June 28, 1966 H. FEND 3,258,035

SHED FORMING MECHANISM FOR WAVE WEAVING LOOMS

Filed Jan. 13, 1964 3 Sheets-Sheet 1

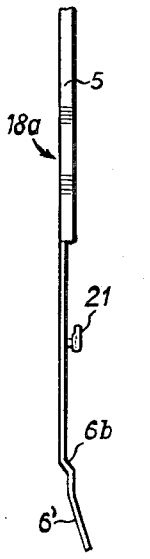

Fig. 2a

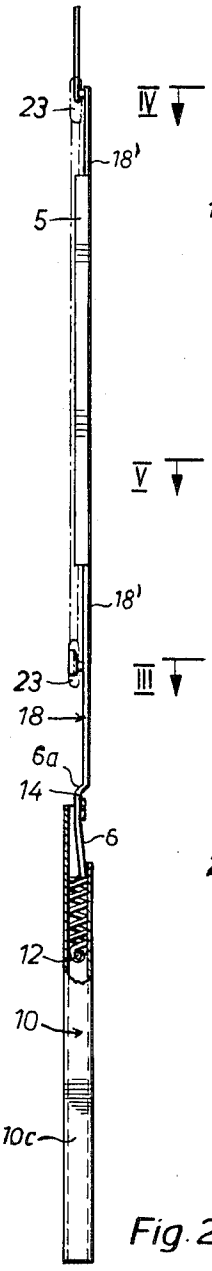

Fig. 2

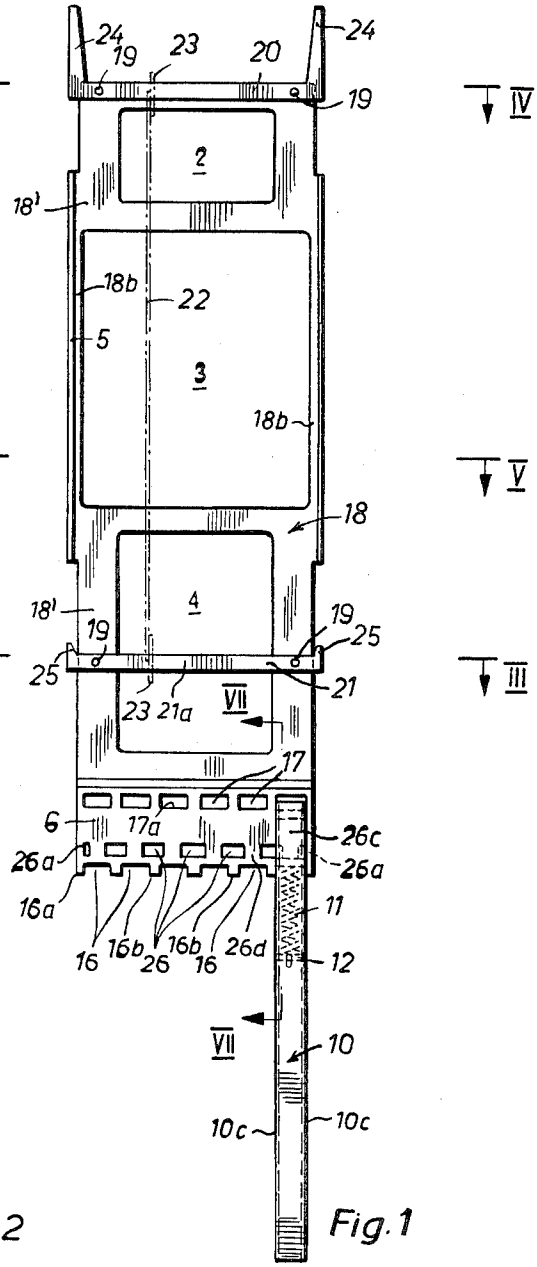

Fig. 1

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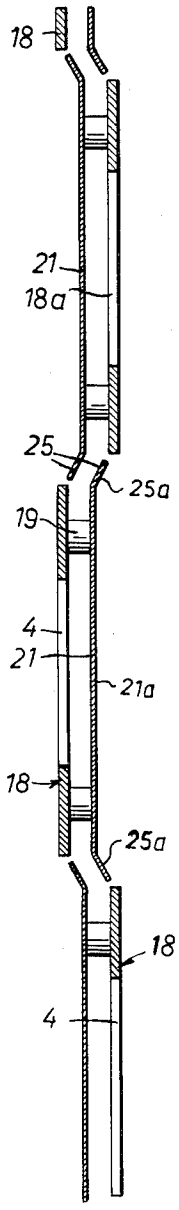

