

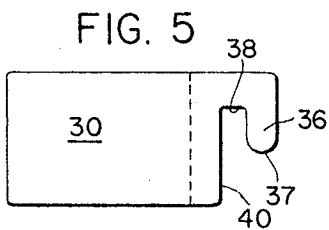
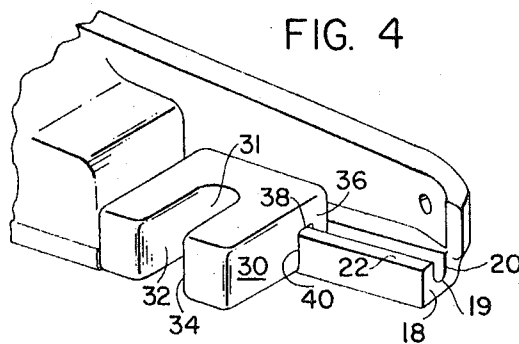
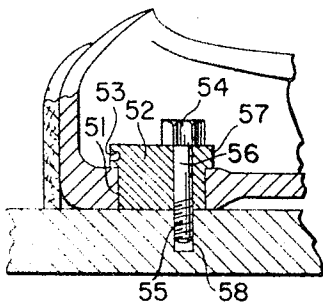
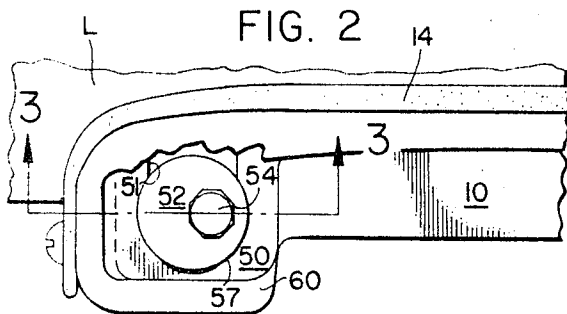
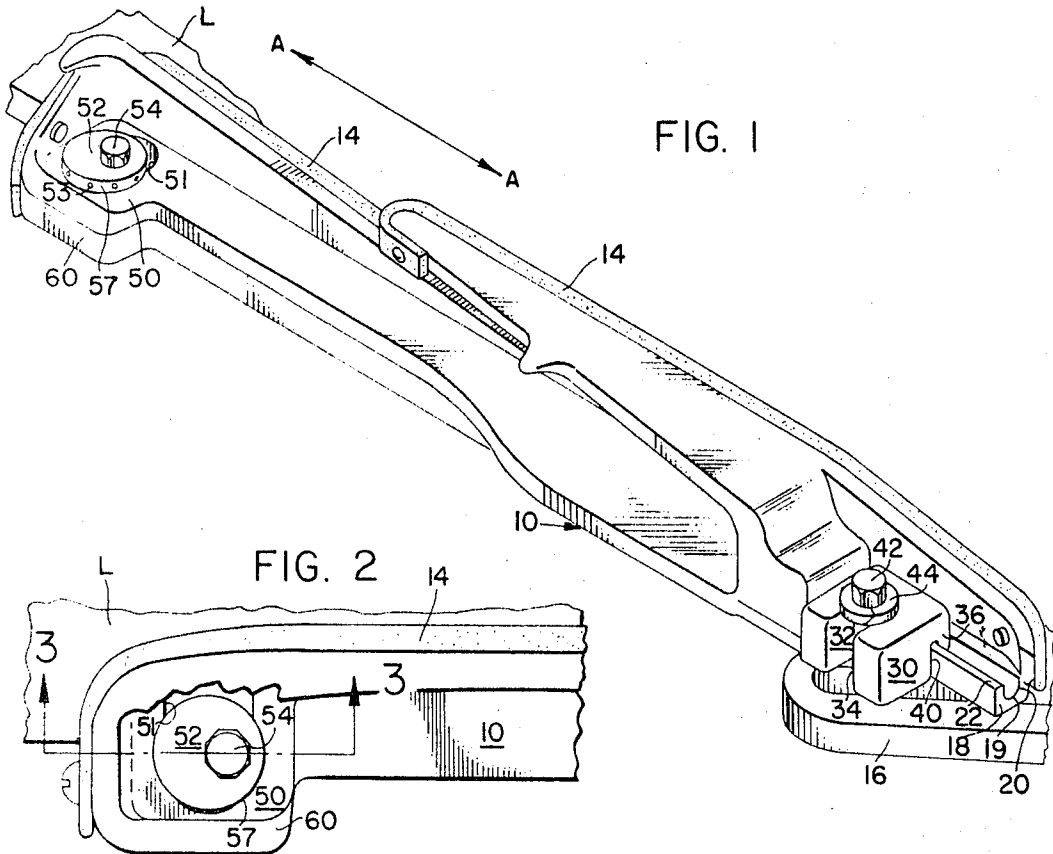
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FRONT BOX PLATE

