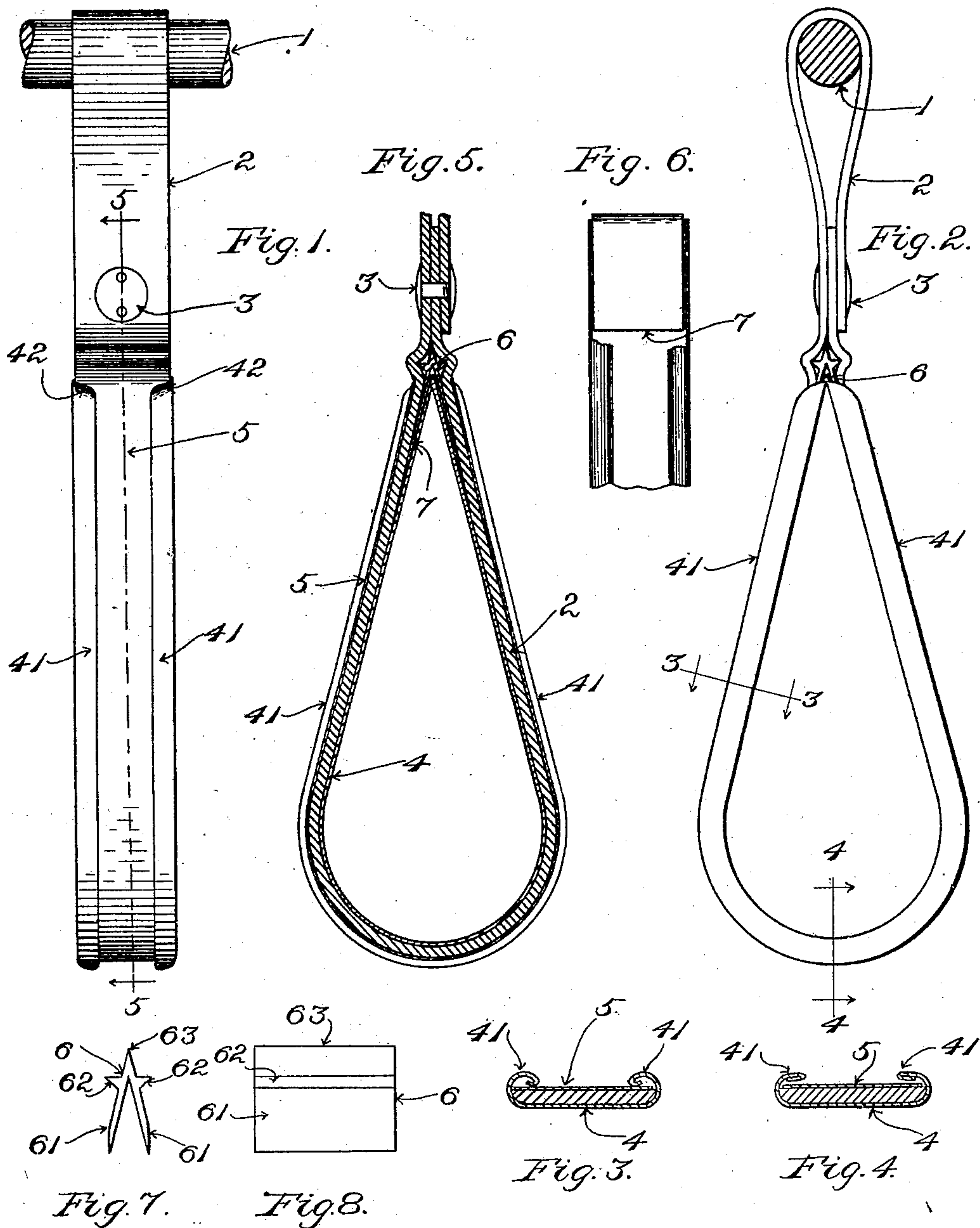


No. 879,575.

PATENTED FEB. 18, 1908.