Fig. 3

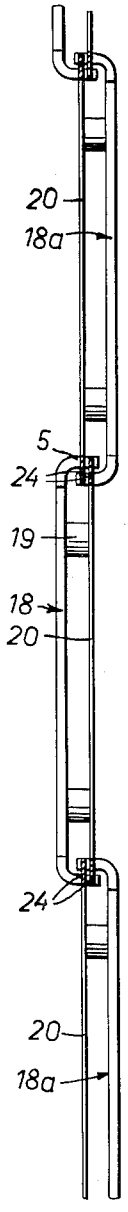

Fig. 4

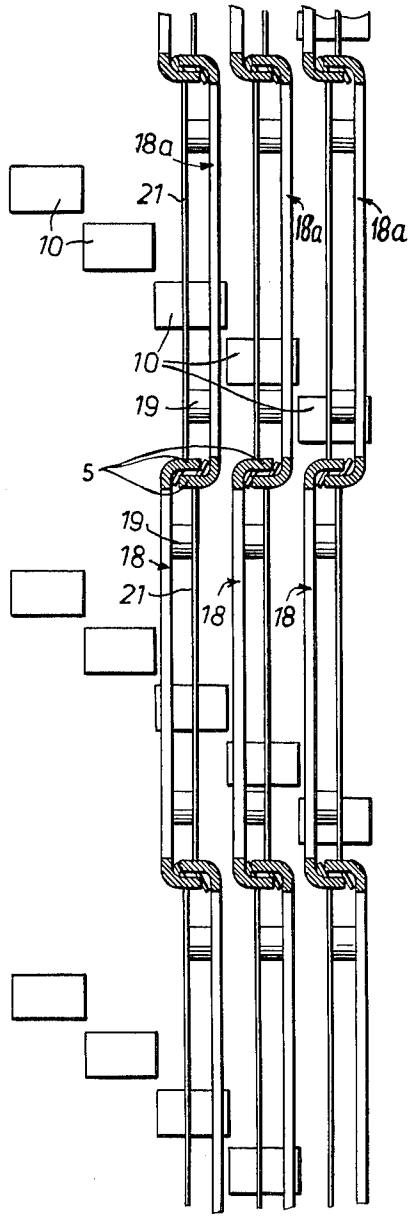

Fig. 5

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SHED FORMING MECHANISM FOR WAVE WEAVING LOOMS

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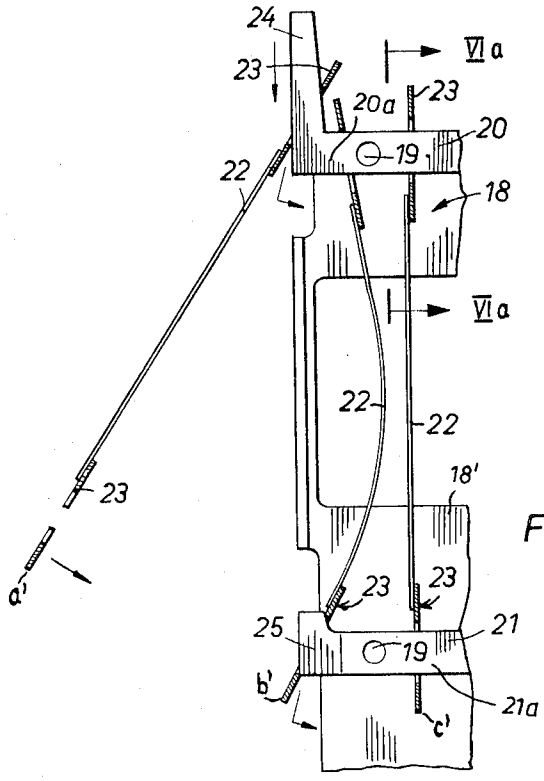

Fig. 6

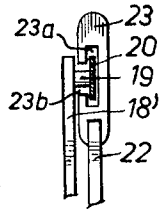

Fig. 6a

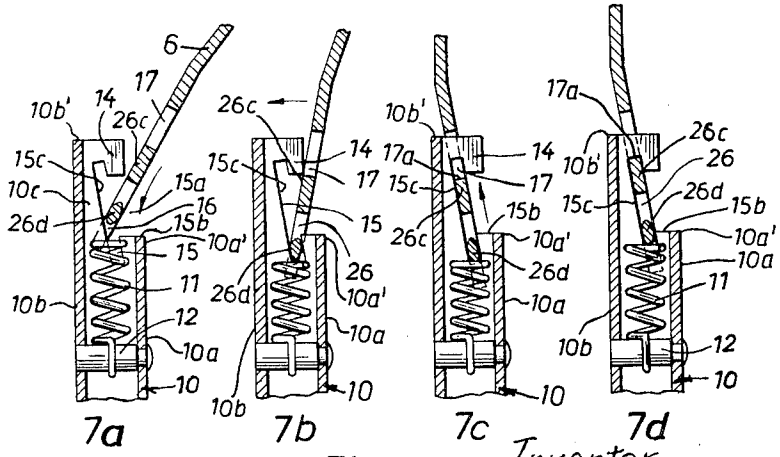

Fig. 7

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United States Patent Office 3,258,035 Patented June 28, 1966

3,258,035

SHED FORMING MECHANISM FOR WAVE WEAVING LOOMS

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Filed Jan. 13, 1964, Ser. No. 337,253
Claims priority, application Switzerland, Jan. 24, 1963, 866/63
27 Claims. (Cl. 139—12)

The present invention relates to an improved shed forming mechanism for a wave weaving loom of the type provided with a plurality of displacable frame-like harnesses arranged side-by-side and behind one another and provided with guide heddles for the warp thread, said harnesses being carreid by drive rods and being individually moved up and down by the same.

