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LOOM BEAM LOCK

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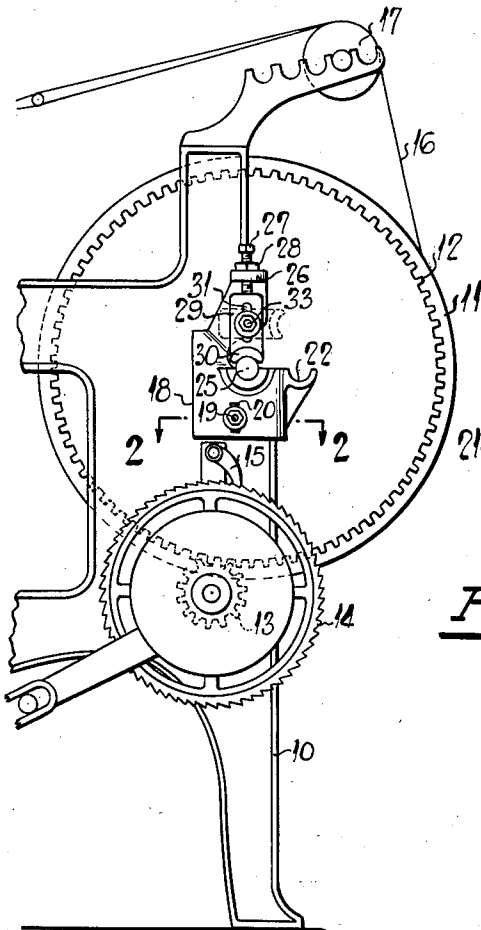


Fig. 1

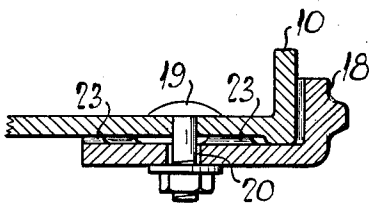


Fig. 2

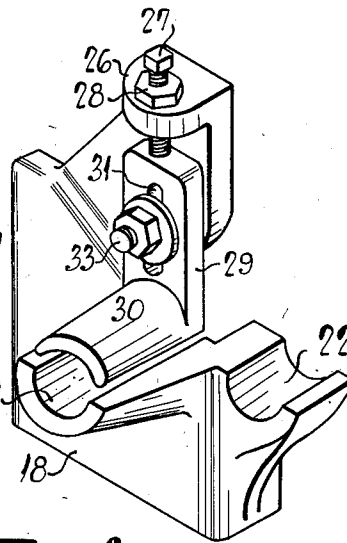


Fig. 3

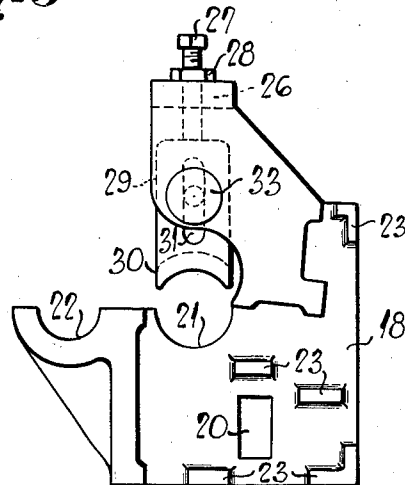


Fig. 4

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## UNITED STATES PATENT OFFICE

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## LOOM BEAM LOCK

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## 1 Claim. (Cl. 308—21)

This invention relates to looms and is particularly concerned with a device known as a beam lock by which the journals of the warp beams are held in their bearings in the side frames of the looms. In the operation of looms considerable wear is caused on the journals of warp beams and on the bearings in which these journals rotate. This causes jumping or vibration of the heavy warp beams, particularly when the beat up takes place. This is highly undesirable because of the effect upon the tension of the warp and, consequently, on the cloth being woven.

It is therefore, an object of this invention to provide a simple and efficient beam lock which is adjustable and by which adjustment may be provided to take up the wear and also to insure that the warp beam will rotate smoothly and evenly. The adjustable means in this particular form comprises a top semi-circular bearing portion having an upstanding leg integral therewith with a bolt penetrating a suitable slot in said leg. In addition to having the bolt and the slot for providing the necessary adjustment, a set screw is secured in the upper portion of the bracket, which screw has the lower end thereof normally pressing against the upper edge of the upstanding leg so that the semi-circular bearing portion may be firmly held in whatever position that it has been adjusted.

It is a further object of this invention to provide a beam rest or beam lock adapted to support the ends of the beam at the bearing portion thereof, said beam rest or beam lock being so constructed as to permit the beam to be quickly placed in the support or to be quickly removed therefrom.

