

No. 881,976.

A. VAN DUZER.
BUCKLE.

PATENTED MAR. 17, 1908.

APPLICATION FILED JAN. 2, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

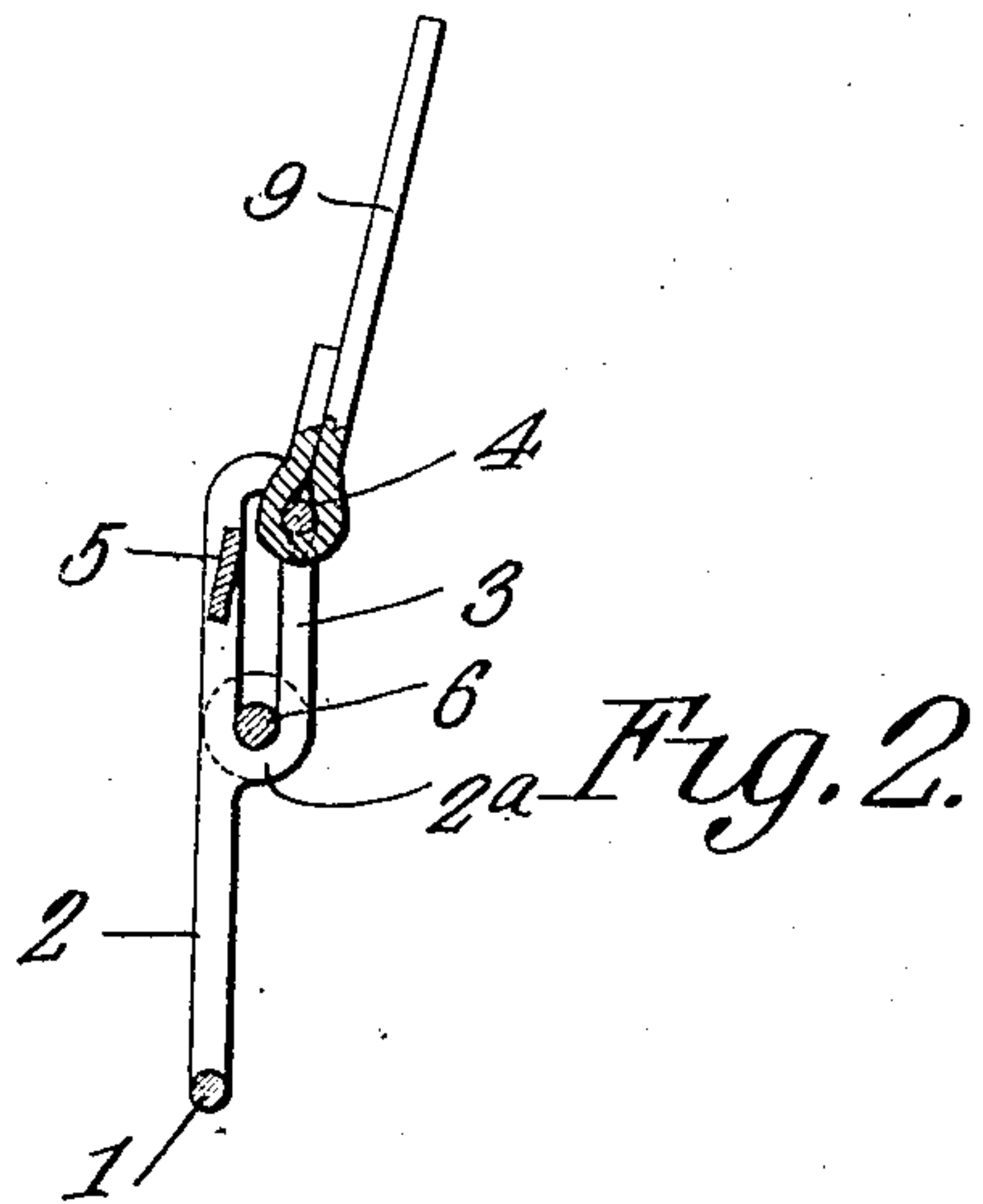
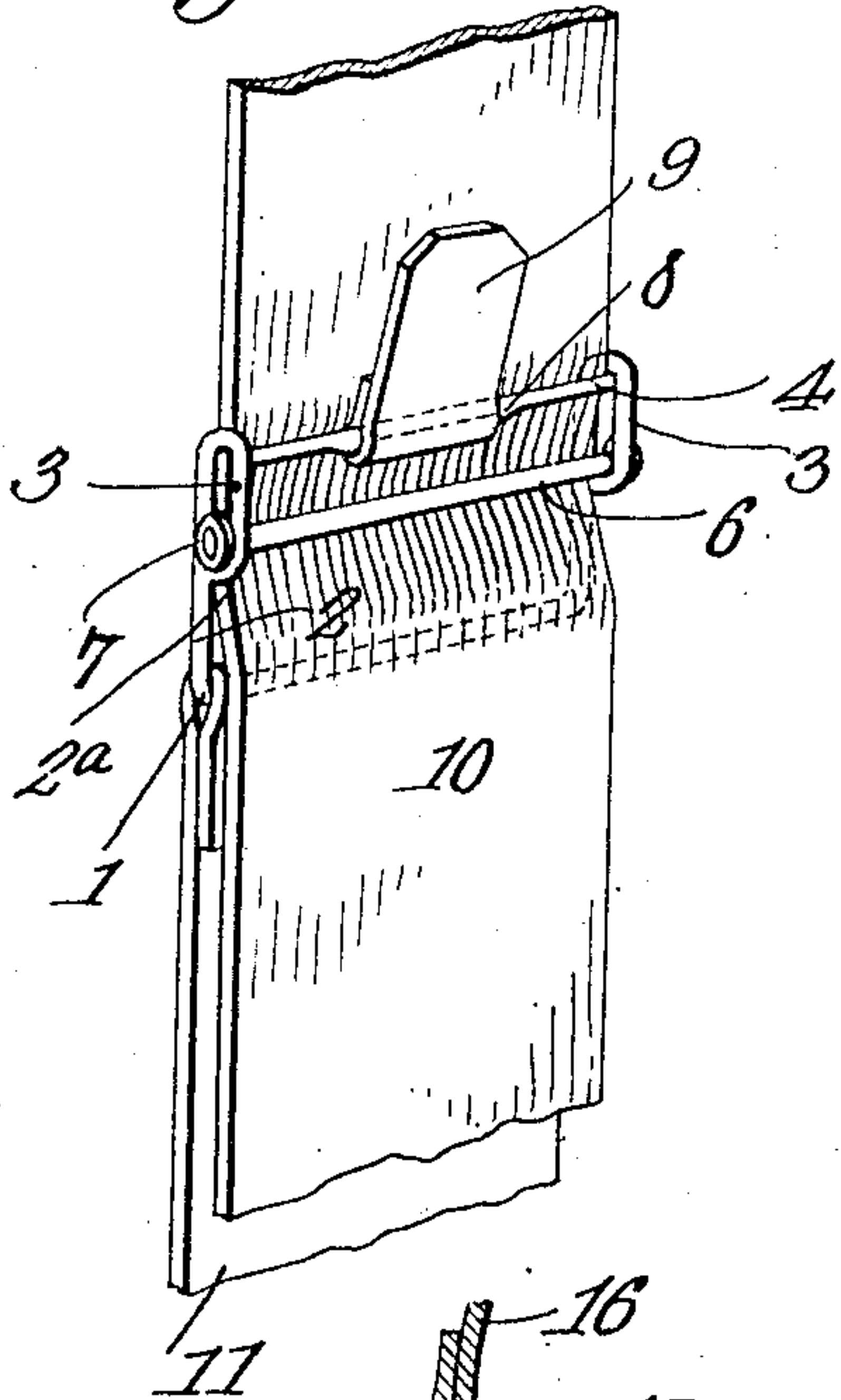


Fig. 4.

