Sept. 4, 1951 E. C. NICHOLS 2,566,530

LOOM SHUTTLE AND SHUTTLE BOX THEREFOR

Filed Feb. 25, 1949 2 Sheets-Sheet 1

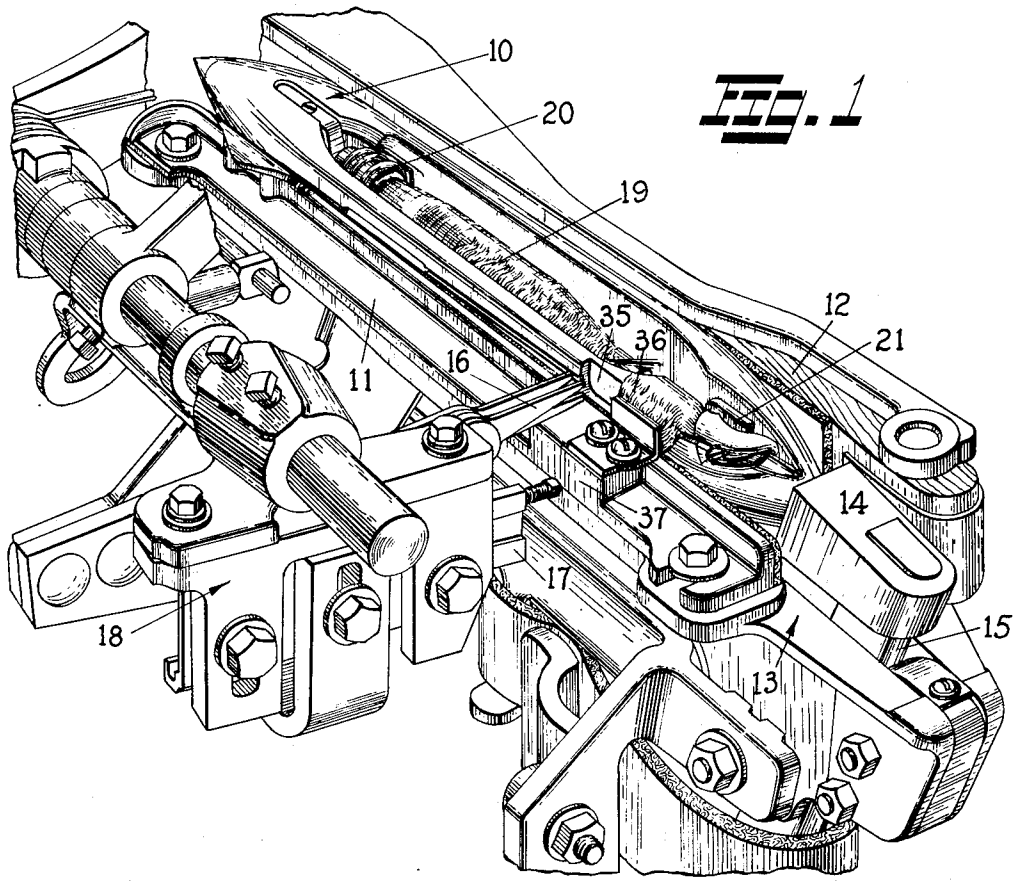



Fig. 1

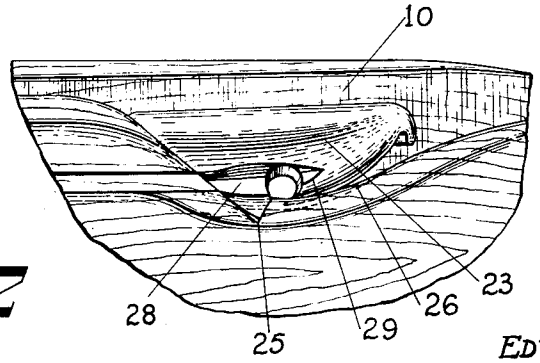



Fig. 2

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LOOM SHUTTLE AND SHUTTLE BOX THEREFOR

