June 30, 1953 E. EGLI 2,643,685

WEAVING SHUTTLE WITH ROUND BOBBIN

Filed Oct. 23, 1950

Fig. 1.

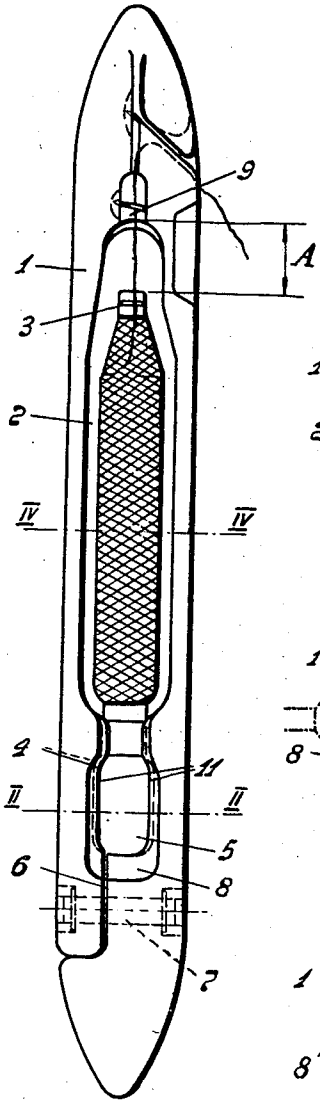


Fig. 4

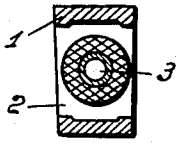


Fig. 3.

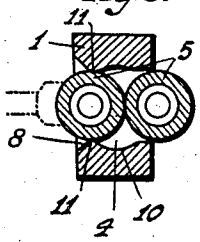


Fig. 2.

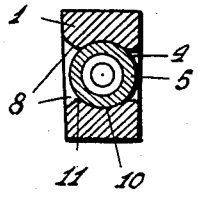


Fig. 6.

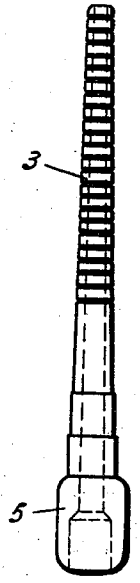
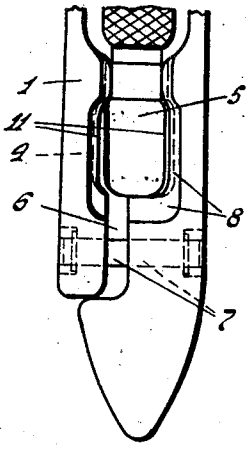


Fig. 5



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WEAVING SHUTTLE WITH ROUND BOBBIN

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Application October 23, 1950, Serial No. 191,598
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1 Claim. (Cl. 139—207)

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The weaving shuttles employed up to the present time use hinged pegs or hinged covers, retaining springs or tongs for securing the bobbins and yarn carriers. For weaving shuttles with automatic change of bobbins, steel spring clips on the bobbins and steel slide fittings in the shuttle are provided. Those parts are much heavier than the shuttle body itself and necessitate much supervision because of the great danger of their being separated from the shuttle body by the violent agitations during weaving. Moreover the greater the weight of the shuttle with these steel parts, the greater is the wear on the striking and receiving parts of the loom, and in general there is also a restriction of the speed of revolution and of the productive capacity of the loom.

These disadvantages are to be removed by the weaving shuttle with round bobbin according to the present invention, the cavity of the shuttle, which accommodates the base of the bobbin, having one wall subject to resilient action.

The accompanying drawings illustrate one constructional example of the invention.

Fig. 1 shows a weaving shuttle with the round bobbin, in plan view.

Fig. 2 a section on the line II—II in Fig. 1,

Fig. 3 the section as in Fig. 2, during a change of bobbins,

Fig. 4 a section on the line IV—IV,

Fig. 5 the end of the weaving shuttle with the cavity for the base of the bobbin, at the time of the insertion of this bobbin base, and

Fig. 6 a round bobbin spindle in elevation.

The weaving shuttle with the round bobbin, as shown, has a body 1 which comes to a point at both ends, with a hollowed part or cavity 2 for the wound part of the spindle 3, and a hollowed part or cavity 4, to accommodate the cylindrical bobbin base 5. From the hollowed part 4 a slot 6 extends to one outer surface of the shuttle body 1, and between the two parts of the shuttle which are thus separated a rubber cord 7 is arranged. This rubber cord 7 lies in a bore in each of the two parts and exerts a force tending to press them towards one another. The slot 6 allows one wall of the hollowed part 4 to move away from the other against the tension of the rubber cord 7.

The insertion opening of the hollowed part 4 has a funnel-shaped widening 8 which facilitates the insertion of the spindle 3. The length of the hollowed part 4 corresponds exactly to the length of the bobbin base 5, so that the end of the spindle 3 is always at the same distance A from the threading eye 9 or from a threading spiral provided instead of the said eye. The opposite side walls of the hollowed part 4 have a curved portion 10, the cross section of which is in the form

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of an arc corresponding exactly to the cylindrical shape of the bobbin base 5. Mutually opposed projections 11 on the two side walls of the hollowed portion 4 form a contraction which is of such dimensions as to enable the base of the old bobbin to fall freely out of the shuttle when the base 5 of a new bobbin is pressed in (Fig. 3).

It is advantageous for the shuttle 1 and the bobbin to consist of the same material, so that the changing of bobbins will produce the same wear on both. This change of bobbins may be effected by hand, or automatically by the loom.

Separate spring clips and other metal parts for fixing the bobbin base are dispensed with in the shuttle, and its weight is therefore relatively slight. For the same reason, the shuttle is also cheaper than those used up to the present.

What I claim is:

A weaving shuttle having a cavity extending entirely therethrough for the reception and accommodation of a bobbin having a cylindrical base, comprising separable walls and resilient means urging said walls together, said walls including cooperating oppositely disposed surfaces forming entry and exit passages and retaining means for the bobbin base, said retaining means being disposed between said entry and exit passages and comprising opposite arcuate surfaces having a curvature corresponding to the curvature of the cylindrical base of the bobbin, the surfaces forming the entry passage having mutually opposed projections thereon affording a restricted entrance into said retaining means, the distance between said projections being less than the diameter of the bobbin base and less than the distance between the surfaces forming the exit passage, whereby the base of a fresh bobbin as it is forcefully inserted into the entry passage and contacts said mutually opposed projections will effect separation of the walls of the cavity sufficiently to permit the old bobbin to fall freely out of the shuttle as the new bobbin takes its place.

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