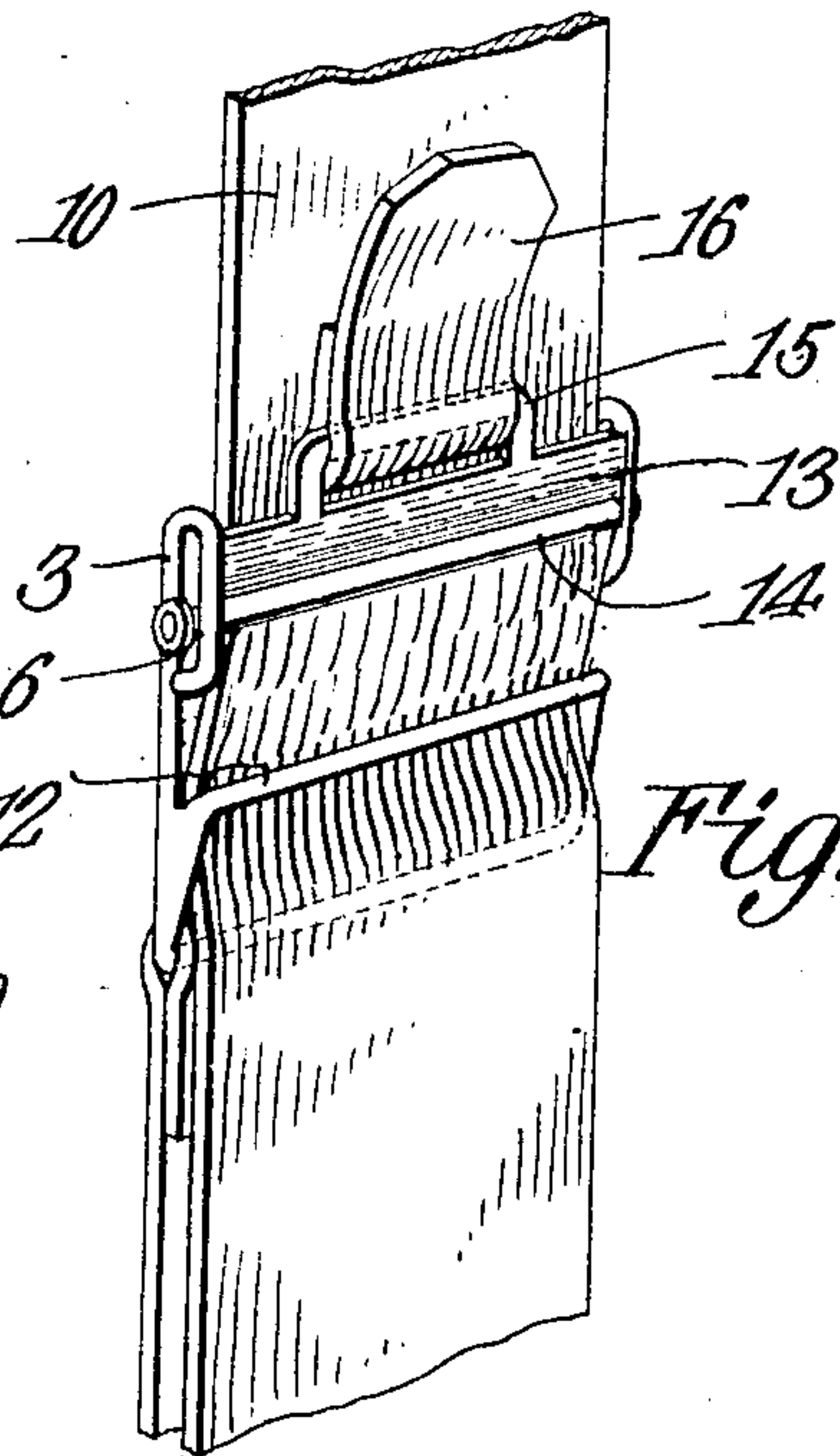
