

(No Model.)

B. F. NICHOLS.

WHIP STOCK.

No. 336,255.

Patented Feb. 16, 1886.

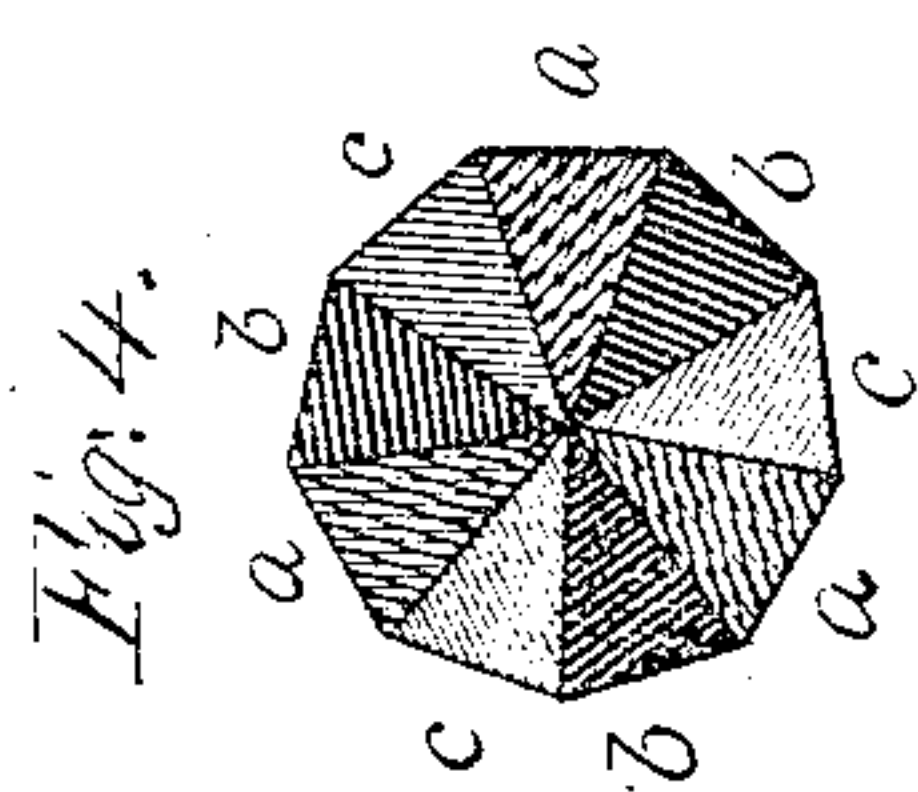
