

(No Model.)

C. P. LIVSEY.  
LUG STRAP FOR LOOMS.

No. 574,204.

Patented Dec. 29, 1896.

FIG-1-

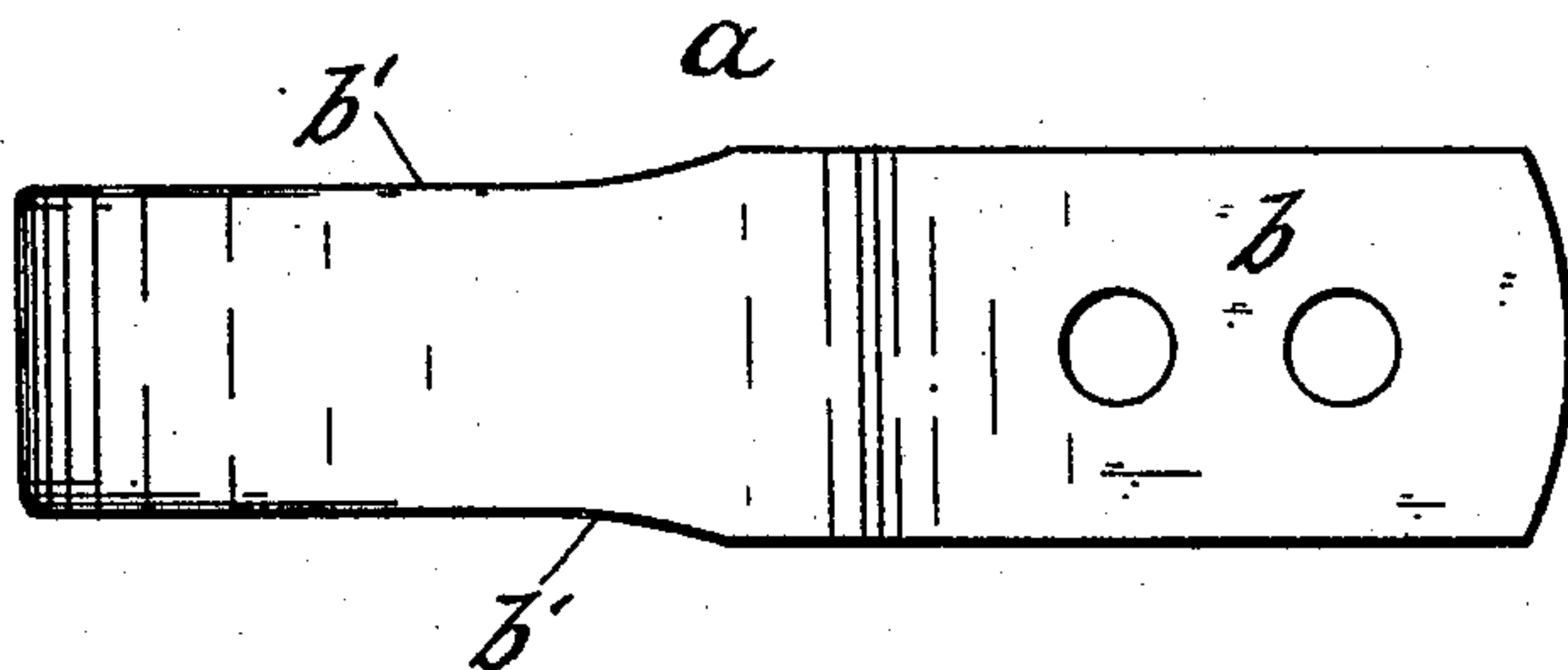


FIG-2-

