Oct. 14, 1941. J. STUER 2,259,048

SHUTTLE PLACER

Filed Dec. 28, 1940

FIG. 1

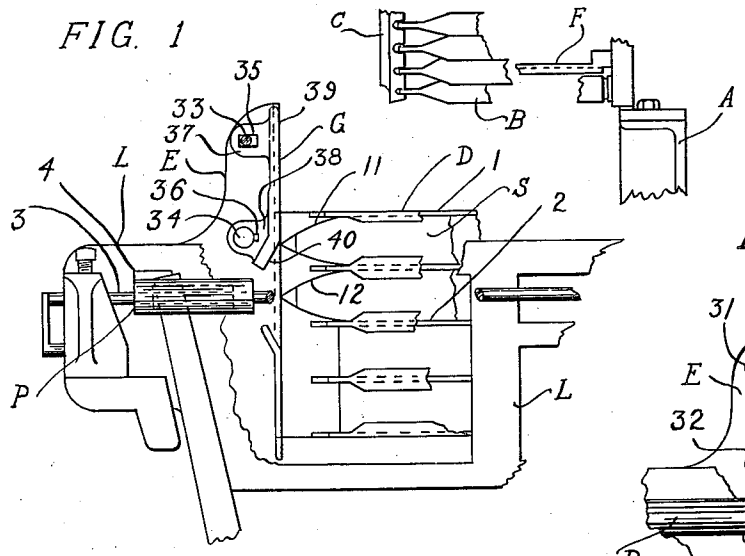



FIG. 2

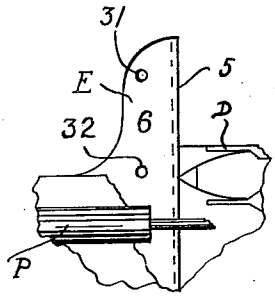



FIG. 3

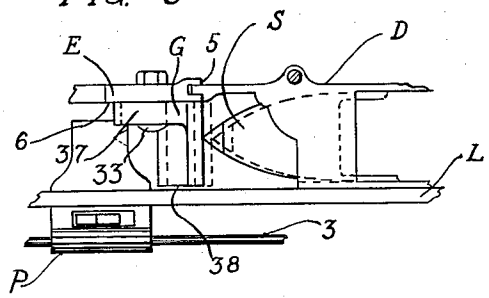



FIG. 4

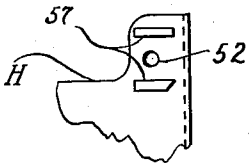



FIG. 5

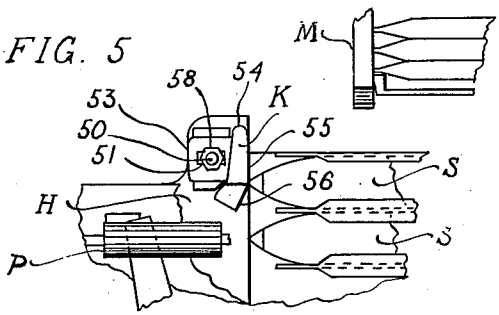
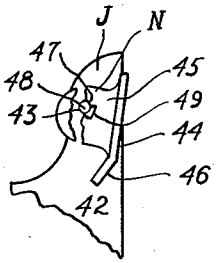



FIG. 6



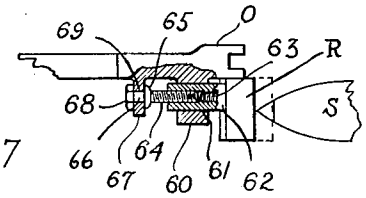




FIG. 7

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# UNITED STATES PATENT OFFICE

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## SHUTTLE PLACER

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Application December 28, 1940, Serial No. 372,125

3 Claims. (Cl. 139—252)

This invention is a guide for the shuttles in the upper cells of a vertically reciprocating drop box loom to locate each one in the right position where it will be in the right position to receive a bobbin from a battery or a magazine, and where it will not strike the picker as the drop box moves up or down in case the picker rebounds, or gets out of place for any other cause.

To locate the shuttle in the correct position and to line up the shuttles in the upper cells, it is convenient to move any projecting shuttle by pushing on or guiding its metal point. However, if the shuttle is moving with the box against any kind of a guide, even if the guide is metal, the shuttle point cuts a groove in the guide. Such a groove constantly gets deeper with the result that the position of the shuttles will gradually shift horizontally thus causing any bobbin which is being transferred to engage the shuttle in the wrong position and thus produce a jam.

To correct this fault, I provide a movable guide which can be adjusted horizontally to compensate for any wear on the guide by the point of the shuttle.

In the drawing, Fig. 1 is an elevation of a loom, with parts broken away, and with my device in place. Fig. 2 is an elevation of the shuttle box guide with the shuttle guide removed. Fig. 3 is a plan view of my device in place.

Fig. 4 is an elevation of a modification and Fig. 5 is a view similar to Fig. 1 of the same modification.

