No. 897,255. PATENTED AUG. 25, 1908.

L. D. KOCH.

CROSS LINE BUCKLE.

APPLICATION FILED DEC. 4, 1907.

Fig. 1.

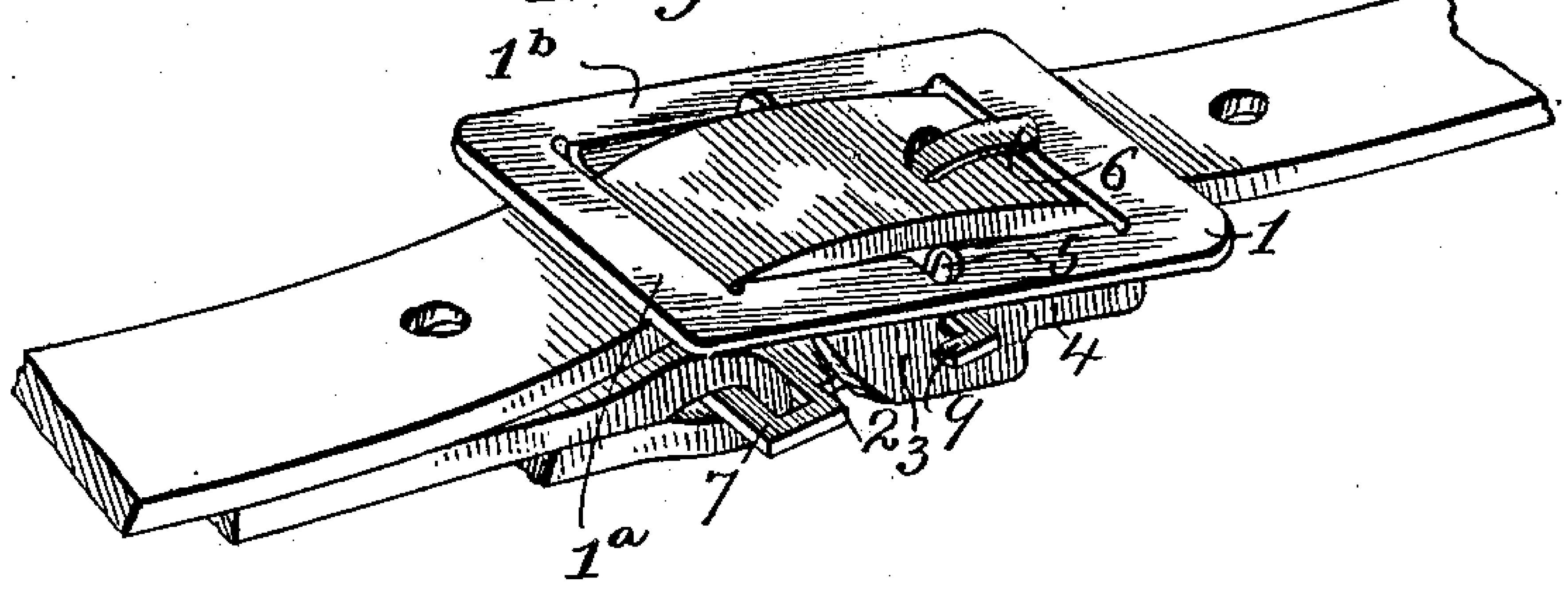


Fig. 5.

