

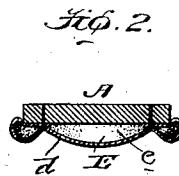
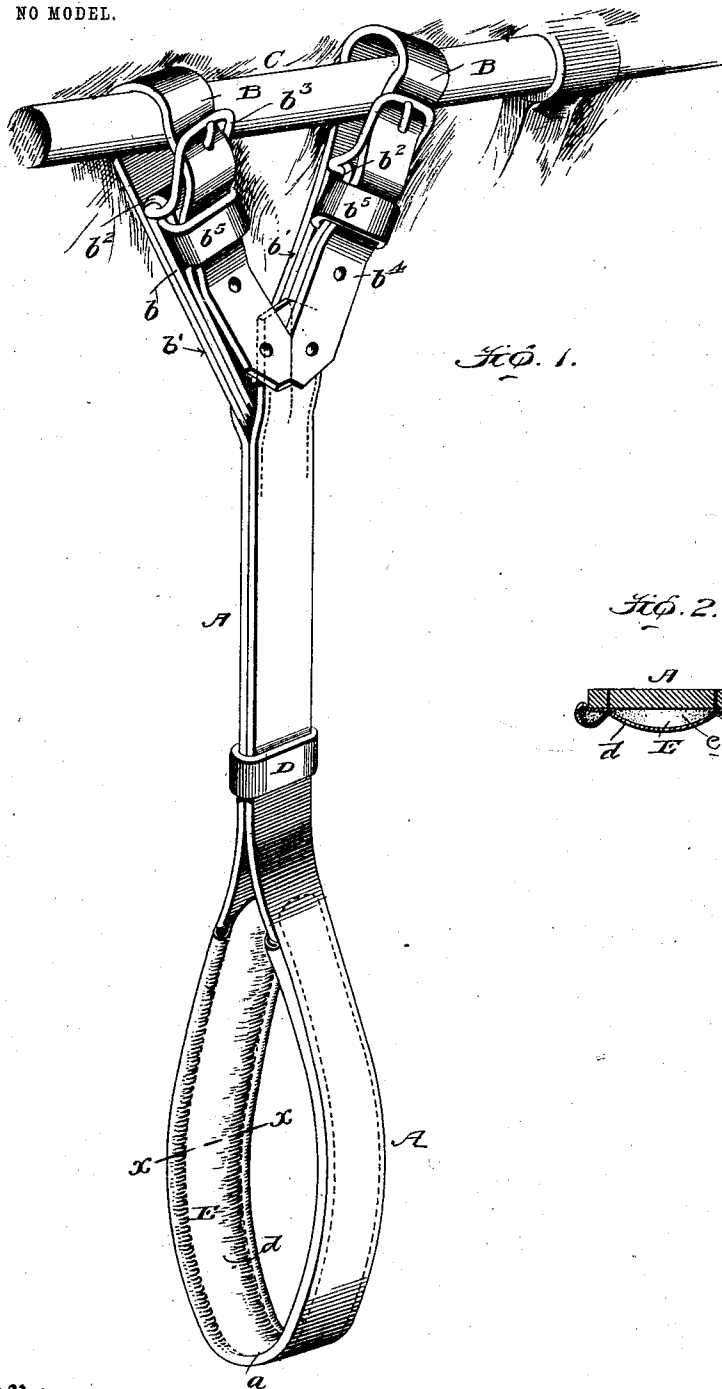
No. 733,866.

PATENTED JULY 14, 1903.

J. H. MYERS.  
HAND STRAP.

APPLICATION FILED APR. 28, 1903.

NO MODEL.



Witnesses

Witnesses  
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# UNITED STATES PATENT OFFICE.

JOSEPH H. MYERS, OF NEW YORK, N. Y.

## HAND-STRAP.

SPECIFICATION forming part of Letters Patent No. 733,866, dated July 14, 1903.

Application filed April 28, 1903. Serial No. 154,733. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH H. MYERS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Hand-Straps, of which the following is a specification.

My invention relates to certain new and useful improvements in the flexible straps or supports employed in the surface, elevated, or underground cars, coaches, or other vehicles designed for the transportation of passengers and wherein hand-straps are provided for the accommodation of passengers who because of the crowded condition of the vehicles are obliged to stand, said straps being usually suspended from rails supported by brackets adjacent to the roof of the car and which rails run parallel with the car on either side.

The usual form of hand-strap for the purpose above indicated consists of a single narrow band of flexible material, such as leather, that permitted both a sidewise swing substantially at right angles to the direction of the travel of the car and a swing lengthwise or parallel with the direction of the travel of the car, which latter movement has certain objections which result from the sudden stopping or starting of the car.

Among the objections is the apparent inability of the passenger having hold of the strap to preserve a sure footing, for when the car is suddenly started or stopped the passenger is thrown in one or the other direction and often in crowded cars is caused to collide with an adjacent passenger to the annoyance of both.

My invention comprehends the construction of a hand-strap which will overcome the above objections and at the same time to combine therewith the desirable features of cushioning the loop which receives the hand of the passenger, thereby greatly adding to his comfort, and also of making this loop adjustable to accommodate different sizes of hands with comfort.

