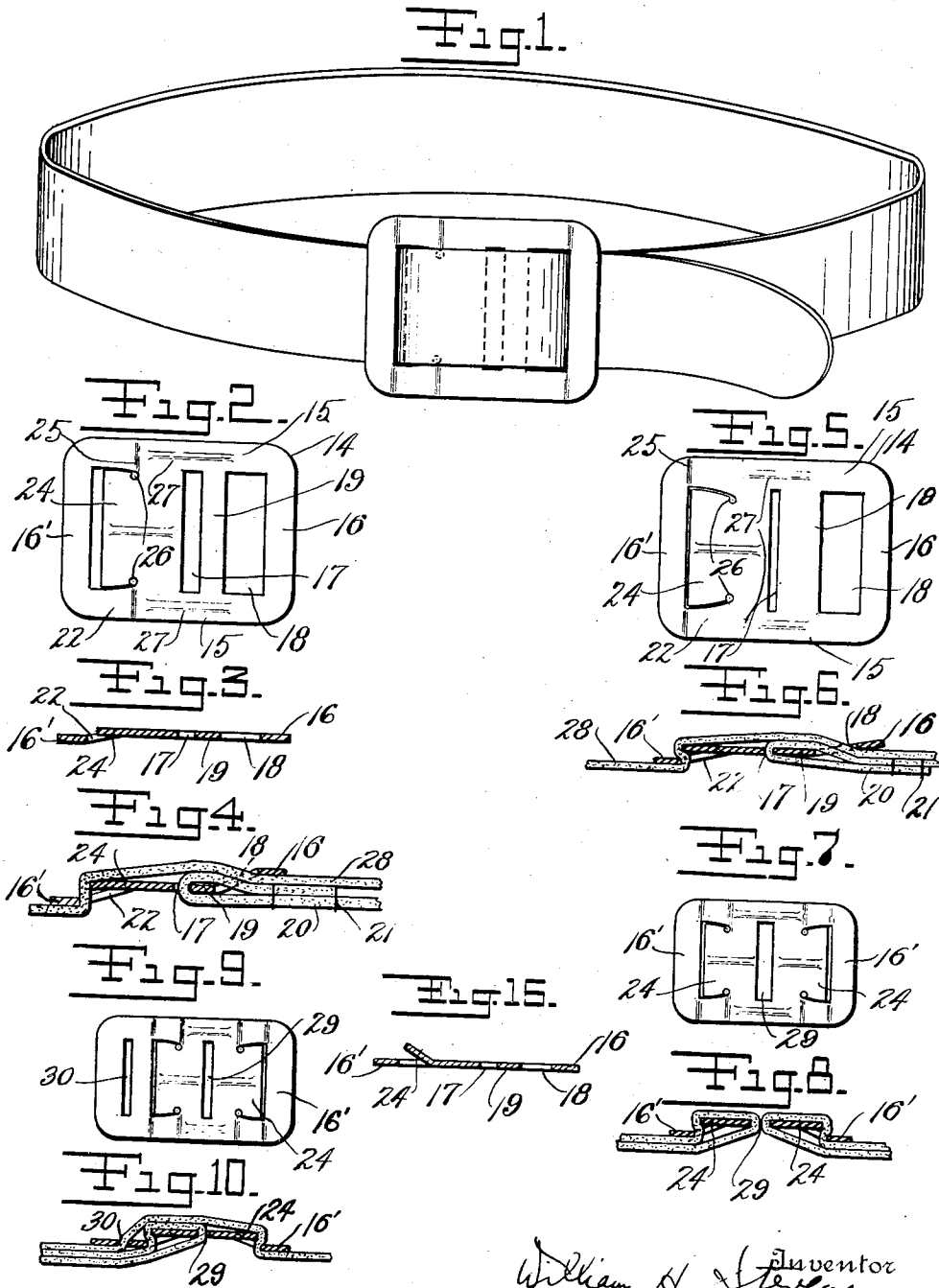


W. H. STEVENS.
FASTENER FOR USE WITH BELTS.
APPLICATION FILED JUNE 15, 1918.

1,361,921.

