

No. 837,578.

PATENTED DEC. 4, 1906.

C. LUDOLPH.
SUSPENDERS.

APPLICATION FILED FEB. 9, 1906.

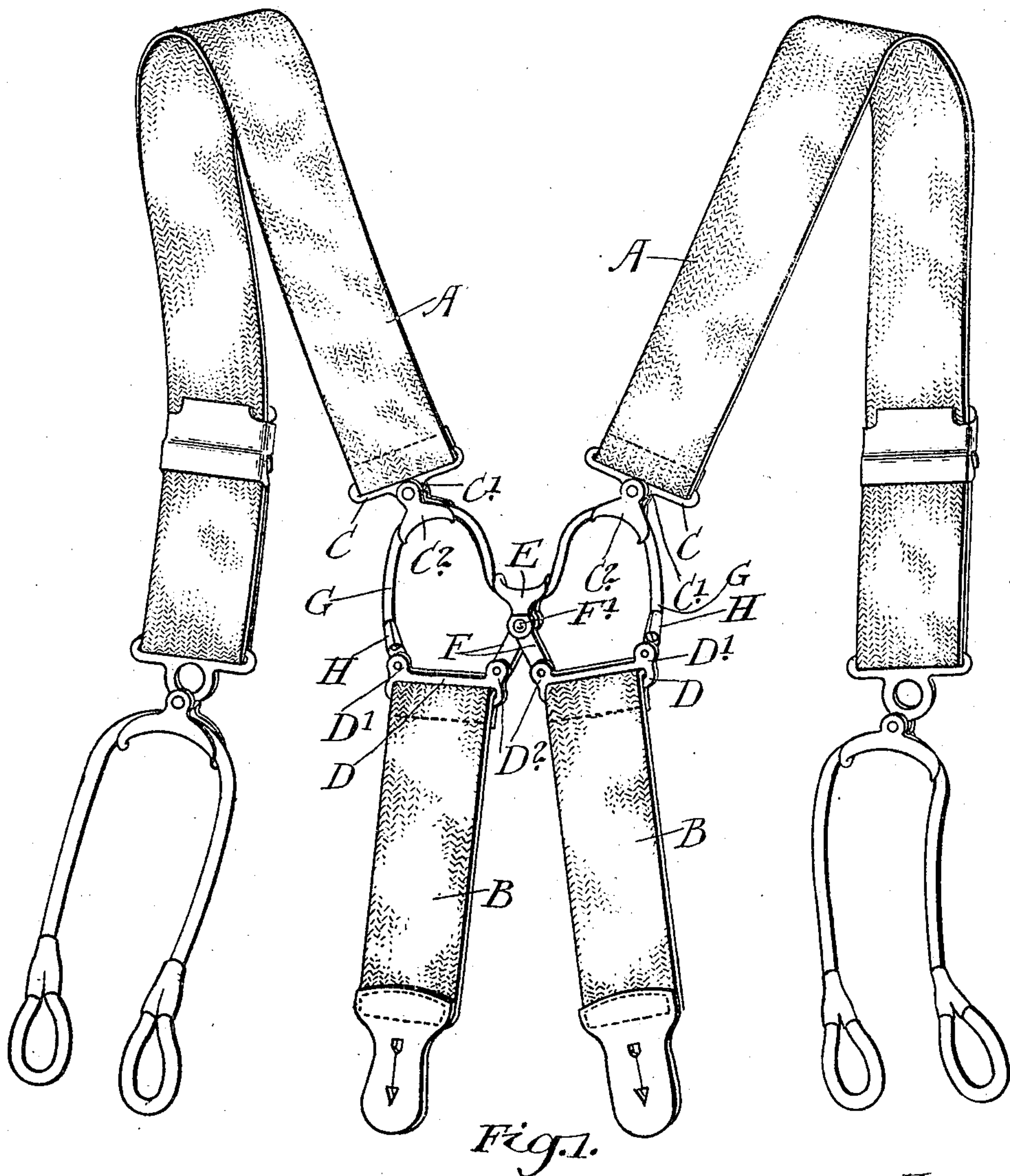


Fig. 1.