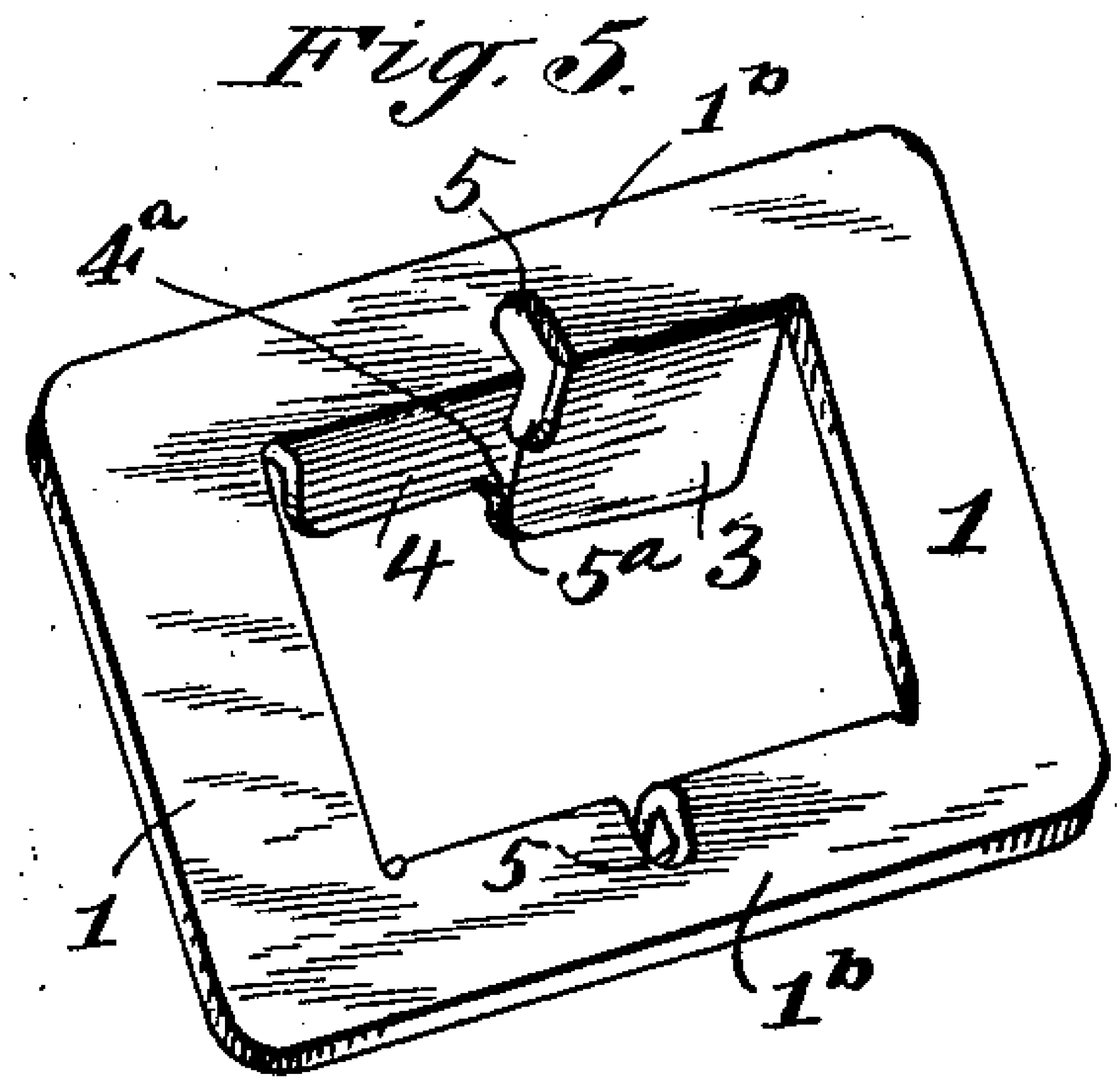


Fig. 4.