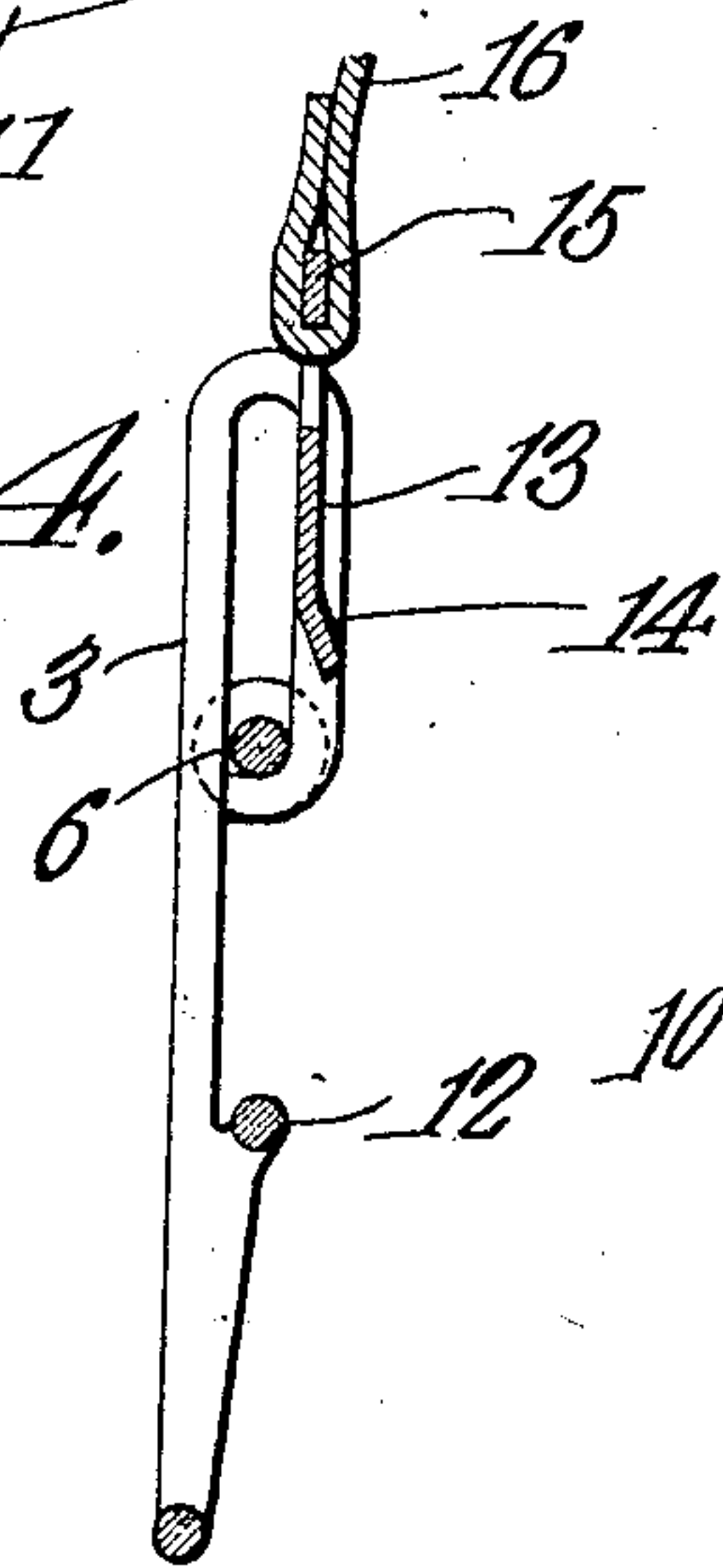
