

J. H. CROWELL.
Heddle for Looms.

No. 226,903.

Patented April 27, 1880.

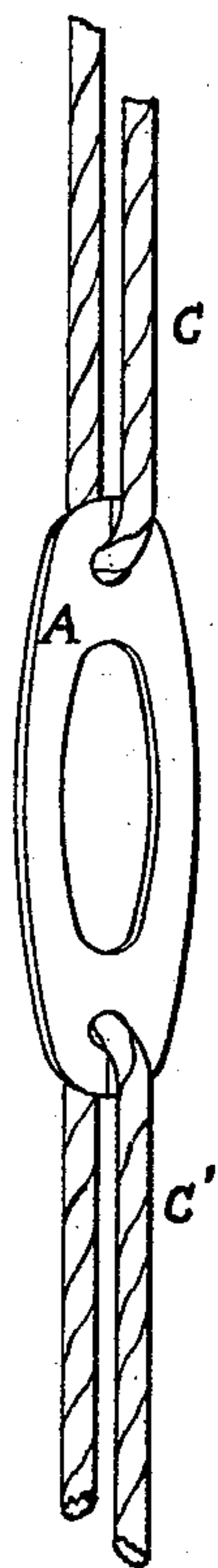


FIG. 1.

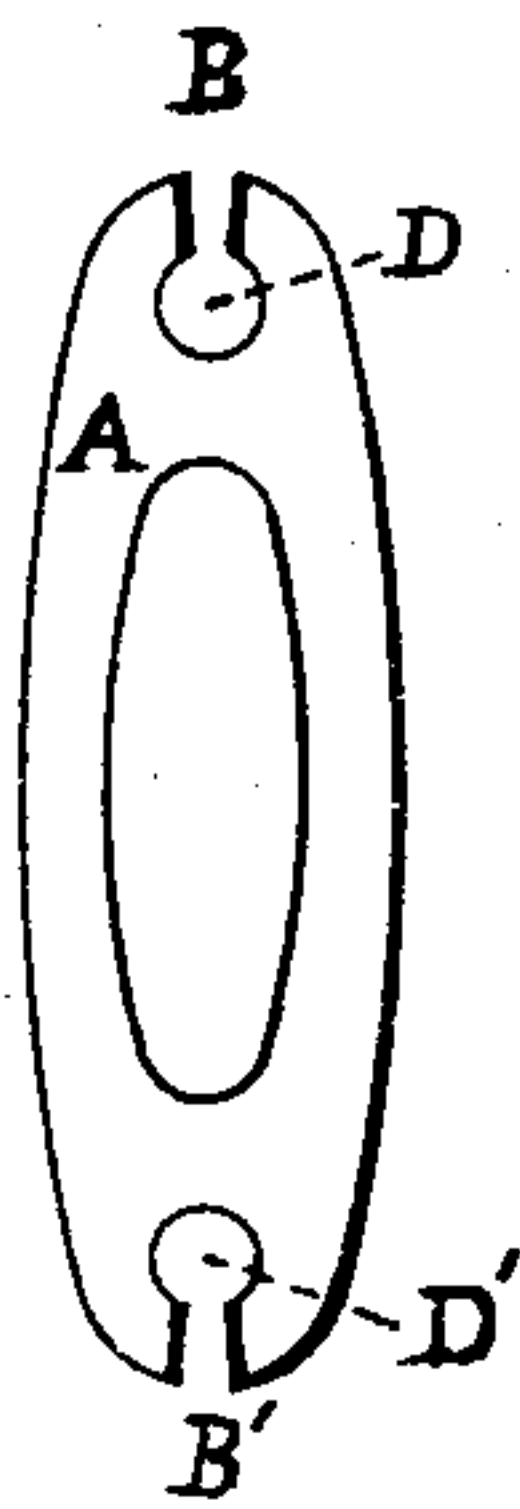


FIG. 2.

