

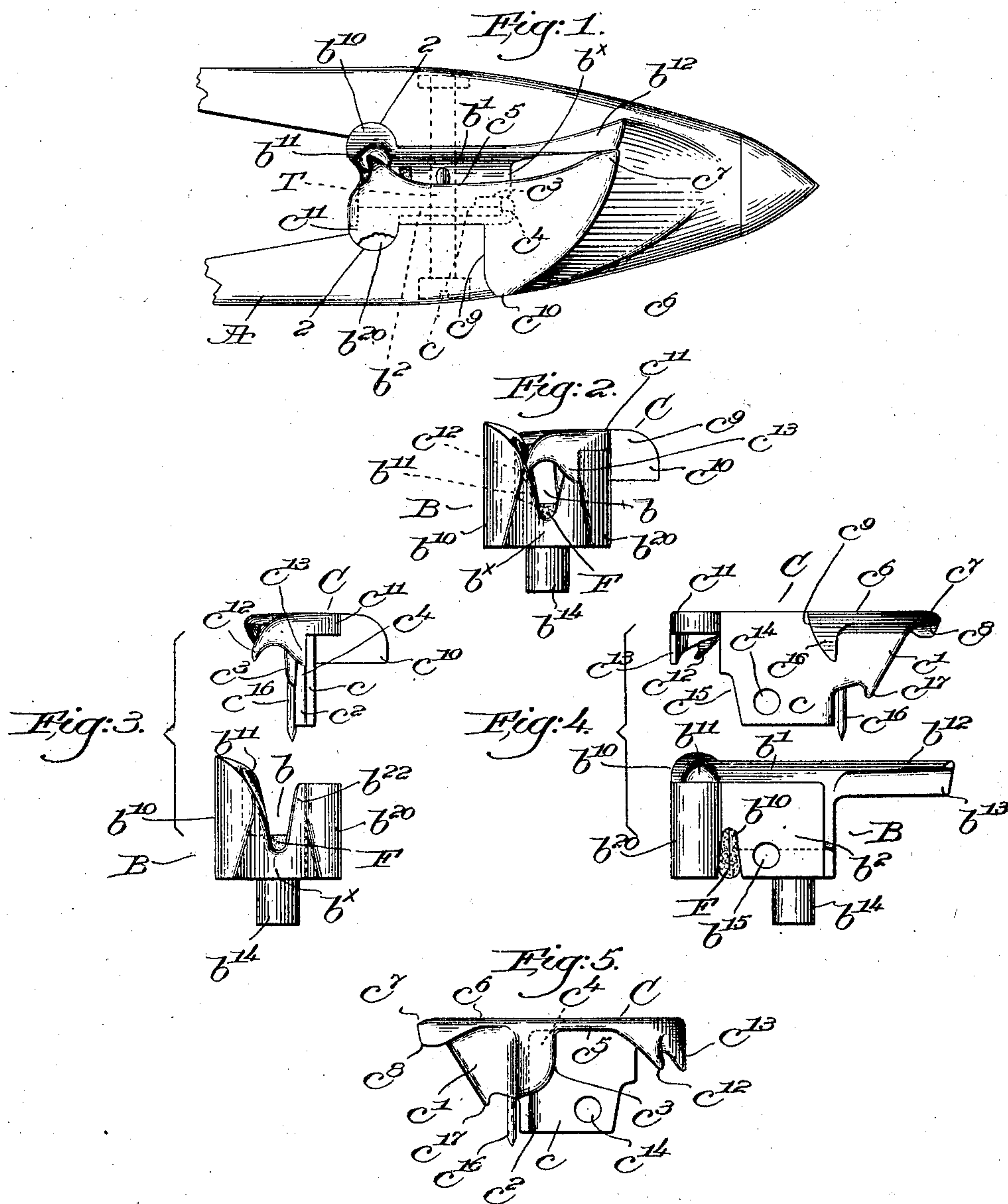
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PATENTED MAY 26, 1903.

J. NORTROP.
SELF THREADING LOOM SHUTTLE.

APPLICATION FILED JUNE 12, 1902.

NO MODEL.



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SELF-THREADING LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 729,086, dated May 26, 1903.

Application filed June 12, 1902. Serial No. 111,332. (No model.)