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Fig. 3

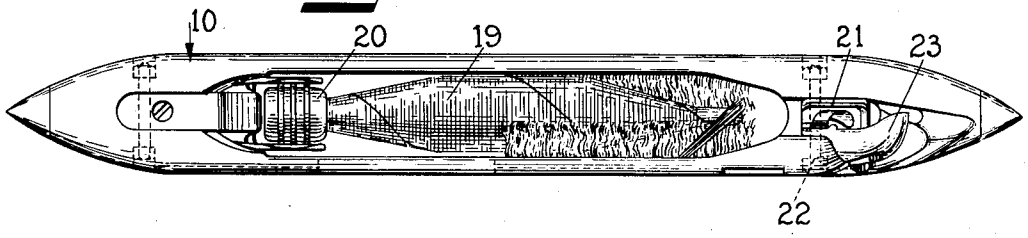



Fig. 4

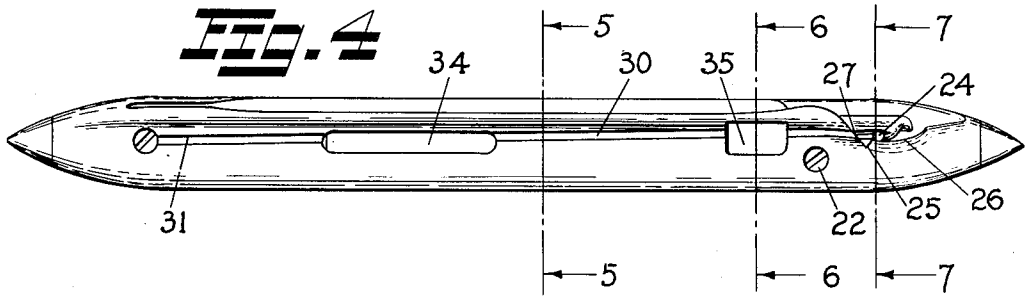



Fig. 5

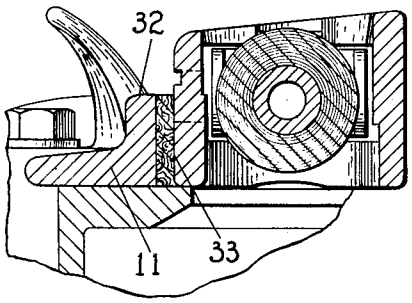



Fig. 6

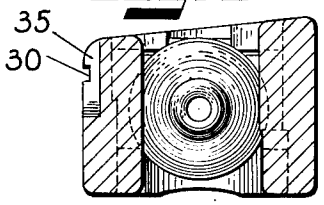



Fig. 8

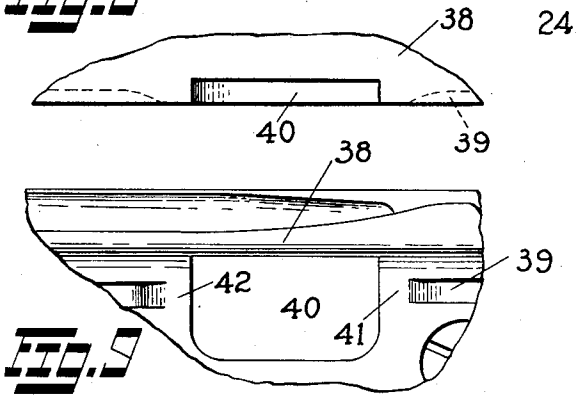
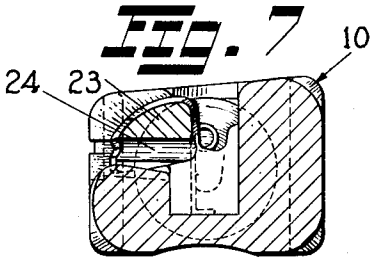



Fig. 9

Fig. 7




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# UNITED STATES PATENT OFFICE

2,566,530

## LOOM SHUTTLE AND SHUTTLE BOX THEREFOR

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Application February 25, 1949, Serial No. 78,317

16 Claims. (Cl. 139—183)

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This invention pertains to improvements in looms for weaving, and more specifically, to improvements in shuttles and box mechanisms such as are employed in fly shuttle looms.

It is a general object of the invention to improve shuttles and attendant mechanism including parts of the box and lay end structure cooperating with the shuttle so as to increase the life of the shuttle and to improve and render more uniform the operation thereof.

A more specific object of the invention is that of improving fly shuttles and the front box plate operating therewith so that the friction developed between the front shuttle face and the box plate is distributed over a larger area and so that the front box plate shall be greatly simplified and its general efficacy improved.

Another specific object of the invention is that of so modifying the front box plate and the shuttle cooperating therewith that the filling thread laid by the shuttle and which is drawn from a filling supply carried within the shuttle shall be positioned above the top of the front box plate so that the shuttle itself may be provided with a perfectly flat or planar surface cooperating with the frictional surface on the box plate.

