

Road Wagons.

Patented April 1, 1873.

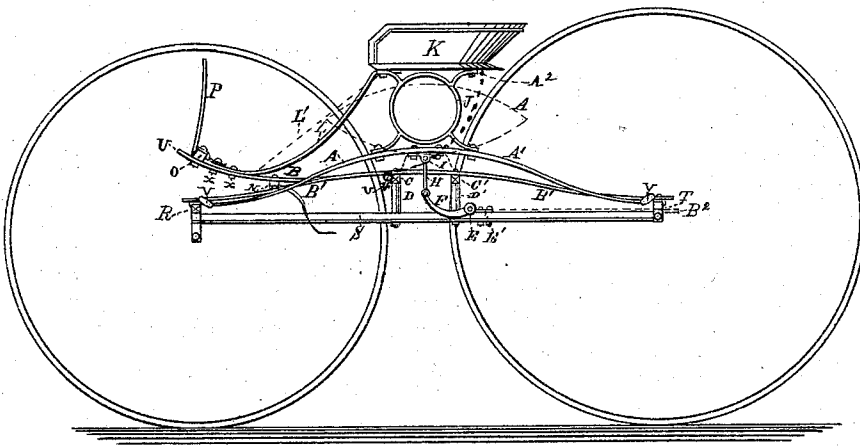


Fig 1

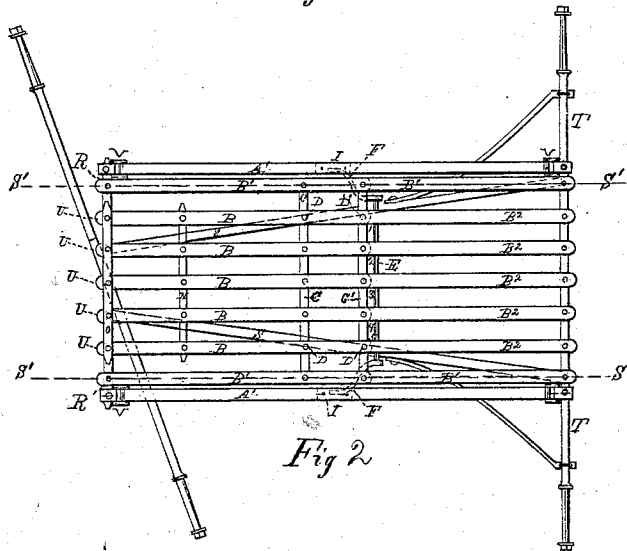


Fig 2

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IMPROVEMENT IN ROAD-WAGONS.

Specification forming part of Letters Patent No. **137,324**, dated April 1, 1873; application filed December 30, 1872.

To all whom it may concern:

Be it known that I, CYRUS W. SALADEE, of St. Catharine's, in the Dominion of Canada, have invented certain Improvements in the Construction of Road-Wagons, of which the following is a specification embodying my invention.

Nature and Object.

My present invention relates to that class of pleasure-vehicles known as the "buck" or road wagon, and has for its object, first, the prevention of that objectionable degree of rotary motion transmitted to the axles in vibrating the slatted bottom and springs so common in this class of vehicles; second, the prevention of the jarring, bouncing motion transmitted to the feet of the rider by reason of the front ends of the slatted bottom on which the feet rest being rigidly secured to the front bolster of the vehicle, and thus, while the center of the slatted frame and the springs connected therewith impart to the seat supported thereupon the requisite degree of vibrating motion, the feet of the rider resting on the front ends of the slats receive an unpleasant pounding, bouncing motion, and which is a defect of serious import in road-wagons generally; third, the prevention of side motion to the seat mounted upon the springs and slatted frame by means of a single connecting-rod placed across the central portion of the gearing, and the opposite ends connected to the center of the springs or ends of the seat, as hereinafter more particularly described; fourth, a more suitable provision as a receptacle for baggage and other articles to be carried in the rear of the seat and between the side springs upon that end of the slatted frame or bottom than has heretofore been done, and in such manner, also, that the baggage or other articles to be conveyed shall not be imposed upon or carried by the springs supporting and carrying the seat; fifth, providing, when that is desirable, for a unity of action between the seat and the suspended vibrating ends of the slatted frame or foot-board; and, sixth, a novel provision for the vibration of the springs and seat independent of the slatted frame.