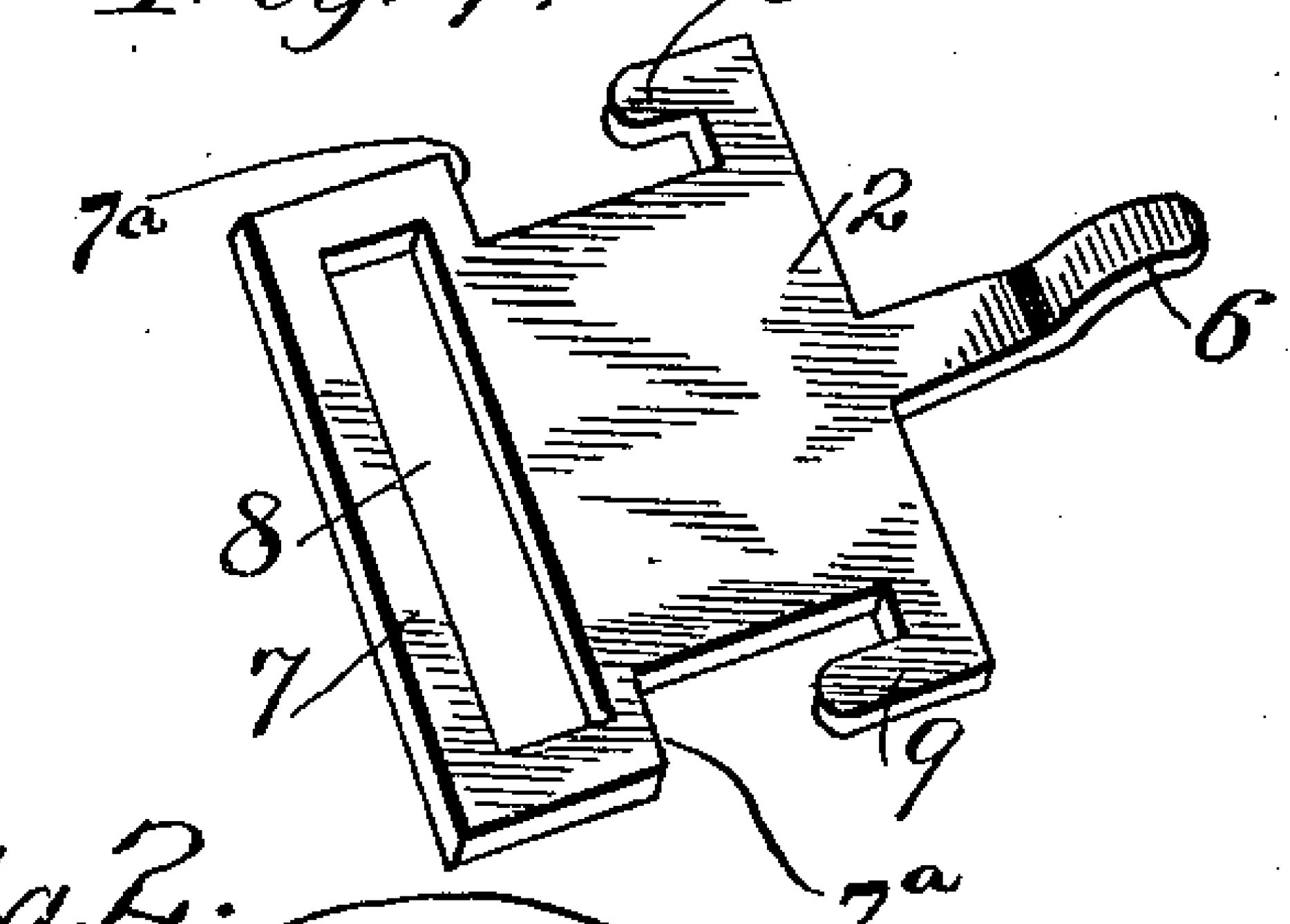


Fig. 2.

