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H. E. GOFF

2,281,972

SELF-THREADING SHUTTLE-EYE

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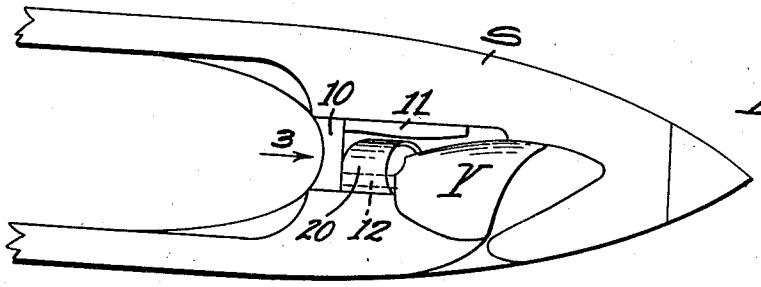


Fig. 1.

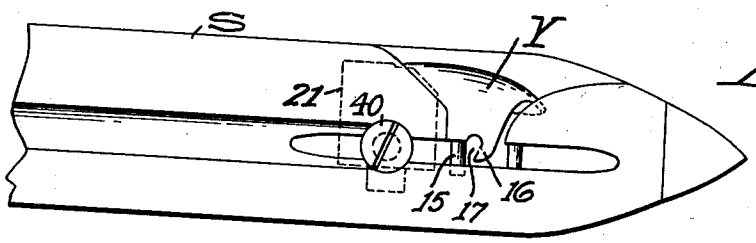


Fig. 2.

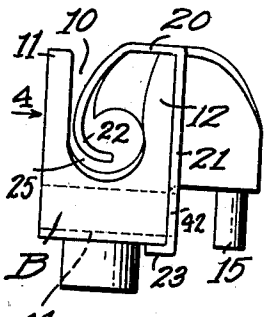


Fig. 3.

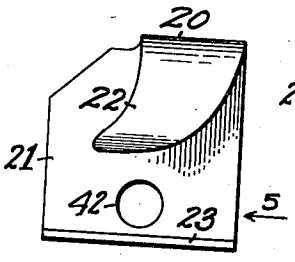


Fig. 4.

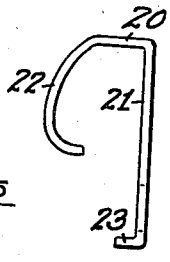


Fig. 5

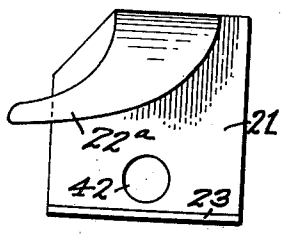


Fig. 6.

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SELF-THREADING SHUTTLE EYE

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Application March 25, 1941, Serial No. 385,122

4 Claims. (Cl. 139—223)

This invention relates to self-threading shuttles as used in automatic weft replenishing looms.

It is the general object of my present invention to provide an improved self-threading shuttle eye which may be easily and economically manufactured and which will be effective and reliable in operation.

To the attainment of this general object, I provide a shuttle eye having a thread-guiding and retaining member positioned in the longitudinal thread passage of the thread block and formed as a separate element which is retained in assembled relation with the thread block by an improved and novel coaction between said member and block.

More specifically, the thread guiding and retaining member in my improved shuttle eye is shaped to enclose one side wall of the longitudinal thread passage in the thread block, and to firmly clamp itself to said block by resilient engagement therewith.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawing, in which

Fig. 1 is a partial plan view of a shuttle embodying my improvements;

Fig. 2 is a partial side elevation of said shuttle;

Fig. 3 is a rear view of the shuttle eye, looking in the direction of the arrow 3 in Fig. 1;

Fig. 4 is a side elevation of the thread-guiding and retaining member, looking in the direction of the arrow 4 in Fig. 3;

Fig. 5 is a rear view of said member, looking in the direction of the arrow 5 in Fig. 4; and

Fig. 6 is a view similar to Fig. 4 but showing a slightly modified construction.

Referring to the drawing, I have shown a portion of a shuttle S having a self-threading shuttle eye Y mounted near the forward end thereof. The eye Y is in general of a more or less common type and comprises a thread block B having a longitudinal thread passage 10 enclosed by side walls 11 and 12 and also having a pin 15 and a depending hook or lug 16 defining a side delivery outlet 17.

My improved thread guiding and retaining member 20 is mounted in the longitudinal thread passage 10 and is preferably formed in one piece from resilient sheet steel or from other resilient sheet metal.

The member 20 comprises an upright portion 21, an operative portion 22, and a bottom flange 23. The operating portion 22 extends downward and forward in the thread passage 10 but is spaced therefrom to provide a thread-guiding slot or opening 25, through which the thread enters the longitudinal thread passage 10 during the threading operation. If desired, the portion 22 may be extended further forward to perform a usual loop-casting function, as shown at 22^a in Fig. 6.

When the member 20 is assembled with the thread block B, the parts assume the coacting relation shown in Fig. 3, with the upright portion 21 abutting the outer face of the side wall 12, with the operative portion 22 overlying and engaging the upper edge of the side wall 12, and with the flange 23 underlying and engaging the bottom face of the block B.

The parts 22 and 23 are so spaced that the flange 23 snugly grips the bottom surface of the block B when assembled therewith. The parts are thus securely held in clamped relation and when the shuttle eye Y is assembled in the shuttle body S, lateral separation of the parts is also prevented.

The parts are further secured together by the usual shuttle screw 40 which extends through the body of the shuttle S and through an opening 41 in the threading block B and also through an opening 42 in the guiding and retaining member 20.

My improved thread guiding and retaining member is thus firmly and accurately held in assembled relation by the simple resilient coaction of the member 20 with the block B and without the necessity of slotting the block B or performing any other special machine operation thereon.

Manufacture of my improved shuttle eye is thus simplified and, moreover, the thread passage 10 will have continuous side wall surfaces which may be highly polished before the member 20 is assembled with the block B and which will have no slit or opening which might easily catch the thread and cause breakage thereof.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what I claim is:

1. In a loom shuttle, a shuttle-eye comprising a thread block having a longitudinal thread passage therethrough having a side wall, and a thread-guiding and retaining member mounted on said block and having a portion extending into said thread passage and having another portion embracing said side wall of said thread passage

and extending downward along the outer face of said wall and securely held in clamped relation thereto.

2. In a loom shuttle, a shuttle-eye comprising a thread block having a longitudinal thread passage therethrough having a side wall, and a thread-guiding and retaining member mounted on said block and having a portion extending into said thread passage and having another portion embracing said side wall of said passage and extending downward along the outer face of said wall, said member being made of resilient sheet metal and being firmly clamped to said thread block by the inherent resilience of said metal.

3. In a loom shuttle having a shuttle-eye comprising a thread block with a longitudinal thread passage therethrough having a side wall and a guiding and retaining member operative in said passage, that improvement which consists in forming said member of resilient sheet metal and of such configuration that said member embraces said side wall of said thread passage and extends downward along the outer face of said wall and is clamped to said thread block by the inherent resilience of said member.

4. In a loom shuttle having a shuttle-eye comprising a thread block with a longitudinal thread passage therethrough having a side wall and a guiding and retaining member operative in said passage, that improvement which consists in forming said member of resilient sheet metal, with a portion extending over said side wall of said thread passage and a portion extending downward outside of said wall and with an inwardly offset flange extending under said thread block and by which said member and block are clamped in assembled relation.

HAROLD E. GOFF.