

No. 887,235.

PATENTED MAY 12, 1908.

J. S. DOYLE.  
HAND STRAP.

APPLICATION FILED SEPT. 7, 1907.

2 SHEETS—SHEET 1.

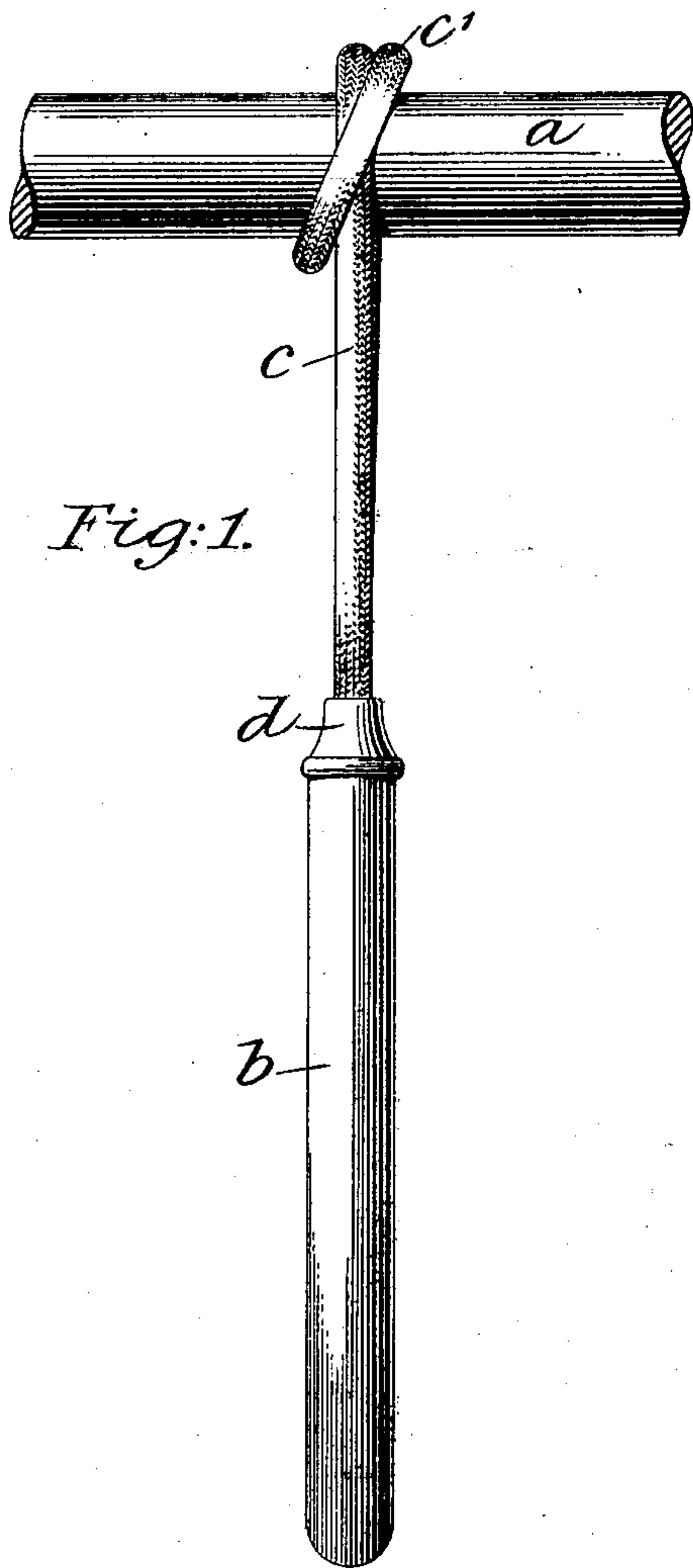


Fig: 1.

