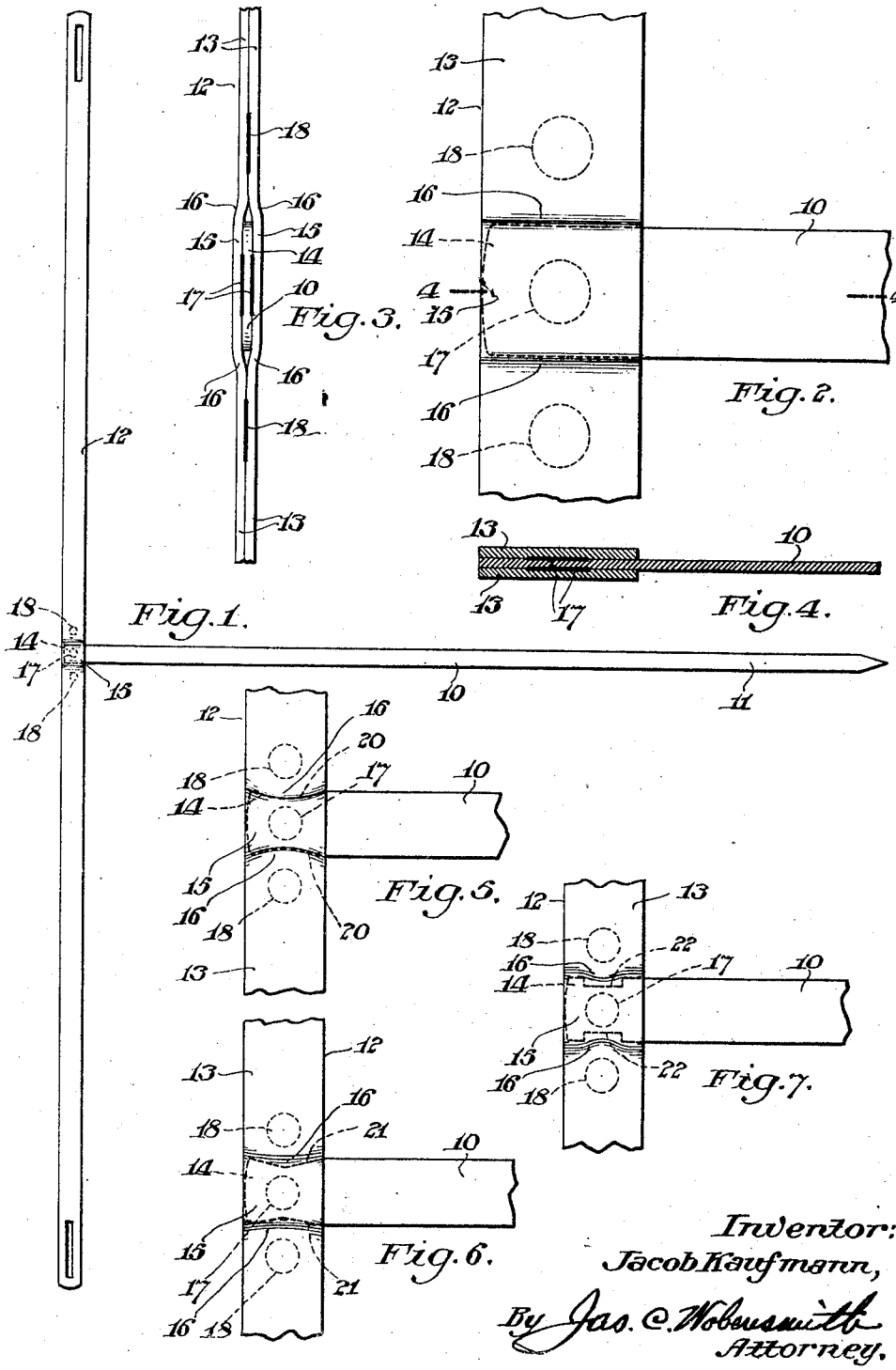
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J. KAUFMANN

PILE FORMING WIRE FOR PILE FABRIC LOOMS

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PILE-FORMING WIRE FOR PILE-FABRIC LOOMS.

Application filed May 29, 1925. Serial No. 33,641.

To all whom it may concern:

Be it known that I, JACOB KAUFMANN, a citizen of the United States, residing at Elkins Park, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Pile-Forming Wires for Pile-Fabric Looms, of which the following is a specification.

My invention relates to pile forming wires for pile fabric looms of the type wherein a plurality of pile forming wires extend through the reed in a direction parallel to the warp threads, and which are so arranged as to be controlled by means of heddles to which the pile forming wires are rigidly connected, this arrangement being provided for the purpose of the proper manipulation of the pile forming wires.

The principal object of my invention is to provide a novel form of pile forming wire, and controlling heddle therefor, which will be simple in construction and efficient for its intended purpose, which will be characterized by the absence of abruptly projecting parts on the side surfaces of the heddle, whereby the warp threads may freely pass without substantial interference during the formation of the sheds, and which is further characterized by the rigidity and permanent nature of the attachment of the pile forming wire to the controlling heddle.

