

No. 871,291

PATENTED NOV. 19, 1907.

D. L. NORRIS.
SHUTTLE.

APPLICATION FILED AUG. 2, 1906.

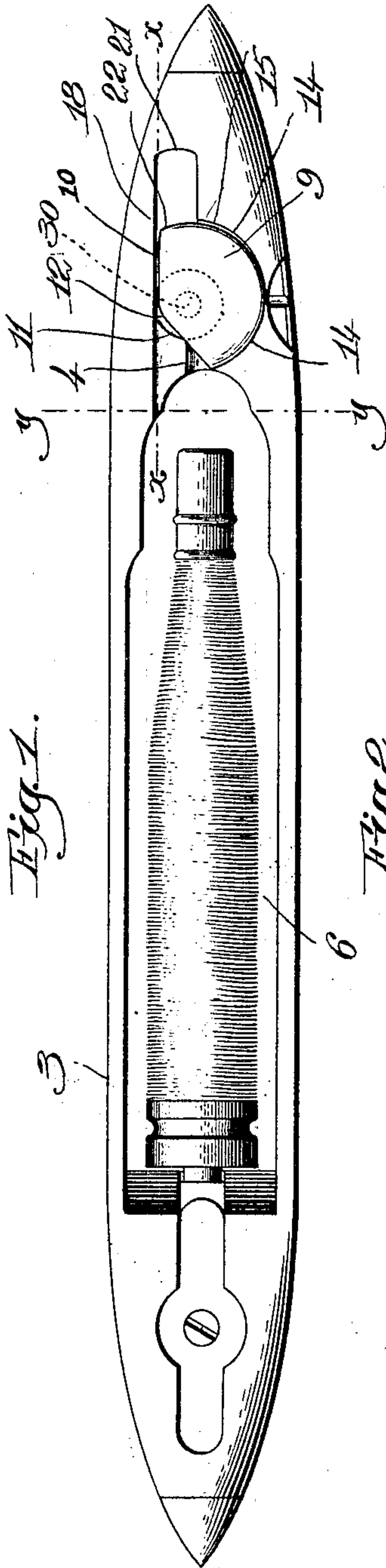


Fig. 1.

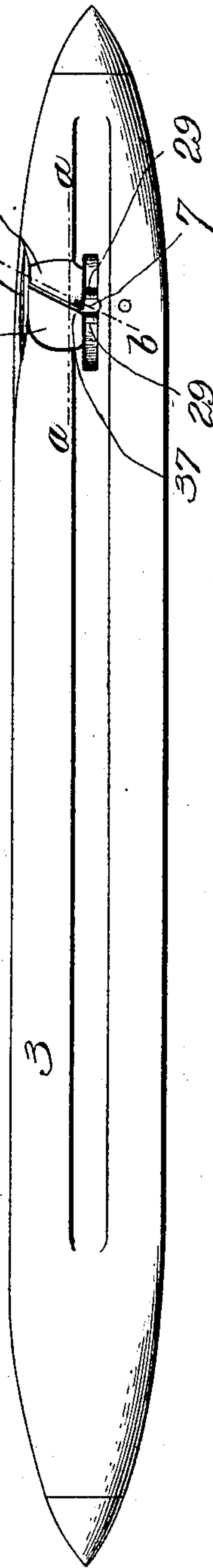


Fig. 2.

