

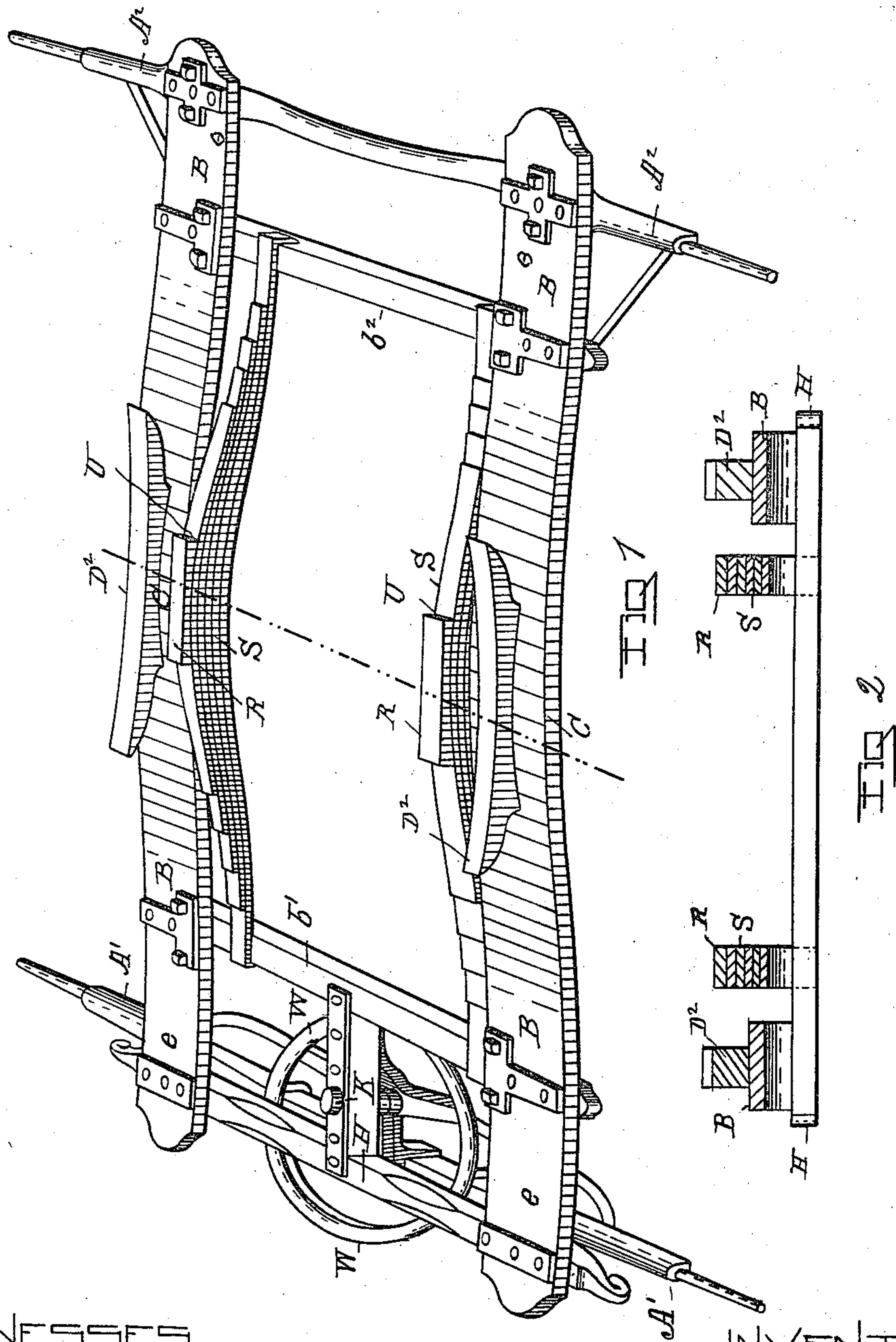
(No Model.)

2 Sheets—Sheet 1.

J. K. P. PINE.
SPRING BOARD WAGON.

No. 441,191.

Patented Nov. 25, 1890.



