

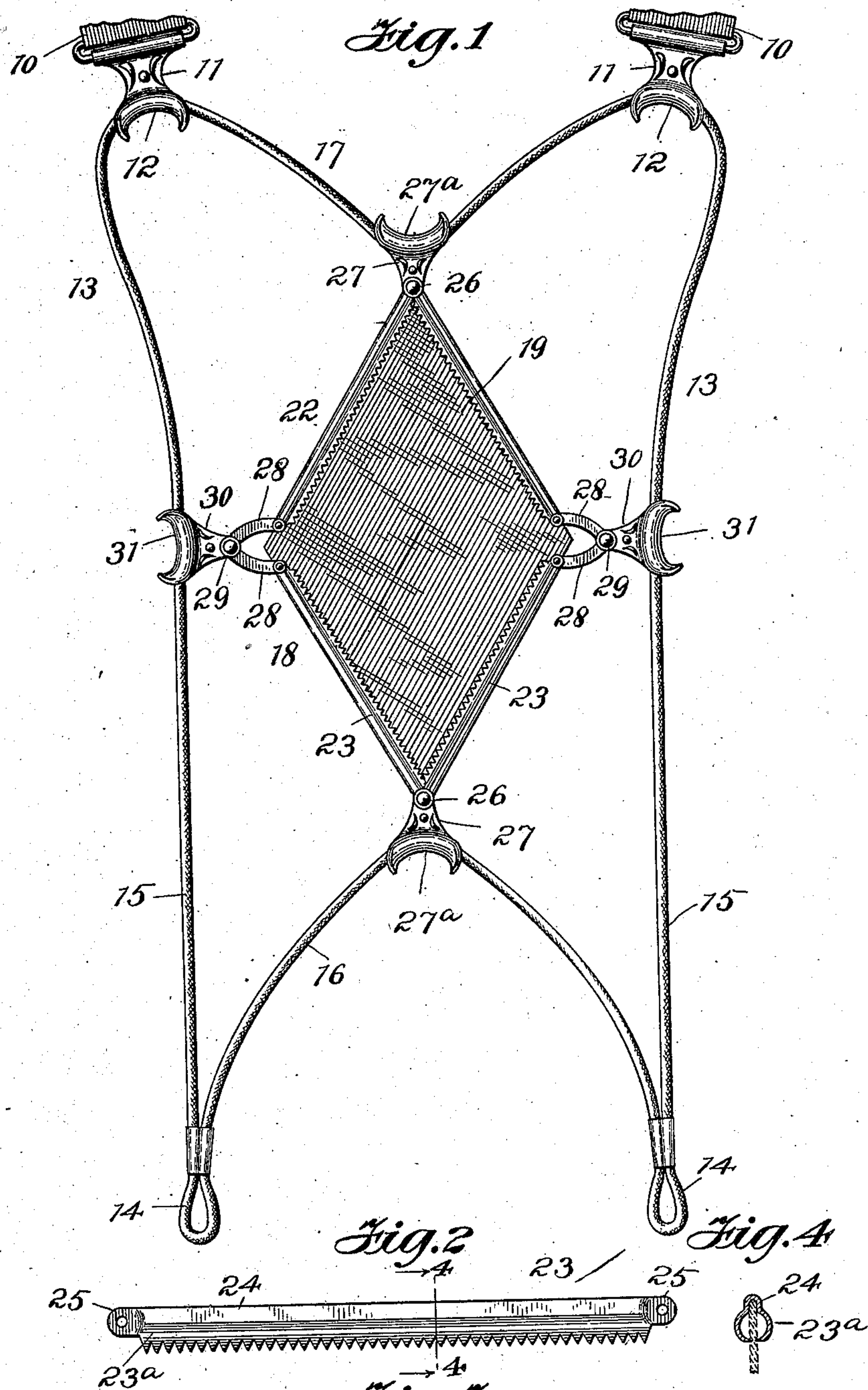
No. 881,482.

M. NEIMA.
SUSPENDERS.

PATENTED MAR. 10, 1908.

APPLICATION FILED MAR. 21, 1907.

2 SHEETS—SHEET 1.



WITNESSES
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2 SHEETS—SHEET 2.