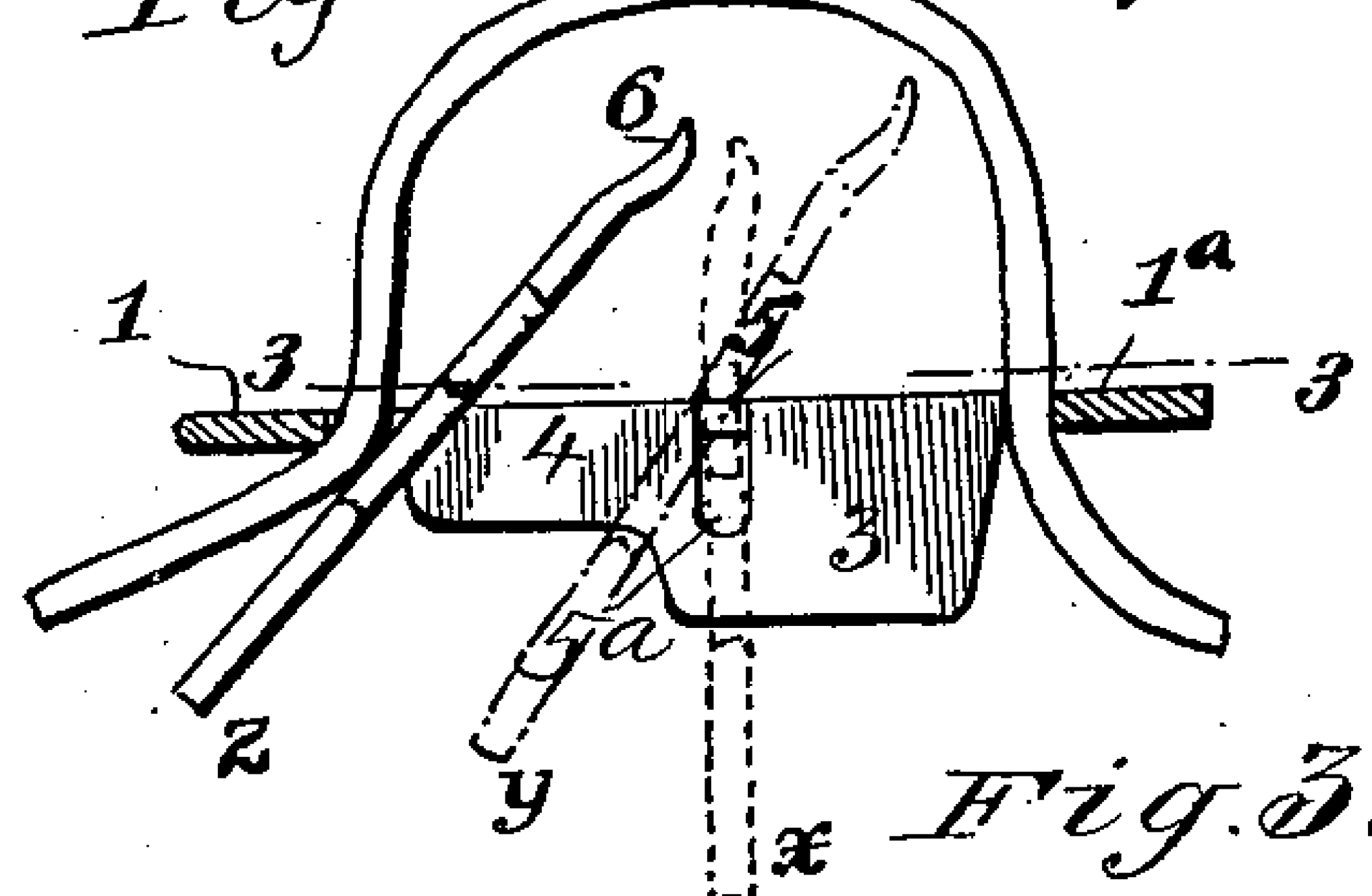


Fig. 6.

