(No Model.)

E. LATHAM.

METALLIC STRAP FASTENER.

No. 389,518. Patented Sept. 11, 1888.

Fig V.

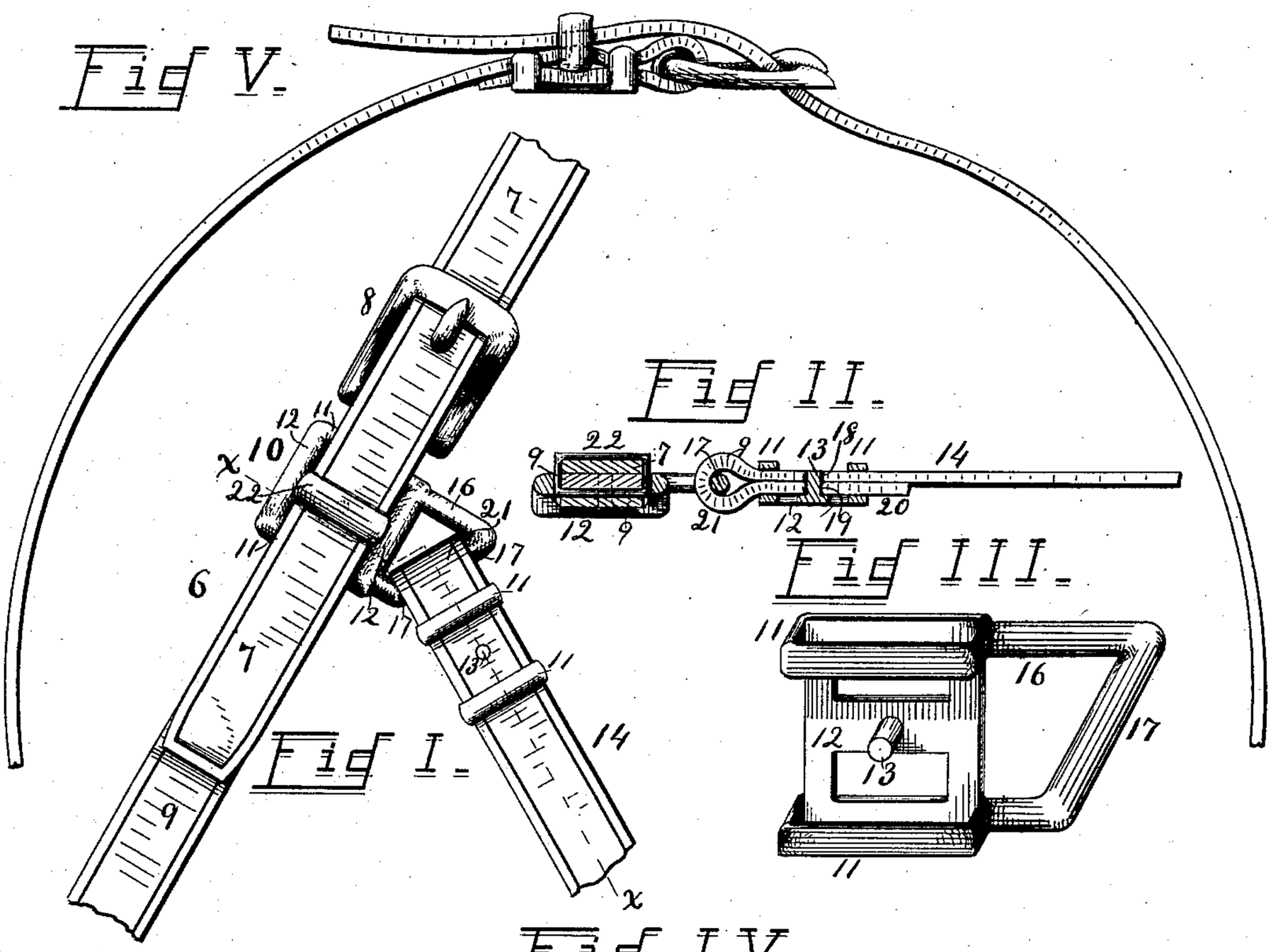
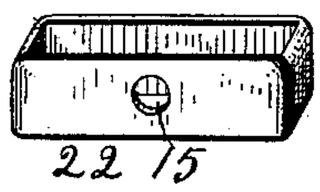


Fig I.

Fig II.

Fig III.

Fig IV.



Witnesses
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UNITED STATES PATENT OFFICE.

EPHRAIM LATHAM, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF ONE-HALF TO ETHAN A. SAWYERS, OF BROWNSVILLE, OREGON.

METALLIC STRAP-FASTENER.

SPECIFICATION forming part of Letters Patent No. 389,518, dated September 11, 1888.

Application filed November 5, 1887. Serial No. 254,438. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM LATHAM, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Unions for Straps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to means for attaching portions of harness together, and its object is to provide a simple device called a "union" for straps, which may be applied by any person to two ends of a strap or straps to permanently secure them together, the said union serving as a substitute for sewing.

It also consists in means for temporarily retaining the free end of a buckle-strap.

To this end my invention consists in the union for straps hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a portion of a halter, showing my invention in service. Fig. 2 is a horizontal section of the same at the line *x*, Fig. 1. Fig. 3 is a perspective view of the union proper. Fig. 4 is a perspective view of the union-loop inverted. Fig. 5 is a side elevation of a strap and buckle joined by my union.