WITNESSES

William A. Sweet

Charles S. Brintnall

INVENTOR

James K. P. Pine
By W. E. Hagan
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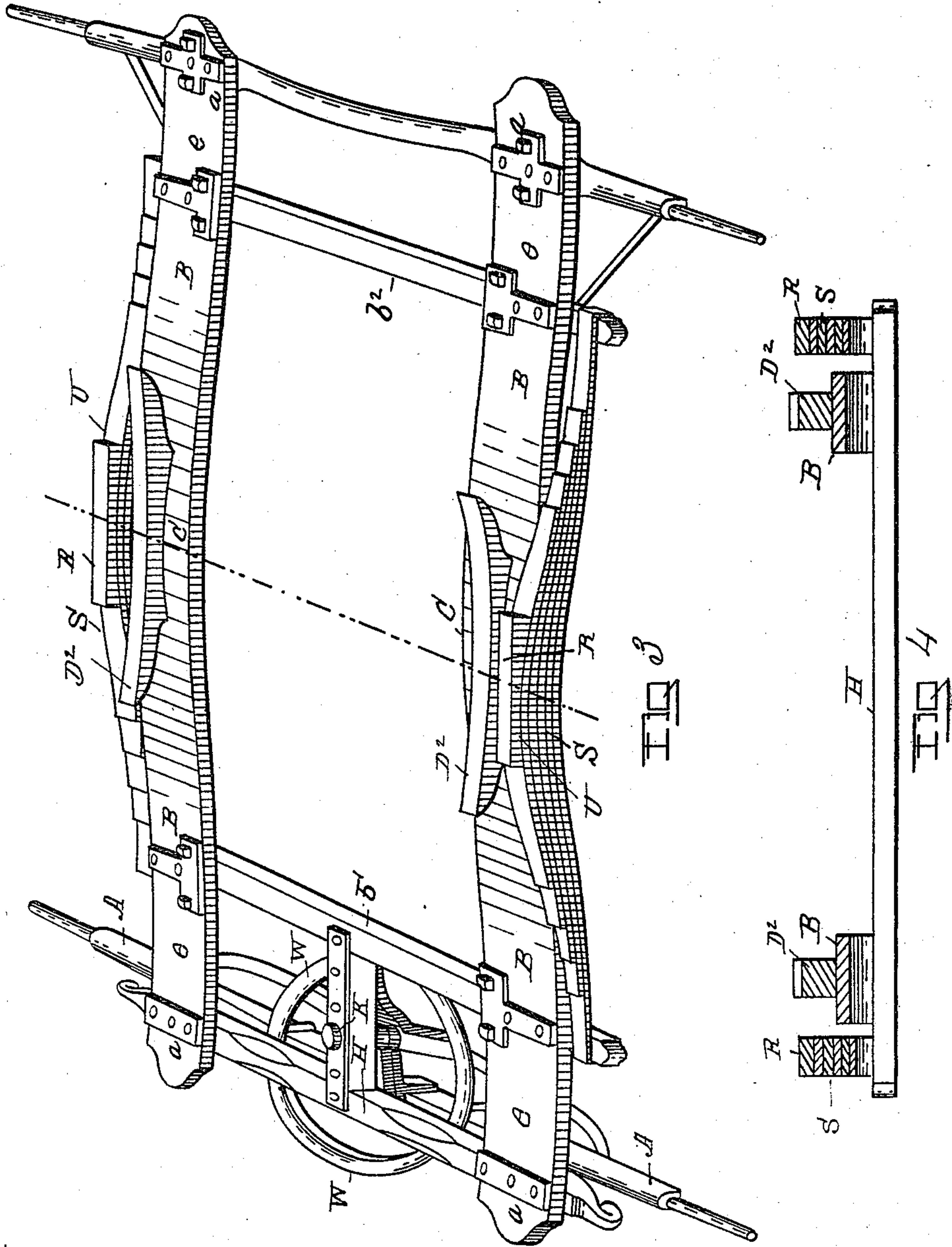
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UNITED STATES PATENT OFFICE.

JAMES K. P. PINE, OF LANSINGSBURG, NEW YORK.

SPRING-BOARD WAGON.

SPECIFICATION forming part of Letters Patent No. 441,191, dated November 25, 1890.

Application filed September 2, 1889. Serial No. 322,732. (No model.)