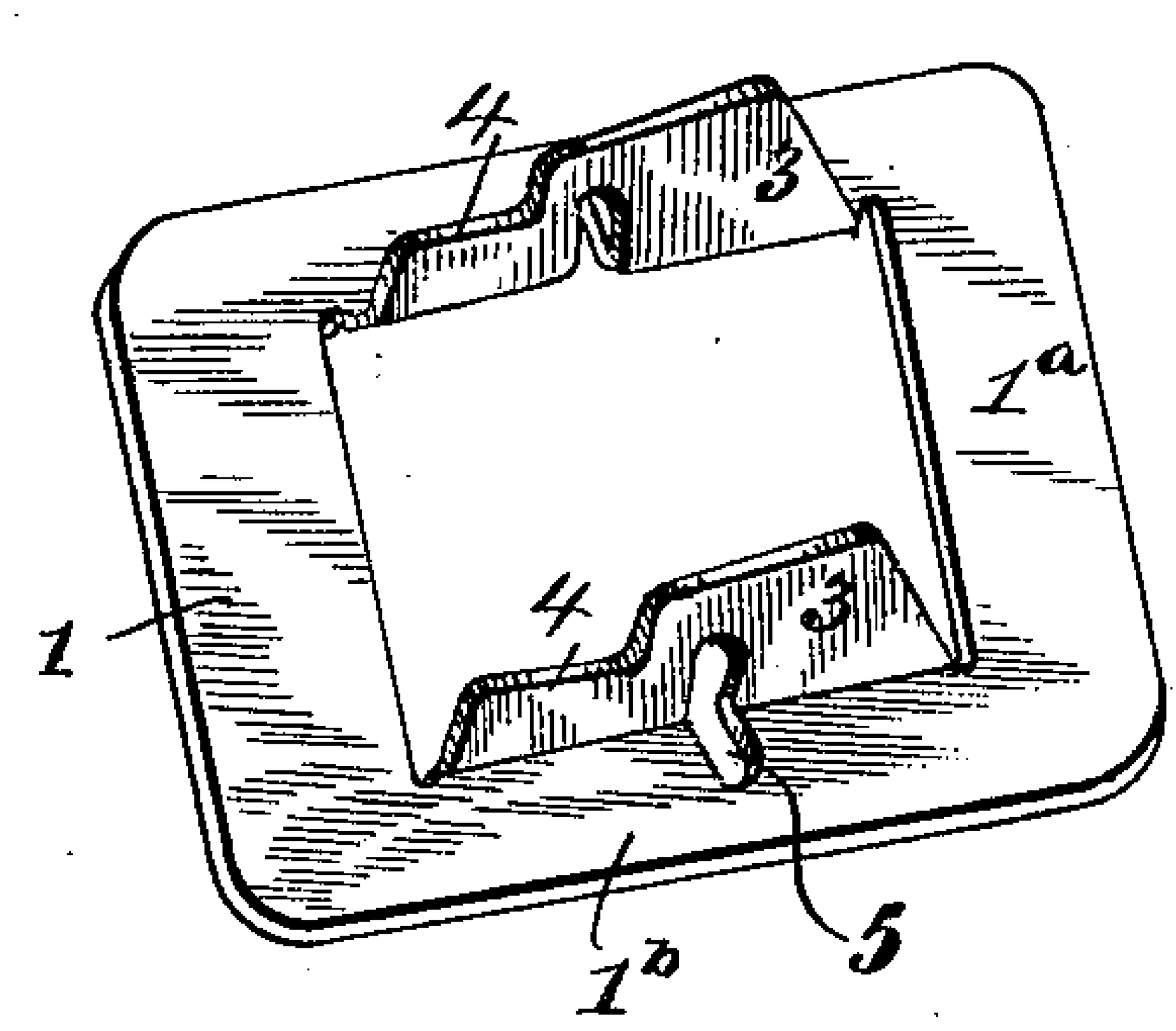
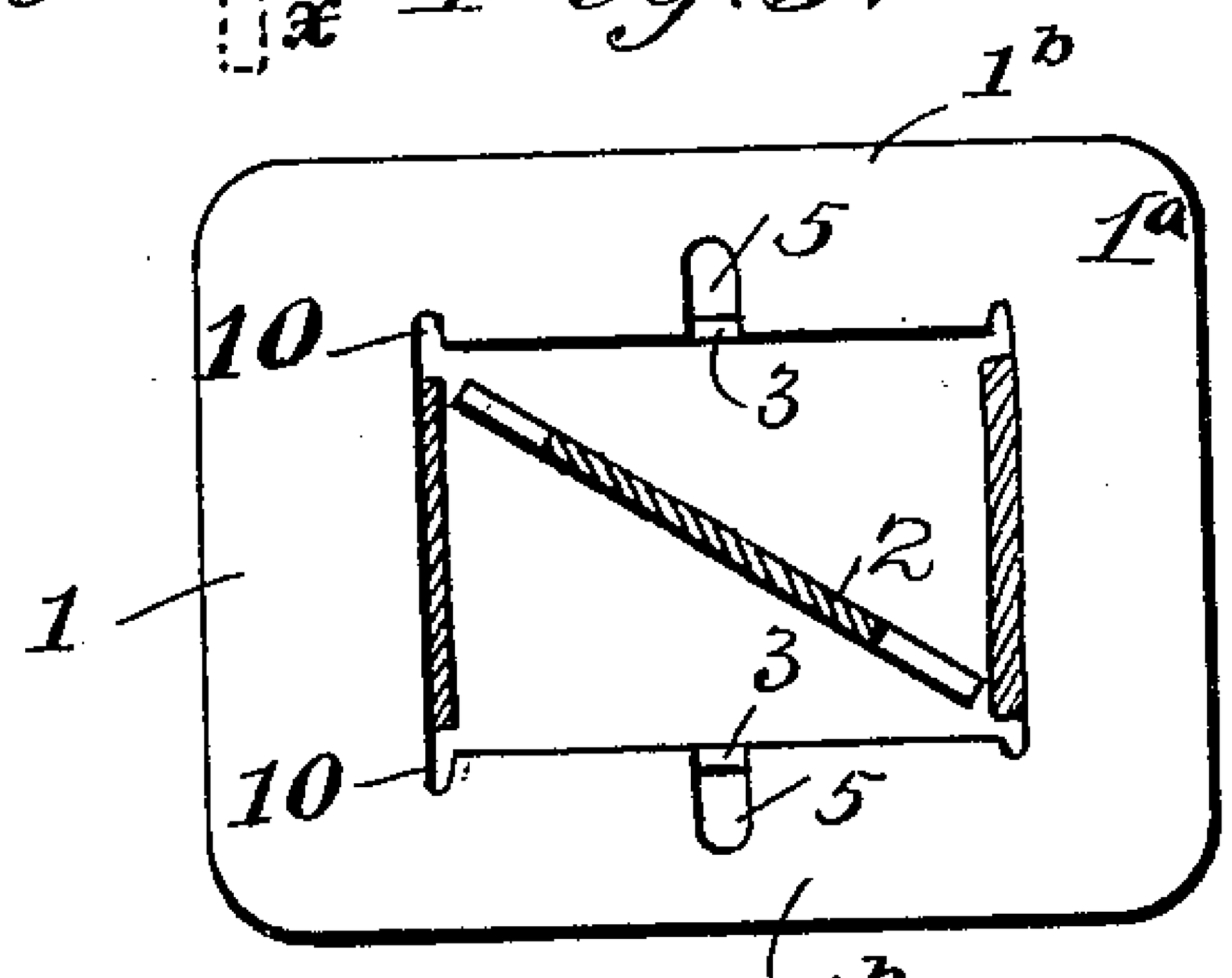