6 represents the headstall of a halter, of which headstall 7 is the removable end, now shown secured by a common buckle, 8. The end 9 of the headstall 6, being passed through the buckle, is secured back upon the body of the headstall by one of my unions, 10. This union comprises two staple-shaped end loops, 11, having opening enough to receive into each one or two thicknesses of the strap, as may be required, joined by a light frame, 12, having a stud, 13, projecting from its middle across the plane of the two loops 11.

The union-loop 22 (shown at Fig. 4) is a simple elongated metallic band having a hole, 15, in its under cross-piece to receive the stud 13.

16 is a side loop, whereby my union may connect a branch strap, such as the throat-latch 14, with a straight line-strap, such as the headstall 6. The main bar 17 of this loop I prefer to make straight, in order that a strap may bend naturally around it, and I place it at any required angle with the side of the main portion of the union to give the desired direction to the branch strap, as shown in Fig. 1. If the branch strap stands at right angles to the line-strap, the bar 17 will be parallel with the side of the union-body.

To apply this union as a strap-fastener, I will refer to the throat-latch 14 in the following directions: First, form two holes, 18 and 19, in the strap at the required points to leave the desired amount of end 20 projecting beyond the stud 13 and the desired size of loop 21. Now, work the strap through the union, bending it up to pass over the stud until the hole 18 is reached. Then pass the end of the strap through the loop 16, and afterward return it through the union beneath its former portion and over the end of the stud until the hole 19 registers therewith. Then press both portions of the strap down firmly onto the stud, and the fastening is completed.

The loops 11 should each form a band directly around the straps, and each should be open only enough to receive the required thickness of straps closely pressed, and the two loops should be so close together as to require some effort to bend the strap and force it over the stud to its place. Then the fastening will be secure and permanent and can never wear out, as stitches of thread will.

To apply the union-loop 22 it is only necessary to put it in place upon the stud, as shown, and pass the end of the strap through it on the way in and under it on the way back, thus securing the loop upon the stud between the two portions of the strap. Now the loop rises above the outer strap enough to receive and retain the end 9.

Fig. 5 shows the application of my union to a common strap, the numbers of reference corresponding with similar parts in other views. In places where a branch strap is to be attached to the side of a single-line strap the loops 11 will be only open enough to pass the single-line strap through, and the bar 17 will be made at the required angle of inclination to the line-strap.

These unions are thus adapted to secure parts of harness together in all styles of joints, whether the two straps are to overlap each

other or to join end to edge at any required angle. A punch, an awl, or even a small-bladed knife will serve every purpose required of tools in applying my union, and a farmer or lone traveler may quickly repair a break in harness by having with him a few of these unions to suit the different-sized straps of his harness. When made of malleable iron or cast-steel and japanned, the expense is very little, and when cast in brass and highly finished and plated it adds to the beauty of the harness.

In practice I have found it positively necessary that the loop 11 shall pass directly around the strap. That side of the loop forming the end of the frame to which the central stud, 13, is secured has heretofore been located nearer to the stud than the opposite side of the loop is. That I find very objectionable, because it permits the two ends of the strap to be bent back past the said nearer sides, throwing the middle of the strap forward off from the stud. The act of pinching the ends of the strap back together may be done by a horse biting it, and the old style of buckle or union thus be set free. My loops surrounding the strap at right angles thereto are in planes practically parallel and do not admit of the above method of disengagement. If the side to which the stud is attached were extended beyond the other side of the loop along the strap, nothing more would be gained, because when the loop passes directly around the strap, as herein shown, the strap cannot be bent back to spring its middle portion over the stud. It can be removed from the stud only by pushing something like a scratch-awl under the strap beside the stud to wedge and pry it off.

It is impossible by any act of service to part a joint in harness or other straps secured by this union, as the joint is stronger than other portions of the straps joined, and there is no movement to wear the leather inside the union, so that a joint thus made will wear as long as any part of the harness. Harness may be made new with these unions as cheaply as by sewing, and a greatly superior result is produced.

Trunk-straps, shawl-straps, school-book straps, and straps of every kind may be neatly and profitably secured by this union, and any one may procure straps and unions at the stores and construct devices of harness or strap-work to suit himself with little trouble. Thus this union will become an article of manufacture and commerce.

Having thus fully described my invention, what I desire to secure by Letters Patent is the following:

1. The combination, in a metallic strap-fastener, of a union consisting of two end loops joined by two side bars, which are joined midway by a cross-bar passing below the plane of the end loops, the said cross-bar carrying a stud which stands up through the plane of the end loops, and a loop of metal adapted to fit between the said side bars and having a hole in its lower side to receive the said stud, substantially as shown and described.

2. The strap union described, consisting of two loops of metal placed practically parallel with each other at a little distance apart, the openings in the loops being of a size and form to receive one or more straps passed in line through the two loops, the loops being connected by two side bars, and these bars being connected midway by a cross-bar supporting a central stud which rises through the plane of the loops, and a straight bar, 17, joined at its ends to the side of one of the said side bars in a position forming an angle therewith, all the portions named being in one piece, substantially as shown and described.

3. The combination, in a metallic strap-fastener, of a union consisting of two parallel loops joined by a frame-work having a stud rising from the center between the said loops, all in one piece, and a loop of metal adapted to receive two thicknesses of leather and having a hole in one of its sides adapted to fit upon the said stud, substantially as shown and described.

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

EPHRAIM LATHAM.

Witnesses:
E. A. SAWYERS,
W. X. STEVENS.