

(No Model.)

E. GUTMANN.
SUSPENDERS.

No. 445,553.

Patented Feb. 3, 1891.

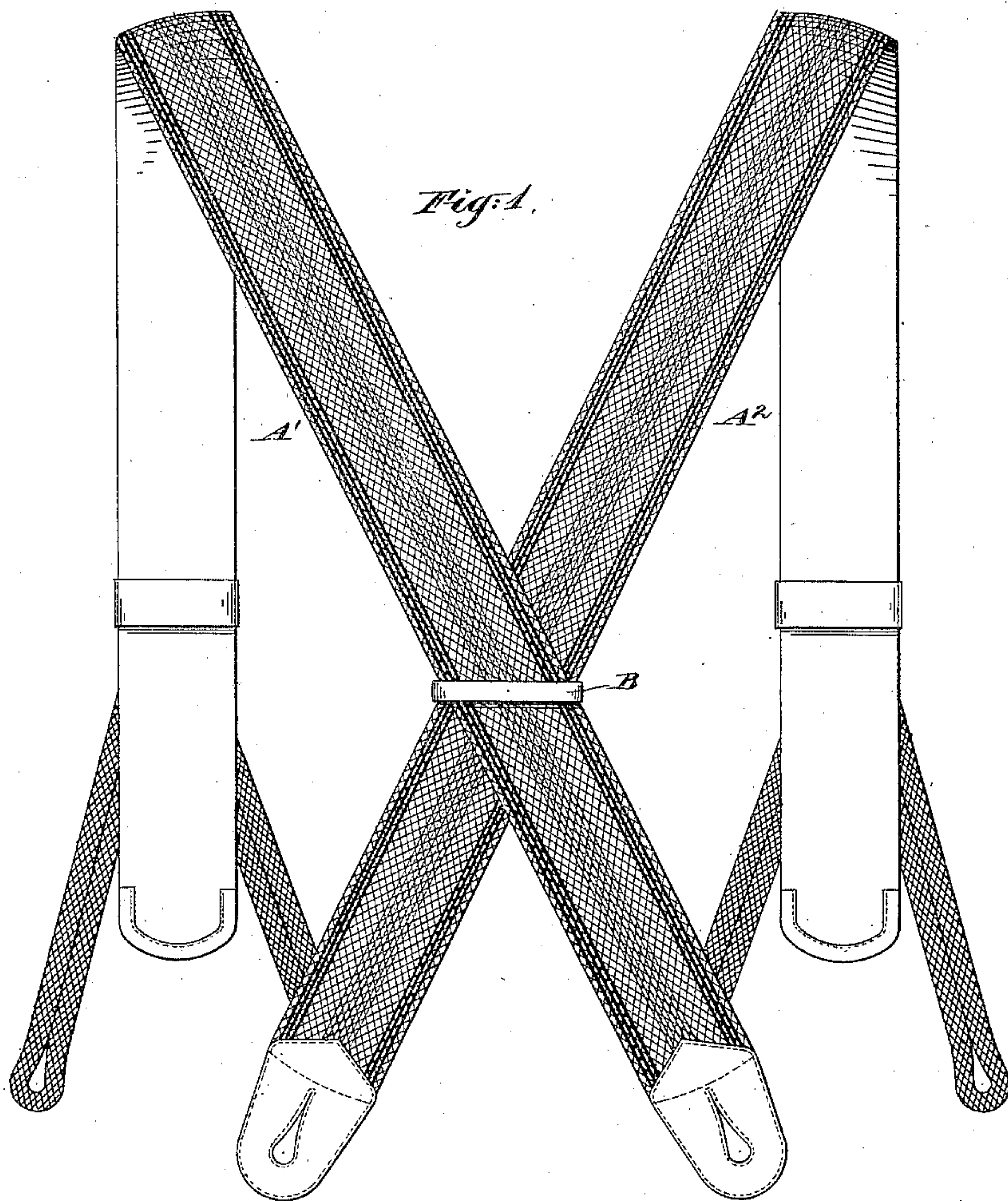


Fig. 1.



Fig. 2.



Fig. 3.