The nature of my invention admits of a

great variety of modifications, as, by a slight variation in the application of the improvements hereinafter described and claimed, a number of different styles of vehicles may be produced upon substantially the same principle.

The Drawing.

In the drawing, Figure 1, Sheet 1, is a side view or elevation of a road-wagon representing my improvements; and Fig. 2 is a top or plan view of the same omitting the seat.

General Description.

In the construction of the gearing I combine, with the rear axle and front bolster, two series of slats or perches for the purpose of rendering this connection between the two axles as rigid as possible, the one set below the other. The lower set of slats I shall denominate "the under slats or perches," and the top set "the upper slats." The under slats or perches S are straight throughout, and have their rear ends framed into the lower edge of the bed-wood on the hind axle, and their front ends into the lower edge of the front bolster, and of these under slats there may be used in this manner two or more. On the tops of these under slats or perches S, midway between their ends, is placed the standards D and D', (see Fig. 1,) there being a pair of these standards on each side of the gearing; and across the top ends of the standards are placed the cross-bars C and C', the ends of which are seen in Fig. 1, and a top view in Fig. 2. The outside upper slats B¹ are now passed over the top of the cross-bars C and C', and there secured in position immediately over the standards D and D' by means of bolts passing down through the slat B, standards D and D', and the under slats or perches S, and thus complete the connection between the upper and under slats at their centers between the axle and front bolster. In some of the modifications of this construction of gearing a single standard, D, on each side, and one cross-bar, C, will answer the purpose of double standards and two cross-bars. The rear ends of the outside upper slats B¹ are rigidly secured to the upper side of the bed-wood of the hind axle T, and their front

ends to the top of the bolster R. The under slats or perches S may be placed in the position seen in the top view, Fig. 2, or in the direction of the dotted lines S' and S'. The latter is the better position, for the reason that it brings the under slats or perches immediately under and on a parallel line with the outside upper slats B¹ and B¹. We have now connected together the hind axle T and front bolster R in the most rigid and secure manner by the arrangement described of the upper and under slats, standards, and cross-bars, and the rotation of the axles is obviated. The space between the outside upper slats B¹ and B¹, Fig. 2, is filled up with the required number of intermediate slats B, the rear ends and center portions of which are secured to the bed-wood of the rear axle and the cross bar or bars C and C', while the front ends are bent up to the letter U, Fig. 1, and there held in their relative position to each other by being bolted to the toe-piece or bar O; and about midway between this toe-piece and the cross-bar C an intermediate cross-bar, N, is bolted to the under side of the suspended ends of the slats B to stiffen them laterally, and the dashboard P is mounted on the ends of the foot-board.

It will now be seen that the front ends of the intermediate upper slats B are suspended independent of the bolster R, and that, by reason of being thus suspended, they are made to serve as a spring foot-board, by which to relieve the feet of the rider from that jarring motion they otherwise would be subjected to if these suspended ends of the slats or foot-board were bolted down rigidly upon the bolster R.

Next in order come the springs on which to support the seat K. Two side half-elliptic springs, A¹ and A¹, are connected to the rear axle and front bolster in the usual way by means of links V. On the top of these springs are secured the seat-risers J, on the top of which is mounted the seat, as seen in Fig. 1. However, the employment of side springs A, as seen in the drawing, is not an absolute necessity in the construction of this wagon, for, since the motion of the seat, consequent upon the peculiar construction of the gearing to this wagon, is entirely independent of the slatted frame, the side springs here shown may be discarded, and the seat made to rest on small elliptic springs, as per dotted lines A, Fig. 1, secured to the outer ends of the cross-bars U and C'; or any other form of seat-spring may be adopted, and answer the same purpose; yet the side springs, by reason of their great length, are preferable to that of any other kind.

