

(No Model.)

W. H. & C. A. MAKUTCHAN.

TWO WHEELED VEHICLE.

No. 345,708.

Patented July 20, 1886.

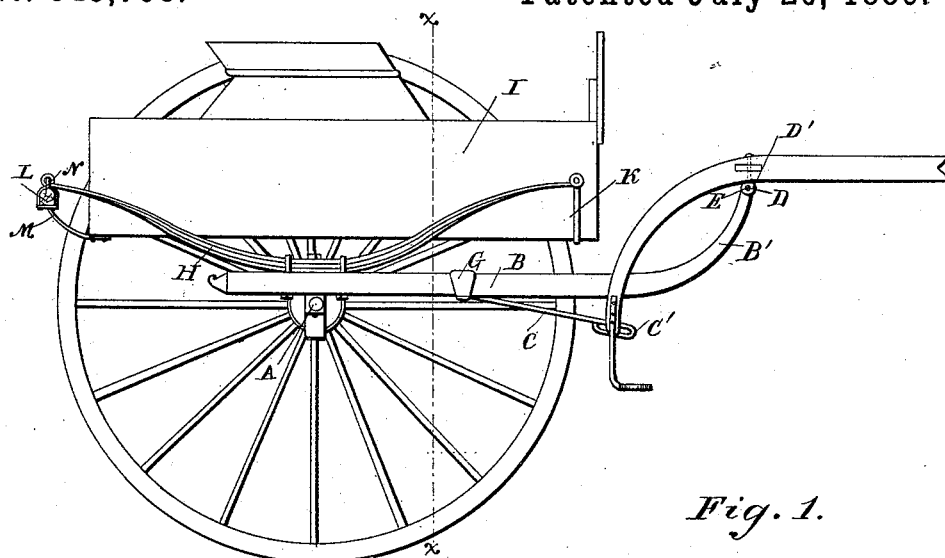


Fig. 1.

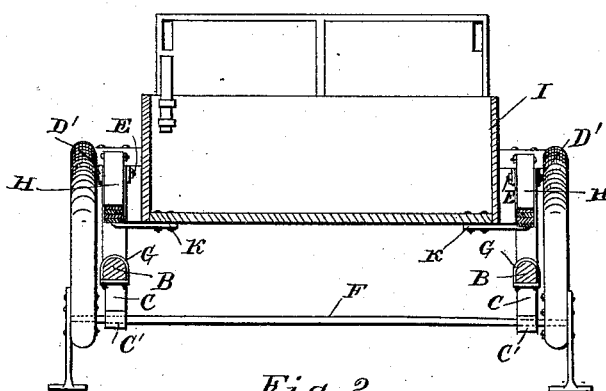


Fig. 2.

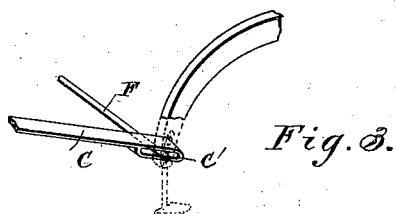


Fig. 3.

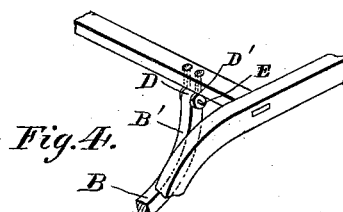


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. MAKUTCHAN AND CHARLES A. MAKUTCHAN, OF BUDA, ILL.

TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 345,708, dated July 20, 1886.

Application filed March 26, 1886. Serial No. 196,705. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM H. MAKUTCHAN and CHARLES A. MAKUTCHAN, citizens of the United States, residing at Buda, in the county of Bureau and State of Illinois, have invented a new and useful Improvement in Two-Wheeled Vehicles, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to an improvement in two-wheeled vehicles; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of our invention. Fig. 2 is a vertical sectional view of the same, looking toward the front of the vehicle. Figs. 3, 4, and 5 are detail views.

A represents the axle, to which are secured side bars, B, the front ends of which are curved upwardly, as at B'. To the under sides of the side bars, at a suitable distance from the front of the axle, are secured the rear ends of spring-bars C, which are provided with loops C', or elongated slots, at their front ends, and extend downwardly in an inclined or curved line from the side bars.

D represents the thills, which are pivoted on the upper end of the curved portion B' of the side bars by means of a bolt, E, which passes through openings in the upper ends of the side bars and through ears B'', which depend from the lower sides of the thills in a line with the cross-bar thereof. The lower curved rear ends of the thills are connected together by a rod, F, which passes through the loops or slots C' in the springs C, and to the said lower ends of the thills are secured steps G. By thus pivoting the thills to the side bars, and providing the latter with downwardly-extending springs which engage the lower rear ends of the thills, it will be readily understood that the motion of the horse imparted to the thills will be neutralized by the springs C, and prevented from imparting rocking motion to the side bars.

H represents a pair of semi-elliptic side

springs, one of which is secured at its center to the axle on each side of the body I, and the front ends of the said springs are secured near the front end of the body by means of links K.

L represents a cross-bar, which is secured to the rear end of the body by means of loops M, and which extends at a suitable distance in rear of the body, and has its ends projecting beyond the sides thereof.

Links N secure the rear ends of the springs H to the outer ends of the cross-bar L.

As the side bars which are secured to the axle are prevented from rocking by the motion of the horse, as hereinbefore described, and as the body of the vehicle is suspended from springs which are attached directly to the axle, it follows that the body will be free only to move vertically, and will be entirely independent of the motion of the horse.

A two-wheeled vehicle thus constructed is cheap and simple, is very strong and durable, and presents a fine appearance, and is altogether free and relieved from the unpleasant rocking motion imparted by the horse to ordinary two-wheeled vehicles.

It is broadly old to pivot the shafts of thills at an intermediate point of their length to the side bars, and connect the rear or inner ends of the shafts or thills to the side bars by a yielding spring-bar. Our invention differs from this in the fact that we employ spring-bars having slots in their ends, in which slots the rear or inner ends of the thills or shafts work.

Having thus described our invention, we claim—

1. In a two-wheeled vehicle, the combination of the side bars attached to the axle, the thills pivoted to the side bars, the rod F, connecting the rear ends of the thills, and the spring-bars C, attached at one end to the side bars, and having the loops or slots C' at their front ends engaging the rod F, substantially as described.

2. In a vehicle, the combination, with the axle, of the side springs secured at an intermediate point thereto, the links K, suspended from the front ends of the springs and sup-

porting the front end of the body, a cross-bar
hung below the rear end of the springs, and the
loops or straps connecting the cross-bar to the
body, the ends of the side springs being lo-
5 cated above the plane of the lower edge of the
body, as set forth.

In testimony that we claim the foregoing as

our own we have hereto affixed our signatures
in presence of two witnesses.

WILLIAM H. MAKUTCHAN.

CHARLES A. MAKUTCHAN.

Witnesses:

C. C. CONLEY,

M. F. DENTON.