(No Model.)

M. H. LANE & J. H. CLOYES.

TWO WHEELED VEHICLE.

No. 344,186. Patented June 22, 1886.

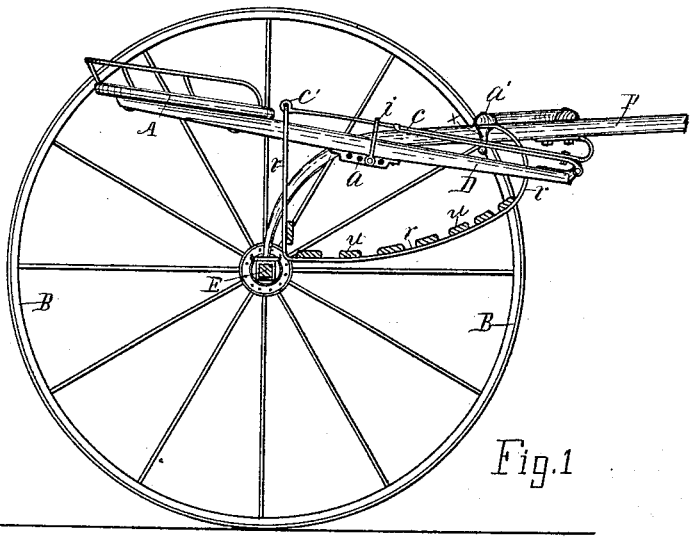

Fig. 1

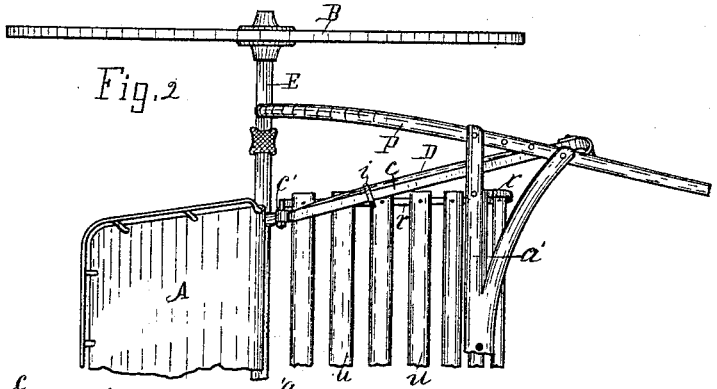

Fig. 2

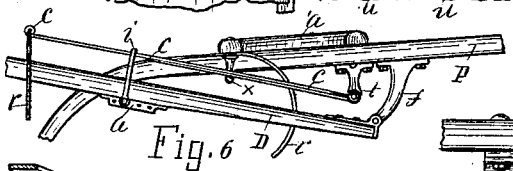

Fig. 6

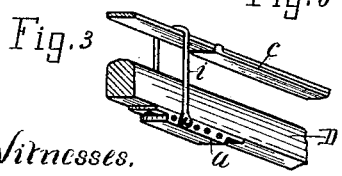

Fig. 3

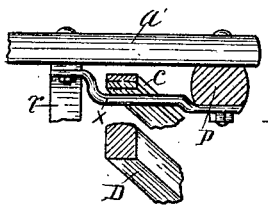

Fig. 4

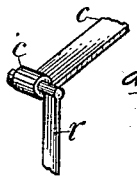

Fig. 5

Witnesses.
John C. Perkins.
Eugene C. Southard

Inventor.
M. Henry Lane & James H. Cloyes
By Lucien C. West
Atty.

UNITED STATES PATENT OFFICE.

M. HENRY LANE AND JAMES H. CLOYES, OF KALAMAZOO, MICHIGAN.

TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 344,186, dated June 22, 1886.

Application filed February 9, 1886. Serial No. 191,269. (No model.)

To all whom it may concern:

Be it known that we, M. HENRY LANE and JAMES H. CLOYES, citizens of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have jointly invented a new and useful Two-Wheeled Vehicle, of which the following is a specification.

This invention has for its object certain improvements, substantially as below described and claimed.