Shed forming mechanisms have already been proposed for wave weaving looms in which the individual harnesses together with their drive rods consist of an integral piece. The drive rods of the tandemly arranged harnesses which in each case form a harness group and are to be individually moved up and down, cannot likewise be arranged in tandem because of the space requirements of their separate drive apparatus, and such must be laterally displaced with respect to one another. For such reason, with these known shed forming mechanisms there are required at least as many different models or executions of harnesses as there are tandemly arranged harnesses in each group, or as there must be provided in each group when producing those particular weaving patterns which necessitate the largest number of harnesses arranged behind one another.

In order to be able to exchange the harnesses together with the warp it is desired to be able to quickly remove and mount the harnesses without having to touch the actuating mechanism for their drive rods.

The inventive shed forming mechanism for wave weaving looms has for one of its primary objects to overcome the previously mentioned disadvantages of the aforementioned prior art apparatus and fulfills the last-mentioned requirement.

The present invention is generally manifested by the features that, each harness is detachably or releasably connected with its drive rod, and the drive rods and harnesses are so constructed that each harness, as desired, can be operatively connected with each of at least part of all of the drive rods of the apparatus.

For example, a given or desired harness can be connectable with each of, for example, six drive rods laterally displaced or offset with respect to one another and which are provided for driving the individual harnesses of one group of a like number of harnesses arranged offset behind one another, this harness being, moreover, connectable with all those drive rods throughout the entire apparatus which are provided for driving the harnesses of alternate ones of the said groups. Hence, such harness can be employed as the harnesses in every second or alternate harness group. Another model of harness can then be employed as the harnesses in each of the remaining groups, so that a total of only two models of harnesses will be necessary.

Accordingly, it is another very important object of the present invention to provide an improved shed forming mechanism for wave weaving looms which comprises, in combination, a number of harnesses arranged side-by-side and offset behind one another, drive means for supporting and individually raising and lowering each harness, means provided for each harness and each drive means for detachably connecting a harness with a drive means, said detachably connecting means of each harness

and said detachably connecting means of each drive means being constructed so that each harness can be arbitrarily connected with at least part of all of the drive means provided for the shed forming mechanism.

Another important object of this invention is to provide an improved construction of the harnesses of a wave weaving loom whereby each harness is connectable with any given drive rod provided for the harnesses, and wherein the harnesses of any harness group are identical to one another as well as being identical with the harnesses of each alternate or second harness group.

A further important object of this invention is to provide improved harness construction for wave weaving looms wherein such harnesses are arranged offset side-by-side, each such harness including means cooperating with a neighboring side-by-side arranged harness for providing lateral support of and structural stiffening of all such harnesses arranged alongside one another.

Still a further important object of this invention is the provision of improved harness constructions for weaving looms wherein the harnesses are arranged in groups and alongside one another, and such that only two different physical structures of harness are necessary for two neighboring harness groups.

Yet a further important object of this invention is to provide an improved harness construction for looms including heddle means cooperating with specifically constructed heddle guide rails provided at the harness, whereby the heddle means can be mounted and demounted from the harness merely by a particular relative movement between such heddle means and the harness.

A further noteworthy object of the present invention is the provision of an improved construction of harness for wave weaving looms wherein the drive rods for the harnesses arranged alongside one another are indentical in physical structure.

Another outstanding object of this invention is the provision of an improved harness construction for weaving looms comprising a body member including a lower portion provided with attachment means for releasably interconnecting the harness with a drive means therefor, said body member further including flange means along at least a portion of its sides which extend approximately perpendicular to said body member, and wherein said lower portion and said flange means extend either in the same or opposite directions, yet wherein the lower portions of all harnesses of the loom preferably extend in the same direction.

Still further objects of the present invention will become apparent from the detailed description given hereinafter; it should be understood, however, that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art.

In the drawings wherein like reference numerals generally denote similar or analogous elements:

FIGURE 1 is a front view of a harness designed according to the invention and shown provided with its associated drive rod;

FIGURE 2 is a side view of the harness and drive rod of FIGURE 1 as viewed from the right side thereof;

FIGURE 2*a* is a fragmentary view, somewhat similar to FIGURE 2, showing details of a modified physical structure of harness adapted to be used in side-by-side relation to the harness shown in FIGURES 1 and 2;

FIGURE 3 is a horizontal, cross-sectional view taken along line III—III of FIGURE 1, as well as additionally illustrating cross-sectional views of several other harnesses arranged adjacent or alongside in the weaving

loom, for example an assembly of harnesses incorporating the respective harnesses of FIGURES 2 and 2*a*;

FIGURE 4 is a horizontal, cross-sectional view taken along line IV—IV of FIGURE 1 and illustrating the further harnesses referred to in FIGURE 3;

FIGURE 5 is a horizontal, cross-sectional view taken along line V—V of FIGURE 1 additionally illustrating cross-sectional views of the further harnesses referred to in FIGURE 3 which are arranged offset side-by-side in the weaving loom, and in addition further illustrating the arrangement of drive rods available for driving the therein illustrated harnesses as well as still other harnesses of the weaving loom;