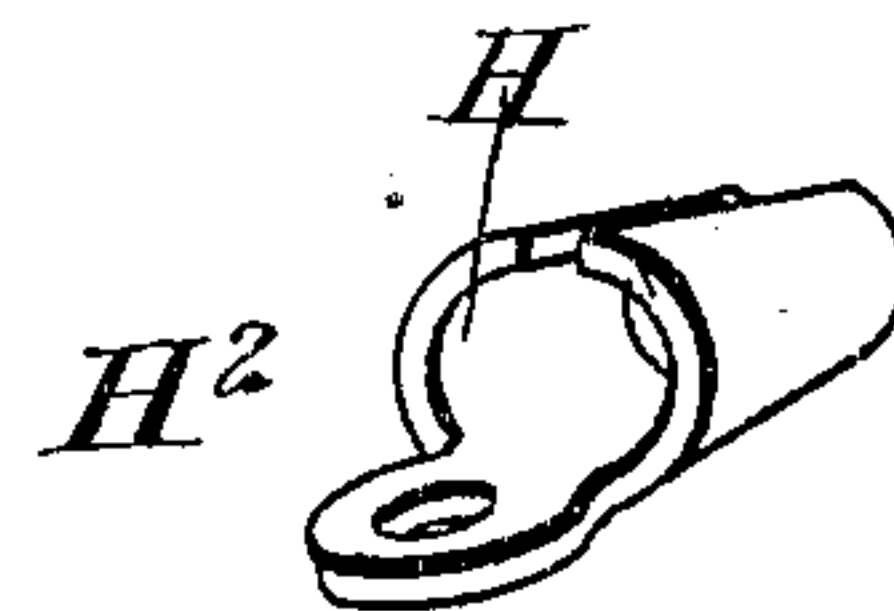


Fig. 3.

Witnesses
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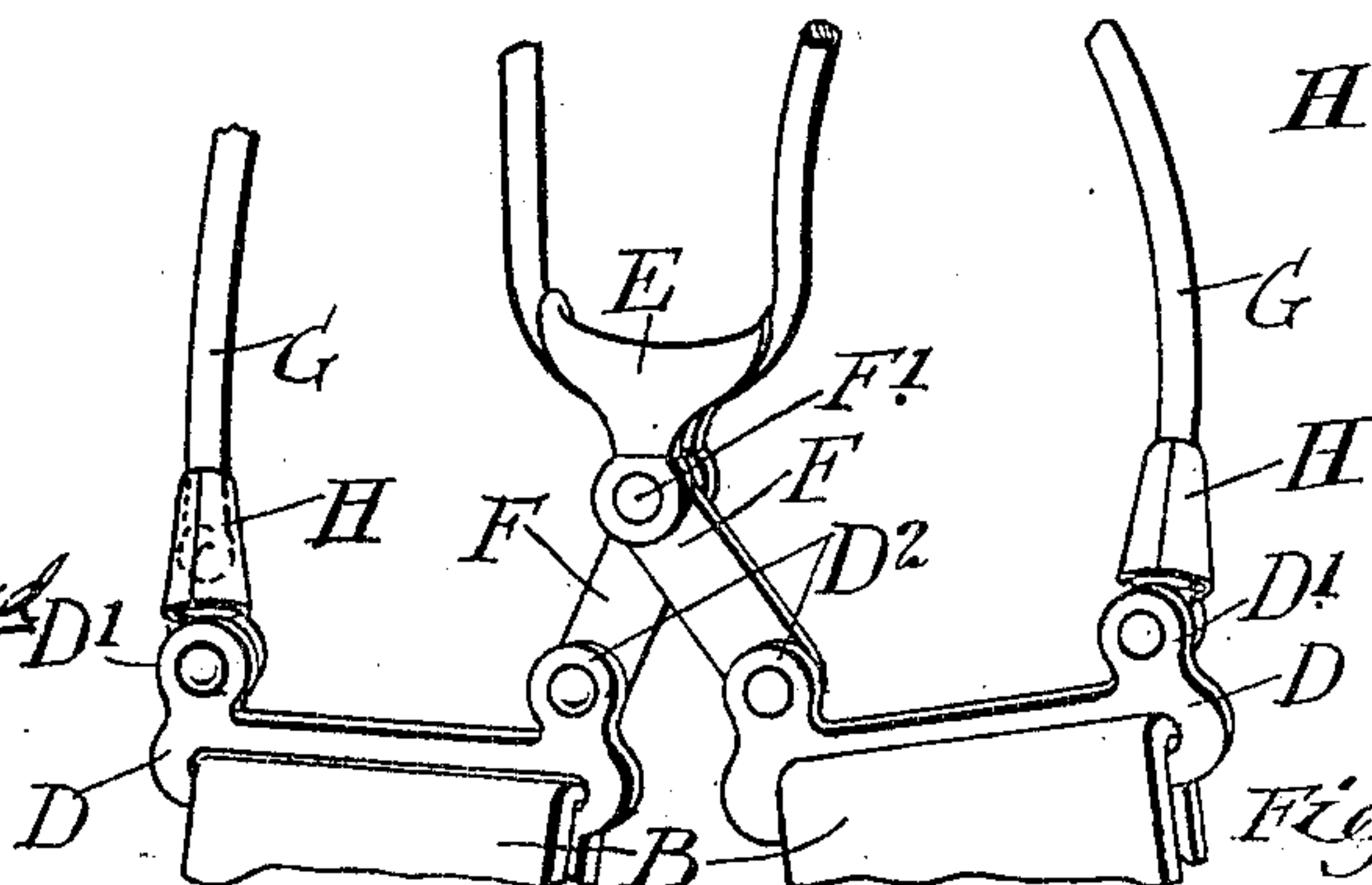


Fig. 2.

