

Aug. 14, 1923.

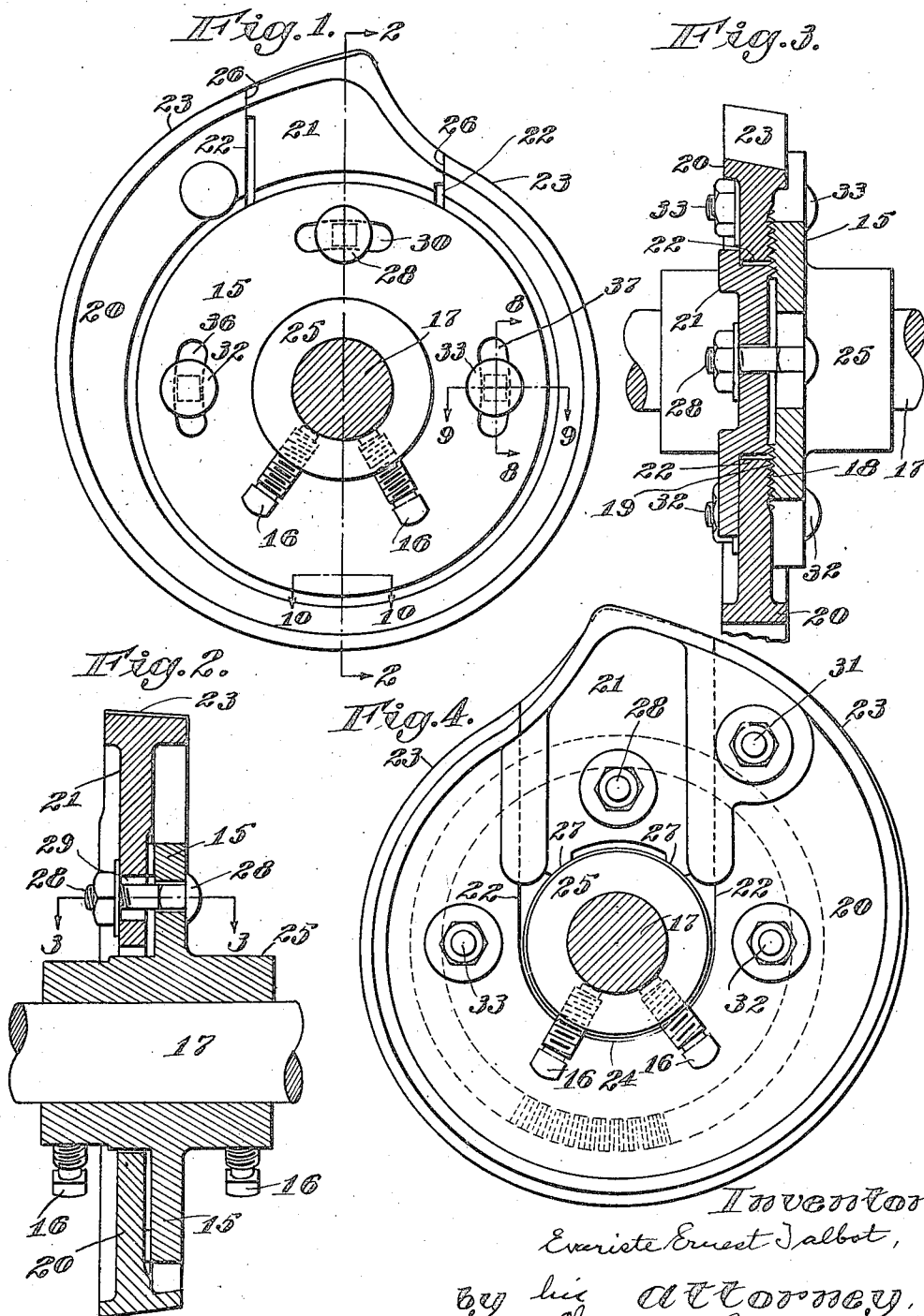
E. E. TALBOT

1,464,589

MEANS FOR REMOVABLY SECURING CAM PLATES TO CAM SHAFTS

Filed Dec. 21, 1921

3 Sheets-Sheet 1



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Fig. 5.