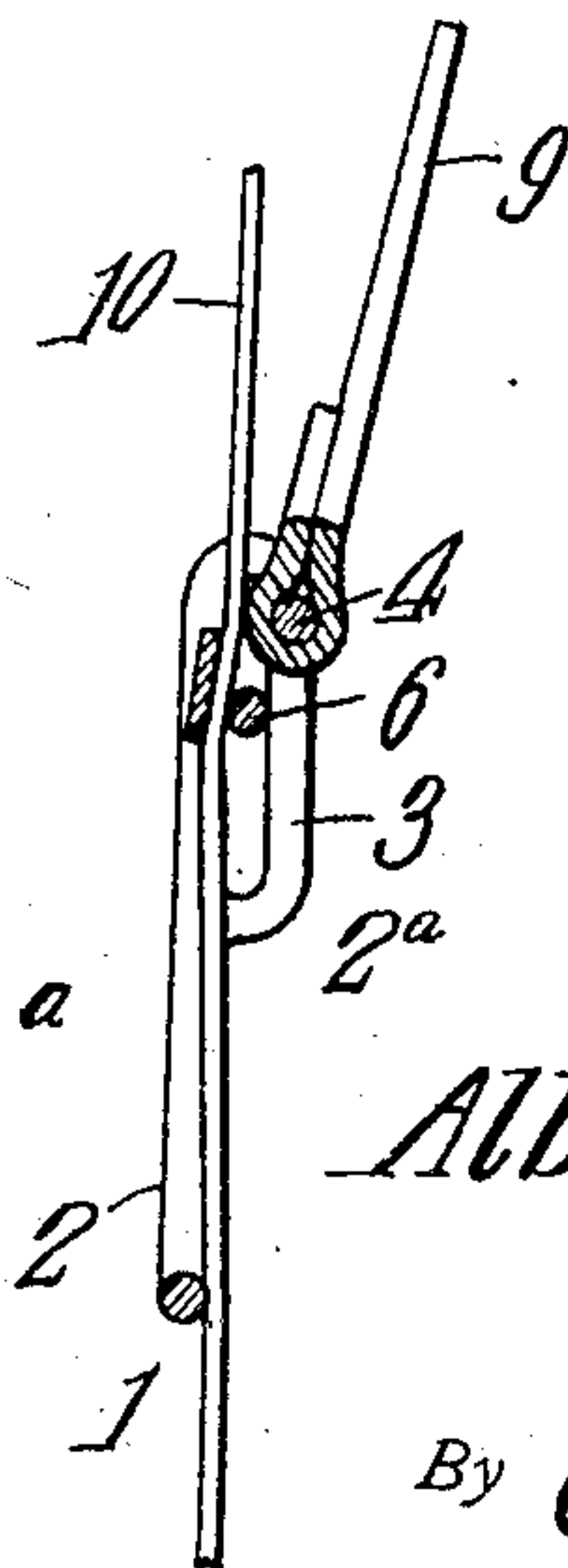