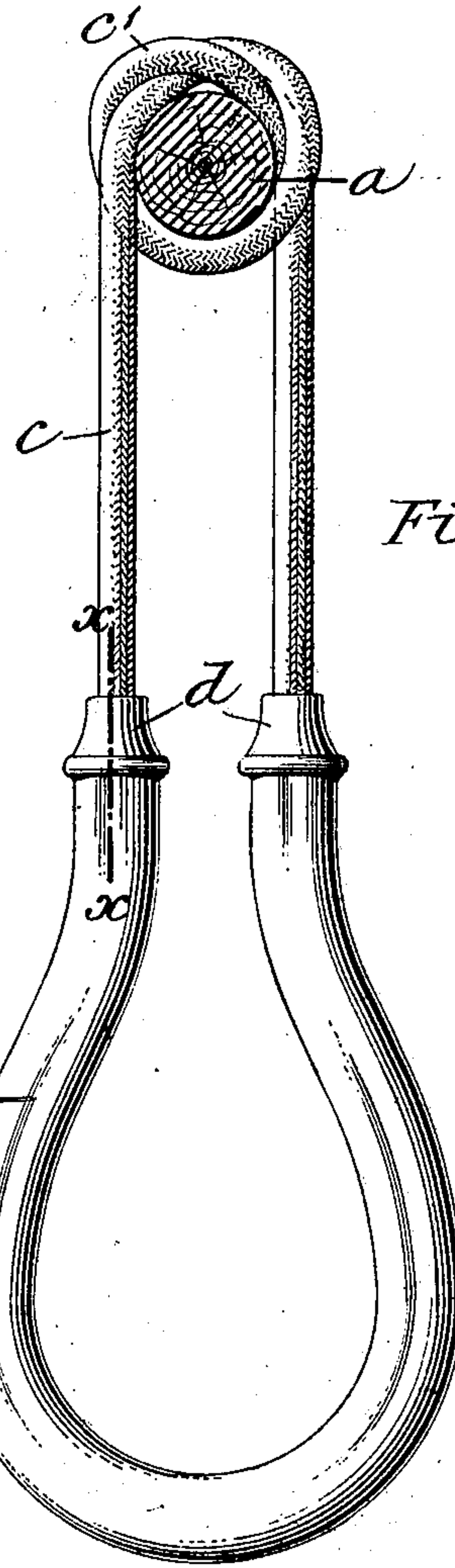


Fig: 2.

