

H. CÔTÉ.
 LOOM HARNESS FRAME.
 APPLICATION FILED DEC. 23, 1910.

1,009,050.

Patented Nov. 21, 1911.

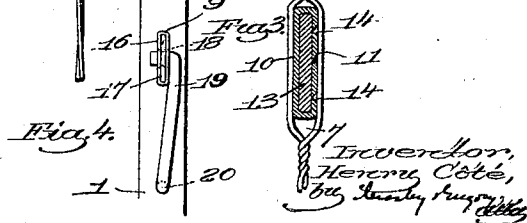
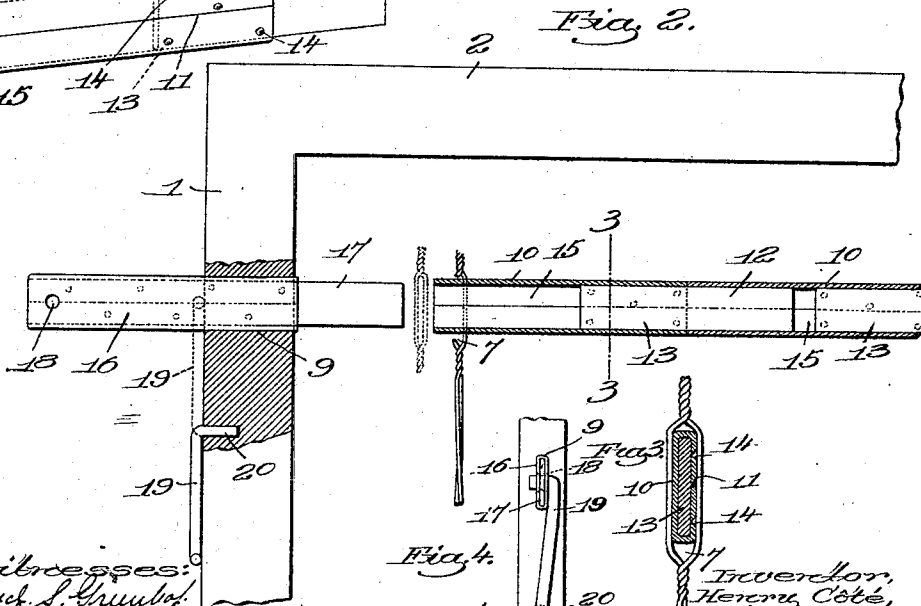
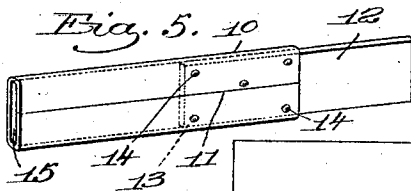
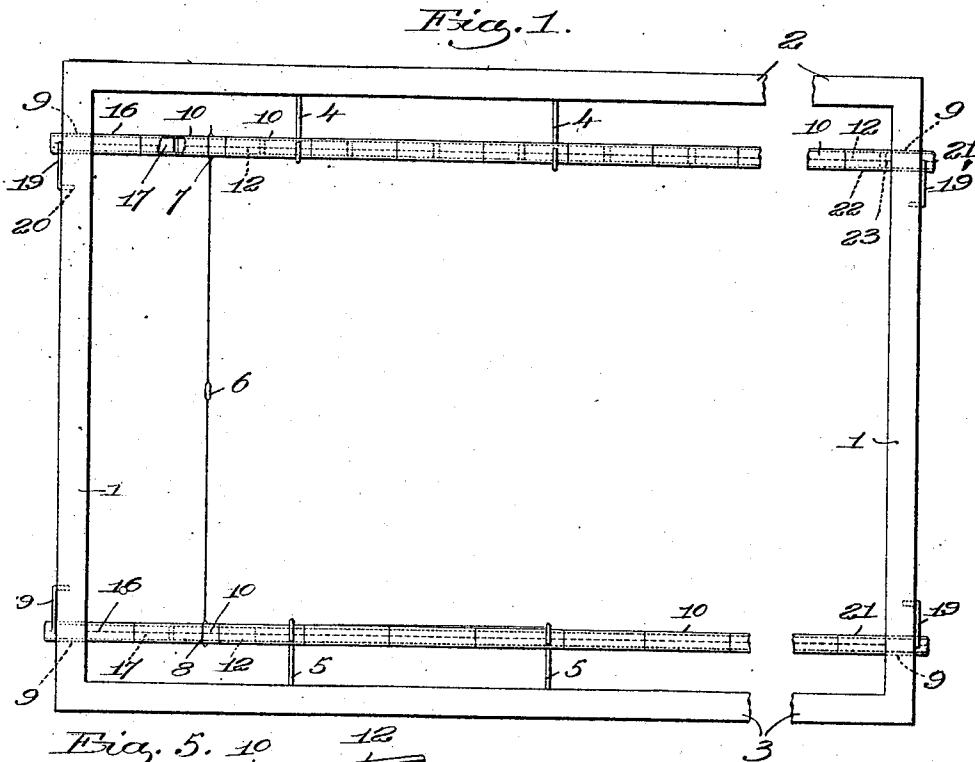
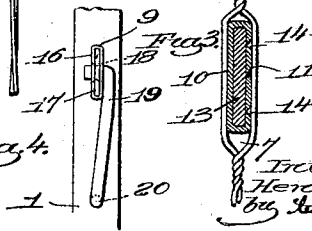


Fig. 4.



