

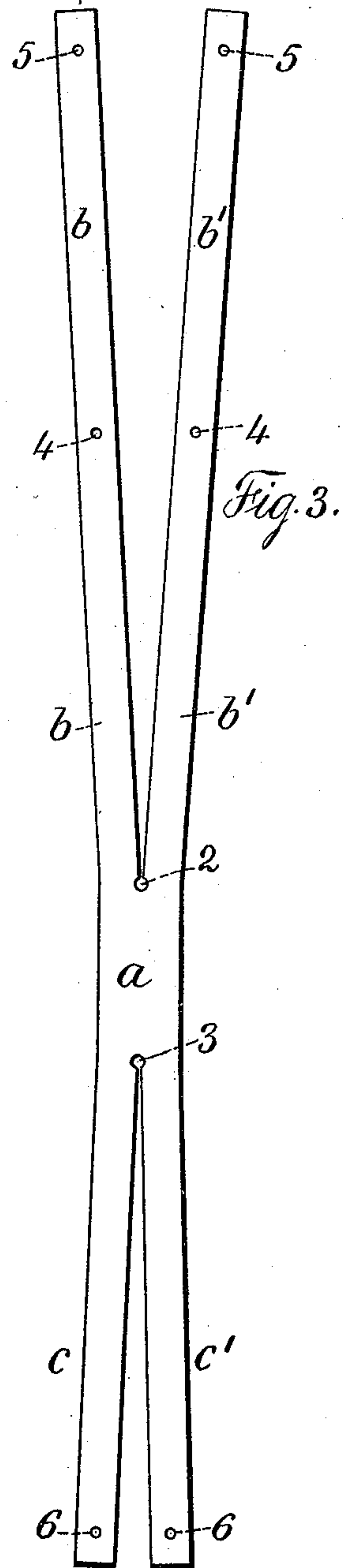
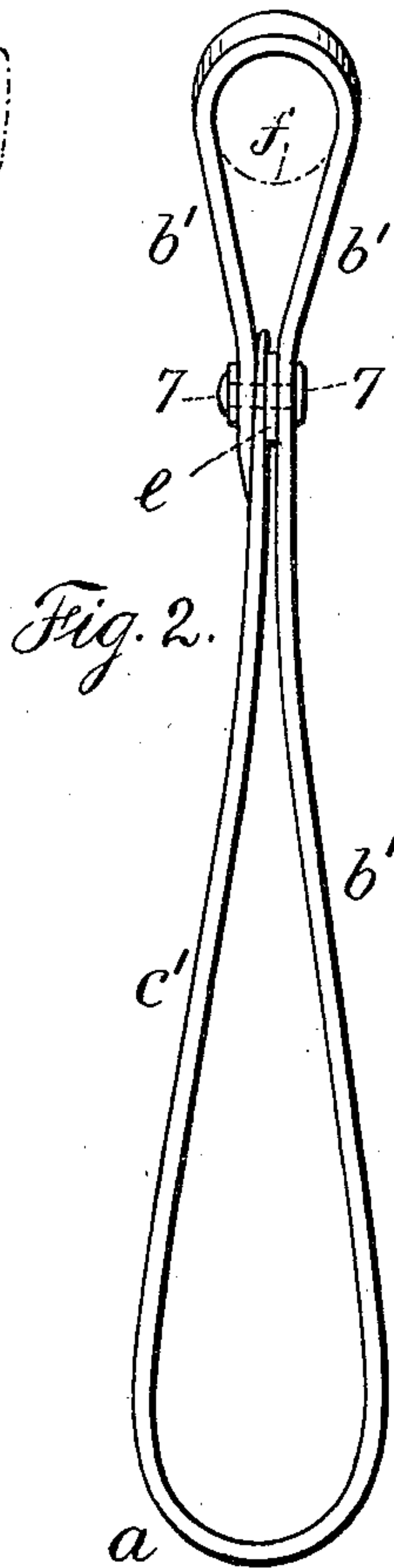
