(No Model.)

W. S. FRAZIER.

Sulky.

No. 233,745. **Patented Oct. 26, 1880.**

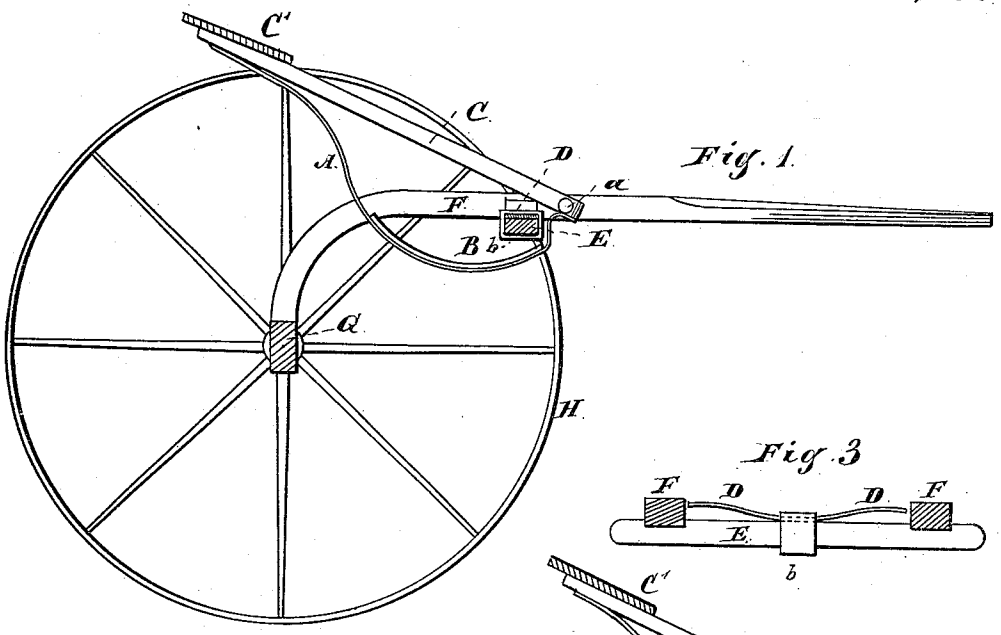

Fig. 1.

Fig. 3

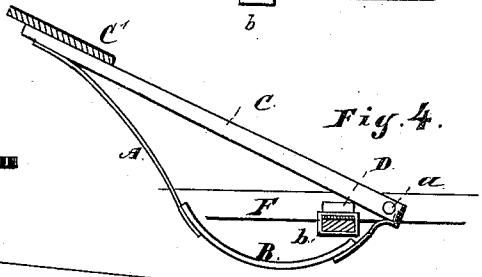

Fig. 4.

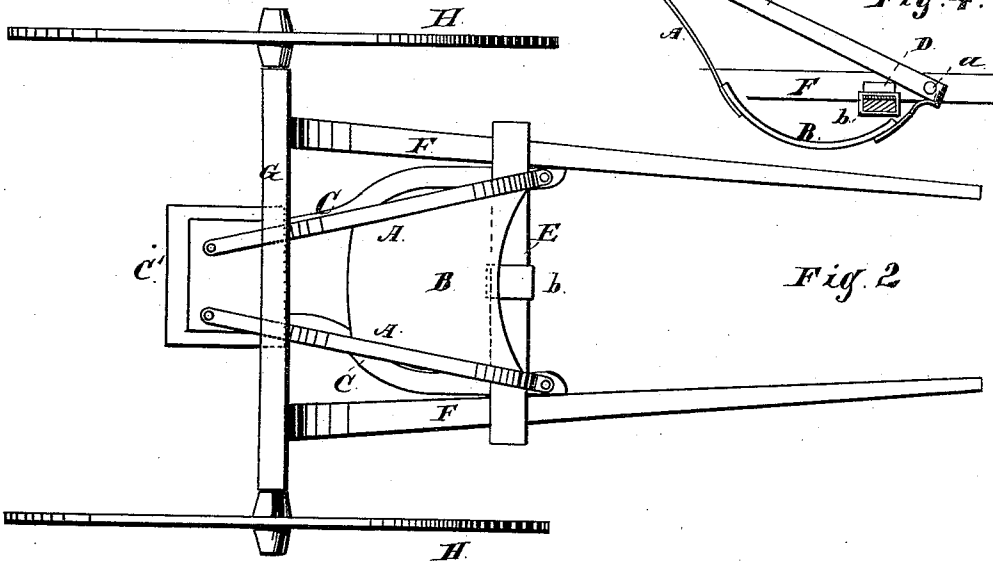

Fig. 2

Witnesses:

C. W. Bond.

B. A. Price.

Inventor:

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UNITED STATES PATENT OFFICE.

WALTER S. FRAZIER, OF AURORA, ILLINOIS.

SULKY.

SPECIFICATION forming part of Letters Patent No. 233,745, dated October 26, 1880.