Fig. 6.

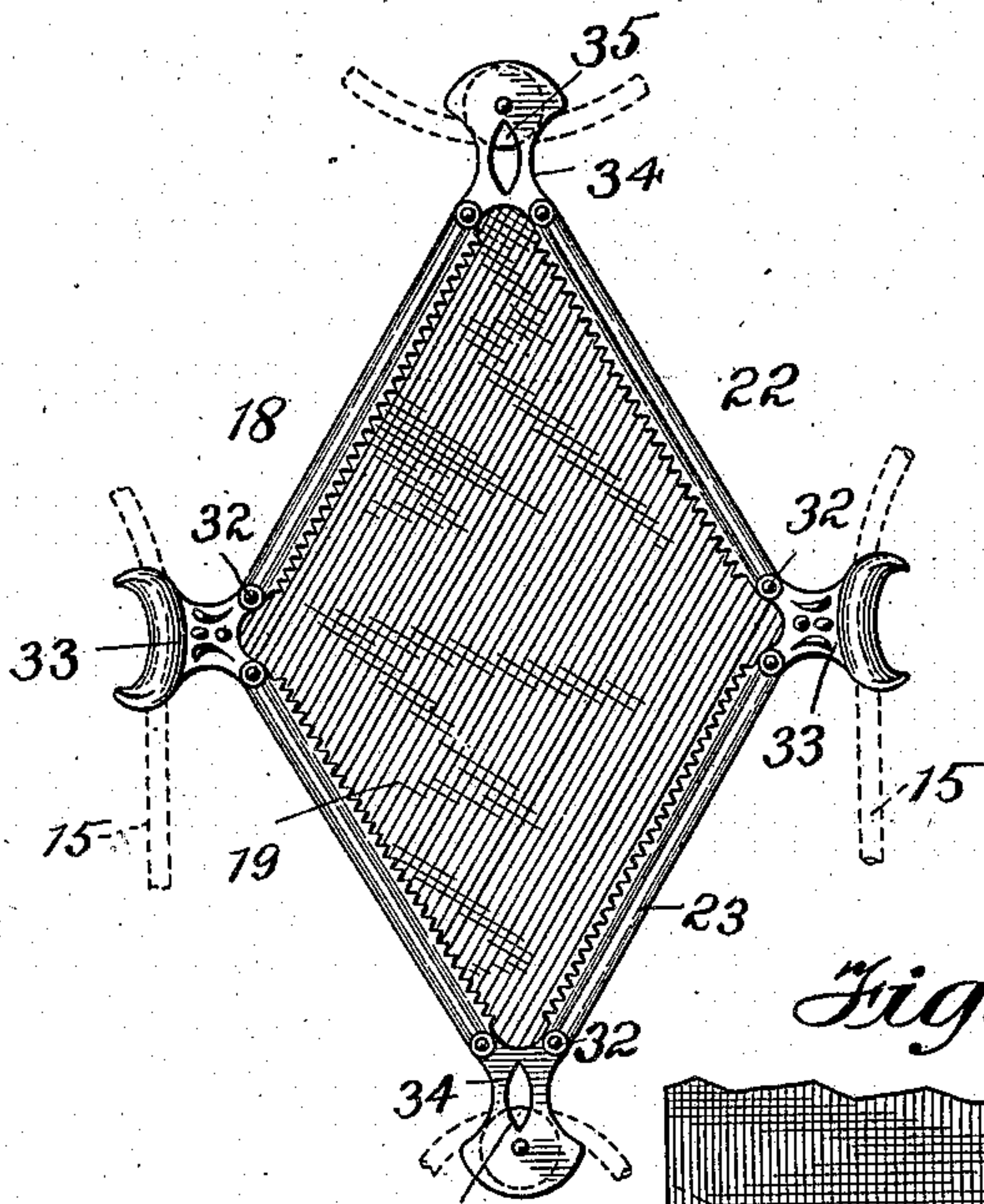


Fig. 7.

