

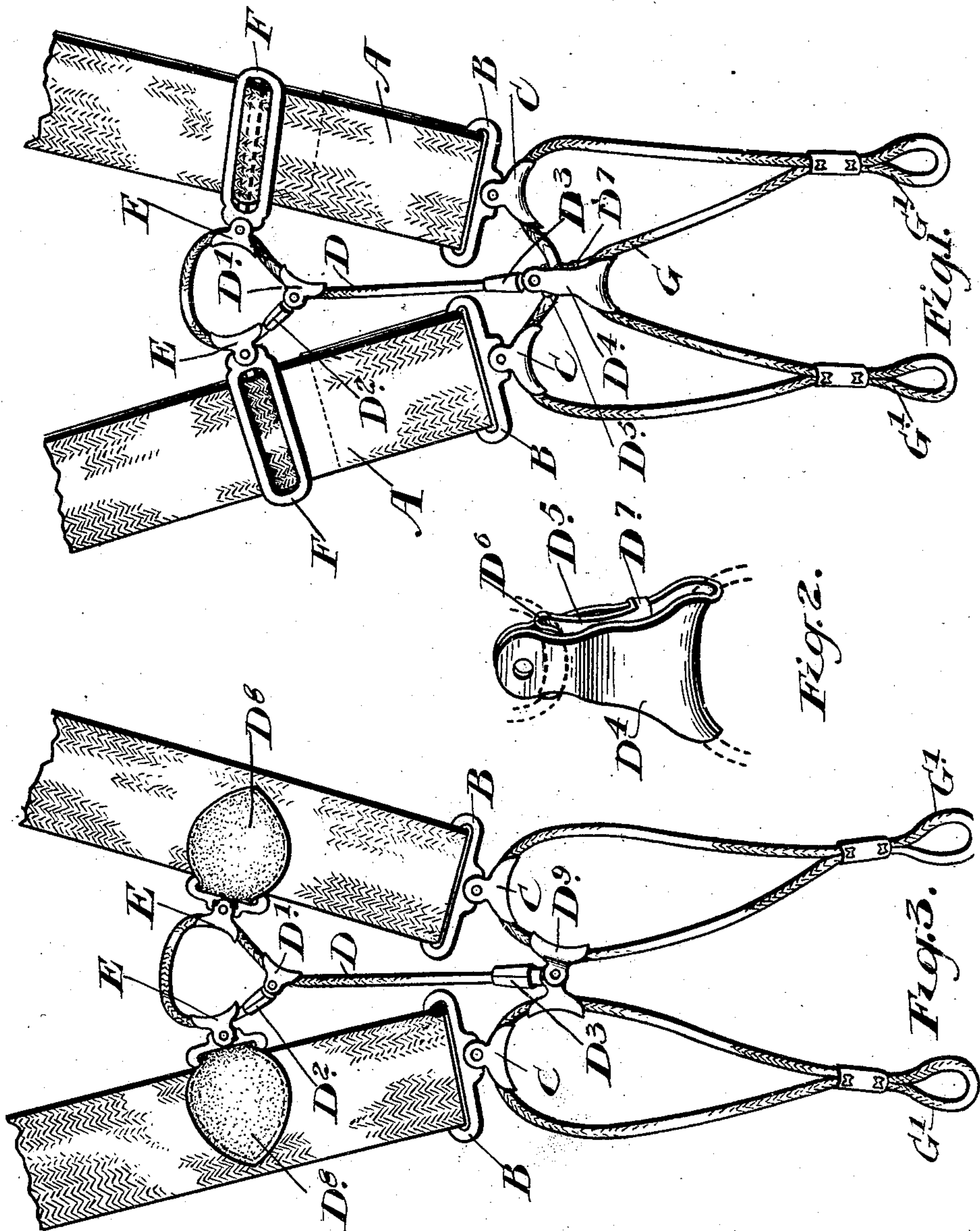
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PATENTED JAN. 29, 1907.

C. LUDOLPH.

SUSPENDERS.

APPLICATION FILED JUNE 2, 1906.



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CARL LUDOLPH, OF BERLIN, ONTARIO, CANADA.

SUSPENDERS.

No. 842,677.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARL LUDOLPH, of the city 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 the specification.

My invention relates to improvements in suspenders; and the object of the invention is to devise a simple, neat, and durable form of trouser-back connection which will serve to prevent the shoulder-straps from falling down or off the shoulders by having the motion practically in the one direction and at the same time lessening the friction and allowing of a freer action; and further objects are to reduce the number of metal parts which lie against the back of the wearer, and thereby prevent the shirt getting worn and the back getting sore and also to do away with unnecessary thickness.