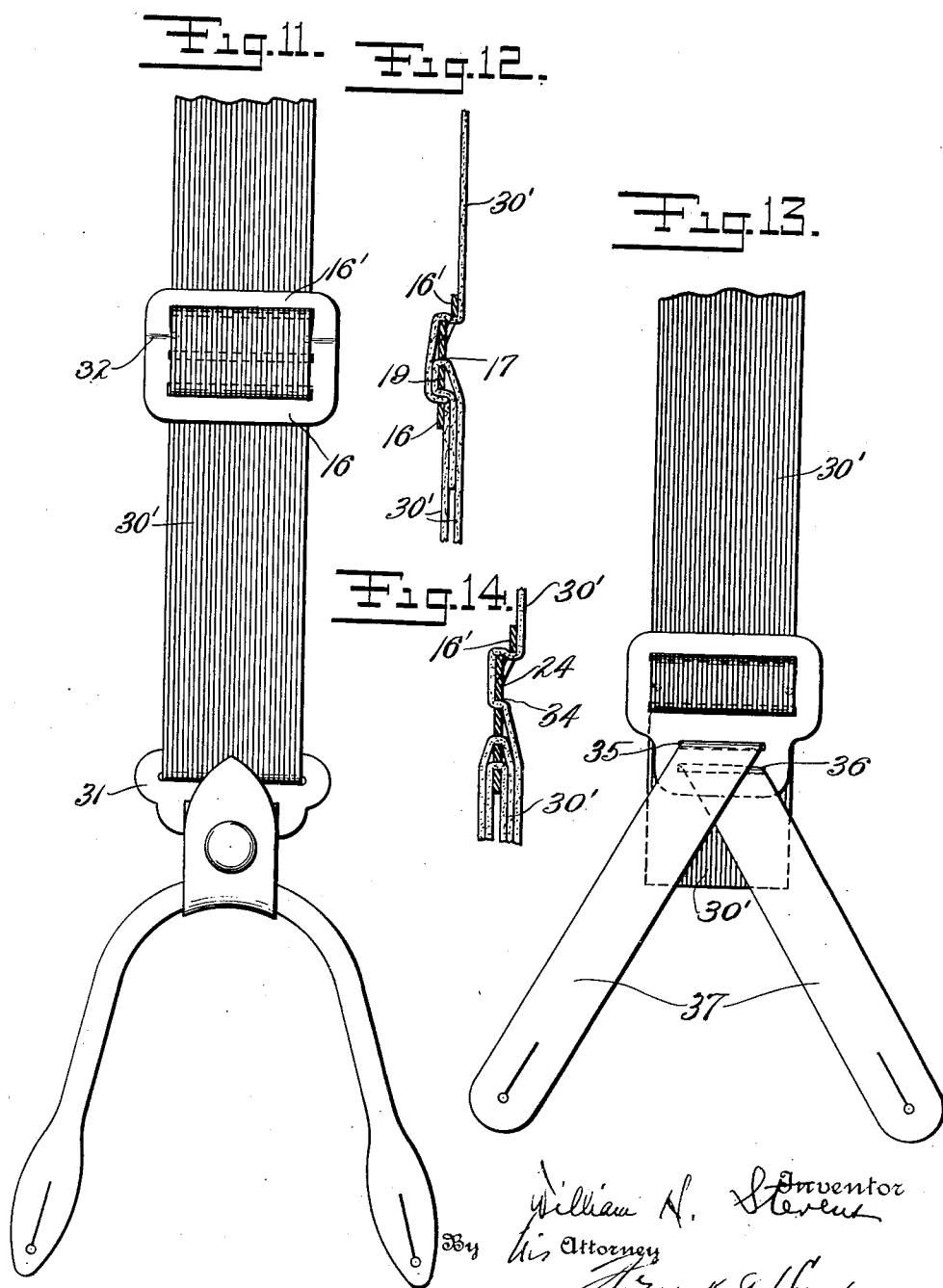
Patented Dec. 14, 1920.
2 SHEETS—SHEET 1.



William H. Stevens, Inventor
By his Attorney
Frank G. Kent

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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

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FASTENER FOR USE WITH BELTS.

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Specification of Letters Patent.

Patented Dec. 14, 1920.

Application filed June 15, 1918. Serial No. 240,158.

To all whom it may concern:

Be it known that I, WILLIAM H. STEVENS, a subject of the King of Great Britain, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fasteners for Use in Connection with Belts, Garters, Suspenders, etc., of which the following is a specification.

