

(No Model.)

H. S. CUSHMAN.  
WHIP.

No. 472,919.

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Fig. 1.

Fig. 2.

Fig. 4.

Fig. 3.

Witnesses.

Fred. S. Greenleaf.

Edward F. Allen.

Inventor:

Henry S. Cushman.

by Crosby & Gregory  
attys.

# UNITED STATES PATENT OFFICE.

HENRY S. CUSHMAN, OF MILFORD, MASSACHUSETTS.

## WHIP.

SPECIFICATION forming part of Letters Patent No. 472,919, dated April 12, 1892.

Application filed December 12, 1891. Serial No. 414,843. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY S. CUSHMAN, of Milford, county of Worcester, State of Massachusetts, have invented an Improvement in Whips, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to whips, and has for its object to improve the construction of the core, whereby more elasticity is obtained without danger of breakage.

In accordance with this invention the whip has a core comprising several strips of rattan, each having applied thereto at its upper surface a strip of tough material, as rawhide, one edge of each of said strips of rattan and rawhide being butted against the inner surface of the adjacent strip to form a hollow core, sidings arranged on the outside of said core, and a covering, substantially as will be described.

Figure 1 shows a portion of the whip, a portion of the braided covering being removed to show the core and sidings thereon. Fig. 2 is an enlarged view of a section of the whip, more clearly showing the parts. Fig. 3 is an enlarged cross-sectional view of Fig. 2, taken on the dotted line  $x x$ ; and Fig. 4 is an enlarged cross-sectional view of the whip shown in Fig. 1, taken on the dotted line  $y y$ .

The core is composed of several strips of rattan or like material, made tapering from end to end, there being four strips herein shown, as  $a b c d$ . These four strips are designed to be secured together to form a core quadrangular in cross-section.

Strips of rawhide, leather, or other suitable material, as  $a' b' c' d'$ , are interposed between the rattan strips  $a b c d$  to prevent breakage, such material having well-known qualities of toughness. As a preferred way of interposing these strips of tough material one of the strips is secured by cement or otherwise to one side—as, for instance, the inner side—of each rattan strip, and then the four rattan strips, with the tough reinforcing-strips thereon, which strips it will be understood are of substantially the same width as the width of

the rattan strips, are arranged together and secured in any suitable way, as by glue or cement, to form a core quadrangular in cross-section. The strips being tapering from end to end, it will be understood that when bundled together a core is produced which is tapering from end to end. I prefer that the tough reinforcing-strips shall extend to the tip of the core; yet they may not extend to the butt of the core, as that is unnecessary. The core composed of these rattan strips, reinforced as described, is inclosed in sidings  $e f g h$  in any usual way, said sidings terminating, as usual, before reaching the tip of the core, but extending completely to the butt of the core. As herein shown, a braided covering is then applied; yet I desire it to be understood that the core when provided with the usual sidings may be finished in any usual manner to complete the whip, my invention residing particularly in the construction of the core. By referring particularly to Fig. 4 it will be seen that as the reinforcing-strips are of the same width as the rattan strips, or substantially so, they are interposed between the under side of each rattan strip and the edge of the rattan strip which abuts against it. The strips of tough material which reinforce the rattan strips give additional toughness, and hence increase the durability of the whip without diminishing its elasticity.

I claim—

A whip having a core comprising several strips of rattan, each having applied thereto at its inner surface a strip of tough material, as rawhide, one edge of each of said strips of rattan and rawhide being butted against the inner surface of the adjacent strip to form a hollow core, sidings arranged on the outside of said core, and a covering, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY S. CUSHMAN.

Witnesses:

HORACE A. BROWN,  
N. B. JOHNSON.