Fig. 2.^a



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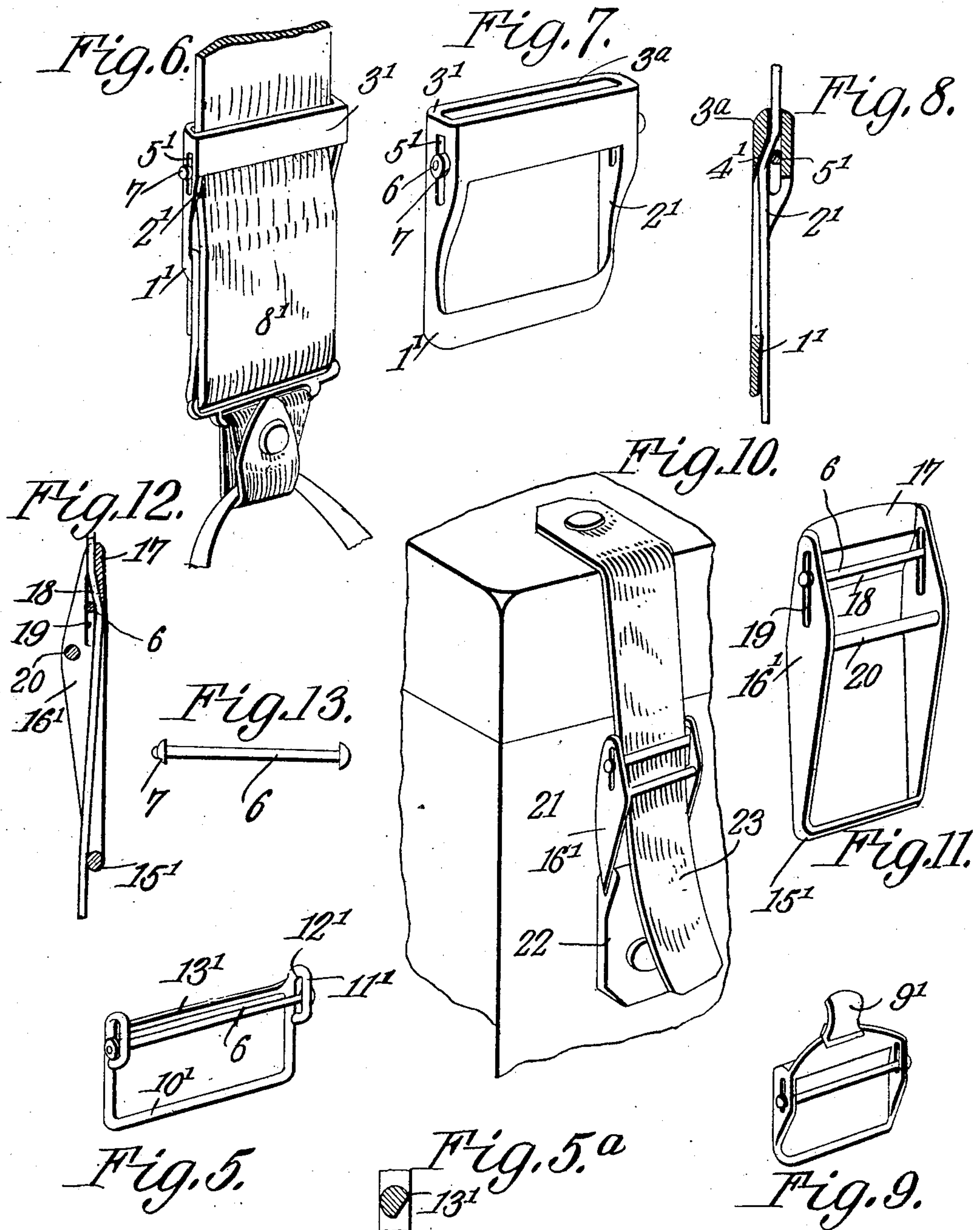
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UNITED STATES PATENT OFFICE.

ALBERT VAN DUZER, OF EUREKA, CALIFORNIA.

BUCKLE.

No. 881,976.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed January 2, 1907. Serial No. 350,379.

To all whom it may concern:

Be it known that I, ALBERT VAN DUZER, a citizen of the United States, residing at Eureka, in the county of Humboldt and State of California, have invented a new and useful Buckle, of which the following is a specification.

This invention relates to buckles and its object is to provide a simple and compact device of this character particularly designed for use on suspenders, etc., although it may also be used upon valises, and in fact wherever it is desirable to fasten together straps of different kinds.

A further object is to provide a buckle which will not bite into the strap and therefore injure it.

A still further object is to provide a buckle which can be easily adjusted and which will automatically increase its binding action upon the strap in proportion to the pressure exerted thereon.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a perspective view showing one form of buckle connecting the straps of suspenders; Fig. 2 is a longitudinal section through said buckle; Fig. 2^a is a view similar to Fig. 2 and showing a strap secured within the buckle. Fig. 3 is a view similar to Fig. 1 and showing another form of buckle wherein the clamping roller is concealed by one of the straps; Fig. 4 is a longitudinal section through the buckle shown in Fig. 3; Fig. 5 is a perspective view of another form of suspender buckle; Fig. 5^a is an enlarged section through the cross bar shown in Fig. 5; Fig. 6 is a perspective view showing another form of buckle applied to suspenders; Fig. 7 is an enlarged perspective of said buckle; Fig. 8 is a longitudinal section therethrough and showing a strap clamped in position therein; Fig. 9 is a perspective view of still another form of suspender buckle; Fig. 10 is a view of a modified form of buckle in position upon a valise; Fig. 11 is a perspective view of said buckle detached; Fig. 12 is a longitudinal section therethrough; and Fig. 13 is a detail view of the roller used with the various forms of buckle.

