(No Model.) 2 Sheets—Sheet 1.

S. E. BURKE.

ROAD CART.

No. 422,291. Patented Feb. 25, 1890.

Fig. 1.

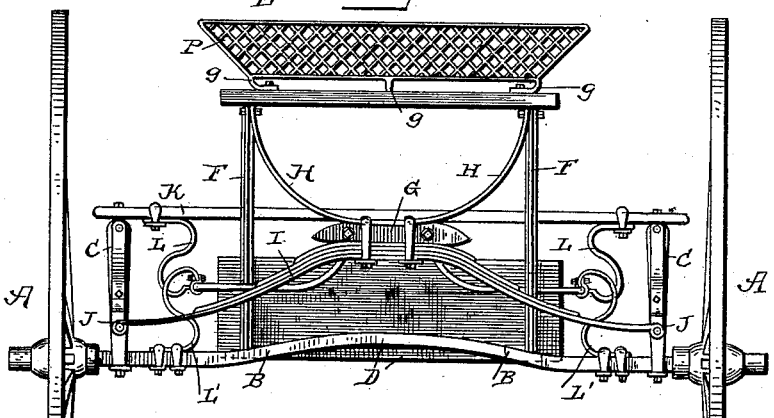


Fig. 2.

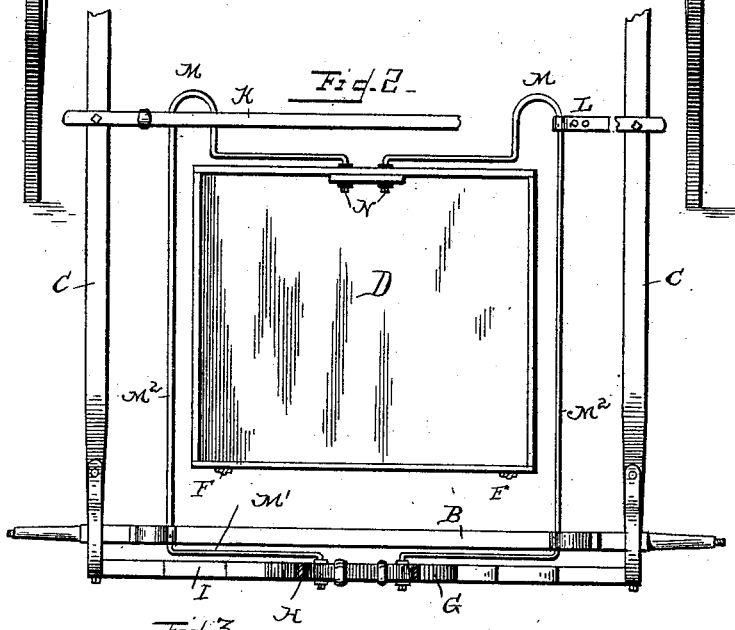


Fig. 3.

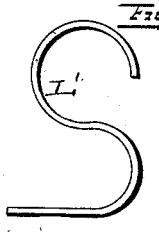


Fig. 4.

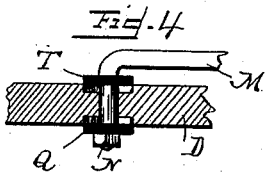
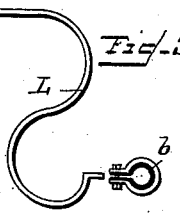


Fig. 5.



Witnesses
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(No Model.) 2 Sheets—Sheet 2.

S. E. BURKE.

ROAD CART.

No. 422,291. Patented Feb. 25, 1890.

Fig. 6.

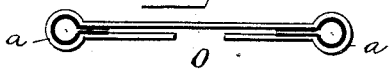


Fig. 7.

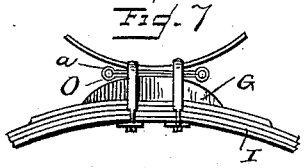


Fig. 8.

