

(No Model.)

M. L. STOTLER.

VEHICLE SPRING.

No. 251,387.

Patented Dec. 27, 1881.

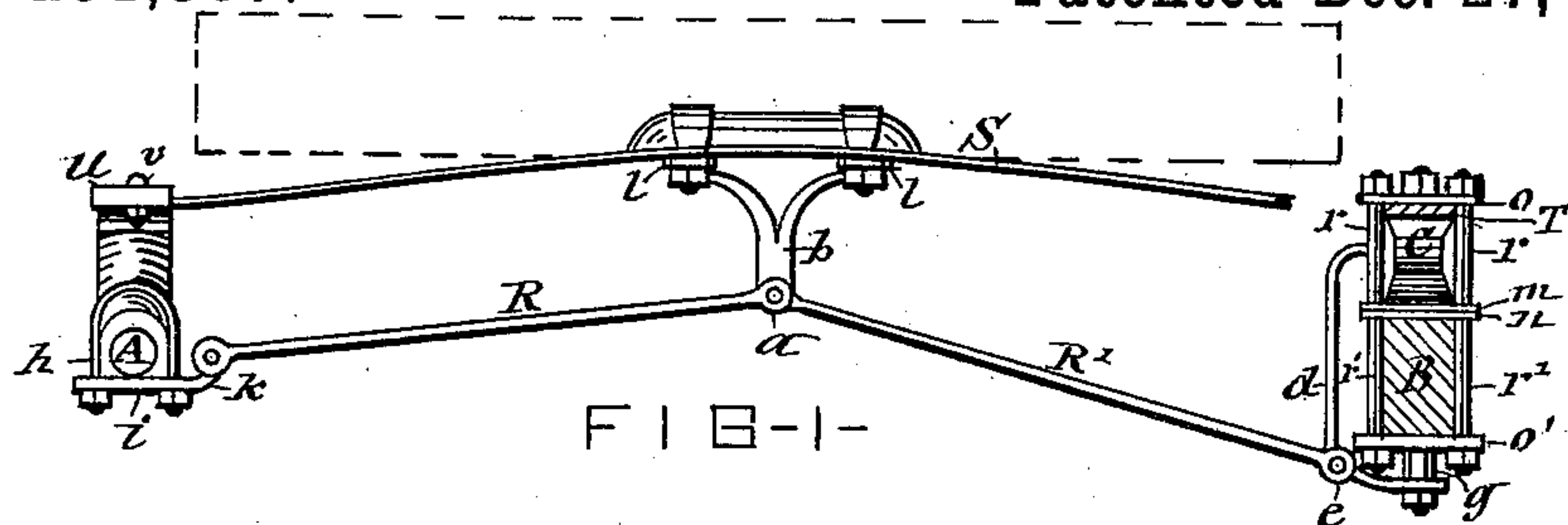


FIG-1-

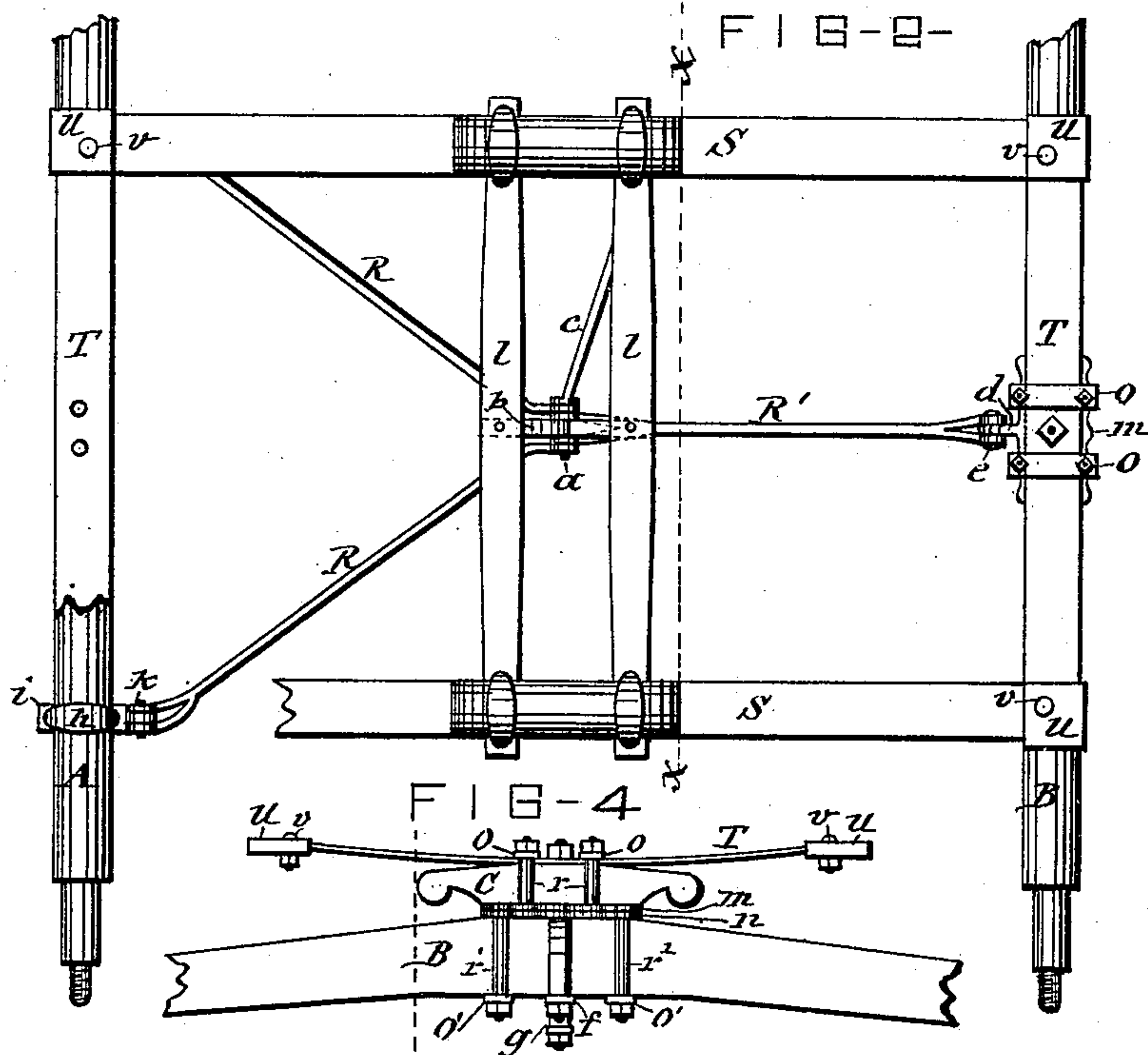


FIG-2-

FIG-4

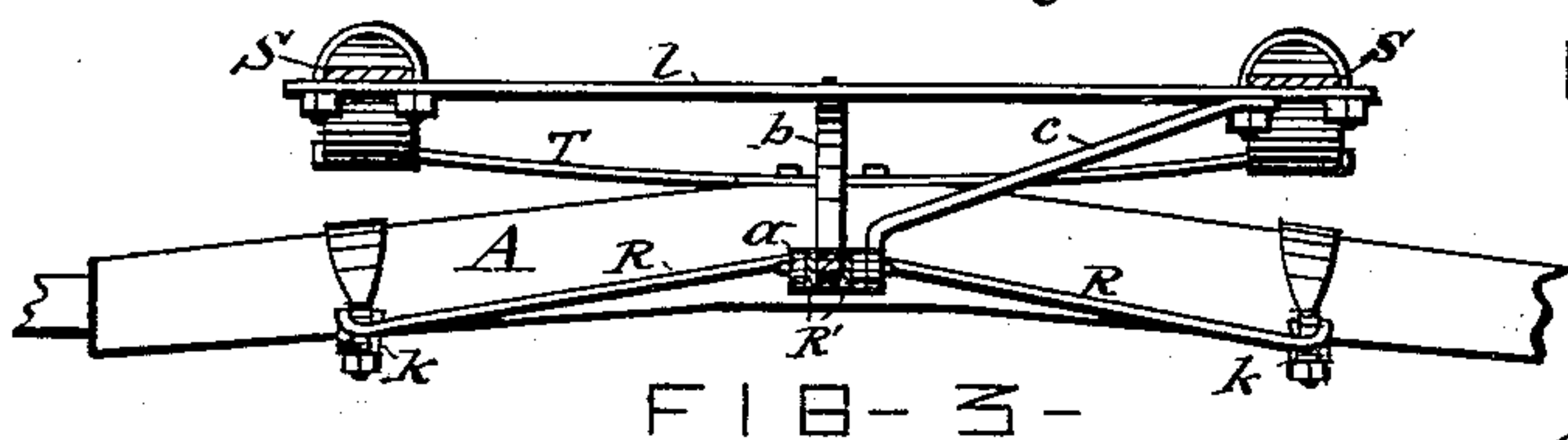
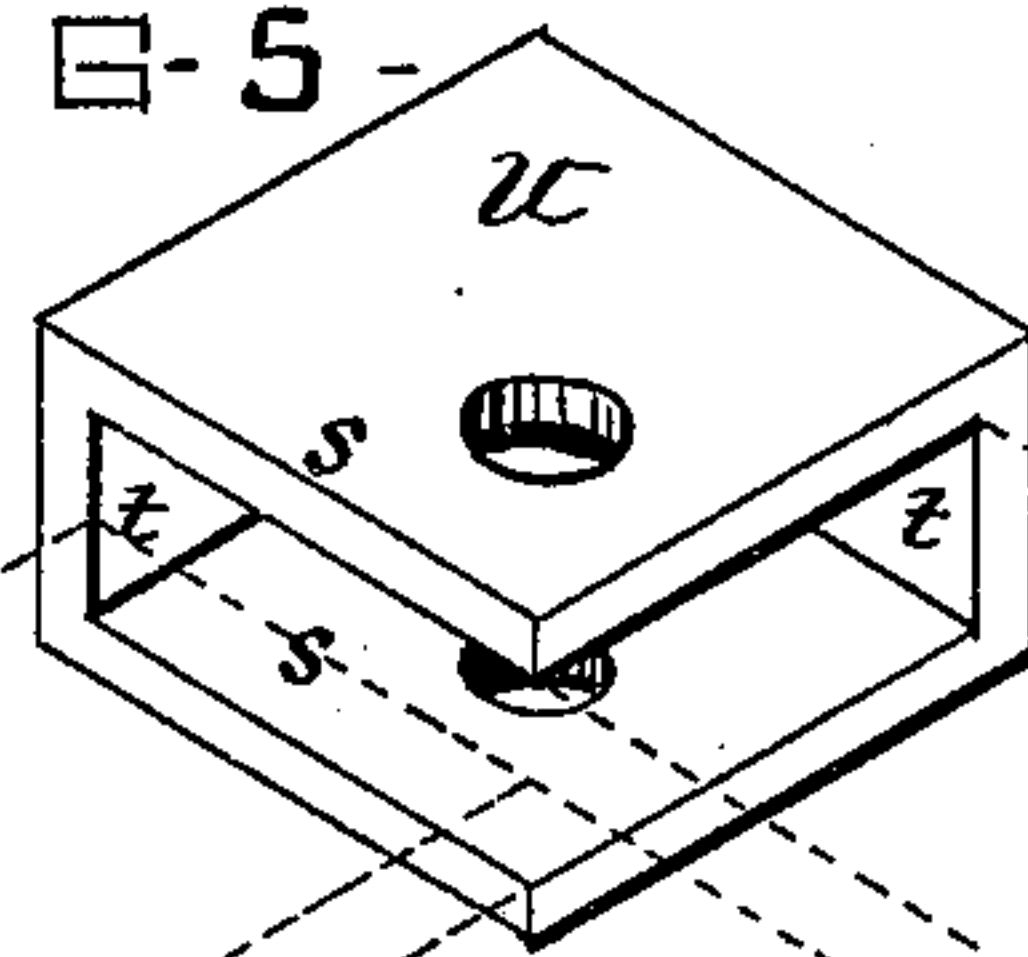


FIG-3-

FIG-5-



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UNITED STATES PATENT OFFICE.

MORDECAI L. STOTLER, OF THERESA, NEW YORK.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 251,387, dated December 27, 1881.

Application filed November 7, 1881. (No model.)

To all whom it may concern:

Be it known that I, MORDECAI L. STOTLER, of Theresa, in the county of Jefferson, in the State of New York, have invented new and useful Improvements in Spring-Vehicles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of vehicles termed "side-spring wagons," and has more particularly reference to those which have a flexible or compensating reach equalizing the distance between the axles correspondingly with the distentions and contractions of the side springs, and thus preventing the cramping and straining of the connection between said springs and the end springs and allowing the same to operate more freely.

The invention consists in a novel arrangement and simple and effective application of a lateral brace, which sustains the central portion of the flexible reach without interfering with the compensating action thereof; and it furthermore consists in improved means of connecting the side springs with the end or cross springs, all as hereinafter more fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a side elevation of my invention; Fig. 2, a plan view of the same, with a portion of the springs broken away to better illustrate the connection of the reach with the hind axle. Fig. 3 is a transverse section taken on line *xx*, Fig. 2. Fig. 4 is a front view of the same, and Fig. 5 is an enlarged isometric view of the device by means of which the side springs are connected with the end springs.