Fig. 3.



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CROSS-LINE BUCKLE.

No. 897,255. Specification of Letters Patent. Patented Aug. 25, 1908.

Application filed December 4, 1907. Serial No. 405,095.

To all whom it may concern:

Be it known that I, LEWIS D. KOCH, a citizen of the United States, residing at Dewey, in the county of Custer and State of South Dakota, have invented certain new and useful Improvements in Cross-Line Buckles, of which the following is a specification.

This invention comprehends certain new and useful improvements in buckles of that type, that are known as cross line buckles although the present construction is also applicable for connecting together other straps generally, and the invention has for its object an improved construction of buckle that embodies a tongue member to which the cross line may be connected and which is adapted to engage the main line passing through the buckle to secure the cross line thereto, the tongue member being removably mounted in the frame so as to permit the cross line to be quickly adjusted upon the main line or detached therefrom, and the parts being so arranged as to securely hold the tongue member in the frame in operative position and only permitting the detachment of the tongue member from the frame by a peculiar manipulation of parts hereinafter specifically described so as to effectually prevent any accidental disconnection.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings in which:

Figure 1 is a perspective view of my improved cross line buckle, in applied position; Fig. 2 is a longitudinal sectional view thereof illustrating the operation of detaching the tongue member from the frame; Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2, showing the tongue member turned diagonally in the frame for removal therefrom. Fig. 4 is a perspective view of the tongue member; Fig. 5 is a similar view of the frame; and, Fig. 6 is an inverted view of the frame.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The frame of my improved buckle is in the present instance rectangular, although not necessarily so, and embodies a front cross-bar 1, and a rear cross-bar 1^a and side bars 1^b, the terms front and rear being herein employed for the purpose of perspicuity, and the front referring to that part against which the tongue bears in the operative position of the parts. The side bars 1^b of the frame are formed with angularly disposed flanges 3 which, in the present instance, extend substantially throughout their length as shown and which are parallel to each other. The flanges 3 are recessed in their edges to produce reduced portions 4, the reduced portions being located next to the front cross-bar 1 and the main or wider portions of the flanges being contiguous to the rear cross-bar 1^a. The flanges 3 are formed in their wider portions with sockets 5^a located substantially in the middle of the frame in transverse alinement with each other and being also located close to but offset from the points 4^a where the narrower or reduced portions of the flanges merge into the wider portions thereof, such points being hereinafter termed fulcrum points for a purpose presently disclosed and being located between the sockets 5^a and the front cross bar 1. The side bars 1^b are formed with openings 5 which are formed on their innermost sides and which communicate with and open into the sockets 5^a as clearly illustrated in the drawings.

2 designates the tongue member of my improved buckle. This member is in the form of a plate and has the tongue proper 6 projecting forwardly from one end thereof, the opposite end of said tongue member being formed with a laterally elongated slot 8 to receive one end of the cross line. Such end of the tongue member, designated 7, is laterally enlarged as shown to produce shoulders 7^a which face and are in alinement with oppositely facing hooks 9 formed on the sides of the tongue member.