A further specific object of the invention is that of strengthening the shuttle itself by employing a novel threading block which raises the point at which the filling thread is drawn outwardly from the side eye so that the portion of the shuttle at the side eye need not be cut away to as great an extent as is the usual practice.

Another object of the invention is that of so constructing the shuttle body and threading block, and so governing the filling thread as it is drawn therefrom that the thread cutter for severing the filling thread may function within a recess adjacent the topmost portion of the shuttle body and which is cut into the material at that portion of the shuttle for a relatively small extent as compared to the complete thickness thereof rather than being centrally located and extending entirely through the material at that part of the shuttle.

Other objects of the invention will become evident from the following more detailed disclosure and the claims appended thereto.

According to previous practice, fly shuttles have been made from wood, a material which serves quite well, all things considered, but which is obviously subject to abrasion and splintering, and also may develop cracks after a period of use in looms, especially at the high speeds now commonly employed. The points at which shuttles

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frequently fail are usually to be found adjacent the threading block and the side eye through which the filling thread emerges as it is drawn from the filling supply carried by the shuttle upon each pick thereof across the loom. The body of the shuttle is necessarily cut away to a considerable extent since the central portion is recessed to receive a bobbin carrying a supply of filling thread which must be as large as practicable bearing in mind the fact that replenishment of the filling is not to be effected oftener than is reasonably necessary. The thread is drawn from the side eye, first in one direction and then the other as the shuttle is packed to and fro. To protect and guide this thread as the shuttle moves in one direction, it (the shuttle) has a shallow groove following along the central part of its front side, or in some instances, adjacent the lower part thereof, that is, nearer the base of the shuttle than the top.

Another feature commonly utilized and which seriously detracts from the strength of material at the side of the shuttle is the slot into which the thread cutter blades project as those blades function to sever the thread at transfer. Since, in the conventional shuttle, as above described, the thread is guided within a thread groove disposed more or less centrally of the front face of the shuttle it is essential that the thread cutter slot be positioned at that part of the shuttle as well.

The fact that heretofore all shuttles have been devised with the side eye through which the thread is drawn located well down within the shuttle body, and almost always much nearer the base thereof than the top, has resulted in cutting away a considerable portion of the shuttle material at that particular point. Where side eyes extend downwardly into the material of the shuttle well past its horizontal central plane, so much material is cut away that there is really very little continuity of the structure from the side wall to the tip thereof so that, when we consider that the material relied upon for strength lies mainly at the tip and between the side eye opening, the clamping screw hole and the thread cutter slot, it may be seen that a shuttle may very well develop a crack at one of these points. It is well known that shuttles frequently fail due to some small abrasion or to the development of a crack or other weakness at these points.

Furthermore, the fact that the side eye has always been positioned at a relatively low point, and that the thread groove has always been relatively wide and has extended along the mid section or

even lower, the front box plate has been designed with the thought in mind of having contact with the front face of the shuttle, both below the thread groove and above it. That has necessitated a rather complicated front box plate since if it is to extend above the thread groove, then it must be recessed or cut away at certain points, for example, at the thread cutter slot. Incidentally, according to prior constructions, the front box plate has necessarily been slotted or cut away for the entry of the cutter blades themselves, and that slot has had to be open at one end for other purposes as is understood by those familar with looms of this type.

Since the front box plate has had to be mutilated to a relatively great extent to avoid interference or to permit entry of certain parts through it and into the shuttle, its general efficacy has been lessened to a marked degree. Thus there is, according to the design of parts heretofore prevailing, a lack of continuity of the surfaces upon which one depends for frictional engagement between the front shuttle face and the cooperating part of the front box plate. It has been more difficult to manufacture the front box plate and to face it with leather or other frictional material which has likewise had to be cut according to a particular and more complicated pattern. The actual frictional engagement between the parts has been distributed over separated portions of the front shuttle face and, as wear has taken place, or as the shuttle has become warped or otherwise deformed, the amount of friction exerted by the box structure as the shuttle enters it has varied from time to time, and in consequence thereof, the functioning of the loom may not be as uniform as desired.