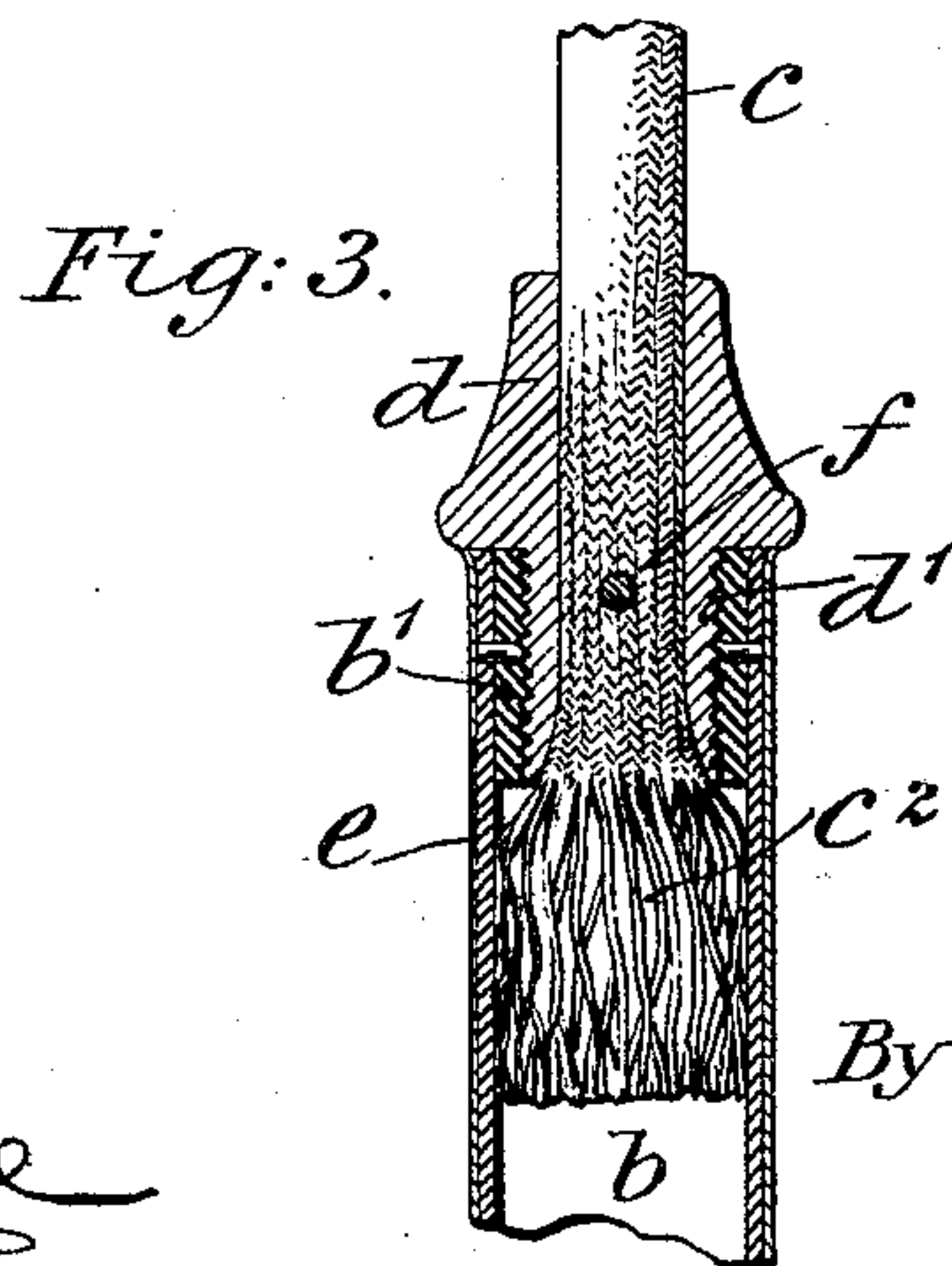


Fig: 3.

Witnesses:

Chas. Smith  
G. A. Serrill

By

Inventor:

James S. Doyle  
Harold Serrill  
his Attorney

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2 SHEETS—SHEET 2.

Fig: 4.

