(No Model.)

H. J. BUSH.

WHIP.

No. 492,606. Patented Feb. 28, 1893.

Fig. 1.

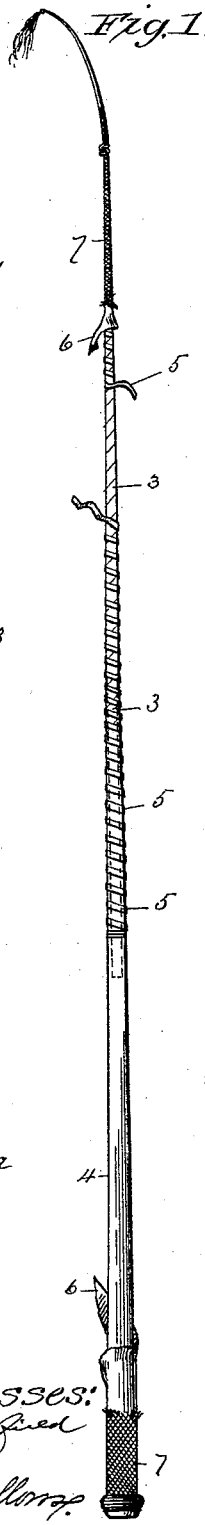


Fig. 2.

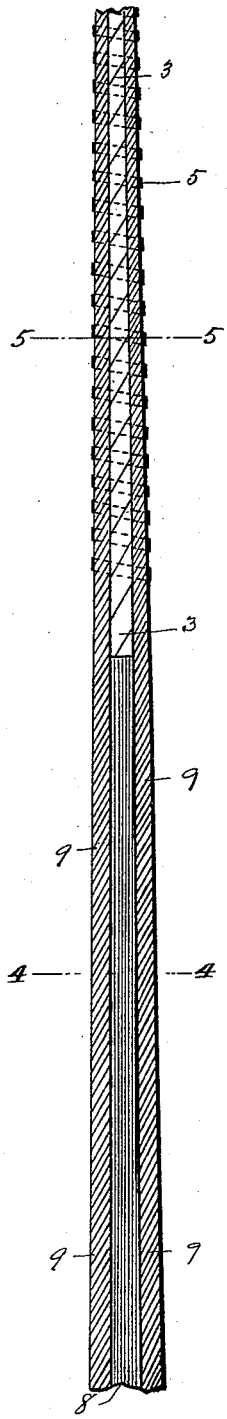


Fig. 3.

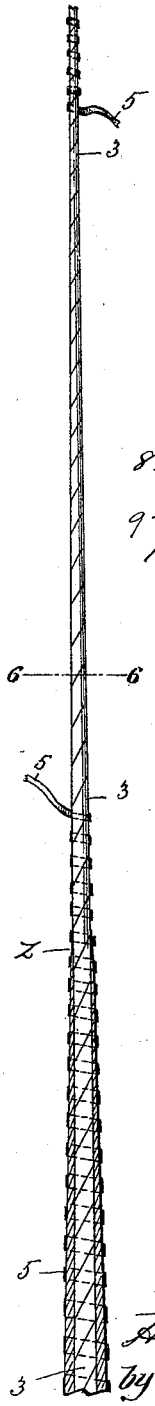


Fig. 7.

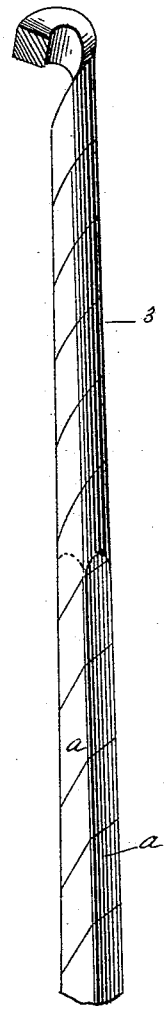


Fig. 4.

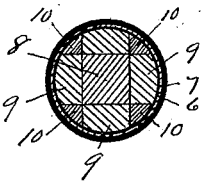


Fig. 5

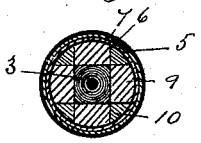
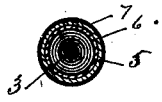


Fig. 6.



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WHIP.

SPECIFICATION forming part of Letters Patent No. 492,606, dated February 28, 1893.

Application filed November 18, 1889. Serial No. 330,778. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. BUSH, a citizen of the United States, residing at Westfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Whips, of which the following is a specification.

This invention relates to whips, the object being to provide an improved whip which possesses elastic action substantially identical with one having the usual whale-bone center, but being less expensive, and the invention consists in the construction, arrangement and combination of the various parts of the whip, all as hereinafter fully described, and pointed out in the claim.

