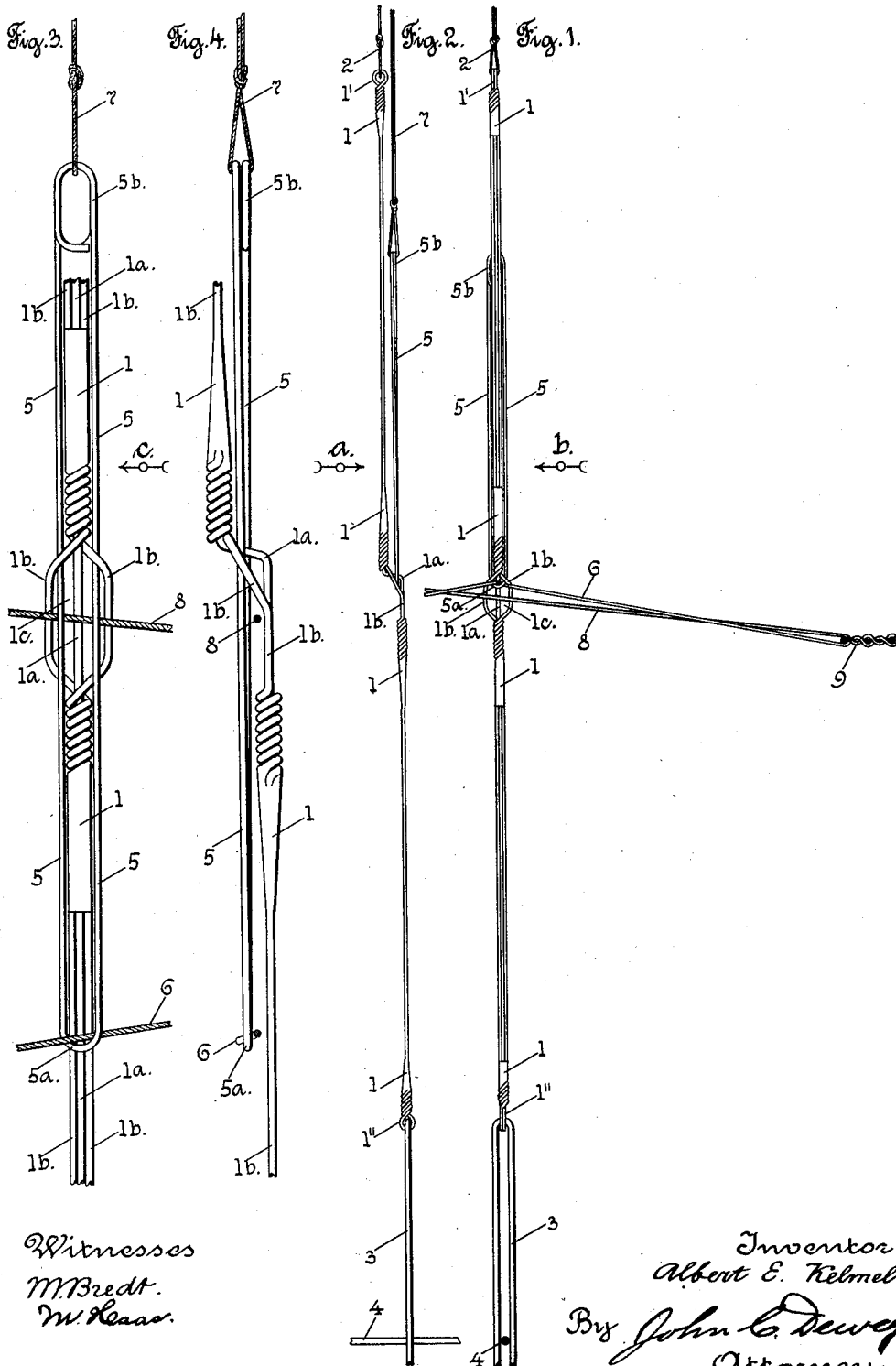


A. E. KEMMEL.
DOUP HEDDLE FOR LENO WEAVING.
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1,006,563.

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Witnesses
M. Brett.
W. Haas.

Inventor
Albert E. Kemmel.
By John C. Dewey
Attorney.

UNITED STATES PATENT OFFICE.

ALBERT E. KEMMEL, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, A CORPORATION OF MASSACHUSETTS.