FIGURE 6 schematically illustrates in front-view a portion of the harness of FIGURE 1, however not according to scale, such harness here being shown, by way of illustration, as provided with three heddles depicted in different positions during mounting thereof;

FIGURE 6*a* shows details of a heddle support, partly in side view and partly in sectional view, taken along line VI*a*—VI*a* of FIGURE 6; and

FIGURE 7 which incorporates the sub-FIGURES 7*a* to 7*d* is an enlarged cross-sectional view of a portion of the harness and drive rod of FIGURE 1, taken along line VII—VII thereof, and further illustrating the mounting of the harness during different stages in the individual FIGURES 7*a* to 7*d*.

Referring now to the drawings and, more particularly, to FIGURES 1 and 2 the harness **18**, incorporates a body member **18'** formed of a piece of sheet metal provided with three superimposed rectangular or square openings **2**, **3** and **4** for example, and at its respective sides with marginal portions **18***b* of L-shaped cross-section including flanges **5** extending forwardly at substantially right angles to a plane containing the body member **18'**. For the purpose of facilitating an operative detachable connection of each such harness **18** with a drive rod **10**, the latter of which can be provided at any arbitrary location of for example six laterally displaced or staggered locations with respect to the aforesaid harness, each harness **18** has a lower harness portion **6** which is, in the present instance, slightly rearwardly inclined, opposite to the direction of the flanges **5**, as best shown in FIGURE 2. The lower portion **6** merges with a flexed portion **6***a* which in this embodiment, is directed forwardly in the same direction as the flanges **5**.

Lower portion **6** of the harness forms connecting means which are engageable with drive rod **10**. Said connecting means include at the lower edge of the lower harness portion **6** six rectangular, open-ended recesses **16**, FIGURE 1. This lower portion **6** further has an upper row of six rectangular slots **17**, each of which is advantageously aligned with one of the aforesaid recesses **16**. Additionally, and for the purpose of facilitating connection of the harness **18** with its drive rod **10**, this lower harness portion **6** is also provided with a lower row of slots **26** disposed intermediate the row of open-ended recesses **16** and the upper row of slots **17**. It will be seen that any particular slot of five of these slots **26** is disposed above a corresponding finger-like projection **16***b* situated between each two neighboring recesses **16**, yet each slot **26** extends at both sides somewhat past the associated projection **16***b* since it is advantageously offset with respect to the recesses **16** and slots **17**. Furthermore, the two outermost slots **26***a* of the row of slots **26** only form small vertical slots which are situated above the outer edge **16***a* of the respective outermost open-ended recesses **16**.

At a predetermined spacing in front of the harness **18** there is secured to the aforesaid harness, as for example by means of bolts **19**, an upper heddle guide rail **20** located above the rectangular opening **2** and a lower heddle guide rail **21** situated forwardly of the rectangular opening **4**. To ensure the said spacing between the respective guide rail **20** or **21** and the body **18'** of the harness, the bolts **19** are provided with a spacing collar of larger diameter than the bolt holes in the parts **18'**, **20** and **21**. The upper heddle guide rail **20** is provided at each of its ends with an upwardly directed leg **24**. On the other hand, the lower heddle guide rail **21** is provided at each end with a corresponding, likewise upwardly directed leg **25**. Yet, in this instance, such projecting leg **25** is shorter, and for the purpose of facilitating installation is somewhat forwardly flexed, as best shown at **25***a* of FIGURE 3, with respect to the horizontal portion **21***a* of the lower heddle guide rail **21** of the harness **18**. A number of heddles or wires **22** are applied onto both of the heddle guide rails **20** and **21**, in a manner which will be more fully explained below.

As best seen in FIGURES 6 and 6*a*, each heddle **22** is provided at each end with a C-shaped hook member **23**. These C-shaped hook members **23** each provide an opening **23***a* which is somewhat higher than the respective heddle guide rail **20** or **21**, so that such hooks can be slipped or pushed over the legs **24** or **25** and onto the corresponding heddle guide rails **20** or **21**, respectively, when such C-shaped hooks **23** are located in inclined position, as clearly shown in FIGURE 6. This opening **23***a* of each hook member **23**, however, is not so large that these hook members, once they have been pushed-on and have assumed a vertical position, can slide past the upright projections or projecting means **24** and **25** extending in the same direction. Moreover, the corresponding mouth **23***b* of each associated opening **23***a* is advantageously wide enough to permit displacing of each heddle hook member **23** past the bolts **19**.