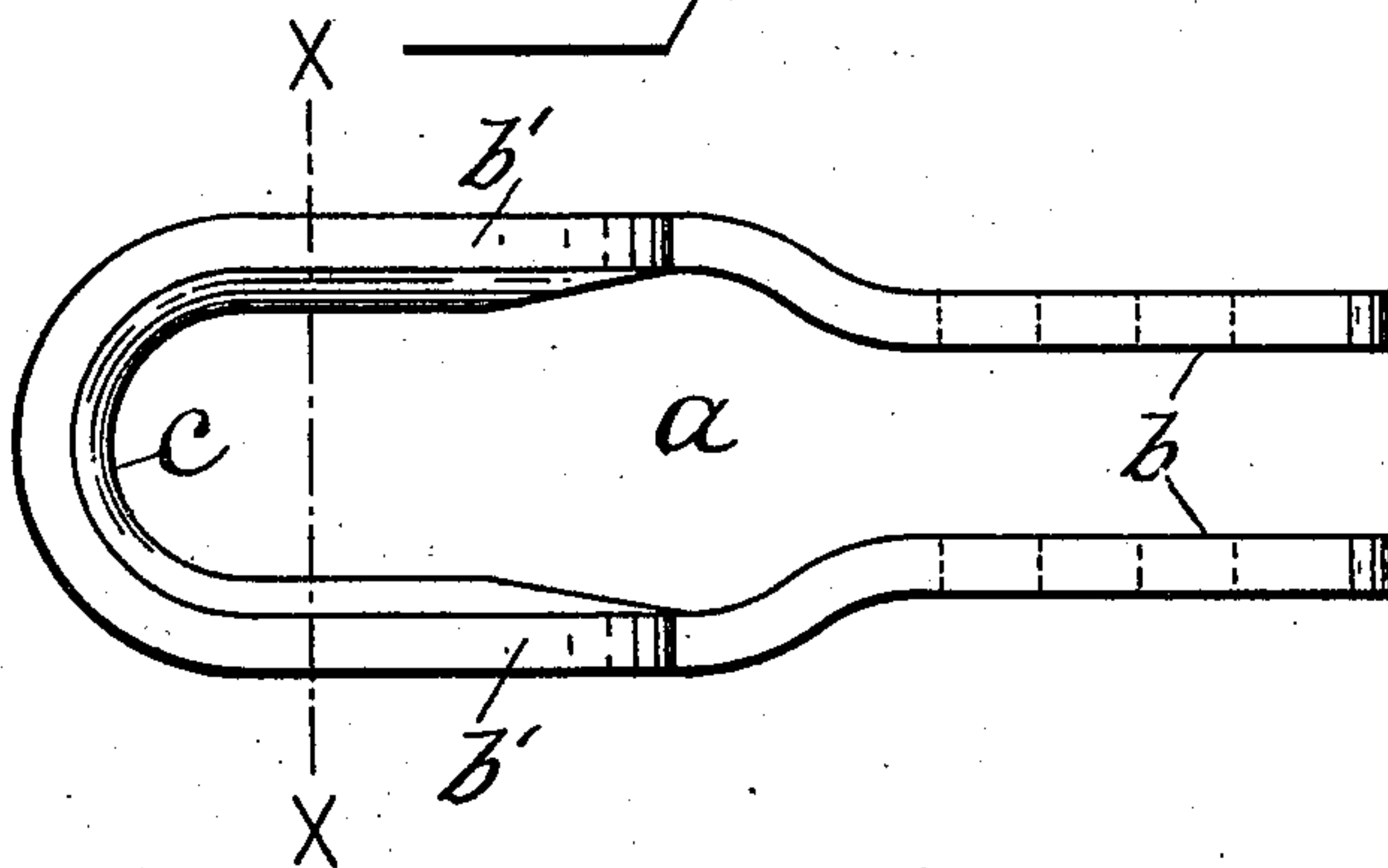
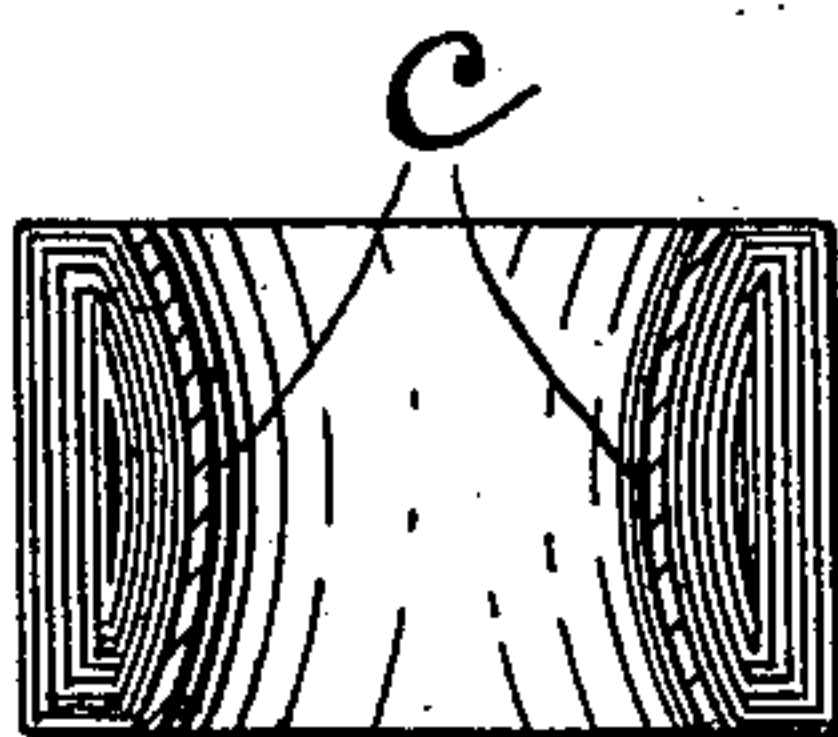


FIG-3-



Witnesses

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# UNITED STATES PATENT OFFICE.

