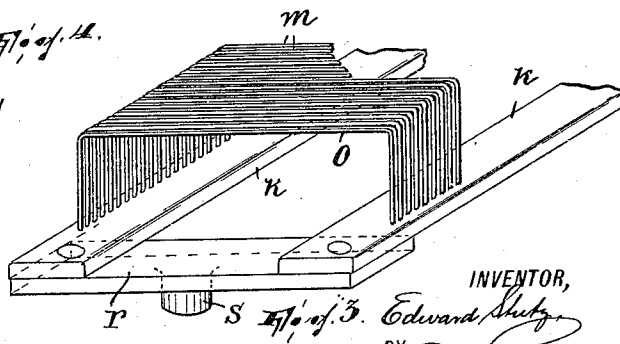
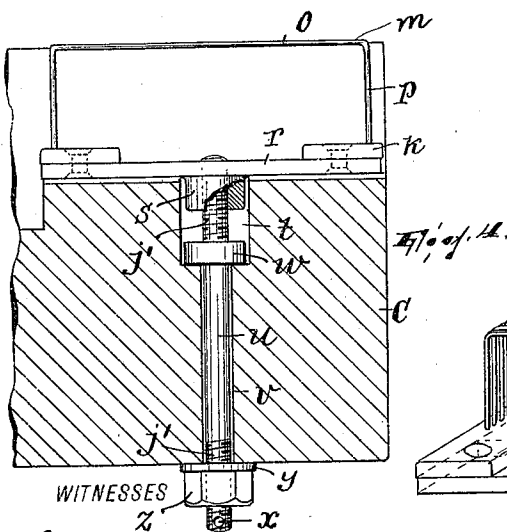
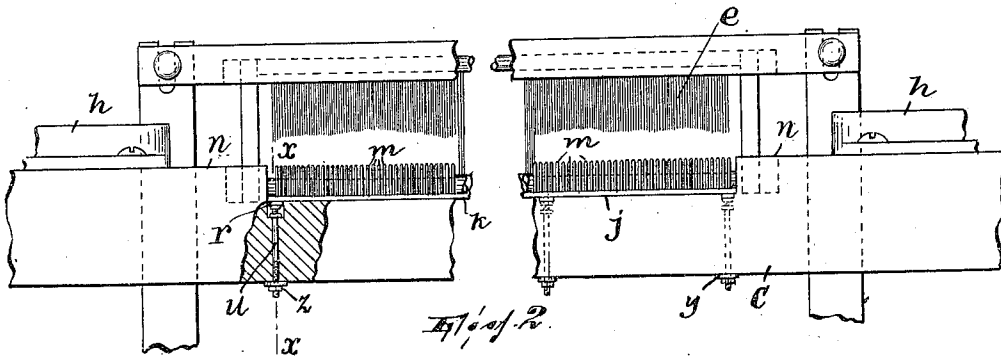
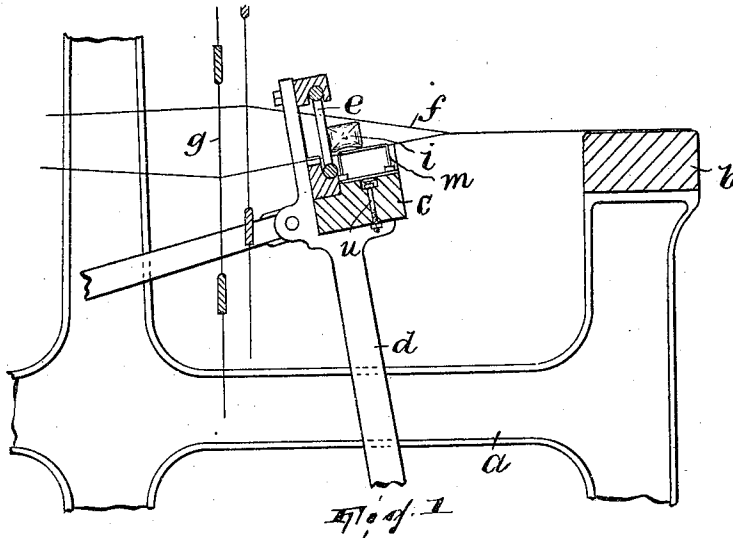


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SHUTTLE RACE FOR LOOMS.
APPLICATION FILED MAY 3, 1909.

960,433.

Patented June 7, 1910.



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SHUTTLE-RACE FOR LOOMS.

960,433.

Specification of Letters Patent.

Patented June 7, 1910.