J. F. NEWTON, JR.
HANGER STRAP OR HANDHOLD FOR CARS, &c.
APPLICATION FILED OCT. 28, 1907.

2 SHEETS—SHEET 1.



Witnesses:
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Edith J. Anderson

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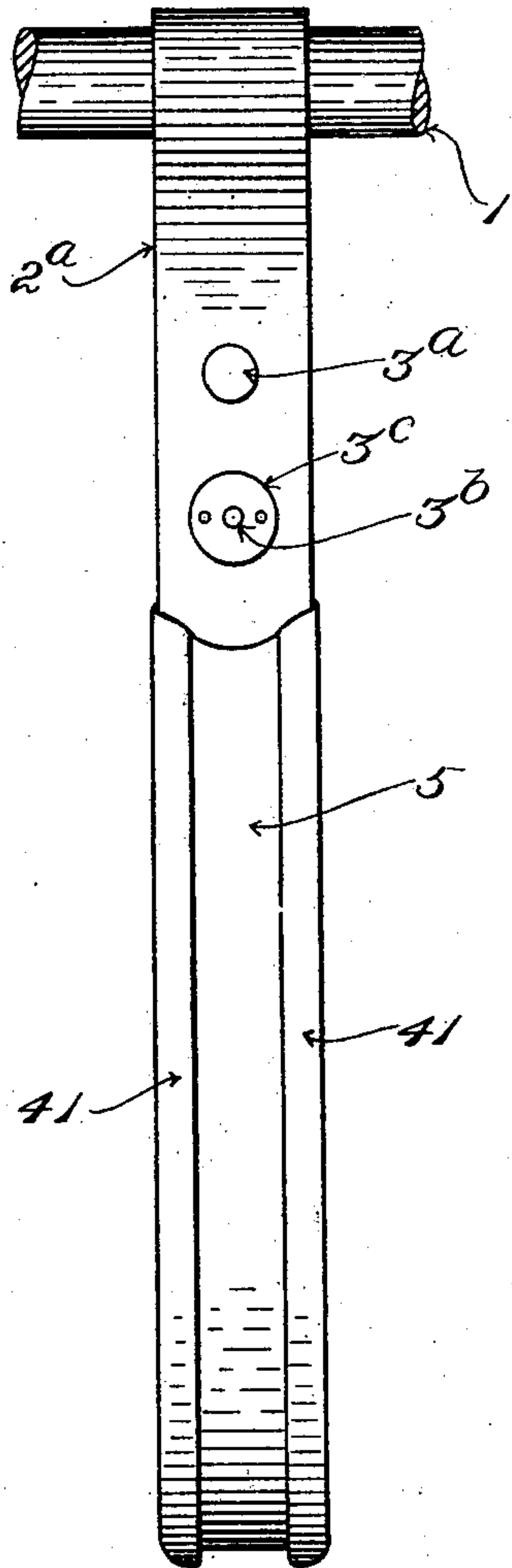


Fig. 9.