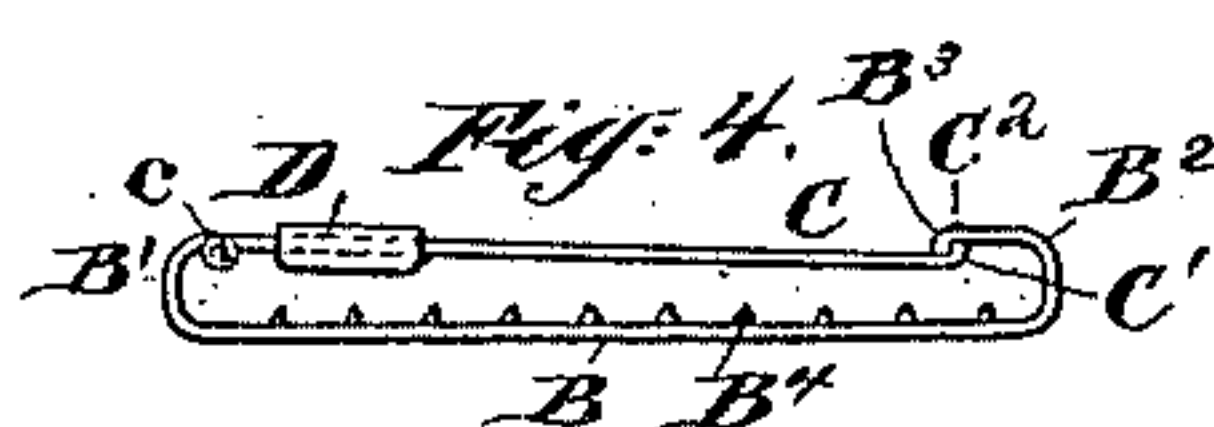


Fig. 4.



Fig. 6.

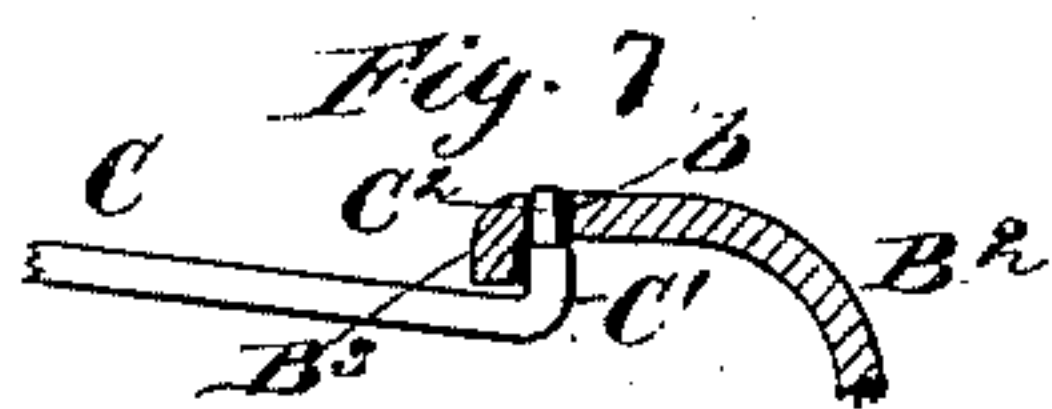


Fig. 7.

Witnesses:
Charles H. Searle,
Chas. L. Barber.

