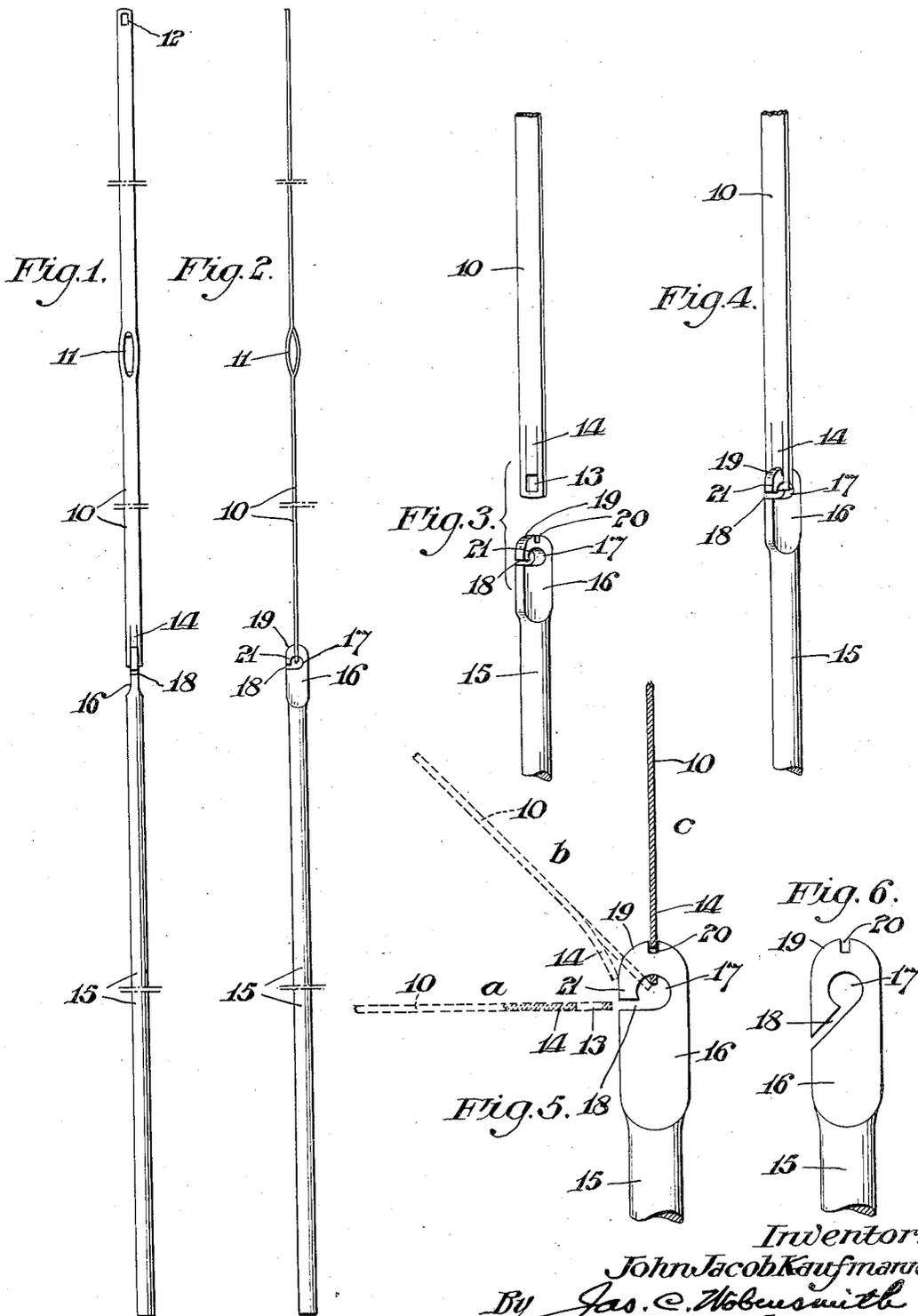


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JACQUARD LOOM HARNESS  
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## JACQUARD LOOM HARNESS

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9 Claims. (Cl. 139—90)

This invention relates to Jacquard loom harness, and it relates more particularly to the manner of attaching to the heddles the lingoos which are used in such harness.

5 The principal object of the present invention is to provide an improved form of heddle and lingo used in connection therewith, which will permit the lingo to be readily and expeditiously attached to the lower end of the heddle, yet will prevent accidental detachment of the lingo from the heddle during the operation of the loom.

10 A further object of the invention is to provide a construction of heddle and lingo to be attached thereto which will permit the heddles and lingoos to be inexpensively made, yet be provided with means for preventing accidental detachment of the lingoos from the heddles.

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

20 Figure 1 is a side elevation of a Jacquard loom heddle having a lingo attached thereto, said heddle and lingo embodying the main features of the present invention;

Fig. 2 is a side elevation thereof;

25 Fig. 3 is a perspective view, enlarged, illustrating the lower end of the heddle and the upper end of the lingo, the same being shown in detached relationship;

30 Fig. 4 is a view similar to Fig. 3, but with the parts shown in connected relationship;

35 Fig. 5 is a view showing the upper end of the lingo, still further enlarged, the lower end of a heddle being shown in section, and the manner of connecting the heddle and lingo being indicated in dotted lines; and

40 Fig. 6 is a view of a modified form of the upper end of the lingo.

45 It will, of course, be understood that the description and drawing herein contained are illustrative merely, and that various modifications and changes may be made in the structure disclosed without departing from the spirit of the invention.

50 Referring to the drawing, the heddle 10 there shown is made of a thin flat strip of metal or wire, and is provided intermediate its ends with the usual warp eye 11, and at its upper end with an eye 12 for attaching the lifting cord (not shown) which extends from the jacquard machine.

