April 18, 1939. W. H. BAHAN 2,154,655

ECCENTRIC CONNECTION FOR LOOM SWORDS

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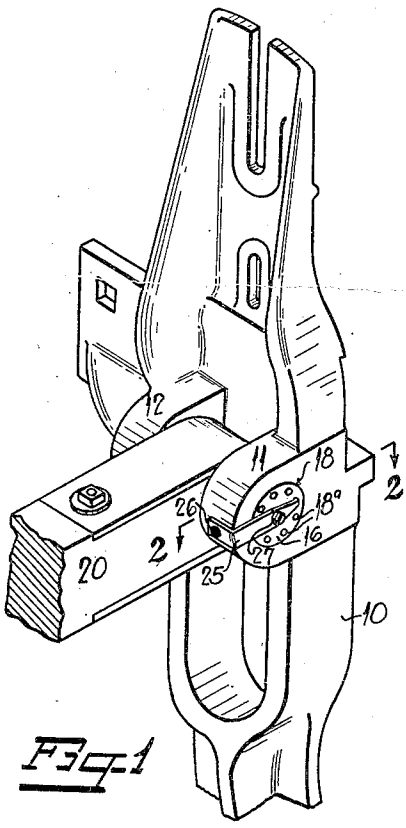


Fig. 1

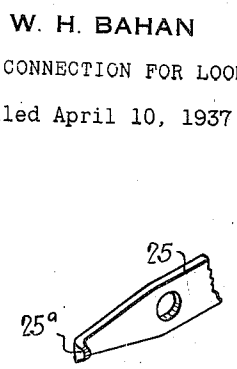


Fig. 4

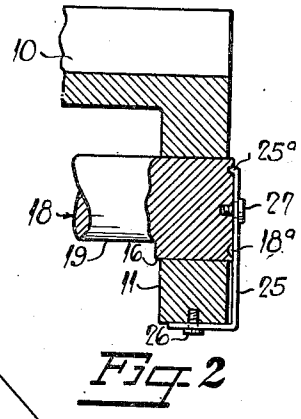


Fig. 2

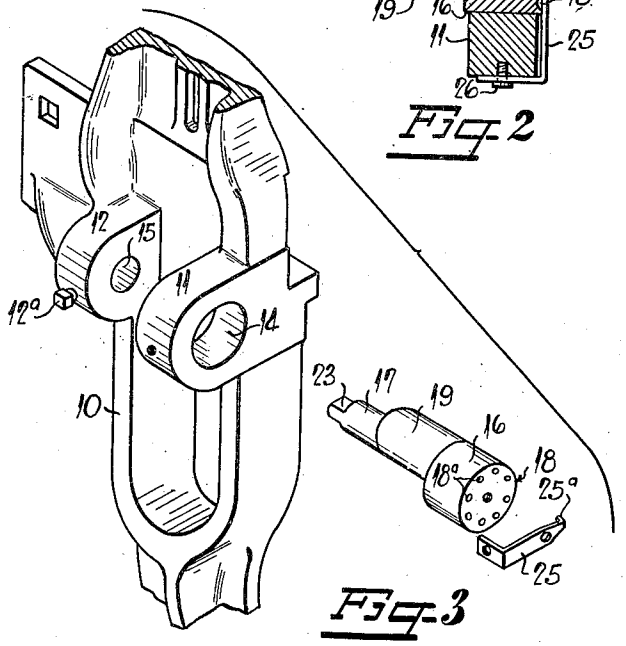


Fig. 3

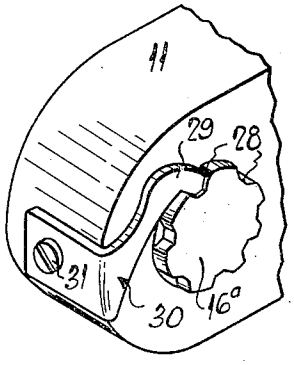


Fig. 5

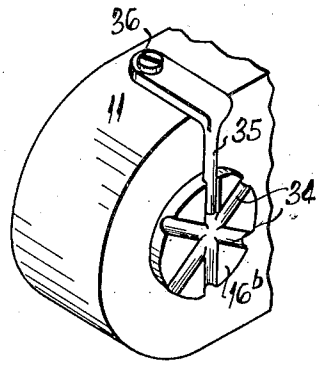


Fig. 6

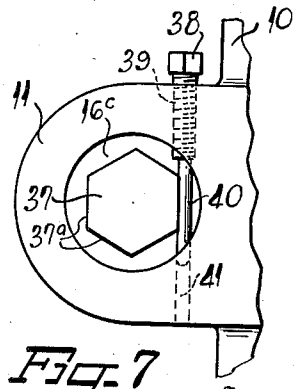


Fig. 7

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ECCENTRIC CONNECTION FOR LOOM SWORDS

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Application April 10, 1937, Serial No. 136,145

1 Claim. (Cl. 151—32)

This invention relates to an eccentric for lay swords and more especially to an eccentric having a locking means associated therewith for resiliently holding the same in various positions relative to the sword. At the junction point of the pitman rod and the upper end of the lay sword a bolt is provided for connecting the two members together. It is necessary to turn this eccentric to various positions in order to adjust the effective length of the pitman, therefore, means must be provided for holding this eccentric in adjusted position while the loom is in operation. Since the eccentric penetrates a pair of spaced projections in the upper end of the lay sword, it is essential that means be provided which is secured to one of said spaced projections and having its other end resiliently engaging a portion of the eccentric bolt to hold it in the desired position.

Heretofore this securing means has most commonly been in the form of a set screw which is fixedly secured in one of the spaced projections and having its end engaging the periphery of the eccentric. The principal objection to this type of securing means is when an excessive amount of pressure is exerted upon the set screw very often a spaced projection is broken from the lay sword thereby rendering the entire piece inoperative and useless.

