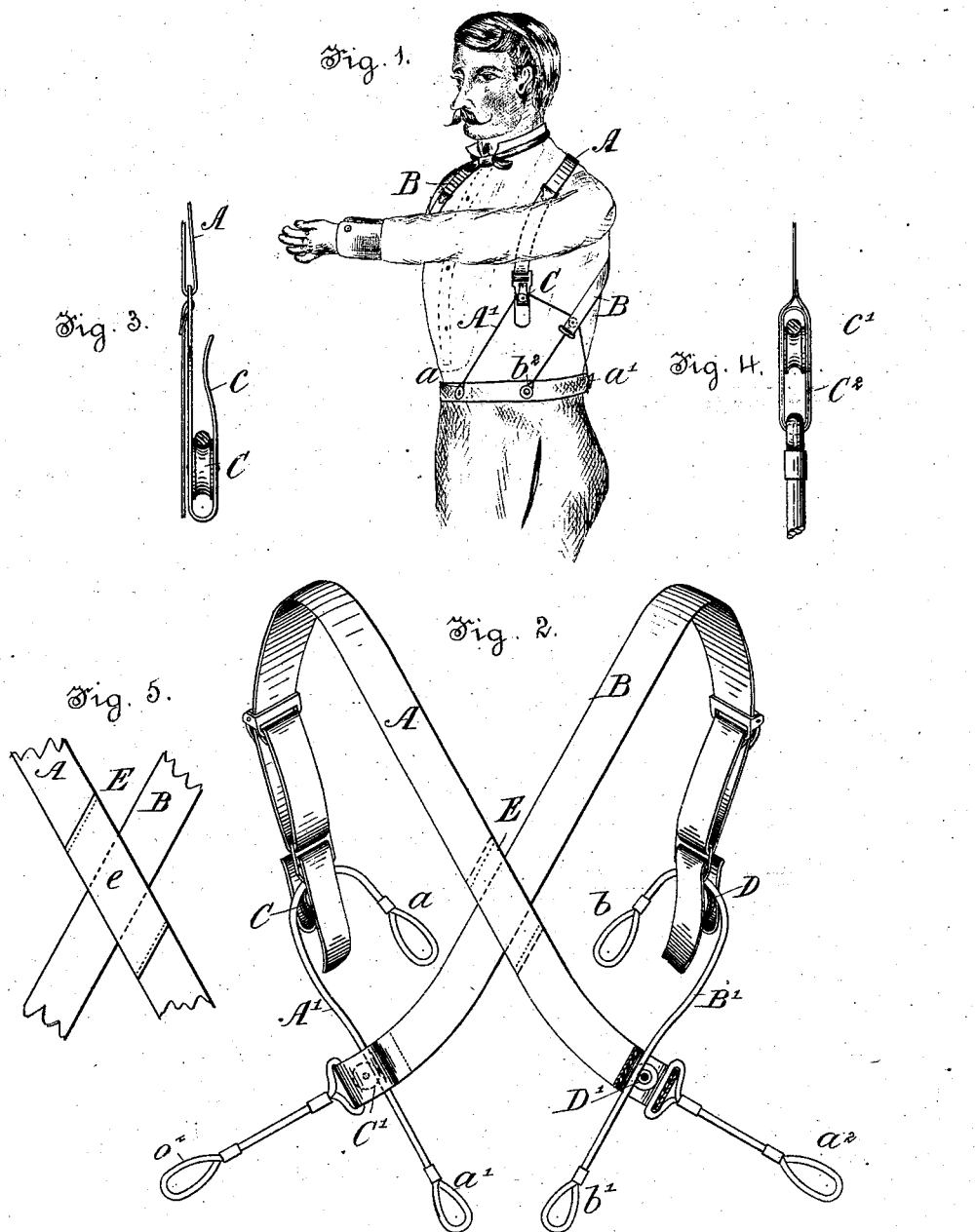


(No Model.)

J. A. RENNIE.  
SUSPENDERS.

No. 260,607.

Patented July 4, 1882.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

JOHN A. RENNIE, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR OF ONE-HALF TO JOHN ALEXANDER MCGREGOR, OF SAME PLACE.

## SUSPENDERS.

SPECIFICATION forming part of Letters Patent No. 260,607, dated July 4, 1882.

Application filed November 16, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN ALEXANDER RENNIE, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Suspenders; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention has for its object to overcome the many objections found to exist in those descriptions of suspenders in which pulleys and cords are used to allow for changes of position in the body of the wearer, and while effecting this latter result in a manner more perfect than heretofore I also provide in the same article a very efficient "shoulder-brace."

To fully comprehend my invention reference must be had to the accompanying drawings, in which similar letters of reference indicate like parts, and where—

Figure 1 represents my improved suspender in position on the body of a man; Fig. 2, a view of the suspender looking from the back; Figs. 3 and 4, detail views respectively of front and back pulley devices; and Fig. 5, details of self-adjusting connection.

