(No Model.)

J. W. & J. C. MOON.

TWO WHEELED VEHICLE.

No. 457,287. Patented Aug. 4, 1891.

Fig. 1.

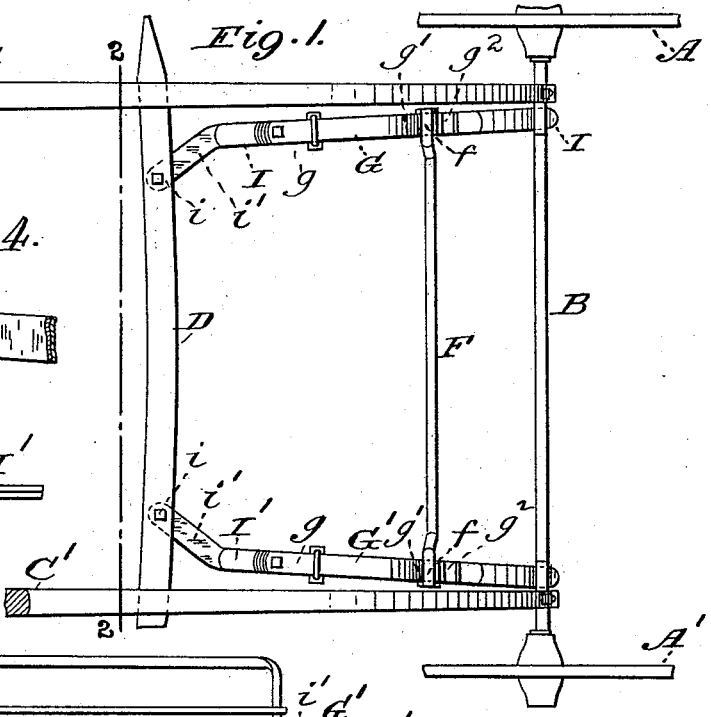

Fig. 4.

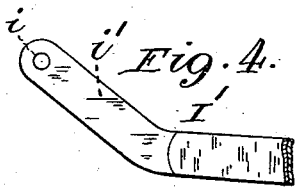

Fig. 5.

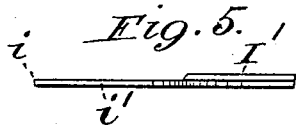

Fig. 2.

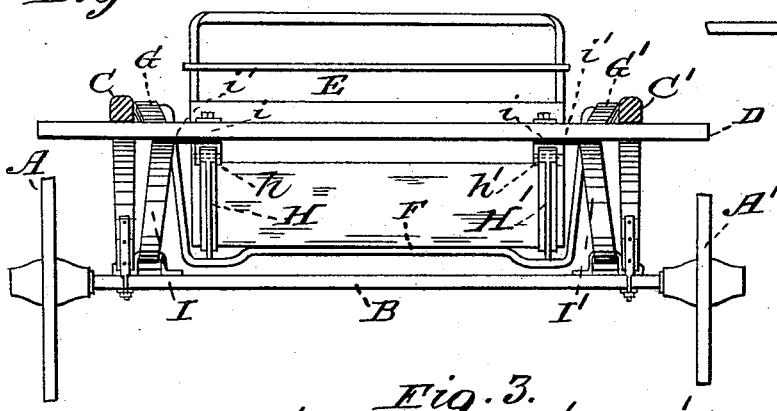

Fig. 3.

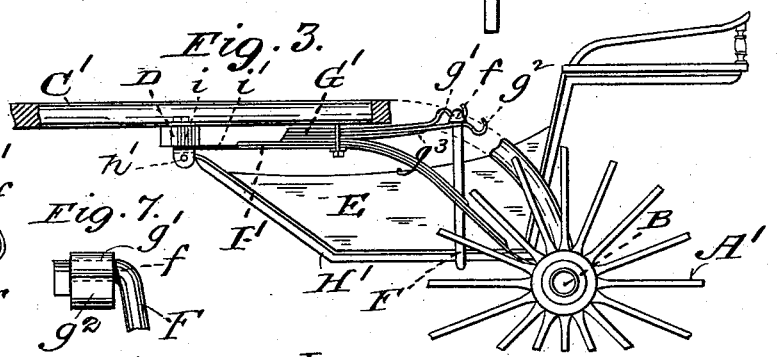

Fig. 6.

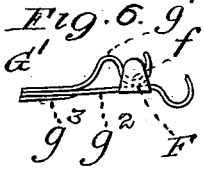

Fig. 7.

WITNESSES
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UNITED STATES PATENT OFFICE.

JOSEPH W. MOON AND JOHN C. MOON, OF ST. LOUIS, MISSOURI.

TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 457,287, dated August 4, 1891.

Application filed April 13, 1891. Serial No. 388,692. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH W. MOON and JOHN C. MOON, of St. Louis, Missouri, have jointly made a new and useful Improvement in Two-Wheeled Vehicles, of which the following is a full, clear, and exact description.

The improvement relates to that class of road-carts in which the body is at or toward its forward end attached to the thill cross-bar, and at a point in rear of said forward end is supported upon a bail, which in turn is suspended from springs extending forward and backward at the sides, respectively, of said body. In constructions of the class referred to the springs, as viewed from above, are substantially straight throughout their length, and in practice difficulty is experienced as follows: The weight of the body and its load, in addition to straining the springs directly downward, draws them also laterally inward, and in consequence the springs become twisted or curled to such an extent as to get out of form and to inadequately serve their purpose. This difficulty is overcome by means of the present improvement, which consists mainly in a special mode of shaping and supporting the springs and of connecting the cart-body therewith, substantially as is hereinafter described and claimed, aided by the annexed drawings, making part of this specification, in which—

Figure 1 is a plan of a road-cart gear having the improvement in question embodied therein. The cart-body and its immediate supports for connecting it with the thill cross-bar are not shown. Portions of the construction also are broken away. Fig. 2 is a vertical cross-section on the line 2 2 of Fig. 1. The view includes the cart-body and the irons for pivoting it to the thill cross-bar. Fig. 3 is a side elevation of the parts of Fig. 2; Figs. 4 and 5 details upon an enlarged scale, being, respectively, a plan of the forward end of one of the springs and a side elevation of the same; and Figs. 6 and 7, details upon an enlarged scale, being, respectively, a side elevation and a rear elevation showing the rear end of one of the supplementary springs and the upper end of the bail therewith connected.

The same letters of reference denote the same parts.

A A′ represent the wheels, B the axle, C C′ the thills, D the thill cross-bar, and E the body, of the cart. All these parts named, as well as the bail F, used in sustaining the body, and the supplementary springs G G′, which support the bail, are constructed and arranged in the customary manner, substantially. The body-irons H H′ are also pivoted at *h h′* to the thill cross-bar and attached to the body in the usual manner.

I I′ represent the principal springs used to provide an elastic support for the cart-body, and it is to the construction and arrangement of these springs and to their connection with the bail that the improvement under consideration relates. The springs at the forward end thereof are connected with the thill cross-bar and at the rear end thereof with the cart-axle or some equivalent support, and they serve to sustain the supplementary springs G G′, respectively; but in the place of being extended, as viewed vertically, in a straight direction between their end supports they are shaped outwardly between their end supports, and the weight imposed upon each spring I I′ is brought to bear upon the same at a point between the end supports thereof—that is to say, at a point which is outside of a straight line drawn through the positions of said spring-supports—and said springs I I′ are shaped sufficiently to the outer side of said line to neutralize the tendency of the load acting through the bail and the supplementary springs to strain the springs I I′ inwardly, as described. The most desirable mode of carrying out this feature of the improvement is as follows: At a point between the connection *g* of the supplementary spring with the principal spring and the point *i*, at which the principal spring is connected with the thill cross-bar, the principal spring I I′ is turned inward to cause its forward portion to be shaped substantially as shown at *i′*; but other methods may be adopted to enable the weight of the cart-body to be applied at the outer side of a line drawn through the positions of the end supports of the principal spring.

Each supplementary spring G G′ is composed of, say, three leaves g' g^2 g^3. At the rear end thereof two or more of these leaves—say the leaves g' g^2—are hook-shaped, sub-

stantially as shown, and the bail F at the upper end *f*, at each side of the cart-body, is suitably shaped, substantially as shown, to engage in said leaf-hooks. When a lighter load is being carried, the bail is suspended from the leaves g^2 g^2, which extend farther backward, and when a heavier load is being carried the bail is suspended from the leaves g' g', which terminate farther forward. The leaves g^2 g^2 respectively support the leaves g' g'.

We claim—

1. The combination of the axle, thills, thill cross-bar, springs I I′, supplementary springs G G′, bail, and body, said springs I I′ at the forward end thereof being turned inward, substantially as and for the purpose described.

2. The combination of the springs I I′ and the cart-body, the weight of said cart-body at each side thereof being applied at the outer side of a line drawn through the positions, respectively, of the end supports of said springs, substantially as described.

Witness our hands this 10th day of April, 1891.

JOSEPH W. MOON.
JOHN C. MOON.

Witnesses:
C. D. MOODY,
A. BONVILLE.