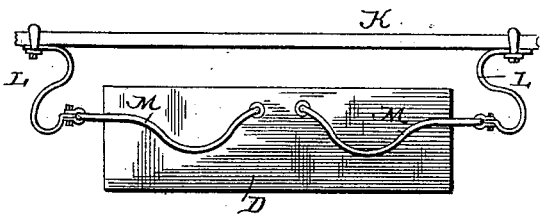


Fig. 10.

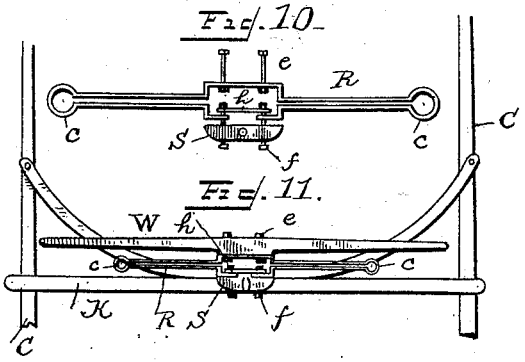


Fig. 11.

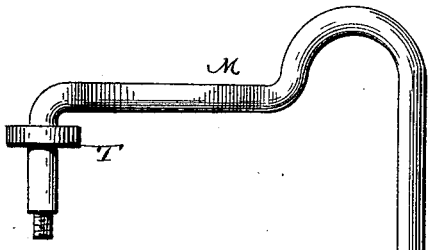


Fig. 9.

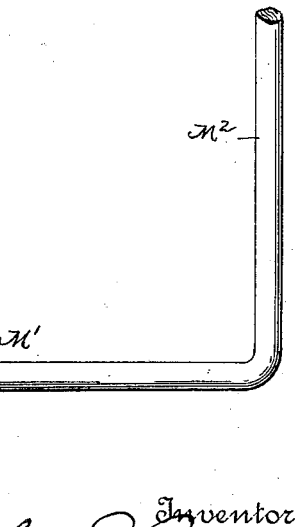
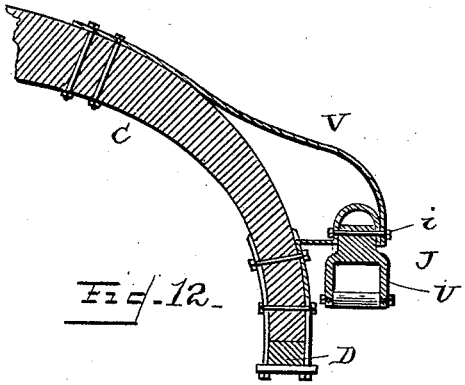


Fig. 12.



Witnesses
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Inventor
Stephen E. Burke,
By his Attorney
W. G. Underwood

UNITED STATES PATENT OFFICE.

STEPHEN E. BURKE, OF EDON, OHIO, ASSIGNOR OF ONE-HALF TO LEWIS W. JOHNSON, OF SAME PLACE.

ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 422,291, dated February 25, 1890.

Application filed November 20, 1889. Serial No. 330,938. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN E. BURKE, a citizen of the United States, residing at Edon, in the county of Williams and State of Ohio, have invented certain new and useful Improvements in Road-Carts; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to vehicles, more particularly to what are termed "road" or "dog" carts; and it has for its objects, among other things, to impart a positive up-and-down motion to the body of the vehicle as distinguished from a circular motion, at present common to the bodies; also, to relieve the body of the disagreeable horizontal motion at present so common and arising from the check to the forward motion at each successive step of the horse.

The foregoing are two of the principal objects of the present invention and at present noted; but other objects and advantages may be made to appear in the following description of means employed to carry out the several objects, reference being had to the accompanying drawings, forming a part hereof.