For the purpose of holding the bent-up ends U of the slats B in shape, as well as to give them additional strength, a thin steel plate may be riveted to the top or bottom surface of the two outside and the center slat B; and, if desired, all of the upper slats B may be so plated from their front ends to the rear of the cross-bar C'; and, now, for the purpose of im-

parting to the spring foot-board additional strength, and compelling it to vibrate in unison with the seat, where that is desired, a steel belt, L, say one inch and a quarter wide by a quarter of an inch thick, is made in the form shown in Fig. 1, and has the lower end secured near the front end of the outside slat B by the bolts X X, and the upper end secured to the under side of the front edge of the seat—the same on both sides of the seat and foot-board.

It will now be seen that, as the seat is depressed by the downward motion of the springs A¹ and A¹, the steel belt L will, by its elastic pressure, compel the front end of the foot-board to vibrate in unison with the seat, and thus the feet of the rider will receive the same degree of motion as his body, or nearly so, and all that pounding motion the feet would otherwise receive, as before stated, if the front ends of the slats were bolted to the front bolster in the usual way, is effectually prevented; and it will be further observed that, by reason of the under slats or perches S combined with the upper slats B B¹, and the further reason that the seat is supported and operating upon the springs independent of the slats and perches, there is no rotary motion transmitted to the axles, as is the case in all road-wagons where both ends of the slats are rigidly secured to the rear axle and front bolster, and their centers being vibrated in combination with or without the side springs. And, now, for the purpose of equalizing the action of the side springs so as to prevent side motion of the seat, as when only one person is seated therein—on the one side or the other—a single connecting-rod, E, is secured across the tops of the slats or perches about midway between the axle and bolster, the outer ends of which are provided with suitable bearings E' wherein to rotate, and after passing these bearings E' the ends of the rod have rigidly secured to them an arm, F, the outer ends of which hinge into the lower end of the stirrup H, while the upper end of the latter hinges upon the bearing I secured to the under side of the springs at their centers; and thus, when one spring is depressed by the weight of one person on either end of the seat, the stirrup H will force down the point of the arm F, and thereby transmit a corresponding rotary action to the connecting-rod E, and through which a like motion is transmitted to the arm F on the opposite end of the rod E and stirrup H, and in this manner compel the opposite spring and side of the seat into the same depression, and effectually prevent side motion to the seat.

If preferred, the connecting-rod may be secured and operated upon either side of the upper slats B B¹, and hinge the upper ends of the stirrups H directly to the under side of the seat at each end, or to the seat-riser J, and answer equally well as if in the position shown in the drawing.

The advantage of a single connecting-rod used in combination with the center of the

springs over the usual method of two rods connected to each end of the springs is, that a more positive action of the rod is had upon both springs at the same instant than would be the case if two rods are employed in the old way, and as described in my former patents.

Another objection in road-wagons of this class is that there is no suitable place upon the slats back of the seat on which to carry baggage or other articles, for the reason that the reclined direction the slats take from the center down to the hind axle presents an incline plane on which no article could be retained without being fastened thereon; neither is there any provision on the sides of the slatted frame to prevent articles to be carried from sliding off; and to provide for this deficiency a box or rear body has been suspended between the springs under the seat, and extending back the required distance; but this device is objectionable not only from the unsightly appearance it imparts to the vehicle, but more particularly from the fact that the springs, which are designed to carry the weight of two persons only, are called upon to sustain the additional weight of whatever quantity of luggage may be carried in the suspended rear body or box. The arrangement of the upper slats and springs in the modification represented in the drawing, Figs. 1 and 2, is also subject to this objection, as no provision is there made for this purpose.