It is therefore, an object of this invention to provide an eccentric for penetrating a pair of spaced projections on the upper end of a lay sword, one of said projections having means secured thereto which resiliently engages spaced indentations in said eccentric for holding the eccentric bolt in an adjusted position. By providing resilient engaging means it is evident that the eccentric bolt may be turned by a wrench or tool to a different position without disturbing the engaging means except as to adjustment. However, the normal operation of the loom will not produce sufficient stress to cause relative movement between the eccentric bolt and the engaging means.

It is a further object of this invention to provide in a lay sword having spaced projections thereon, an eccentric which has radially disposed grooves in the head portion thereof with means secured to one of said spaced projections for engaging said radially disposed grooves.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawing, in which:—

Figure 1 is an isometric view of the upper portion of a lay sword showing my invention for securing one end of a pitman rod thereto;

Figure 2 is a sectional detail view taken along the line 2—2 in Figure 1;

Figure 3 is an exploded isometric view of the parts shown in Figure 1, but omitting the pitman rod;

Figure 4 is an isometric view of one end of the resilient securing means used in the form shown in Figures 1, 2 and 3;

Figure 5 is an isometric view showing a slightly modified form of the invention;

Figure 6 is an isometric view showing another modified form of the invention;

Figure 7 is an elevation of one of the spaced projections on the upper end of a lay sword showing still another modified form of the invention associated therewith.

Referring more specifically to the drawing, the numeral 10 denotes the upper portion of a lay sword of a loom which has spaced projections 11 and 12 integral therewith. These projections have holes 14 and 15 respectively therein which accommodate the portions 16 and 17 of eccentric bolt 18. The intermediate portion 19 of the eccentric is adapted to be engaged by one end of pitman rod 20 when in operative position as shown in Figure 1. The smaller end of the bolt 18 has a flattened portion 23 which is adapted to be engaged by a suitable wrench to turn the eccentric to various adjusted positions within the bores 14 and 15 to thereby adjust the effective length of the pitman 20.