55 The lower end of the heddle 10 is provided with an eye 13, formed by punching, and imme-

diately above this eye 13 the metal is slitted longitudinally to provide a spring tongue 14, for a purpose to be presently explained.

5 The lingo 15 is formed from a metal rod of the usual type, and has its upper end flattened, as at 16, to cause this portion of the lingo to be of reduced thickness, corresponding to the width of the eye 13 in the lower end of the heddle.

10 The flattened portion 16 of the lingo is provided with an eye 17 extending therethrough. A slot 18 is also provided in the flattened end portion 16, extending from the eye 17 to one of the side margins of the flattened portion. This slot 18 may extend horizontally as shown in Figs. 1 to 5 of the drawing, or be inclined as shown in Fig. 6 thereof. The slot 18 is preferably arranged to extend tangentially from the lower portion of the eye 17.

15 The upper margin of the end portion 16 of the lingo is preferably curved, as at 19, this curvature being eccentric with respect to that of the eye 17 of the lingo.

20 Centrally disposed in the end margin 19 of the end portion 16 of the lingo is a transversely extending slot 20. This slot 20 is adapted to receive the free end of the spring tongue 14 when the lingo is mounted on the heddle, as herein-  
25 after set forth.

30 For the purpose of mounting the lingo 15 on the heddle 10, the heddle is brought to the position *a* shown in dotted lines in Fig. 5 of the drawing, with the heddle disposed in alinement with the slot 18 in the end portion 16 of the lingo. The heddle is then pushed inwardly, until the eye 13 therein is engaged by the lip 21 provided by the peculiar conformation of the end portion of the lingo. The end of the heddle is then pushed upwardly, and the heddle then swung around, so that when the same reaches the position *b*, also indicated in dotted lines in Fig. 5 of the drawing, the spring tongue 14, provided adjacent the eye 13 in the lower portion of the heddle, will be sprung as there shown.

35 The heddle 10 is continued in its movement with respect to the lingo 15, until the spring tongue 14 engages the slot 20 in the extreme end of the lingo, when it will snap into said slot. The lingo will thereafter be maintained against accidental displacement, which might cause the same to become detached from the heddle.

40 To remove the lingo from the heddle, the heddle and lingo are manipulated in a reverse direction.

45 It will be seen that there is thus provided a simple yet efficient construction which will permit a lingo to be readily and conveniently at-  
55

tached to a heddle, and detached therefrom when desired. Heddles and lingo constructed in accordance with the present invention may be made as inexpensively as the ordinary types.

5 I claim:

1. In Jacquard loom harness, a heddle having an eye in the lower end thereof for mounting a lingo thereon, said heddle having a spring tongue at one end of said eye; and a lingo having an upper end portion for engagement with said heddle eye, said end portion having a tongue receiving portion adapted to be engaged by said spring tongue.

2. In Jacquard loom harness, a heddle having an eye in the lower end thereof, and a spring tongue adjacent said eye; and a lingo having an eye at the upper end thereof and a slot extending outward from said eye to the side of the lingo, the upper end of the lingo having a transverse slot adapted to be engaged by the spring tongue of the heddle.

3. In Jacquard loom harness, a heddle having an eye in the lower end thereof, and a spring tongue adjacent said eye; and a lingo having an eye at the upper end thereof and a slot extending outward from said eye to the side of the lingo, the upper end margin of the lingo being eccentric with respect to the eye and having a transverse slot adapted to be engaged by the spring tongue of the heddle.

4. In Jacquard loom harness, a heddle having an eye in the lower end thereof, and a spring tongue integral therewith and adjacent said eye; and a lingo having an eye at the upper end thereof and a slot extending outward from said eye to the side of the lingo, the upper end margin of the lingo being eccentric with respect to the eye and having a transverse slot adapted to be engaged by the spring tongue of the heddle.

5. In Jacquard loom harness, a heddle having an eye in the lower end thereof, and a spring tongue integral therewith and adjacent said eye; and a lingo having an eye at the upper end thereof and a slot extending tangentially outward from the lower portion of said eye to the side of the lingo, the upper end margin of the lingo being eccentric with respect to the eye and having a

transverse slot adapted to be engaged by the spring tongue of the heddle.

6. In Jacquard loom harness, a heddle having an eye in the lower end thereof, and a spring tongue adjacent said eye; and a lingo having a flattened portion at the upper end thereof, said flattened portion having an eye formed therein and a slot extending outward from said eye to the side margin of the flattened portion, the upper end of the flattened portion having a transverse slot adapted to be engaged by the spring tongue of the heddle.

7. In Jacquard loom harness, a heddle having an eye in the lower end thereof, and a spring tongue adjacent said eye; and a lingo having a flattened portion at the upper end thereof, said flattened portion having an eye formed therein and a slot extending outward from said eye to the side margin of the flattened portion, the upper end margin of the flattened portion being eccentric with respect to the eye and having a transverse slot adapted to be engaged by the spring tongue of the heddle.

8. In Jacquard loom harness, a heddle having an eye in the lower end thereof, and a spring tongue integral therewith and adjacent said eye; and a lingo having a flattened portion at the upper end thereof, said flattened portion having an eye formed therein and a slot extending outward from said eye to the side margin of the flattened portion, the upper end margin of the flattened portion being eccentric with respect to the eye and having a transverse slot adapted to be engaged by the spring tongue of the heddle.

9. In Jacquard loom harness, a heddle having an eye in the lower end thereof, and a spring tongue integral therewith and adjacent said eye; and a lingo having a flattened portion at the upper end thereof, said flattened portion having an eye formed therein and a slot extending tangentially outward from the lower portion of said eye to the side margin of the flattened portion, the upper end margin of the flattened portion being eccentric with respect to the eye and having a transverse slot adapted to be engaged by the spring tongue of the heddle.

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