Figure 1 is a rear view of a road-cart with the invention applied to it. Fig. 2 is a top plan view of the cart with the seat and wheels removed and parts broken away to illustrate the position of the equalizing-bars. Fig. 3 is a detail view of the rear hanger with the eye detached. Fig. 4 is a detail view, partly in section, illustrating manner of securing forward end of equalizing-bars to body of cart. Fig. 5 is a detail view of the forward hanger with eye detached. Fig. 6 is a detail view, enlarged scale, of eye-plate, from which rear ends of equalizing-bars may be suspended. Fig. 7 is a detail view showing said eye-plate secured to main-spring block. Fig. 8 is a detail view looking at forward part of body and showing forward parts of equalizing-bars secured thereto and to the front hangers. Fig. 9 is a plan view, enlarged scale, showing one of the equalizing-bars with a portion broken away. Fig. 10 is a plan view, enlarged scale, showing singletree "take-up" motion spring before applied. Fig. 11 is a plan view, enlarged scale, showing take-up motion spring applied. Fig. 12 is a detail view of rear portion of thill with main supporting spring-hanger suspended therefrom.

In the drawings, the letter A designates the wheels; B, the axle; C, the thills attached thereto; D, the body or box, and E the seat. The seat is connected to the box or body D by bars F, and to the block G by the spring H, which block is clipped to the spring I, whose outer ends are pivoted to the hangers J, which may be suitably supported or suspended—say suspended—from the rear of the thills C, the connection to the thills and to the ends of the spring preferably being by a bracket V, to which the hanger or stirrup J is hinged by the bolt *i*.

To a suitable support at the forward part of the vehicle—say to the cross-bar K, which connects the two thills—are clipped two hangers or supports L, made, say, of spring metal, and to which are connected, say pivotally, the forward equalizing-bars M, the ends of which, in front of the box or body D, are attached to the box in some suitable way, preferably by passing the ends through the end of the box and securing them by nuts N, having leather or other washers Q, and which may be so as to form a hinged or pivotal connection. A portion of the equalizing-bar is formed with a collar T, rigidly secured thereto and adapted to fit into a recess made in the front of the vehicle-body, as shown in Fig. 4. This collar will limit the inward movement of the equalizing-bar, and by screwing up the nut N the bar will be clamped to the body with the collar and washer fitting closely in the recesses in the opposite faces of the front of the body.

The rear equalizing-bars M′ are connected to spring hangers or supports L′, clipped to, say, the axle B, and the inner ends are connected to a suitable support that will move with the seat or body, preferably to a metallic loop O, having eyes *a* at opposite ends and which may be secured to the springs H and I, the ends of the equalizing-bars being passed through the eyes and secured therein, preferably so as to turn; but the ends of the

equalizing-bars may be passed through the block G, as shown in Figs. 1 and 2, the rear bars being provided with a collar T and secured by a nut similarly to the front bar.

The preferred manner of securing the front and rear equalizing-bars to the hangers or supports L L′ is by passing them through eyes on the ends of the hangers, and I prefer to make such eyes of a separate piece of metal secured to the ends of the supports by bolts and lined with leather *b* or other suitable material, so as to prevent squeaking, that might follow if the two pieces of metal rubbed together; and so, also, may the eyes *a* be lined.

The front and rear equalizing-bars M and M′ are connected together by the side bars M^2, which may be a continuation of the front and rear equalizing-bars, and thus turn in the eyes formed in the front and rear hangers or supports. By thus connecting the front and rear bars the motion at the front of the box or body will be transmitted to the back thereof and the motion at the back transmitted to the front, so that there will be an up-and-down motion at both front and back at the same time, and thus the circular motion occasioned by the constructions be overcome.

In order to overcome the disagreeable backward and forward motion resulting from the stepping of the horse, I connect the singletree, say, to the cross-bar between the thills by a spring R, that will take up that motion and thus impart a steadiness to the body or box not otherwise obtainable.

The construction of spring much preferred is that illustrated in the drawings, and which is represented as composed of a bar or plate of steel bent into the shape of a loop, forming leaves and having eyes *c* of an increased diameter at its opposite ends, so as to avoid the liability of the spring breaking at the fold or turn in the opposite ends of the loop. This spring-loop may be, and preferably is, enlarged at the point between its ends where it is secured to the singletree and to the croos-bar, as shown at *d*, and at such point is secured by bolts *e* to the singletree and by bolts *f* to a block S, which will by a bolt be pivoted to the cross-bar, the free ends of the loop preferably being secured to the block. By such construction the check motion is taken up by the spring and prevented from being transmitted to the box or body and an easy and steady motion of the box secured, and the spring singletree can be used on other forms of vehicles.