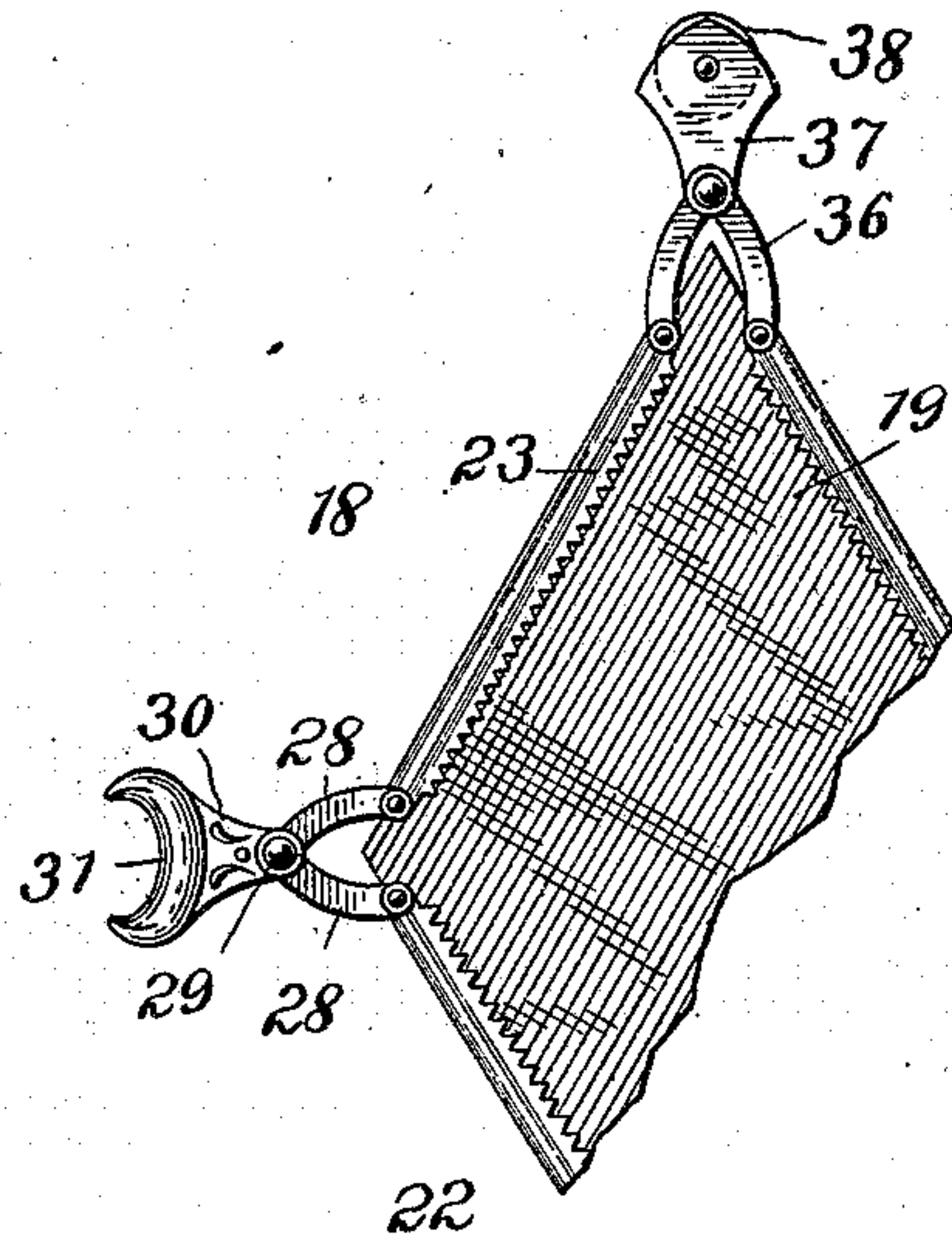


Fig. 5.

