

(No Model.)

E. K. WARREN.

WHIP.

No. 286,748.

Patented Oct. 16, 1883.

Fig. 2.

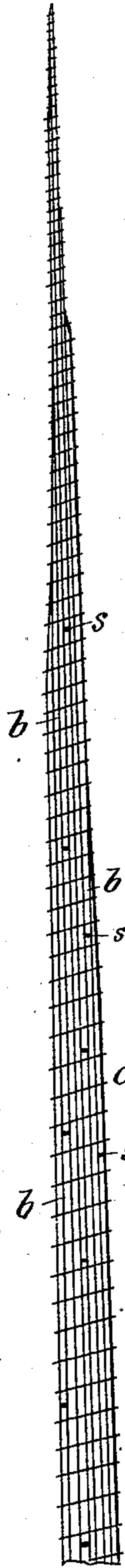


Fig. 1.

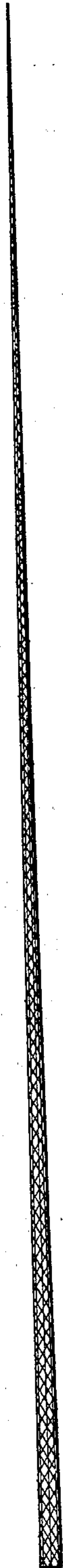


Fig. 3.

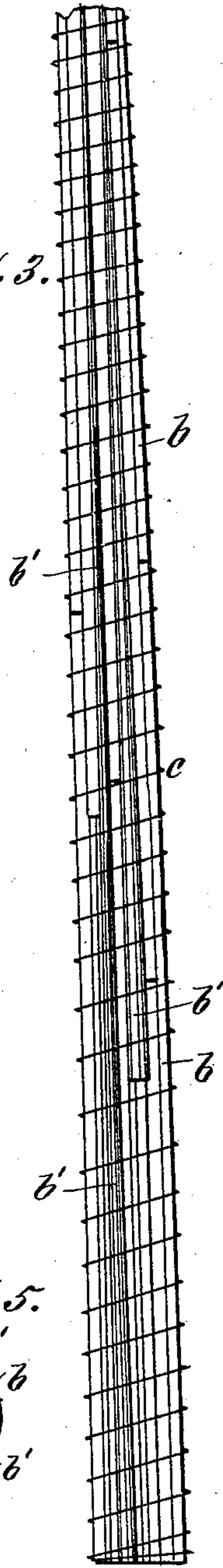


Fig. 4.

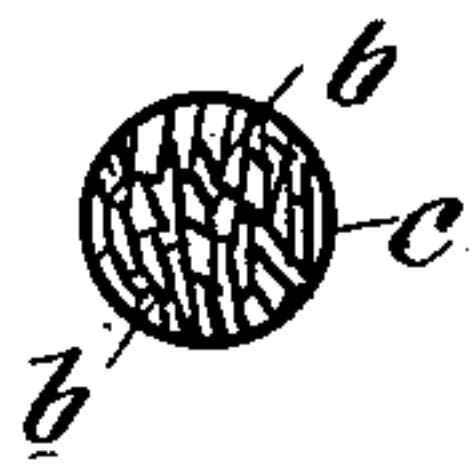
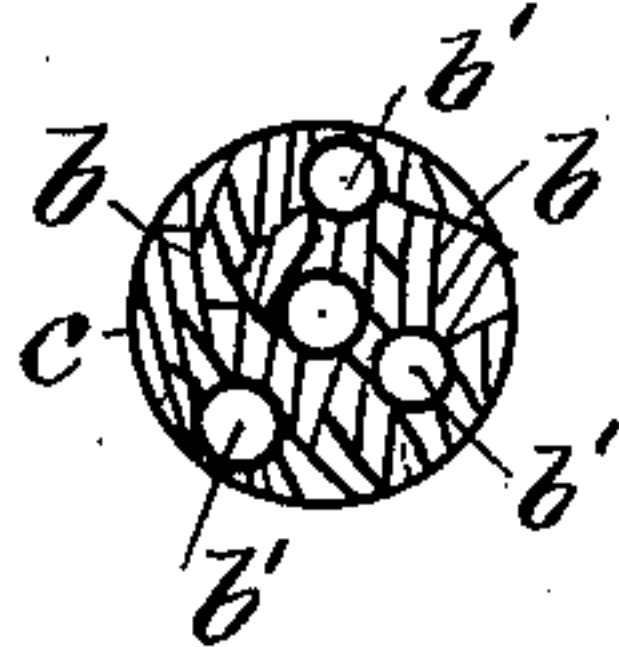