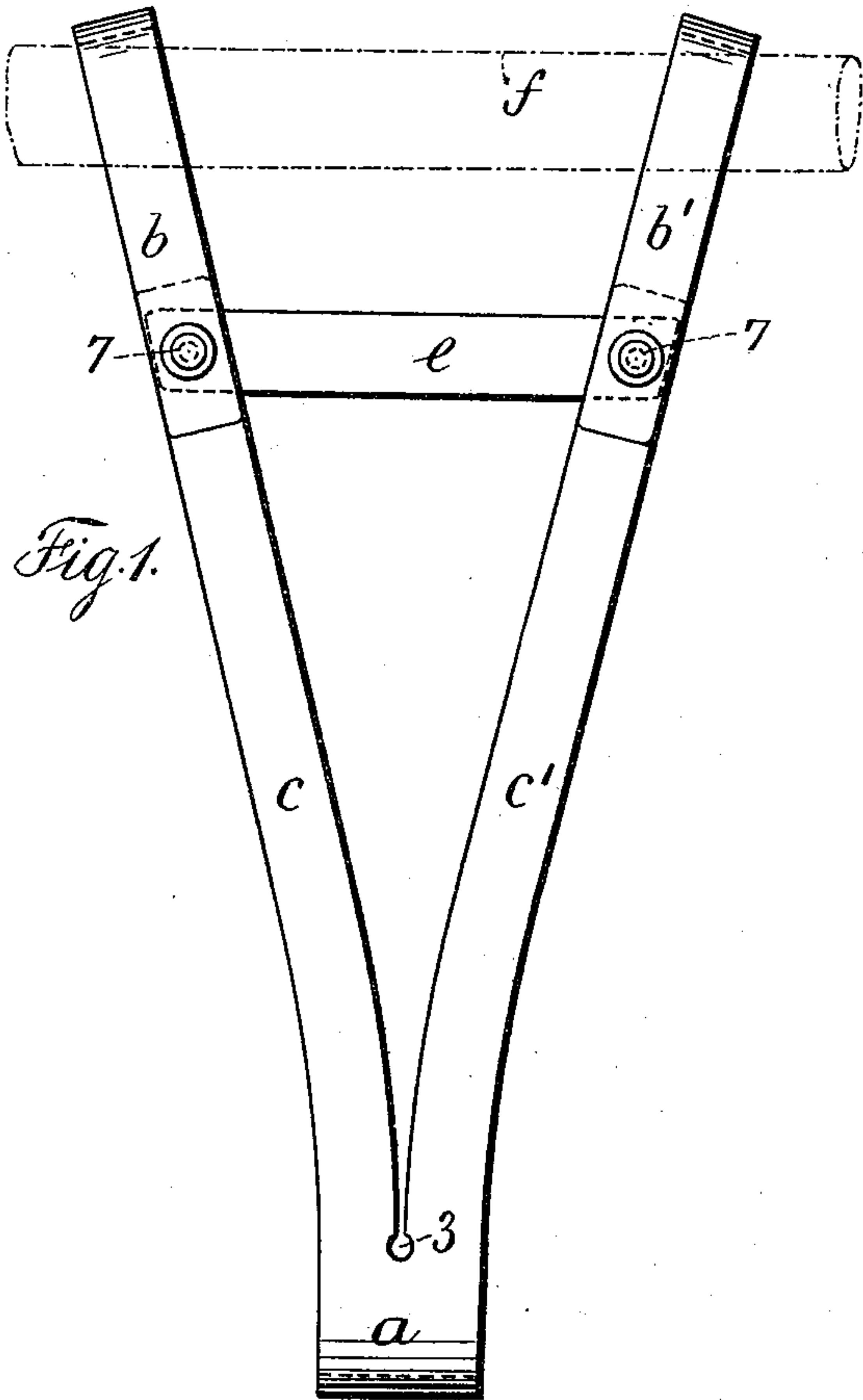
No. 615,986.

