(No Model.) 3 Sheets—Sheet 1.

H. J. MILLER.

ROAD CART.

No. 459,098. Patented Sept. 8, 1891.

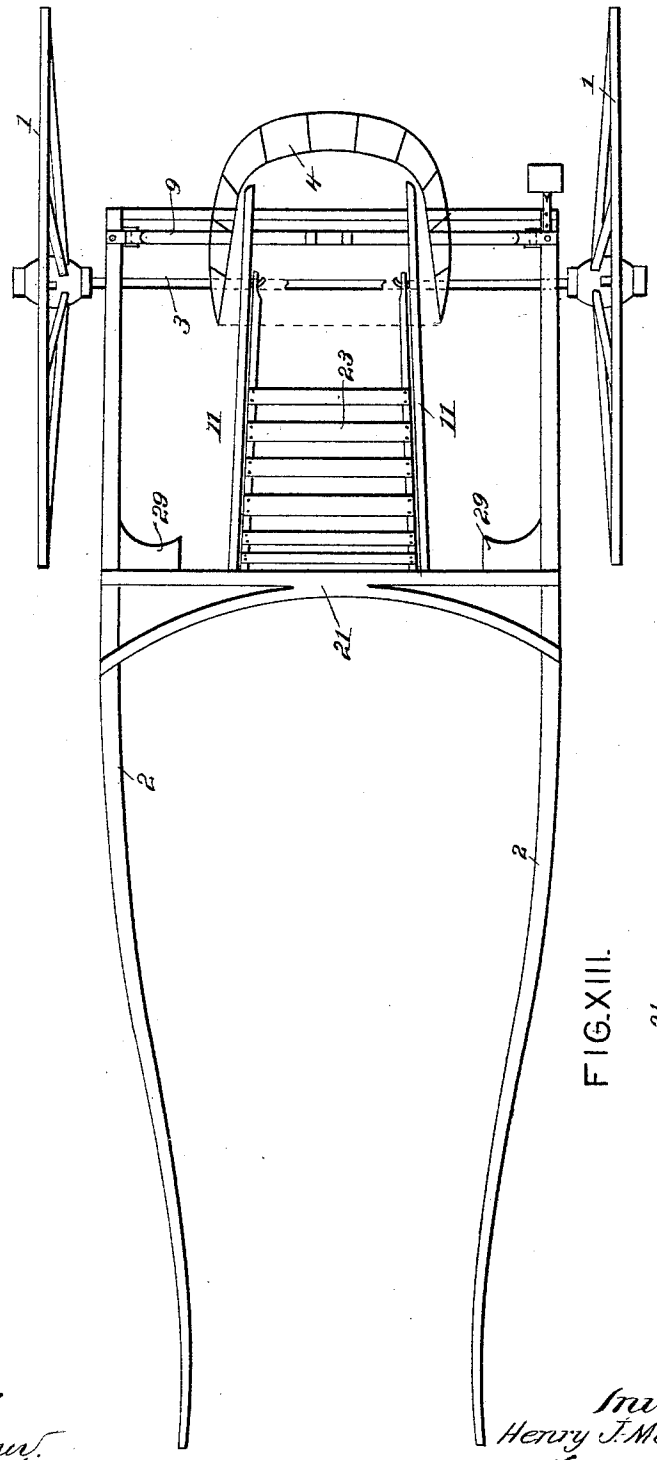

FIG. I.

FIG. XIII.

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H. J. MILLER.