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To all whom it may concern:

Be it known that I, EDWARD STUTZ, a subject of the Emperor of Germany, residing in Paterson, Passaic county, New Jersey, have invented a certain new and useful Improvement in Shuttle-Races for Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In looms for weaving broad goods, the threads of the warps are constantly subjected to undue contact both with the batten and with the shuttle, resulting in more or less wear on the threads and some discoloration thereof, this latter being more pronounced where the goods are light or other delicate shades. The contact of the shuttle with the threads is on the lower threads of the warp shed and is caused by the shuttle wiping over them in its flight along the batten from one box to the other; the contact of the threads with the batten is coincident with the whole face of the latter from front to rear and is necessary in order that the shuttle may surely ride over all the threads, and in order to maintain it so, the lower threads of the shed must stand deflected downwardly forward of the batten, which means of course that considerable friction is produced by the batten at the front upper edge portion thereof.

My invention aims to avoid as far as possible contact as between the shuttle and the batten and the warp threads, and to this end it consists in providing a race for the shuttle which will make it unnecessary for the threads to be engaged either by the shuttle or the batten and which is provided with means whereby the race may be adjusted vertically so as to insure its shuttle-supporting surface being aligned with the corresponding surfaces of the batten at the ends of the latter.

In the accompanying drawing, Figure 1 shows a cross-section of so much of a loom as is necessary to illustrate in order to present my invention; Fig. 2 is a view in front elevation of the batten showing the invention in connection therewith, and part of the batten being broken away; Fig. 3 is a perspective view of a fragment of the improved

race; and, Fig. 4 is a vertical sectional view, substantially on the line $x-x$ of Fig. 2, and showing the several parts on a larger scale.

In said drawings, a designates the frame of a loom, b the breast-beam, c the batten carried by the lay-swords d in the usual manner, e the reed, f the warp, g the harness, h the shuttle boxes and i the shuttle.

In the top of the batten from the reed forward and from near one shuttle box to a point near the other there is formed a recess j . In this recess is placed the device shown in Fig. 3. The essential features of this device are a base, shown in Fig. 1 and Fig. 3 as comprising two strips k , and a series of spaced parallel supports m arranged transversely on the base and having their tops all preferably in the same plane, which plane is coincident with the top surfaces n of the batten adjacent to the entrances to the shuttle boxes. In practice, I prefer to make the supports m of wire, the part o of each wire which forms its top being straight while the parts p which form its ends project downwardly at right angles to the part o and are set in the strips k . I do not, however, wish to be limited to this precise construction.

I find it desirable, in order both to secure the device to the batten and to make it adapted to various looms without reconstructing their battens or equipping them with new battens, to provide means for adjusting the race so that its shuttle supporting surface may be brought into exact alinement at both ends with the corresponding surfaces n at the ends of the batten. To this end two or more cross-strips r may be riveted or otherwise secured to the strips k forming therewith parts of the base in the adaptation shown, preferably on the under sides thereof, the cross-strips having downwardly extending bosses s which are adapted to be received by the countersunk sockets t in the batten. The bosses s are internally tapped, and into them are screwed the stems u having threading j' at each end; when the race is in position on the batten, the stems penetrate vertical holes v communicating with the sockets t . Each stem u has a shoulder w which bears against the bottom of the socket t , and when the stem is turned, by means of a nail or the like introduced through a hole x at its lower end, the stem causes the race to be raised or lowered, as required. The lower end of each stem protrudes from

the batten, and it carries a washer *y* and a nut *z*, coöperating with the shoulder *w*, to clamp the stem against turning. The parts above described therefore afford not only means for securing the race on the batten, but for adjusting it vertically.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination of a loom batten, a shuttle-race for the batten comprising a base superposed on the batten and a series of spaced parallel shuttle-supports surmounting the base, vertical stems each having a threaded connection at its upper end with the base and penetrating the batten, each stem having a shoulder near its upper end, and a nut screwed on the lower end of each stem and coöperating with the shoulder thereof to clamp the stem to the batten, substantially as described.

2. The combination of a loom batten hav-

ing sockets countersunk in its top surface, a shuttle-race for the batten comprising a base superposed on the batten and a series of spaced parallel shuttle-supports surmounting the base, said base having bosses received by said sockets, vertical stems each having a threaded connection at its upper end with a boss of the base and penetrating the batten, each stem having a shoulder received by the corresponding socket, and a nut screwed on the lower end of each stem and coöperating with the shoulder thereof to clamp the stem to the batten, substantially as described.

In testimony, that I claim the foregoing, I have hereunto set my hand this 29th day of April, 1909.

EDWARD STUTZ.

Witnesses:

JOHN W. LEONARD,
BARTON H. WALKER.