To all whom it may concern:

Be it known that I, JONAS NORTHROP, a subject of the King of Great Britain, residing at Hopedale, in the county of Worcester and State of Massachusetts, have invented an Improvement in Self-Threading Loom-Shuttles, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to automatically-self-threading loom-shuttles, and it has more particular reference to the threading device or "block," as it is technically termed.

One of the objects of my present invention is to provide a threading-block which will prevent the thread from accidentally jumping or being thrown out of the thread-passage after entrance thereto and which will prevent a loop of thread between the filling-carrier and the inner end of the threading-block from being thrown forward and catching about the point or beak of the head which overhangs the usual horn.

Another object of my invention is to facilitate the construction of the threading-block, so that it can be made more readily and economically.

These and other novel features of my invention will be hereinafter described, and particularly pointed out in the following claims.

Figure 1 is a top or plan view of one end of a loom-shuttle with a threading-block embodying one form of my invention. Fig. 2 is an inner end view of the threading-block removed. Fig. 3 shows the two parts or members of the block separated and in inner end elevation. Fig. 4 in side elevation illustrates the two parts, the inner side of the lower and the outer side of the upper of said parts being viewed; and Fig. 5 is a reverse or inner side elevation of the horn-carrying part shown in Fig. 4.

The shuttle-body A, Fig. 1, may be of any usual or well-known construction, having a side delivery-eye at or near one end—such, for instance, as in United States Patent No. 692,801, dated February 4, 1902—and being cut out to receive the threading device. The

threading-blocks are usually made of brass cast to the requisite general shape and then finished by sawing and filing, and it is difficult to make such castings without considerable finishing to complete the same.

To simplify the character of the mold required and to very materially reduce the subsequent operations necessary to complete the threading-block, I make it in two separable parts, one of which fits the other, and both are firmly held in the recessed part of the shuttle-body when assembled.

I have shown the threading device herein as comprising the parts or members B and C assembled in Figs. 1 and 2 and detached or separated in Figs. 3 and 4.

The member or part B comprises two up-turned side walls b' b^2 , the former slightly the higher and longer and connected at their bases at b^x , the outer faces of the walls being parallel, while their inner faces are preferably made slightly flared, forming a deep longitudinal thread-passage b between them. The inner ends of the walls are enlarged laterally to form upright ears b^{10} b^{20} , which fit into pockets 2 in the shuttle-body, Fig. 1. Near its inner end the wall b' has an upright recess or pocket b^{11} formed therein for a purpose to be described, and at its front end said wall is provided near its top with a forwardly-extended finger b^{12} , shown in Fig. 1 as slightly bent or turned outward and having a depending lip b^{13} . A stud b^{14} depends from the base b^x to enter a hole in the shuttle-body, and a transverse hole b^{15} through said base is adapted to receive the usual transverse retaining-bolt T. (See dotted lines, Fig. 1.) Between the hole b^{15} and the ears b^{10} b^{20} a transverse notch b^{16} is made intersecting the bottom of the thread-passage to receive a piece of felt, flannel, or other suitable friction material F, Figs. 2, 3, and 4, to act upon the yarn as it draws through the thread-passage.

The member or part C comprises a thin flat depending web c , having an extension c' at its outer end to constitute the horn, and the front edge of the web is turned laterally to form an upright stop c^2 , a reverse wing c^3 being formed on the upper part of the stop to present a recess c^4 , Figs. 1, 3, and 5. An