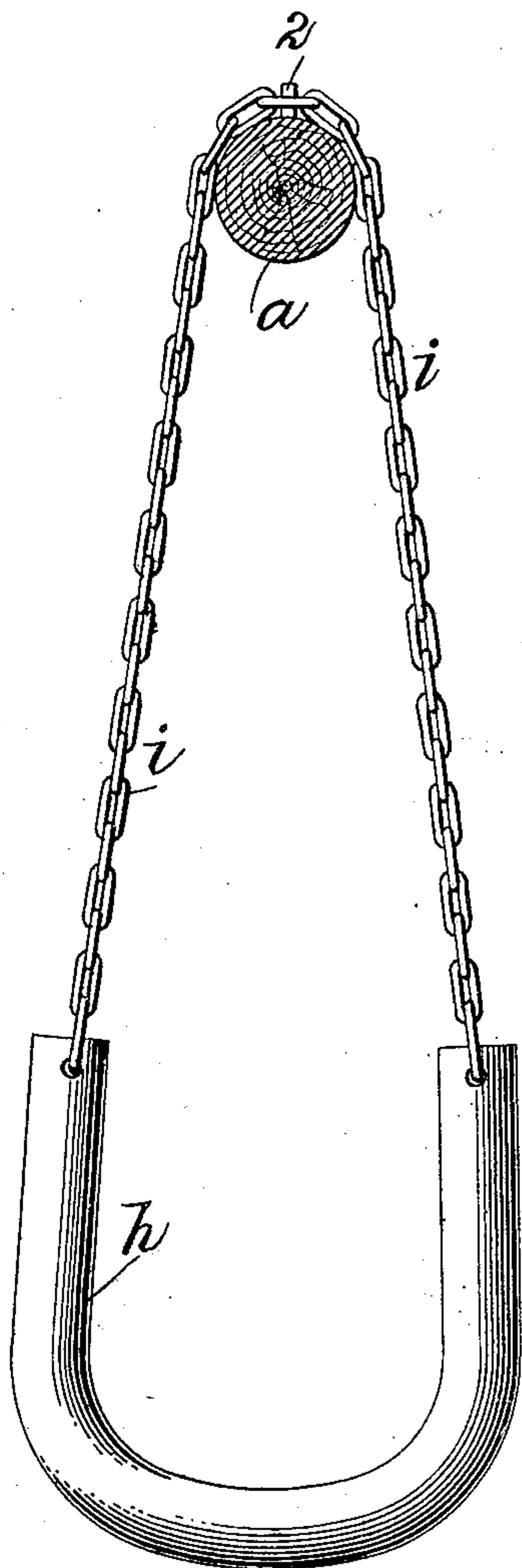
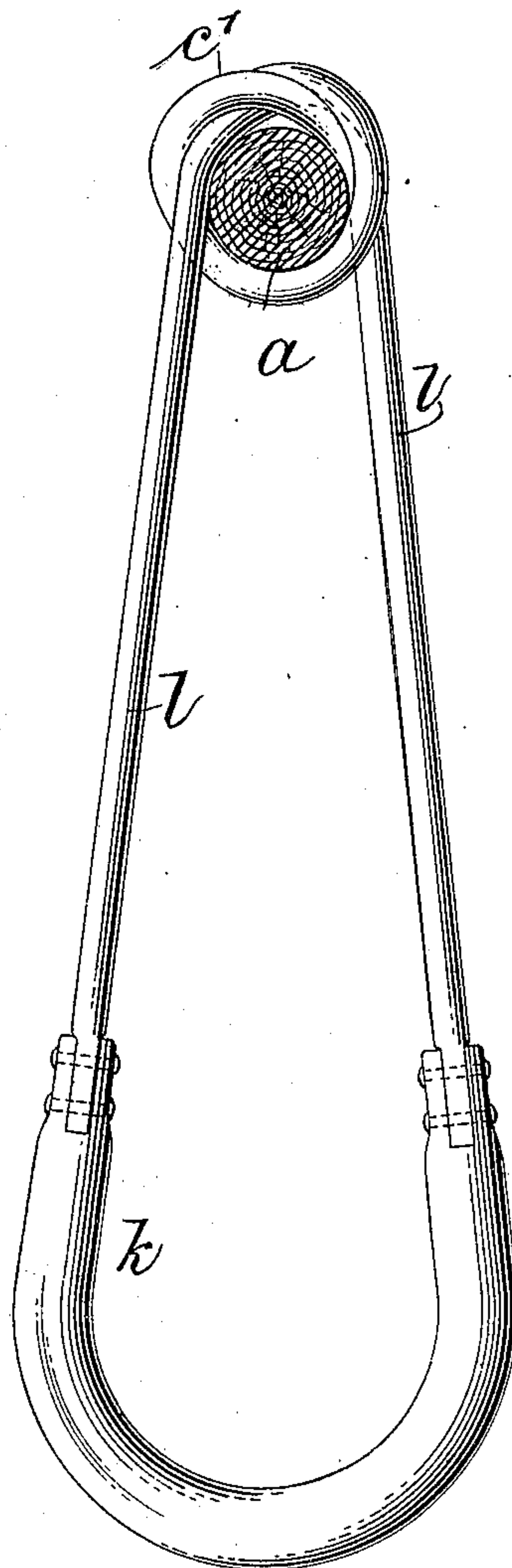


Fig: 5.