According to the present invention, the shuttle and box structure have been modified to an extent and in such direction as to obviate the difficulties above mentioned. The front box plate as hereinafter more completely described, is continuous and offers a substantially uninterrupted, planar surface which is faced with leather or other satisfactory friction material and which engages a corresponding, planar, uninterrupted front face of the shuttle. In order to accomplish that, the shuttle threading block is modified so that the cut out necessary at that relatively weak point in the shuttle material is kept at an absolute minimum, and, in fact, does not extend below, and in some instances may be kept fairly well above, the central or median plane running horizontally of the shuttle. Instead of employing a separate side eye such as is frequently employed, the shelf of the threading block which is itself relatively shallow is actually cored out or drilled so as to provide a side eye, that side eye cooperating with the adjacent part of the material in the shelf and also with the adjacent supporting wooden or other material of the shuttle to serve very effectively as a trap. The actual construction is such that the shuttle threads very easily and with certainty, but cannot become unthreaded even under the most severe usage.

In cooperation with the side eye as above explained, a thread groove is provided at the front side or front wall of the shuttle and extends from the exit point of the side eye toward the opposite end of the shuttle and is preferably inclined downwardly to a slight extent. This groove is above the top portion of the front box plate and does not extend downwardly to a point where there could be any unintended engagement or contact between the filling guided therein



and the frictional portion of the front box plate. The shuttle material is recessed as will hereinafter be explained more in detail at the above-mentioned groove and at a point adjacent the side eye, but slightly removed therefrom so that the ends of cutter blades may extend into said recess which is just deep enough to make certain that the blades effectively sever the filling thread which is held outwardly to be cut since the thread slot is not as deep as the cutter blade recess. This recess does not pass through the material from which the shuttle is made and is located wholly at the upper half of the front wall of the shuttle so that it does not interfere with the frictional engagement between the face of that front wall and the cooperating front box plate. The material from which the shuttle is formed is left intact insofar as is practicable and, in fact, as will hereinafter be shown, the sections taken at these critical points are much stronger than has been the case according to the previous practice, and in fact, there is practically no weakening of the section at all below the horizontal median plane thereof.

The invention will hereinafter be described by reference to one particular embodiment thereof as exemplified in the accompanying figures of drawing wherein

Fig. 1 is a perspective view of a shuttle, box structure and attendant parts according to the invention.

Fig. 2 is a fragmentary view showing the threading block and attendant portion of the shuttle to an enlarged scale.

Fig. 3 is a plan view of the shuttle.

Fig. 4 is an elevation of the shuttle of Fig. 3 as seen from the front side, that is, the front of the loom.

Fig. 5 is a section taken through the shuttle as at line 5—5, Fig. 4, and also showing in section the front box plate and part of the lay mechanism adjacent it.

Fig. 6 is a section taken at line 6—6, Fig. 4, that is, at the thread cutter recess.

Fig. 7 is a similar section, but taken at line 7—7, Fig. 4.

Fig. 8 is a fragmentary plan view of a modification.

Fig. 9 is an elevation corresponding to Fig. 8 and further illustrating the modification.

Now referring to Figs. 1, 3 and 4, the invention will be described in greater detail as it has been applied to a conventional fly shuttle loom. Fig. 1 illustrates in perspective a shuttle generally indicated by numeral 10 boxed in a shuttle box and lay end structure which include among other things, a front box plate 11, a rear box plate and binder structure 12, these parts being attached in a more or less conventional manner to a lay end generally designated by numeral 13. As is the common construction, a picker 14 is fixed at the end of a picker stick 15 which moves to and fro within a slot at the lay end and serves to propel the shuttle 10 across the lay at the appropriate time. The right hand lay end is here illustrated and it is that particular lay end with which I am most concerned since it is there that the thread cutter and the replenishing devices function.

A thread cutter one of which is referred to as a Stafford thread cutter, but which may take any convenient form, includes a plurality of blades 16 pivoted on a support carried by a slide 17 slidable transversely of the lay within suitable guides in a bracket generally designated by numeral 18, the construction of these cutters, the

slide mechanism, supports and actuating means functioning therewith being well understood by those skilled in this art and therefore not necessary of further description in this disclosure.

The shuttle **10** is recessed centrally as is the usual practice and a filling supply **19** wound on a filling bobbin **20** is held in the usual spring clips at one end of the shuttle. The filling thread drawn over the end of the bobbin **20** is threaded through a threading block **21** retained within an extension of the filling bobbin recess in the shuttle and being held in place by a screw **22** which passes through the shuttle body itself and through a transverse opening in the block **21**. This block **21** may take a more or less conventional form insofar as certain portions thereof not described herein are concerned. The thread may be drawn through tension pads and may be passed through a scroll or other longitudinally disposed guiding means, but the block differs noticeably in that the shelf portion **23** is relatively flat and has a thread eye generally termed as a side eye **24** cored or otherwise formed as by drilling adjacent its lowermost portion. The eye is open at its lower side. This side eye confined within the shelf itself differs from previous constructions which have always involved additional mechanism beneath the shelf structure itself, that additional mechanism sometimes comprising prongs or other projections which form a trap within which the thread is held as it is drawn from the shuttle, but more often a separate side eye bushing or other member has been inserted in the wood or other material of the shuttle, and in certain instances, steel pins or porcelain elements have been utilized. These devices of the prior art have always necessitated cutting out a substantial transverse notch within the shuttle material at this side eye position, and as a result, the strength of the shuttle itself at and adjacent this point is seriously impaired.