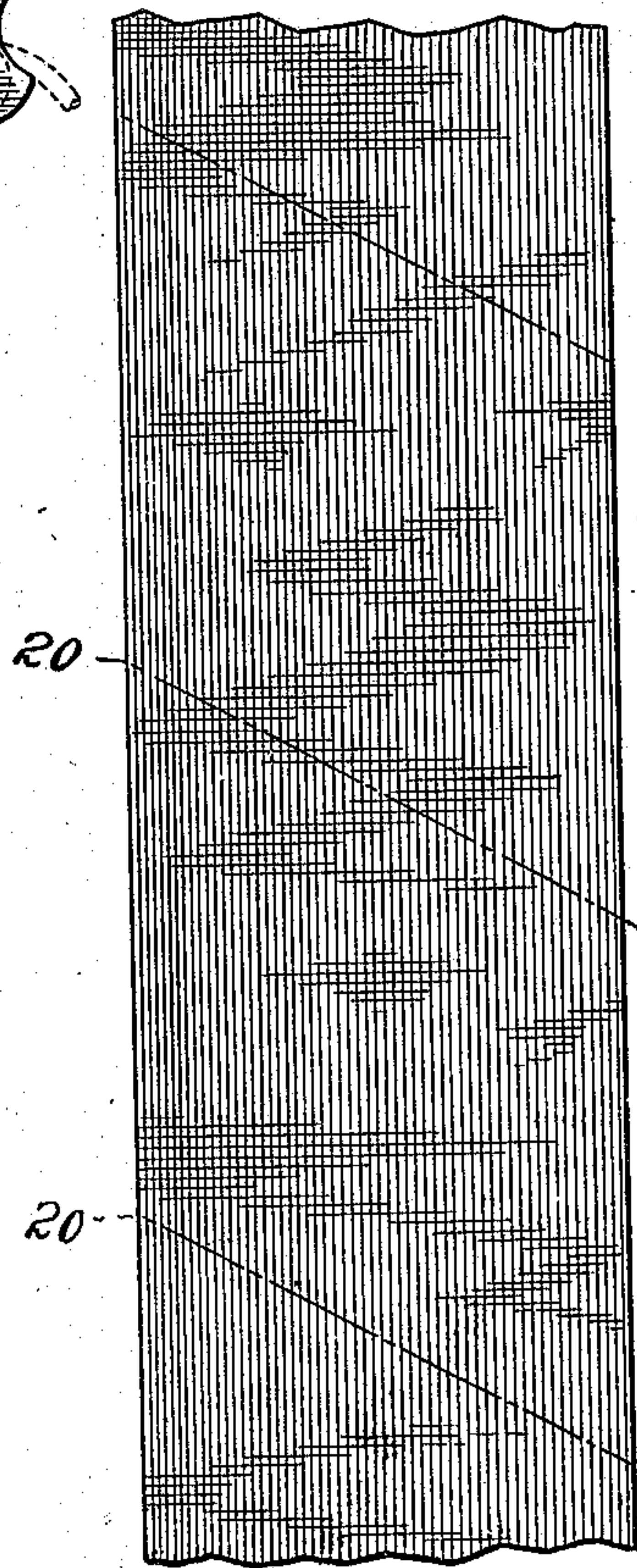


Fig. 8.

