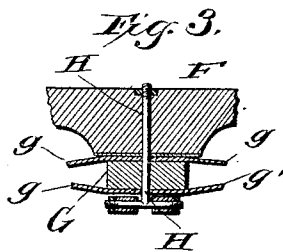
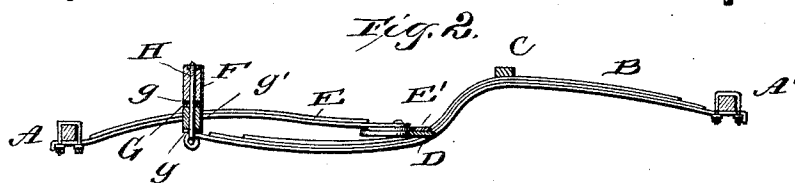
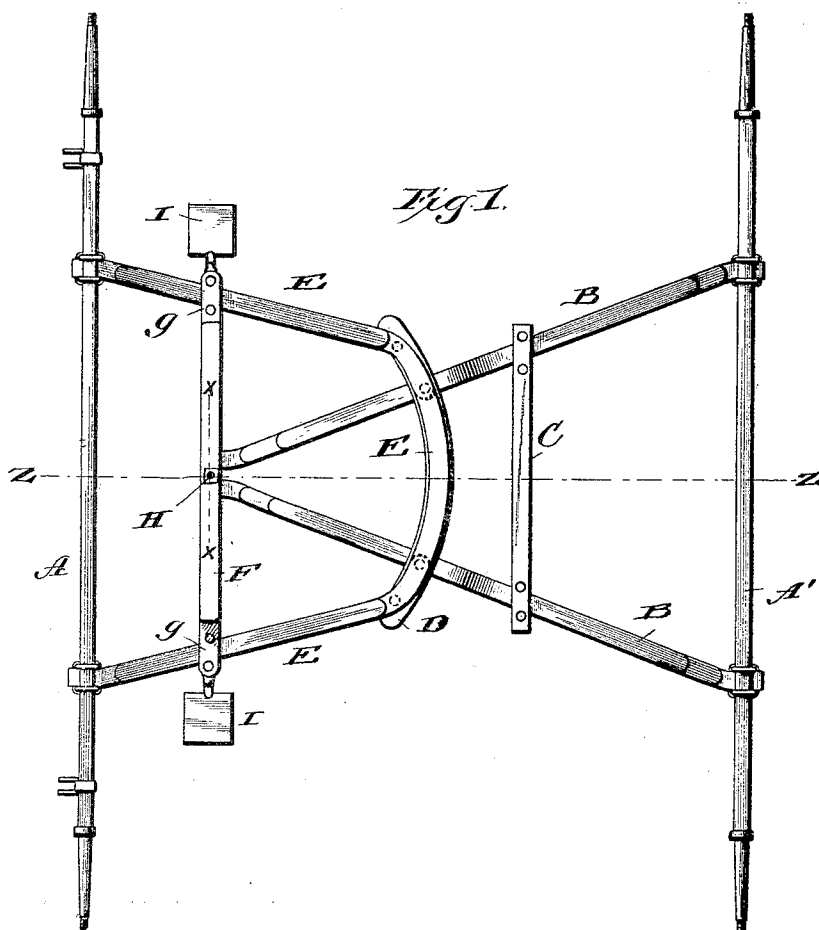


(No Model.)

L. F. CASE, Jr.
VEHICLE RUNNING GEAR.

No. 461,110.

Patented Oct. 13, 1891.



Witnesses

E. W. Hurdman,
L. C. Mills.

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UNITED STATES PATENT OFFICE.

LEWIS F. CASE, JR., OF GOSHEN, INDIANA.

VEHICLE RUNNING-GEAR.

SPECIFICATION forming part of Letters Patent No. 461,110, dated October 13, 1891.

Application filed June 4, 1891. Serial No. 395,086. (No model.)