Witnesses:
 Prof. L. L. Chamberlain
 Joseph M. Ward.

Inventor,
 Henri Côté,
 by Stanley Ferguson, atty.

UNITED STATES PATENT OFFICE.

HENRY CÔTÉ, OF WEST WARREN, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO DRAPER COMPANY, A CORPORATION OF MAINE.

LOOM HARNESS-FRAME.

1,009,050.

Specification of Letters Patent.

Patented Nov. 21, 1911.

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To all whom it may concern:

Be it known that I, HENRY CÔTÉ, a citizen of the United States, and resident of West Warren, county of Worcester, State of Massachusetts, have invented an Improvement in Loom Harness-Frames, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts:

This invention has for its object the production of a novel loom harness-frame so constructed and arranged that one or more heddles of a set may be removed from or inserted in place in the frame with ease and rapidity.

In harness-frames as ordinarily constructed the set of heddles is supported therein by one or more transverse bars attached to the upright side members of the frame, and in the case of wire or twine heddles they are supported at top and bottom by such transverse bars, passed through loops or eyes in the heddles. For various reasons it is often desirable to insert one or more heddles in the frame, to remove broken or injured ones, or to change the relative position of two or more heddles after the warp has been drawn in and the harness-frame is in the loom. While heddle supports have been detachably secured to the frame this is of little real value, for if the heddle at fault is not near one or the other end of the set it is necessary to remove from the support a relatively large number of heddles to reach the faulty one, and then such heddles must be replaced when the fault is corrected.

By my present invention the heddle support can be separated or opened temporarily at any one of a number of points between the sides of the harness-frame, for the insertion or removal, or transposition of one or more heddles, and thereafter the support is returned to normal condition quickly and easily.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a front elevation of a loom harness-frame embodying one form of my invention, the frame being broken out between its sides to save space; Fig. 2 is an enlarged detail view in elevation and part

section showing the heddle support temporarily opened or separated; Fig. 3 is an enlarged vertical sectional detail through the heddle support, on the line 3—3, Fig. 2, looking toward the left; Fig. 4 is a side elevation of one of the locking devices by which the heddle support is maintained in normal condition; Fig. 5 is a prospective view of one of the members or sections of the heddle support.

In the practical embodiment of my invention herein illustrated the harness-frame is composed of upright side bars 1, 1 rigidly connected at top and bottom by cross-bars 2, 3, Fig. 1, in any suitable manner, the said cross-bars being shown as provided with intermediate hooks 4, 5 for cooperating with the upper and lower heddle supports between the side bars, and I have shown wire heddles of a common form, each provided with a warp-eye 6 and elongated loops 7, 8 at the upper and lower ends thereof, respectively. Herein the heddle supports are mounted at their ends in slots, as 9, in the side bars 1 and said supports are passed loosely through the loop-like openings 7 and 8 of the heddles. Herein each heddle support is composed of a series of detachably connected and laterally separable members or sections, normally held fixedly in the harness-frame and locked from lateral movement, presenting a rigid and apparently continuous bar.

One of the intermediate sections is shown separately in Fig. 5, and consists of an elongated, flattened tubular body 10 preferably made of thin sheet metal bent to shape, with its longitudinal edges abutting along the line 11, and having fixedly attached to it a flat metal tongue 12 projecting beyond one end of the body, the tongue extending into the body, as shown by dotted lines 13.

The base of the tongue within the body is secured thereto in any suitable manner, as by soldering, brazing, or by forcing portions of the side of the body into the base of the tongue by a prick-punch or other suitable tool, as at 14. Between the base of the tongue and the other end of the body the latter presents a socket 15 for the reception of the tongue of the next adjacent section, so that each of the said sections has a tongue projecting from one end and a tongue-receiving socket in its other end.

When a series of these sections are assembled, with the tongue of each fitting snugly into the socket of the next adjacent section, the bodies 10 of the several sections will be
 5 firmly and rigidly connected in alinement as a whole, the ends of adjacent bodies abutting, as shown in Fig. 1, and at the right in Fig. 2, the depth of a socket being always sufficient for the tongue of the next
 10 section to slide thereinto far enough to permit the adjacent ends of the bodies to abut. The external shape and size of a section body is made to correspond to and enter easily the opening in the heddle, and said
 15 connected sections are herein shown as supported in upright position transversely of the harness-frame, the number and length of the sections varying according to circumstances.

20 In order to maintain the sectional heddle support locked in operative position on the harness-frame I mount end members in the slots 9 of the side bars 1, one of the end members having a tongue and the opposite
 25 member a tongue-receiving socket.

Referring to Figs. 1 and 2 the left hand end member comprises a flattened tubular body 16 having fixed therein a projecting tongue 17 and a locking eye 18 is formed
 30 in the outer end of said member. To stiffen and strengthen this member I prefer to continue the base of the tongue therein to its outer end, the eye 18 registering with a hole in the tongue base.