My invention consists of the parts and the constructions and combination of parts, which I will hereinafter describe and claim.

In the accompanying drawings, forming part of this specification, and in which similar letters of reference indicate like parts in

both views, Figure 1 is a perspective view of a hand-strap embodying my invention and showing the strap in position. Fig. 2 is a cross-sectional view on the line  $xx$  of Fig. 1.

In carrying out my invention I construct the strap with a main or hand loop A and two divergent loops B, which receive the rail C, which extends longitudinally through the car. The main portion consists of a strap folded centrally to form of the bight thereof a loop  $a$ , through which the hand of the passenger is passed. The loops B, by which the device is suspended from the rod C, are fixed to and diverge from the upper end of the strap A, which thus stands vertically in a plane midway between the two points of connection with the supporting-rail or strap-support.

In the specific construction herein shown, but which may be departed from within reasonable limits without altering the scope of the invention, each upper loop B is formed of straps  $b b'$ , the former being folded upon itself to form a loop  $b^2$ , to which a buckle  $b^3$  is attached, and the strap  $b'$ , also folded upon itself to form the rail-receiving loop and having a free end  $b^4$ , provided with adjusting-holes and adapted to be passed through the buckle and through a loop  $b^5$  in the usual and well-known manner.

The folded members of the strap  $b$  and the fixed part of the strap  $b'$  are all securely fastened together, the several thicknesses of material thus combined forming a stiff and relatively rigid "shank," so called, and these shanks of the loops B are fitted between the members of the main strap A and the latter, and the said shanks are then all fastened together—say by lines of stitching. By this arrangement the so-called "shanks" of the loops are substantially rigid and are capable of maintaining the desired divergence of the loops B without the employment of metal plates or other supplemental connections extending between the loops to keep them separated.

The employment of the buckle in connection with the open loops B allows the hand-strap to be attached to and detached from the suspending-rod without difficulty; but, if desired, the buckle may be dispensed with and the free member of the strap  $b'$  may be secured directly to the other parts constitut-

ing the so-called "shank" of the loop, thus increasing the rigidity of said shank.

Referring again to the hand-loop A, substantially all that portion below the connection of the upper end of the strap with the shanks of the loops B is unattached, and to maintain these parts flatwise against each other and to prevent undue strain upon the point of connection of the upper ends of the strap with the shanks of the loops B, should a passenger sustain himself by holding onto the middle portion only of one member of the strap instead of placing his hand through the loop formed by the bight of said straps and to increase or decrease the size of the loop provided for the hand, if desired, I employ a loose loop D, which slidably embraces the folded members of the strap, as shown in Fig. 1.

As far as I am aware the ordinary hand-strap has heretofore comprised an ordinary flat strap, and when the hand is placed within the loop thereof the substantially sharp edges of the strap have a tendency to press into the flesh, especially of tender hands, and cause much annoyance and more or less discomfort, and this objection should be overcome in order that the comfort of the passenger compelled to stand may be facilitated. To meet the objection just noted, I provide my hand-strap with a cushioned or padded portion E in the portion of the loop which receives the hand of the passenger. This pad or cushion may be formed in various ways and, as herein shown, may be made by lining the lower part of the loop with soft leather *d*, beneath which may be a filling material *e*.

The width of the cushion may be slightly in excess of that of the strap, so that when stitched to the latter the cushion will present smooth rounded edges slightly overlapping the sharp rough edges of the strap, so that when the hand engages the strap it contacts with the rounded edges of the cushion, and a soft and comfortable grip is provided. At the same time the convexity which I prefer to give to the cushion conforms more nearly to the curvature of the hand, thereby increasing the comfort of the passenger.

The device described is simple and effective in operation and will be an attractive ad-

dition to public vehicles and will also be appreciated by the traveling public as conducive to their comfort.

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

1. A hand-strap comprising a main loop and two loops diverging therefrom and connecting with the first-named loop by shank portions of such stiffness that the divergence of the loops is maintained without supplemental stays.

2. A hand-support including a strap folded upon itself to form a main loop; other and independent straps folded to form supplemental loops adapted to engage a suspending-rod of a vehicle, the plies of the supplemental straps brought together and secured to form shank extensions of the loops, and said shank extensions devoid of lateral connection one with the other and secured to and diverging from the upper end of the first-named strap.

3. A supporting-strap including a hand-loop and a forked or divergent upper portion provided with loops to engage the suspending-rod of a vehicle, said upper loops provided with detachable fastenings to facilitate the attachment to, or the removal of the strap from, said rod.

4. A supporting-strap having a hand-loop provided with an interior cushion the edges of which overlap the edges of the strap.

5. A supporting-strap having a hand-loop provided with an interior cushioned lining curved in cross-section said lining having rounded edges guarding the edges of the strap proper.

6. A supporting-strap folded upon itself to form a hand-loop, and independent loops fixed to and diverging from the upper end of the first-named loop, in combination with a slide embracing and movable along the members of the folded strap, and holding said members parallel and flatwise upon each other and increasing or decreasing the size of the loop.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOSEPH H. MYERS.

Witnesses:

CHAPMAN W. FOWLER,  
T. W. FOWLER.