Patented Dec. 13, 1898.

E. P. HENDRICKSON.
HAND STRAP FOR CARS.

(Application filed Nov. 26, 1897.)

(No Model.)



Witnesses:
J. Stait
Chas. H. Smith

Inventor:
Edward P. Hendrickson
by L. W. Serrell & Son
attys.

UNITED STATES PATENT OFFICE.

EDWARD P. HENDRICKSON, OF NEW YORK, N. Y.

HAND-STRAP FOR CARS.

SPECIFICATION forming part of Letters Patent No. 615,986, dated December 13, 1898.

Application filed November 26, 1897. Serial No. 659,773. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. HENDRICKSON, a citizen of the United States, residing at the city of New York, in the county and State of New York, have invented a new and useful Improvement in Hand-Straps for Cars, of which the following is a specification.

My invention relates to the flexible straps or supports employed in the surface and elevated railroad cars in cities, which straps are carried upon a rail supported by brackets adjacent to the roof of the car and which rails run parallel with the car on either side. As heretofore constructed these straps or supports have usually consisted of a single narrow band of flexible material, such as leather, that permitted both a sidewise swing and a lengthwise swing of the strap. The sidewise swing is not objectionable to the passenger, but the lengthwise swing, which results from the sudden stopping or starting of the car, is objectionable and often causes passengers to collide in a closely-crowded car; and the object of my invention is to overcome as far as possible the lengthwise swing.

In carrying out my invention I provide a strap having a main portion for the grip of the hand and two straps that extend from this main portion in opposite directions. These straps are integral with the main portion and are formed by severing the strip of leather to predetermined points. The straps extending in one direction of the main portion are longer than those extending in the other direction, those extending in one direction being connected at their ends to those extending in the other direction in such a manner that a loop is formed at the main portion, and loops are formed to extend around the rod of the car, and I provide a rigid bar to which the respective ends of the straps are connected and which bar serves to maintain the straps in a condition of divergence from one another, there being two straps passing over the bar at a distance apart, the same being kept apart by the rigid bar.

In the drawings, Figure 1 is a side elevation, and Fig. 2 an edge view, representing my improvement; and Fig. 3 shows the form of construction of the strap as laid out flat.

The strap comprises the main or hand portion *a*, the straps *b b'* extending in one direc-

tion from the portion *a* and the straps *c c'* extending in the other or opposite direction from the portion *a*. These parts are formed by severing the strip forming the strap toward the two ends from predetermined points, such as the punctures 2 3, the straps *b b'* being made of greater length than the straps *c c'*. Holes are made in the straps *b b'* at 4, in the ends of the same straps at 5, and in the ends of the straps *c c'* at 6, and the respective ends of said straps are tapered in the plane of the strap. The bar *e*, preferably of metal of the requisite or desired length and perforated at the respective ends, is employed both as a means of connecting the parts of the strap together and for maintaining them in the diverged condition shown in Fig. 1.

In arranging the parts to form the hand-strap rivets 7 are passed through the holes 4 and through the holes in the ends of the bar *e*. The main portion *a* of the strap is then bent with the straps *c c'* into a loop and the rivets are passed through the holes 6. The outer ends of the straps *b b'* are then brought over into the form of loops and the rivets are passed through the holes 5. The washers of the rivets are then put on and the ends of the rivets upset to securely connect the parts, as shown in Figs. 1 and 2. The loops formed by the straps *b b'* receive the car-rail *f*, (shown by dotted lines,) and the hand-strap hangs therefrom, as shown in Figs. 1 and 2, the portion *a* to be grasped by the hand of the passenger being in a vertical plane midway between the upper ends of the straps around the rail *f*, so that the strain applied to the strap by the hand of the passenger is divided equally upon the two straps *b b'* around the rail, the bar *e* preventing the straps being drawn toward each other.

It is apparent that while this strap can swing readily transversely of the car the longitudinal movement is almost entirely overcome, so that thereby the passenger is enabled to stand more steadily as against the longitudinal movements of the car.

I claim as my invention—

1. A hand-strap for cars comprising a main portion and integral straps extending in opposite directions therefrom, a bar and means for uniting the straps together at their ends and to the bar so that loops are formed in the

straps to receive the rail of the car and at the main portion for the hand, the straps being held in a diverging condition by the means aforesaid and the hand-opening being parallel
5 to the supporting-bar, substantially as set forth.

2. A hand-strap for cars comprising a main portion *a*, straps *b b'* extending in one direction therefrom and straps *c c'* extending in
10 the other direction therefrom, said straps being integral with the main portion *a*, a bar *e* and rivets passing through the straps *b b'* and

through the ends of the bar and also through the respective ends of the straps to connect the parts, whereby loops for the rail of the car are formed in the straps *b b'* and a loop
15 for the hand at the main portion *a*, substantially as set forth.

Signed by me this 22d day of November, 1897.

E. P. HENDRICKSON.

Witnesses:

GEO. T. PINCKNEY,
HAROLD SERRELL.