No. 708,246. Patented Sept. 2, 1902.

H. H. McLEAN.

BEAM LOCK FOR LOOMS.

(Application filed Nov. 14, 1901.)

(No Model.)

Fig. 1.

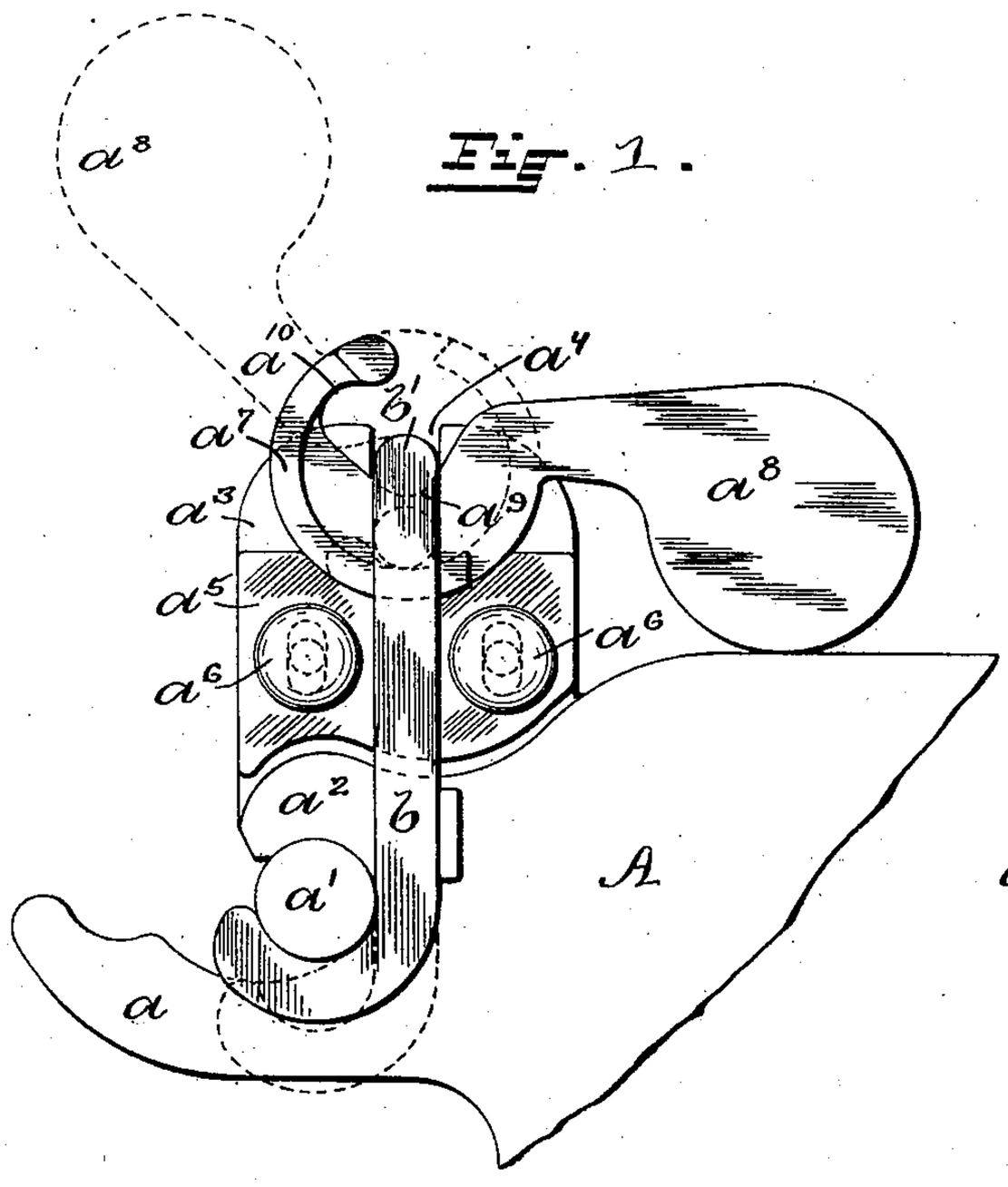


Fig. 2.