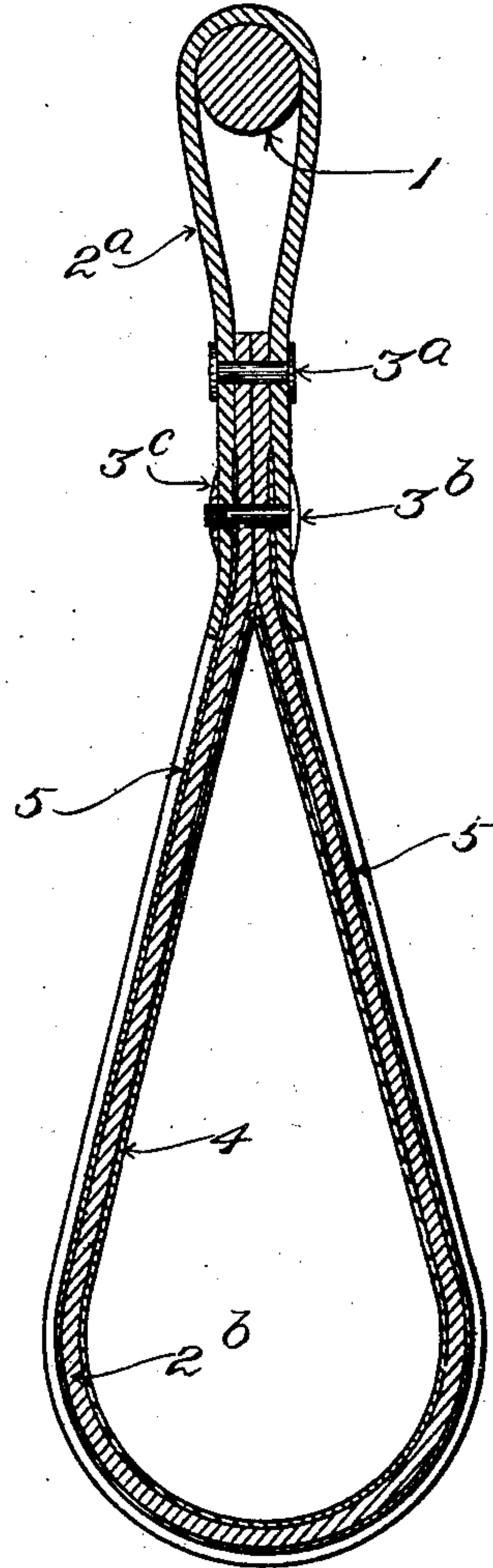


Fig. 10.

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UNITED STATES PATENT OFFICE.

JOHN F. NEWTON, JR., OF BOSTON, MASSACHUSETTS.

HANGER-STRAP OR HANDHOLD FOR CARS, &c.

No. 879,575.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed October 28, 1907. Serial No. 399,493.

To all whom it may concern:

Be it known that I, JOHN F. NEWTON, Jr., a citizen of the United States, residing at Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Hanger-Straps or Handholds for Cars, &c., of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to hanger-straps or hand-holds on the order of those which in cars are provided for the benefit of standing passengers.

More particularly, the invention is an improvement in the hanger-strap or hand-hold of Letters Patent of the United States granted to me under date of August 20, 1907, No. 863,935. The said hanger-strap or hand-hold thus patented to me has a smooth and non-absorbent surface throughout the upright side-portions and closed lower end or bight of the depending loop thereof, and in the patent I have described and shown as one means of furnishing the required surface a sheet metal facing applied to the said depending loop.

The object of the patented invention is to provide a hanger-strap or hand-hold which shall have a surface that is non-absorbent and cleanly, and which shall be free from the objections to the ordinary unprotected leather hanger-straps or hand-holds heretofore in use. These last soon become soiled and charged with perspiration and grease through contact with the more or less unclean hands by which they are grasped. In the blackened and dirty, greasy, softened, and slippery state which they soon assume they are not only offensive or repulsive to grasp, but probably serve as vehicles for the transfer of infectious sores and diseases, including such as may be communicated to the delicate membranes of the eyes and other organs by a hand which has been in contact with an infected strap. The smooth non-absorbent surface of my patented hanger-strap or hand-hold readily keeps clean.

In practice, the hanger-strap or hand-hold of my Letters Patent aforesaid usually is furnished with a sheet-metal surfacing applied as shown in Figures 1 to 3 of the drawings of such patent, that is to say, entirely covering the inner surface of the strap, with the marginal portions of the sheet-metal bent to inclose the opposite edges of the strap and to form flanges ex-

tending toward each other transversely in front of the outer surface of the strap. The hanger-strap or hand-hold thus constructed has the surface of the strap exposed between the flanges of the sheet-metal surfacing. In one process of manufacture the surfacing is taken in the shape of a straight flat strip of proper width and length, and its longitudinally extending marginal portions are bent around and turned inward suitably for receiving the strap. The bent and flanged strip is then bent upon itself transversely into U-shape, with its free ends inclined toward each other and brought close together. The strap is applied by slipping the same endwise into place under the flanges. Drawbacks that are incident to this process of manufacture are the difficulty and loss which have been experienced in bending the surfacing strip into the required U-shape after the side-flanges have been formed, on account of the liability of the flanges to split or crack.

