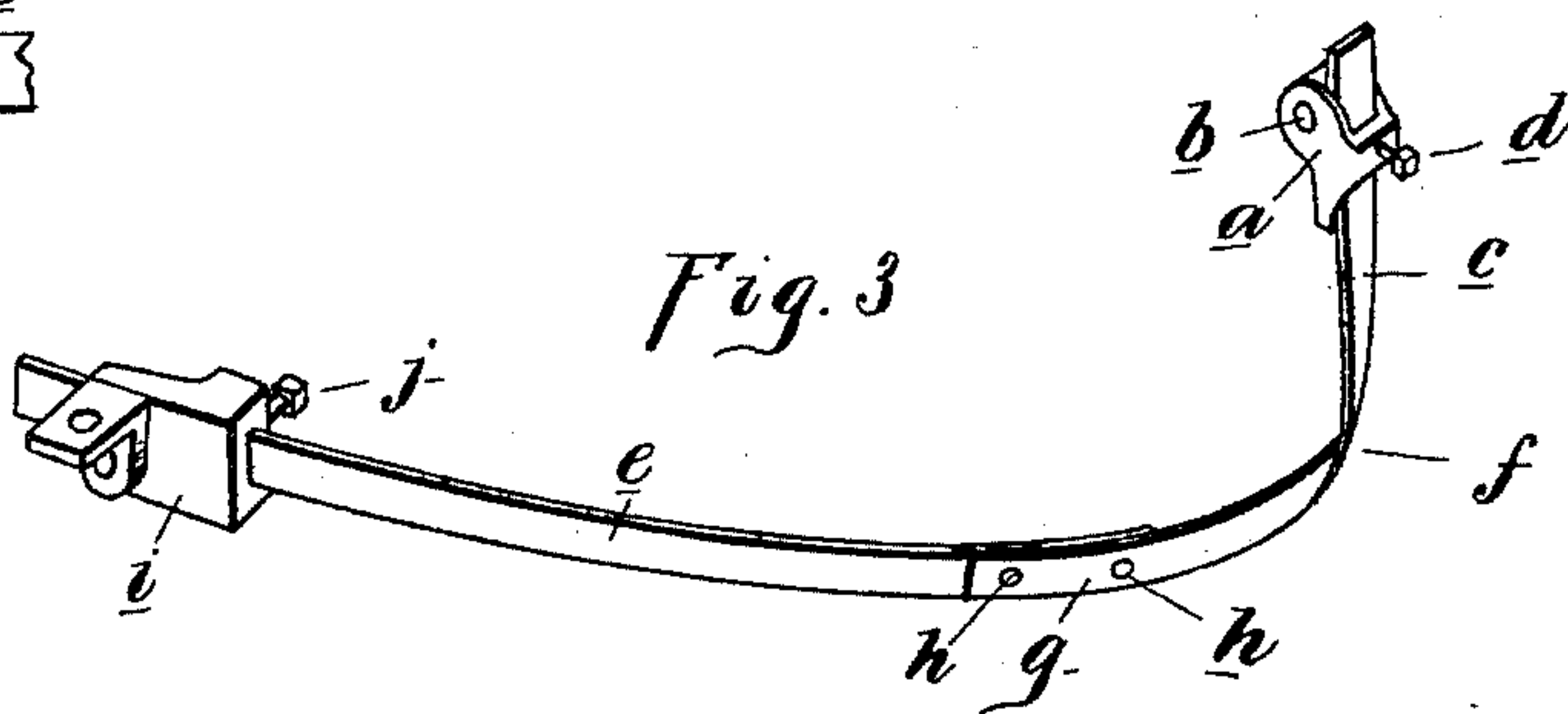