This invention relates to tongue-and-buckle fasteners for use in connection with belts, garters, suspenders, and the like, and aims to provide a device of this kind including but a single piece. In a modified form of the invention there is a unitary device including gripping means at each end, so that the necessity for positively attaching the strap or tape to one end of the buckle is avoided.

Other objects and aims of the invention, more or less broad than those stated above, together with the advantages inherent, will be in part obvious and in part specifically referred to in the course of the following description of the elements, combinations, arrangements of parts, and applications of principles constituting the invention; and the scope of protection contemplated will appear from the claims.

In the accompanying drawings, which are to be taken as part of this specification, and in which I have shown merely a preferred form of embodiment of the invention, Figure 1 is a perspective view of a belt as an example of an article in connection with which my invention may be used; Fig. 2 is a plan view of the tongue-and-buckle member; Fig. 3 is an edge view of the same; Fig. 4 is a view similar to Fig. 3, showing how one end of the strap of Fig. 1 is sewed at one end of the buckle frame and showing the free end of the strap engaged by the tongue; Fig. 5 is a plan view of a modified form of the device; Fig. 6 is an edge view of the same with the strap or tape member in position; Figs. 7, 8, 9, 10, are views similar to Figs. 5 and 6 respectively of a further modified form; Fig. 11 is a view illustrating the application of my invention to the adjusting buckle of a suspender; Fig. 12 is an edge view of the same, with parts in section; Figs. 13 and 14 are views similar to Figs. 11 and 12 respectively showing how my invention may be applied

to a suspender end; and Fig. 15 is a view similar to Fig. 3 and illustrating a simple form of the invention.

Referring to the numerals on the drawings, there is indicated at 14 a frame which may be stamped out from flat celluloid or metal or other material having the requisite resiliency together with capacity for receiving a permanent set. This member constitutes a tongue and buckle in itself and comprises side frame portions 15 and end frame portions 16 and 16'. And in the form shown in Figs. 1, 2, 3 and 4 the frame is provided with cut-out portions 17 and 18, separated from each other by a cross-bar 19. The cross-bar in the form shown in these figures takes one end of the strap or tape 20, which is bent around the cross-bar 19 and sewed as indicated at 21, passing under the end frame portion 16. At the other extremity of the frame the end frame portion 16' is located below the general plane of the frame, as is perhaps most clearly apparent from Figs. 3 and 4, this end cross-bar 16' being connected to the frame by means of downwardly bent portions 22 of the side pieces 15. Between these downwardly bent side pieces 22 is a wide flat tongue 24 integral with and projecting from the frame, defined by cuts 25, the inner ends of these cuts being preferably rounded as indicated at 26, to prevent tearing at the root of the tongue. Preferably the tongue and the side frame pieces back of the tongue are made more rigid by the provision of longitudinal corrugations 27, which may be readily formed in the material by stamping. The free end 28 of the strap or belt shown in Figs. 1 and 4 passes under the end bar 16' and between this end bar and the free end of the tongue 24, and thence under the other end cross-bar 16, at the right of the figures. If desired the end cross-bar 16 may be elevated above the general plane of the frame and tongue, as shown in Fig. 4, to allow of the more ready passage between it of the free end of the strap or belt. The edge of the free end of the tongue approaches more or less closely to a vertical plane passing through the inner edge of the end cross-bar 16', according to the thickness of the belt or strap which is to be bent between them, the arrangement shown in Figs. 2, 3 and 4 being

designed for a relatively thick belt, strap or tape, and that shown in Figs. 5, and 6 being designed for a less thickness of belt or tape.

