(No Model.)

H. A. MUCKLE.

SIDE SPRING VEHICLE.

No. 490,299. Patented Jan. 24, 1893.

Fig. 1.

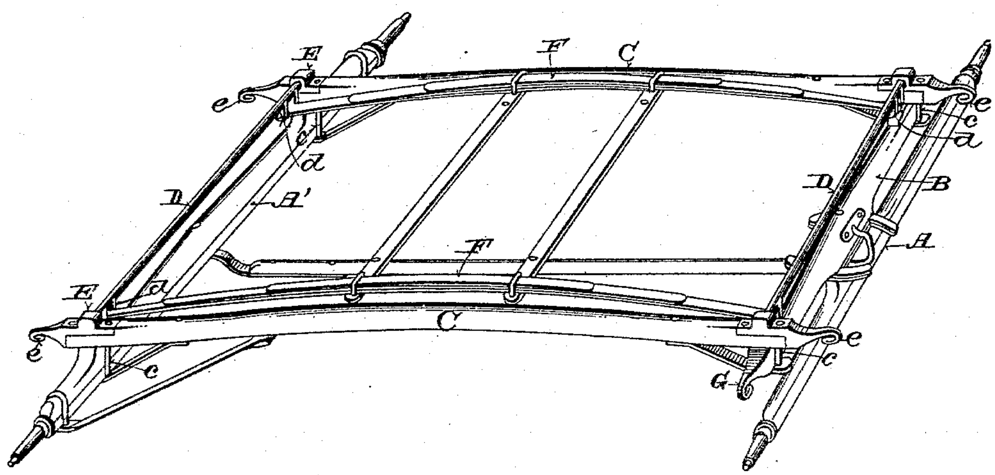


Fig. 2.

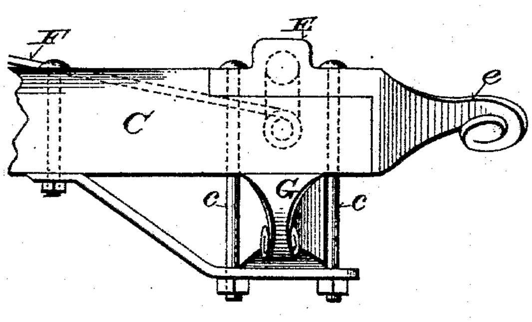
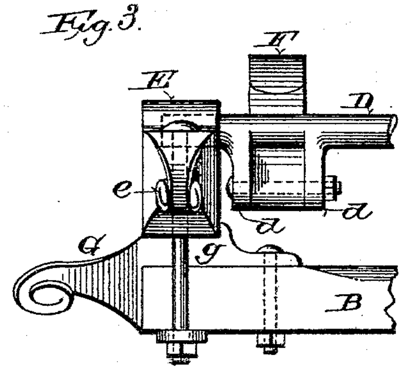


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY A. MUCKLE, OF ST. PAUL PARK, MINNESOTA.

SIDE-SPRING VEHICLE.

SPECIFICATION forming part of Letters Patent No. 490,299, dated January 24, 1893.

Application filed June 2, 1890. Serial No. 353,915. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. MUCKLE, of St. Paul Park, in the county of Washington and State of Minnesota, have invented certain new and useful Improvements in Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to side spring buggies or carriages. Its main objects are to cause both sides of the body of the vehicle to rise and fall uniformly when it is unequally loaded, to adapt spring equalizing devices to vehicles of this class without distorting the proper relative proportion between the body and gear, and to reduce the cost and increase the durability of certain parts of such vehicles.

It consists essentially of certain peculiarities of construction and arrangement hereinafter particularly described and pointed out in the claims.

In the accompanying drawings, like letters designate the same parts in the several figures.

Figure 1 is a perspective view of a buggy or carriage gear (without the wheels) embodying my improvements, and Figs. 2 and 3 are details on a greatly enlarged scale, Fig. 2 representing a side elevation of the front end of one of the side bars and its connections, and Fig. 3 representing an end elevation of the same, looking toward the front of the vehicle.

Heretofore, in the construction of buggies and carriages with spring equalizing devices, the gear of the vehicle has been made considerably longer than the body, and it has been found difficult, if not impossible, to preserve the most desirable and pleasing proportion between these parts. The application of spring equalizing devices to this class of vehicles as heretofore made, has also been attended with considerable extra expense.

To accomplish the foregoing objects and avoid the difficulties just mentioned, is the design of my improvements.