One object of the invention is to protect and cover or conceal the outer surface of the strap between the flanges, and to provide, when desired, for adding an ornamental finish to the exterior of the hanger-strap or hand-hold, or for the application of advertising matter, or the like, to the same.

Another object is to facilitate the operation of bending the flanged surfacing strip into the final U-shape, and obviate liability to splitting or cracking of the flanges.

Another object is to give increased strength and rigidity to the surfacing and render the loop incompressible.

The invention consists in a hanger-strap or hand-hold having a facing strip which preferably, though not necessarily in all cases, is applied at the outer face of the strap, and preferably, also, with its marginal portions entered beneath the flanges of the surfacing strip aforesaid, and thereby held in place. Also in a hanger-strap or hand-hold having a removable facing strip. Also, in means for securing the facing strip against longitudinal movement, so as to prevent accidental displacement or intentional withdrawal except when such securing means is disengaged. Also in a hanger-strap or hand-hold (of the construction which has been explained) in which the flanges are flattened around the main bend of the U in a manner which facilitates the bending and practically obviates the tendency of the flanges to split or crack.

Also, in a key by which the ends of the surfacing are united together, and prevented from relative longitudinal movement as well as from being sprung laterally, and by means of which the loop is reinforced and strengthened, and made rigid and incompressible.

The invention is illustrated in the accompanying drawings, in which latter,—

Fig. 1 shows in front elevation a hanger-strap or hand-hold embodying the features of the invention, and a portion of the supporting-rod upon which the said hanger-strap or hand-hold is hung. Fig. 2 shows the hanger-strap or hand-hold in side elevation, with the supporting-rod in cross-section. Fig. 3 is a view in cross-section on lines 3, 3, of Fig. 2. Fig. 4 is a view in cross-section on line 4, 4, of Fig. 2. Fig. 5 is a view in section in the plane indicated by the dotted line 5, 5, of Fig. 1. Fig. 6 is a front view of a portion of a hanger-strap or hand-hold, with parts broken away. Fig. 7 is an end view of the securing device to which reference will be made. Fig. 8 is a side elevation of the said securing device. Fig. 9, Sheet 2, is a front elevation of a modified construction of strap. Fig. 10, Sheet 2, is a view in section on line 10, 10, of Fig. 9.

Having reference to the drawings, and first to Figs. 1 to 8,—at 1 is shown a portion of the length of a horizontal bar or rod such as is employed in a car for the support of the hanger-straps or hand-holds, it being shown as having applied thereto a hanger-strap or hand-hold of the same general character and construction described and shown in the patent aforesaid. At 2 is a length or strap, of leather, or other suitable material, doubled upon itself, and with its end-portions overlapping, the said end-portions and the opposite side-portion being secured together by means of a fastening 3 which passes through all three thereof. Fastening 3 is in the form of an ordinary clamping or screw-rivet, adapted to be unscrewed when desired, to release the portions of leather or strap thereby secured together, or to be screwed up tightly again for the purpose of securing and clamping such portions once more. At 4 is the inclosing sheet-metal facing, and at 41, 41, are the side-portions or flanges thereof which are bent or turned over and toward each other to inclose and clasp the side margins of the strap 2. These side-portions or flanges preferably are bent in a circular curve so that they are nearly cylindrical, forming roll-like side-portions of such diameter that the pendent lower loop of the hanger-strap or hand hold may be grasped firmly by one's hand without discomfort. The free edges of these flanges are inturned, as shown best in Figs. 3 and 4, so as to be concealed and shielded. Along both sides of the pendent loop the cross-section is as represented in Fig. 3, the flanges having the circular curva-