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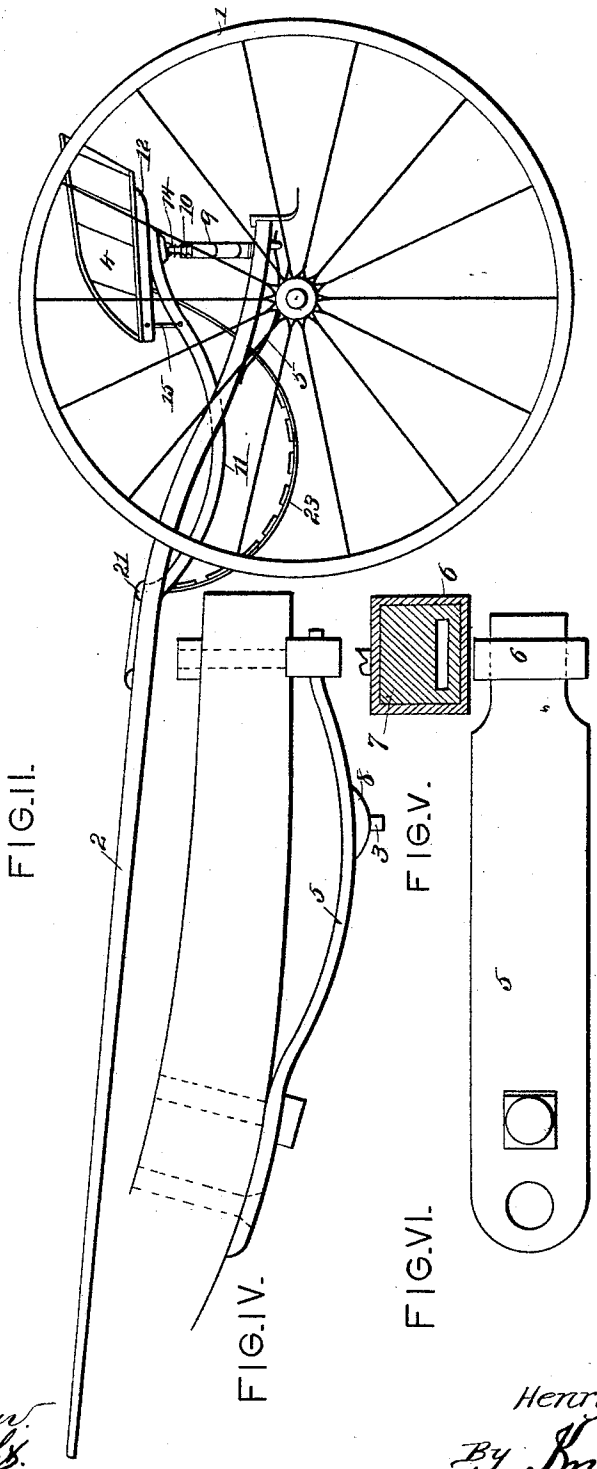

FIG. II.

FIG. V.

FIG. IV.

FIG. VI.

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(No Model.) 3 Sheets—Sheet 3.

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FIG. III.

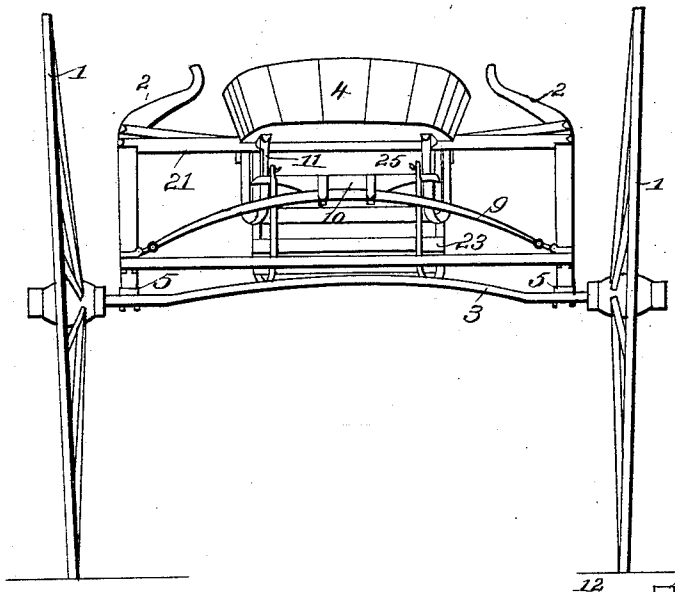


FIG. VII.

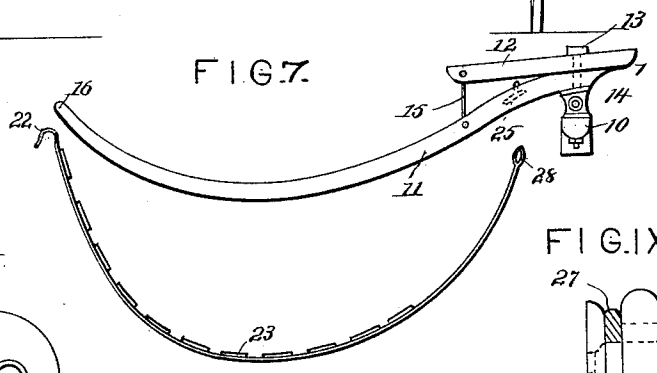


FIG. VIII.

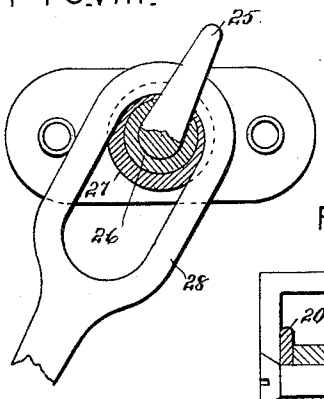


FIG. IX.