Reference numeral **10** designates a drive rod formed, in the present case, of a hollow square tube reciprocated by means not shown which are known. As best shown in FIGURE 7, connecting means are formed in the upper end **10***a'* of the rear wall **10***a* of the drive rod **10** terminates somewhat beneath the upper end **10***b'* of the opposite wall **10***b* of said drive rod. Moreover, both of the side walls **10***c* of this drive rod **10** are provided at their respective upper end with a hook-shaped engaging portion **14**, at the inner side of which there extends a downwardly inclined elongated slot **15**, possessing an inclination which advantageously corresponds to that of the lower portion **6** of the harness **18**. Into the middle or central portion of each such elongated slot **15** there extends from the rear wall **10***a* of the drive rod **10**, and into each side wall **10***c* of said drive rod, a mouth **15***a* which is bounded at its lower end by an edge portion **15***b* of the respective side wall **10***c*, such edge portion **15***b* being located at the same elevation as the upper edge **10***a'* of the rear wall **10***a*. Furthermore, each such mouth **15***a* is bounded at its upper end by the hook-shaped engaging portions **14**. Internally of the hollow drive rod **10** there is accommodated a suitable resilient member, such as a pressure spring **11**, which at its lower end bears against a riveted bolt **12** or like support, and which in relaxed condition extends somewhat past the lower end of the respective elongated slot **15** and into close proximity with the arofesaid mouths **15***a* (see FIGURE 7*a*).

The drive rod **10** is releasably coupled with the harness **18** in the completed mounted condition depicted in FIGURE 7*d*, since such drive rod engages with an open-ended recess **16** at the lower edge **16***a* of the harness **18**, being retained against lateral displacement by means of such recess **16** and its lateral bounding finger-like projections **16***b*. The hook-shaped engaging members **14** located at both side walls **10***c* of the drive rod **10** then engage with the associated upper slot **17** provided at the harness portion **6**, whereas the web means (see FIGURE 1) formed between each open-ended recess **16** and the associated upper slot **17** comes to lie within the slot means **15** provided at each of the two side walls **10***c* of the drive rod **10**. By referring to FIGURE 1 it can be seen that said web means incorporates a wider web portion **26***c* situated between each slot **17** and a pair of

lower arranged slots **26**, as well as a narrower web portion **26***d* disposed between each two slots **26** and extending down to the upper edge of the associated open-ended recess **16**. Hence, when the harness **18** has been completely mounted to the drive rod **10**, as shown in FIGURE 7*d*, the wider web portion **26***c* lies in the upper portion of the slot means **15** and the narrow web portion **26***d* in the lower region of the aforesaid slot means. The spring **11** presses the harness **18** upwardly with such force that the lower edge **17***a* of the relevant slot **17** bears against the hook-shaped engaging portions **14** of the drive rod **10**, even during all upward accelerations occurring with loom operation.

The mounting of the harness **18** upon the drive rod **10** takes place in the following manner:

Initially, the harness **18** is pronouncedly inclined towards the rear and from this position is applied from the rear to the associated drive rod **10** so that the narrower web portion **26***d* enters through the mouths **15***a* beneath the hook-shaped engaging portions **14** at both sides of the drive rod **10**, and into the slots **15** thereof. The spring **11** is meanwhile relaxed (see FIGURE 7*a*). Then, the harness **18** which is still rearwardly inclined is pushed downwardly, whereby the narrower web portion **26***d*, slides downwardly at both sides in the slots **15** of the drive rod **10** until reaching approximately the lower end thereof, to thereby compress the spring **11** (see FIGURE 7*b*). Thereafter, the harness **18** is rocked about such narrower web portion **26***d* into its upright position, whereby the hook-shaped engaging portions **14** at both sides of the drive rod **10** enter through the corresponding associated slot **17** of this harness **18**, and the wider web portion **26***c* located between the slot **17** and the aforementioned associated pair of slots **26** swings through the aforesaid mouths **15***a* into the slots **15**, finally coming to bear against the oppositely situated boundry wall portions **15***c* thereof (see FIGURE 7*c*). Finally, the harness **18** is permitted to slide upwardly, whereby the aforesaid wide web portion **26***c* located between slots **17** and **26** engages with the hook-shaped engaging portions **14** and this harness **18** is then held from swinging back into the starting position.

A downward movement of the harness **18** with respect to the drive rod **10** is then prevented by means of the resilient member or spring **11**. Hence, to provide a non-movable, rigid yet detachable connection of the harness **18** with a drive rod **10**, it is sufficient to move the harness **18** in the described manner relative to such drive rod. A particularly noteworthy advantage of the attachment feature resides in the fact that, it is neither necessary to employ any work tool, nor are manipulations of a locking mechanism, fastening means or otherwise necessary. The release of the harness **18** from the associated drive rod **10** takes place by merely moving such harness in reverse sequence and direction.

In a loom, and in particular a wave weaving loom, there are present numerous harnesses which, as shown in FIGURE 5, are arranged side-by-side and in tandem with each such harness **18**, **18***a* being supported and individually driven by a drive rod **10**. The harnesses arranged side-by-side will hereinafter be designated as a row, and those arranged in tandem will be designated as a group. The drive rods **10** for the harnesses **18** or **18***a* of each group, in accordance with the spacing of such harnesses are offset forwardly and rearwardly, and in consideration of their driving mechanism are also laterally offset. The individual harnesses **18** or **18***a* of each group as regards one another as well as the harnesses of alternate groups are completely identical or similar in construction, yet, however, in view of the large number of recesses **16** and slots or holes **17** and **26** can be mounted upon any given or optional drive rod of the group.