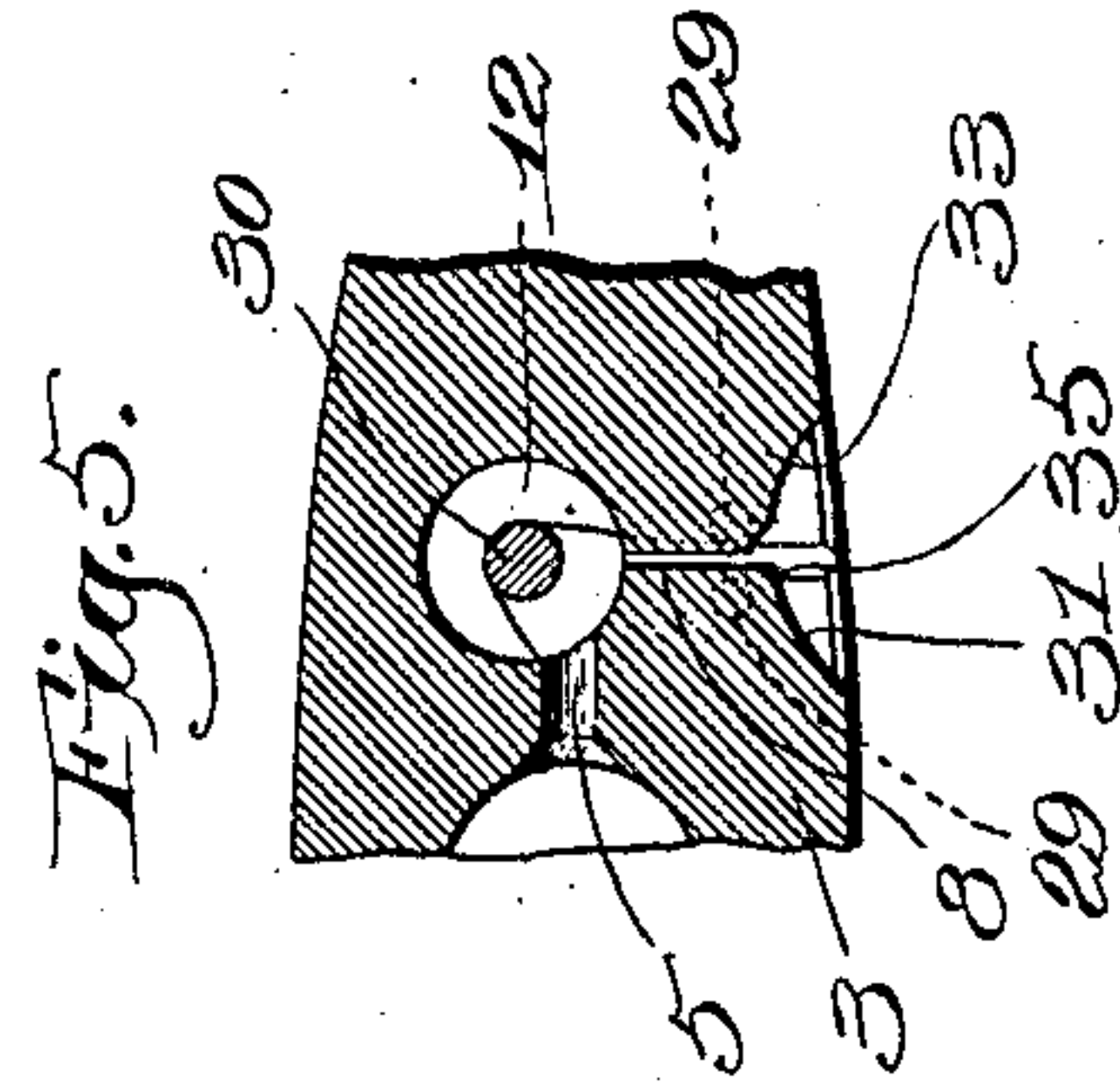


Fig. 3.