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FRONT BOX PLATE

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5 Claims

ABSTRACT OF THE DISCLOSURE

This invention is directed to front box plates for weaving looms, and more particularly to a longitudinally and transversely adjustable front box plate, whereby a single front box plate may be used on several looms having different dimensions between the mounting holes in the lay end plate for mounting the front box plates, rather than requiring a correspondingly sized front box plate for each size of lay end plate.

BACKGROUND OF THE INVENTION

When a weaving plant orders a number of looms, the manufacturer may furnish the looms all having a lay end plate with the same dimension between the mounting holes for the front box plate. However, in a subsequent order of looms, the manufacturer may furnish a series of looms having a different dimension between the mounting holes in the lay end plate. Consequently, each mill has to stock a correspondingly sized front box plate for each different type lay-end plate. It can be readily seen that the storing and handling of many different sizes of front plates is both costly and time consuming, considering that they are subject to wear and frequent replacement. The invention is directed to the provision of a front box plate which is adjustable both longitudinally and transversely to enable it to be used with lay end plates having varying dimensions between the mounting holes. Moreover, when changing the size of the shuttle on looms it has long been accepted practice to change the front box plate, so that the new shuttle will be properly boxed. The use of the present invention enables a mill to stock only one size of front box plates which are usable with a wide range of sizes of lay end plates and shuttle sizes.

SUMMARY

The front box plate of my invention involves the provision of an adjustable or sliding retaining member at the end of the front box plate opposite the end where the shuttle enters the shuttle box, hereinafter to be referred to as the rear end of the front box plate, which allows the front box plate to be adjusted longitudinally relative to the longitudinal axis of differently dimensioned lay end plates. The longitudinal axis of the lay end plate relates to the direction that the shuttle moves in its path back and forth across the loom as shown by line A—A in FIGURE 1. At the other or front end of the front box plate an eccentrically mounted stud is located in a transverse slot in the front box plate and adjustably connects said plate and the lay end frame to permit minute adjustment of the front plate longitudinally and transversely of the shuttle lay, so that the front box plate may be properly positioned to receive the thread cutting mechanism which moves transversely through a slot in the front box plate.

It is therefore an object of my invention to provide a means for utilizing the same front box plate to be mounted on various sizes of lay end plates.

It is a further object of my invention to provide a front box plate adjustable both longitudinally and transversely of the lay end plate, which may be simply and

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quickly adjusted to mount the front box plate on various sizes of lay end plates.

It is a still further object of my invention to provide a front box plate which may be adjusted both longitudinally and transversely of the lay end plate, and includes fine adjustment means at one end of the front box plate to accurately locate the front box plate with respect to the lay end plate.

A still further object of my invention is to provide a means for adjusting a front box plate both longitudinally and transversely of a lay end plate, wherein one end of the front box plate is provided with a trackway slidably receiving an adjustable block to secure the rear end of said front box plate. The other end of the front box plate is provided with an eccentric member to adjust the front end of the front box plate to a precise location with respect to the lay end plate.