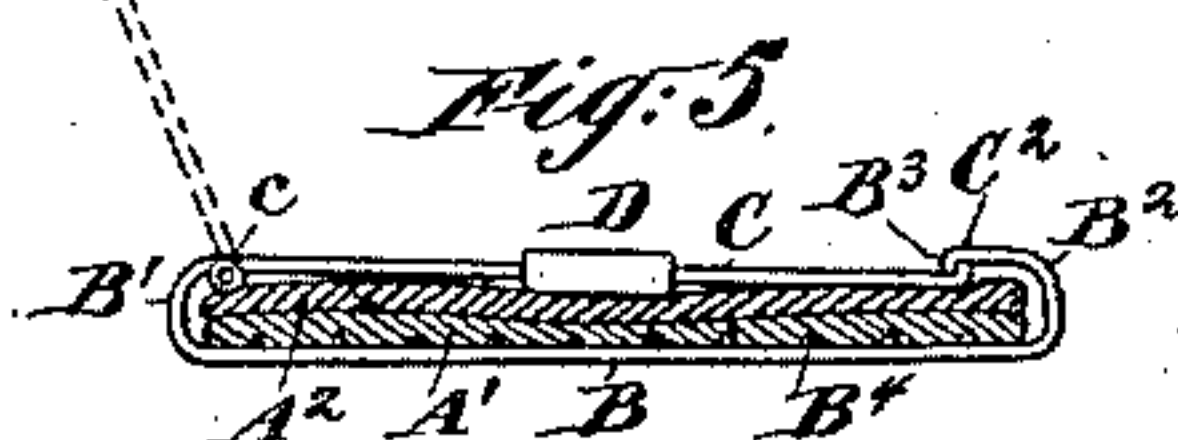


Fig. 5.

Inventor:
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by his attorney
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UNITED STATES PATENT OFFICE.

EMIL GUTMANN, OF NEW YORK, N. Y.

SUSPENDERS.

SPECIFICATION forming part of Letters Patent No. 445,553, dated February 3, 1891.

Application filed October 1, 1890. Serial No. 366,762. (No model.)

To all whom it may concern:

Be it known that I, EMIL GUTMANN, a citizen of the United States, residing in the city and county of New York, in the State of New York, have invented a certain new and useful Improvement in Suspenders, of which the following is a specification.

The improvement relates to that class of suspenders which are joined by an adjustable back-piece at the back. I have devised a back-piece of metal, which is light and strong and may be made attractive in appearance. It holds the suspenders against accidental displacement. I provide for entirely or partially relaxing the back-piece when it is desired to shift the position of one or both the suspenders within it.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 is a rear view of the suspenders complete. Fig. 2 is a corresponding view, on a larger scale, showing the loop detached. Fig. 3 shows a similar view of the opposite face. Fig. 4 is an edge view of the same. All these figures—2, 3, and 4—show the slide adjusted for holding the crossed suspenders with a gentle force, the slide being on the higher part of the inclined tongue, but no suspenders are shown therein. Fig. 5 shows an edge view corresponding to Fig. 4, but with a pair of suspenders introduced and with the slide moved to tighten the grip on them. Fig. 6 is a side view of a modification showing the tongue and back-piece formed in one piece. Fig. 7 is an enlarged detail showing connection between loose end of tongue and turned-over portion of back-plate.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

A' A² are ordinary suspenders, of webbing, of any desired dimensions and equipped with the proper ends for attachment to the pantaloons. These suspenders may cross each other at any required height in the back, and at all the varying angles required with different breadths of shoulders of the wearer and different distances apart of the buttons at the back.

B is the body of the back-piece, certain parts being designated, when necessary, by additional figures, as B' B². The body B is formed with a curve B' at one end, which carries a hinge c, to which is joined a tongue C, the free end of which is turned upward, as indicated by C', terminating with a small spur C². On this tongue C is mounted a slide D, the ends of which are beveled, as shown, and which is free to be moved endwise on the tongue C for purposes which will presently appear. The opposite end of the body is formed with a curve B², the extreme end being bent inward or downward to form an integral ridge B³. A sufficient aperture b is formed in the correct position to receive the spur C². The inner face of the body B is roughened with short spurs B⁴.

The body B and also the tongue C and the slide D may be each of brass cut and bent by dies to the required form and nickel-plated.

The space in the interior of the back-piece must be of sufficient length and width to receive the suspenders in their crossed positions ready for use. The spurs B⁴ engage in the middle of the adjacent suspender and strongly hold the back-piece in position relatively to that suspender. This prevents the back-piece from ever becoming shifted upward or downward. The other suspender is simply clamped against its mate by the pressure of smooth surfaces. It can be shifted upward or downward when required.

