

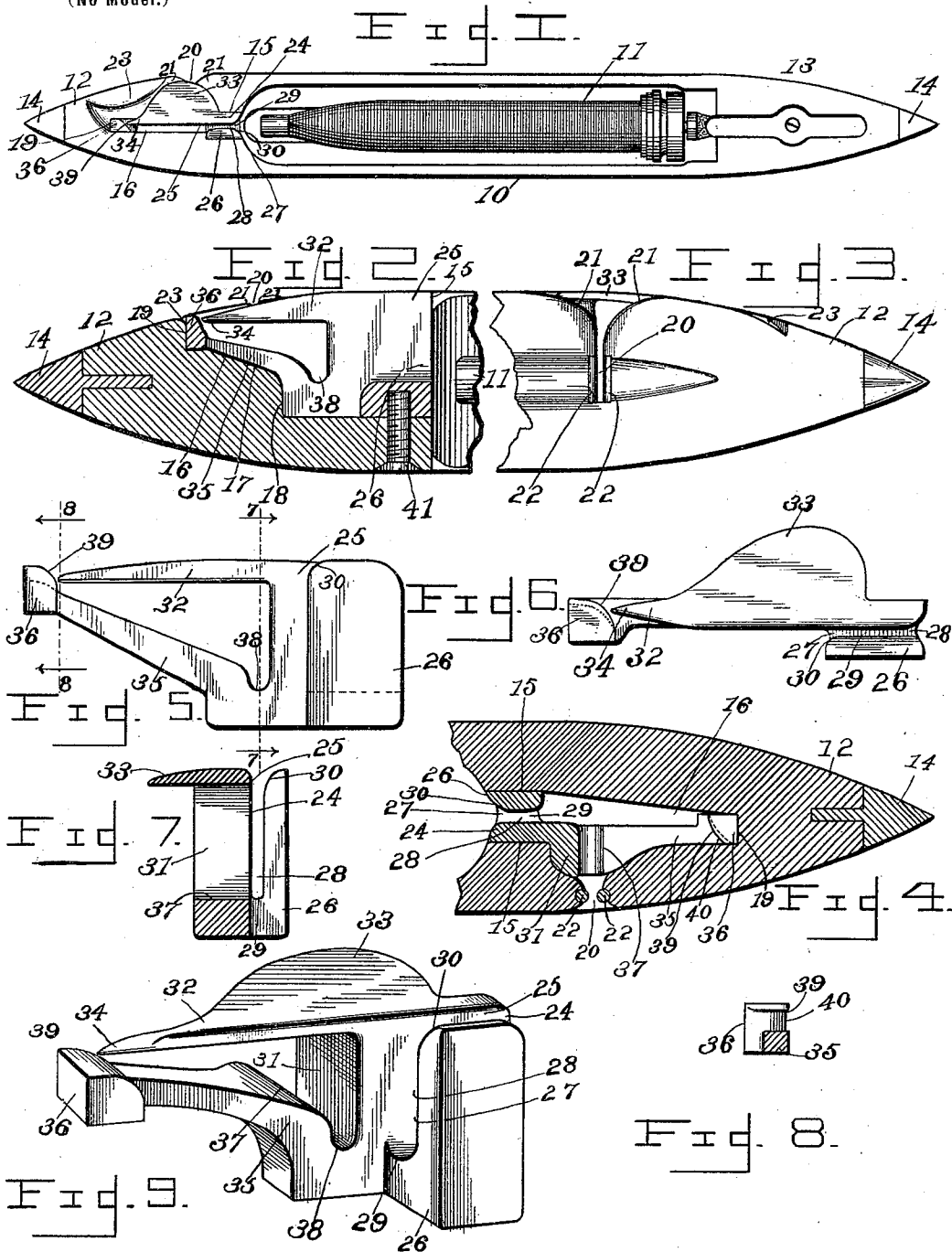
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Patented Feb. 6, 1900.

D. M. BURGESS.
LOOM SHUTTLE.

(Application filed Oct. 25, 1899.)

(No Model.)



Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL M. BURGESS, OF RAMSEUR, NORTH CAROLINA.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 642,837, dated February 6, 1900.

Application filed October 25, 1899. Serial No. 734,735. (No model.)

To all whom it may concern:

Be it known that I, DANIEL M. BURGESS, a citizen of the United States, residing at Ramseur, in the county of Randolph and State of North Carolina, have invented a new and useful Loom-Shuttle, of which the following is a specification.