In order to secure and to hold the bolt 18 in an adjusted position, I have secured one leg of an L-shaped resilient member 25 to the projection 11 by any suitable means such as screw 26. The other leg of member 25 is penetrated by a suitable shoulder screw 27 which screw is secured in the center of end portion 16 of eccentric 18.

With the L-shaped member 25 fixed as at 26 and 27 no rotative movement of this member can take place; consequently the pointed end 25a will remain practically in a fixed position where it will engage any one of the radially disposed cavities 18a in the head portion 16.

It should be noted that the hooked portion 25a is relatively short and also the cavities 18a are shallow, therefore, when a wrench is applied to portion 23 to turn the eccentric to another position in the projections 11 and 12, the hooked portion 25a will spring outwardly to allow the eccentric to be turned to where portion 25a will engage another cavity 18a.

Under normal operating conditions spring 25 and the portion 25a have sufficient strength to prevent any turning movement of the eccentric 19 and it is only when a turning pressure of great moment is exerted upon the portion 23 by a suitable wrench that the point 25a will automatically be forced out of one cavity and into another.

The downturned set screw 12a is threadedly secured in projection 12 and normally has its end engaging periphery 17. This screw is merely used to prevent vibration of this portion within the lug and not to prevent rotative movement of the eccentric.

Figure 5 shows a slightly modified form of the invention in which a head portion 16a of the eccentric 19 has a plurality of indentations 28 in the periphery thereof which are adapted to be selectively engaged by point 29 of L-shaped spring dog 30. This dog is secured to the projection 11 by any suitable means such as screw 31. Likewise, in this case the head portion 16a is resiliently engaged and the eccentric may be turned to different positions by applying a wrench to the smaller end thereof, but under normal operating conditions the spring pressure exerted by the member 30 is sufficient to hold the eccentric in a fixed, adjusted position.

Figure 6 shows still another modified form in which a head portion 16b has a plurality of diametrically disposed grooves 34 therein which are selectively engaged by the vertical leg of an L-shaped resilient member 35, said member having the horizontal leg thereof secured to projection 11 as at 36. In this form it is necessary to insert a tool such as a screw driver between the vertical leg of member 35 and remove it from the grooves 34 while a wrench is being used on the opposed end of the eccentric bolt to turn it to another position.

Figure 7 shows still another modified form of the invention in which a head portion 16c has a projection 37, which is flattened on several sides to form a polygon. A pin 38 having a threaded portion 39 is threadably secured in projection 11 and this screw has a restricted unthreaded portion 40 integral with its lower end which is adapted to slide against one of the sides 37a to hold the eccentric in the desired adjusted position. It is evident that the eccentric must be in the proper position before the screw 38 can be inserted into an operative securing position. When the parts are in a fixed position as shown in Figure 7, the lower end of the portion 40 normally penetrates bore 41 in the lower portion of lug 11 to give the desired stability to the lower end of the pin.

In all of the forms it should be noted that the eccentric is held in an adjusted position without producing any appreciable normal relative stress between the eccentric and the spaced projection. This normal relative stress has heretofore caused the projections to be broken, especially when an additional operating stress was applied. The improved apparatus prevents this breakage.

In the drawing and specification there has been set forth a preferred embodiment of the invention, and although specific terms are employed, they are used in a generic and descriptive sense only, and not for purposes of limitation, the scope of the invention being set forth in the appended claim.

I claim:

In a connection between a casting and a pitman for oscillating a casting, having an eccentric bolt having a plurality of radially disposed grooves in one end thereof, locking means for said bolt comprising a leaf spring having one of its ends secured to the casting and having a tongue on its other end for resiliently engaging one of the grooves in the end of the bolt for holding the bolt in adjusted position relative to the casting.

WILLIAM H. BAHAN.