With these and other objects in view the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings:

FIGURE 1 is a perspective view of a front box plate and its associated lay end plate with parts broken away; FIGURE 2 is a fragmentary plan view of the front end of the front box plate;

FIGURE 3 is a horizontal sectional view taken substantially along the line 3—3 in FIGURE 2;

FIGURE 4 is an enlarged fragmentary perspective view of the rear end of the front box plate; and

FIGURE 5 is an end elevation of the adjustable or slidable block removed from the front box plate.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, FIGURE 1 shows a lay end plate L upon which is mounted a binder (not shown) and a front box plate 10, the three parts together forming a shuttle box. As a shuttle (not shown) returns on its path from the other side of the loom, it enters the shuttle box moving in a direction from the left to right in FIGURE 1.

A leather facing 14 is attached in a suitable manner to the inner surface of the front box plate 10 to cushion the shuttle during the boxing operation.

In standard weaving room practices, it has been customary to manufacture front box plates having a fixed dimension between the mounting holes by which the front box plate is mounted to the lay end plate. Since lay end plates are not manufactured with a standard dimension between the mounting holes in the lay end plate, it has been necessary to use only front box plates that correspond to lay end plates as far as this dimension is concerned. As can readily be seen, only a front box plate having a particular mounting hole spacing may be used on a particular lay end plate. Therefore various sizes of front box plates must be kept in stock to fit looms having differing dimensions between the mounting holes on the lay end plate.

To alleviate this problem, the front box plate 10 of my invention is made adjustable both longitudinally and transversely of the lay end plate by providing a sliding block member 30 at the rear end of the front box plate or the end opposite that which the shuttle enters the shuttle box.

The rear end of the front box plate 10 is attached to the lay end plate L on a protruding ledge 16 and this has heretofore been done by extending a threaded bolt through a slot in a horizontal portion of the rear end of the front box plate in registry with a tapped bore in the lay end

plate. However as shown in FIGURES 1 and 4, the present invention involves cutting away part of the horizontal portion of the rear end of the front box plate to provide a longitudinally extending trackway 18. The trackway 18 includes a centrally disposed longitudinal slot 19 cut in the upper surface of the track 18 and defining inner and outer sidewalls 20 and 22 which extend longitudinally of the front box plate for several inches from its rear end.

The body 40 of block 30 has an elongated vertical slot 31 opening away from the front plate and having sidewalls 32 and 34 extending into the block in a direction transverse to the longitudinal axis of lay end plate L. Slot 31 receives a bolt 42 and a lock washer 44 to secure the block 30 to the protruding ledge 16 of lay end plate L.

Slot 31 is elongated in a direction transverse to the axis of the lay end plate so that the rear end of front box plate may be adjusted transversely to the lay end plate. Therefore the rear end of the front box plate may be adjusted both longitudinally and transversely of the lay end plate to provide a more standard front box plate having the ability to fit lay end plates having different dimensions between the mounting holes.

Slidable block 30 is provided with a vertical slot 38 communicating with its lower surface adjacent trackway 18 and registrable with the outer sidewall 22. The slot 38 defines a downwardly projecting flange 36 spaced slightly from the body 40 of block 30 by the slot 38 as shown in FIGURE 5. A downwardly extending flange 36 is mounted at its free end as at 37 and conforms to the cross-sectional configuration of the slot 19 so that the flange 36 is self-seating within slot 19 for longitudinal sliding movement. The depending flange 36 is of sufficient length to allow free end 37 to firmly bear against longitudinal slot 19 when bolt 42 is tightened. This allows the slidable block 30 to firmly secure front box plate 10 in the desired location. In this way the block 30 is longitudinally slidable relative to the front box plate to make the front box plate longitudinally adjustable with respect to the lay end plate L.