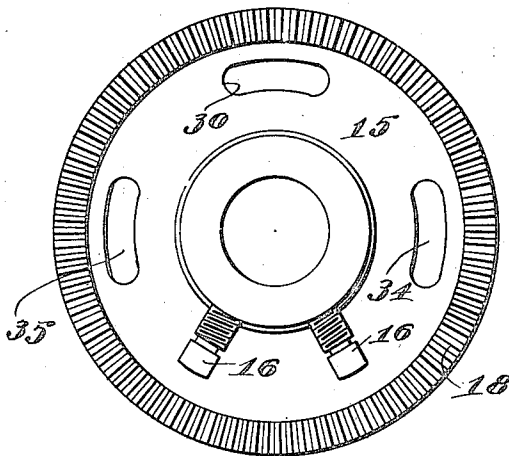


Fig. 6.

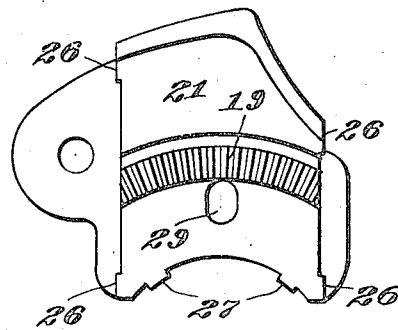


Fig. 7.

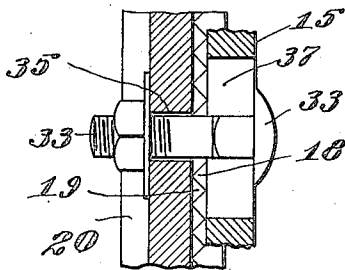
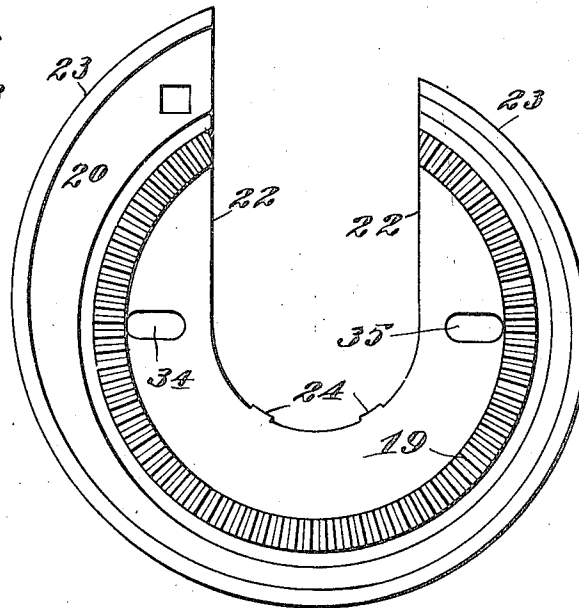


Fig. 8.

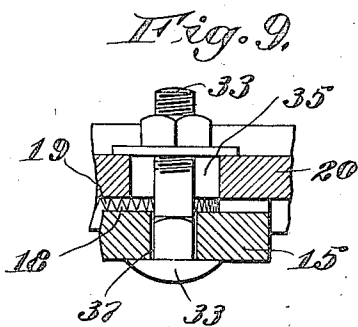


Fig. 9.

Inventor,
Ernest Ernest Talbot,
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3 Sheets-Sheet 3

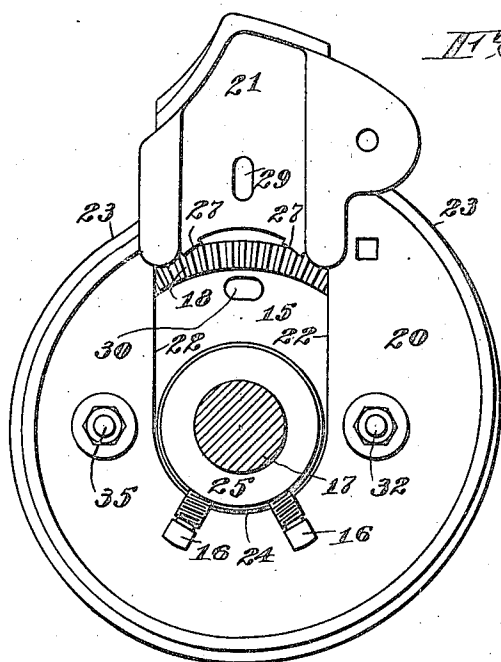


Fig. 11.