ture in cross-section which is shown in such figure. At the bend or bight of the said loop, however, the free edges of the flanges are compressed against the overhung portions of the latter, and the said portions are flattened, as represented in Fig. 4, by being separated somewhat from the body of the surfacing strip 4. When now the flanged surfacing strip is bent from its straight condition into U shape the flattened flanges bend more readily than the circular curved flanges of Fig. 3, and without tendency to split or crack transversely. At 5 is the facing strip which is applied to the outer surface of the strap 2. This facing strip extends around the pendent loop, with its marginal portions under the flanges 41, 41, and held in place by the latter. It is composed of the desired material, and may be plain or ornamented. Celluloid or metal may be employed, for instance, and it may bear pictures or inscriptions. One important use of the facing strip is as a bearer or carrier of advertising matter. It may be applied by slipping it endwise in between the flanges and the strap 2, and in like manner may be removed by sliding it out from between them. Thus it may be replaced from time to time, as desired or necessary.

For the purpose of preventing the facing strip 5 from accidentally becoming displaced, and from being withdrawn by mischievous persons, I provide for securing it effectually in place by spreading apart the two portions of the strap 2 which extend upwardly above the upper ends of the surfacing strip 4 of sheet metal, immediately above such ends. This is illustrated in Fig. 2 of the drawings. Thereby it is rendered impossible for either end of the facing strip 5 to rise or be pushed above the corresponding end of the flanged surfacing strip 4. I effect the spreading or separation by means of a spreader 6 which is shown in place in Fig. 2 and separately in Figs. 7 and 8. The said spreader is formed with diverging wings 61, 61, and with an enlarged head comprising in this instance opposite transversely extending ribs 62, 62, and an upwardly projecting tapered portion 63. The spreader is inserted between the two meeting portions of the strap, and the wings are pushed down into place within the upper ends of the flanged surfacing strip 4, inside the said portions of the strap. Each wing is entered between the strap and the body-portion of the corresponding end of the surfacing strip, so that the strap is outside the wing and between the latter and the flanges 41, 41. The ribs 62, 62, cause the two portions of the strap to bulge outwardly just above the upper ends of the flanges, so that thereby it is rendered impossible to move either end of the facing strip 5 upward. The tapered upper portion 63 of the spreader permits the two meeting portions of the strap

to come gradually into contact with each other. After the fastening 3 has been applied and tightened up so as to bind the overlapping portions of the strap closely together immediately above the top of the spreader, it operates to hold the spreader in place by preventing upward movement of the same.

At 7, Figs. 5 and 6, is the key by which the ends of the surfacing are united together and prevented from relative longitudinal and transverse movement, and by means of which the loop is reinforced and strengthened, and made rigid and incompressible. It is V-shaped and made in this instance of sheet-metal bent into the required form. After the surfacing strip has been bent into the form of the loop, and its free ends have been brought together, the key 7 is applied to such ends. The said key fits over the said ends, so as to clasp the same, its wings entering, respectively, between the flanges of the respective ends of the surfacing strip. The wings of the key are soldered or brazed, or otherwise secured, to the transverse portions of the surfacing strip between the flanges thereof, as for instance, by soldering or brazing the wings to the said transverse portions. After being thus attached, the key prevents longitudinal movement of one side of the loop-shaped surfacing relative to the other side, and prevents transverse springing of one side relative to the other. It renders the loop rigid and incompressible. The strap itself may be composed of any suitable material, as, for instance, either leather or woven webbing, and may be either of the character and construction represented in Figs. 1 to 6, or otherwise, as deemed advisable.

Figs. 9 and 10 show the invention embodied in connection with a strap of different construction from that of the preceding figures. In these figures the upper loop 2^a and lower or pendent loop 2^b are formed of different or separate pieces of material, the meeting ends of such pieces being joined to each other by means of fastenings 3^a and 3^b. The free ends of the piece of which the lower or pendent loop is formed are brought together, and the free ends of the piece of which the upper loop is formed are placed at opposite sides thereof, after which the fastenings are passed through holes in all four thicknesses. The lower ends of the upper loop project down between the flanges 41, 41, of the surfacing strip a short distance, and are notched to receive and fit the upper ends of such flanges, as represented in Fig. 9. The free ends of the facing strip extend upward under the said lower ends of the upper loop, and are covered and concealed thereby. One or both of the fastenings 3^a and 3^b may be utilized for the purpose of preventing longitudinal movement of the facing strip. In the present instance the lower fastening, 3^b,