DOUP-HEDDLE FOR LENO-WEAVING.

1,006,563.

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To all whom it may concern:

Be it known that I, ALBERT E. KEMMEL, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Doup-Heddles for Leno-Weaving, of which the following is a specification.

My invention relates to doup heddles for leno weaving, and more particularly to a doup heddle for jacquard leno weaving.

The object of my invention is to provide a more efficient and durable device for leno weaving, and also to provide a heddle of the type referred to, with a metal doup supported thereon, instead of the easily breakable twine doup, which is generally used in jacquards for weaving leno fabrics.

My invention consists in certain novel features of construction of my doup heddle, as will be hereinafter fully described and claimed.

I have only shown in the drawing a doup heddle detached, of my improved construction, sufficient to enable those skilled in the art to understand the construction and operation of the same.

Referring to the drawing:—Figure 1 is a side view of a heddle of my improved construction, looking in the direction of arrow *a*, Fig. 2. Fig. 2 is a front view of the heddle, looking in the direction of arrow *b*, Fig. 1. Fig. 3 shows, on an enlarged scale, the center portion of the heddle shown in Fig. 1, and the doup wire lowered, and, Fig. 4 shows the center portion of the heddle shown in Fig. 3, looking in the direction of arrow *c*, same figure.

In the accompanying drawing, the doup heddle comprises two members, the member 1, preferably made of wire, and having an eye 1', and 1'' at each end. The upper eye 1' has connected thereto the jacquard cord 2, which passes down from the compartment, not shown. The lower eye 1'' is provided with a lingo 3, preferably fork shaped, to receive a cross cord or wire 4, which holds the lingo 3 and prevents the heddle from turning.

The member 1 of the doup heddle is made in this instance of three strands of wire, and has a central strand 1^a extending the entire length of the heddle. The two other strands 1^b, in this instance extend alongside of the central strand 1^a, and are twisted around

the central strand on each end thereof, and preferably soldered thereto. The member 1 has a central eye composed of three strands 1^a, 1^b, and 1^b; the central strand 1^a extends through the central portion of the eye, in the direction of the length of the heddle, and the side strands 1^b are in this instance twisted around the central strand 1^a, and preferably soldered thereto, at the upper end, and at the lower end of the eye 1^c. The eye 1^c is made offset as shown. The other member of the doup heddle consists in this instance of a two strand loop 5, of wire, having in this instance a loop at its lower end 5^a for the doup thread 6. The upper ends of the loop wire 5 are in this instance bent over as shown at 5^b, to receive the jacquard cord 7, which passes down from the compartment, not shown. The second member 5 passes through and is movable in the eye 1^c in the first mentioned member 1, and the two strands of wire 1^b and 1^b of said eye are on the opposite sides of the loop member 5, and the central strand 1^a is within the loop member 5, as shown.

8 is a warp thread, which is operated by the jacquard, in the usual way, to complete, with the warp thread 6, the leno weave shown at 9, in the usual and well known way.

My improved doup heddle is preferably made of wire, as shown in the drawing, and above described, but if preferred it may be made of flat metal stock, with the eyes punched through the same.

It will be understood that the details of construction of my improvements may be varied if desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A doup heddle for weaving, comprising a member having an eye composed of three strands, a loop member movable through said eye, two of the strands of said eye being on opposite sides of the loop member, and one of said strands within the loop of said loop member.

2. A doup heddle for weaving, comprising a member having an eye composed of three strands of wire, a loop member of wire, movable through said eye, two of the strands of said eye being on opposite sides of said loop member, and one of the strands within the loop of said loop member.

3. A doup heddle for weaving, comprising a member of three strands of wire, having a central eye, with one strand extending through the center of the eye in the direction of the length of the heddle, and a loop member, of wire, movable through said eye, the central strand of said eye being within the loop member.
- 5 of the length of the heddle, and a loop member, of wire, movable through said eye, the central strand of said eye being within the loop member.
- 10 4. A doup heddle for weaving, comprising a member of three strands of wire, having a central eye with one strand extending through the center of the eye, in the direction of the length of the heddle, the strands of said eye being offset in the direction of the length of the heddle, and a loop member of wire, movable through said eye, the central strand of said eye being within the loop member.
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ALBERT E. KELMEL.

Witnesses:

HENRY S. FAVOR,
E. H. RYON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."