Fig. 5.



WITNESSES:

Thos. G. Hoston
L. Sedgwick

INVENTOR:

E. K. Warren

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDWARD K. WARREN, OF THREE OAKS, MICHIGAN, ASSIGNOR OF ONE-HALF
TO GEORGE R. HOLDEN, OF MICHIGAN CITY, INDIANA.

WHIP.

SPECIFICATION forming part of Letters Patent No. 286,748, dated October 16, 1883.

Application filed August 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWARD K. WARREN, of Three Oaks, in the county of Berrien and State of Michigan, have invented a new and useful Improvement in the Manufacture of Whips, of which the following is a full, clear, and exact description.

My invention relates to improvements in whips; and it consists of a whip having an elastic filling composed of quills or quill splints, or both, arranged to overlap and break joints with one another and bound together to form a tapering elastic rod, which I term "featherbone," and which is designed as a substitute for steel, rattan, and whalebone, heretofore used as a filling for whips.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a longitudinal view of a finished whip or portion of a whip made with my improved featherbone filling. Figs. 2 and 3 are longitudinal views upon a larger scale of different lengths or sections of the filling, showing different ways in which the featherbone filling may be built up of splints or quills and splints; and Figs. 4 and 5 are transverse sections of Figs. 2 and 3, respectively.

In the manufacture of the improved elastic rod or filling I propose to utilize the quill portions of feathers (after they have been stripped) of turkeys, geese, chickens, and other fowls or birds. Said quills may either be used in their whole form or in the form of splints or fibers produced by splitting or otherwise reducing the quills, or in both forms combined. This in some cases will depend upon the size of the whip or portion of the whip to which the featherbone is applied. Thus the whip may be made, for instance, either a full-bone one, a half-bone one, or a quarter-bone one, and in the thicker portions of the whip whole quills may be more or less used, while in the smaller or finer tapering portions of it quill splints will be found preferable. The quills or splints

or fibers of quills are put together or arranged so as to give the desired taper to the whip from its butt-end toward its tip in different lengths to meet the requirements of manufacturers, and are joined or bound together either by cementing them or by any suitable external binding, including a wrapper of thread or wire wound, braided, or twisted around them, or they may be joined together in any other suitable manner. In Figs. 2 and 3 of the drawings they are simply shown as bound together by winding a cord, thread, or wire, *c*, around them. In Figs. 2 and 4 only the splints *b* of quills are shown as used in building up the tapering elastic rod there represented, the same being arranged in diminishing quantities toward the smaller end or portion of the rod and being arranged so as to overlap one another or break joint, as shown by their ends marked *s*, for the purpose of establishing continuity throughout the whole length of the rod. In Figs. 3 and 5 both whole quills *b'* and quill-splints *b*, similarly arranged and combined, are used. An elastic tapering rod having thus been built up and its quills or quill splints joined or bound together, as described, the whip of which said rod forms the stiffener may be completed in the usual or any approved manner—as, for instance, by covering said filling with cloth, buckskin, or other material, and the braid-end cover put on by an ordinary whip-machine, and after this the usual final finish of water-proof varnish applied to the exterior.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A whip or whip-section having an elastic filling composed of quills or quill splints, or both, arranged to overlap and break joint with one another, and bound together to form a tapering elastic rod, essentially as described.

EDWARD K. WARREN.

Witnesses:

HENRY CHAMBERLAIN,
ARTHUR C. PAINE.