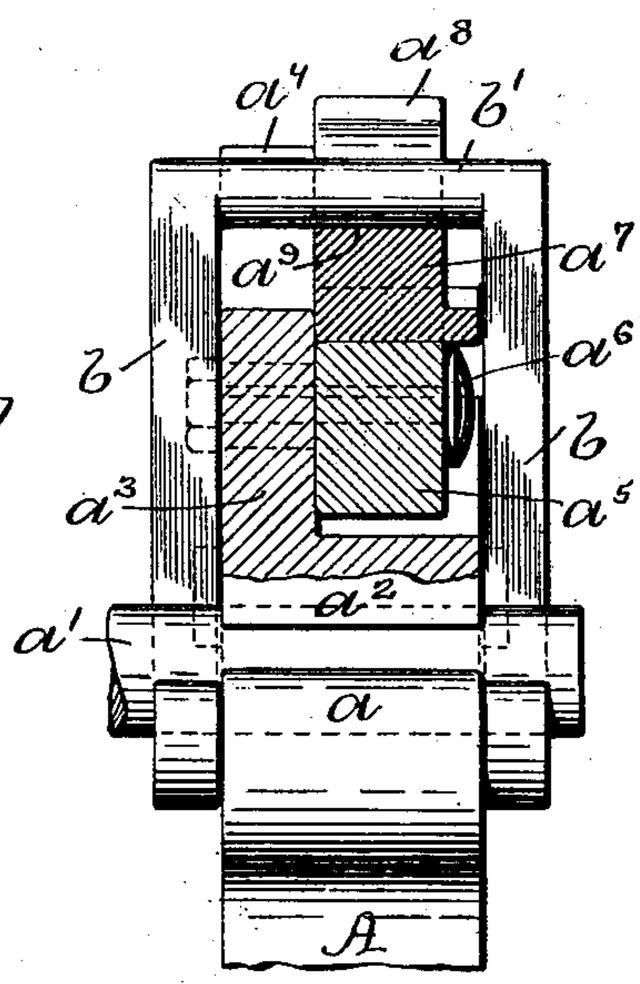
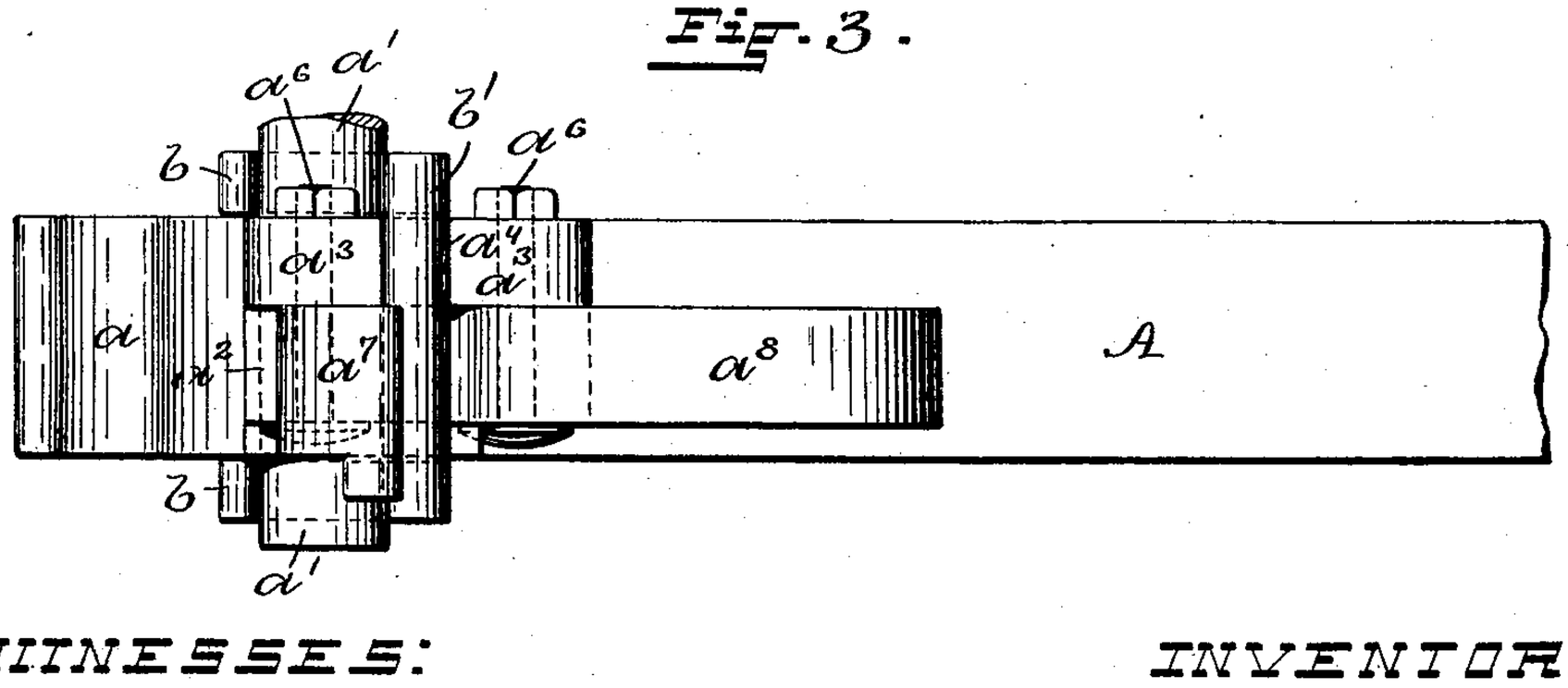