Referring to the figures by characters of reference, 1 is a wire yoke having side portions 2 bent upon themselves to form loops 3 the ends of these loops being soldered or otherwise secured to the side portions 2 as shown at 2^a. A cross bar 4 connects the loops 3 and disposed adjacent this cross bar 4 and at the other side of the loops is a cross strip 5 one face of which is inclined in relation to the slots or openings within loops 3 and extends to one wall thereof. A roller 6 having heads 7 at the ends thereof is mounted within the loops. Cross bar 4 has spaced lugs 8 extending therefrom and surrounding this bar between the lugs is a tab 9 adapted to be used for pulling the buckle longitudinally along one of the straps 10 of suspenders. In using this buckle the strap 11 of a pair of suspenders is secured to the yoke 1 as shown in Fig. 1 and the strap to be adjustably connected thereto is inserted between the bar 4 and strip 5 and back of the roller 6. By pulling on the tab 9 the roller 6 will be moved toward those ends of the loops 3 which are farthest removed from the strip 5 and therefore the buckle will be free to slide upon the strap 10. When, however, the tab 9 is released and the straps 10 and 11 pulled in opposite directions strap 10 will cause the roller 6 to travel within the loops 3 and bind strap 10 against the inclined face of the strip 5 thereby positively holding the strap against movement without biting into it or otherwise injuring it. Should it be desired to pull the straps 10 and 11 apart the heads of the roller 6 are pressed away from the bar 4 and strip 5 and held by the user while the strap 10 is slid through the buckle. In this construction of buckle it will be noticed that the roller 6 is exposed to view at all times. If it is desired to practically conceal this roller the buckle can be made as shown in Figs. 3 and 4. As shown in these figures the yoke is of the same construction as that shown in Figs. 1 and 2 and in addition is provided with a cross bar 12 which is disposed between the loops 3 and the closed end of the yoke. The cross strip 13 is of greater area than the strip 5 and is disposed between the outer portions of the loops 3. That edge of the cross strip nearest the cross bar 12 is struck outward as at 14 to produce an inclined face with which the roller 6 is adapted to cooperate, and an eye 15 extends upward from the strip 13 and constitutes means to facilitate the attachment of a tab 16 thereto. As shown in Fig.

3 when a buckle of this construction is used the strap 10 extends back of the strip 13 and in front of the roller 6 and then back of the cross bar 12. The adjustment of the parts is effected in the same manner as described in connection with Figs. 1 and 2 and is further facilitated because of the provision of the cross bar 12. By providing this cross bar the strap 10 can be pulled so as to slide there-
 10 around when it is desired to adjust the two suspender straps toward each other.

Another form of wire buckle is shown in Fig. 5. This buckle consists of a yoke 10' having its ends bent backward and turned inward as at 11' to form slots 12'. The cross bar 13' is formed of wire soldered or otherwise secured to opposite portions of the yoke at points between the loops. This cross bar has a flattened face as shown particularly in Fig. 5^a against which the roller 6 is adapted to bind a strap inserted through the buckle.