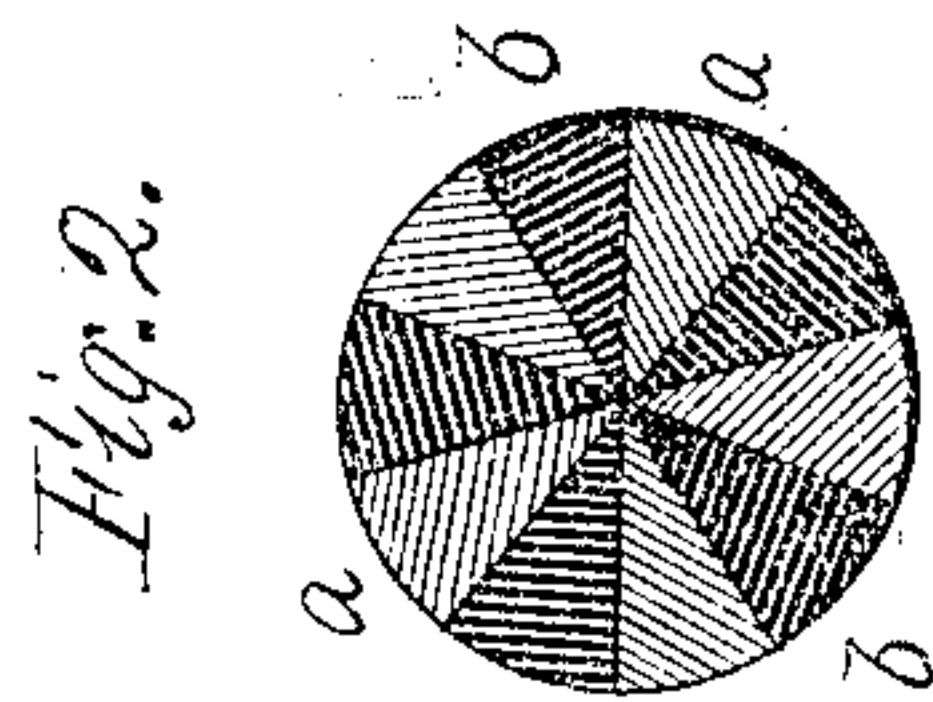
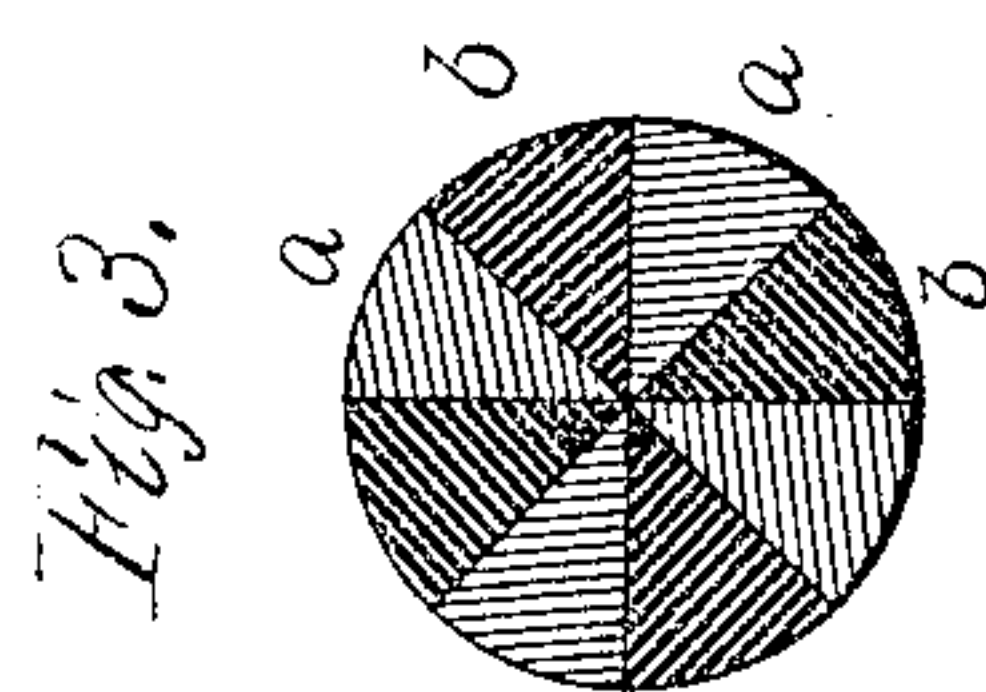
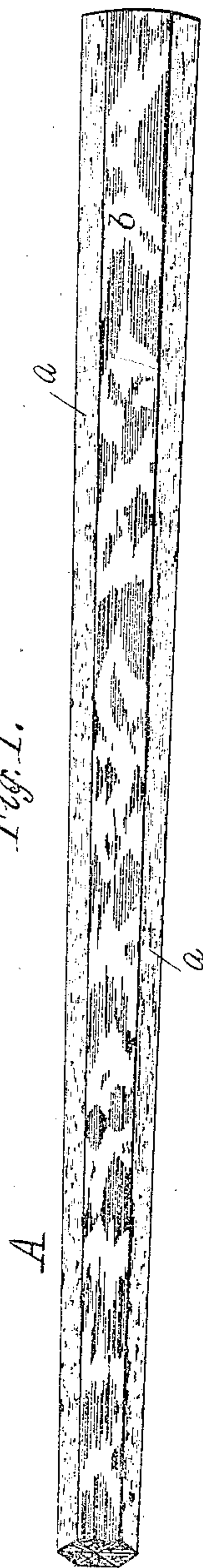


