No. 608,315. Patented Aug. 2, 1898.

C. G. BECKER & M. OSBORN.

PROCESS OF TREATING RAWHIDE FOR USE IN MANUFACTURING WHIPS.

(Application filed Dec. 31, 1895.)

(No Model.)

Fig. 1.

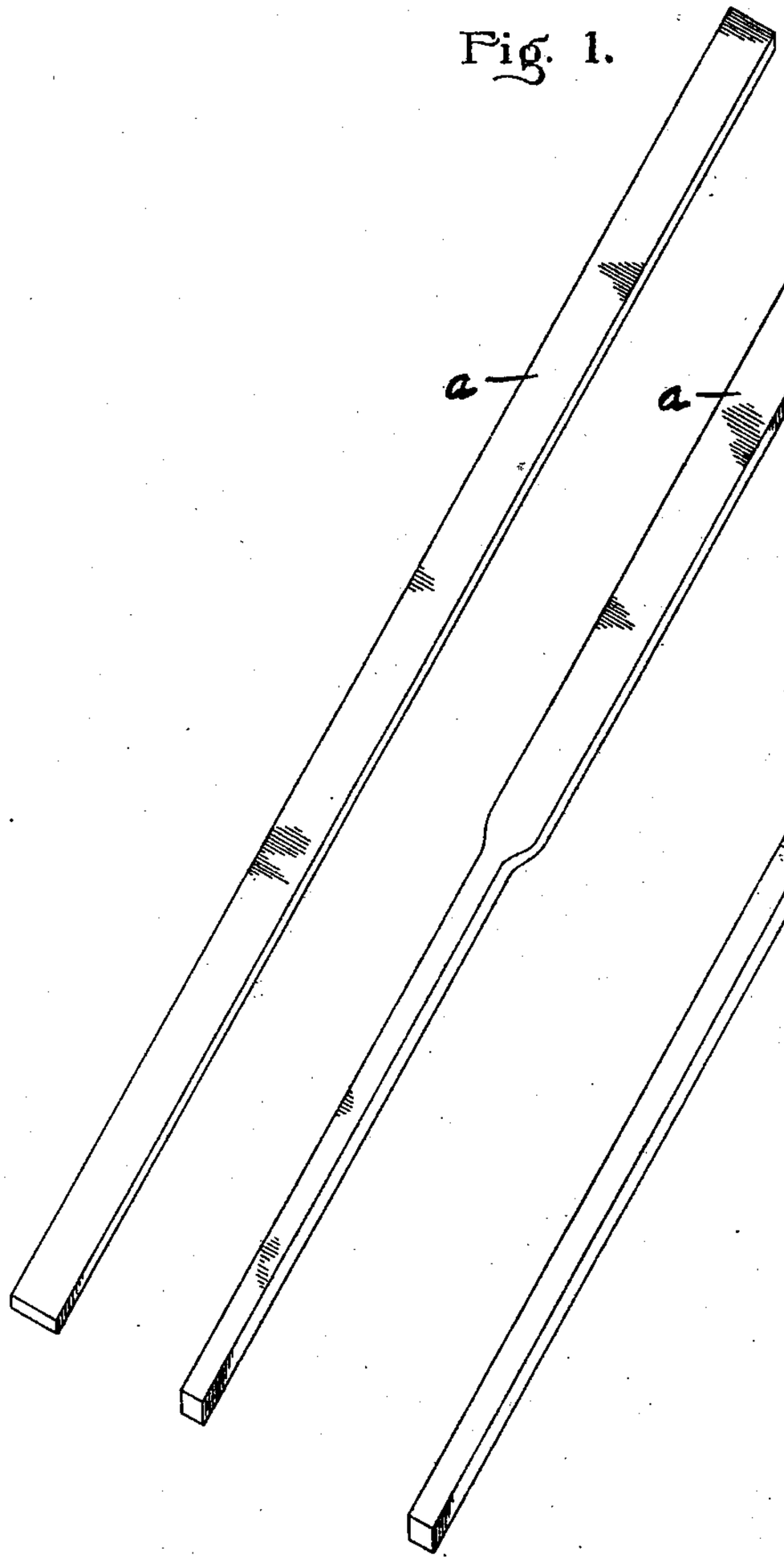
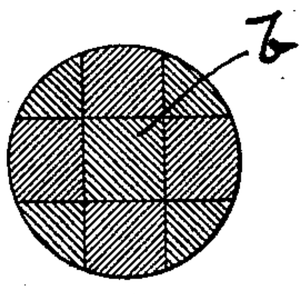


Fig. 2.

Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES G. BECKER AND MARTIN OSBORN, OF WESTFIELD, MASSACHUSETTS.

PROCESS OF TREATING RAWHIDE FOR USE IN MANUFACTURING WHIPS.

SPECIFICATION forming part of Letters Patent No. 608,315, dated August 2, 1898.

Application filed December 31, 1895. Serial No. 573,899. (No specimens.)

To all whom it may concern:

Be it known that we, CHARLES G. BECKER and MARTIN OSBORN, citizens of the United States, residing at Westfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Method of Making Whip-Centers from Rawhide, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

Our invention relates to the manufacture of whip-centers from rawhide, and has for its object to provide a whip-center which will be practically impervious to moisture and which will possess the desired stiffness and elasticity and retain those properties throughout the entire life of the whip.

The ordinary rawhide of commerce is rarely of sufficient thickness to meet the required dimensions of a whip-center, and to secure a center of the desired size it has been customary heretofore to twist a strip of the material into spiral form while in a moist condition, the strip retaining its twisted shape when dried; but, whether twisted or not, all such centers made from the rawhide in its natural state are open to the very serious objection that, the material being of a very porous nature, they readily absorb moisture, so that in a short time they begin to swell and the whip loses its elasticity and is rendered practically useless. We have discovered that by subjecting a strip of rawhide of the ordinary thickness to great pressure laterally or in a plane parallel with the grain of the hide we can not only produce a whip-center of the required dimensions in cross-section without twisting, but that we also so change the character or properties of the material that it becomes practically impervious to moisture and retains the desired stiffness and elasticity throughout the entire life of the whip.

Our invention therefore consists in such method of making whip-centers from rawhide, as hereinafter fully described, and particularly pointed out in the claim.

Referring to the drawings, in which like letters designate like parts in the several views, Figure 1 is a view in perspective of a strip of rawhide before being treated by our method. Fig. 2 is a similar view of said strip after being treated for a portion of its length. Fig. 3 is a similar view of the whip-center produced from said strip. Fig. 4 is a cross-section of a whip provided with one of our rawhide centers.

The letter *a* designates a strip of rawhide of the usual thickness and of a width substantially twice that of the center to be made therefrom. In the practice of our method we subject said strip while in a moist state to heavy pressure exerted in a direction parallel to the grain thereof, or, in other words, in a direction at a right angle to its thickness. Such pressure can be secured by passing the strip between weighted rolls or otherwise, and its effect upon the strip is to decrease its width and increase its thickness in about the same proportions, so that it becomes substantially square in cross-section, as shown at the lower end of Fig. 2 and in Fig. 3, thus giving it the desired dimensions of a whip-center, as shown at *b* in Figs. 3 and 4. Furthermore, we have found that the rawhide when subjected to such treatment changes its properties in that it becomes practically impervious to moisture and is rendered much stiffer and more elastic, whereby it is adapted for use in making not only whip-centers, but various other articles for which rawhide not so treated is wholly unfitted.

A whip provided with a rawhide center formed by our novel method is not affected by dampness and retains its original stiffness and elasticity until the whip is worn out.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

The method of treating rawhide for forming whip-centers, &c., herein described, the same consisting in first moistening a strip of rawhide, and then subjecting the same, while in a moist condition, to heavy pressure parallel to its grain or at a right angle to the thickness of the rawhide, and thereby decreasing its width and increasing its thickness in about equal proportions, substantially as set forth.

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