

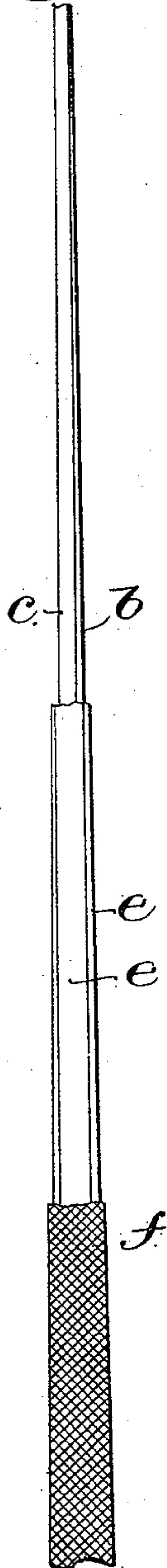
(No Model.)

H. S. CUSHMAN.  
WHIP.

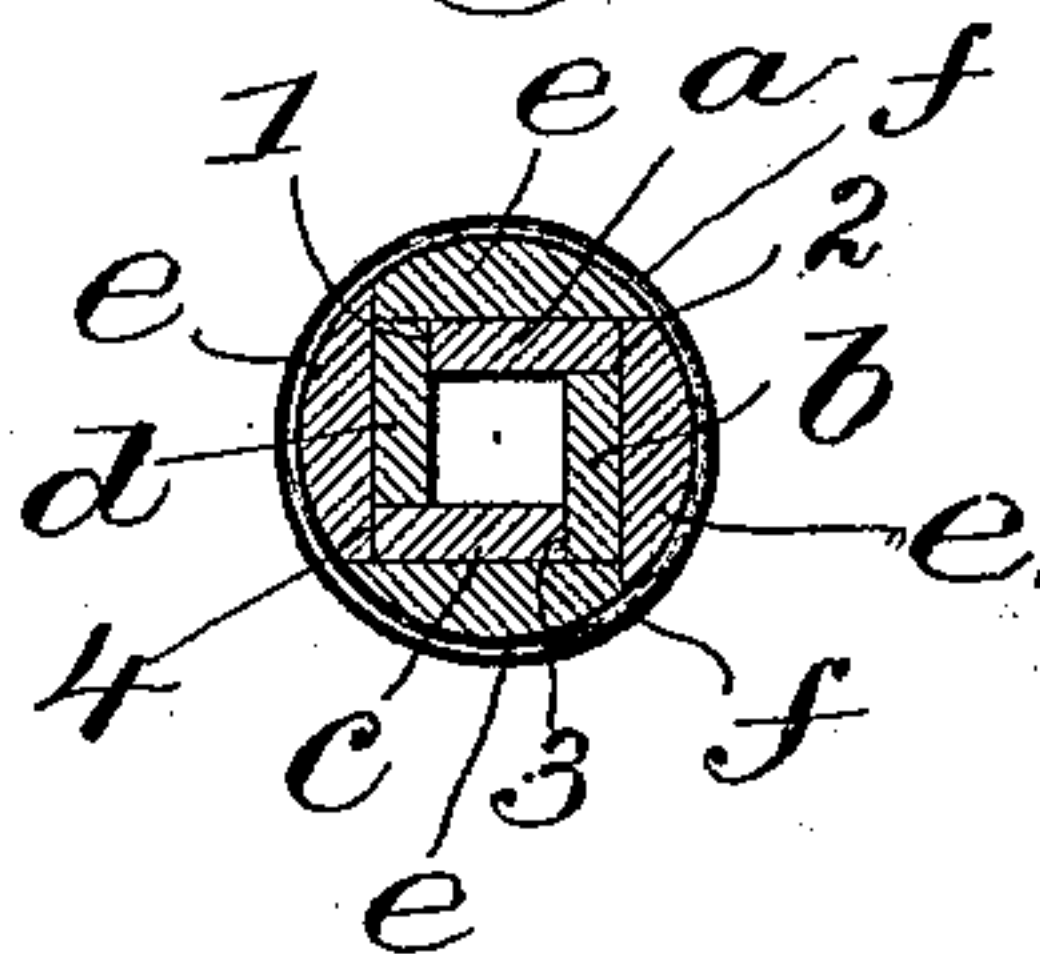
No. 472,918.

Patented Apr. 12, 1892.

*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses*  
*Fred W. Ashworth*  
*Edward F. Allen*

*Inventor*  
*Henry S. Cushman*  
*by Crosby & Morgan*  
*Attys*

# UNITED STATES PATENT OFFICE.

HENRY S. CUSHMAN, OF MILFORD, MASSACHUSETTS.

## WHIP.

SPECIFICATION forming part of Letters Patent No. 472,918, dated April 12, 1892.

Application filed August 22, 1891. Serial No. 403,391. (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 and figures on the drawings representing like parts.

This invention has for its object the production of a cheap, durable, and resilient whip; and it consists in a whip-core composed of three or more flat strips of material—such as rattan, whalebone, or equivalent material—tapered longitudinally and arranged and connected to each other so as to form a tapering hollow core angular in cross-section, combined with sidings placed on said core, which, when properly turned and trued, present a round tapering body, and a covering of suitable material braided on said body.

Figure 1 shows in side elevation and partial section a portion of a whip embodying this invention; Fig. 2, a transverse section of the whip shown in Fig. 1 on an enlarged scale; Fig. 3, a modification to be referred to.

In carrying out my improvement I construct the core of the whip of a series of similar flat pieces or strips of rattan, whalebone, or other suitable material, said strips being tapered longitudinally, and when three strips are used to form the core, as shown in Fig. 3, said strips are trapezoidal in transverse section, and when said core is composed of four strips, as shown in Fig. 2, are rectangular in cross-sections. In arranging the said flat pieces to form a hollow core cement or equivalent material is first applied to one side and to one edge of each strip, and they are then placed together, the cemented face of said strips being inward and the cemented edge of each strip abutting against the cemented face of the next adjacent strip.

Referring to Fig. 2, the cemented edge 1 of the strip *a* is placed against the cemented

face of the strip *d* and the cemented edge 2 of the strip *b* against the cemented face of the strip *a*, the cemented edge 3 of the strip *c* against the cemented face of the strip *b*, and the cemented edge 4 of the strip *d* against the cemented face of the strip *c*. The flat and tapered strips *a b c d* having been arranged, as represented in Fig. 2, and cemented together, they are next wound on their exterior with thread or cord to keep them in position while the cement is drying, to thereby cause them to firmly adhere to each other. The hollow core thus made is found to be superior in strength and resiliency to a solid core. The sidings *e* are applied to this hollow core in any usual or suitable way in the same manner as if it were a solid core, as best shown in Fig. 2, and a suitable braided covering *f* is arranged on the sidings, which are turned and trued to present a round tapering core.

A whip made with a core composed of several flat pieces connected together angularly, as represented, will retain its shape much better than one provided with a solid core.

I claim—

In a whip, a core composed of three or more flat and similar strips of material tapered longitudinally and arranged and connected to each other, the edge of one strip abutting against the inner face of the adjacent strip, so as to form a tapering hollow core angular in cross-section, combined with sidings *e*, placed on said core, turned and trued to present a round tapering body, and a braided covering, substantially as and for the purposes set forth.

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

HENRY S. CUSHMAN.

Witnesses:

G. W. GREGORY,  
EDWARD F. ALLEN.