No. 687,215. Patented Nov. 26, 1901.

W. FEHR.

METHOD OF MAKING HEDDLES.

(Application filed July 18, 1901.)

(No Model.)

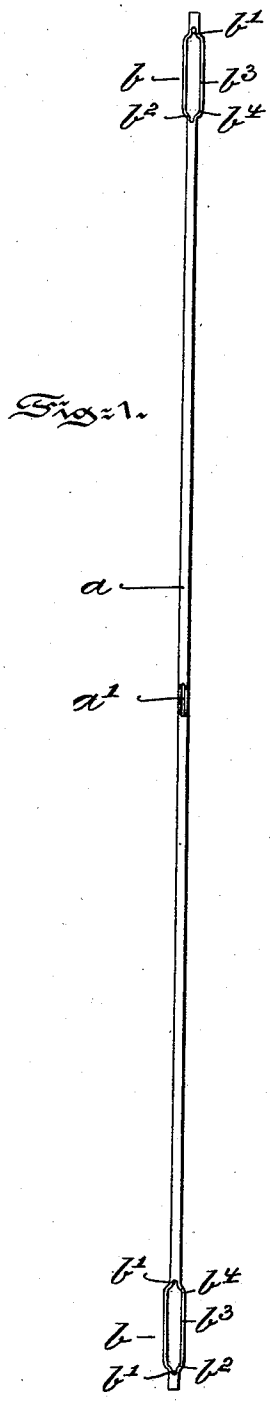


Fig. 1.

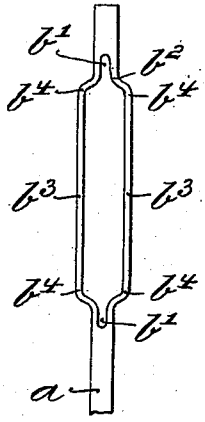


Fig. 3.

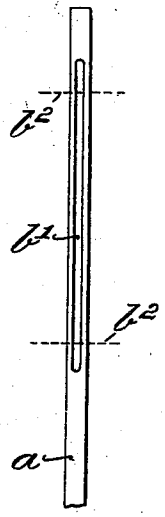


Fig. 4.

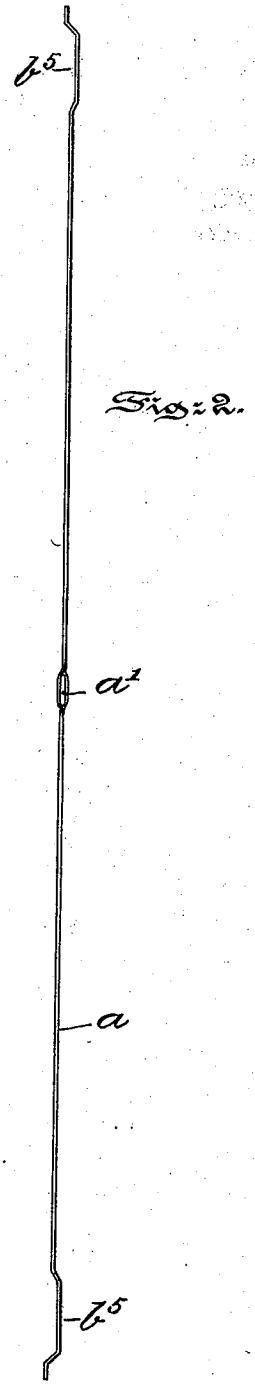


Fig. 2.

Witnesses:
Wilhelm Vogt
Thomas M. Smith

Inventor:
William Fehr,
By J. Walter Douglas
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM FEHR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO STEEL HEDDLE MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

METHOD OF MAKING HEDDLES.

SPECIFICATION forming part of Letters Patent No. 687,215, dated November 26, 1901.

Application filed July 18, 1901. Serial No. 68,709. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM FEHR, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Heddles and in the Methods of Producing the Same, of which the following is a specification.

My invention has relation to a heddle formed of thin flat metal, preferably steel; and in such connection it relates to the arrangement and construction of the heddle, as well as to the method of forming the mortises or slots in its extremities. In heddles of the present type the band or strip of metal is provided with a slot or mortise at either end to permit the heddles to slide back and forth on the heddle cross-rods of the heddle-frame. The formation of such a slot or mortise in thin, flat, and narrow strips of metal—steel, for instance—renders the heddle weak and liable to break at these points. Many ways of forming the slot have been devised; but the disadvantage of weakness has not been successfully avoided.

The main or principal objects of my invention are, first, to provide in heddles at either extremity a slotted portion which is relatively stronger than the unslotted portions of the heddle and joins the unslotted portions by rounded or arch-like connections well adapted to reinforce or strengthen the slotted portion of the heddle, and, second, to provide a method of forming the slotted ends of heddles by first punching or otherwise slitting the ends and in then expanding only that portion of the slitted ends intermediate of the terminals of the slit in a plane parallel with the flat surfaces of the strip.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a front elevational view of a heddle embodying main features of my invention. Fig. 2 is a side or edge view of said heddle. Fig. 3 is an enlarged face view of one of the slotted ends of the heddle; and Fig. 4 is an enlarged face view of the end of the heddle slitted, but not expanded, to form a slot or mortise.

Referring to the drawings, a represents the body of the heddle, which is formed of a thin, flat, and narrow strip or band of metal, preferably steel. This body a has formed intermediate of its ends an eye a' and at either end is provided with a slot or mortise b, formed in the following manner: The strip a is first punched or slitted, as at b', Fig. 4, by any suitable means. The end thus slit is then supported by clamping means (not shown) which extend inward from the terminals of the slit b' to points indicated in dotted lines as at b^2. The thin edges or walls of the slit b' are next expanded between points b^2 b^2 to form the mortise or slot. This expansion is in a plane parallel with the faces of the heddle, and the walls b^3 thus formed extend beyond but parallel with the edges of the strip a, which they join in curved or arched portions b^4 at points b^2 b^2 intermediate of the terminals of the slit b', which terminals are unexpanded. The slotted portions of the ends of the heddles thus formed are strong and not liable to snap or break, because at the points b^4, where the thin walls of the slot join the strip, the walls are arched and join a relatively thin or elastic portion b^2 of the end of the heddle adjacent to the terminals of slit b'. In other words, the slot b, while it is centrally rectangular in shape, yet its ends converge into slits b', which enter the unexpanded metal a. After the mortise or slot b has been formed, as described, the slotted ends of the heddle may be bent in a plane transversely or at right angles to its faces into box-like enlargements b^5, as clearly illustrated in Fig. 2, and this transverse bending may be readily performed without breaking the slotted ends off from the body a of the heddle proper.

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

1. The method of producing heddles, which consists in forming at either end of a flat,

narrow strip of metal a mortise or slot by expanding the metal in a plane parallel with the faces of the strip to form a rectangular opening and in extending this opening into the strip, at the top and base of the rectangular opening, in a narrow substantially converging slit.

2. The method of producing a heddle, which consists in slitting a flat, metallic strip at some distance from either end of the strip and in then expanding the slits at points intermediate of the terminals of said slits, said expansion being in a plane parallel with the faces of the heddle-strip.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

WILLIAM FEHR.

Witnesses:
J. WALTER DOUGLASS,
THOMAS M. SMITH.