35 In Fig. 2 the end member is shown as retracted to withdraw its tongue 17 from the socket 15 of the next section, thereby separating or opening the heddle support at that point to admit the insertion or removal of
 40 a heddle or heddles, as will be apparent, the upper end of a heddle being shown by dotted lines in the opening so made.

To close the heddle support and restore it to normal condition the end member is
 45 pushed inward in the slot 9 until the tongue 17 enters the socket of the next section, and a locking finger 19 pivoted at 20 in the side bar 1 is swung upward and its free end inserted in the eye 18, as shown in Figs. 1
 50 and 4.

The right hand end member consists of a flattened tubular body 21, Fig. 1, having a tongue-receiving socket 22 at its inner end, said member being held in locked position
 55 in its side bar 1 by a locking finger 19, as previously described.

As the upper and lower heddle supports are of like construction no detailed description of the lower support is necessary.

60 The distance between the inner ends of the bodies of a pair of end members is such that when they are locked in place they will abut closely against the adjacent ends of the bodies 10 of the intermediate sections, and
 65 the ends of the bodies of the latter abut

closely against each other, so that a practically continuous supporting surface is presented for sustaining the heddles.

Now when it is desired to open a heddle support one of the end members is unlocked,
 70 and adjacent sections are separated, by withdrawing the tongue of one from the socket of the next section, at the point nearest that at which the heddle fault occurs, the heddles adjacent the point of separation
 75 being pushed right and left onto the bodies of the two separated sections. Any desired change in a heddle, or heddles, can now be made by means of the temporary break or opening in the support, after which the
 80 opening is closed by pushing together and re-connecting the separated sections and re-locking the end members of the support.

The locking fingers 19 are conveniently made of stiff wire having sufficient resiliency to be sprung into and out of locking
 85 engagement, so that the shaking and jarring of the harness-frame in the operation of the loom cannot effect unlocking.

While I have shown two sectional heddle supports and a well known form of wire
 90 heddle it will be manifest that my invention is not thereby restricted, either to the form of heddle or to the use of upper and lower supports, for the support can be used
 95 with equal efficiency in connection with any form of heddle provided with an eye or opening for the reception of the support.

If desired the body 21 of the right hand end or locking member of the support can
 100 be stiffened or strengthened by securing therein a stiffening plate 23, or in any other suitable manner, so long as a socket is provided at the inner end of such member.

I have shown herein one practical embodiment of my invention, but various changes or modifications in details of construction and arrangement may be made by those
 105 skilled in the art without departing from the spirit and scope of my invention as set forth in the annexed claims.

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

1. In a loom harness-frame, a heddle support comprising a series of sections detachably connected with each other, and means to maintain said sections normally and positively connected and in alinement.

2. In a loom harness-frame, heddles having loop-like openings, a heddle support comprising a series of laterally separable sections detachably connected with each other and adapted to extend through the openings in the heddles, and means normally acting to prevent lateral movement of the sections and to maintain them connected.

3. In a loom harness-frame, a heddle support comprising a series of tubular members each having a projecting tongue at one
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end and a socket at the other end to receive the tongue of the next adjacent member, and means to normally maintain said tubular members connected in alinement with their adjacent ends closely butted together.

4. In a loom harness-frame, a heddle support comprising a series of tubular members, means to detachably connect adjacent members one with the other with their ends abutting, and means to lock positively said connected members from separation and position them in the harness-frame.

5. In a loom harness-frame, a heddle support comprising a series of separable sections each consisting of a body socketed at one end and having a projecting connecting tongue at its other end, the tongue of one section slidably entering the socket in the body of the next section, end members mounted on the frame and cooperating with the endmost sections of the series and laterally movable relatively thereto, and means to lock said end members from lateral movement on the frame and relatively to said sections.

6. In a loom harness-frame, oppositely slotted side bars, a transverse heddle support comprising a series of detachably connected and laterally separable sections adapted to extend through openings in the heddles and support the same, end members laterally slidable in the slots of the side bars and adapted to cooperate with the endmost sections of the series and normally maintain them connected together, and means to lock said end members in operative

position to prevent separation of the intermediate sections.

7. In a loom harness-frame, a heddle support comprising a series of sections each comprising a socketed body having an attaching projection to slidably enter the socketed body of the next adjacent section, and means normally acting to maintain said sections connected with the several body portions thereof presenting a substantially continuous surface for the support of the heddles.

8. In a loom harness-frame, a multi-part heddle support, means to detachably connect the parts of the support one with the other, and positive means cooperating with said support to prevent disconnection of its component parts under normal conditions.

9. In a loom harness-frame, side bars, a transverse, sectional heddle-support sustained by said side bars and comprising a series of flattened, tubular members each having a tongue extended from one end to slidably enter the open end of the adjacent member, and means carried by the side bars to maintain said members connected with each other and with the side bars under normal conditions.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HENRY CÔTÉ.

Witnesses:

MABEL E. BARRY,
HUBERT M. CONEY.