Referring to FIGURES 3 to 5, the harnesses **18** of one group have their flanges **5** and the heddle guide rails **20** and **21** facing in one direction, and the harnesses **18***a* of each of the two neighboring groups have their corresponding flanges **5** and heddle guide rails **20** and **21** facing in the opposite direction. Thus, it will be seen that the flanges **5** of the harnesses **18***a* are what may be considered to be rearwardly directed, in other words in a direction opposite to the flanges **5** of the harnesses **18**, whereby such flanges overlap or engage over the confronting, forwardly directed flanges **5** of a neighboring harness **18**. Furthermore, the heddle guide rails **20** and **21** of the harnesses **18***a* are located at the rear face or side of the harnesses **18***a*, that is at the face of the respective harnesses **18***a* directed towards the rear of the shed forming mechanism of FIGURES 3 to 5, whereby their legs **24** and **25** are disposed behind the corresponding projecting legs **24** and **25** of the guide rails **20** and **21**, arranged at the front face or side of the neighboring harnesses **18**, that is, at the face of the harnesses **18** directed towards the front of the shed forming mechanism. It will be appreciated that for both of the harnesses **18** and **18***a* the heddle guide rails are advantageously located at the same side of the flanges **5**.

As best shown in FIGURE 2*a*, where details of the modified structure of harness **18***a* are depicted, it will be seen that the lower portion **6'** of each harness **18***a* merges with a portion **6***b* which in this case is rearwardly flexed, this being in contrast to the corresponding portion **6***a* of the harness **18** which was forwardly flexed (see FIGURE 2). However, it should be recognized that for both physical structures of harnesses **18** and **18***a* their portions **6***a* and **6***b*, respectively, are flexed towards the same side as the flanges **5** are directed. On the other hand, and in contrast to the harnesses **18**, the lower portion **6'** of each of the harnesses **18***a* are inclined in the same direction as their flanges **5**, so that the lower portions **6'** of harnesses **18***a* after installation at the loom are inclined in the same direction, in this case rearwardly, as are the lower portions **6** of the harnesses **18**.

Due to ths arrangement, the same physical structure can be employed for the drive rods for the harnesses **18** and **18***a*. It will be appreciated that with the harnesses **18** the corresponding flanges **5** and lower portion **6** are oppositely directed, whereas with the modified form of harness **18***a* the flanges **5** and lower portion **6'** are directed in the same direction. Apart from the fact that the harnesses **18***a* have a somewhat modified construction of their respective lower portion **6'** from the corsponding lower portion **6** of the harnesses **18**, as explained above, in all other respects the physical structure of harnesses **18** and **18***a* are similar. As a result, and according to requirements, harnesses **18** or **18***a* can be mounted upon the same drive rods **10**. However, in the case of the harnesses **18** the plane of the harness is further towards the rear and with the harnesses **18***a* further towards the front in relation to the center of the associated drive rod **10**.

Each harness **18** and **18***a* is effectively stiffened in the region of the rectangular opening **3** through which the warp threads extend by means of the flanges **5**, so that each such harness **18**, **18***a* can be formed of relatively thin sheet metal of the like. Consequently, the overall thickness of the side portions which overlie one another in the depth direction of the harnesses **18** and **18***a* neighboring one another can be smaller than with known apparatus in which the side portions of neighboring harnesses likewise overlie one another in depth direction in order to maintain small the spaces or gaps between the warp threads brought about the harnesses. Consequently, there results a smaller total depth for each group of harnesses arranged in tandem, which again, with unchanged angle of opening of the warp shed, results in a reduction of the stroke or lifting of the harnesses. The mass of the harnesses is then smaller than that of heretofore known harnesses because of their lighter construction as well as because of their smaller dimensions, insofar as such are dependent upon the stroke. The small-

er stroke and the smaller mass of the harnesses, in turn, provides the result that the shed forming mechanism can work quicker.

Due to the mutual overlapping of the side portions 18*b* having the flanges 5, the harnesses 18 and 18*a* support one another in the one direction, and due to the mutual engagement over one another of the upper projections or projecting means 24 such harnesses support their heddle guide rails 20 in the opposite direction from excessive bending towards the front or rear under the effect of the forces transmitted through the warp threads.

