(No Model.)

M. ALTMANN.

SUSPENDERS.

No. 288,755. Patented Nov. 20, 1883.

Fig. 1.

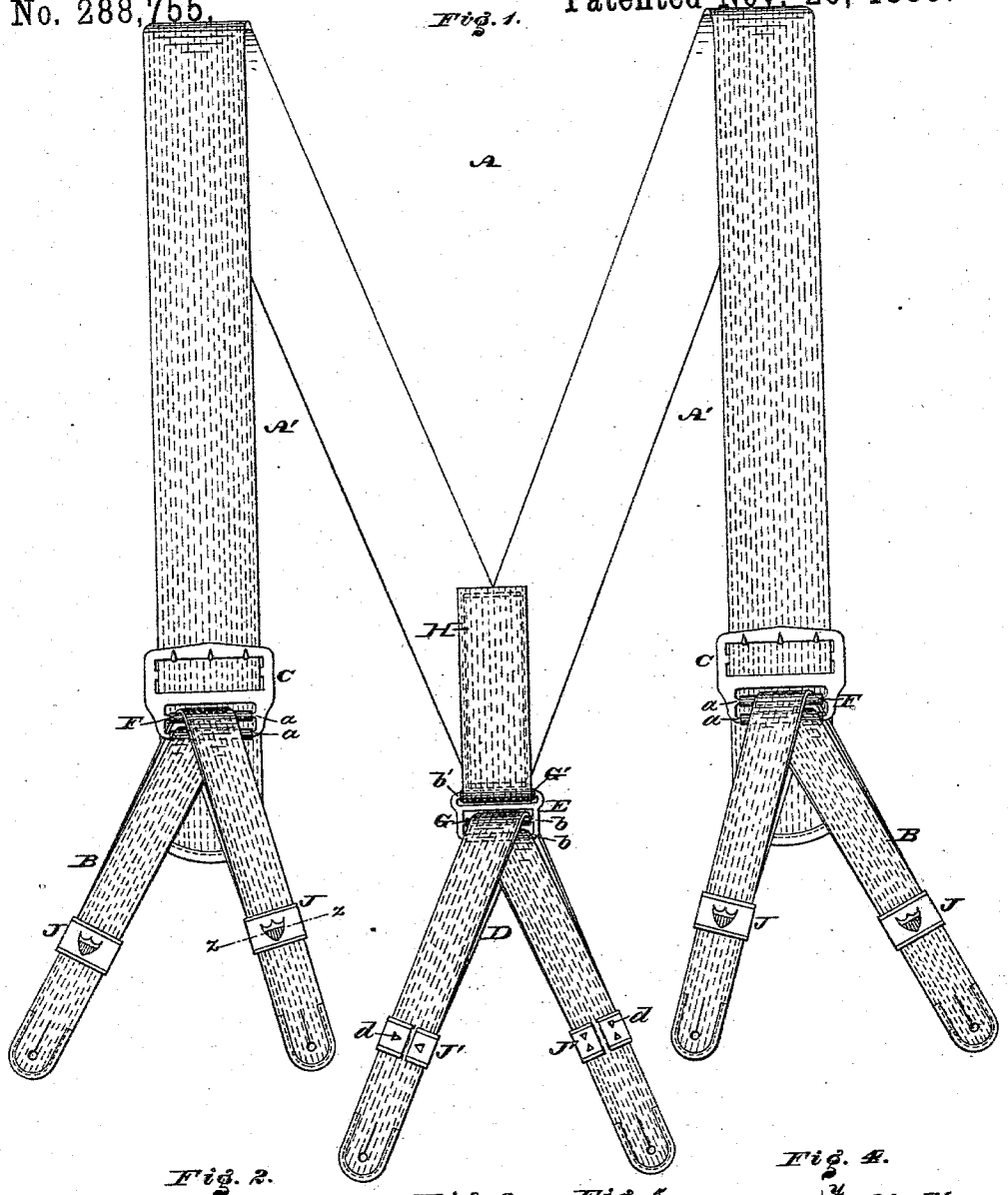


Fig. 2.