This invention relates to loom-shuttles of the self-threading character or one wherein the thread has a self-disposition in the thread-slot; and the object in view is to provide simple and effective means for accomplishing the desired result and to avoid the inconvenience and disadvantages attendant on the old method of threading a shuttle and adapt the improved device for use with filling mechanism or manual operation and avoid a drag or deposit in the thread-slot of lint or other material.

In shuttles of the self-threading class difficulty is often experienced in keeping the filling-thread properly confined when it is once in position, in view of the fact that the thread in unwinding from the end of the bobbin or carrier is given a rotary and a rapid vibration, and as a result unless the open passage through which the said thread came on its entrance into the delivery-eye is properly guarded the thread will reënter the said passage or slot and escape or be broken. The present improvement is intended to overcome the foregoing disadvantages and insure a positive relation between the thread and the attachment, the latter serving as a directing-guard into which the thread may be easily inserted, but from which said thread will not accidentally become disengaged.

With these and other objects and advantages in view the invention consists in the construction and arrangement of parts which will be more fully hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a top plan view of a shuttle embodying the features of the invention. Fig. 2 is a longitudinal vertical section of the thread-feeding extremity of the shuttle, showing the improved attachment therein. Fig. 3 is a side elevation of the same extremity of the shuttle on an enlarged scale. Fig. 4 is a horizontal section of the thread-feeding extremity of the shuttle, on an enlarged scale, showing the im-

provement therein. Fig. 5 is a side elevation of the improved attachment. Fig. 6 is a top plan view of the said attachment. Fig. 7 is a transverse vertical section on the line 7 7 of Fig. 5. Fig. 8 is a transverse vertical section on the line 8 8 of Fig. 5. Fig. 9 is a detail perspective view of the improved attachment.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 10 designates a shuttle-body of the ordinary form of construction and having a carrier or bobbin seat 11 therein. Both extremities 12 and 13 of the shuttle are reduced and tapered toward opposite terminals, to which metallic nose-pieces 14 are fixed for obvious reasons. The mode of holding the bobbin or carrier within the seat 11 is immaterial, and any of the well-known methods or appliances may be employed for this purpose as long as the free end of the bobbin or carrier spindle is held suspended or clear of the adjacent walls of the said seat. The feeding extremity 12 of the shuttle has a vertical slot 15 cut thereinto from the top and terminates at a point below the center in a vertical plane and is continued into a shallower front slot 16, the base-wall of the latter being constructed as an inclined support 17 continuous with a shoulder 18 between the two slots or at the point of mergence of one into the other. The slot 15 opens into the adjacent front extremity of the seat-slot 11 for the carrier or bobbin, and from a point slightly in advance of the point of communication of said slot 15 with the said seat-slot the slot 15 gradually contracts in a reverse direction toward and converges into the slot 16, which has a front extremity 19 of such width and depth as to snugly receive a forward portion of the improved attachment, which will be presently explained.

A laterally-extending feeding-eye 20 communicates with the slot 15, said eye being of itself in the form of a slot and extending vertically to the top of the shuttle, the material of which the shuttle is formed having the corners cut away at the upper portion of the said eye 20 to provide guards 21, which have a guiding action and direct the thread fully into the eye without injury thereto. On opposite sides of the eye 20 at the point where

the normal feed takes place metallic wearing devices 22 are fixed and have a function which will be readily understood by those skilled in the art. The upper portion of one
5 of the side walls of the slot 16 is cut away, as at 22, to form a recess having a convex surface to assist in guiding the thread into the eye 20 and also prevent injury thereto at said point, as well as facilitate the proper
10 disposition of the same into operative relation with the improved attachment.