overhanging flange c^5 on the top of the web c is carried forward and laterally enlarged above the horn c' to form the head c^6 of usual shape and terminating in a point or beak c^7 , which overhangs the front end of the thread-
 5 passage when the parts are assembled, said beak being downturned at its extremity to form a prong c^8 . The back of the head presents a transverse shoulder c^9 , dropped down
 10 at its extremity at c^{10} to fit the shuttle-body. At its inner end the flange c^5 is enlarged and extended outwardly, as at c^{11} , to correspond in contour to the top of the ear b^{20} , and such enlargement is carried inward beyond the in-
 15 ner face of the web c and terminates in a downturned rearwardly-curved guard c^{12} , convex on its upper surface, and back of the guard a depending spur c^{13} is formed, adapted to enter an upright groove or notch b^{22} in the
 20 ear b^{20} . The web has a hole c^{14} for the bolt T, and it is cut away at c^{15} to register with the notch b^{10} of the member B. A pointed pin c^{16} is mounted in the part C in front of the web, and the lower end of the horn is
 25 shown as provided with the usual heel c^{17} to prevent the thread from lifting up after it has been directed by the horn into the delivery-eye of the shuttle-body. When the two parts are assembled, Figs. 1 and 2, the web c abuts
 30 against the outer face of the wall b^2 , the front end of the latter entering the recess c^4 and fitting against the stop c^2 , while the enlargement c^{11} seats upon the top of the ear b^{20} , the spur c^{13} entering and fitting snugly in the
 35 groove or notch b^{22} , (see Fig. 2,) so that the thread cannot catch at such point. The under surface of the flange c^5 rests upon the top of the wall b^2 and the beak c^7 projects slightly beneath or is overlapped by the finger b^{12} to
 40 compel the thread to travel beneath the finger and down under the prong c^8 during its passage to the delivery-eye, said prong thereafter preventing the thread from jumping out at the outer end of the thread-passage. The
 45 downturned and rearwardly-extended guard overhangs the inner end of the thread-passage and projects into the pocket b^{11} , its convex upper surface presenting practically no obstacle to the ready entrance of the thread
 50 into the thread-passage; but as the point of the guard is housed by the pocket it is impossible for the thread thereafter to throw or twist out of the passage.

By reference to the drawings it will be
 55 seen that the deep upright pocket b^{11} is formed in the side wall of the threading-block wholly below the top of the shuttle-body.

Should a loop be formed between the threading-block and the tip of the filling-carrier, it
 60 would be thrown forward against the guard, which latter would prevent the loop from being thrown far enough to catch over the beak of the head c^6 and would direct the loop down and into the thread-passage.

65 By making the threading-block in two separable parts the casting is greatly simplified,

and the greater part of each part is substantially finished when it is drawn from the mold, it being necessary only to polish those parts which contact with the thread when the
 70 threading device is in use, and such portions must be polished in any event, irrespective of the particular character of the block.

Having described my invention, what I claim, and desire to secure by Letters Patent, 75 is—

1. In an automatically-self-threading shuttle, a threading-block having in its base a longitudinal thread-passage and also having
 80 an upright deep pocket at the inner end of one side wall thereof and formed wholly below the top of the shuttle-body, a finger extended from the top of the wall at its outer end, a horn on the opposite side wall, the head of the horn overhanging such wall and
 85 extending across the outer end of the thread-passage adjacent the tip of the finger, and a downturned, rearwardly-inclined guard behind the head crossing the inner end of the thread-passage and entering the opposite, up-
 90 right pocket in the block.

2. In an automatically-self-threading shuttle, a threading-block having in its base a longitudinal thread-passage and also having
 95 an upright deep pocket at the inner end of one side wall thereof and formed wholly below the top of the shuttle-body, a downturned, rearwardly-inclined curved guard on the opposite wall crossing the inner end of the thread-passage and entering the pocket in the
 100 block, and extensions at the tops of and front ends of the side walls, one overlapping the other at the outer end of the thread-passage.

3. In an automatically-self-threading shuttle, a two-part, separable threading-block
 105 one part having in its base a longitudinal thread-passage, a pocket in the inner face of one side wall near its rear end, and a forwardly-extended finger at its front end, the other part having a horn provided with an
 110 overhanging head, a depending web back of the head, a downturned, rearwardly-extended guard, and an upright socket at the inner face of the web, the guard entering the pocket and crossing the thread-passage when the parts
 115 are assembled, and the head extending adjacent the finger, the opposite side wall of the one part abutting against the inner face of the web, and entering the upright socket, of the other part.
 120

4. In an automatically-self-threading shuttle, a threading-block composed of two separable parts, one having a deep, longitudinal thread-passage therein and a finger extended
 125 forward beyond and at the top of one of the side walls of the passage, said wall having an upright pocket therein at its rear end, the other part comprising a depending web, a horn, and an overhanging, broadened head at its front end terminating in a beak, the
 130 web at its rear end having a depending, rearwardly-inclined guard, the beak projecting

across the front end of the thread-passage and
beneath the finger, and the guard crossing
the rear end of the thread-passage and enter-
ing the pocket in the side wall, when the two
5 parts are assembled in operative position, the
web of one part abutting against the side wall
of the other part and having an upright socket
to receive the front end of such side wall.

In testimony whereof I have signed my
name to this specification in the presence of 10
two subscribing witnesses.

JONAS NORTHROP.

Witnesses:

GEORGE OTIS DRAPER,
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