In the drawings forming part of this specification, Figure 1, is a side elevation of a whip showing portions of its covering removed, embodying in its construction the combination of parts wherein consists my invention. Fig. 2, is a longitudinal section of a portion of said whip, having the lining and the braided or plaited outer covering removed therefrom. Fig. 3, is a side elevation of the tip or upper smaller portion of said whip with said lining and outer covering removed, and showing a portion of the wrapping under said lining also removed. Fig. 4, is a transverse section on line 4, 4, Fig. 2, and showing, in addition to what is contained in said last named figure, the said outer coverings of lining and plaiting. Fig. 5, is a like view to Fig. 4, on line 5, 5, Fig. 2. Fig. 6, is a transverse section on line 6, 6, Fig. 3, and showing, in addition to the part of Fig. 2, through which said line is drawn, the spirally wound part below and above said line, and said two outer coverings. Fig. 7, is an enlarged view of a portion of the center of the whip.

The herein described whip combines in its construction, a center piece, 8, of squared rattan or similar material from the butt of the whip to a point a little above the part which is grasped by the hand, and from the upper end of said rattan piece, 8, and having its lower end spliced and cemented thereto the center-piece of the whip, 3, extends and consists of a hard twisted strip of raw-hide, (an enlarged view of which is shown in Fig. 7.) The said twisted raw-hide center-piece has its four opposite sides as at, *a*, Fig. 7, flattened from its junction with the upper end of the said rattan center-piece, 8, to a point on the whip about at, *z*, Fig. 3, (in practice) about eighteen inches below the extreme tip of the same, that being the terminating point of the sidings, 9, and chink-pieces 10, and from about at said point, *z*, upward the twisted raw-hide center, 3, is rounded as shown in said Fig. 3. The said flattened sides of the raw-hide center, 3, are, when the latter is connected to the end of the rattan center, 8, brought into coinciding positions with the sides of the said center, 8, which is square in cross-section, as shown in Fig. 4. Fig. 5, shows a cross-section of the squared portion of said raw-hide center, 3, and when the latter is finished it has the rounded, tapering form at the tip, shown in Figs. 1 and 3. The said compound whip-center having been constructed as above-described, the usual sidings, 9, and chink-pieces, 10, of rattan are applied around the same and firmly cemented thereto, and the whip is then rounded in the usual way, after which a metallic strengthening-wrapping is applied thereto, as below described. Before winding said strip, however, a coating of cement or glue is applied to the whip.

Around that portion of the whip from near the junction of the said raw-hide center, 3, with the end of the rattan center, 8, is wound, spirally, a metallic binding-strip, 5, of steel, brass, German-silver, or of the alloy known as oroide, the latter being preferable on account of its non-corrosive quality. Said binding-strip, whether made of either of said metals being so tempered, rolled or worked as to impart to it a lively spring-quality, and, in practice, it is preferably about three thirty seconds of an inch in width, and the spaces between the convolutions thereof are about one eighth of an inch wide, on the larger part of the whip, but growing narrower toward and at the tip of the whip, and said metal strip is wound around the whip in a reverse direction to the twist of said raw-hide center, as shown in Fig. 1, a portion of said strip in this figure being shown broken away to show more clearly the raw-hide center, 3, on which it is wound at the tip-end of the whip.

The foregoing description sets forth the construction of that part of the whip which is contained within the lining 6, of any well

known material which is used for that purpose, such as water proof paper or cloth wrapped around and cemented thereto; and the common braided or plaited covering, 7.

The combination, as described, in a whip, of the sidings, 9, and chink-pieces, 10, inclosing within them a hard twisted raw-hide center, 3, and of a metal strip, 5, of tough, springy nature wound spirally around the outside of said sidings and of said center, 3, beyond the ends of said sidings, constitutes a whip-construction not heretofore known, and one which possesses features of elasticity and pliableness more nearly approaching that of a whalebone whip than any yet known to me. This result is due to the hard, twisted raw-hide center, the support afforded thereto by said sidings and chink-pieces; and the support afforded to the said parts by the said spirally wound metallic binding-strip, 5, said strip so firmly binding the fibers of said sidings and pieces and confining them so closely around the center piece, 3, that no sharp, short curve that the whip may be subjected to in use can cause them to be splintered and broken, and serves to greatly increase the spring-quality of the whip. Said strip, wound around the above-described raw-hide tip of the whip above said sidings, in a direction contrary to the twist of said raw-hide center serves to render said tip strong, flexible and springy. As above set forth, the preferable material from which to make said binding-strip, is oroide, which is not liable to deterioration by oxidation, and possesses the strength and spring-qualities desired.

What I claim as my invention is—

A whip having a center at and near its handle-portion of rattan, a center above said rattan center of twisted raw-hide, sidings and chink-pieces of rattan secured around said centers, a metallic binding-strip, substantially as described, wound spirally outside of said sidings and pieces above said rattan center in a direction reverse to the twist of said center, and a suitable lining and outer covering, substantially as set forth.

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