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CARL LUDOLPH, OF BERLIN, ONTARIO, CANADA, ASSIGNOR TO CHARLES KAPPLER HAGEDORN, OF BERLIN, CANADA.

SUSPENDERS.

No. 837,578.

Specification of Letters Patent.

Patented Dec. 4, 1906.

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To all whom it may concern:

Be it known that I, CARL LUDOLPH, leather-cutter, of the town of Berlin, in the county of Waterloo, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Suspenders, of which the following is a specification.

My invention relates to improvements in suspenders; and the object of the invention is to devise a simple, cheap, and easily-acting device for connecting the shoulder-straps to the trouser-back connector, which will readily adapt itself to the movement of the body and yet will not permit of the shoulder-straps falling down or off the shoulders of the wearer, especially when the suspenders are under tension or strain; and it consists, essentially, of shoulder-straps provided at their back ends with slotted bars having pivotally connected to each a loop-guide, trouser-back connectors having slotted bars at the upper ends provided with end lugs and a central loop-guide having a flexible independent connection to the inner lugs of the trouser-back-connector bars and having a limited lateral and vertical movement, and a cord pivotally connected to the outer lugs of the slotted bars of the trouser-back connector and extending through the loop-guides at the lower ends of the back portions of the shoulder-straps and the central connection, as hereinafter more particularly explained.

Figure 1 is a perspective view of a pair of suspenders provided with my improvements. Fig. 2 is an enlarged detail of the central portion of Fig. 1. Fig. 3 is a detail of the clasp for the ends of the cord.

In the drawings like letters of reference indicate corresponding parts in each figure.

A A are the shoulder-straps, and B B the trouser-back connectors.

C C are the end bars at the back of the shoulder-straps, which are suitably fastened to the shoulder-straps, as indicated, and are provided with depending lugs C' C', on which are pivoted the loop-guides C².

D represents the slotted bars, which are secured at the upper end of the trouser-back connector, such bars being provided with the outer lugs D' and the inner lugs D² or equivalent fastening device.

E is a central loop-guide formed similarly to the guide C², which, I may mention, are formed with two sides, one extending at each side of the lug on which it is pivoted. The

two sides of the loop-guide E extend on each side of the bars F F', which are pivotally connected to the loop-guide by means of the rivet F'. The lower ends of the bars F F' are pivotally connected to a rivet in the center lugs D² of the bars D.

G represents cords the ends of which are knotted and fastened in the tapered socket H, such socket having an end lug H², which is pivotally connected to the outer lug D'. The sockets H are provided on each side, as indicated, and are correspondingly fastened. The cords G are provided with knotted ends, which extend into the sockets from the larger end, and thereby hold the ends of the cords from displacement therein. The cord G extends from the outer lug D' through and over the loop-guides C², thence down under the loop-guide E.

It will be noted that such a form of connection as I describe allows of a flexible movement of the shoulder-straps and yet does not allow of the trouser-back connectors spreading apart, as the central connection is an independent connection which allows only of a limited movement apart of the trouser-back connector, and consequently of the whole shoulder-straps, and thereby preventing any liability of the shoulder-straps passing off the shoulders of the wearer when the braces are not under tension or strain. At the same time it will be quite readily understood that the cords running through the loops will not interfere with the free movement of the wearer. It will thus be seen that my form of connection between the trouser-back connector and the shoulder-strap is very simple, durable, strong, and yet has the most free and effective action.

What I claim as my invention is—

1. In suspenders, the combination with the shoulder-straps and trouser-back connector, of loop-guides connected to the back ends of the shoulder-straps, bars connected to the ends of the trouser-back connectors, a central loop-guide a cord having a connection at the outer end of the trouser-back connectors and passing over the loop-guides at the back end of the shoulder-strap and down under the loop-guide and a connection independent of the cord between the central loop-guide and the inner end of each of the bars of the trouser-back connectors as and for the purpose specified.

2. In suspenders, the combination with the shoulder-straps and trouser-back con-

nector, of loop-guides connected to the back
ends of the shoulder-straps, bars connected
to the ends of the trouser-back connectors, a
central loop-guide, bars pivotally connected
5 to the ends of the bars of the trouser-back
connectors at one end and to the central loop
at the other said bars converging to said cen-
tral loop, and a cord having a connection at
the outer end of the trouser-back connectors
10 and passing over the loop-guides at the back

ends of the shoulder-strap and down under
the loop-guide connected to the inner ends of
the bars of the trouser-back connectors as
and for the purpose specified.

Dated at Berlin the 25th day of January, 15
A. D. 1906.

CARL LUDOLPH.

Witnesses:

J. J. A. WEIR,

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