(No Model.)

J. H. CLOYES.

TWO WHEELED VEHICLE.

No. 349,208. Patented Sept. 14, 1886.

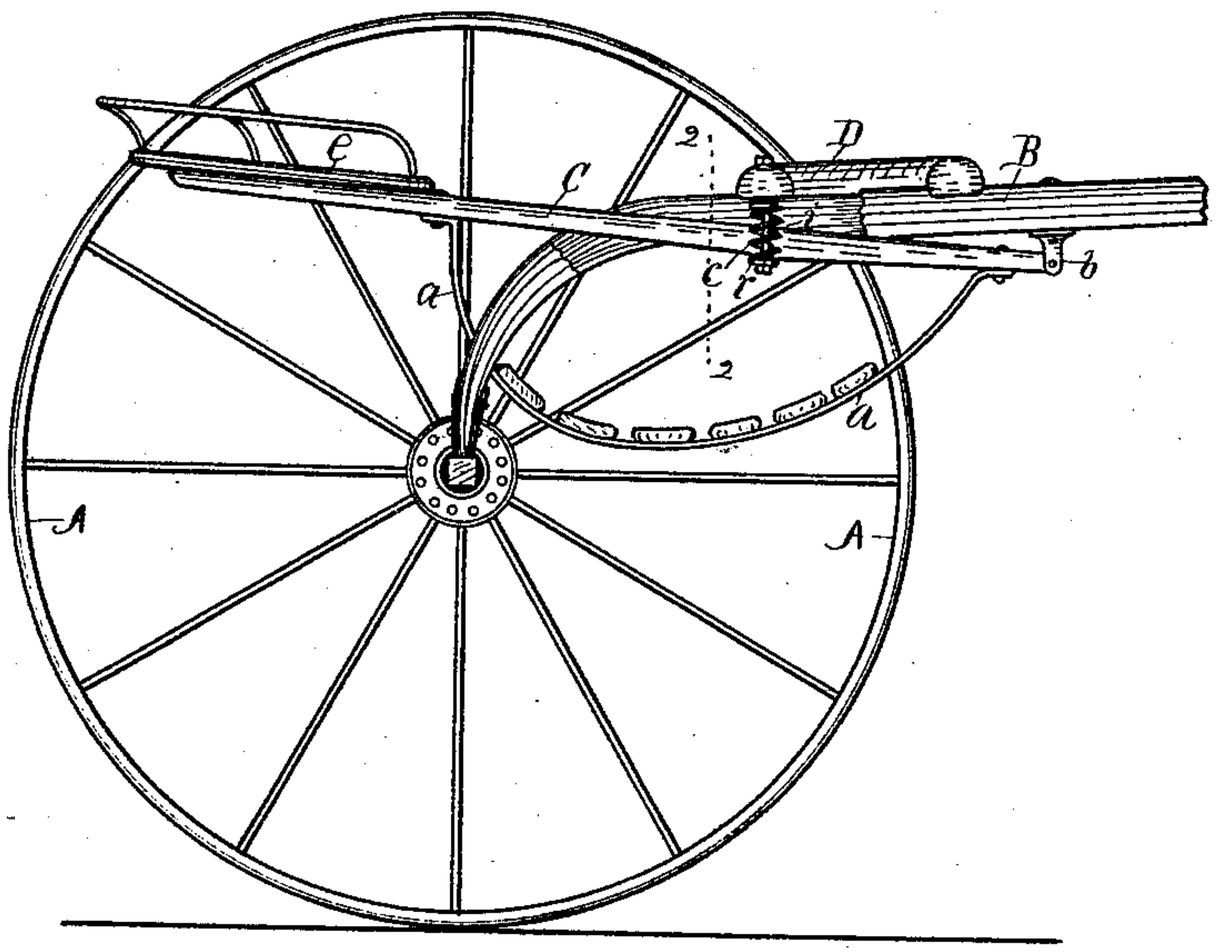


Fig. 1

Fig. 2

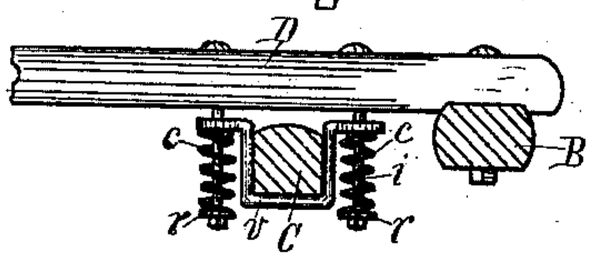
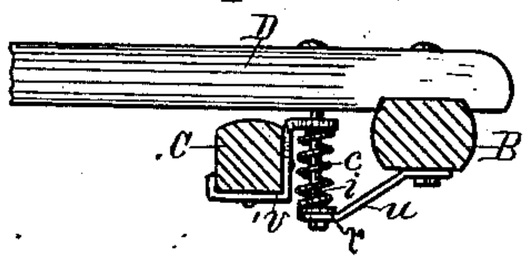