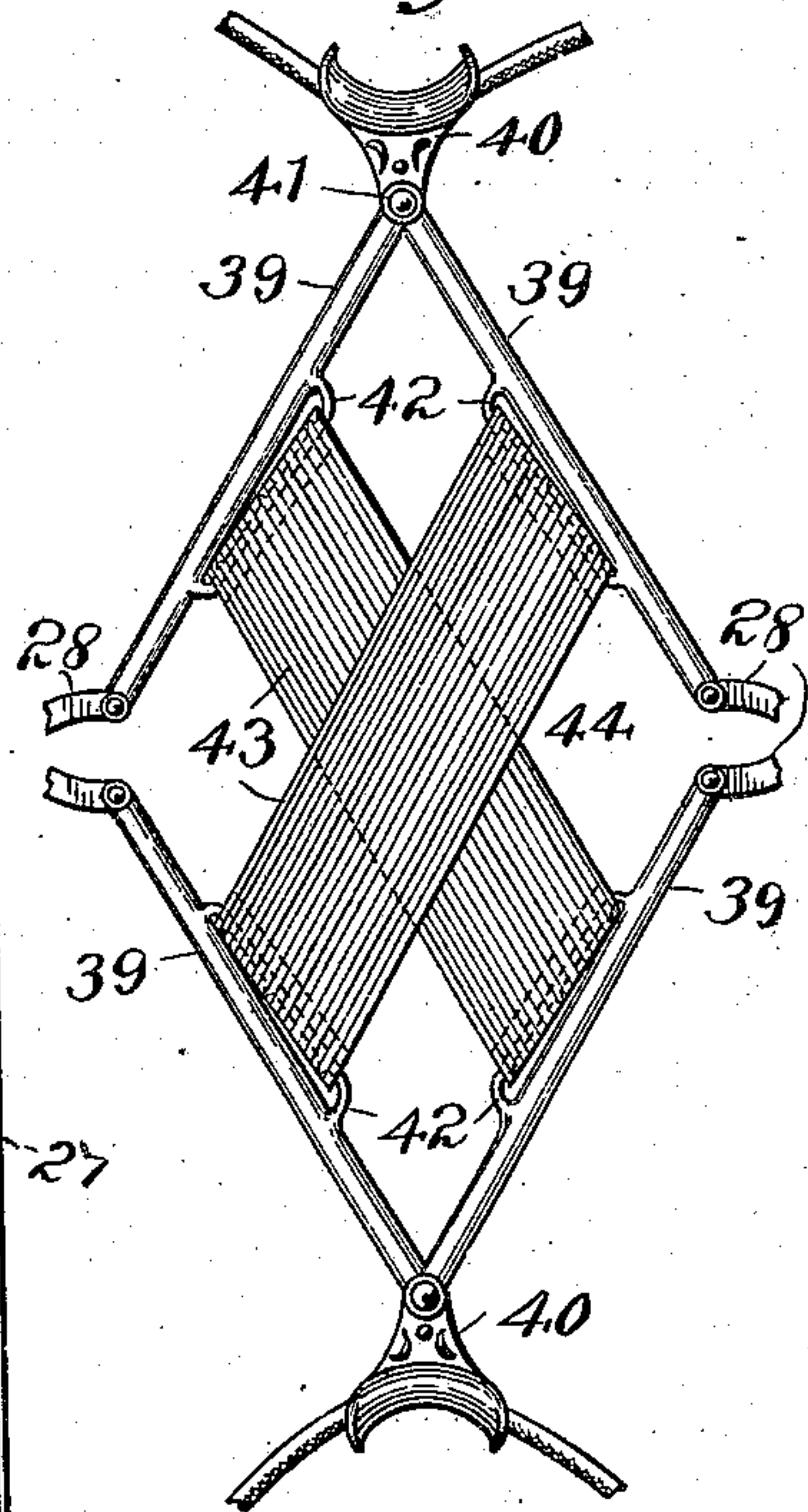
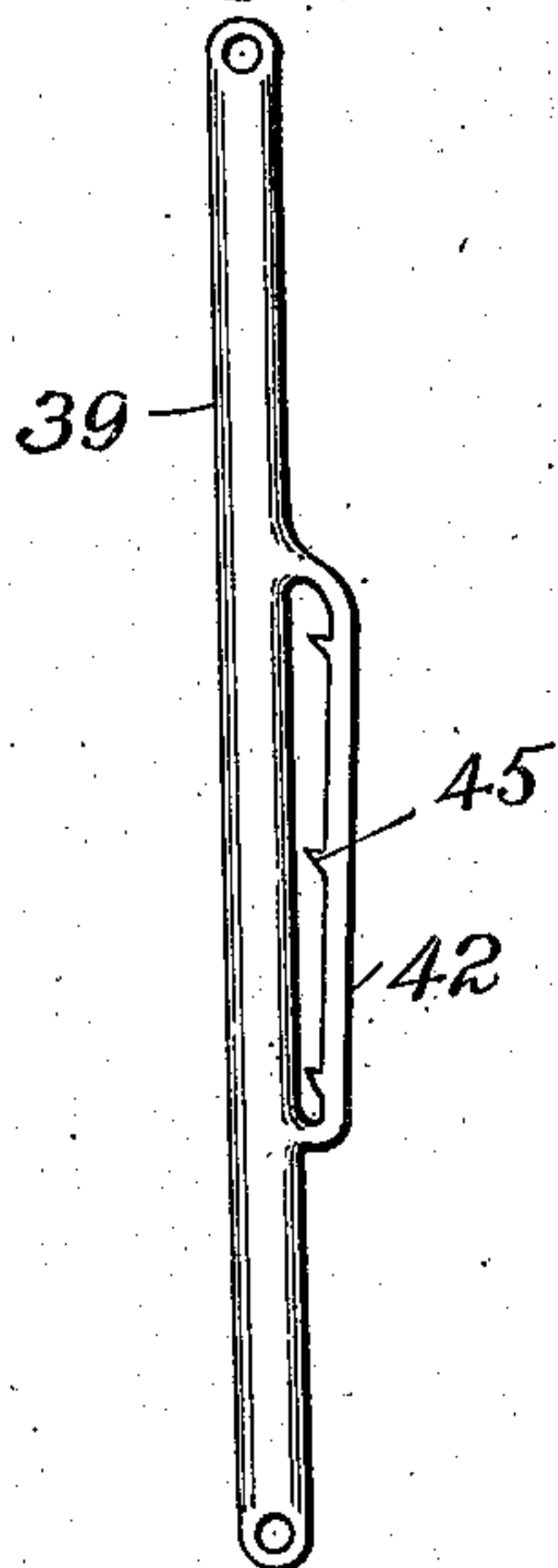