Witnesses:

Charles Smith  
A. J. Ferrell

Inventor:

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his Attorney.



# UNITED STATES PATENT OFFICE.

JAMES S. DOYLE, OF NEW YORK, N. Y.

## HAND-STRAP.

No. 887,235.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed September 7, 1907. Serial No. 391,775.

*To all whom it may concern:*

Be it known that I, JAMES S. DOYLE, a citizen of the United States, residing at the borough of Bronx, city and State of New York, have invented an Improvement in Hand-Straps, of which the following is a specification.

My invention relates to a hand strap or grip device for the passenger cars of trolley and elevated railroads.

Heretofore the straps in ordinary use were made entirely of leather, which collects and retains dust, dirt, oil, grease etc., from the hands of the cosmopolitan throng riding in the cars of such lines, with the result of soiling clean hands, gloves and sleeves of garments, besides such straps are not sanitary and are likely to harbor and transmit disease germs, all of which it is the object of my invention to prevent.

The hand strap of my improvement comprises a tubular hand grip, preferably yoke-shaped, to the free ends of which a suspending member preferably flexible, is secured and passes over the pole of the car. I prefer to make this tubular hand grip of metal and to surface the same with hard white enamel similar to that employed on basins and other plumbing specialties, which is cleanly and sanitary. This flexible member may be an ornamental chain or a flat strip of fabric or leather, but I prefer to employ a closely braided cord for the flexible suspending member and to so intertwine the same where it passes over the pole as to produce a hitch around the pole and thus prevent a too free or swinging movement of the hand strap. The free ends of the yoke member and the free ends of the flexible member may be connected in any desired manner but I further prefer to make the free ends of the tubular member with threaded sleeves and screw sockets through which the free ends of the cord or flexible member are passed and secured in place in any desired manner.

In the drawing, Figure 1 is a side elevation and Fig. 2 a front elevation representing the device of my improvement as connected to and suspended from the pole of a car,—Fig. 3 is a vertical section on the dotted line *x, x*, of Fig. 2 and Figs. 4 and 5 are side elevations representing forms of my invention.

*a* represents the pole of a trolley or elevated railroad car of usual character and sup-

ported in any well known or usual manner. These poles are usually of wood and are permanently secured to the car.

*b* represents the tubular hand grip preferably bent into yoke shape as shown particularly in Fig. 2, the arc produced at the lower portion thereof being of a curvature convenient to be comfortably gripped by the hand in taking hold of the same for support in the car, the free ends approaching one another. This hand grip is preferably formed of light metal tubing bent to shape; the same may be polished or plated, but I prefer for the purpose of cleanliness and thorough sanitary condition, to surface the same with hard white or colored enamel as shown at *e* in Fig. 3. This is the same enamel as is usually employed on basins, bath-tubs and other plumber's specialties and the same is readily kept in a cleanly condition.

I provide a suspending cord *c* passed over the pole *a* and prefer to so intertwine the said cord, as shown in Figs. 1 and 2, as to provide the hitch *c*<sup>1</sup> around the pole. The free ends of the hand grip *b* and suspending member or cord *c* may be connected in any desired or well known manner; I prefer however, to provide the free ends of the hand grip *b* with screw threaded sleeves *b*<sup>1</sup> fitting within the open ends of said hand grip and soldered or pinned in position and to employ the screw sockets *d*, apertured to closely receive the suspending cord *c*, with tapering outer ends and exteriorly screw threaded portions *d*<sup>1</sup> adapted to screw into the screw threaded sleeves *b*<sup>1</sup> in connecting the parts together.

*c*<sup>2</sup> represents the free ends of the cord opened out within the open ends of the hand grip. This may be sufficient to prevent the cords pulling through the sockets or a pin *f* passed through each socket and cord may be employed if desired for this purpose. Where the ends of the cord are opened out, they can be filled with cement to an appreciable extent so as to prevent their pulling through if desired; in fact, I do not limit myself at all to the manner of securing the free ends of the cord to the sockets *d* or free ends of the tubular hand grip *b*. The suspending cord *c* may if desired be painted so as to fill the surface pores or interstices and make it substantially impossible for the same to harbor



germs of any kind, and when this is done, said cord may be washed off if desired, should it become soiled.