Fig. 3.



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HENRY H. McLEAN, OF WHITINSVILLE, MASSACHUSETTS, ASSIGNOR TO THE WHITIN MACHINE WORKS, INCORPORATED, OF WHITINSVILLE, MASSACHUSETTS.

BEAM-LOCK FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 708,246, dated September 2, 1902.

Application filed November 14, 1901. Serial No. 82,235. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. McLEAN, 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 looms the warp-beams are usually provided with journals supported on inclined bearings formed in the ends of the loom-frame, so as to facilitate the placing of the warp-beam and the ready removing of the same. The great strain on the warp caused by the springing of the warp to form the shed for the passage of the shuttle at each pick exerts intermittent strains on the warp-beam, which unless the journals are locked causes the warp-beam to jump or move on the bearings. The great weight of the warp-beam when affected by intermittent strain on the warp and the release of the strain at the high speed of the modern power-loom reacts on the warp, causing undue strain on the warp and the cloth.

The object of this invention is to securely lock the journals against the fixed bearings and prevent all rocking motion or vibration of the warp-beam; and to this end the invention consists in the peculiar and novel construction of the clamp or lock, as will be more fully set forth hereinafter.

Figure 1 is an end view of part of the end frame of a loom, showing the beam-journal held against the bearing on the end frame by a hooked clamp in solid lines and indicating in broken lines the position of the clamp when the journal is released. Fig. 2 is a rear view of the end frame and the locking-clamp, shown partly in section. Fig. 3 is a top view of the parts shown in solid lines in Fig. 1.

In the drawings, A indicates one of the end frames of a loom, and a the rearward-projecting horn, forming the temporary support of the journal a' of the warp-beam when the beam is placed in the loom. The bearing-surface on the horn a connects by an easy curve with the fixed bearing a^2, which is integral with the end frame and in the preferred form above the journal a'. The journal bears obliquely on the fixed bearing in the direction in which the strain on the journal is exerted. From the end frame A extends upward the lug a^3, provided with the central slot a^4. The bolster-plate a^5 is secured to the lug a^3 by the bolts a^6 a^6, extending through elongated holes in the lug a^3. The bolster has a concave bearing on its upper end, on which bears the segmental cam a^7 of the lever a^8. In the center of the cam a^7 and near one side of the cam are two concaved seats connected by a plane surface. The round bar b', which connects the two hooked arms b b, is supported in the concaved seat a^9 when the journal is in the raised position, as shown in Fig. 1 in solid lines. As the seat a^9 is in the center of the cam, the hooked arms b b are supported on what may be termed a "dead-bearing," because no strain exerted by the journal a' on the hooked bars can change the position of the bearing. When the warp-beam is to be removed, the lever a^8 is swung into the position indicated in broken lines in Fig. 1. The hooked arms b b will be supported by the bar b', bearing on the concave seat a^{10}, as indicated in broken lines in Fig. 1. By loosening the bolts a^6 the bolster a^5 may be adjusted and the pressure exerted by the hooked arms on the journals a' of the warp-beam regulated.

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

1. The combination in a beam-lock with the end frame, the horn on the end frame forming the support for the beam-journal, the fixed journal-bearing, a slotted lug extending from the end frame, a bolster adjustably secured to the lug, of a lever, a cam on one end of the lever, concave seats within the cam, and two hooked arms connected by a bar, whereby the journal of the warp-beam may be supported and locked, as described.

2. In a beam-lock, the combination with the end frame A, the horn a, the fixed bearing a^2, and the lug a^3 on the end frame, of

the bolster a^5, the lever a^8, the cam a^7 on the lever and supported on the bolster, the seats a^9 and a^{10} within the cam, the bar b', and the arms b b connected with the bar b' and having hooks at their ends, whereby the journal may be locked and held against vibration, as described.

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

HENRY H. McLEAN.

Witnesses:

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