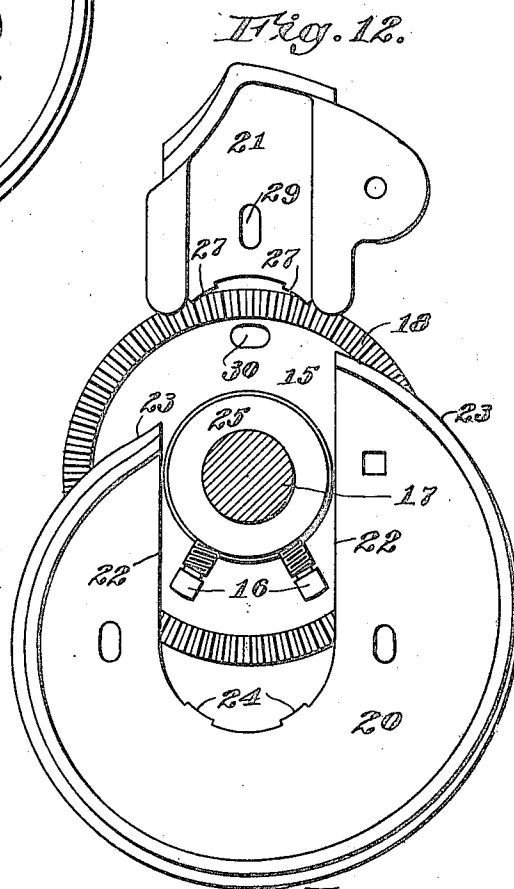


Fig. 12.

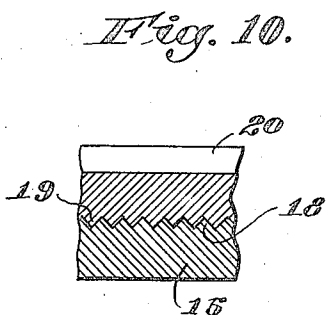


Fig. 10.

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UNITED STATES PATENT OFFICE.

EVARISTE ERNEST TALBOT, OF FALL RIVER, MASSACHUSETTS.

MEANS FOR REMOVABLY SECURING CAM PLATES TO CAM SHAFTS.

Application filed December 21, 1921. Serial No. 523,530.

To all whom it may concern:

Be it known that I, EVARISTE ERNEST TALBOT, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Means for Removably Securing Cam Plates to Cam Shafts, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention resides in means for quickly removably securing a cam-plate to a cam-shaft of a loom.

Heretofore, when a pick-cam has been removed because of breakage, or being worn, much time, for example, five or six hours, is lost, in removing the cam, and restoring it, or a substitute, to normal operative position. This will be evident when one remembers that, to change or replace a pick cam, one must pull off the top gear from the crank shaft; the bottom gear from the cam-shaft; loosen the cam-shaft bearings; remove the cam-shaft by sliding it out of the loom altogether, and then remove the cam-plate. Obviously, about the same time would be required in the operation of replacing the parts previously removed.

These various operations result in loss of production of the loom during the repair period; frequently in the loss of gears having to be broken to get them off the shaft; in loss of the timing of the loom, and hence the time required in restoring the parts of the loom to their proper adjustment, for their seasonable operations.

In short, a broken or worn-out pick-cam means a substantial loss of money.

Now, the principal object of my invention, which is to reduce this loss, I attain by the means hereinafter disclosed and claimed.

In the drawings illustrating the principle of my invention, and the best mode now known to me of embodying the same in operative structure,

Fig. 1 is a rear elevation of my invention;

Fig. 2 is a vertical section, on line 2—2, Fig. 1, while

Fig. 3 is a horizontal section, on line 3—3, Fig. 2.

Fig. 4 shows my invention in front elevation.

Fig. 5 is a like view of the hub-plate.

Fig. 6 illustrates, in rear elevation, the cam-point member of the cam-plate.

Fig. 7 shows the same view of the open side cam-plate member of the cam-plate.

Figs. 8, 9 and 10 are sections, respectively, on lines 8—8, 9—9, 10—10, Fig. 1.

Fig. 11 is a front elevation of my invention, the cam-point member being moved out of engagement with, and away from, the hub-plate, and the cam-plate member; while

Fig. 12 is a like view, of the cam-point member, and the cam-plate member of the cam-plate, being moved out of engagement with, and away from the hub-plate.