Instead of forming the buckle of wire as heretofore described the same may be constructed as shown in Figs. 6, 7 and 8 wherein 1' is a yoke having its sides enlarged as at 2' and merging into the ends of a rectangular sleeve 3'. The rear wall 3^a of this sleeve has its inner face beveled as at 4' and formed within the enlarged portions 2' of the yoke are slots 5' which are parallel with the walls of the sleeve, one edge of each slot being preferably disposed in the same plane as the innermost face of the back wall 3^a of sleeve 3'. Rotatably mounted within the slots and extending through them is a roller 6 having heads 7 at the ends thereof. In using this buckle in connection with suspenders, belts or for other forms of garment supports the strap 8' of the support which may be of elastic material is looped through the yoke 1' and secured as shown in Fig. 1 and said strap is then inserted through the sleeve 3' and between the roller 6 and the inclined face 4'. Any upward pull upon the strap 8' will tend to draw the roller upward within the slots 5' and cause it to clamp the strap against the inclined face 4', whereas any pull in the opposite direction will cause the strap to move freely within the buckle. Should it be desired to pull the strap upward within the buckle the heads 7 of the roller 6 are pressed so as to move the roller away from the inclined face 4', whereupon the strap can be moved in either direction without causing the roller to clamp it. The buckle for use on suspenders, etc., can also be made as shown in Fig. 9 wherein a tongue 9' is shown extending from the upper open end of the sleeve so as to facilitate the manipulation of the buckle upon the strap.

As shown in Fig. 10 the buckle is also designed for use upon valises, etc. In said figure and in Figs. 11 and 12 has been shown a modified form of buckle consisting of a yoke 15' the sides of which are broadened at in-

intermediate points, as shown at 16' and tapered toward their ends. The sides are connected at one end by a cross strip 17 the inner edge of which is beveled as at 18 and formed within the sides 16' adjacent this beveled portion are slots 19 one edge of each slot being disposed in alinement with the flat inner face of the strip 17. A roller 6 is mounted to slide and rotate within the slots 19 and a cross bar 20 connects the intermediate portions of the sides 16' and is disposed out of alinement with the slots 19. Where a buckle such as described is to be used upon a valise 21 or other device the same is fastened thereto by means of a looped strap 22 which surrounds the yoke 15' and is riveted or otherwise fastened to the valise. A strap 23 is riveted or otherwise fastened to the valise and is inserted into the buckle between the bar 17 and the roller 18 and is extended between yoke 15' and bar 20. By pulling outward on the strap the same is caused to slide under the bar 20 and is pulled longitudinally under the roller 6 and any reverse pull on the strap 23 will cause the roller to move within the slots 19 and bind the straps securely against the beveled face 18.

It will be noted that in all of these constructions the rollers bind the straps against inclined surfaces thereby necessitating a partial wrap of the straps around the rollers when they are drawn against the inclined surfaces. It will be noted that this partial wrap of the strap around the roller occurs at all times even when the roller is near that end of the slot farthest from the inclined face of the cross arm and, as a result of this constant engagement of the strap and roller the binding of the strap is always insured when said strap is pulled in the direction of the inclined surface.

The preferred form of the invention has been set forth in the foregoing description but I do not limit myself thereto as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of the claims.

What is claimed is:

1. A buckle comprising a yoke, a rigid connection between the sides thereof and having two faces at an angle to each other, and a roller, said sides constituting bearings for the roller, said bearings being disposed in the plane of one of the faces of said connection, said connection being disposed to produce a partial wrap of a strap about the roller.

2. A buckle comprising a yoke having slots in the side portions thereof, a cross strip connecting the slotted portions of the yoke and having an inclined bearing surface, and a roller mounted to travel within the slots and movable in a plane extending lon-

gitudinally of the buckle and at an acute angle to the bearing surface to clamp a strap upon said surface and produce a partial wrap of the strap about the roller, said slots extending beyond the edges of the inclined bearing surface and said yoke being disposed to hold a strap at all times in contact with the roller.

10 3. A buckle comprising a yoke having slots in the sides thereof and extending longitudinally of the buckle, a cross strip connecting the slotted portions of the sides and having an inclined bearing face disposed at an acute angle to the slots, one edge of said

face being disposed in the plane of one edge 15 of each of said slots, and a roller movably mounted within the slots and disposed to bind a strap upon the inclined face, said yoke being disposed to hold the strap at all times in contact with the roller irrespective of the 20 position of the buckle.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ALBERT VAN DUZER.

Witnesses:

JOSEPH FREDERICK DOPPLMAIER,
EDNA CARLSON.