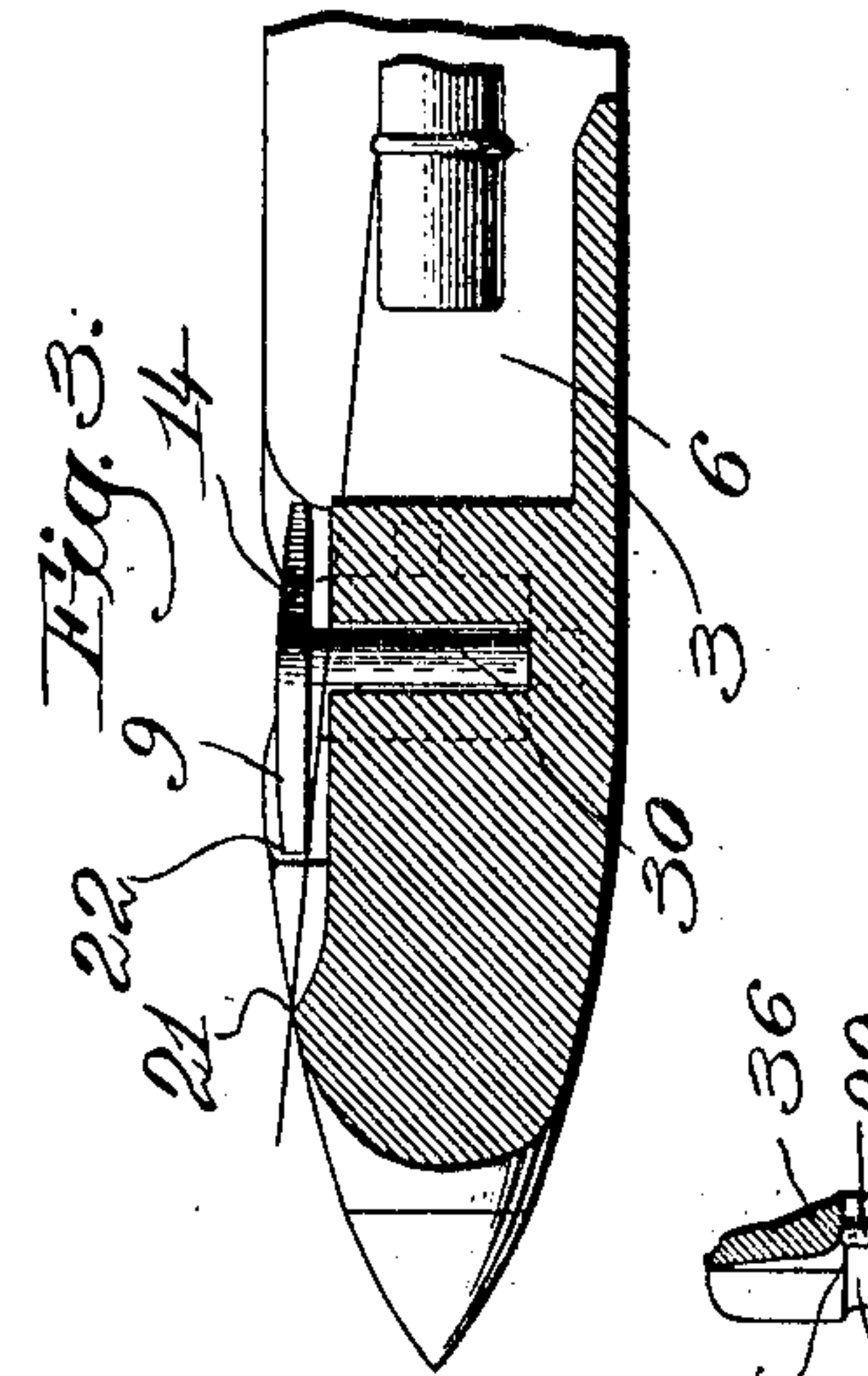


Fig. 4.

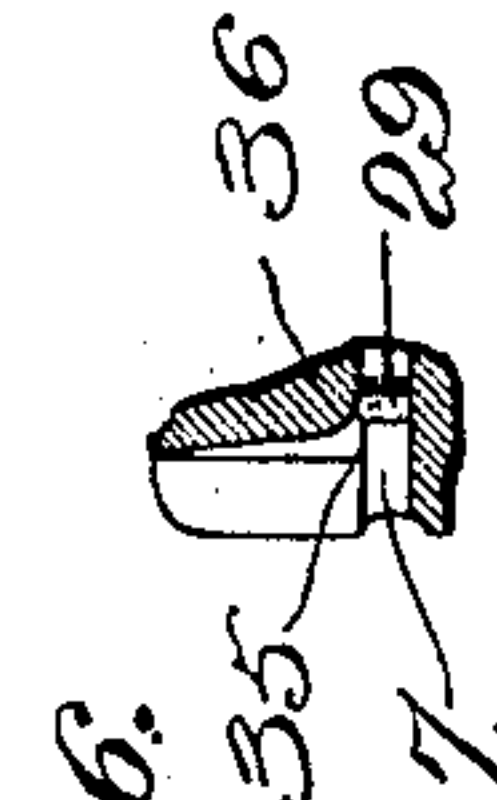


Fig. 5.