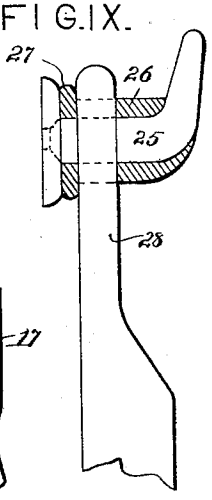


FIG. X.

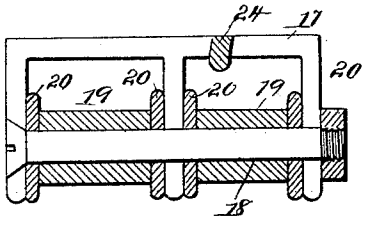


FIG. XI.

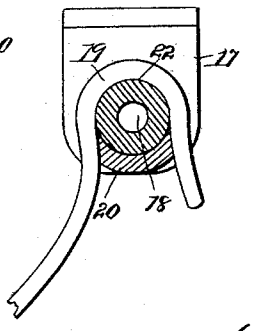
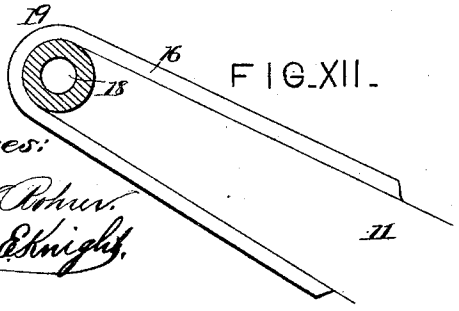


FIG. XII.



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UNITED STATES PATENT OFFICE.

HENRY J. MILLER, OF GOSHEN, NEW YORK.

ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 459,098, dated September 8, 1891.

Application filed August 11, 1890. Serial No. 361,761. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. MILLER, a citizen of the United States, residing at Goshen, in the county of Orange, in the State of New York, have invented certain new and useful Improvements in Road and Speeding Carts, of which the following is a specification.

I will first fully describe a road-cart with reference to the annexed drawings, illustrating my improvements therein, and then point out in the claims the novel features.

In said drawings, Figure I is a top view of a road-cart embodying my improvements. Fig. II is a side view of the same. Fig. III is a rear view thereof. The remaining figures illustrate details to larger scales. Fig. IV is a side view of the rear end of one shaft. Fig. V is a sectional view transverse of Fig. IV of the eye. Fig. VI is a view of the under side of the shaft-spring and eye. Fig. VII is a side view of a side bar and the foot-rest detached. Fig. VIII is a side view, partly in section, of the rear coupling of the foot-rest to the side bar. Fig. IX is a front view, also partly sectional, of the same. Fig. X is a transverse sectional view of the hanger for the front ends of side bars and foot-rest. Fig. XI is a sectional view of one front coupling of the foot-rest. Fig. XII is a similar view of the front coupling of a side bar. Fig. XIII is a rear view of the cross-bar and couplings.

1 1 are the wheels, 2 2 the shafts, 3 the axle, and 4 the seat, of the cart. As customary in such carts, the seat is supported from the axle through the medium of the shafts and suitable springs.

The connection of the shafts to the axle is clearly shown in Figs. IV, V, and VI. 5 5 are heavy plate-springs, bolted or otherwise clamped at their forward ends to the shafts. Their rear ends run loosely through eyes 6 6, bolted to the shafts. A cushion 7, preferably of soft rubber, surrounding the end of spring 5 in each eye and having the greater portion of its body above said springs, prevents rattling and also takes up the jar. The springs 5 5 are clamped to the axle, preferably with the interposition of wooden bolsters 8. A transverse leaf-spring 9 is supported or hung on the shafts near their rear ends and supports a bolster 10, (see Fig. III,) to which it is firmly clamped.

The side bars are made in two parts 11 and 12, held together by bolts 13, which serve also for the attachment to the under side of bars 11 of one member of hinges 14, (such as described in my patent, No. 428,014, dated May 13, 1890,) whereof the other member is fixed to the top of bolster 10. The seat is fixed to the bars 12. The side bars proper 11, besides being connected to bars 12 by the hinge-bolts, are braced therefrom by rods 15, Fig. II. The side bars proper 11 are preferably curved, as shown. At their forward ends they have straps 16, Fig. XII, whereby they are hung from the hangers, one of which is illustrated to an enlarged scale in Fig. X. This hanger consists of a two-part housing 17, a supporting pin or rod 18, cylindrical cushion 19, and side washers 20, of leather, rubber, or other noise-deadening material. Two of these hangers are fixed under the cross-bar 21 of the shafts, and the straps 16 of the side bars occupy the two outer housings thereof. The cushioning action thus obtained, taken together with the hinged connection of the rear ends of the bars to the transverse spring, enables the structure to yield to any strain without noise or danger of breakage. The inner housing of the hangers is occupied by goose-necks 22 at the forward ends of the side supports of the foot-rest 23. Buffers 24, of soft rubber, fixed in the inner housings 17, will receive upward play of the goose-necks, and so prevent rattling. At the rear the supports of the foot-rest are cushioned otherwise. Fixed on the inside of the side bars are hooks 25 25, surrounded by tubular cushions 26, of rubber or other sound-deadening or cushioning material, and by wear-plates or washers 27, preferably of leather or rubber. The rear ends of the foot-rest supports hang on these hooks and against their cushions by means of elongated eyes 28. The foot-rest can be readily removed by bending one and then the other foot-rest support slightly inward and raising it till the eye 28 is dislodged from the hook, and then allowing the foot-rest to turn about the hanger pivot-pin 18 till the goose-necks can be removed. By arranging the supporting-hooks 25 25, as shown, on the side bars