The details of this part of the shuttle body and its threading block are shown in Figs. 3, 4 and in the section of Fig. 7. The amount of wood or other material from which the shuttle body is constructed and which is left intact may be seen from this latter section to be very appreciable as compared to what is frequently to be found in shuttles of this type, especially at the front wall of the shuttle, that is, at the part where the side eye emerges. It is also to be noted that the material from which the shuttle is formed is not cut out at any point below, and in fact, except for the actual notch or depression **25**, the cut out part does not extend to the median central plane of the shuttle taken in a horizontal direction. The wood or other material is thus not milled or cut in a manner to leave extended sharp edges or crevices which are particularly inclined to develop cracks or to splinter, or to become otherwise roughened by contact with the shuttle box structure as has frequently been experienced after an extended period of usage. It is well known that the life of a shuttle becomes very short once a crack has developed, or after splinters or other abrasions have become reasonably evident.

The shelf **23** is spaced slightly from the underlying part **26** of the shuttle body, although the opposite surface **27** is adapted to fit tightly against the wood of the shuttle body by which it is supported. The lowermost point or apex of the shelf fits within the notch **25** and, as seen more clearly in Fig. 2, the side eye **24** in combination with the edge **26** which is disposed slightly



higher than the exit slit at the bottom of that eye serves to prevent the thread from passing that lower apex of the V-shaped underside of the shelf as the thread enters the eye. Due to the fact the ledge **26** of the shuttle wood or other material extends upwardly slightly and also is disposed farther toward the front edge of the shuttle than is the outer, corresponding part of the shelf, the thread is effectively trapped once it has entered the eye itself. The eye also has cooperating therewith the grooves or notches **28** and **29** within which the thread is guided as the shuttle passes to and fro across the loom. The trap thus formed for the filling thread is one which serves ecectively to confine it within its intended pathway and within the eye, but also offers a minimum of resistance to threading and, in fact, experience with this shuttle and eye combination has proven that it is almost certain to thread as intended.

As seen in these sectional views and in Figs. 1, 2 and 4 a thread groove **30** extends along the side front wall of the shuttle body aligning at one end with the slot or notch **28**, and of course, with the side eye **24**, and preferably inclining downwardly slightly to an exit point **31** at the opposite end of the shuttle. This groove serves to guide the filling thread as the shuttle moves from left to right in the loom and it is a particular feature thereof that the lowermost end **31**, or other lowermost point, lies at about the top part or highest elevation indicated by numeral **32**, of the front box plate **11**, or of the facing **33** of leather or other suitable friction material such as is normally employed, it being preferred that the upper edge of the facing coincide with the top surface of the plate itself. In some cases the innermost end of the plate and of the facing **33** are so formed as to recede from the shuttle face and in that event, the end **31** of the groove may extend downwardly to a slightly greater extent, but at those points between which there is contact and frictional engagement between the facing **33** and the front wall of the shuttle adjacent thereto, the groove is preferably at a position above the top of the front box plate.

The groove is interrupted by the slot **34** which is for the purpose of admitting the filling feeler. This feeler slot **34** is positioned centrally of the shuttle, or in such position that the feeler may engage at about the horizontal center line of the filling supply carried in the shuttle. As seen in the section at Fig. 5, that slot is so positioned that the lowermost half thereof lies beneath the top edge of the front box plate. Preferably, the slot is formed at as high an elevation as possible so that the front wall of the shuttle will not be cut away at any more of its area than is necessary insofar as that area is contact with the frictional element **33** in the box plate is concerned.

The section at Fig. 6 and the elevation of Fig. 4 show the recess **35** which cooperates in admitting the cutter blades **16** when it is necessary to cut the filling. At such time the filling is held taut within the groove **30** and since the recess **35** is somewhat deeper than the groove, the filling is held outwardly far enough so that it may be cut without the tip of the blades projecting in far enough to hit the actual material of the shuttle, that is, will not strike the back wall of the recess **35**. As shown in this Fig. 6, the front wall of the shuttle at this position is relatively thick. The recess **35** actually takes away a very small amount of material and the section being cut away only

at the topmost half of the shuttle, leaves the lowermost part which contacts with and which is compressed between the front box plate and the binder substantially intact.