To all whom it may concern:

Be it known that I, LEWIS F. CASE, Jr., a citizen of the United States, residing at Goshen, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Running-Gear, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in running-gear for vehicles; and it has for its objects among others to provide an improved running-gear which shall be capable of turning short independent of and not using the body of the vehicle as a coupling or reach. I connect the rear springs to a truss to the rear of the front axle, and upon these rear springs attach the lower portion of the fifth-wheel, the front springs being connected with the said truss and carrying the upper portion of the fifth-wheel, the king-bolt passing through the front bolster and truss and having secured thereto the forward ends of the rear springs. I improve upon the arrangement of the parts in general.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a top plan of my improved running-gear. Fig. 2 is a longitudinal vertical section on the line zz of Fig. 1. Fig. 3 is a vertical cross-section on the line xx of Fig. 1, on an enlarged scale.

Like letters of reference indicate like parts throughout the several views in which they occur.

Referring now to the details of the drawings by letter, A designates the front axle, and A' the rear one, of any well-known or approved construction.

B are the rear springs, which are preferably leaf-springs, at their rear ends clipped or otherwise held to the rear axle in any suitable manner and near their center curved downward, as shown in Fig. 2. To the rear of this downward drop or curve there is at-

tached to these rear springs in any suitable manner the rear cross-bar C, upon which the vehicle-body (not shown) is designed to be fastened.

To the rear springs, forward of the drop or curve therein, is attached the curved bar D, which forms the lower half of the circle and upon which the other half is designed to turn.

E are the front springs, which are preferably leaf-springs, and at their forward ends clipped or otherwise secured to the front axle. At their rear ends they carry the upper curved half E' of the circle. This may be integral with the front springs or it may be a separate piece secured to the rear ends of the said front springs in any suitable manner.

F is the front bolster. It is arranged to the rear of the front axle and between the same and the circle, as shown. It is supported upon the truss G, which is formed of two pieces $g g$, as seen best in Fig. 3, with a spacing-block g' between them beneath the central portion, as shown in Fig. 3, and through the front bolster and through these pieces $g g$ and the spacing-block passes the king-bolt H, which is in the form of an inverted T, with the three extremities screw-threaded, as shown in Fig. 3. To the lateral arms of the king-bolt are secured the forward ends of the rear springs, which are inclined inwardly at their forward ends, as seen in Fig. 1, the manner of connection being shown clearly in Fig. 3.

The front springs are held between the two pieces $g g$ at the ends thereof in any suitable manner, as shown, and at their outer ends these pieces $g g$ carry the steps I, as shown in Fig. 1.

By this construction and arrangement of parts I obtain a very easy-riding running-gear, with an extra length of spring, and one which is durable and not liable to get out of repair.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as new is—

1. The combination, with the rear springs, the cross-bar, and the lower half of the circle thereon, of the front springs, the upper half

of the circle carried thereby, and the truss between the front axle and the circle, as set forth.

2. The combination, with the rear springs
5 and the lower half of the circle carried thereby, of the front springs carrying the upper half of the circle and extended rear of the front ends of the rear springs, as set forth.

3. The combination, with the rear springs
10 and the lower half of the circle carried thereby, of the front springs carrying the upper half of the circle, and the truss supporting the forward ends of the rear springs and arranged between the ends of the front springs,
15 as set forth.

4. The combination, with the rear and front
axles, of the rear springs connected to the rear axle and inclined toward each other, the rear cross-bar on said springs, the lower half
20 of the circle on said springs, the front springs

connected to the front axle and carrying the upper half of the circle, the truss supporting the front ends of the rear springs, and the king-bolt holding the ends of the rear springs and passed through the truss, as set forth. 25

5. The combination, with the rear springs, the forward ends of which converge toward each other, of the front springs, the truss holding the front springs, the spacing-block between the pieces of the truss, and the 30 king-bolt passed through the truss and having at its lower end lateral portions to which the forward ends of the rear springs are connected, as set forth.

In testimony whereof I affix my signature in 35 presence of two witnesses.

LEWIS F. CASE, JR.

Witnesses:

CHARLES W. MILLER,
GEO. K. POYSER.