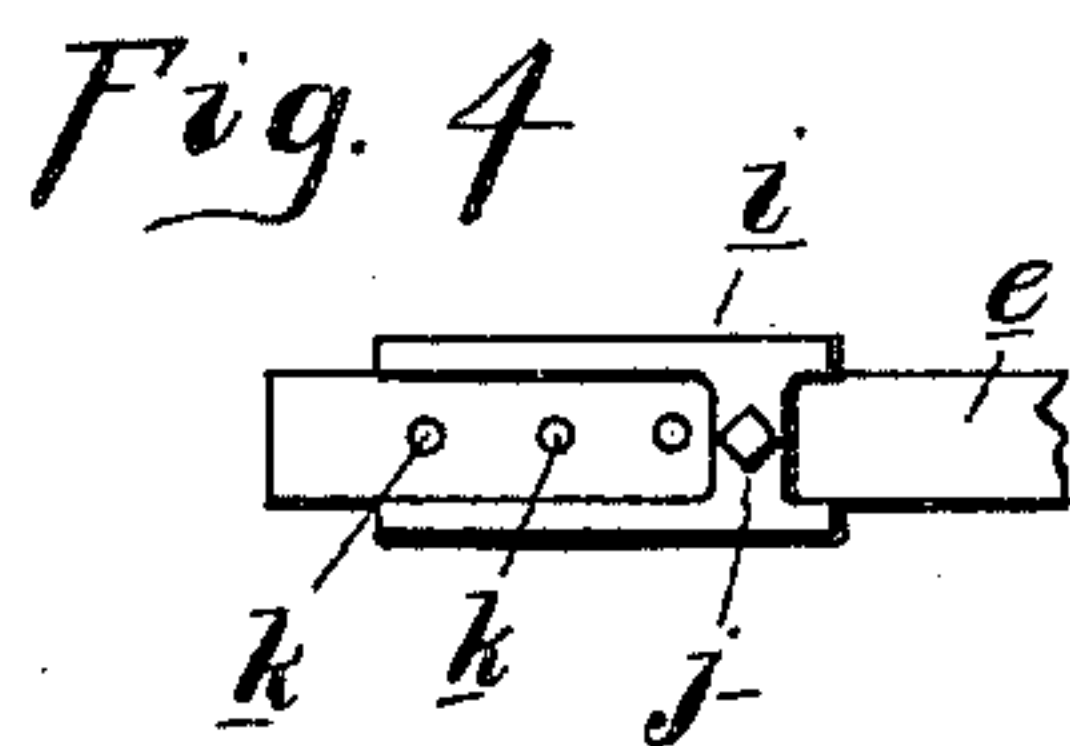
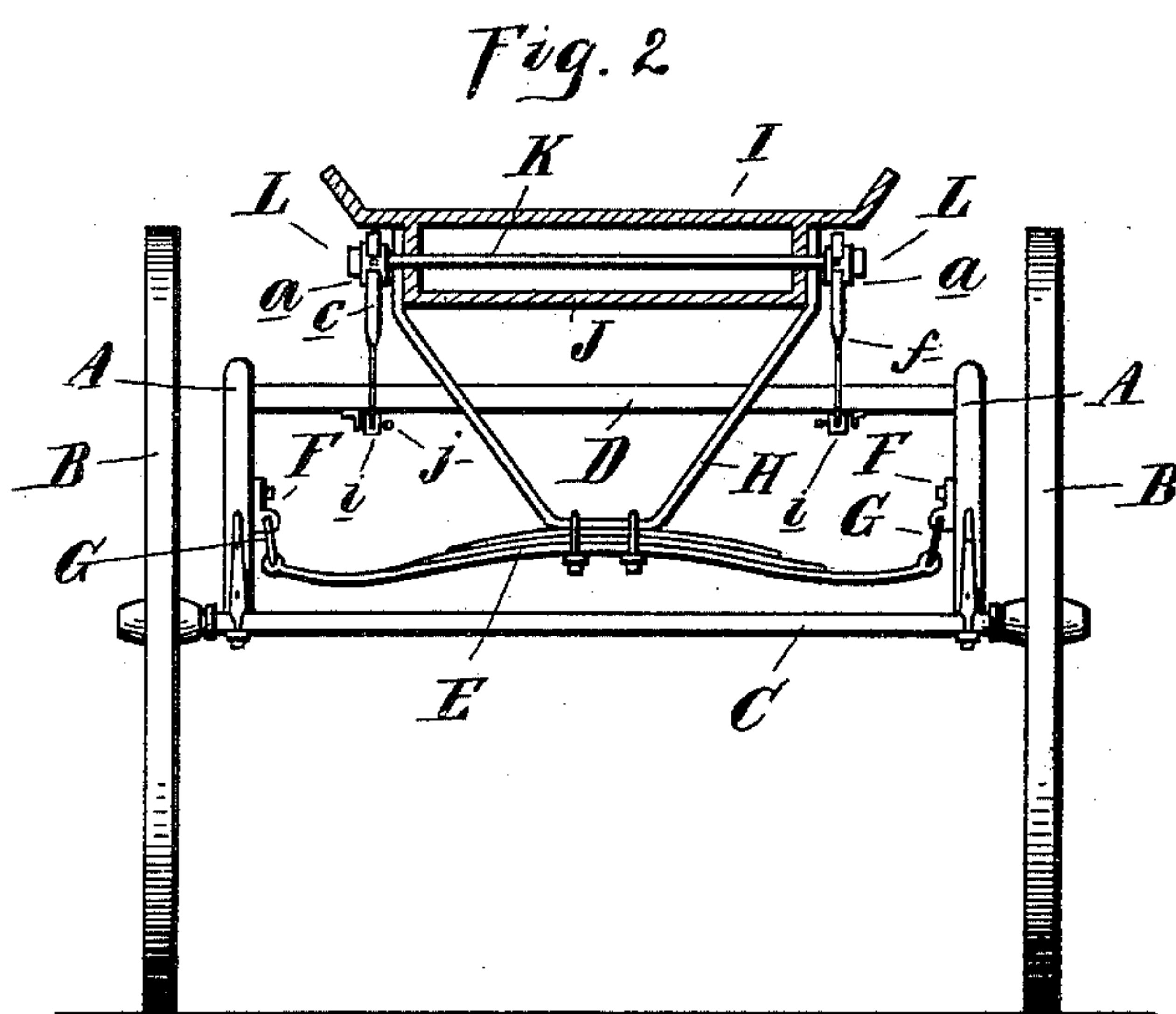