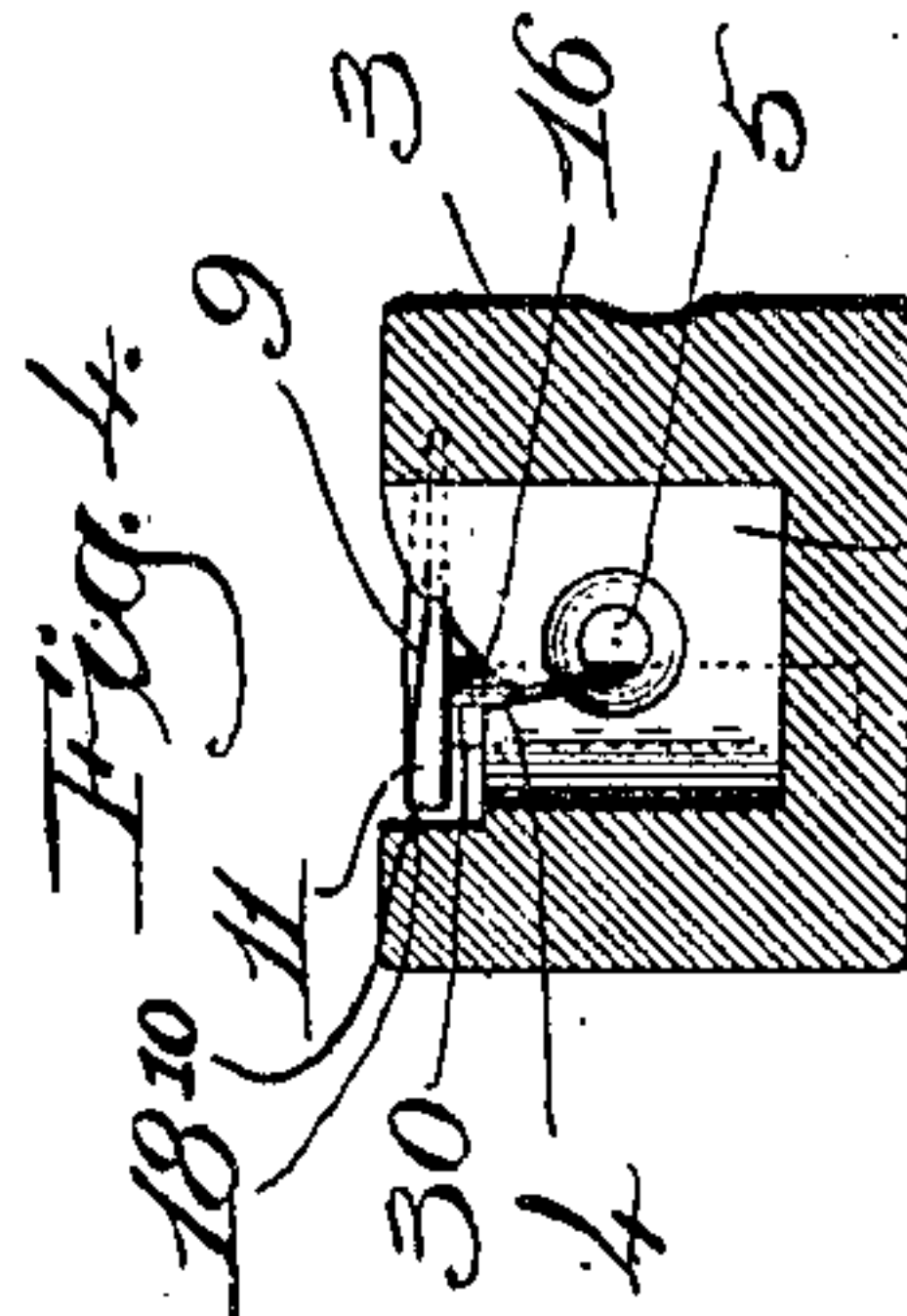


Fig. 6.

