

D. H. BEAIRD.  
 LOOM SHUTTLE.  
 APPLICATION FILED SEPT. 4, 1908.

947,523.

Patented Jan. 25, 1910.

Fig. 1.

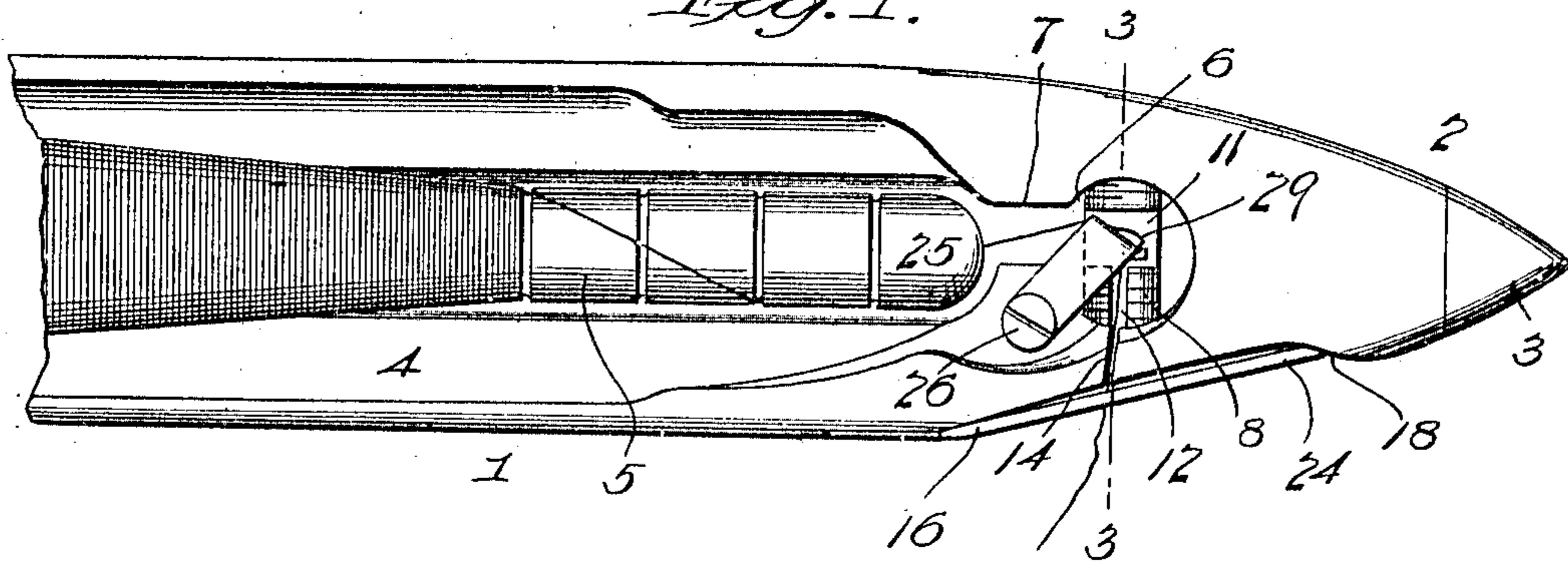


Fig. 2.

