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BEAM LOCK FOR LOOMS.

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Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES:

INVENTOR:

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ATTORNEYS
To all whom it may concern:

Be it known that I, OSCAR L. OWEN, a citizen of the United States, residing at Whitinsville, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Beam-Locks for Looms, of which the following is a specification.

In cotton and other looms running at high speed the vibration caused by the reciprocation of the mechanism imparts vibratory motion to all parts of the loom. The usual heavy warp-beam on which great strain is exerted at each pick is liable to jump or vibrate in its bearings, exerting extra strain on the warp and injuring the appearance of the cloth.

I have constructed a simple device by which the journal-bearing of the warp-beam may be firmly held in contact with its bearing and securely locked, the device being constructed so as to be quickly operated to release the warp-beam.

Figure 1 is a side view of part of the end frame of the loom, showing the warp-beam journal in section and locked in the journal-bearing. Fig. 2 is a side view, partly in section, showing the beam-lock in the unlocked position in solid lines and the locking-arm raised in broken lines. Fig. 3 is a horizontal sectional view of the beam-lock on line x x of Fig. 2 as seen from below.

In the drawings, 1 indicates the part of the end frame of the loom on which the warp-beam is supported; 2, the journal of the warp-beam; 3, the bearing for the beam-journal, and 4 the horn forming the temporary support for the warp-beam as it is placed onto or removed from the loom. The beam-lock is secured, preferably, to the web 5 of the end frame, in which the slot 6 is formed, as shown in broken lines in Fig. 1. The base 7 has the tongue 8, extending into the slot 6, the segmental rings 9, bearing on the side of the web 5, the journal 10, and the stop 11, projecting from the face of the base 7. On the journal 10 the eccentric 12 is rotatably supported. The eccentric has the operating-handle 13 and the bracket 14, formed integral with or secured to the same. The ring 15 surrounds the eccentric 12 and forms part of the arm 16, the hooked end 17 of which is of greater thickness than the rest of the arm and has the cam-surface 18, which when the eccentric is turned to draw the hooked end of the arm 16 against the journal 2 engages with the shoulder 19 on the end frame 1. The bolt 20 extends through the base 7. The head of the bolt 20 bears on the web 5 on each side of the slot 6 and the nut 21 on a washer bearing on the journal 10. By loosening the nut 21 the whole device may be moved in the slot 6 and adjusted so that when locked the hook of the arm 16 bears on the journal 2 and securely locks the same in the bearing 3 against vibration.

When the actuating-handle has turned the eccentric and has drawn the arm 16 inward to its full limit, the bracket 14 is in contact with the stop 11, as is shown in Fig. 1, and the journal is firmly locked. To remove the warp-beam, the operating-handle 13 and with the same the eccentric 12 and bracket 14 are moved in the direction shown by the arrow in Fig. 1, thereby sliding the arm 16 outward from under the shoulder 19, as is shown in Fig. 2, in which the bracket 14 is shown bearing on the arm 16. A slightly-further movement of the operating-handle raises the arm 16 into the position shown in broken lines in Fig. 2. When a new warp-beam has been placed on the bearings 3 of the loom and the movement of the actuating-handle 13 is reversed, the arm 16 is first lowered to the position shown in Fig. 2 and then drawn inward against the journal and under the shoulder 19, as is shown in Fig. 1.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a beam-lock for looms, the combination with an arm provided with a hook at one end and a ring inclosing an eccentrically-mounted disk, of an actuating-handle and a bracket on the disk, said bracket engaging with the hooked arm, a cam-surface on the hooked arm and a shoulder on the end frame, whereby by the turning of the eccentrically-mounted disk the hooked arm may be drawn against the journal of the beam and under the shoulder on the end frame, as described.

2. In a beam-lock for looms, the combination with the end frame, the journal-bearing 5, the shoulder 19 on the end frame, and the slot 6, of the base 7, the journal-bearing 10 and stop 11 on the base, the eccentric 12, the
actuating-handle 13 and bracket 14 on the eccentric, the arm 16, the ring 15 on one end of the arm, the hooked end 17 on the other end of the arm, and the cam-surface 18 on the end 17 of the arm 16, whereby the arm 16 may be operated to retain the journal of the warp-beam and locked, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OSCAR L. OWEN.

Witnesses:

ADA E. HAGERTY,

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