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

A and B represent the hind and front axles, respectively, of a vehicle.

R R' is the reach connecting said axles. Said reach is constructed of two divergent rear end sections, R R, and a single forward end section, R'. The former are hinged on ears *k* formed on clip-bars *i*, which are secured to the hind axle by clips *h*. The convergent forward ends of the reach-sections R R are each provided with an eye, and receive between them the rear end of the forward reach-section, R', which is bifurcated and likewise provided with eyes.

The said reach-sections are hinged together by a bolt passing through the eyes in the ends of said sections, as shown at *a* in the drawings, and are supported by a stirrup or hanger, *b*, secured in a pendent position to the under side of the cross-bars *l l*, which connect the central portion of the two side springs, S S, and support the body of the vehicle, as indicated by dotted lines in Fig. 1 of the drawings, the foot of said hanger being provided with an eye, which passes into the bifurcated rear end of the forward reach-section, R', and receives through said eye the bolt which hinges the reach-sections together, as aforesaid. The forward end of the single reach-section R' is hinged to an eye, *e*, on a stay, *d*, which has its upper end rigidly secured to the head-block C and its lower end extended under the axle and coupled or swiveled to a clip-bar, *f*, which is secured to the under side of the axle, and has a downward-projecting stud passing through an eye on the end of the reach. A nut on the end of said stud secures the connection of the reach.

The described flexible or jointed reach is designed to be normally held nearly or quite in the same relative crowning position or central upward deflection as the side springs by means of the hanger *b*, before described, and the connection of the central or intermediate portion of the reach with the central portion of the side springs by the medium of the aforesaid hanger and cross-bars *l l* causes said reach to vibrate and deflect synchronously with the vibrations and deflections of the side springs, thus varying the distance between the axles corresponding to the distentions and contractions of said springs, and consequently preventing the straining of the connections of the side springs with the end springs.

In order to sustain the central portion of the reach against lateral vibration and maintain it lineally in position, I employ a lateral brace, *c*, which has on its inner end an eye, by means of which it is connected to the coupling-pin of the central joint, *a*, of the reach. The outer end of said brace is firmly secured to the under side of the cross-bar *l* by the clip which connects said cross-bar to the side spring.

m n represent two wear-plates interposed between the head-block C and axle B. Said

plates are of a sufficient width to afford a good broad bearing-surface, and to project at the front and rear of the head-block and axle. By means of bolts *r r'*, secured to the projecting portions of the plates *m n* and passing through clip-bars *o* and *o'*, respectively on top of the end spring, *T*, and on the under side of the axle *B*, and provided with nuts on their extremities, the said wear-plates are secured respectively to the head-block and axle.

I am aware that similar friction-plates or wear-plates have been interposed between the head-block and axle and secured to said parts by screws or bolts passing through the same; but such a construction has a tendency to weaken the head-block and axle, while by clipping the wear-plates on said parts I strengthen the same.

The side springs, *S*, I connect with the end springs, *T*, by means of a corner socket, *u*, in the form of two horizontal plates, *s s*, united at their two outer edges by walls *t t*, all cast in one piece. The plates *s s* are sufficiently apart to allow the ends of both springs to be inserted in the socket *u* with one end resting upon the other. By a bolt or rivet, *v*, inserted through holes respectively in the socket *u* and ends of the side springs and end springs, said parts are firmly united.

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

1. The combination and arrangement of the hanger *b*, suspended from the cross-bars *l l*, the reach-sections *R R'*, hinged on the foot of said hanger, and the lateral brace *c*, connected at one end to the coupling-bolt of the reach-sections and hanger, and having its opposite end secured to the under side of the bar *l* by the clip which connects said bar with the side spring, substantially in the manner described and shown.

2. The combination, with the springs *S T*, of the corner socket, *u*, consisting essentially of the top and bottom plates, *s s*, united by vertical walls *t t*, substantially as set forth and shown.

3. The combination, with the springs *S T*, of the corner socket, *u*, consisting of the plates *s s* and walls *t t*, all cast in one piece, and the bolt or rivet *v*, passing through the socket and springs, substantially in the manner described and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of attesting witnesses, at Theresa, in the county of Jefferson, in the State of New York, this 18th day of October, 1881.

MORDECAI L. STOTLER. [L. S.]

Witnesses:

L. W. TYLER,
C. G. YOST,
WM. C. RAYMOND,
C. H. DUELL.