and forward of the transverse spring 9 the outline of the vehicle is improved in appearance. The object of removing the foot-rest is to enable a mud-pocket to be put in place on the side bars or to adapt the cart for use as a sulky. With the foot-rest removed the horse can be brought back much nearer to the seat without interfering with his back action. The stirrups 29 29, Fig. I, may then be used for the driver's feet.

Having thus described my invention, the following is what I claim as new therein:

1. In a light sulky or road-cart, the combination of the axle, the shaft extending over and to the rear thereof, the bent plate or bar, springs bolted at their forward ends directly and rigidly to the shafts forward of the axle, thence bent down slightly and resting on the axle, thence passing to the rear thereof, and the sockets or eyes fixed to the shafts' rear ends having a gum or rubber cushion within it with a hole to receive cushion and permit longitudinal motion of the said springs, substantially as set forth.

2. In a road or other cart, the combination of the shafts, the axle, the springs fixed at one end to the shafts and at an intermediate point to the axle, eyes fixed to the shafts and adapted to receive the other ends of said springs, and resilient cushions in said eyes surrounding the ends of said springs, the greater portion of the body of said resilient cushions being above the springs, substantially as herein set forth.

3. The combination of the seat, the two cleats, one under each side thereof, the axle, the shafts supported thereon, the transverse spring hung on the shafts near the axle and arranged immediately under the seat, the spring bar or bolster on said spring, the hinge-couplings having one member bolted to said bolster, the side bars pivotally hung from the shafts (as to vertical motion) at their front ends and having their rear ends lying along under the said cleats, the other member of said hinge-couplings being bolted directly to the side bars, the cleats, and seat, whereby the seat is supported directly over the side-bar bearings, substantially as set forth.

4. The combination of the axle, the shafts, spring-supported therefrom, the transverse upwardly-bowed leaf-spring supported on said shafts, the seat, the hangers on the shafts, the side bars hinged on cushions on said hangers, hinged on said leaf-spring and supporting the seat, and the foot-rest bars supported at their front ends from the shafts and hung at their rear ends from the side bars, substantially as set forth.

5. The combination of the axle, the shafts supported therefrom, the transverse leaf-spring supported on the rear end of said shafts, the bent side bars hinged at their rear ends to the leaf-spring and hung at their front ends from the shafts, the hooks or fingers on the sides of the side bars, the hangers on the shafts, and the bent foot-rest whose bars have hooks at the front to engage over the said hangers on the shafts, and eyes at the rear to engage on the fingers of said side bars, so that by pressing the rear ends of the foot-rest bars together and lifting them they may be detached from said fingers and the foot-rest be turned down to disengage the front ends from said hangers, substantially as set forth.

6. The combination of the axle, the shafts having suitable spring connection with said axle, the transverse spring hung or supported from the shafts, the seat having hinged connection with the said spring, and the side bars fixed to the seat at one end and having cushioned jointed connection with the shaft at the other end, substantially as set forth.

7. The combination of the shafts, the hangers suspended from the shafts, consisting of a housing, a supporting-pin and a cushion on said pin, and the side bars hung at their forward ends on the cushions of said hangers, substantially as set forth.

8. The hanger having housing pivot-pins, cylindrical cushion, and side washers, in combination with the side bar having a strap at its forward end adapted to surround said cushion, substantially as set forth.

9. The two-part hanger having two housings with pivot-pins, cylindrical cushions, and side washers, in combination with the side bars and foot-rest supports and adapted to hang from the two parts of the housing, substantially as set forth.

10. The combination of the side bars having the hooks, cushions on said hooks, the shafts having the hangers, cushions on said hangers, and the foot-rest whose supporting-bars have eyes at one end and hooks at the other end adapted to engage said hooks and hangers, as and for the purpose set forth.

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Witnesses:
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