It should be appreciated that in view of the large number of harnesses 18, 18*a* particularly in at wave weaving loom, it is desirable to provide for an easy and quick mounting and demounting of the heddles at the harnesses. FIGURE 6 illustrates the manner in which each heddle 22 can be substantially effortlessly inserted or applied without tools onto the heddle guide rails 20 and 21. Initially, each heddle 22 is inserted with its upper guide hook 23 in inclined position from above onto the projecting legs 24 of the upper guide rail 20, as depicted by position *a'* of the heddle 22 of FIGURE 6. Thereafter, as shown by heddle position *b'*, the upper guide hook 23 of the heddle 22 is pushed over onto the horizontal portion 20*a* of the upper heddle guide rail 20. At the same time, a bending of the heddle 22 is manually effected, by means of which the lower guide hook 23 of this heddle 22 can be applied onto the projection 25 of the lower guide rail 21. Without such a bending of the heddle 22 such would not be possible because the projection 25 is higher than the slot or opening 23*a* of the C-shaped guide hook 23. Moreover, the hook member 23 must be pushed downwardly from the illustrated inclined position, until it can transfer from the projection 25 to the horizontal portion 21*a* of the heddle guide rail 21. After such has occurred, the flexible heddle 22 is permitted to assume its unflexed or linear form, as shown by heddle position *c'*. During operation of the loom such heddle 22 is prevented from sliding past the projection leg 25, since during such time no force is applied thereto which could bring it into the bent configuration shown by heddle position *b'*. On the other hand, for dismantling it is easy to carry out the necessary movement and elastic bending of the heddle by hand, so that for their assembly and disassembly no tools or preparatory manipulations such as loosening a locking mechanism or the like are necessary. As was mentioned, this is of particular advantage with wave weaving looms in light of the large number of harnesses which are affected by a change of the number of warp threads and number of heddles.

While there is shown and described present preferred embodiments of the invention it is to be distinctly understood that the invention is not limited thereto but may be otherwise variously embodied and practised within the scope of the following claims.

What is claimed is:

1. Shed forming mechanism for wave weaving looms comprising a plurality of harnesses arranged in groups each comprising a number of laterally co-extensive harnesses behind each other and each one harness in each said group being laterally aligned with one harness in each of at least part of the other said groups, a plurality of driving members each supporting and raising and lowering one of said harnesses, the driving members supporting the laterally co-extensive harnesses in each one of said groups being laterally offset with reference to each other, first connecting means on each driving member, a plurality of second complementary connecting means similar to each other arranged side-by-side on each said harness, said first means and any one of said second means co-operating with each other for rigidly and detachably connecting said harness with one of said plurality of driving members.

2. Shed forming mechanism for wave weaving looms comprising, in combination, a number of frame-like harnesses arranged in groups each comprising a plurality of laterally co-extensive harnesses behind each other, each one harness in each said group being laterally aligned with one harness in each of at least part of the other said groups, drive rod means for supporting and individually raising and lowering each harness, the drive rod means supporting the laterally co-extensive harness in each one of said groups being laterally offset with reference to each other, heddle means for warp threads provided for each harness, first detachable connecting means upon each drive rod means, a plurality of second complementary connecting means similar to each other arranged side-by-side on each said harness, said first means and any one of said second means co-operating with each other for detachably connecting a harness with a drive rod means, whereby each harness can be arbitrarily connected with any selected one of said drive rod means provided for the shed forming mechanism.

3. Shed forming mechanism as defined in claim 2 wherein in each of the harnesses of adjacent groups are different and each of the harnesses of alternate groups are identical so that only two types of harnesses may be used.

4. Shed forming mechanism as defined in claim 2 wherein said complementary connecting means of each harness are provided at a lower harness portion.

5. Shed forming mechanism as defined in claim 4 wherein said lower harness portions are all inclined in the same fore-and-aft direction.

6. Shed forming mechanism as defined in claim 5 wherein said complementary connecting means of each lower harness portion comprises a lower row of open-ended recesses and an upper row of slots, each slot of said upper row being aligned with an associated open-ended recess of said lower row.

7. Shed forming mechanism as defined in claim 6 wherein said detachably connecting means of each separate drive rod comprises hook-shaped engaging portions engageable with a slot of said upper row of slots and elongated slot means bounded at the upper end by said hook-shaped engaging portions for receiving an associated open-ended recess of said lower row of open-ended recesses.

8. Shed forming mechanism as defined in claim 2 wherein all of the drive rod means are identical.

9. Shed forming mechanism as defined in claim 2 wherein said complementary connecting means of each harness and said connecting means of each drive rod means enable interconnection and release, respectively, of each harness with an associated drive rod means solely through relative movement between such harness and associated drive rod means.

10. Shed forming mechanism as defined in claim 9 wherein each drive rod means comprises a hollow drive rod, said connecting means of each hollow drive rod including a spring member supported internally of said hollow drive rod and slot means for receiving an associated harness, said spring member retaining said associated harness within said slot, said associated harness being demountable from its drive rod by displacing said harness against the action of said spring member into a position allowing for removal from said slot means.

11. Shed forming mechanism as defined in claim 2 wherein each harness is provided with an opening for piercingly receiving therethrough warp threads, said warp thread receiving openings of each harness being bounded at its sides by respective lateral marginal portions including lateral flange means which extend approximately perpendicular to the plane of said harness, said lateral marginal portions of each harness possessing an L-shaped cross-section.

12. Shed forming mechanism as defined in claim 2 wherein each harness is provided at its sides with lateral marginal portions extending at least through a portion

of the height of each harness, whereby adjacent lateral marginal portions of the harnesses arranged side-by-side overlie one another during every possible position imparted to said harnesses by their associated drive rod means.