This provision, however, is made in the modification I shall now describe, and shown in the drawing by the aid of sundry dotted lines made thereon, viz., in place of framing the under slats S into the front bolster, as seen in Fig. 2, they are placed on a parallel line under the outside upper slats B¹ in the direction indicated by the dotted lines S', Fig. 2. The outside upper slats B¹ are now applied, as already described, and as shown in the drawing, Fig. 2, while the intermediate slats B are cut off immediately back of the cross-bar C', as indicated by the dotted cross-lines 1, 2, 3, 4, and 5. A second cross-bar, C', is now framed across the under slats or perches S, immediately below the cross-bar C'. Now the rear ends of the slats B², which were cut off at 1, 2, 3, 4, and 5, are replaced by straight slats, the rear ends of which are let into the lower edge of the bed-wood on the hind axle, and passing through far enough to give these ends a finish on the rear side of the axle-bed, while the front ends are in like manner passed through the cross-bar secured between the lower ends of the standards D'; and when these rear slats B² are thus applied they will take the position of the dotted lines B², Fig. 1, while the front ends of the slats forming the foot-board remain the same as shown and described.

We have now, under this modification for the rear end of the slats, secured a perfectly level slatted bottom, as by the dotted lines B², Fig. 1, on which to deposit baggage or other articles; and a side guard is provided all around this bot-

tom to prevent the luggage being carried from falling off—on the sides by the outside upper slats B¹, at the rear end by the axle-bed, and in front a panel may be framed in between the two rear standards D' the whole way across the gearing; and not only this, but it will be seen that the extra weight of the baggage or other articles to be carried is not imposed upon the springs, but is carried by the outside upper slats B¹, under slats S, and the hind axle.

I will here state that, as another modification for a spring foot-board, in connection with the seat K, springs A¹ and A¹, and cross-bar C', it may be hinged to the front of the cross-bar C', as indicated by the dotted circle U', Fig. 1, and the front of the foot-board supported, in relation to the seat, either by the steel belt L or by a straight rod, as indicated by the dotted line L'—at its top end hinged to the seat, and at the opposite end hinged to the side of the foot-board; or, in place of either the belt or rod, a leather strap may be substituted, in the direction of the dotted line L'. It will thus be seen that, as the seat and springs moved up or down the belt L, rod or strap L' would carry the front end of the foot-board, with the movement of the seat, upon its hinges at U', and answer the same purpose; although I prefer the first modification of spring foot-board shown and described.

As still another modification for a foot-board, the slats B may extend back and bend up, with the rear ends secured to the bottom of the seat, as indicated by the dotted line A², Fig. 1. In this case the cross-bars C and C' would be discarded, since the slats B of the foot-board would be entirely independent of them, and would be carried by the seat instead of the cross-bars C and C', as now shown in Fig. 2.

Claims.

I claim as my invention—

1. The employment of two sets of slats or perches, the one above the other, rigidly connected at their centers, for the purpose of connecting the rear axle and front bolster of running-gear for vehicles, substantially as set forth.

2. The employment of one or more standards, D, between the upper and lower slats or perches B¹ and S, substantially as and for the purpose set forth.

3. The employment of one or more cross-bars, C C', in combination with the upper and lower slats or perches B¹ and S, substantially as and for the purpose set forth.

4. The intermediate slats B B², having their rear ends and center portions rigidly secured to the gearing, and their front ends left free to vibrate under the pressure of the feet, substantially as and for the purpose set forth.

5. The dash-board P secured to the spring foot-board U, substantially as and for the purpose set forth.

6. In combination with the under slats or

perches S and rear axle T, the short intermediate slats B², Fig. 2, as a receptacle for baggage or other articles to be carried, substantially as and for the purpose set forth.

7. The connecting-rod E, Figs. 1 and 2, arms F, and stirrups H, when secured and operated upon the slats or perches at or about midway between the axle and bolster, and combined with the sides of the springs, seat-risers, or seat, substantially as and for the purpose set forth.

8. The foot-board U, composed of slats B, or other equivalent bottom, having its rear end rigidly secured and supported upon the gearing at or near the cross-center between the

hind axle and front bolster, and its front end suspended independent of the bolster or other support, substantially as and for the purpose set forth.

9. An independent foot-board, U, composed of slats, or other equivalent bottom, rigidly connected and suspended to the bottom of the seat K, the latter being supported upon the springs A¹ by seat-risers J, substantially as and for the purpose set forth.

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