It is to be particularly noted that the parts of my improved buckle are so proportioned that the distance between the extremities of the hooks 9 and the shoulders 7^a is less than the distance between the lower edges of the main or wider portions of the flanges 3 and the lower or adjacent faces of the side bars 1^b of the frame, and that the distance between the lower edges of the reduced portions 4 of the flanges, particularly at the rear ends thereof (the points 4^a) and the opposite or upper faces of the side bars 1^b of the frame at the openings 5 thereof, is less than the distance between the extremities of the hooks 9 and the shoulders 7^a. This is to be particularly borne in mind, as it is essential to the

particular manner in which the parts, the tongue member and frame, are engaged one with the other and securely held together, or disconnected one from the other.

In order to detach the tongue from the frame, it being presumed that these two parts are connected and in the relative positions illustrated in Fig. 1, it is first necessary for the operator to swing the tongue member to a perpendicular position relative to the frame. The tongue member is then slid in a direction to move the hooks 9 outwardly from the openings 5 leading from the sockets 5^a, but a complete disconnection of the parts with the tongue member in perpendicular relation to the frame is prevented by the shoulders 7^a abutting against the lower edges or main or wider portions of the flanges 3. In order to complete the operation of detaching the tongue member, it is necessary then to tilt the tongue member from the position illustrated by x in Fig. 2, to the position illustrated by y in such figure, that is, it is necessary to tilt the frame in a direction to cause the shoulders 7^a to silde over the front lower edges of the wider portions of the flanges around to the points 4^a at the rear ends of the narrower portions 4 of the flanges. Whereupon it will be noted the hooks 9 will be entirely disconnected from the sockets 5^a and the openings 5. To complete the operation, it is only necessary to rock the tongue member about the points 4^a and shoulders 7^a to a position where it will again be substantially perpendicular to the frame and then slide the tongue member forwardly towards the crossbar 1 until it reaches recesses 10 that are formed by terminating the front edges of the reduced flanges 4 slightly short of the front cross bar 1, whereupon the tongue member may be turned diagonally to the position illustrated in full lines in Fig. 3 and slipped entirely out of the frame. It is not absolutely necessary to slide the tongue member up into the recesses 10 before turning to the position illustrated in Fig. 3 for the final detaching movement, but it expedites the complete detachment of the tongue as it enables it to effectually clear the wider or main portions of the flanges when it is turned. As the narrower portions of the flanges 3 are next to the front cross bar 1, it is clear that an additional means of security is thereby provided as against accidental displacement or disconnection of the parts, as the strain of the lines or straps with the buckle in applied position is exerted in a direction to hold the tongue 6 against the front cross bar 1 and the construction of the invention makes it necessary to first swing the tongue 6 to and past a perpendicular relation with the frame before the tongue member can be detached.

Having thus described the invention, what I claim is:

1. A buckle comprising a frame embodying side bars formed with depending flanges that are reduced at corresponding ends and formed in their wider portions with sockets, the side bars being formed with openings communicating with said sockets, a tongue member adapted to span the frame and provided with means for engaging a strap and formed with shoulders and hooks spaced from and facing said shoulders, the hooks being arranged to be journaled in said sockets, and the distance between the extremities of the hooks and the shoulders being greater than the distance between the side bars and the lower ends of the flanges at the wider portions thereof, and less than the distance between the reduced portions of the flanges and the side bars at the openings therein.

2. A buckle comprising a frame embodying front and rear cross bars and side bars, said side bars being formed with depending flanges that are reduced at their forward ends and formed in their wider portions with sockets, the side bars being formed with openings communicating with said sockets, a tongue member adapted to span the frame and provided at its forward end with means for engaging a strap and formed with shoulders and hooks spaced from and facing said shoulders, the hooks being arranged to be journaled in said sockets the shoulders being normally positioned at the rear ends of the flanges and the distance between the extremities of the hooks and the shoulders being greater than the distance between the side bars and the lower ends of the flanges at the wider portions thereof, and less than the distance between the reduced portions of the flanges and the side bars at the openings therein.

In testimony whereof I affix my signature in presence of two witnesses.

LEWIS D. KOCH. [L. S.]

Witnesses:
LAVERE E. CARR,
FRANK R. SMITH.