is thus utilized. In this case the stem of such fastening passes through holes in the ends of the facing strip. To provide for ready removal and replacement of the facing strip, which is of most advantage when such strip bears advertisements that are to be changed or replaced from time to time, the fastening 3^b is a removable screw-fastening having a securing nut 3^c. The other fastening, 3^a, is or may be a fixed or immovable one. The upper ends of the flanges 41, 41, are or may be pressed inward, as at 42, 42, in Fig. 1, to shield the edges thereof and prevent them from scratching or otherwise injuring the hands of a person through contact therewith.

What is claimed as the invention is:—

1. A hanger-strap or hand-hold having its depending loop furnished with a surfacing that covers the inner surface of such loop, the said surfacing having flanges which clasp the marginal portions of the strap, and the said loop also having applied to the outer surface of the same a facing strip which is secured in place by engagement of the said flanges with its marginal portions.

2. A hanger-strap or hand-hold having its depending loop furnished with a surfacing that covers the inner surface of such loop and is formed with lateral flanges which inclose the edges of the strap, and having applied to the outer surface of the loop a facing strip having its marginal portions entered beneath the said flanges, the said facing strip being capable of endwise insertion and removal under the said flanges.

3. A hanger-strap or hand-hold comprising a strap having its depending loop furnished with a surfacing that covers the inner surface of such loop and is formed with lateral flanges which inclose the edges of the strap, a facing strip applied to the outer surface of the loop with its marginal portions entered under the said flanges, a spreader for the meeting portions of the strap above the ends of the surfacing, and a fastening which holds such portions of the strap together beyond the spreader and thereby confines the latter in place.

4. A hanger-strap or hand-hold comprising a strap having its depending loop furnished with a surfacing that covers the inner surface of such loop and is formed with lateral flanges which inclose the edges of the strap, a facing strip applied to the outer surface of the loop with its marginal portions entered under the said flanges, a spreader between the meeting portions of the strap above the ends of the surfacing and having wings which enter under the strap within the flanges of the surfacing, and a fastening which holds the meeting portions of the strap together beyond the spreader and thereby confines the latter in place.

5. A hanger-strap or hand-hold having its

depending loop furnished with a surfacing of sheet-material formed with cylindrical or roll-like flanges receiving the marginal portions of the strap, and having such flanges flattened throughout the bend at the lower end of the loop to obviate cracking or splitting.

6. A hanger-strap or hand-hold comprising a strap having its depending loop furnished with a surfacing that covers one surface of such loop and is formed with lateral flanges which inclose the edges of the strap, a facing strip applied to the other surface of the loop with its marginal portions entered under the said flanges, a spreader for the meeting portions of the strap above the ends of the surfacing, and means to hold the portions of the strap together and confine the spreader in place.

7. A hanger-strap or hand-hold having its depending loop furnished with a surfacing that covers one surface of such loop, the said surfacing having flanges which clasp the marginal portions of the strap, and the said loop also having applied to the other surface of the same a strip which is secured in place

by engagement of the said flanges with its marginal portions.

8. A hanger-strap or hand-hold having its depending loop furnished with a non-absorbent surfacing covering one surface of the loop, and a facing strip covering the other surface of such loop.

9. A hanger-strap or hand-hold having its depending loop furnished with a non-absorbent surfacing, a removable facing strip covering one surface of such loop, and a detachable fastening for securing such facing strip in place.

10. A hanger-strap or hand-hold having a surfacing strip bent into the form of an open loop, with its free ends brought close together and having the reinforce or key applied to the said free ends and fixedly securing them together.

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

JOHN F. NEWTON, JR.

Witnesses:

CHAS. F. RANDALL,
EDITH J. ANDERSON.