J. W. LAWRENCE.

Wagon-Spring.

No. 30,886. Patented Dec. 11, 1860.

Fig. 1.

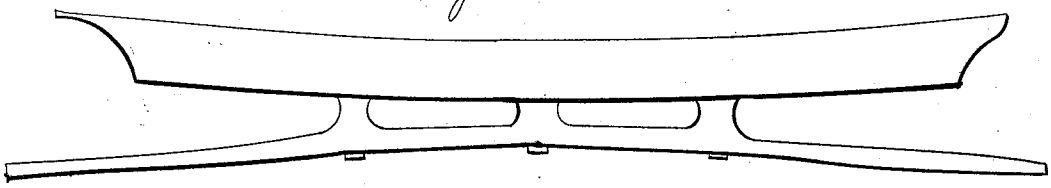


Fig. 2.

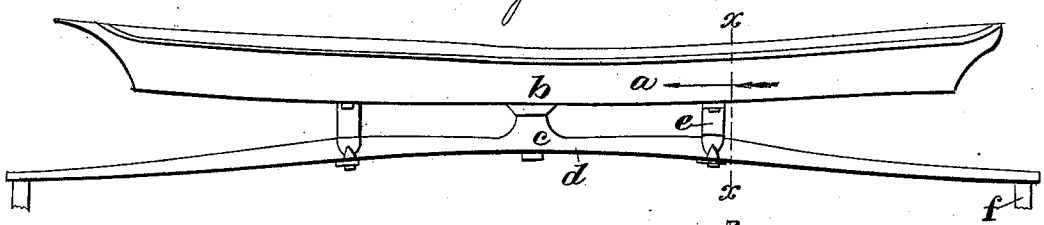
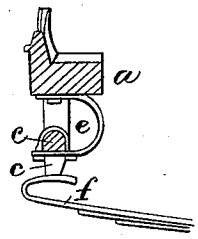


Fig. 3.



Witnesses
L. H. Maynard
James Pa. Bakes

Inventor;
James W. Lawrence

UNITED STATES PATENT OFFICE.

JAMES W. LAWRENCE, OF NEW YORK, N. Y., ASSIGNOR TO HENRY BREWSTER, JAS. W. LAWRENCE, AND JNO. W. BRITTON, OF SAME PLACE.

ROAD-WAGON.

Specification of Letters Patent No. 30,886, dated December 11, 1860.

To all whom it may concern:

Be it known that I, JAMES W. LAWRENCE, of the city, county, and State of New York, have invented certain new and useful Improvements in Light Road-Wagons; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being made to the annexed drawing, making a part of this specification, in which—

Figure I is a side view of an ordinary construction. Fig. II is a side view of my improved construction. Fig. III is a section on the line *x*—*x* of Fig. II.

Similar letters indicate similar parts throughout the figures.

My invention is an improvement in that class of light road-wagons known as "side-bar wagons," whereby I am enabled to retain all the advantages of the "side-bar" and the "half-spring" on which its ends rest, while at the same time the body of the wagon may have the easy motion peculiar hitherto to the elliptic spring. As commonly constructed the side-bar is secured to the body at three points, at each of which it is firmly bolted to the lower rail of the wagon, as shown in Fig. I. Between these points, the side bar must necessarily be made so heavy as to preclude any degree of spring, since the bolts would soon work loose in the wood and creak, if not rigidly secured. The distance from the outer bearings to the ends of the side bar is then so little that but a limited amount of yielding can be obtained, since more would require that the thickness of the wood should be too much reduced for safety.

My improvement consists in attaching the side-bar to the body rigidly at only the central point, and in securing it at the other usual points by such springs that when the bar is made to yield it may have freely at the ends the amount of lateral motion required for the proper action of the half springs upon which its ends rest, and to which, by my construction, the ends may be firmly bolted.

The construction is as follows: At (*a*), Fig. II, is shown the lower rail of a light wagon, and at (*b*) is the central point to which a side-bar (*c*) is rigidly bolted. This side-bar is so shaped that it will be yielding very close to the bolt, as at about (*d*), then is stiff at the distance where the usual side-bar would be again bolted to the body, and here, instead of a bolt, it is secured to the body by means of a steel spring of the form seen in Fig. III and which is firmly bolted to the body at its upper end and attached to the side-bar by an ordinary clip, as clearly shown. From this point the side-bar is again reduced toward each end, where it is bolted to the ends of the usual half spring (*f*).

In operation, it will be clear that the motion of the body of the wagon must be much easier, since, having a spring at (*e*) the side-bar may yield between that and the central bolt at (*b*), while the form of the spring (*e*) permits the ends of the side-bar to move laterally and thereby accommodate themselves to the varying length of the half spring due to its motions.

I claim—

Attaching the side-bar to the body of the wagon by a rigid central and two elastic supports when the side-bar is so formed that it may have elasticity between the central and the side supports, as set forth.

In witness whereof I have hereunto subscribed my name.

JAMES W. LAWRENCE.

Witnesses:

I. P. PIRSSON,

S. H. MAYNARD.