Heretofore, the slot for the cutter has extended entirely through the shuttle material at this point actually weakened the same very appreciably, and furthermore, that slot was in substantial alignment with the hole through which the clamping screw 22 is passed and also in alignment with the notch in which the side eye or side eye pins have been disposed so that the shuttle was actually weakened at a plane along the central portion thereof and entirely at one side and tip. Cracks might develop thereat much more readily than could now be possible where the only opening passing clear through the wood of the shuttle at this point is that at the clamping screw 22. However, as can be seen from an inspection of Figs. 3 and 7, the thickness of shuttle material is substantial as compared to the thickness thereof at the usual cutter slot. The result is that the life of shuttles constructed as herein described averages considerably longer than it has with shuttles constructed as in the prior art.

Again referring to Fig. 1, a small brush or other friction element indicated by numeral 36 and adjustably clamped at a boss or other elevated part 37 of the front box plate serves to hold the filling thread taut at a time when the cutter enters the recess 35 to cut the thread. Sometimes the inertia forces are such that as the shuttle enters the right hand box preparatory to effecting a transfer, the filling tends to flow from the end of the supply and through the threading block just sufficiently for loosening tension thereon so that it might drop from the groove 30. In that event the cutter blades would not effect their intended function and it is for that reason that the friction element or brush 36 is used so that the thread will be held at an elevation where cutting must take place.

While according to one preferred form of the invention above described, the thread groove or indentation 30 is of the same depth and is continuous throughout the length of the shuttle wall except where interrupted by the slot 34 and recess 35, as shown in Figs. 8 and 9, the groove may be discontinued either wholly or partially at each side of the cutter recess. In these figures a shuttle similar to that above described has a front wall 38 in which is cut or otherwise formed a groove 39. At each side of a cutter recess 40, similar to recess 35, the groove is discontinued leaving the face of the shuttle wall smooth and intact as at 41 and 42.

This modification makes it possible to guide the thread as is desired, but permits a greater comparative depth of recess 30 to necessitate a less precise setting of the cutter mechanism. The thread riding upon the surfaces 41 and 42 stands farther away from the rear surface of the recess 35 than when the groove is not so modified.

In some instances the groove may be only a part of its fullest depth at the points adjacent the recess in which event some of the thread controlling function is retained while still increasing the certainty of the cutting function with a minimum depth of recess.

While it has not been illustrated herein, various tension means may be employed, for example, a wick type tension may be inserted in the wood of the shuttle and at the entrance space between the lower surface of the shelf at the tip side of the side eye and the underlying surface of the shuttle body.



In certain instances the general design of the shuttle and of the pertinent parts at the loom may be changed within limits without affecting the general inventive concept. Wood is the most common material employed in the manufacture of shuttles, but it is to be understood that the invention herein described and claimed may apply to shuttles made of wood and plastic in combination, or of plastic or other materials wherein the weakening of the structure due to removing an unusual amount of material at and adjacent any particular locality is found to shorten the life of the shuttle.

The general lay and box structure remains more or less similar in all looms of this type, but, within limits, it may be altered and also, the transfer mechanism and the thread cutter which functions in predetermined timed relationship therewith may also be altered without affecting the general function of the parts as intended and as described herein. The threading block is adapted to thread partially on the first pick after transfer, and then completely upon the second pick. Certain modifications may be resorted to by means of which the threading will be accomplished completely at the first pick and with such a threading mechanism the other features herein described and claimed are of definite advantage and it is intended that they be used under such circumstances.

While one embodiment and a modification of the invention has been disclosed, it is to be understood that the inventive concept may be carried out in a number of ways. This application is, therefore, not to be limited to the precise details described, but is intended to cover all variations and modifications falling within the spirit of the invention and the scope of the claims.

I claim:

1. In a loom the combination of a fly shuttle and a box and lay end structure within which said shuttle is retained at the end of its flight and preparatory to being picked for its return movement, said shuttle having a threading block, a side eye and a thread groove passing through the outlet plane of the side eye and a continuous, substantially unobstructed and planar front side extending from the base of the shuttle substantially to the level of said thread groove positioned above the horizontal center of the shuttle, and said box structure including a front box plate having a substantially unobstructed, continuous frictional surface positioned to engage the said planar surface of the shuttle and having an uppermost horizontal edge disposed below the said thread groove in the shuttle.