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UNITED STATES PATENT OFFICE.

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SHUTTLE.

No. 871,291.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, DAVID L. NORRIS, a citizen of the United States, residing in Westminster, county of Oconee, and State of South Carolina, have invented an Improvement in Shuttles, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates to loom shuttles, and especially to a hand-threading device for a loom shuttle.

The shuttle herein shown illustrates one embodiment of my invention, and it has a thread passage which communicates with a laterally-extending thread-delivery eye, an open slot leading to the thread passage and through which the thread is led to the thread passage, said slot being much narrower than the thread passage, an open slot leading from the top of the shuttle down to the delivery eye, and a threading device which assists in guiding the thread into the slot leading to the delivery eye. Said threading device is provided with a flat head which sets into a recess in the top of the shuttle, and the head is provided with one substantially straight edge portion which extends in the general direction of the thread passage, but which is located at one side of the open slot leading thereto, and which merges into another substantially straight portion extending angularly to said open slot, the opposite edge of said head being substantially parti-circular and being spaced slightly from the wall of the recess in which it is received, thereby to form a thread passage leading to the slot communicating with the delivery eye.

One embodiment of my invention will now be described in detail, and then the novel features thereof will be pointed out in the appended claims.

In the drawings, Figure 1 is a top plan view of a shuttle embodying my invention; Fig. 2 is a side view; Fig. 3 is a section on the line $x-x$, Fig. 1, showing the way in which the thread is drawn into the thread passage, and underneath the threading device; Fig. 4 is a section on the line $y-y$, Fig. 1; Fig. 5 is a section through the side of the shuttle on substantially the line $a-a$, Fig. 2. Fig. 6 is a section on the line $b-b$, Fig. 2.

The shuttle-body is designated by 3, and it is formed at one side with a narrow open slot 4 leading to a longitudinally-extending thread passage 5, the inner end of which leads into the bobbin-receiving chamber 6 of the shuttle, and the outer end of which leads to a chamber 12 formed in the shuttle.

7 designates a thread-delivery eye leading from the chamber 12 and extending laterally through the shuttle, the sides of said eye preferably being formed by two vertically-arranged pins 29. Leading into the thread-delivery eye is an open slot 8 through which the thread is introduced into the eye.

The thread is guided into the eye by means of a threading device which is herein shown as comprising a flat head or member 9 setting into a recess in the top of the shuttle-body and situated entirely below the top surface of the shuttle. The threading device is confined in place by means of a suitable stem 30 which depends therefrom and is received in an aperture made in the shuttle-body therefor. The head 9 of the threading device is of special shape, it having the substantially straight edge portion 10 which extends in the general direction of the slot 4 and is situated at one side thereof, and which merges into the substantially straight portion 11 extending angularly to said slot 4 and across the open top of the chamber 12, as best seen in Fig. 1, and it having also the curved parti-circular edge 14 which connects the ends of the two portions 10 and 11. This curved edge 14 is spaced slightly from the wall 15 of the recess through which the head is received, thereby forming a passage through which the thread may be led to the slot 8. The slot opens into the thread-delivery eye adjacent the post 29 which is farthest from the point of the shuttle; or in other words it opens into said eye adjacent to the rear wall of the eye. Said slot also inclines upwardly and forwardly from the eye as best seen in Fig. 2.