At the front end of the front box plate 10 a transversely elongated opening 51 is provided in the horizontally protruding portion 50 of the front box plate 10. A flanged eccentric 52 fits into the transverse opening 51 so that the eccentric 52 bears against each side wall of opening 51. The eccentric 52 has an off-center passageway 56 through which a bolt 54 extends into a blind tapped hole 58 in the protruding ledge 60 of lay end plate L to secure the front portion of the front box plate 10 thereto. Bolt 54 is threaded at the lower portion 55 thereof for threadable engagement with tapped hole 58. The flange 57 of eccentric 52 extends over a portion of the top surface of horizontally protruding portion 50 and includes radial bores 53 around the periphery of the flange 57 above the upper surface of protruding portion 50 of the front box plate 10.

Since the eccentric is provided with an off-center stud or bolt 54, rotation of the eccentric by means of a nail or small tool inserted in the bores 53 of flanged eccentric 52 affords minute adjustment of the front box plate in a longitudinal manner. Also, the slot 51 is elongated transversely with respect to the lay end plate so that the front end of the front box plate may be adjusted transversely. Therefore, after the rear end of front box plate is loosely adjusted to the approximate desired location, the eccentric 52 may be rotated about loosened bolt 54 to longitudinally adjust the front box plate 10 to a more precise location. The front end of the front box plate 10 may then be moved transversely with respect to lay end plate L to the desired transverse location. After the precise location is achieved, bolts 54 and 42 are both tightened to secure the front box plate 10 in its desired location.

Thus, it can be seen that the invention enables the front box plate to be adjustable both longitudinally and transversely to the axis of the lay end plate, therefore, allowing a single front box plate to be usable on a variety of different sizes of lay end plates.

In the drawings and specifications 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 not for the purpose of limitation, the scope of the invention being defined in the claims.

I claim:

1. In a weaving loom having a front box plate mounted on a lay end plate, means on one end of said front box plate for adjusting said front box plate along the longitudinal axis of said lay end plate, means on the other end of said front box plate for adjusting said front box plate both transversely and longitudinally with respect to said longitudinal axis, whereby a single front box plate may be used on different types of looms having different dimensions between the mounting holes in the lay end plate for mounting the front box plate.

2. A front box plate according to claim 1 wherein said adjustable means at said one end includes a movable retaining member and means for securing said retaining member and said front box plate to said lay end plate at selected points along a line parallel with the longitudinal axis of the lay end plate.

3. A front box plate according to claim 2 wherein said adjustable means at said other end comprises an eccentric stud, said front box plate having an opening therein at said other end, and said stud extending through said opening in the front box plate to provide a longitudinal adjustment means therefor.

4. A front box plate according to claim 1 wherein said adjustable means at said one end of said front box plate comprises:

- (a) a trackway extending longitudinally along a horizontal portion of said one end of said front box plate;
- (b) a retaining block having a vertical slot therein extending transversely to the longitudinal axis of said lay end plate, said block also including a vertical flange extending downwardly in laterally spaced relation from one side of the body of said block;
- (c) said vertical flange being registrable with said trackway on said horizontal portion of said one end of said front box plate and being slidable thereon; and
- (d) a fastening member extending through said vertical slot in the retaining block securing said block and front box plate to the base of said lay end plate at a desired location.

5. A front box plate according to claim 4 wherein said adjustable means at said other end comprises an eccentric stud, said front box plate having an elongated transverse opening therein at the front end, said stud extending through said elongated opening in the front box plate to provide a longitudinal and transverse adjustment means therefor.

References Cited

UNITED STATES PATENTS

2,259,997	10/1941	Brown	139—183
3,028,882	4/1962	Urquhart	139—185
2,501,394	3/1950	LaFreniere	139—186

FOREIGN PATENTS

3,955	1909	Great Britain.
6,317	1910	Great Britain.

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