2. In a loom the combination of a fly shuttle and a box and lay end structure within which said shuttle is retained at the end of its flight and preparatory to being picked for its return movement, said shuttle having a threading block, a side eye and a front side extending in a substantially vertical plane and being grooved for guiding a filling thread along its length, said groove passing through the outlet plane of the side eye and being disposed within the upper half of the said front shuttle side, and said box structure including a front box plate in cooperation with the said shuttle side having an uppermost horizontal edge disposed below the said thread groove in the shuttle and of extent such that it frictionally engages substantially the entire surface of that side below the said filling thread groove.

3. In a loom the combination of a fly shuttle

and a box and lay end structure within which said shuttle is retained at the end of its flight and preparatory to being picked for its return movement, said shuttle having a continuous, substantially unobstructed and planar front side extending from the base of the shuttle up to a thread groove a substantial portion of which is disposed above the horizontal central plane of the shuttle, said box structure including a front box plate having a corresponding, substantially unobstructed, continuous frictional surface positioned to engage the said planar surface of the shuttle, said front box plate having a topmost edge extending upwardly to substantially the lowermost part of the said thread groove.

4. In a loom the combination of a fly shuttle and a box and lay end structure in which said shuttle is retained at the end of its flight preparatory to being picked for its return movement, said shuttle having a continuous, substantially unobstructed and planar front side extending from the base of the shuttle up to a thread groove the substantial portion of which is disposed above the central horizontal plane of the shuttle, said box structure including a front box plate of such height that its top, horizontal edge lies below the thread groove and having a substantially unobstructed, continuous frictional surface positioned to engage the said planar surface of the shuttle, a thread cutter movable to a position above said front box plate to engage a filling thread in said groove at predetermined times during the cycle of operation of said loom, and a recess in said shuttle, above the box plate and aligned to receive said thread cutter and interrupting said thread groove and of greater depth than the groove, said recess extending only partly through the material at the side of said shuttle.

5. In a loom the combination of a fly shuttle and a box and lay end structure within which said shuttle is retained at the end of its flight and preparatory to being picked for its return movement, said shuttle having a continuous, substantially unobstructed and planar front side extending from the base of the shuttle up to a thread groove positioned above the horizontal central plane of the shuttle, said box structure including a front box plate having a substantially unobstructed, continuous frictional surface positioned to engage the said planar surface of the shuttle, a thread cutter operable at predetermined times during the cycle of operation of said loom for engaging and severing the filling thread extending along and within the said thread groove, and a recess in the material at the side of said shuttle and above the topmost edge of said front box plate, said recess being of substantially greater depth than the said thread groove, but extending only partly through the material at the side of the shuttle and being positioned adjacent that end of the shuttle at which the thread is drawn and in alignment with the thread cutter.

6. In a loom the combination of a fly shuttle and a box and lay end structure within which said shuttle is retained at the end of its flight and preparatory to being picked for its return movement, said shuttle having a continuous, substantially unobstructed and planar front side extending from the base of the shuttle up to a thread groove positioned above the horizontal central plane of the shuttle, a threading block at one end of said shuttle and aligned with the filling supply carried by the shuttle, said threading block having a shelf portion the lowermost extent of which is positioned at substantially the central plane of the shuttle, a side eye extending transversely of the shuttle and being formed entirely within the shelf of the shuttle, above the said lowermost part of that shelf and in alignment with that end of the said thread groove adjacent thereto, and said box structure including a front box plate having a substantially unobstructed, continuous frictional surface positioned to engage the said planar surface of the shuttle, said box plate having an upper edge disposed below the said filling thread groove and below the said threading block shelf and side eye therein.

7. A loom shuttle having a body recessed for reception of a bobbin, a threading block adjacent one end thereof having a shelf overlying a portion of the said body and including an integrally formed side eye through which the filling thread is drawn, and a thread groove extending from said side eye longitudinally of the shuttle body and inclined downwardly toward its opposite end, said side eye and the adjacent end of said groove being disposed at an elevation above the horizontal median plane of the shuttle.

8. A shuttle for looms having a body recessed for reception of a bobbin, a threading block adjacent one end thereof having a shelf overlying a portion of the said body, a side eye formed within the said shelf, said shelf and the side eye therein being disposed above the horizontal median plane of the shuttle, a thread groove extending lengthwise of the shuttle aligned with the exit point of the side eye and inclined downwardly toward the opposite end of the shuttle body, and a thread cutter recess extending into the material from which the body is formed and only partially through that material, said recess being positioned to span the thread groove.