The tongue C being open, the suspenders are crossed at about the right angle and at the right height and the back-piece brought into position, partially embracing them. Then the tongue C is depressed and sprung to one side sufficiently to allow the tongue to pass down below the bent end B³ B². It is then assisted to assume the correct position, and the point C² is engaged in the hole b and allowed to spring up and slightly protrude. The parts will now be held in place with considerable force by the presence of the somewhat compressed pair of suspenders, which are within the body and compressed between the tongue C and the spurs B⁴ in the interior of the body. When all is perfectly adjusted, the slide is moved forcibly from the joint or hinge c toward the opposite end of the tongue. The in-

inclination of the tongue is such that this movement of the slide causes it to still more tightly clamp the suspenders, and the whole is now in condition for use, the suspenders being firmly
 5 compressed between the slide D and the spurred interior B⁴ of the body B.

The suspenders may be used under all ordinary or extraordinary conditions without shifting the back-piece. When it is desired
 10 to shift one suspender relatively to the other, the clamp may be relaxed by moving the slide D over into the vicinity of the hinge c. After the adjustment is completed the slide D should be moved back toward the outer or
 15 free end of the tongue C, thus again tightening the clamp. When it is desired to shift the back-piece up or down, the tongue should be released and opened. To effect this the slide D is shifted over to the vicinity of the
 20 hinge and the free end of the tongue is pressed forcibly inward toward the spurred back and the bent end B² B³ of the body being simultaneously sprung upward. When the aggregate movement of both parts—that of the
 25 tongue C C' C² inward and the bent end B² B³ outward—is sufficient to a little more than equal the thickness of the metal, which may be only a thirty-second of an inch, the tongue may be sprung to one side, so that it is liberated from the end B² B³ of the body. Now it
 30 may be lifted to any required height, (indicated in dotted lines in Fig. 5,) and the spurs B⁴ are now readily detached and the back-piece moved downward or upward to any required extent, after which the back-piece is readjusted by a repetition of the primary movements.

The internal ridge B³ on the extreme end of the portion B² performs an important function in engaging with the corresponding ridge C' on the end of the tongue C, and aiding to hold the parts firmly locked together against a considerable elongating strain to which the back-piece is sometimes subjected, and which
 45 might break or bend the contracted spur or small portion C². The latter engages in the hole b and holds the tongue against being displaced laterally, and also contributes to holding the device against the elongating or
 50 longitudinal strain.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention. The extent of the curved ends may be varied.

55 The width and thickness of all the parts of the back-piece may be varied, care being

taken that there is sufficient elasticity to allow the tongue to be deflected to one side for the engagement and disengagement.

I can increase or diminish the inclination
 60 of the tongue, thereby inducing corresponding changes in the effect of the movements of the slide.

The back-piece may be used in a single continuous loop, with sufficient space within
 65 it to allow the easy insertion of one of the suspenders, and after it is properly placed and engaged with the spurs the other suspender may be introduced by sufficient force and drawn to the correct position. When this is
 70 done, the slide D, being moved on the inclined portion of the loop, will effect the tightening of the clamp, as before. Fig. 7 shows such modification.

Instead of the separate equidistant spurs
 75 B⁴ on the inner face of the body B there may be any other efficient form of roughening. One or more ridges may take the place of the series of spurs and serve successfully.

I claim as my invention—

1. In suspenders, the combination, with the shoulder-straps, of the back-piece B, arranged in the form of a loop to inclose said straps at the point of crossing, and the slide D, adapted to be moved upon one side of the loop in
 85 clamping and releasing the straps, substantially as and for the purpose specified.

2. The back-piece for suspenders, consisting of a metallic loop roughened on part of its interior, and a slide arranged upon one
 90 side of the loop and adapted by its movement thereon to clamp the suspenders firmly down upon such roughened part, all combined as and for the purpose set forth.

3. In suspenders, the metallic back-piece
 95 composed of the body B, having curved ends B' B², with the ridge B³ and hole b, and the hinge c, the tongue C, inclined as shown, and having the turned-up end C' C², adapted to engage and disengage, as shown, and the
 100 slide D, adapted to tighten and relax the clamp by being moved on the inclined tongue C, all arranged for joint operation as herein specified.

In testimony that I claim the invention
 105 above set forth I affix my signature in presence of two witnesses.

EMIL GUTMANN.

Witnesses:

THOMAS DREW STETSON,
 ROBT. A. KELLOND.