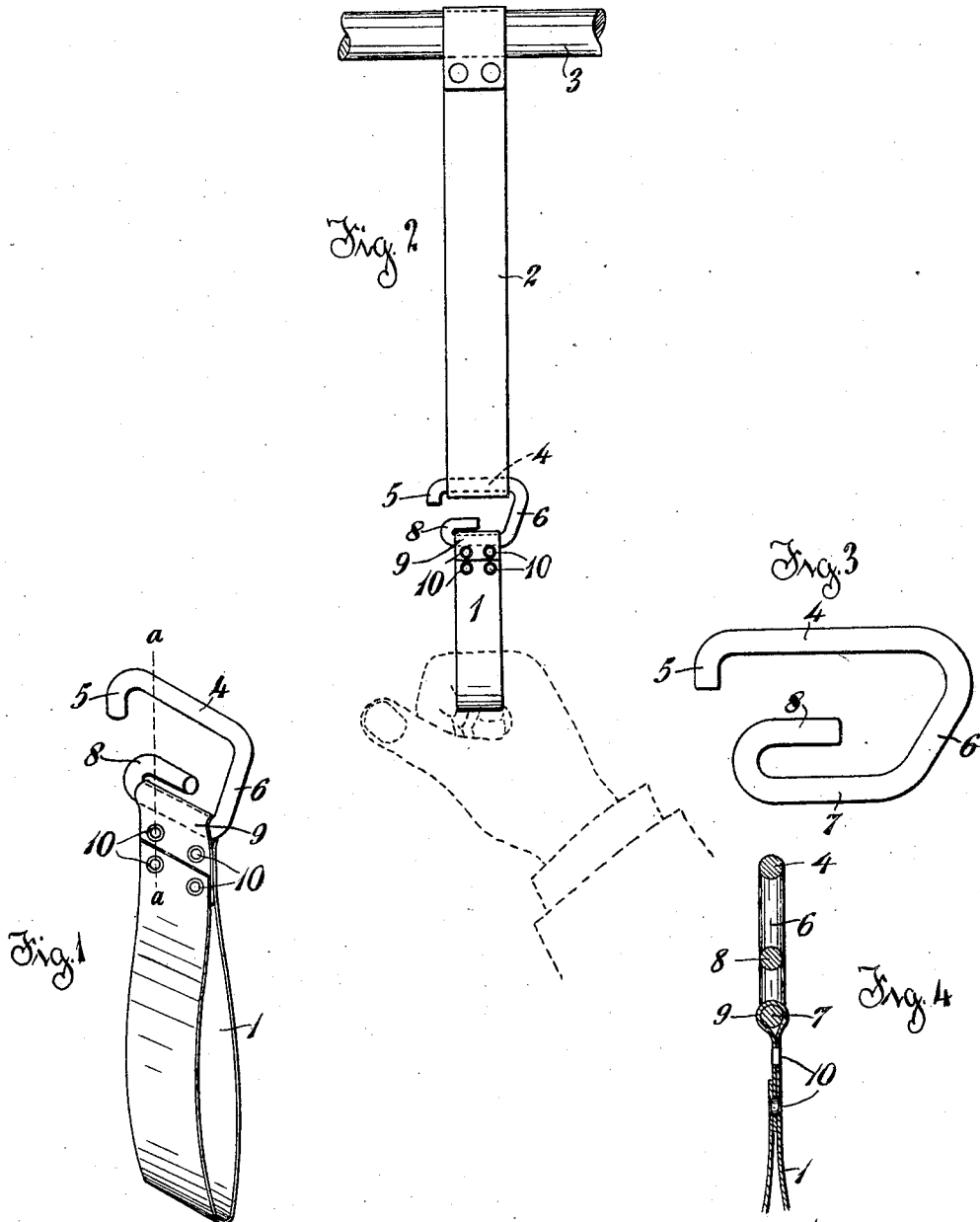


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HAND GRAPPLE.
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937,564.

Patented Oct. 19, 1909.



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UNITED STATES PATENT OFFICE.

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HAND-GRAPPLE.

937,564.

Specification of Letters Patent.