Fig. 9.



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SUSPENDERS.

No. 881,482.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed March 21, 1907. Serial No. 363,705.

To all whom it may concern:

Be it known that I, MOSES NEIMA, a subject of the King of England, and a resident of Amherst, Nova Scotia, Dominion of Canada, have invented certain new and useful Improvements in Suspenders, of which the following is a full, clear, and exact description.

This invention relates more particularly to that class of suspenders in which there is a yielding device interposed between the means for attaching the suspenders to the rear of the trousers and the shoulder-straps.

The primary object of the invention is to provide simple and efficient means whereby the rear of the suspenders will readily yield to the various movements of the body; to provide simple and efficient means for connecting the yielding device or take-up to the usual cord or strap forming the means for attachment to the trousers and the shoulder-straps, and which means is of such a nature that the trousers will be always held in their proper position.

With these and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings, which form a part of this specification, and will then be pointed out in the claims at the end of the description.

In the drawings Figure 1, is an elevation of the rear part of the suspenders embodying one form of my invention. Fig. 2, is a detail elevation of a part of the frame of the take-up or yielding device. Fig. 3, is a plan of the blank of the part shown in Fig. 2. Fig. 4, is a vertical section taken on the line 4—4 of Fig. 2. Fig. 5, shows how an elastic or yielding web is cut to provide the yielding portion of the take-up or device. Fig. 6, is an elevation showing a slight extension of the principle involved in Fig. 1; and Figs. 7, 8 and 9 show slightly different forms of connecting devices or take-ups.

The shoulder-straps may be of the usual or of any preferred form, and each strap has a suitable trimming or guide-piece 11 at the rear end thereof provided with a tubular part 12, through which the cord, evenor or strap 13 passes. This cord 13 serves as the means for attachment to the trousers, and is formed to provide button holes 14 in the usual manner. This cord is provided with vertical or upright parts 15, a lower transverse loop or part 16, and an upper transverse loop or part 17, which are

located between the parts 15. The features thus far described may be of the usual or of any preferred construction.

Interposed between the parts 15 and the loops 16 and 17 is a device 18. This device has an elastic or other yielding part 19, which in this case is cut angularly and transversely of an elastic web as indicated by the lines 20—21 of Fig. 5, in order that said part 19 may be substantially diamond shaped, and the elastic part of the web so arranged with respect to the other parts of the brace or suspenders that the piece or part 19 will yield either vertically or laterally, to compensate for and readily yield to the various movements of the body, instead of simply in one direction as in most devices of this kind as ordinarily constructed, though it will be understood that the shape and general form of the piece 19 may be changed as desired.

