

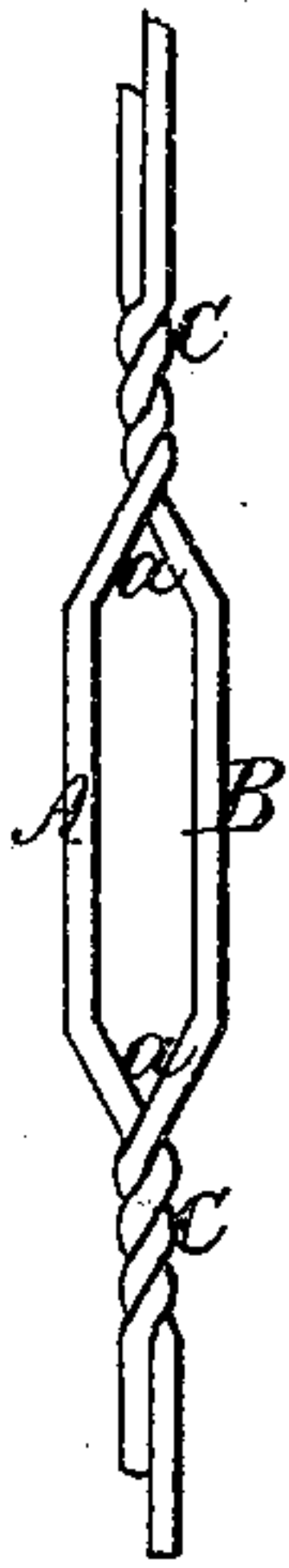
D. C. BROWN.

WARP EYES OF WIRE HEDDLES FOR LOOM HARNESS.

No. 64,944.

Patented May 21, 1867.

*Fig. 1.*



*Fig. 2.*



*Witnesses*

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# United States Patent Office.

DARIUS C. BROWN, OF LOWELL, MASSACHUSETTS.

*Letters Patent No. 64,944, dated May 21, 1867.*

## IMPROVEMENT IN WARP-EYES OF WIRE-HEDDLES FOR LOOM-HARNESS.

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

TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, DARIUS C. BROWN, of Lowell, in the county of Middlesex, and State of Massachusetts, have invented a new and useful Improvement in the Formation or Construction of the Warp-Eyes of Wire-Heddles for Loom-Harness; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 denotes a wire-heddle warp-eye of the kind ordinarily made.

Figure 2 exhibits one of my improved eyes, these figures being drawn on an enlarged scale in order to more correctly exhibit my invention.

The eyes as heretofore made of two wires or parts A B of a wire twisted together, as shown at C C, and upon a form, always, so far as I am aware, have their extremities or ends terminating in acute angles, as shown at *a a* in fig. 1. It matters not whether the said former be constructed with either round or square edges, the termination of the eye at each end will be by the two wires departing at an acute angle from each other. This acute angular form of the end of the eye renders the warp-yarn or thread liable to catch in the twist of the wires, the consequence being either injury or breakage of the warp.

The object of my invention is to so form the eye at each extremity as to overcome the liability of the yarn being caught in or injured by the twist of the wires, and I accomplish this by subsequently spreading the eye lengthwise, so as to impart to each end of it a semicircular form, or an approximation thereto, (see fig. 2,) that is, I spread the wires, where they form an acute angle at their junction, so as to make their angle greater, and at the same time elongate the eye and contract the twist. This may be accomplished by an instrument formed somewhat like a pair of pliers, or like a glove-stretcher, which, on being introduced into the eye and opened therein, will spread the eye lengthwise. After the eye may have been so spread or treated, it will be found very difficult, if not impossible, for it to catch or injure a warp-thread or a knot thereof. The spread-heddle eye is a very great improvement over the unspread one, and renders the wire-heddle even less liable than the twine-heddle to injure or chafe the warp.

I am aware that twisted and other heddle-eyes have been made, in which but little or no angularity exists at the ends of the eyes. This I do not claim.

I claim my improved heddle-eye, made substantially as described, that is, of wires or parts of a wire twisted together, and subsequently spread laterally at the angle or angles of junction, in manner substantially as set forth, so as to tighten the twist at either or both ends of the eye, as and for the purpose as hereinbefore explained.

D. C. BROWN.

Witnesses:

R. H. EDDY,

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