My invention consists, essentially, of shoulder-straps having the trouser-back connectors preferably formed of cord, which at the top extends through metal loops pivotally connected to the end bars of the shoulder-straps, a supplemental cord arranged at the upper end in loop form, the cord of the loop extending through metal loops connected to the sliding loop-bars on the shoulder-straps, the lower end of the supplemental cord extending down between the shoulder-straps and being connected to a metal loop through which the cords of the trouser-back connectors extend and have freedom of movement, the parts being arranged and constructed in detail as hereinafter more particularly explained.

Figure 1 is a view of the lower portion of the back of a pair of suspenders, showing the parts involved in my invention. Fig. 2 is a detail of the metal loop connecting both sides of the loop-cords of the trouser-back connectors. Fig. 3 is a detail of an alternative form of the invention.

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

A A are the shoulder-straps, B B the bottom end metal bars of the same, and C C the metal loop-guides, arc-shaped at the bottom and pivotally connected at the top to the center of the bars B.

D is a supplemental loop having a guide D', provided with an arc-shaped end pivotally connected on the end clamp D² of the cord. The loop extends at each side through the

metal loop-guides E E, which are pivotally connected to the adjustable bars F F, located on the shoulder-straps. One end of the loop extends through the loop-guide D' downwardly between the shoulder-straps, where it is provided with a suitable metal end D³, pivotally connected to the guide-loop D⁴, which is a double guide-loop, as indicated in Fig. 2, the lower portion being arc-shaped and the upper portion being provided with an extra plate D⁵, having an arc-shaped upper end D⁶, forming a groove to permit of the freedom of movement of the cord G, forming the trouser-connector. The lower end of the plate D⁵ is provided with clips D⁷ for fastening it to the side of the loop-guide D⁴. The cord G passes underneath the arc-shaped upper end D⁶ within the loop-guide D⁴ and over the loop-guide C, thence down to the tabs G', and then upwardly through the lower arc-shaped end of the loop-guide D⁴. It will now be seen that perfect freedom of movement of the shoulder-straps is provided controlled only by the loop D, connected to the trouser-back connector hereinbefore described and the shoulder-straps. The loop D serves to hold the bottom of the shoulder-straps together, as also the shoulder-straps together well up on the back of the wearer.

In Fig. 3 I show a loop similarly formed to the loop shown in Fig. 1; but in this figure the loop is connected at the sides to tabs D⁸, permanently connected to the shoulder-straps. The bottom end of the loop D is also differently formed to that shown in Fig. 1, being provided with two arc-shaped loop-guides D⁹, pivotally connected to the metal end of the loop. The trouser-connector in this case is formed of two independent loops, the inner sides of which extend through the arc-shaped guides D⁹. The form, however, shown is merely a modification of that shown in Fig. 1.

What I claim as my invention is—

1. In suspenders, the combination with the shoulder-straps and the trouser-back connector provided with suitable tabs and formed of cord, and loop-guides pivotally connected to the bottom end bars of the shoulder-straps, of a double-loop guide through which the two sides of the cord of the trouser-back connector extend, and a supplemental loop connected to the shoulder-straps at each side and having the end extending downwardly between the shoulder-

straps and connected to the double loop of the trouser-back connector as and for the purpose specified.

2. In suspenders, the combination with
5 the shoulder-straps and the trouser-back connector provided with suitable tabs and formed of cord, and loop-guides pivotally connected to the bottom end bars of the
10 shoulder-straps, of a double-loop guide through which the two sides of the cord of the trouser-back connector extend, supplemental-loop arc-shaped guides located at each side and connected to the shoulder-
15 straps and through which the supplemental loop extends, the said supplemental loop having a guide-loop at one end through which the other end extends down to the double loop of the trouser-back connector as and for the purpose specified.

20 3. In suspenders, the combination with the shoulder-straps and the trouser-back connector provided with suitable tabs and formed of cord, and loop-guides pivotally connected to the bottom end bars of the
25 shoulder-straps, of a double-loop guide through which the two sides of the cord of

the trouser-back connector extend, supplemental-loop arc-shaped guides, adjustable bars on the shoulder-straps to which the
30 loop-guides are pivotally connected, the said supplemental loop extending through the loop-guides and having a guide-loop at one end through which the outer end extends down to the double loop of the trouser-back connector as and for the purpose specified. 35

4. In suspenders, the combination with the shoulder-straps and the trouser-back connector provided with suitable tabs and formed of cord, and loop-guides pivotally connected to the bottom end bars of the shoulder-
40 straps, of a double-loop guide through which the two sides of the cord of the trouser-back connector extend and a supplemental loop slidably connected to the shoulder-straps at each side and at the bottom to the double-
45 loop trouser-back connector as and for the purpose specified.

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