In the form of my invention shown in Fig. 4 the tubular member *h* is U-shaped and preferably of steel surfaced with enamel and the flexible member *i* is a chain passed over the pole *a* and held in place by a fastening device 2, the free ends of the chain being passed through holes in the ends of the member *h* or otherwise connected thereto.

In the form of my invention shown in Fig. 5, the tubular member *k* is similar to those heretofore described and the flexible member *l* is a strap of leather or webbing whose free ends may as shown, pass in the forked ends of the member *k* and be riveted thereto. Where the member *l* passes over the pole *a* it may be intertwined and given a hitch.

My improved hand strap possesses all the advantages of cleanliness and answers all the demands of sanitation, and it affords a secure support to the passenger of a car when the same is grasped.

I claim as my invention:

1. A hand strap comprising a tubular hand grip of yoke shape and a flexible cord member adapted to pass over the pole of the car and means for connecting the free ends of the yoke shaped hand grip to the free ends of the cord.

2. A hand strap comprising a tubular hand grip of metal of yoke shape and a suspending member consisting of a cord passing over the pole and intertwined to produce a hitch around the pole, and means for securing the free ends of the tubular hand grip member to the free ends of the cord member.

3. A hand strap comprising a tubular hand grip of metal of yoke shape and a suspending member consisting of a cord passing over the pole and intertwined to produce a hitch around the pole, screw threaded sleeves in the free ends of the hand grip member and screw sockets adapted to engage the same and apertured to receive the free ends of the flexible cord member and means for preventing the cord member at its ends pulling through the sockets.

4. A hand grip comprising a yoke shaped tubular metal member having a surface of hard enamel, a flexible suspending member adapted to pass over the pole of the car, and means for connecting the free ends of the flexible member with the free ends of the tubular metal hand grip.

5. A hand grip comprising a yoke shaped tubular metal member having a surface of hard enamel, screw threaded sleeves fitting

the open free ends thereof and screw sockets adapted to engage said sleeves and apertured and a flexible member adapted to pass over the pole and intertwine to produce a hitch around the pole with the free ends of the flexible member passed through the sockets and means for preventing the free ends of said flexible member from pulling through the sockets.

6. A hand strap comprising a tubular bent hand grip member and a flexible suspending member adapted to pass over the pole and means for securing the free ends of the tubular hand grip member to the free ends of the flexible member.

7. A hand strap comprising a tubular bent hand grip member and a flexible suspending member adapted to pass over the pole and intertwined to produce a hitch around the pole and means for securing the free ends of the tubular hand grip member to the free ends of the flexible member.

8. A hand strap comprising a tubular bent hand grip member having a surface of hard enamel and a flexible suspending member adapted to pass over the pole and means for securing the free ends of the tubular hand grip member to the free ends of the flexible member.

9. A hand strap comprising a tubular bent hand grip member having a surface of hard enamel and a flexible suspending member adapted to pass over the pole and intertwined to produce a hitch around the pole and means for securing the free ends of the tubular hand grip member to the free ends of the flexible member.

10. A hand strap comprising a tubular bent hand grip member and a flexible suspending member adapted to pass over the pole, means for producing a hold of said flexible member to the pole and means for securing the free ends of the tubular hand grip member to the free ends of the flexible member.

11. A hand strap comprising a tubular bent hand grip member having a surface of hard enamel and a flexible suspending member adapted to pass over the pole, means for producing a hold of said flexible member to the pole and means for securing the free ends of the tubular hand grip member to the free ends of the flexible member.

Signed by me this 30th day of August 1907.

JAMES S. DOYLE.

Witnesses:

NORMAN LITCHFIELD,  
PHILIP W. ROBERTSON.