(No Model.)

T. M. GRISWOLD.

WHIP.

No. 273,678. Patented Mar. 6, 1883.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

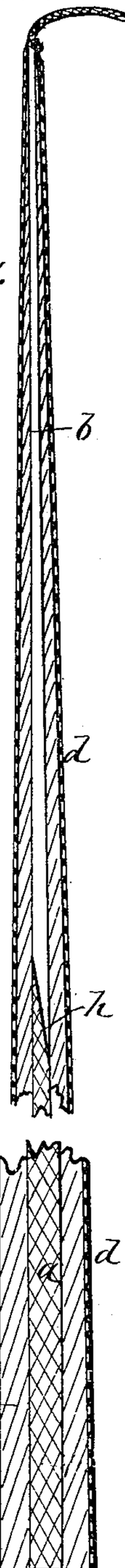
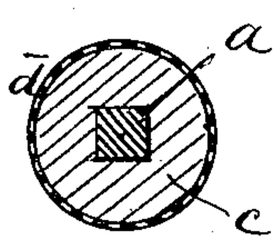
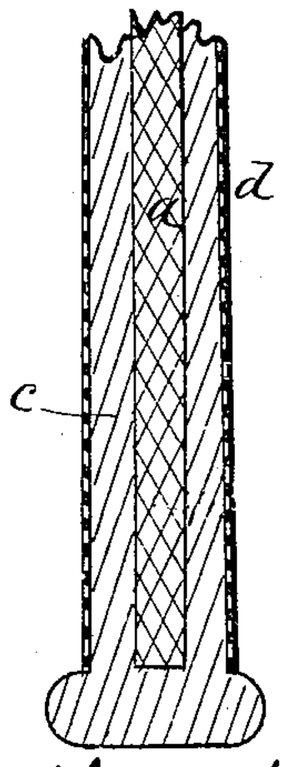


Fig. 5.





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UNITED STATES PATENT OFFICE.

THADDEUS M. GRISWOLD, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO JOHN P. E. PARKER, OF NASHUA, NEW HAMPSHIRE.

WHIP.

SPECIFICATION forming part of Letters Patent No. 273,678, dated March 6, 1883.

Application filed March 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, THADDEUS M. GRISWOLD, of Rochester, Monroe county, New York, have invented a certain new and useful Improvement in Whips; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of the whip core or center, composed of hard rubber and whalebone spliced together. Fig. 2 is a modification of the splicing. Fig. 3 is a cross-section of Fig. 1 in line *x x*. Fig. 4 is an elevation, partially in section, of a whip with the improved core or center in place. Fig. 5 is a cross-section of Fig. 4

Ordinary whips have a center or core piece of rattan, leather, rawhide, or of whalebone, outside of which are placed segmental strips of rattan, forming the body, and the whole is covered with a fibrous plaiting or thread. In some instances a wire core-piece has been used. Also, whip-cores have been made of whalebone tops and butts of rattan or leather, to save the expense of cores made wholly of whalebone, and "snake-whips" have been made with soft-rubber cores, which are not, however, "stocked" or surrounded with filling-strips. The objection to the rattan core is that it is pliable, bends easy, does not recover its form or elasticity. Being porous, it absorbs glue in making, in which condition it is brittle and easily breaks. Only the cheapest and poorest qualities of whips are made in this way. Wire centers are inefficient, as they kink and twist in use and soon lose their form, and they are difficult to glue to. Whalebone is the best material, but is very expensive, especially in long lengths, and of late years has been difficult to obtain, and so, gradually, where whalebone is used it is used in much shorter and smaller pieces than formerly.

To obviate these difficulties, my invention consists of a whip constructed with a core the lower part of which is made of hard rubber having roughened surfaces, and with outer strips of rattan or wood glued to the roughened surfaces of the said hard-rubber core, while the tip of the core remains, as usual, for the best whips, made of whalebone.

In the drawings, *a* shows the center or core piece of the whip, which is made of hard rubber. It is preferably square in cross-section, and it is roughened or scratched on its exterior surface, to cause glue to adhere. This may be done by grinding on a coarse emery-wheel or by other means.

b is the top or tip of the core, the same being a piece of whalebone spliced to the top of the rubber by a diagonal splice, as shown at *h* in Fig. 1, or by a dovetail, as shown in Fig. 2. It is spliced by gluing or cementing, and the whole core-piece thus formed extends from the bottom to the top of the whip through the whole length, gradually tapering from bottom to top.

c is the rattan or wood body of the whip, laid in strips outside the center or core piece above described and glued thereto upon the roughened surface. After being built up, the whole is run through a plaiting-machine and covered by thread as usual, as shown at *d*.

The hard rubber has a certain degree of elasticity and spring, with a good deal of stiffness and ability to retain its straight form. It is therefore admirably adapted to support the base and central parts of the whip, being in this respect superior even to whalebone itself, which is not so firm, and being immeasurably superior to rattan, which is ordinarily used. At the same time the whalebone tip has that quality of pliability, elasticity, and strength essential to form the top of the whip, which is subject to much bending and strain, and where the rubber alone would not answer. By this means a whip stiff at the butt, pliable and elastic at the tip, and graduated from end to end is produced, and is stronger and more substantial than common whips at much greater cost.

I do not claim a whip body or core made of soft rubber, nor do I claim a whalebone tip spliced to a leather or rawhide core-piece; but

I claim—

A whip constructed with a core the lower part of which is made of hard rubber having roughened surfaces, and with outer strips of rattan or wood glued to the roughened surfaces of the said hard-rubber core, substantially as and for the purpose herein specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

THADDEUS M. GRISWOLD.

Witnesses:

R. F. OSGOOD,

JACOB SPAHN.