The improved attachment, as clearly shown in Figs. 5, 6, 7, 8, and 9, comprises a rear guide 24, formed by a vertical wall 25 and an
15 outstanding integral lug 26, having the inner portion cut away, as at 27, in a plane parallel with the adjacent face of the wall 25 to provide a guiding-slot 28, which has a lower longitudinally-disposed concave bottom 29 at an
20 elevation above the lower extremity of the attachment, and the upper inner corner of the lug is rounded or regularly curved, as at 30, to facilitate the movement of the thread into the guiding-slot. From the said wall 25 the
25 attachment has an opposite lateral projection 31, as clearly shown by Fig. 4, and therefrom extends a horn 32, which is horizontally disposed and includes a laterally-projecting covering-web 33, which stands almost completely
30 over the upper open extremity of the feeding-eye 20, enough room being left between a portion of the marginal edge of the said web and the adjacent edge of the cut-away portion 23 to permit the thread to clear the same and
35 follow or pass downwardly into the said eye. The marginal edge of the said web 33 has a curve of considerable rotundity, which gradually merges into the reduced front end 34 of the horn, the under surface of the said horn
40 being straight in a horizontal plane, as clearly shown by Figs. 5 and 9. Extending forwardly from and in a plane at right angles to the projection 31 is an arm 35, which has a gradual upward inclination, and on its extremity in
45 advance of the reduced end of the horn is a guard 36. The upper rear portion of the arm 35 is provided with a curved enlargement 37, and between the same and the adjacent portion of the projection 31 a transversely-extending guiding-slot 38 is provided, and when
50 the attachment is properly positioned in the slots 15 and 16 the said guiding-slot 38 is in direct transverse alinement with the eye 22, and the thread from the guiding-slot 28 is
55 turned at an angle and moves through the slot 38 to said eye. The inclination of the arm 35 tends to direct the thread without obstruction into the slot 38, and in the initial threading operation the thread is drawn under
60 the reduced end or extremity of the horn, which stands closely to the guard 36, and to aid in this threading operation the upper surface of the said guard is formed convex and gradually runs down to the adjacent upper
65 surface of the arm 35. The corner of the guard 36 standing opposite the reduced end of the horn 32 is rounded, as at 39, and to

permit the thread to be brought back under the horn the outer side of the said guard is formed with a groove 40, which permits a
70 clearance by allowing the thread to lower under the horn extremity. It will also be observed that the reduced extremity of the horn is constructed to give the thread a slight
75 downward tendency as it passes thereover and direct it into the groove 40, and this groove also facilitates the feeding of the thread directly from the end of the attachment in the event that it works upwardly out
80 of the eye 20 and which may automatically take place by a reversal of the fly and without danger of disengagement of the thread from the attachment. This forward construction of the attachment also materially aids in the quick manual threading of the shuttle,
85 and in the general formation of the improved device care will be taken in removing all angles, as shown by Fig. 4, particularly at points where the thread is brought to bear with considerable tension.

When the attachment is fitted within the slots 15 and 16, it is firmly held in position by a fastening-screw 41 or analogous device extending upwardly through the bottom of the shuttle into the lug 26. This single fasten-
90 ing will be sufficient to retain the attachment in position in the shuttle, and the rear extremity of the slot 15 and the forward extremity of the slot 16 snugly receive the opposite
95 extremities of the attachment, as previously indicated, and lateral movement thereof is prevented, as well as vibration of any character. It will also be seen that the attachment is fully inclosed within the surface of the shuttle, and it is proposed to cast the attachment
100 at one operation from suitable material, preferably metal, of a proper or desired character and which will entail but a small cost and not materially add to the expense of the shuttle, particularly from a comparative standpoint
105 as to the advantages that accrue from the use of the improved attachment.

Changes in the form, proportions, and minor details can be resorted to without departing from the principle or sacrificing any of
110 the advantages of the invention.

Having thus described the invention, what is claimed as new is—

1. The combination with a loom-shuttle, of a directing attachment for the thread having
120 an outstanding lug cut away to form a longitudinally-disposed guiding-slot, a lateral projection having an arm extending forwardly therefrom at an upward angle of inclination, a transverse guiding-slot being formed be-
125 tween the rear portion of said arm and the lateral projection, and the upper surface of the arm adjacent said slot gradually curved downwardly into the latter, a guard on the free extremity of the arm of greater trans-
130 verse extent than the latter and having an upper curved face and an outer groove, and a horn extending forwardly from the said projection and having a front reduced extremity

terminating close to the guard and also provided with a laterally-projecting covering-web.

2. A directing attachment for the thread of
5 a self-threading loom-shuttle, having an outstanding lug cut away to form a longitudinally-disposed guiding-slot, a lateral projection from which an arm extends forwardly, a transverse guiding-slot being formed between a
10 portion of said arm and projection, a guard on the free extremity of the arm having an

outer groove and a horn with a front reduced extremity and a laterally-projecting covering-web, all the parts of the attachment being of integral construction.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

DANIEL M. BURGESS.

Witnesses:

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