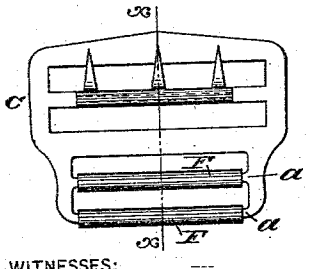


Fig. 3.

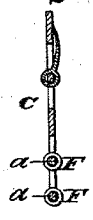


Fig. 5.

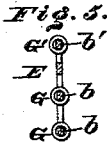


Fig. 4.

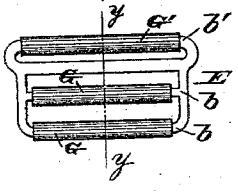


Fig. 6.



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UNITED STATES PATENT OFFICE.

MORITZ ALTMANN, OF CAMDEN, NEW JERSEY.

SUSPENDERS.

SPECIFICATION forming part of Letters Patent No. 288,755, dated November 20, 1883.

Application filed August 27, 1883. (No model.)

To all whom it may concern:

Be it known that I, MORITZ ALTMANN, a citizen of the United States, residing in the city and county of Camden, State of New Jersey, have invented a new and useful Improvement in Suspenders, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front elevation of a suspender embodying my invention. Figs. 2 and 4 are enlarged views of detached parts thereof. Fig. 3 is a vertical section in line *x x*, Fig. 2. Fig. 5 is a vertical section in line *y y*, Fig. 4. Fig. 6 is a horizontal section in line *z z*, Fig. 1, enlarged.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of certain improvements in suspenders, whereby they possess increased strength and durability, and are allowed great freedom of motion, so as to be worn with comfort, all as will be hereinafter fully set forth.

Referring to the drawings, A represents a pair of suspenders consisting of the main straps A′, the front buttoning-tabs, B, the buckles C, the rear buttoning-tabs, D, and the connecting-slide E of the straps A′ and rear buttoning-tab, each tab being formed of two straps or parts having separate bearings.

The lower end of each buckle C is formed with two parallel cross-bars, *a*, extending horizontally, on each of which is mounted a roller, F, the two rollers forming bearings for the two connected straps of a front buttoning-tab, B, both straps thus being supported on the rollers and playing independently of each other, whereby the said tabs B move with great freedom on the rollers, without the two straps thereof chafing each other or rubbing on the cross-bars, and their durability is increased.

The rear slide, E, has three parallel cross-bars, *b b b′*, extending horizontally, on which are mounted the rollers G G G′, the two rollers G forming bearings for the two connected straps of the rear buttoning-tabs, D, both straps thus being supported on rollers and playing independently of each other, whereby said tabs D move with great freedom on the rollers, without the two straps thereof chafing each other or rubbing on the cross-bars, and their durability is increased.

The roller G′ of the slide E has passed around it the strip or piece H, whose ends are secured to the rear of the straps A′, said strip or piece thus connecting the straps A′ and slide E. By this provision the strip or piece H is removed from contact with the cross-bar *b′* and sustained on and moved with the roller G′, whereby the durability of the strip or piece is increased.

In order to connect the two ends of the parts or sides of the tab, I employ metallic clips J J′, each of which is passed around the straps of the tab and secured by spurs or teeth *d*, which are punched from or formed with the clip, passed through the contiguous parts of the two straps, and clinched on the side opposite to the entrance, thus forming strong and durable connections for the straps of which the tab is constructed and preventing separation of the same. Furthermore, the stitching employed to secure the tabs is covered by the clips, and thus prevented from being worn out by the rubbing action incident to suspenders when in service.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A suspender having front and rear tabs formed of separate parts, as described, front buckles each having two rollers for the two straps of the front tabs and a slide for the main straps, and rear tabs provided with three rollers, the parts being combined and operating substantially as stated.

2. Tabs formed of separate parts, having metallic clips connecting the ends of said parts, the construction and operation thereof being substantially as described.

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Witnesses:
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