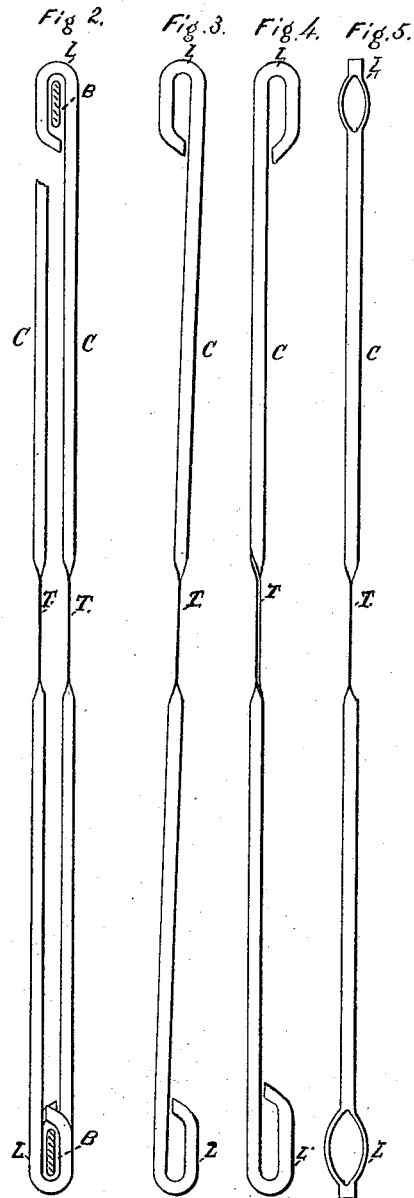


HEDDLE AND MEANS FOR MOUNTING THE SAME.

Patented Aug. 8, 1882.



Inventor.
John. L. Quirkleson.

UNITED STATES PATENT OFFICE.

JOHN L. LAIRDIESON, OF LOWELL, MASSACHUSETTS.

HEDDLE AND MEANS FOR MOUNTING THE SAME.

SPECIFICATION forming part of Letters Patent No. 262,436, dated August 8, 1882.

Application filed October 25, 1879.

To all whom it may concern:

Be it known that I, JOHN L. LAIRDIESON, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Heddles and Means for Mounting the Same; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention consists in a heddle formed of thin flat wire of uniform thickness from end to end, and having the portion about the eye twisted around to a position substantially at right angles to the other portions thereof; also, in an improved means for mounting the heddles, whereby the spacing between them may be more readily adjusted and the heddles are separably held in position.

In the accompanying drawings, Figure 1 is a side view of a frame carrying a number of my improved heddles, and showing the means by which I mount the same in the heddle frame or harness. Fig. 2 shows a transverse section of the heddle-bars and the improved heddles strung thereon in two ranks. Fig. 3 shows one of the heddles with its loops at the two ends turned in opposite directions. Fig. 4 shows one of the heddles having the loops at its ends turned in the same direction, showing, also, the two end parts twisted in opposite directions from the eye part. Fig. 5 is a view showing the end parts twisted in the same direction from the eye part, and representing a modified construction of the end loops.

Like letters designate corresponding parts in all of the figures.

In these drawings, A represents the heddle-frame; B B, the bars on which the heddles are strung; C C, the improved heddles; L L, their end loops, and T T their twisted eye parts.

Each heddle is made of a strip of flat wire or steel ribbon of uniform thickness, and the central part, T, about the eye is formed by twisting round the body of the wire into a position substantially at right angles to the remaining parts of the heddle. This part is punched for

the eye E, which is clear and smooth. The whole heddle is both strong and flexible, and very durable, and also comparatively cheap in construction. The end loops, L L, are formed by turning the thin wire edgewise, so that the heddle will occupy but little space in a lateral direction. The various modifications represented show various ways of applying the improved heddle without departing from my invention.

In mounting the heddles in the frame upon the bars B B they are all equally spaced between coils or convolutions of coiled springs F F on the bars, substantially as represented. These springs, while they space the heddles equally, allow them to be moved laterally without permanent displacement, the springs immediately bringing the heddles back to place as soon as they are let go and are free to move.

At the ends of the springs F F are adjustable clamps or stops D D, which can be set in or out at pleasure and held by set-screws H H. By this means the springs may be compressed or expanded, and the heddles thereby spaced more closely or farther apart, as desired.

I am aware that flat wire heddles have been made with eyes punched therein, and that flat tapering heddles have been made with eyes at right angles to the flattened ends; but these do not fulfill the purposes of my invention as does my construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A heddle formed of flat wire of uniform thickness throughout its length, and having the portion about the eye twisted around to a position at right angles to the other portions thereof, substantially as and for the purpose herein specified.

2. The combination, with the heddles C C and bars B B, of the springs F F and adjustable clamps D D, substantially as and for the purpose herein specified.

JOHN L. LAIRDIESON.

Witnesses:

NATHANIEL HILL,
SAMUEL B. WYMAN.