The nature and characteristic features of my invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is a side elevation of a pile forming wire, and its controlling heddle, embodying the main features of my present invention;

Fig. 2 is an enlarged side elevation of a fragmentary portion of the pile forming wire and controlling heddle, illustrating the joint or connection between the wire and the heddle;

Fig. 3 is an edge elevation of the structure shown in Fig. 2;

Fig. 4 is a horizontal section thereof taken on the line 4—4 of Fig. 2; and

Figs. 5, 6 and 7 are views similar to Fig. 2, but on a somewhat smaller scale, illustrating various modified forms of the joint or connection between the wire and the heddle.

Referring to the drawings, in the particular embodiment of my invention shown in Figs. 1 to 4 thereof, 10 is the pile forming wire, upon the forward end portion 11 of which the pile or loop is formed, in the manner well understood by those skilled in the art. In some instances, the upper edge of the free end portion is sharpened, for the purpose of forming a cut pile fabric, which alternative arrangement is also well known to those skilled in the art.

The other end of the pile forming wire 10 is secured to the controlling heddle 12, which comprises a pair of thin, flat strips of metal 13 arranged side by side, with the end 14 of the pile forming wire 10 disposed therebetween and attached thereto in the manner hereinafter described. At the place of attachment of the pile forming wire 10 to the controlling heddle 12, each of the thin, flat strips of metal or wire 13 comprising said heddle 12 is bent or offset out of the plane of the main portion of said strips (see Fig. 3), as at 15, thereby providing a mortise within which the end 14 of the pile forming wire 10 is positioned.

For the purpose of rigidly and permanently securing the pile forming wire to the heddle, the offset portions 15 of the strips 13 are spot welded, as at 17, to the end portion of the pile forming wire 10 which is positioned within the mortise formed by the offset portions 15, and likewise the strips 13 are spot welded to each other as at 18, adjacent the offset portions 15. It will, of course, be understood that the strips 13 may also be spot welded to each other at other places throughout their length, if desired, although this will not ordinarily be found necessary.

In order that the warp threads may freely pass as the same are manipulated to form successive sheds, the shoulders 16, at the points where the main body portions of the strips 13 of the heddles 12 merge into the offset portions 15, are inclined (see Fig. 3), and are not too abruptly formed.

In Figs. 5, 6 and 7 of the drawings, the upper and lower edges of the end portion 14 of the pile forming wire 10, which is positioned within the mortise formed by the offset portions 15 of the strips 13, are indented in Fig. 5 in curved conformation, as at 20; in Fig. 6 in elongated V-shaped conformation, as at 21, and in Fig. 7 in straight

recesses, as at 22, it being understood that the shoulders 16 of the offset portions 15 are complementally formed, whereby the pile forming wire will be more securely held and the strain on the spot welding relieved to a certain extent.

It will be seen that there is thus provided a pile forming wire and heddle for controlling the same in which the pile forming wire will be rigidly and securely attached to the controlling heddle, the arrangement being such that the device may be inexpensively constructed, and will be characterized by the absence of abruptly projecting parts on the side surfaces of the strips comprising the heddle which might interfere with the free passage of the warp threads as the sheds are successively formed.

Having thus described the nature and characteristic features of my invention, what I claim as new and desire to secure by Letters Patent is:

1. A pile forming wire, and a controlling heddle to which one end of said pile forming wire is attached, said heddle comprising two strips of thin, flat metal or wire, the end of the pile forming wire being positioned between said strips, said strips being permanently united to the end of the pile forming wire and being permanently united to each other adjacent the place of attachment of the pile forming wire.

2. A pile forming wire, and a controlling heddle to which one end of said pile forming wire is attached, said heddle comprising two strips of thin, flat metal or wire, the end of the pile forming wire being positioned between said strips, said strips being spot welded to the end of the pile forming wire and being spot welded to each other adjacent the place of attachment of the pile forming wire.

3. A pile forming wire, and a controlling heddle to which one end of said pile forming wire is attached, said heddle comprising two strips of thin, flat metal or wire, each of said strips having a portion offset out of the plane of the main portion of the heddle thereby to form a mortise within which the end of the pile forming wire is positioned, said offset portions being permanently united to the end of the pile forming wire and the two strips of the heddle being permanently united to each other adjacent the place of attachment of the pile forming wire.

4. A pile forming wire, and a controlling heddle to which one end of said pile forming wire is attached, said heddle comprising two strips of thin, flat metal or wire, each of said strips having a portion offset out of the plane of the main portion of the heddle thereby to form a mortise within which the end of the pile forming wire is positioned, said offset portions being spot welded to the end of the pile forming wire and the two strips of the heddle being spot welded to each other adjacent the place of attachment of the pile forming wire.

5. A pile forming wire, and a controlling heddle to which one end of said pile forming wire is attached, said heddle comprising two strips of thin, flat metal or wire, each of said strips having a portion offset out of the plane of the main portion of the heddle thereby to form a mortise within which the end of the pile forming wire is positioned, said offset portions being spot welded to the end of the pile forming wire and the two strips of the heddle being spot welded to each other adjacent the place of attachment of the pile forming wire, the end of the pile forming wire being recessed on the top and bottom edges and the offsets of the strips forming the heddle being complementally shaped.

In testimony whereof, I have hereunto signed my name.

JACOB KAUFMANN.