Patented Oct. 19, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM AUTENRIETH, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain new and useful Improvement in Hand-Grapples, of which the following is a specification.

This invention relates to hand grapples or hooks, especially to those adapted for use in connection with the pendent hand-straps provided in street-cars or like conveyances for the steadying of standing passengers, and still more especially to the grapple already forming the subject-matter of Patent No. 901,057 granted me October 13, 1908.

The object of the invention is to simplify and somewhat cheapen my said previous invention and, also, to render the device relatively more convenient in manufacture, packing and use.

The invention comprises a flexible loop or strap and a hook of peculiar construction pivotally-attached to one end of the strap and formed of a single piece of stiff wire bent into a horizontal U-shape hook-member at its lower portion, a vertical oblique side-member extended laterally and upwardly from the lower limb of said U-shape member and a horizontal L-shape upper portion extended from said side-member parallel to and above said U-shape member, whereby the said upper L-shape member is adapted to be engaged in the lower end of a pendent hand-strap used in street-cars or the like.

The details of my invention will be fully hereinafter described and my improvement particularly pointed out in the claim.

In the accompanying sheet of drawings, Figure 1 is a perspective view of my improvement herein; Fig. 2, a front elevation showing my improvement in use at the lower end of a pendent hand-strap such as is used in a street-car or like conveyance; Fig. 3, a front elevation of the hook-member forming the essential feature of the grapple comprising my invention herein; and Fig. 4, a vertical section taken on the dotted-line *a, a*, of Fig. 1, with the flexible loop shown broken off slightly below its connected portion with the hook or grapple portion of my improvement.

In these views, 1 indicates a short flexible strap or loop made of suitable webbing, leather, or other desirable material, and 2

the customary flexible hand-strap used in street-cars or like conveyances for steadying or supporting the standing passengers or occupants thereof.

3 indicates the customary horizontal bar from which said hand-strap 2 is suspended.

The grapple or hook portion of the device forming the essential feature of my invention herein is composed of an upper horizontal member or bar 4 having a short downwardly-turned outer end 5, a vertical obliquely-bent side-member 6 at the opposite end of said horizontal member 4, a lower horizontal member 7 extended inwardly from said side-member 6 and parallel to said upper member 4, and an intermediate hook-member 8 disposed parallel to said members 4 and 7 and directed toward the side-member 6. The hook-member 8 forms a horizontal U-shape member suitably spaced away from said side-member 6 and is adapted to inclose the upper looped-end 9 of the short flexible hand-strap 1 that is pivotally or loosely engaged over the lower horizontal member 7 of the grapple.

Fastening devices, such as shown at 10 and comprising eyelets or rivets are used to connect the opposite ends of the webbing or leather of the hand-strap 1 where attached to the lower cross bar or member 7 of the grapple-hook.

The hook-member forming the essential feature of my device is preferably made of stiff metal wire that has some resiliency to take more or less of the vibrations of the conveyance when in motion and to support the passenger in a comfortable position, especially one of short stature who cannot conveniently reach the customary pendent hand-strap 2. The obliquely-arranged side-member 6 of the hook adapts it to a direct vertical or perpendicular pull when in position for use and obviates any inclination of the hand-strap 2 to deflect from a perpendicular line, such as would follow in the use of a perpendicular member 6. The outer hook-member 5 extends beyond the outer perpendicular line of the U-shape hook 8 and prevents the hook slipping from place in the lower loop of the pendent hand-strap 2 when in use.

When the device is not in use, it can be conveniently carried in the pocket or in the palm of a gloved hand, by simply wrapping the short flexible hand strap or loop 1 around the hook member or grapple proper.

In wrapped condition the device is of small compass and occupies but little space on the person, and is readily unwrapped for use.

I claim:—

- 5 A hand-grapple comprising a flexible hand strap and an open-sided hook-member pivotally-connected to one end of said hand-strap and formed of a single strip of wire bent into a horizontal upper-member having
10 an outer pendent hook end, a pendent obliquely-bent side-member at the opposite

end of said upper-member, a horizontal lower-member extended from said side-member parallel to said upper-member and an intermediate hook-member bent inwardly from said lower-member toward said side-member. 15

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