To all whom it may concern:

Be it known that I, JAMES K. P. PINE, of the village of Lansingburg, county of Rensselaer, and State of New York, have invented new and useful Improvements in Spring-Board Wagons, of which the following is a specification.

My invention relates to improvements upon that class of spring-board wagons in which combined metal springs and spring-boards are used and upon which the wagon-body is supported; and the object and purpose of my invention are to render the movement of the wagon box or body more steady, which better result I accomplish by dispensing with the cross-bar heretofore applied to connect the spring-boards where crowned and to separately connect the body with the metal springs and the spring-boards, as will be more fully detailed hereinafter in connection with the illustrations of the parts.

Accompanying this specification, to form a part of it, there are two plates of drawings containing four figures illustrating my invention, with the same designation of parts by letter reference used in all of them.

Of the illustrations, Figure 1 is a perspective of the running-gear of a wagon containing my invention with the body removed and with the spring-boards shown as placed outside of the metal springs. Fig. 2 is a section taken on the line $x'x'$ of Fig. 1. Fig. 3 is a perspective of a wagon-gear containing my improvement and in which the metal springs are arranged outside of the spring-boards. Fig. 4 is a section taken on the line x^2x^2 of Fig. 3.

The several parts of the apparatus thus illustrated are designated by letter reference, and the function of the parts is described as follows:

The letter A' designates the front axle; A^2 , the hind axle; H, the head-block; K, the king-bolt; W, the fifth-wheel, all of which parts are of the usual and ordinary construction.

The letters B designate two spring-boards, the ends of which are made flat, as indicated at e, and each of these boards between these flat ends is made to curve or crown upwardly and centrally, as indicated at C. The flat ends of these boards oppositely connect at the front

with the head-block and at the rear with the hind axle at a.

The letter b' designates a cross-bar arranged upon the lower surface of and connecting the two spring-boards near where they join the head-block, and b^2 a cross-bar arranged upon the lower surface and which connects the two spring-boards near the hind axle.

The letters S designate two leaf-springs, each of which has its front end resting on the cross-bar b' and its rear end on the cross-bar b^2 . Between their ends these leaf-springs are made to curve upwardly at U.

The letter R designates a riser or plate that is arranged upon each of the springs S where upcurved at the top, and each of these risers or plates is adapted thereat to connect with the wagon-body.

The letter D^2 designates bolsters or risers that are attached to the upcurved and crowned tops of the spring-boards, each of which is thereat adapted to connect with the wagon-body. As thus made and arranged, each of the springs and each of the spring-boards separately connect with the wagon-body in the same horizontal plane.

E is the body.

As heretofore used, similarly arranged spring-boards have been combined with metal leaf-springs, with the spring-boards placed side by side between the metal springs and with the ends of the latter inserted and held in keepers constructed on the outer ends of slats that were arranged on the under side of the boards to connect them thereat. In this older device the boards where crowned were connected by a cross-bar that at each side passed out under the leaf-springs, and on the end of which cross-bar where subtending the spring-boards the metal springs rested, with the wagon-body connected to the latter alone, so that when the body was weighted down the metal springs were engaging with the ends of the cross-bar operated upon the boards.

By my improvement risers or side bolsters are used at each side to connect the body with the spring-boards and metal springs, so that they operate together and at the same time to take up any vertical or side-to-side swaying of the body, and the cross-bar is dispensed with.

By this new arrangement of the connection between the spring-boards and metal springs I am enabled to use the spring-boards at the inner or outer sides of the metal springs, and
5 in either instance the operation is the same—that is, the boards and metal springs take up connectedly and together any vibration communicated to the running-gear when passing over the rough places in the road.

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

In a running-gear for spring-board wagons, the combination, with two spring-boards centrally crowned and resting upon the head-
15 block at the front and a head-block or hind

axle at the rear and having cross-bars connecting said spring-boards near their ends, of a metal leaf-spring arranged at the side of each of said spring-boards, and a riser adapted 20 to separately connect each of said spring-boards and metal springs with the wagon-body, substantially as and for the purposes set forth.

Signed at Troy, New York, this 9th day of 25 February, 1889, and in the presence of the two witnesses whose names are hereto written.

JAMES K. P. PINE.

Witnesses:

CHARLES S. BRINTNALL,
W. E. HAGAN.