Referring to the drawings, A. A′ represent respectively the front and rear axles of a carriage or buggy gear, B the front bolster or spring bar connected by the king bolt and fifth wheel in the usual manner with the forward axle, and C C side bars secured to and resting at their rear ends upon the top of the rear axle A′, and attached in like manner at their front ends to the top of the bolster B.

D D are equalizing rods journaled at the ends in bearing blocks E E attached to the ends of the side bars, one of said equalizing rods being supported thereby over and a short distance from the rear axle, A′, and the other equalizing rod being supported in like manner over and a short distance from the bolster B. These equalizing rods are formed or provided near each end with depending perforated ears *d d*, arranged in pairs, between which the ends of the side springs F F are pivoted, the equalizing rods being supported sufficiently above the axle to permit of the oscillation of said ears clear of the axle A′ or axle stock and the bolster B as clearly shown in Fig. 3.

In connection with the bearing blocks E I form metal scrolls *e e*, for the ends of the side bars C C. By this construction considerable labor and expense are saved, and a better, stronger scroll is produced, which will not be easily broken by hard usage, or in shipping. These bearing blocks are preferably halved into the ends of the side bars, and may be conveniently secured thereto by means of the bolts *c c*, or clip by which the side bar is attached to the rear axle and to the bolster. I also provide the ends of the bolster with metallic scrolls G G, which are formed with seats, *g g*, for the front ends of the side bars to rest upon, as shown in Fig. 3. The bearing blocks E, the front ends of the side bars, the metallic scrolls G and the ends of the bolster B are securely held together by bolts *c c*, or ordinary clips.

It will be apparent from an inspection of the drawings and from the foregoing description, that with my construction and arrangement of a spring equalizing device, the body of the vehicle can be made of a length nearly equal to the distance between the axles, and that the equalizing rods, being placed over the rear axle and the bolster, will be rigidly supported in their bearings and not subject

to torsional strain which would interfere with their proper and efficient action.

The metallic scrolls constituting the ends of the side bars and bolster cannot be easily broken or injured in shipping or otherwise, and are much cheaper than scrolls carved on the side bars and bolster themselves. The scrolls E E also furnish convenient bearings for the equalizing rods D D. The equalizing rods being rigid and rigidly supported in bearings at the ends and provided with rigid ears *d d*, cause the springs F F connected therewith, to expand and contract uniformly and simultaneously, thereby compelling the sides of the body to rise and fall together whether equally or unequally loaded.

It is desirable not only as a matter of appearance, but also for convenience in turning the vehicle to make the gear in this class of vehicles as short as possible relatively to the body, and still preserve the proper proportion between the gear and body.

By the construction and mode hereinbefore described of hanging the spring equalizers, I am enabled to shorten the gear from six to seven inches with the same length of body employed in connection with other spring equalizing devices, and thereby obviate the objection to the relatively long gears and short bodies in vehicles of this class. By thus shortening the gear relatively to the body, the wheels are brought closer together and the draft of the vehicle thereby reduced.

I claim:—

1. In a vehicle gear, the combination with the bolster and rear axle, of side bars mounted upon and attached to said bolster and axle, bearings mounted upon said side bars over said bolster and axle, and equalizing rods journaled at the ends in said bearings and provided inside of the side bars with rigid depending ears with which the springs are connected at their ends, said bearings being sufficiently elevated by said side-bars to allow the ears on the equalizing rods to swing clear of said bolster and axle, substantially as and for the purposes set forth.

2. In a vehicle gear, the combination with the bolster and rear axle, of side bars mounted upon and attached to said bolster and axle, side springs, equalizing rods provided inside of the side bars with rigid depending ears with which the springs are connected at their ends, and metallic scrolls constituting the ends of said side bars and provided over said axle and bolster with bearing for said equalizing rods, substantially as and for the purposes set forth.

3. In a vehicle gear, the combination with the bolster and back axle, of metallic scrolls attached to and constituting the ends of said bolster, and formed with raised seats on their upper sides, side bars resting at their front ends upon said seats and at their rear ends upon the top of the back axle, metallic scrolls attached to and constituting the ends of said side bars and formed with suitable bearings over said bolster and axle, and equalizing rods journaled at the ends in said bearings and provided with rigid ears with which the springs of the vehicle are connected, said bearings being sufficiently elevated by said side bars to allow the ears on the equalizing rods to swing clear of said bolster and axle, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HENRY A. MUCKLE.

Witnesses:
EDWARD C. MILLER,
JOHN TWOHY, Jr.