The piece 19 is provided at its edges with a frame 22. As shown this frame consists of four pieces 23, each of which is rounded at 23^a, and has a recessed part 24 for the web or piece 19. The part 23 has a serrated edge or other fastening means by which each frame-piece may be fastened to the edge of the web. The frame assumes the shape of the web 19, and has its ends 25 flattened to provide means for pivoting said frame-pieces together in pairs, as at 26, and as shown in Fig. 1, the other ends of said pieces not being attached directly to each other. At the pivot 26 of each pair of frame-pieces is a connection 27 having a tubular part 27^a through which the loops 16 and 17 pass so as to readily slide therein, and which are adapted to move or swing on said pivots 26. The inner ends of the frame-pieces are pivoted to links 28, and these links are pivoted together at their outer ends, as at 29, to the frame-pieces and guides 30. The guides have the usual tubular portion or guide part 31 for the connecting cord or strap, and are adapted to swing in either direction. By this means the web or piece 19 will readily yield to the movements of the body in various directions, and the links 28 will open or close according to this movement, so that ease and comfort of the wearer is effectually secured.

Various means may be employed to form the connection between the cord or trouser-attaching means, the shoulder-straps and the web or other yielding part 19. In Fig. 6, the frame-pieces are not directly se-

cured together, but the ends are pivoted at 32 to connecting guide-pieces 33 and 34. The two guide-pieces through which the part 15 of the cord passes have the usual form of tubular guide, while the upper and lower connecting or guide-pieces 34 are provided with rollers 35 around which are adapted to pass the loops 16 and 17 of the fastening cord.

Fig. 7 is somewhat of the same order as shown in Fig. 1, except that the upper and lower part of the frame 22 is provided with links 36, and these links 36 are pivoted together at one of their ends, and to a guide-piece 37 in which is supported a roller 38.

In Figs. 8 and 9, the frame of the connecting or take-up device is of the same general shape as the other forms, and may be connected to the trouser-attaching means in substantially the same way. The frame-pieces 39 are pivoted together and to the guide-pieces or runners 40, at 41, and at their other ends are pivotally held by the links 28 as already explained. These frame-pieces 39 have a projecting portion 42 forming a loop for the ends of the web-pieces 43, which together make the elastic web 44. The web-pieces are fastened around the projecting portion 42 forming the loop, and said projecting portion may be provided with teeth 45, or other means, to prevent crowding of the web-pieces to one side.

It will be noticed that the frame-pieces are all alike, and being the same on both sides, either flat or slightly rounded at their edges, one form will answer for the entire frame.

It will be understood that the web-pieces may be of any desired width.

From the foregoing it will be seen that simple and effective means is provided for properly sustaining and supporting the trousers, and the parts of the suspenders so connected together that the various movements of the body will be readily compensated for.

It will be readily understood that the size and form of the web may vary whether diamond shaped or triangular; that instead of all of the parts of the cord or strap being permitted to slide in the guide-pieces, any or all of the same may be fastened as desired, and that other changes within the scope of the appended claims may be made without departing from the character of the invention.

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

1. In a pair of suspenders, the combination with shoulder straps and means for attaching the same to the rear of the trousers, of a metallic skeleton frame comprising four members arranged in pairs so as to be substantially diamond-shaped, means for attaching the frame to the shoulder straps, and

elastic means connecting the members of the frame so that they will move either vertically or laterally when in use.

2. In a pair of suspenders, the combination with shoulder straps and means for attaching the same to the rear of the trousers, of a metallic skeleton frame comprising four members pivotally held in pairs so as to be substantially diamond-shaped, means for attaching the frame to the shoulder straps, and a single elastic web connecting the members of the frame together so that they may move either vertically or laterally when in use.

3. A pair of suspenders having means for attachment to the rear of the trousers, and a connecting or take-up device comprising a metallic frame, and a single inner elastic web secured to the frame and arranged to permit movement of the parts of the frame either vertically or laterally when in use.

4. A pair of suspenders comprising shoulder straps, means for attaching said straps to the rear of the trousers, a device or take-up having a metallic frame, and an inner yielding part to permit the frame parts to move either vertically or laterally, and links projecting outward from the frame and connecting the device to the attaching means.

5. In suspenders, a metallic frame comprising four members connected together in pairs, and an elastic web rigidly held within and to the frame.

6. In suspenders, a metallic skeleton frame comprising four members connected at one of their ends in pairs so as to converge and form a substantially diamond-shaped frame, and a substantially diamond-shaped elastic web rigidly held to the frame within the same so as to adapt the members of the frame to move either vertically or laterally.