A and B are the shoulder-straps, made preferably of webbing, and crossing each other at the point E, which will be about the center of the wearer's back, a supplemental piece of webbing, *e*, being sewed over one of the straps, as shown in Fig. 5 and in dotted lines in Fig. 2, between which and the main strap the other shoulder-strap passes, sufficient space for play being allowed in both directions.

At the front end of the shoulder-strap A, I place a pulley, C, carried in a hook, *c*, over which runs a cord, A'. This cord is provided with loops or button-holes *a a'* at either end, the loop *a* being secured to that one (hereinafter called the "front button") of the two buttons now in use for ordinary suspenders which is nearest the button-fastening of the flap of the trousers in front, and the loop *a'* is fastened to the nearest button at the back of the trousers-band, the cord A' passing, however, through a pulley or loop, C', placed at or near the end of the shoulder-strap B. When a pulley is used I prefer to construct same as shown particularly in Fig. 3, where C' represents the pulley

or roller carried in a strap or eye, C<sup>2</sup>, space being left in said eye underneath the pulley for fastening the cord or other device upon which the loop *b*<sup>2</sup> is formed. As shown in Figs. 1 and 2, this loop *b*<sup>2</sup> is fastened to what is hereinafter called the "center button," being that which is generally located on the waistband of the trousers in a line with the leg-seam, or between the front and back buttons.

The back end of the shoulder-strap A is provided with a pulley, D, similar to that just described, and a loop, *a*<sup>2</sup>, for attachment to the other center button of the trousers, and the forward end of the shoulder-strap B is furnished with a hook-pulley, D, and a cord, B', passing over this pulley D and the pulley D' on back end of the strap A, this cord having loops or button-holes *b b'* for attachment to the front and back buttons on the other side of the trousers.

To loosen the suspenders all that is required is to depress the front ends of the straps A and B and unhitch the cords A' and B' from the hook-pulleys C D, and when dressing it is only necessary to put these cords again in place over their respective pulleys to properly suspend the trousers.

It will be seen that by my invention, when the suspenders are in use, the pulleys C and D are located as nearly as possible in the center of each side of the body or immediately below the armpit of the wearer, so that the center buttons on the band may be said to be the radii of the circles described by the pulleys C and D in their passage to and fro along the cords A' and B' as the wearer either stoops forward or bends backward. Thus all strain on the waistband and buttons is avoided and all the natural positions of the body provided for with a view to the comfort of the wearer. Again, my construction of suspender with the front pulleys underneath the arms serves the purpose of keeping the shoulders and garments well back in a proper position; and I have found that the invention will be of great advantage in correcting any disposition of the wearer to become "round-shouldered," especially when the shoulder-straps are adjusted to tightly fit the person, the pulleys and cords acting to equal advantage whether the tension of these should

der-straps is of a greater or less degree; and, also, should the wearer of my suspenders have shoulders of an uneven height, or in cases of slight deformity, the supplemental strap *c* will allow of an easy and self-acting adjustment.

I am aware of the Patent No. 194,616, granted August 28, 1877, to Thomas O. Potter, and do not claim the construction therein shown, as my invention possesses many advantages over those articles, as will be easily seen, the first of which improvements is the abolition of two pulleys and two cords, which are there shown attached to the center buttons. The second is the value of my invention as a shoulder-brace, from the fact of the front pulleys being underneath the arms, and the third the self-adjusting device at the back for the shoulder-straps instead of the rigid connection and buckles shown in the patent mentioned.

I am aware, also, of the patent, No. 235,028, granted to James B. Sharp, November 30, 1880, in which are shown single pulleys at back ends of shoulder-straps and double pulleys at front ends, in combination with a system of cords; but in this patent the arrangement is entirely different from my present invention. The back ends of the shoulder-straps in said patent are

not directly attached to the center buttons on the trousers-band, as in my invention, and, furthermore, the arc of a circle could not be properly described by the cord passing through the double pulleys therein shown attached to the front ends of the shoulder-straps. By my invention I only require four pulleys, whereas six are necessary in the said patent to Sharp. It will therefore be obvious that I lessen friction in wear and cost in manufacture.

What I claim is as follows:

In a brace or suspender, the shoulder-straps A B, arranged to have their back ends fastened to the center or side buttons of the trousers and provided with pulleys C D at their front ends, in combination with cords A' B', furnished with loops or button-holes *a b a' b'* at their ends, for attachment to front and back buttons, respectively, and passing through said pulleys C D and over supplementary pulleys C' D', attached to the shoulder-straps near their back ends, substantially as and for the purpose set forth.

J. A. RENNIE.

Witnesses:

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