Fig. 3



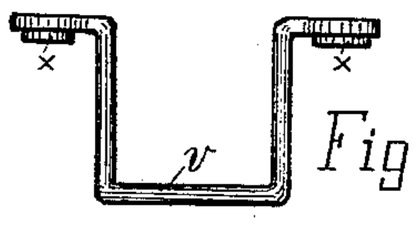


Fig. 4

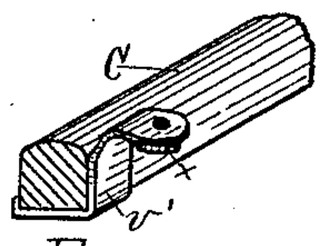


Fig. 5

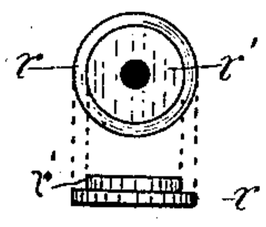


Fig. 6

Witnesses.
John C. Perkins
Joseph E. Kellogg

Inventor.
James H. Cloyes.
By Lucius C. Mott.
Atty.

UNITED STATES PATENT OFFICE.

JAMES H. CLOYES, OF KALAMAZOO, MICHIGAN.

TWO-WHEELED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 349,208, dated September 14, 1886.

Application filed August 5, 1886. Serial No. 210,045. (No model.)

To all whom it may concern:

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

This invention relates to that class of two-wheel vehicles in which the seat-bars are pivotally connected at their forward end with the thills and rest on fulcrum-supports attached to the cross-bar of the thills between said pivoted end and the seat.

The invention consists in certain modifications from the disclosures in a pending application, filed June 17, 1886, Serial No. 205,396.

In the drawings forming a part of this application, Figure 1 is a side elevation, one wheel being removed. Fig. 2 is a section on line 2 2 in Fig. 1, except the thill where the section is taken in Fig. 1 is broken away; Fig. 3, the same section as Fig. 2, showing a change; Fig. 4, a lettered detail in Fig. 2, enlarged; Fig. 5, a perspective of lettered details in Fig. 3, enlarged; and Fig. 6 is an elevation and plan of a washer in Figs. 1, 2, and 3.

Referring to the letters of reference marked on the drawings, B are the thills, C the seat-bars supporting the seat *e* and pivoted at *b*, D the cross-bar, *a* the foot-rest, and A the wheels, as in ordinary vehicles of this class.

In the other application referred to above the fulcrum-support is in substantially U form, having spiral-spring sides. In this application I show how the seat-bars may be supported by a stirrup, and employ a spring at one side only of the seat-bar, Fig. 3. Fig. 2 shows how the stirrup may be elastically supported by a spiral spring at each side of the seat-bar.

I am aware that a tongue-support has been invented prior to this application somewhat resembling Fig. 2; but there are important details in my device aside from the plan in Fig. 3, and the elements essential to be employed in connection with the fulcrum-support form a new combination, with new results, over the tongue-support referred to.

In Fig. 3 the bolt *i* is passed down through the cross-bar D. The spiral spring *c* surrounds this bolt, and is held up by a washer, *r*, and nut at the lower end. This washer has a projecting center, *r'*, Fig. 6, around which the lower ring of the spiral *c* fits. The L-stirrup *v'* for a single spring is turned over at the upper end, and provided on the under side with a raised portion, *x*, like the portion *r'* of the washer, thus forming a washer end to rest on the spring *c* and play on the bolt *i*. Figs. 3 and 5 show this construction and show how the stirrup *v'* supports the seat-bar C.

u is a brace secured to the thill B, and taking the lower end of the bolt. The brace at this end may have a projection like *r'* in Fig. 6, and preferably thus; or the washer may be separate. The washer *r* and brace *u* are shown integral in Fig. 3.

The upper ends of the U-stirrup *v* in Figs. 2 and 4 are the same as in Fig. 3, and the springs *c*, bolts *i*, and lower washers are the same.

Washers may be employed at the upper end of the springs, separate from the turned ends of the stirrup, if preferred.

In some instances a bar should be employed, either end attached to the lower end of the bolts, to prevent the bolts getting out of normal position in relation to each other. This bar is not here shown, but will be readily understood.

There are two seat-bars—one on each side—like the one herein shown, each suspended by the fulcrum-support.

Having thus described my invention, what I claim is—

1. The combination of the thills, bolts depending from the cross-bar, spiral springs on said bolts, a brace attached to the thills and lower end of bolts, L-stirrups having the upper turned end, and seat-bars fulcrumed by said stirrups, substantially as set forth.

2. In a fulcrum-support for the seat-bars, the combination of a bolt, a spiral spring thereon, a stirrup having the upper washer

end with projection fitting in the ring of the spiral spring, and a washer beneath the lower end of the spring having a like projection, substantially as set forth.

3. The combination of the thills, bolts depending from the cross-bar, spiral springs on said bolts, stirrups having the upper turned ends, and seat-bars fulcrumed by said stirrups, substantially as set forth.

In testimony of the foregoing I have hereunto subscribed my name in presence of two witnesses.

JAMES H. CLOYES.

Witnesses:
JOSEPH E. KELLOGG,
JOSEPH A. FRANKLIN.