7. In suspenders, a metallic skeleton frame comprising a plurality of members angularly arranged with respect to each other, and an elastic web rigidly held to the frame within the same so as to adapt the members of the frame to move either vertically or laterally.

8. In suspenders, the combination with means for attachment to the trousers, of a connecting device for the rear thereof comprising an elastic web, and a metallic skeleton frame comprising four members pivotally held together in pairs so as to be substantially diamond-shaped in form and having means for rigidly fastening the same to the edges of said web.

9. In suspenders, the combination with means for attachment to the trousers, of a connecting device for the rear thereof comprising a substantially diamond-shaped elastic web, and a metallic skeleton frame comprising four members pivotally held together in pairs so as to be substantially diamond-shaped in form and having means for rigidly

fastening the same to the edges of said web, and links connecting the frame to the attaching means.

10. The combination with a pair of shoulder straps and a cord having means for attachment to the trousers and provided with upper and lower laterally-extending loops and vertically disposed parts, of a substantially diamond-shaped skeleton frame comprising four members, said frame members being pivotally held together at one end in pairs, a substantially diamond-shaped web within the frame yieldingly holding the members together to adapt the same to move either vertically or laterally, guide-pieces through which the loops of the cord pass pivotally held to the joined parts of the frame, guide-pieces for the side parts of the cord, and links pivotally held to the latter guides and to the frame pieces.

11. In suspenders, the combination with means for attaching the same to the rear of the trousers, of a connecting or take-up device having a substantially diamond-shaped elastic web arranged so that the direction of stretch will be both vertical and lateral while in use.

12. The combination with a pair of shoulder-straps, and means for attaching said straps to the rear of the trousers, of a device or take-up having a yielding part, a frame rigidly held to the yielding part, and links pivoted to the frame and connected to the attaching means.

13. The combination with the shoulder-straps, of a cord or evener having means for attachment to the trousers at the rear thereof and connected to the shoulder-straps, of a take-up device having a substantially diamond-shaped elastic web arranged to yield both vertically and laterally when in use, a frame secured to the edges of the web, and devices connecting the frame to the cord.

14. The combination with shoulder straps, of a cord or evener having means for attachment to the trousers at the rear thereof and connected to the shoulder-straps, of a device having a substantially diamond-shaped elastic web arranged to yield both vertically and laterally when in use, a frame secured to the edges of the web, guide-pieces, and links connecting the frame to the guide-pieces.

15. The combination with a pair of shoulder-straps and a cord having means for at-

tachment to the trousers and provided with upper and lower laterally-extending loops, and vertically disposed parts, of a substantially diamond-shaped device comprising an elastic web arranged to yield vertically and laterally when in use, a frame having four pieces securely fastened to the edges of the web, said frame-pieces being secured together at one end thereof, guide-pieces through which the loops of the cord pass pivotally held to the joined parts of the frame, guide-pieces for the side parts of the cord, and links pivotally held to the latter guides and to the frame pieces.

16. The combination with shoulder-straps, and means for attachment to the trousers at the rear thereof, of a device having an elastic web, a frame having four pieces securely fastened to the web, said frame-pieces being secured together at one end thereof, guide-pieces joined to the parts of the frame, and links pivotally held to the guide-pieces and to the frame-pieces.

17. The combination with shoulder-straps, and a cord having means for attachment to the trousers, of a take-up or device comprising an elastic web, a skeleton metallic frame having four pieces securely fastened to the edges of the web, guide-pieces through which the loops of the cord pass, and links pivotally held to the guide-pieces and to the frame-pieces.

18. The combination with a pair of shoulder-straps, and a cord having means for attachment to the trousers, of a substantially diamond-shaped take-up or device comprising an elastic web arranged to yield vertically and laterally when in use, a substantially diamond-shaped skeleton metallic frame having four pieces securely fastened to the web, guide-pieces through which the cord passes, and links pivotally held to certain of the guide-pieces and to the frame-pieces.

19. In suspenders, the combination with means for attachment to the trousers, of a connecting device for the rear thereof comprising an elastic web and a metallic skeleton frame comprising four members or parts arranged in pairs and having means for rigidly fastening the same to the edges of said web.

MOSES NEIMA.

Witnesses:

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J. L. RABBON.