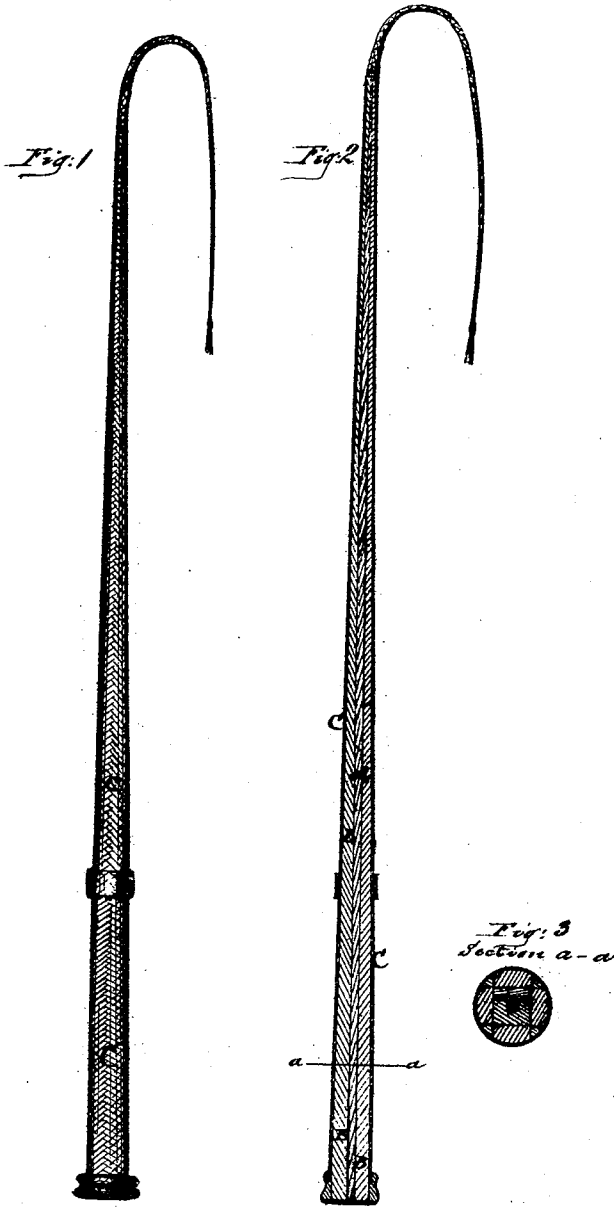


A. C. Rand,

Whip.

No. 101,912.

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Witnesses *John J. Halden.*
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United States Patent Office.

ADDISON C. RAND. OF WESTFIELD, MASSACHUSETTS.

Letters Patent No. 101,912, dated April 12, 1870.

IMPROVEMENT IN WHIPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ADDISON C. RAND, of Westfield, county of Hampden and State of Massachusetts, have invented a new and useful Whip; and I do hereby declare that the following is a full and exact description of the same.

In all whips of the better class, particularly carriage and buggy-whips, there is a rod of whalebone, rattan, or wood, or a combination of two of these, passing through the center of the whip, and around which the stock is built. For this purpose a rod of whalebone is much the most serviceable. Without a rod of some kind the whip very soon bends or breaks. The purpose of the rod then is to impart strength and elasticity.

The very high price of whalebone at present precludes its use except in the most expensive class of whips, and it is found that whips made with either rattan or wood, or of a combination of these with each other or with whalebone, are very liable to break, especially at the junction of two materials, or, if they escape this fate, they still become loose at the same point and "lop," or the tips of the whip soon become splintered when much used.

The following is a full description by which any one skilled in this manufacture may make use of my invention.

I first obtain a metallic rod or wire, and taper it, so that from, say, an eighth of an inch in diameter at the butt, it becomes a mere line at the tip. This I prefer next to have carefully tempered, when it is entirely ready for use in manufacturing. At times I prefer to temper the rods before tapering.

By this method and this rod, the whip is made much more economically than when whalebone is used, and much stronger and more elastic.

The whip is built around this rod, and is then covered by an outer wrapper in the ordinary manner.

Though the above is, in my opinion, the preferable mode of manufacture, I will proceed to mention several other methods which may be employed, though less advantageously.

First, instead of the use of one rod or wire, a number of wires may be arranged, either in the form of a bundle, large at the butt, and gradually decreasing in size or number, or both, as they approach the tip, or the wires or rods may be placed on the circumference of a central core, not metallic.

Second, I find a number of wires or rods, or even a rope of wire, can be used with advantage over the present methods, these wires running through the whole length of the whip, or through only a part of the same.

Third, a very good whip may be made by a tempered steel wire, with wood or rattan used to extend the central core through the length of the whip, the steel wire extending only a part of the length of the whip. Sometimes whalebone is combined with these materials.

Fourth, I prefer that the tempered rod used as a central core shall be square, or near so, for a part of its length, for convenience in manufacturing, but I do not confine myself to any particular shape; round wire or other wire will answer.

I have also used in some whips thin, flat skirt-wire, laid on the central piece to give additional strength near the butt.

I am well aware that both lead and iron are often used in the butt of whips, for the purpose of rendering that part heavy and strong, and also that these were formerly used in "rawlides," but these short bits of metal were never elastic, and did not at all answer the purpose of my invention.

The drawings accompanying this specification illustrate in elevation and in longitudinal section a whip made in accordance with my invention.

A indicating a metallic core.

B, the longitudinal strips, and

C the outer covering or wrapper.

In making my improved whip I first inclose the metal core between two or more enveloping strips, as seen in fig. 3, and then build up the stock by an outer series of strips, preferably some large and some small, as seen in said fig. 3, the outer surface of the assembled strips being reduced to give the proper form to the stock, the strips being all confined together by suitable cement.

I claim—

A whip or whip-stock having an inner metal core encompassed by a series of strips, which are surrounded by the wrapper, substantially as shown and described.

ADDISON C. RAND.

Witnesses:

JOEL GOLDTHWAIT,

J. R. RAND, JR.