The post or stem 30 of the threading device is situated slightly in front of the thread-delivery eye 7, as best seen in Fig. 5, so that when the thread has been fed into said delivery eye, it extends forwardly around the post 30 and then rearwardly slightly to enter and extend through the delivery eye, see Fig. 5. The side of the shuttle is cut away slightly, either side of the open slot 8, as at

31 and 33, see Fig. 5, and preferably said shuttle body is cut away to a greater extent as at 33 on one side of the slot than at the other side of said slot. Furthermore, the
 5 portion 33 of the shuttle-body is not only beveled toward slot 8 but is also rounded or chamfered near the thread-delivery eye 7 as at 36. With this construction a shoulder
 10 35 is presented which acts as a guard to prevent the thread from entering the slot 8 from the delivery eye after the shuttle has been fully threaded, and owing to the peculiar shape of the beveled or chamfered portions 33 and 36 the shoulder 35 projects to a
 15 greater extent at the lower end thereof near the thread-delivery eye than at the upper end. One wall of the slot 4 is slightly beveled, as at 16, to facilitate the entrance of a thread into said slot.
 20 In threading the shuttle, the thread is drawn from the bobbin and laid in the space between the wall 18 of the recess in the top of the shuttle and the edge 10 of the threading device, and at the same time drawn from
 25 the bobbin. As the thread is pulled from the bobbin over the edge 21 of the recess formed in the top of the shuttle-body, it is drawn down between the wall 18 of said recess and the edge 10, and as it passes below
 30 the edge 10, the tension on the thread causes it to snap under the point 22 of the head 9. The end of the thread is then pulled around the curved edge 14 of the threading device between the latter and the wall 15 of the re-
 35 cess in the shuttle and caused to enter the slot 8. As it is pulled downwardly in said slot, it slides down the beveled portion 16 leading to the slot 4 and enters said slot passing through the slot to the thread passage at
 40 the same time that it is drawn into the thread-delivery eye from the slot 8. When the shuttle is fully threaded, the thread passes forwardly around the stem 30 and then rearwardly to the delivery-eye 7. The
 45 shape of the beveled or chamfered parts 33 and 36 of the shuttle-body and the shoulder 35 are such as to prevent the thread from being drawn back into the slot 8 after it has once entered the thread-delivery eye, for said
 50 shoulder acts as a guard to prevent the thread from easily entering the lower end of the slot 8, and owing to the shape of the chamfered or beveled portion 36 a prong or horn 37 is presented which is situated some
 55 distance back from the shoulder 35; sufficiently so to make it extremely difficult for the thread to leave the thread-delivery eye and enter the slot 8. It will be understood, of course, that the under side of the head of
 60 the threading device is spaced slightly above the recess in which it is received in order to

provide sufficient space for the thread to pass into the slot 8 as it is drawn around the curved edge 14.

In the drawings, I have illustrated one embodiment only of my invention.

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

1. In a shuttle, a shuttle-body having a thread passage, an open slot leading thereto, a delivery eye, and a slot 8 leading into the delivery eye adjacent the rear vertical wall thereof and inclining upwardly and forwardly therefrom, combined with a thread-
 75 ing device for guiding the thread into said slot 8, said shuttle-body being cut away on its side adjacent both edges of the slot 8 but to a greater extent on the front side of said slot than on the other thereby to form a
 80 shoulder 35 which prevents the thread from leaving the delivery-eye.

2. In a shuttle, a shuttle-body having a thread passage, an open slot leading thereto, a delivery eye, and a slot 8 leading to the delivery eye adjacent the rear vertical wall thereof and inclined upwardly and forwardly from said eye, the outer side of the shuttle-body being cut away adjacent both
 85 sides of said slot but to a greater extent on the front side thereof than on the other, combined with a threading device having a flat head provided with a substantially straight thread-directing edge extending in the direction of the open slot but situated at one
 90 side thereof, a substantially straight edge portion which stands angularly to the thread-directing edge and merges thereinto, and a parti-cylindrical edge portion which guides the thread into the inclined slot.
 100

3. In a shuttle, a shuttle-body having a thread passage, a narrow open slot leading thereto, and a delivery eye communicating therewith, combined with a threading device having a flat thread-guiding member
 105 provided with a substantially straight thread-directing edge extending in the general direction of the open slot, but situated at one side thereof, a substantially straight edge 11 extending angularly to the thread-directing edge, the remaining portion of the periphery of said head being parti-circular and constituting a guiding edge around which the thread is drawn as it is fed to the
 115 delivery eye.

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

D. L. NORRIS.

Witnesses:

SARAH ANDERSON,
 A. M. NORRIS.