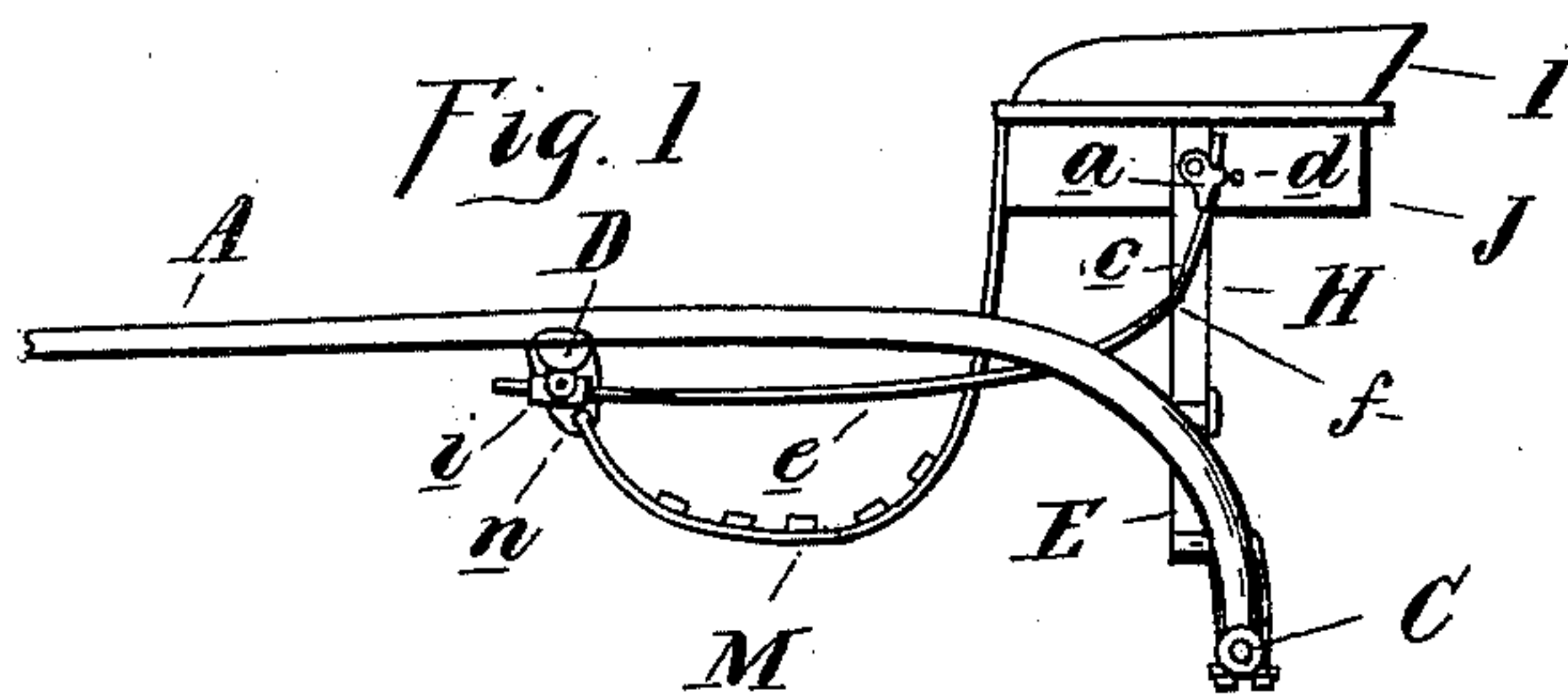