5 The action of the parts when the free end of the belt is in position as in Figs. 4 and 6, and the pull is applied to the belt, is as follows: The body portion of the frame, including the tongue, is relatively rigid, while
10 the downwardly bent side portions 22 and end cross-bar 16' may move with respect to the body of the frame and to the tongue because of the inherent resiliency of the material. The result is that the end cross-bar 16' moves
15 up toward the general plane of the frame and toward the free end of the tongue. The horizontal distances between the inner edge of the cross-bar 16' and the end of the tongue 24, and the normal vertical distance
20 between the end cross-bar 16' and the tongue 24 are predetermined in accordance with the thickness of the strap or tape with which the buckle is to be used, and are calculated so that the strap may be freely introduced between the bar 16' and the tongue 24, and so
25 that when pulling strain is applied to the strap and the end bar 16' moves up toward the tongue, the strap or tape is bent between the inner edge of the cross-bar 16' and the
30 end of the tongue. Obviously the pinching of the strap depends on the fact that the horizontal distance between the end of the tongue and the inner edge of the cross-bar 16' is less than the normal thickness of the
35 strap. It will be apparent that instead of making the body portion of the frame and the tongue relatively rigid and the front cross-bar relatively movable toward the tongue, the conditions might be reversed
40 and the tongue be the movable member.

In Figs. 7 to 10 I have shown a frame with a tongue at each end, the relations between the tongues and the adjacent cross-bars being similar to those already described.
45 In the Fig. 7 construction there is a single transverse opening 28 medially of the frame and between the two tongues, through which the strap ends are passed, as indicated in Fig. 8. In the Fig. 9 construction there
50 are two openings, one opening 29 between the tongues and another opening 30 between one of the tongues and the adjacent end of the frame, the strap ends being passed through these openings for instance as indicated in
55 Fig. 10.

In Figs. 11 and 12 I show how a device of the kind described may be adapted for use in connection with suspenders. In those
60 figures I show an arrangement similar to that of Fig. 2, the fabric 30 being gripped between the tongue 24 and the cross-bar 16', and passing under the other end cross-bar 16, thence downwardly through an end fitment 31, thence upwardly through opening
65 17 of the frame, and over and around the

cross-bar 19. Obviously adjustment may be made whenever the pulling strain is released on the device.

In Figs. 13 and 14 the device combines the functions of the adjusting buckle 32 of
70 Fig. 11 and the end fitment 31 of that figure. The fabric indicated at 30 is held between the tongue 24 and the end cross-bar 16' as sewed and passes through an opening 34 of the frame to the rear. The frame in this in-
75 stance is provided with two more openings 35 and 36, through which the end tapes 37 of the suspender slide.

In Fig. 15 I show a form of one-piece tongue and buckle somewhat similar to that
80 of Fig. 3, but with the tongue 24 bent away from the frame and from the cross-bar 16' toward the outside or front of the buckle frame. In this form of device it is not necessary that there be any relative movability
85 between the tongue 24 and the cross-bar 16'. The device may be absolutely rigid in every part, and the strap will be held because of the sharp bend which it must take in passing from the under side of the frame (referring
90 to Fig. 15) between the cross-bar 16' and the tongue 24 and thence over the edge of the tongue and under cross-bar 16, and assuming of course a pulling strain on the free end of the strap in a direction away from the buckle
95 and at an angle of more than ninety degrees to the plane of the tongue 24.

Obviously the device is useful in other relations than those shown; and obviously
100 also, in the forms shown in Figs. 1 to 10, the cross-bar 16' might be hinged to the frame instead of being resiliently movably connected therewith as described. In such case, however, a stop would be provided to prevent the cross-bar from passing up beyond
105 the plane of the tongue.

Inasmuch as many changes could be made in the above construction, and many apparently widely different embodiments of
110 my invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.
115

It is also to be understood that the language used in the following claims is intended to cover all the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be
120 said to fall therebetween.

I claim:

1. A one piece tongue-and-buckle member comprising a frame and an integral tongue,
125 and a cross-bar resiliently connected to the frame by divergent side portions thereof whereby the cross-bar is relatively movable toward the tongue.

2. A one piece tongue-and-buckle member 130

comprising a frame and an integral tongue, and a cross-bar normally out of and parallel to the general plane of the tongue, said cross-bar being resiliently connected to the frame by divergent side portions thereof whereby the cross-bar is relatively movable toward the tongue.

3. A one piece tongue-and-buckle member comprising a generally flat frame with diverging resilient side portions and an end piece connected thereto, a tongue cut in the frame with its free end extending toward

the end piece, the end piece adjacent the free end of the tongue being positioned away from and parallel to the general plane of the tongue and capable of movement toward the plane of the tongue, the tongue, and the frame except for the resilient side portions and the end piece being provided with longitudinal corrugations substantially for the purpose set forth.

In testimony whereof I affix my signature.

WILLIAM H. STEVENS.