In the drawings forming a part of this specification, Figure 1 is a side elevation; Fig. 2, a top view of one-half of the cart; Figs. 3, 4, and 5, enlarged perspective of parts referred to by like letters in the other figures hereinafter described; and Fig. 6 an enlarged perspective of parts in Fig. 1, showing an equivalent change in construction.

Referring to the letters marked on the drawings, E is the axle, B the wheels, P the thills, D the seat-bars, and A the seat, like such parts in ordinary vehicles of this class.

Attached at their forward end to the thills are springs *c*, one on each side of the vehicle, running back parallel with the seat-bars but independent of said seat-bars D. In Fig. 1 the spring *c* is bowed upward and bolted to thill P, while in Fig. 6 the springs *c* pivotally connect with a bracket, *t*, which bracket is secured to the thill. Either plan may be adopted.

The springs *c* rest upon a bridge, *x*, secured to the thills or the cross-bar *a'*. Fig. 4 shows the thill P, seat-bar D, and spring *c* in cross-section at the location of the bridge *x*, with the seat-bar and spring *c* in perspective.

The springs *c* extend back near the seat A, where the upwardly-extending bars *r* of the foot-rest form connection with said springs. Fig. 5 shows these parts where they are connected at *c'* in perspective. The forward end of the foot-rest is attached to the cross-bar *a'* of the thills, Figs. 1 and 4. *u u* are the ordinary slats of the foot-rest.

Of course it will be understood that the half of the vehicle not here shown is a duplicate of the half shown, thus being alike on both sides of the vehicle.

So far as the invention thus far described is concerned, it is not necessary that the seat-bars D be in the position here shown; but in order to utilize the springs *c* to impart an elastic effect to the seat-bars D, we suspend the seat-bars from the springs *c* by the U-bars *i* at a point approximately at the center of the seat-bars, so that the springs *c* will rest on the bridges *x* at a point about central between the U-bars *i* and the forward end of the springs *c*. When the rear ends of the seat-bars D are borne down by the weight of the driver, the portion of the springs *c* between their forward end and the U-bars *i* will spring across the bridges *x* in the form of a bow or the upper half of an elliptical spring, thus obtaining the most natural spring action with safety against breakage.

The forward ends of the seat-bars D are of course attached to the thills. This may be done by connecting with the forward end of the springs *c*, as in Fig. 1, or to an independent bracket, *f*, Fig. 6, or in any suitable manner.

On the under side of the seat-bars D are secured plates *a*, having a series of holes, by which means the U-bars *i* may be moved forward and back and fixed at the desired point to make the bowing portion of the springs *c* stiffer or more limber, according to the weight of the driver. The lower ends of the U-bars *i* are connected with the plates *a* by bolts passing through the adjusting-holes of the plates and through the eyed ends of the U-bars. In Fig. 3 these parts are shown in perspective.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a two-wheeled vehicle, the combination of the thills provided with the bridges, the rearwardly-extending springs resting on said bridges, the seat-bars beneath and parallel with the springs and suspended from the springs by the U-bars, and the foot-rest suspended from the ends of the springs back of the U-bars, whereby the springs perform the several described functions, substantially as set forth.

2. In a two-wheeled vehicle, the thills provided with the bridges, the rearwardly-extending springs resting on said bridges, and the seat-bars parallel with the springs, and suspended from said spring-bars by suitable supports at the rear of said bridges, the bridges being approximately central between said sup-

ports and the forward end of the springs, all combined substantially as set forth.

3. In a two-wheeled vehicle, the combination of the thills provided with the bridges, the rearwardly-extending springs resting on said bridges, the seat-bars provided with the series of adjusting-holes, and the U-bars adjustably connecting with said holes and suspending the seat-bars from the springs, said bridges being approximately central between the U-bars and the forward end of the springs, substantially as set forth.

In testimony of the foregoing we have hereunto subscribed our names in presence of two witnesses.

M. HENRY LANE.
JAMES H. CLOYES.

Witnesses:
WM. MCDONALD,
W. L. WHITEHEAD.