Application filed May 17, 1880. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. FRAZIER, residing at Aurora, in the county of Kane and State of Illinois, and a citizen of the United States, have invented new and useful Improvements in Sulkies or other Two-Wheeled Vehicles, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a central vertical section; Fig. 2, an under-side view; Fig. 3, a detail, showing the seat-arm springs; Fig. 4, a detail, showing a modification of the foot-rest bars or supports.

This invention relates to sulkies or other two-wheeled vehicles which have a spring-seat and a movable foot-rest or support for lessening or overcoming the jar in use; and its objects are the prevention of the side swing or movement of the seat-supports and the foot-rest or platform, which is liable to cause breakage of the parts, and the connecting or attaching of the seat and foot-rest to each other and to the vehicle, so as to furnish an additional security and stiffness to the parts by giving them a stronger and firmer brace; and its nature consists in providing continuous bars or supports extending from the seat or its supports to the forward ends of the seat-supports to receive and support the foot-rest, the bars or supports being curved or bent and attached in such manner as to move in unison with the seat or its supports; in providing a bearing-surface for the seat-supports formed by locating the supports inside of the shafts; and in providing springs located on a cross-bar beneath the forward end of each seat-support to act on the same.

In the drawings, A indicates the foot-rest supports or bars; B, the foot-rest or platform; C, the seat supports or bars; C′, the seat; D, the springs; E, the cross-bar; F, the shafts; G, the axle; H, the wheels; *a*, the pivots or bolts for the forward ends of the seat supports or bars; *b*, the clasp for attaching the springs to the cross-bar.

The bars or supports A may be made from a single piece of iron or other material, bent or curved so that their forward ends can be attached to or connected with the seat-supports at their forward ends, and their rear ends to the seat or the seat-supports, and retain the proper relation between the seat and the foot-rest or platform.

The foot-rest or platform B is located on the bars or supports A, so as to bring it properly in position for the feet, and may be of boards or other material, secured to the bars by bolts, rivets, or otherwise, and it may, in form, be a bar, one or more slats, or continuous.

The supports or bars C are located within the shafts, and their forward ends are pivoted or secured to the shafts in such manner as to allow their rear ends to tilt up and down, and their forward ends are made to bear loosely against the shafts for a short distance, so as to prevent side swing or movement and consequent racking of the parts. The rear ends of these bars, as shown, are curved inward, and on them is located an ordinary seat, C′.

The springs D may be formed from a single piece of spring-steel, or of separate pieces, or of some other suitable material, and they are secured at their center or inner ends to the cross-bar E in such manner as to leave their outer or free ends to act on the seat supports or bars. As shown, a clasp, *b*, is provided for attaching the springs; but bolts or rivets may be used.

The shafts F may be of the form shown, or of any other form that will furnish a bearing for the forward ends of the seat supports or bars and leave a sufficient space for the vertical movements of the seat and the foot-rest or platform.

The axle G and wheels H are of the ordinary construction.

As shown, the bars or supports A are curved at both front and rear; but both ends may be bent up at an angle, or one end may be curved and the other bent angling; or these foot-rest supports may be suspended from the seat-bars by connections located between the ends of such seat-bars. The bars or supports A could be made of several pieces united in a rigid manner, so as to make practically a single continuous piece. By making the foot-rest supports of a practically single piece they furnish an additional stiffness and firmness to the parts, rendering them less liable to be broken, and at the same time side swing or movement is prevented to a great extent, which movement is liable to

strain and damage the parts to a greater or less extent.

By attaching or pivoting the seat arms or supports to the inside of the shafts and connecting the foot-rest or platform therewith by arms or supports of a single piece, greater security against breakage is provided, and a firmer and stronger attachment is furnished, with less strain on the pivots or attachments, and with less liability to split the bars C when made of wood; and by securing the front ends of the foot-rest bars or supports to the bars C the seat parts and foot-support parts all move or turn together, and there is no strain on these parts by reason of the seat-bars and foot-rest bars having different pivots or points of attachment to the shafts.

The attaching of the seat-supports between the shafts enables me to keep the seat down or bring it lower than the same position would bring it when the arms are on top of the shafts.

One spring, D, or two springs, one for each seat arm or support, can be used, and they may be attached to the bars C and bear on the cross-bar or other support, and the springs may be made of steel or other suitable material. The bars C may be spring-bars and act on fixed fulcra.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a sulky or two-wheeled vehicle, the bars A, constructed substantially as described, attached to and in combination with the bars C, whereby the seat and foot-rest bars all turn on the same pivot, substantially as specified.

2. The movable seat-bars C, arranged between or attached to the inner sides of the shafts, in combination therewith, and with fulcra or spring-support between the point of attachment and seat, substantially as and for the purposes described.

3. The combination of the seat-bars C, attached to the inside of the shafts, and the bars A, suspended from the bars C, and with the spring or springs D and cross-bar E, substantially as set forth.

WALTER S. FRAZIER.

Witnesses:
O. W. BOND,
B. A. PRICE.