The seat E is provided with a latticed rail P, cast in one piece, and with lugs *g*, having perforations for the passage of screws to secure the rail to the seat.

I have described what I consider to be the best details of construction of the several parts, but do not desire to limit myself thereto where changes can be made without departing from the spirit of the invention described.

Having described my invention and set forth its merits, what I claim is—

1. The combination, with the elastic supports or hangers front and rear of the vehicle box or body, of the front equalizing-bars having a connection at one end with the box or body and at the other end to the front elastic supports, the rear equalizing-bars connected at one end to a portion of the vehicle having the seat connected therewith and the other end to the rear elastic supports, and the side bars connecting the front and rear equalizing-bars, substantially as and for the purposes set forth.

2. The combination, with the box or body, of the front and rear equalizing-bars connected together by the side bars, means connecting said equalizing-bars with the box or body, and the elastic supports or hangers having said equalizing-bars connected thereto, and a main supporting-spring, substantially as and for the purposes set forth.

3. The combination, with the elastic supports or hangers front and rear of the vehicle box or body, of the front equalizing-bars having a connection at one end with the front of the box or body and at the other end to said front elastic supports, the main spring supporting the rear portion of the body or box and having a yielding suspension at its outer ends, and the rear equalizing-bars connected with a portion of the vehicle having the seat connected therewith and at the other end to said rear elastic supports, substantially as and for the purposes set forth.

4. The combination, with the vehicle box or body, of the front and rear elastic supports or hangers, the front equalizing-bars having a connection at one end with the forward portion of the box or body and at another point with the front elastic support or hanger, the rear equalizing-bars connected at one end to a portion of the vehicle having the seat connected therewith and at another point to said rear elastic supports or hangers, the side bars connecting the front and rear equalizing-bars, and the main spring supporting the rear portion of the vehicle body or box, substantially as and for the purposes set forth.

5. The combination of the front elastic supports or hangers suspended from the cross-bar connecting the thills, the rear elastic supports or hangers supported upon the axle, the front and rear equalizing-bars and side bars having a connection with said elastic hangers, the box or body and means connecting the same with said equalizing-bars, and the main spring supporting the rear portion of the box or body, substantially as and for the purposes set forth.

6. The combination, with the box or body supported at its forward portion by the front equalizing-bars, of the main spring for supporting the rear portion of the body or box, the bar or plate having the eyes and supported by said main spring, the rear hangers

or supports, and the equalizing-bars connected at one end to said bars and at the other end to the eyes of said plate or bar, substantially as and for the purposes set forth.

7. The combination, with the body or box, of the front and rear elastic supports or hangers each provided with an eye having a washer therein, and the front and rear equalizing-bars connected together by the side bars passing through the eyes of the spring supports and having their ends connecting with the front and rear portions of the vehicle body or box, substantially as and for the purposes set forth.

8. The combination, with the vehicle and the singletree, of a leaf-spring connecting the singletree to a portion of the vehicle to which the draft is transmitted from the singletree, said leaves arranged to separate when the draft is applied for the purpose of taking up the check motion of the horse, substantially as and for the purposes set forth.

9. The combination, with the thills and cross-bar, of the singletree, and a leaf-spring connecting said tree and cross-bar, the leaves of said spring being arranged to separate when the draft is applied to take up the check motion of the horse and prevent it being transmitted to the vehicle, substantially as and for the purposes set forth.

10. The combination, with the thills and running-gear of a vehicle, of the spring formed into an elongated loop with enlarged ends at the folds therein and connecting the singletree with a part of the vehicle to take up the check motion of the horse in transmitting the draft to the vehicle, said singletree being connected to the front leaf of the spring, substantially as and for the purposes set forth.

11. The combination, with the singletree and the block for pivotally connecting it to a part of the vehicle, of the leaf-spring having the singletree connected to its front leaf and the block to the rear spring, substantially as and for the purposes set forth.

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

STEPHEN E. BURKE.

Witnesses:
THEO. PETERS,
C. L. HINE.