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## LUG-STRAP FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 574,204, dated December 29, 1896.

Application filed May 21, 1894. Serial No. 511,896. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES P. LIVSEY, a citizen of the United States, residing at Norwich, in the county of New London and State of Connecticut, have invented a certain new and useful Improvement in Lug-Straps for Looms, which improvement is fully set forth and described in the following specification, reference being had to the accompanying sheet of drawings.

This invention relates to so-called "lug-straps," used in connection with the picker-sticks of cotton and woolen looms for throwing the shuttle from end to end of the batten; and my immediate object is to provide a serviceable lug-strap that is of peculiar shape at all points of contact with said picker-stick.

Lug-straps of this class are ordinarily constructed of leather or of layers of duck cemented together, and the points of contact with the picker-stick, both in the bow of the strap and at its sides, are usually left flat, so that the rocking movement of the picker-stick serves to pound and mutilate the upper and lower edges of the strap and soon destroys the usefulness of the latter. To avoid this objectionable result, straps of this class have sometimes been made with the bow end curved inward by swaging the material of which the strap is constructed, but in such instances, so far as I am familiar with them, the swaged material has been left of uniform thickness, that is to say, of the same thickness as the other portions of the strap, and, being comparatively thin, the said swaged curved portion is soon pounded back to its original flat shape.

My present invention seeks not only to provide the desirable curved form at the bow end of the strap, but also to reinforce the same in an inexpensive manner without the aid of separate pads or facings of any sort. This I accomplish by molding the strap peculiarly, as I shall explain hereinafter.

To aid in explaining my invention, I have provided the annexed drawings, in which—

Figure 1 is a side view, and Fig. 2 a top or plan view, of a lug-strap of my new form. Fig. 3 is a cross-sectional view of the same on line *xx* of Fig. 2.

In the drawing the letter *a* indicates my strap as a whole, the same being made of duck or similar material, that is saturated with cement and rolled upon itself until the desired thickness is reached. The blank thus provided is then doubled back upon itself in approximately the shape shown in Fig. 2 of the drawings and is then placed in a powerful mold (while yet in a plastic condition) and molded into the form here illustrated, that is to say, the ends are left flat, of uniform thickness, and parallel with each other, as at *b*, so they may be conveniently secured to the flat sides of the sweep-stick, but the body portion of said blank is upset edgewise, as at *b'*, Fig. 1, thus reducing its width and forcing the surplus material into the inner side of said body portion, leaving the inner face of the strap curved, as at *c*, Figs. 2 and 3, and the outer face flat, as in ordinary straps. This construction provides an increased thickness of material opposite the center of the curve *c*, at the point of impact of the picker-stick, thus reinforcing and strengthening that portion of the strap which ordinarily wears out first. When the strap thus molded becomes thoroughly hardened, it is practically as solid and strong as if made of a single piece of rawhide or other tough material, yet it requires no more material in its construction and costs no more to produce than the ordinary cemented-duck lug-strap.

To prevent the picker-stick from striking the ends of the thickened portions, the sides *b'* of the loop or bowed portion of the strap are located farther apart than the ends *b*, which is accomplished by forming a gradual bend or jog between the portions *b* and *b'*, and by gradually compressing the ends of the thickened portions an inclined surface is presented leading from the inner surface of the flat portions of the sides to the inner surface of the concaved portions, which will avoid any abrupt shoulders against which the picker-stick might engage as it entered the loop.

I prefer to provide the curved and thickened portion *c* not only at the bow end of the strap, as already described, but also along the sides of said strap, as seen in Fig. 2. By thus shaping the sides only the projecting central



portion of the strap is in contact with the picker-stick and friction of the parts is thus reduced to a minimum as the stick swings back and forth, and the curved and thick-  
5 ened sides are also made stronger and less liable to yield and weaken under the constant pounding of the bow end by the picker-stick.

I find in practice that my improved strap gives better results and lasts longer than  
10 straps of uniform thickness as now commonly constructed.

Having described my invention, I claim--  
A lug-strap of fibrous material compressed and bent to present a bow end reduced in width and increased in thickness, and plano- 15 convex in cross-section, to thereby form an integral, interiorly-convexed impact-surface, substantially as described.

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Witnesses:

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