Fig. 1.



Witnesses.
H. E. Leuge.
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UNITED STATES PATENT OFFICE.

BENJAMIN F. NICHOLS, OF BROOKLINE, ASSIGNOR OF ONE-HALF TO EDWARD E. ALLEN, OF WATERTOWN, MASSACHUSETTS.

WHIP-STOCK.

SPECIFICATION forming part of Letters Patent No. 336,255, dated February 16, 1886.

Application filed December 7, 1885. Serial No. 184,901. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. NICHOLS, a citizen of the United States, residing at Brookline, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in the manufacture of Whip-Stocks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates especially to the manufacture of "whip-stocks," but is equally applicable in the construction of fishing-rod joints, more especially the "tips," or other similar articles in which strength and flexibility are essential elements.

My improvements consist in such combination and arrangement of the component parts forming the whip-stock or other article that the flexibility of the same may be varied as desired; and, furthermore, this result is accomplished without reducing the size or diameter, as is generally done to increase this quality in an article of the class before premised. This desired flexibility I propose to secure by employing strips or strands of material suitable for the purpose, which shall vary in flexibility, such strands to be tapered or otherwise, and disposed alternately with respect to their flexibility. Thus, in the combination of bamboo and rattan, as I propose to arrange them when the two are employed together, I obtain the strength of the bamboo, while its stiffness is modified by the extreme flexibility of the rattan with which it is united; hence this arrangement is especially adapted to the manufacture of whip-stocks, or to the individual parts or joints of a fishing-rod, more especially the tips. I propose to construct such articles or their component parts of a series of longitudinally but concentrically disposed strips united together by glue or other adhesive compound. These strips are to be tapering or not, as is desired, and are made from different varieties of tough elastic

woods, or analogous materials having the requisite lightness and strength.

The drawings accompanying this specification, represent, in Figure 1, an elevation of a portion of a whip-stock embodying my invention, while Figs. 2 and 3 are transverse sections of the concentric strands composing the same. Fig. 4 is a similar section in which three series of strands compose the article, each series differing from the others in flexibility.

In such drawings the whip-stock as an entirety, is shown at A composed of a number of continuous tapered strands or strips, *a b*, &c., arranged longitudinally of and concentrically with respect to each other, and extending the length of the stock. Such strands are to be composed of different varieties of wood or other suitable material, which shall vary in flexibility and elasticity. In the present case (see Figs. 1, 2, and 3) I will assume that the strands marked *a a* are composed of bamboo, and the others, *b b*, of rattan. Now, both are essentially tough and elastic; but the rattan is very much more flexible. Consequently, by varying the number of the rattan strands, the flexibility of the whip-stock, or other similarly-constructed article, as an entirety, is easily regulated, while the size or diameter remains the same. This is a very desirable feature; hence an article or elastic joint as constructed in Fig. 2 will have considerably more flexibility than that shown in Fig. 3.

It will be readily understood that other varieties of wood or analogous materials combining strength and lightness may be united with equally good results, and many advantages accrue from such construction. Thus, in the case of whip-stocks, especially those adapted for "lash-tops," so-called, have been hitherto made of but one piece, and have little or no strength or elasticity.

I do not desire to be limited to the combination of only two kinds of strands varying in flexibility, since the whip-stock or other article (see Fig. 4) may be composed of three or more series of individual strands, *a a a*, *b b b*, *c c c*. Each of such series differs from the other in

flexibility. It is not absolutely necessary to have the component strips form an article solid in cross-section, since such parts may be truncated prisms, and form a hollow, and consequently much lighter article.

5 A whip-stock constructed as I herein propose may be made very ornamental by the natural or artificial coloring of the several strands composing it, and, in case it is desired, 10 such stock may be covered or wound with some fibrous material or braiding, which is then varnished.

As regards the construction of whips, this method is equally well adapted for "bow-top" 15 whips, so called, in which case I should prefer to make the strands continuous the entire length of the whip, which may then be finished or wound with braiding. An alternative construction would be to make them 20 after the fashion of jointed fishing-rods, but with this difference, that the more flexible component parts should predominate in order to obtain the requisite flexibility.

In the manufacture of fishing-rods, this method of alternating strips of varying flexibility is equally advantageous, and applies to the individual joints composing the same, particularly the tips, since generally increased flexibility is attended by reduction in diameter. By my method the flexibility may be 30 varied without such reduction in size.

I claim—

An elastic whip stock or other analogous article composed of a series of longitudinally-disposed concentric strands of wood of different kinds and varying degrees of elasticity, 35 substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN F. NICHOLS

Witnesses:

H. E. LODGE,
E. K. BOYNTON