9. In a shuttle having a body recessed for reception of a bobbin, a threading block at one end inset within a cavity formed as an extension of said bobbin recess, a shelf extending laterally of the block and having an upper surface shaped to the general contour of the shuttle body at that portion thereof, and further being a shallow V-shape at its lower portion to conform to a similarly cut complementary part of the body, and a side eye opening extending laterally of the shuttle and confined within the shelf, said shelf and side eye being of a vertical extent such that the cut portion of the shuttle body within which it fits does not extend substantially beneath the horizontal median plane of the shuttle.

10. A loom shuttle having a body recessed for reception of a bobbin and filling supply carried thereon, a threading block adjacent one end thereof, said threading block having a shelf overlying and supported within a portion of the said shuttle body, said shelf having a shallow, V-shaped lower surface adjacent the apex of which is an integrally formed side eye included within the shelf and having a threading slit at its lower side, and a thread groove in said shuttle body extending from the said side eye toward the opposite end of the shuttle body and being inclined downwardly to terminate at a point adjacent the central horizontal plane through the shuttle body.

11. A loom shuttle having in combination a body recessed for reception of a bobbin, a threading block adjacent one end thereof and held within an extension of said recess, said threading block having a shelf extending laterally thereof and overlying a portion of the said body of the shuttle, said shelf having integrally formed

therein a side eye, the lowermost surfaces of said shelf comprising downwardly extending, generally V-shaped portions in one of which is formed a slit communicating with the lateral side eye, the other face of said V-shaped portion extending below the side eye and presenting an abutment extending upwardly to intersect one edge of said slot, the cooperating portion of said shuttle body being formed to incline downwardly and inwardly at and adjacent the side eye exit in the shelf and having its outermost part positioned outwardly beyond and slightly above the lowermost portion of the side eye and of the entrance slot thereby to form an effective trap for preventing the escape of the filling after it has been threaded into said side eye.

12. A loom shuttle having a body recessed for reception of a bobbin and filling supply, a substantially planar side wall, a side eye at one end of the body positioned above a central horizontal plane through the shuttle, and a thread groove in the said side wall extending from the exit point of the side eye and inclined downwardly to terminate at substantially the central horizontal plane of the shuttle.

13. A loom shuttle having a body recessed for reception of a bobbin and filling supply, a substantially planar side wall, a side eye at one end of the body positioned above a central horizontal plane through the shuttle, and a thread groove in the said side wall extending from the exit point of the side eye and inclined downwardly to terminate at substantially the central horizontal plane of the shuttle, and a thread cutter recess at that end adjacent the side eye, said recess extending into the said shuttle wall of the shuttle for a distance greater than the depth of the said groove.

14. For a loom shuttle, a threading block comprising a portion extending longitudinally of the shuttle and through which a filling thread is guided, a shelf portion extending laterally of and overlying a part of said longitudinal portion, said shelf portion being rounded from a central part toward the edge thereof and having its lowermost surface converging downwardly toward the central part of the shelf and adapted to be supported by adjacent material of the shuttle, a side eye opening laterally formed in said shelf and having a threading slit communicating with the exterior part of said converging lower surface, said side eye being interconnected with the longitudinal portion of the block and an abutment adjacent one edge of said slit for preventing filling from escaping in that direction and for causing the said filling to enter the side eye.

15. For a loom shuttle, a threading block having a shelf extending laterally of a shuttle in which the block is adapted to function, said shelf being formed at its lower side as a relatively shallow V-shaped member, one face of said lower surface extending downwardly slightly farther than the other and being connected thereto by a more vertically disposed, short plane surface, and a side eye formed in the shelf just forwardly of the said connecting plane surface and having a threading slit in the foremost and more upwardly disposed surface.

16. A loom shuttle having a body recessed for reception of a filling supply, a substantially planar front side wall, and a threading block adjacent one end of the body, said block having a central, longitudinally directed, thread passage, a shelf overlying a portion of the shuttle body and having therein a side eye communicating with said thread passage, an upwardly directed thread entrance slit in the shelf and leading into the side eye, said side eye being positioned well above the horizontal, central plane of the shuttle body, and a thread groove formed in the front side of the shuttle body and passing through the plane of the side eye and inclined downwardly to terminate at a point below the horizontal central plane of the shuttle.

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