to give the springs M more freedom of movement at their forward ends, I call it an "equalizer."

The steps S are attached to the forward ends of the springs M in a novel manner. The tread *o* of a step, S, is on the same plane with its handle or support *p*, which support *p* is curved or bent aside at about right angles to the edge of said tread *o*, and has at its rear end an offset or ear, *q*, that is turned up over the inner edge of a spring, M, while from either side of the handle or support *p*, and at right angles thereto, are extended the ears *r*, whose extremities are bent up at right angles to embrace or clasp a forked end, *n*, of the rod N; and the step S is further secured in place by the bolt *h*, that passes through the step-ears *r*, rod-forks *n*, and spring-eyes *g*. Thus the steps S are connected with and attached to the springs M, and at the same time suspended from the equalizer or rod N, whereby they partake of the elasticity and rocking motion of both.

The ends of the rod or equalizer N may be

curved outward or forward, as may be desired, instead of being only turned down at right angles, as shown.

I do not confine myself to the precise construction of parts herein shown, as it is evident that modification may be made without departing from my invention.

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

In a wagon-gear, the combination, with the

wagon-box A, transverse spring K, and side springs, M, of the rocking rod or equalizer N, provided with forked ends *n* and bolts *h*, substantially as herein shown and described, whereby the wagon-gear is made more elastic, as set forth. 15

WILLIAM THOMAS SHAVER.

Witnesses:

JNO. C. MCBRIDE,
S. A. REED.