A hub-plate 15 in the form of a disk, is fixed by set-screws 16 to a cam-shaft 17 suitably mounted in bearings in a loom, not shown. On its operating face is a series of raised radial locking corrugations 18 designed to interlock with similar corrugations 19 upon a cam-plate made up of a cam-plate member 20 and a cam-point member 21. The cam-plate member has a parallel-sided opening 22, Figs. 4, 7, 11 and 12, extending from its operating surface 23 to its semi-circular bore 24, equal to the diameter of the hub 25 of the hub-plate 15 with which the bore is designed to be in engagement. The cam-point member 21 has correspondingly parallel sides 26, Fig. 6, to fit the sides 22 of the opening of the cam-plate member, and a semi-circular bore 27 to fit the side of the hub 25 of the hub-plate 15, opposite that engaged by the bore 24 of the cam-plate member 20. These sides are preferably parallel, to obviate the tendency of the cam-point member to work loose, were the sides forming an acute angle.

To bind the cam-plate to the hub-plate, suitable bolts, washers and nuts are employed, one bolt 28 being passed through adjusting slots 29, 30 respectively, in the cam-point member and the hub-plate; a second bolt 31, through the cam-point member and cam-plate member; and two other bolts 32 and 33 respectively through the adjusting slots 34 and 35 in the cam-plate member, and the adjusting slots 36 and 37 in the hub-plate; the radial corrugations 18 and 19 of the adjacent faces of the hub-plate and the cam-plate, interlocking and binding all the parts rigidly together, both radially and longitudinally.

The method of using this embodiment of my invention has already become obvious, probably. Should it be necessary to remove the cam-point member 21, see Figs. 3, 4 and

11, then all that is required is a removal of the two bolts 28 and 31, passing through said member, and a longitudinal movement of said member; this disengages the interlocking corrugations 18 and 19, and the cam-point member is freed. It is to be noted that the cam-plate member 20, Fig. 11, remains locked to the hub-plate 15, so that when the cam-point member, new or old, is replaced in the slotted cam-plate member, the timing of the operation of the cam remains as originally determined.

Should it be essential that the cam-plate member 20 be removed, then in addition to the removal of the cam-point member, just described, the bolts 32 and 33 securing the cam-plate member to the hub plate, are taken out, the cam-plate member first moved longitudinally of the hub-plate, enough to disengage the locking corrugations 18 and 19; and second, moved radially away from the cam-shaft 17, Fig. 12, in the direction of the axis of the open slot 22—22, in the cam-plate member.

To replace the cam-plate member and, or, the cam-point member, a reversal of the above-described operations, is to be pursued.

Attention is called to the fact that notwithstanding the hub-plate is secured to the shaft by set screws, the cam-plate 20, 21 may, within certain limits, be advanced or retarded in relation to the hub-plate, by reason of the bolts and adjusting slots 30, 34 and 35, Fig. 5, in the hub-plate.

Should the entire cam-plate have to be removed from the hub-plate, then non-interference with the timing of the loom would be obtained by marking on them their proper co-operating positions, before the removal of the cam-plate. By these markings, the cam-plate member could be exactly replaced in relation to the hub-plate for the proper timing of the operations of the loom.

To change or replace my pick cam-plate requires not more than twenty minutes. If only the cam-point member has to be removed, returned or replaced, plainly a much shorter time is needed.

It is to be noted that no machine work is required on any of the parts, viz, the cam-point member or the open side cam-plate member, for they are castings, the only machine work being boring and reaming the hub-plate, which practically never has to be removed.

In short, my invention is durable, cheap in cost, quickly changed or replaced in the loom, and reduces greatly the losses arising from the use of pick cams heretofore used.

Desiring to protect my invention in the broadest manner legally possible,

What I claim is:

A pick-cam comprising a hub-plate fixed to the cam-shaft of a loom, and having locking corrugations upon its operative face; a cam-plate member having a parallel sided opening which allows said member to be moved sidewise into operative position upon the cam-shaft; a cam-point member having parallel sides permitting said member to be moved into operative position in said side opening of the cam-plate member; locking corrugations upon each of said members to engage the corresponding corrugations upon the face of the hub-plate; and means for securing the cam-plate member, the cam-point member and the hub-plate rigidly together; all designed to permit said members to be removed or replaced without disturbing the operative position of the cam-shaft.

In testimony whereof I hereunto affix my signature.

EVARISTE ERNEST TALBOT.

Witnesses:

LOUIS BERUBE,
THOMAS HALPEN.