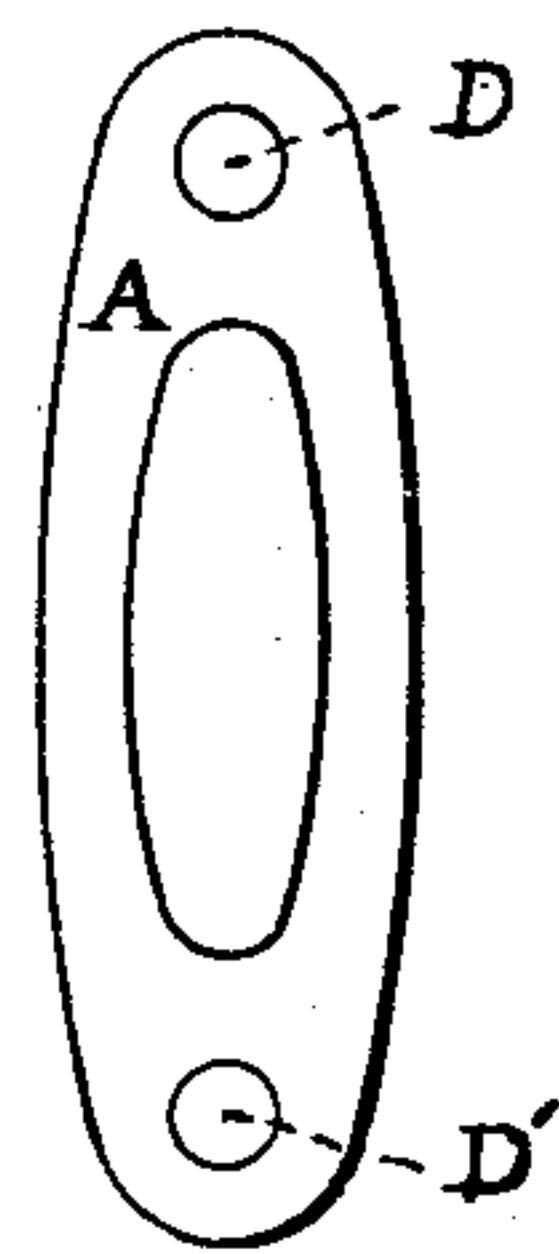


FIG. 3.

Witnesses
Allen Hawkes
Geo B Arnold

Inventor
John H. Crowell

UNITED STATES PATENT OFFICE.

JOHN H. CROWELL, OF PROVIDENCE, RHODE ISLAND.

HEDDLE FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 226,903, dated April 27, 1880.

Application filed September 15, 1879.

To all whom it may concern:

Be it known that I, JOHN H. CROWELL, of the city and county of Providence, and State of Rhode Island, have invented certain Improvements in Heddles for Looms for Weaving, of which the following is a specification.

My invention relates to the manner of making the mail-eyes in heddles and of attaching them to the heddle-threads, by which a harness having said eyes entering into its construction can be manufactured more easily, and of such a form that when it is at work in the loom it will occasion less friction or chafing upon the warp-threads than an ordinary mail-harness. This consists in forming an opening in the ends of the eye, through which, to the heddle-thread holes, are conveyed, by hand or mechanism, the loops of the heddle-threads used in connecting said eyes to the rig-bands, which operation is more easily accomplished than heretofore, where the threads were placed into said holes endwise by hand, after the manner of threading a needle. The threads of the heddles, after being conveyed to the holes through the openings at the ends of the eyes, are secured in said holes by the closing of said openings, which not only reduces the size of the holes, so that they bind the threads of the heddle, but at the same time also reduces the size of the ends of the eyes, thereby leaving smaller projections or shoulders of the eyes beyond the diameter of the

heddle-threads to occasion friction upon the warp-threads than those of the ordinary mail-eyes.

In the drawings, Figure 1 is a perspective view, and Fig. 2 is an elevation, of my invention. Fig. 3 is an elevation of an ordinary mail-eye. All the figures are drawn to an enlarged scale.

A represents the heddle-eye, which is made of metal. B B' are the openings at the ends of the eye, through which, to the heddle-thread holes D D', are carried the loops of the heddle-threads C C', which are common to all this class of harnesses, and which connect said eyes to the rig-bands.

In Fig. 1 is shown the metal eye A, with its ends closed around the heddle-threads C C'.

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

1. A mail heddle-eye constructed with openings from the ends of the eye to the heddle-thread holes, as and for the purpose set forth.

2. A heddle composed of a metallic eye and loops of twine or cord to connect said eye to the rig-bands, the eye being provided with the openings described, and clamped upon the twines or cords, as set forth.

JOHN H. CROWELL.

Witnesses:

ALLEN HAWKES,
GEO. B. ARNOLD.