

C. I. KANE.
HEDDLES FOR LOOMS.

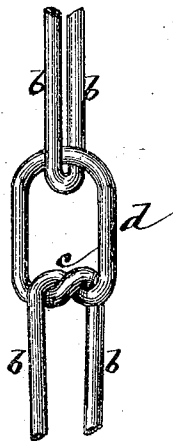
No. 179,567.

Patented July 4, 1876.

Fig. 1.



Fig. 2.



Witnesses.
John Becker
Geo. D. Haynes

Charles I. Kane
by his Attorney
Wm. Allen

UNITED STATES PATENT OFFICE.

CHARLES I. KANE, OF MILFORD, CONNECTICUT, ASSIGNOR TO NEW YORK SILK MANUFACTURING COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN HEDDLES FOR LOOMS.

Specification forming part of Letters Patent No. **179,567**, dated July 4, 1876; application filed May 29, 1874.

To all whom it may concern:

Be it known that I, CHARLES I. KANE, of Milford, in the county of New Haven and State of Connecticut, have invented an Improvement in Heddles for Looms, of which the following is a specification:

This invention more particularly relates to the heddles of ribbon and other narrow-ware looms running at a high velocity. Wire heddles, on account of their durability, and the little space they occupy, are greatly superior to any other for such looms. A difficulty, however, has been experienced as regards the eyes of such heddles. Thus, when made with a needle-eye, they are stiff and clumsy and difficult to thread up. It has been customary, therefore, to form the eye by twisting parallel lengths of wire so as to leave an eye between the twisted portions. An eye thus made, however, leaves such a sharp angle or groove in its end that when the same lifts or acts on the fine silk or yarn, the latter catches in or is cut by the eye.

This invention consists in a wire heddle having its eye formed by knotting, thereby giving a good lifting or acting surface for the eye, free from the objections incidental to an eye formed by twisting the wire.

In the accompanying drawing, Figure 1 represents a longitudinal view of a wire heddle constructed in accordance with my improvement, and Fig. 2 a similar view, on a larger scale, of the eye portion thereof.

The heddle is represented as composed of two wires, *b* and *b'*, which are doubled, and the lower of which is tied in a half-knot, as shown at *c*, to form the eye *d* with a nearly straight bottom, which presents a broad surface to the warp, and thereby not only prevents the chafing of the yarn by the sides of the eye, but avoids the tendency of the warp to wear the eye always on one point. It is immaterial, however, whether the heddle be composed of two wires, or of a single wire, and whether the knot be formed only at the bottom of the eye, or both at the bottom and top, the distinguishing characteristics of my invention being the knot tied to present a broad bearing for the yarn. It may be remarked that such a broad bearing cannot be obtained by twisting the wires together, as heretofore practiced in making wire heddles, nor yet by tying or knotting the thread in a thread-heddle, the thread of which the latter is made being too flexible to enable the eye to be retained in such shape.

I claim—

A wire heddle having its eyes formed with a half-knot, presenting a broad bearing-surface for the yarn, and otherwise constructed as herein described.

CHARLES I. KANE.

Witnesses:

HENRY T. BROWN,
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