Fig. 6 is an elevation and Fig. 7 is a plan view, partly in section, of other modifications.

In the drawing, A represents a loom frame which, as shown in Figs. 1, 2, and 3, carries a revoluble magazine or battery C of a well known type. F is a transfer hammer which cooperates with other parts to transfer a bobbin B from the magazine C to the top one of the shuttles S such as **11** or **12**, shown as carried in a drop box D having two cells **1** and **2**.

The lay L, which moves back and forth as is customary, carries the drop box D and a picker P, shown as movable on a rod such as **3** and as having a stop **4** of a well known construction.

E represents a drop box guide member with a side face **5** which serves as a guide for drop box D. Member E is of the usual construction except that its front face **6** is flat and through it pass the adjusting bolt guide holes **31** and **32** to receive the bolts **33** and **34** which pass through the horizontal slots **35** and **36** in the supporting arms of a shuttle guide member G which is of L shape as shown in Fig. 3.

Shuttle guide member G is formed with the two supporting arms **37** and **38**. The slots **35** and **36** pass through arms **37** and **38** and the shuttle point guide face of member G is straight at the upper part **39** and curves down and out near the bottom **40** so that as the drop box D moves up, guided by box guide face **5** of member E, the metal tip of any shuttle which protrudes from one of its cells will strike the part **40** of shuttle guide member G and as it continues to move up, the shuttle such as **11** or **12** is moved back into the correct position. The top of this shuttle guide member G as shown in Figs. 1 and 2, extends up to a point as high as the top of the drop box D ever reaches.

In some types of revoluble magazine looms and especially in hand fed looms, a relatively high drop box guide such as E is preferable. Looms of this kind are in general use where there are drop box shifting devices to so move the drop boxes as to change a working shuttle of one color to one of another color. In other types of looms such, for instance, as those which have a fixed magazine M shown in Figs. 4 and 5, a drop box guide such as H which is of less height than E is preferable.

With a tall drop box guide such as E, I preferably use a tall shuttle guide member G but with this last type of loom with a low drop box guide such as H, I use a relatively low shuttle guide K attached to it by one bolt **50** passing through one slot **51** in guide K and a hole **52** in guide H.

In the construction shown in Figs. 1, 2 and 3 where there is a relatively high arm or blade with two slots, the shuttle guide can be moved horizontally and also to a limited extent its guiding surface can be changed from the vertical.

As shown in Figs. 4 and 5, shuttle guide K has a vertical blade **54** with a shuttle guiding surface **55** which is curved outward at the bottom **56** so as to catch the nose of a shuttle as it moves upward with a drop box. Guide K is carried by a narrow blade or arm **53** which extends at right angles to blade **54**. Slot **51** passes through this arm **53**. On box guide H is a horizontal guideway **57** in which the arm **53** is slidable. By the means of a bolt **50** and a nut **58**, shuttle guide K can be moved horizontally but its guiding face **55** cannot be changed from the vertical or from its original angle whatever that may be.

As shown in Fig. 6 I may use a drop box guide J with a smooth face **42** through which is a hole **43**. In this case, the shuttle guide N can have a guiding face **44** which extends down and out at **46** and, as shown, is carried by an integral arm **45**

through which is a hole **47** for a bolt **48** carrying a nut **49**. In this case, there is no horizontal adjustment but the whole guide N can be shifted with bolt **48** as a pivot.

Another variation is shown in Fig. 7 where the drop box guide O is shown as having an arm **60** through which is a horizontal hole **61**. Shuttle guide R is carried by an arm **62** which passes slidably through the hole **61** and itself has a threaded hole **63**.

**67** is another integral arm extending from drop box guide O. Through arm **67** is a hole **69** which registers with hole **63**. An adjusting member **66** passes through hole **69** and has a screw shank **64** which engages the threads in hole **63**. Member **66** held in place by a collar **65** and a turning head **68**, so that by turning head **68** guide R can be moved back and forth as shown by the dotted lines to regulate the position of a shuttle such as S.

I claim:

1. The combination in a drop box loom including a frame and battery carried thereby together with a lay which carries a vertically reciprocating drop box with a plurality of shuttle cells, a picker and a drop box guide pierced with an adjusting bolt hole and positioned opposite the outer end of the drop box; of a vertical shuttle guide of L-shape in horizontal cross section, the guide having a horizontal adjusting slot; with an adjusting bolt which passes through the slot in the shuttle guide and through the hole in the drop box guide.

2. The combination in a drop box loom including a frame and battery carried thereby together with a lay which carries a vertically reciprocating drop box with a plurality of shuttle cells, a picker and a drop box guide positioned opposite the outer end of the drop box; of a vertical shuttle guide; with means to adjust it horizontally on the drop box guide.

3. The combination in a drop box loom including a frame together with a lay which carries a vertically reciprocating drop box with a plurality of shuttle cells, a picker and a drop box guide positioned opposite the outer end of the drop box; of a vertical shuttle guide; with means to adjust it on the drop box guide.

JOSEPH STUER.