13. Shed forming mechanism as defined in claim 2 wherein each harness is provided with lateral flanges along its sides extending through at least a portion of the height of each harness, each of the lateral flanges of any one harness overlying an adjacent lateral flange of a neighboring harness arranged side-by-side to said one harness, said lateral flanges of said one harness extending in a first direction and said lateral flanges of said neighboring harness extending in a second direction opposite said first direction, with a respective inner face of said overlying lateral flange of said one harness confronting an inner face of the adjacent lateral flange of the other neighboring harness.

14. Shed forming mechanism as defined in claim 2 wherein each harness supports a pair of heddle guide rails arranged parallel to one another and to the plane of such harness, said pair of heddle guide rails being supported in spaced relation to said harness, said heddle means being releasably carried by said pair of heddle guide rails, each heddle means being provided at each end with a respective C-shaped guide hook insertable upon a respective one of said heddle guide rails, each of said pair of heddle guide rails being provided at its ends with projecting legs extending in the same direction.

15. Shed forming mechanism as defined in claim 14 wherein the projecting legs at the ends of one of the pair of heddle guide rails are shorter than the projecting legs at the ends of the other heddle guide rail.

16. Shed forming mechanism as defined in claim 14 wherein said pair of heddle guide rails of any one harness of a particular harness group are directed in one direction and said pair of heddle guide rails of harnesses of adjacent groups are directed in the opposite direction.

17. Shed forming mechanism as defined in claim 14 wherein each harness is further provided with an opening for piercingly receiving therethrough warp threads, said warp thread receiving opening of each harness being bounded at its sides by respective lateral marginal portions including lateral flange means which extend approximately perpendicular to the plane of said harness, said lateral marginal portions of each harness possessing an L-shaped cross-section, said flange means and pair of heddle guide rails of each harness being disposed at the same side of the harness.

18. Shed forming mechanism as defined in claim 16 wherein said projecting legs of said heddle guide rail of each harness farther remote from the connecting means thereof, are longer than the projecting legs of the remaining heddle guide rail of such harness.

19. Shed forming mechanism as defined in claim 16 wherein each harness is provided with lateral marginal portions extending at least through a portion of the height of each harness, whereby adjacent lateral marginal portions of the harnesses arranged side-by-side overlie one another during every possible position imparted to said harnesses by their associated drive rod means, said projecting legs of the heddle guide rail farther remote from the connecting means of one of such two neighboring side-by-side arranged harnesses of said particular harness group, and whose lateral marginal portions lie behind the lateral marginal portions of the other neighboring harness, lying in front of the corresponding projecting legs of the heddle guide rail of the other of said two neighboring side-by-side harnesses, and vice versa.

20. Shed forming mechanism as defined in claim 2 wherein said heddle means provided for each harness are elastic so that mounting and demounting from each harness is effected by an elastic bending of said heddle means relative to the associated harness.

21. Shed forming mechanism as defined in claim 20 wherein each harness supports a pair of heddle guide rails arranged parallel to one another and to the plane of such harness, said pair of heddle guide rails being supported in spaced relation to said associated harness, said heddle means being releasably carried by said pair of heddle guide rails, each heddle means being provided at each end with a respective C-shaped guide hook having an opening and insertable upon a respective one of said heddle guide rails, each of said pair of heddle guide rails being provided at its ends with projecting legs extending in the same direction, said projecting legs at the ends of one heddle guide rail which are directed away from the projecting legs at the ends of the other heddle guide rail being longer than said projecting legs of said other guide rail, and said projecting legs of said other guide rail being longer than said opening of each C-shaped guide hook, such that each heddle means after attachment of one C-shaped guide hook at one end thereof onto said one heddle guide rail must be elastically flexed in order to attach or remove the C-shaped guide hook at the other end of said heddle means to or from said other heddle guide rail.

22. A harness for a weaving loom as defined in claim 2 wherein said connecting means comprises a lower row of open-ended recesses and an upper row of slots, each slot of said upper row being substantially aligned with an associated open-ended recess of said lower row.

23. A harness for a weaving loom comprising a body member, said body member including a lower portion provided with attachment means for releasable interconnection of the harness with an associated drive means thereof, said attachment means including a lower row of open-ended recesses and an upper row of slots, each slot of said upper row being aligned with an associated open-ended recess of said lower row, said body member further including flange means along at least a portion of its sides extending approximately perpendicular to said body member, said lower portion and said flange means extending in the same direction.

24. A harness for a weaving loom as defined in claim 23 wherein said lower portion of said harness includes a further row of slots which are offset and intermediate with respect to said lower row of open-ended recesses and said upper row of slots.

25. A harness for a weaving loom as defined in claim 24 further including an opening for through-passage of warp threads, said flange means laterally bounding said opening.

26. A harness for a weaving loom comprising a body member, said body member including a lower portion provided with attachment means for releasable interconnection of the harness with an associated drive means thereof, said attachment means including a lower row of open-ended recesses and an upper row of slots, each slot of said upper row being aligned with an associated open-ended recess of said lower row, said body member further including flange means along at least a portion of its sides extending approximately perpendicular to said body member, said lower portion and said flange means extending in opposite directions.

27. A harness for a weaving loom as defined in claim 26 wherein said lower portion of said harness includes a further row of slots which are offset and intermediate with respect to said lower row of open-ended recesses and said upper row of slots.

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