(No Model.)

J. H. LEWIS.
ROAD CART.

No. 462,494.

Patented Nov. 3, 1891.



Witnesses:

W. B. Ogheerty
P. M. Hullbert

Inventor:

James H. Lewis
By *Max S. Spraggett*
Att'y.

UNITED STATES PATENT OFFICE.

JAMES H. LEWIS, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
CHARLES G. HAMPTON, OF SAME PLACE.

ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 462,494, dated November 3, 1891.

Application filed October 16, 1890. Serial No. 368,362. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. LEWIS, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Road-Carts, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in road-carts, and is intended to be an improvement upon Letters Patent of the United States granted to me May 27, 1890, and numbered 428,921.

The invention consists in the peculiar construction of a combined seat-bar and check-spring, whereby in a road-cart in which the seat has a forward and backward play the horse-motion is checked and equalized by the spring of the seat-bar, all as more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of my improved cart, one of the wheels being removed. Fig. 2 is a rear elevation thereof, showing the seat in section. Fig. 3 is a detached perspective view of the spring-seat bar. Fig. 4 is a side elevation of a portion thereof, specifically referred to.

A are the shafts.

B are the wheels.

C is the axle.

D is the cross-bar of known and usual construction.

E is a semi-elliptic spring suspended at its ends from brackets F and links G. These brackets I have shown connected to the rear ends of the shafts. Centrally of the spring is secured the vertical seat-supporting frame H, to the upper end of which is secured the seat I, beneath which is formed a box J. Through this box is secured a shaft K, having its ends projecting beyond the sides thereof. This shaft may be dispensed with, if necessary, and some pins provided on the sides of the box. For strength and ease of manufacture I prefer to use a shaft, as shown. To the outer ends of this shaft is pivotally secured a plate *a*, suitable bearings *b* being formed therein to engage upon the shafts. The nuts L prevent the plate from becoming disengaged from its bearing. This plate is provided on

its forward side with a vertical bearing, in which is secured the upper end of a vertical spring *c*, adjustably secured therein by means of the set-screw *d*. This spring is secured at its lower end to the connecting-bar *e*, preferably consisting of a bar having its greatest width vertically, the spring being secured thereto by twisting it at *f*, so that its lower end *g* is parallel with the bar *e* and may be secured thereto by rivets *h*. The bar *e* is preferably curved to give a graceful appearance thereto, and at its rear end is adjustably secured to the plate *i*, which in turn is secured to the cross-bar D. The adjustment of the bar *e* in the plate *i* is secured by means of the set-screw *j*, suitable horizontal bearings being formed in the plate to receive the bar, and countersunk holes *k* are formed in the bar, in which the end of the set-screw engages.

M are the seat-bars of any suitable construction, whereby a grating or foot-rest may be formed having a flexible connection *n* with the cross-bar. It is evident that as the only rigid connection between the body of the cart is through the medium of the spring seat-bars, that any oscillation forward and backward of the seat will be checked by the tension of the spring *c*. The tension of this spring may be varied to suit the rider by simply lengthening or shortening it by moving it vertically in its bearings in the plate *a*. The seat may also be adjusted at more or less of an angle or be brought to a perfect perpendicular by adjusting the bars *e* in the plate *i*, it being evident that this adjustment will bring the seat away nearer to the cross-bar or move it therefrom.

It would be understood that the seat is supported on the spring E, which is secured by links to the shafts, thereby permitting the seat to be moved back and forth to any desired angle.

A cart thus constructed has been found to give the least possible horse motion, and has proven to have outside advantages over the check-springs for this same purpose, as shown in my previous patent referred to.

It is evident that the necessary rocking motion for the seat may be obtained by a spring connection between the ends of the

spring and the shafts, or by journaling the seat-supporting frame H upon the spring E, as may be most convenient.

While I show my spring seat-bar secured to the cross-bar, it is evident that it may be equally well attached to the shaft at any point forward of the seat.

What I claim as my invention is—

1. In a road-cart, the combination, with an oscillating seat, and seat-bars formed with spring ends, and an adjusting connection between the springs and seat, consisting of a clamp through which the spring is forced, substantially as described.

2. In a road-cart, the combination, with an oscillating seat and seat-bars, of springs on the ends of the seat-bars, and adjustable connections between the springs and seat for varying the tension and length of the springs between the seat and frame, substantially as described.

3. In a road-cart, the combination, with the seat supported upon the spring and having forward and backward oscillation, of a spring seat-bar secured at one end to said seat and at the other end to the cross-bar and of means for adjusting the vertical position of said seat, substantially as described.

4. In a road-cart, the combination, with the seat, of a seat-bar pivotally and adjustably connected at one end to the seat and comprising the vertical portion *c*, forming a check-spring, and a horizontal rigid portion *e*, adjustably secured at its forward end to the cross-bar, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES H. LEWIS.

Witnesses:

M. B. O'DOHERTY,
D. M. HULBERT.