Although only a portion of one side of a loom is shown in the drawing, it is evident that a similar bearing is placed on the other side for supporting the other end of the warp beam. This part on the other side of the loom is identical, except that it is opposite hand, and another description will not be made.

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 a side elevation of a portion of one end of a loom showing the beam rest attached thereto;

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

Figure 3 is an isometric view of the beam lock apart from the loom frame;

Figure 4 is an elevation, looking at the oppo-

site side of the beam lock from that side shown in Figure 3.

Referring more specifically to the drawing, the numeral 10 indicates the framework of a loom and the numeral 11 indicates a beam which is adapted to be placed at one end of the loom, said beam having a gear 12 thereon which is adapted to be driven by a pinion 13. The loom has a suitable take-up mechanism comprising ratchet 14 and dog 15. In ordinary weaving the warp 16 passes off of the loom beam 11 and over roll 17 and into the loom where it is woven. The above described parts are conventional but a description of these parts has been made in order to more clearly illustrate the utility of the invention.

The beam rest comprises brackets 18 which are adapted to be secured to each side of the loom by means of bolts 19, said bolts passing through an elongated slot 20 which permits vertical adjustment of the beam rest to take care of various sizes of beams and the gears thereon, so as to cause the gear 12 to mesh with pinion 13. Each bracket 18 has a bearing portion 21 and a rest portion 22, said rest portion being adapted to receive the journal of the loom beam before the same is placed into the bearing portion and act as a rest for the beam. The bracket 18 has integral with the inner side thereof suitable bosses which are indicated by reference character 23. These bosses are adapted to fit up against the side of the loom frame when the bolt 19 clamps the bracket 18 tightly in position, as illustrated in Figure 2. The spindle 25 of loom beam 11 is adapted to rest in the semi-circular bearing 21 when the beam is placed in an operative position. Bracket 18 extends a substantial distance above bearing 21 and spindle 25, and this bracket has a laterally projecting portion 26 integral therewith in which is threadably mounted a set screw 27. A lock nut 28 is also secured around set screw 27 to lock the set screw in whatever position desired. The lower end of set screw 27 normally contacts the upper edge of upstanding leg 29 of semi-circular bearing 30. This leg has a slot 31 therein in which is mounted a bolt 33, said bolt 33 also penetrating the bracket 18. The laterally projecting portion of semi-circular bearing 30 is adapted to fit directly upon the top of spindle 25 as shown in Figure 1, and be clamped tightly against this spindle. When the parts have been placed in the desired position the nut on bolt 33 is screwed home and the set screw 27 is placed in a position as shown in Figures 1, 3 and

4, to insure that the bearings 30 will remain in the position they are placed.

When the spindles 25 are clamped in a position shown in the drawing, it is evident that any wearing which may have previously taken place in the bearings will be taken up by forcing the upper bearing 30 downwardly by means as set screw 27. By providing a two piece bearing of this type, in combination with set screw 27 and lock nut 28, it is very unlikely that the spindle 25 will become loose in the bearings to allow the same to vibrate. When it is desired to remove the loom beam 11 from the bearings 21 it is only necessary to loosen the nut on the end of bolt 33 and turn the bearing 30 to the dotted line position as shown in Figure 1. At this time there is no obstruction to prevent one from lifting the spindles 25 from bearings 21.

It is thus seen that I have provided a beam rest and lock which is capable of being attached to any loom and also which enables the employees of the mill to remove the beam easily and quickly. I have also provided a loom beam rest which tightly clamps the ends of the loom beam in the bearings and prevents undue vibrations from taking place in the bearings.

In the drawing and specification there has been set forth a preferred embodiment of the inven-

tion, and although specific terms are employed, they are used in a descriptive and generic sense only, and not for purposes of limitation, the scope of the invention being set forth in the appended claim.

I claim:

A beam lock for looms comprising a bracket secured to each side of the loom frame and having an upwardly opening semi-circular bearing portion for reception of the spindle of a warp beam, a member having a semi-circular bearing portion adapted to engage the top portion of the spindle of the warp beam to hold the same in said bearing portion in said bracket, said member having a vertically disposed slot therein, a bolt fixed on said bracket and penetrating said slot for adjustably securing said member on said bracket, said bracket having an upwardly and laterally projecting portion having a threaded hole vertically disposed therein disposed in a vertical plane passing through the center of said semi-circular bearing portion, and a set screw threadably mounted in said threaded hole for engaging the upper end of said member for assisting said bolt in holding said member in adjusted position.

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