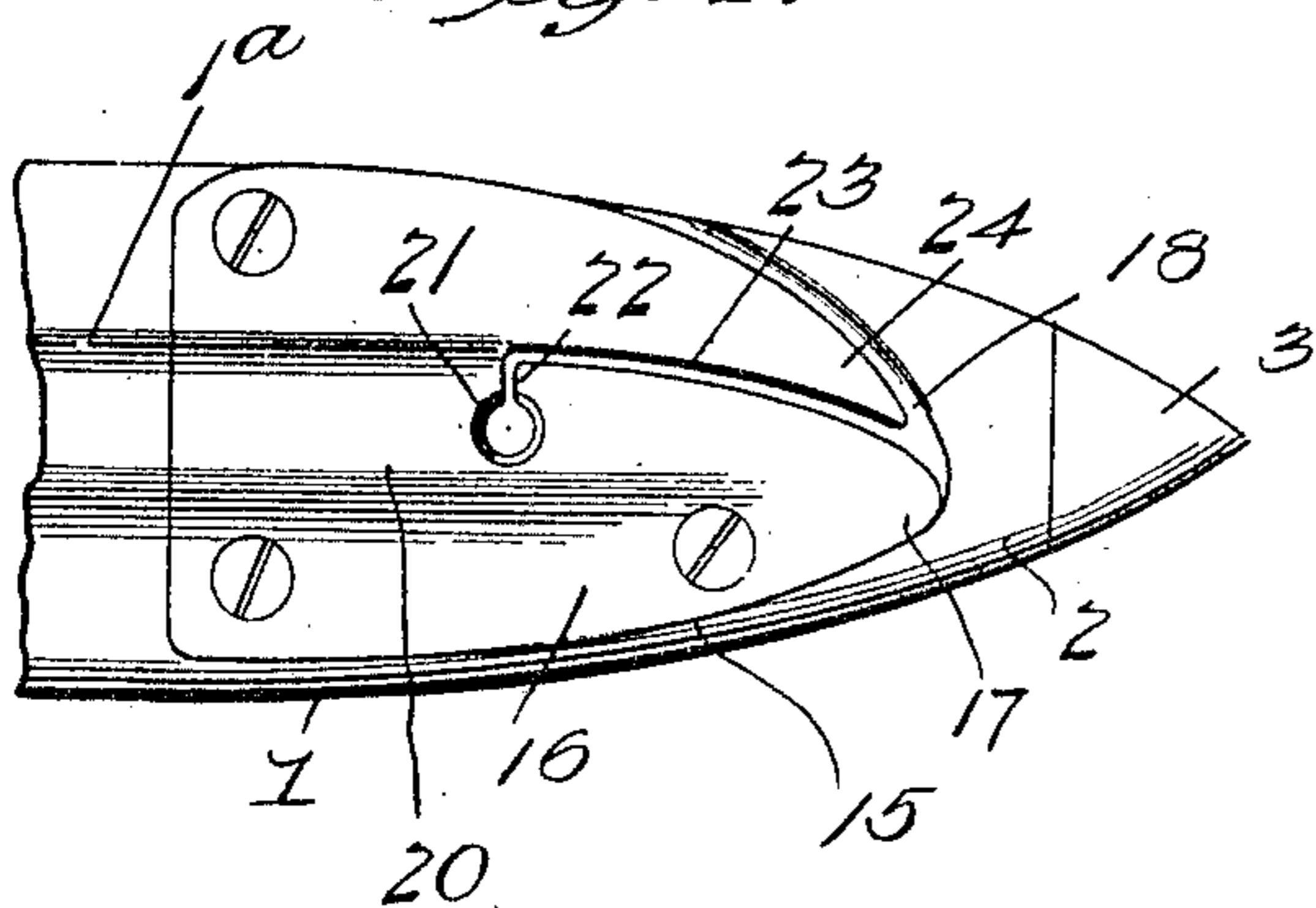


Fig. 3.

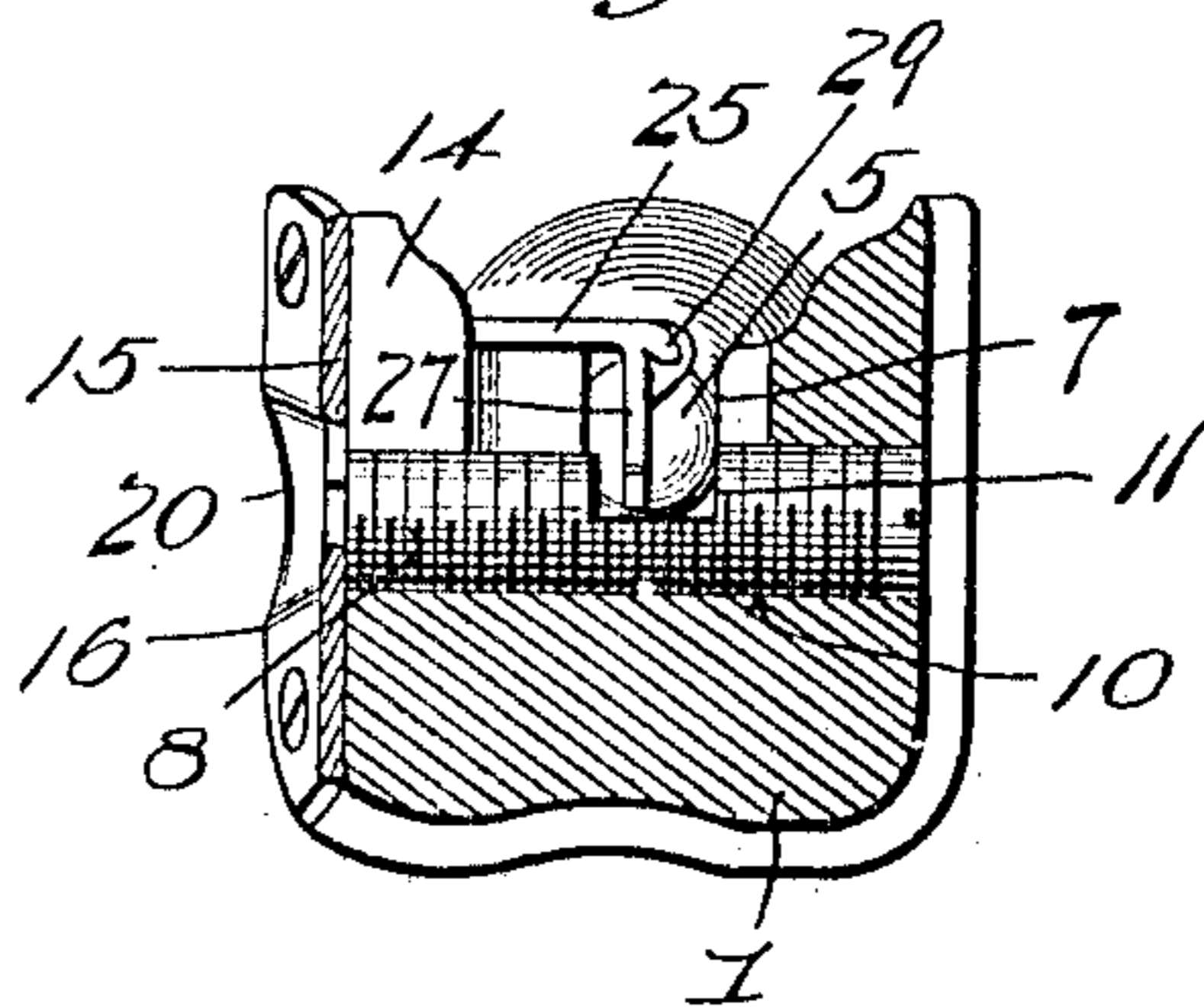


Fig. 4.

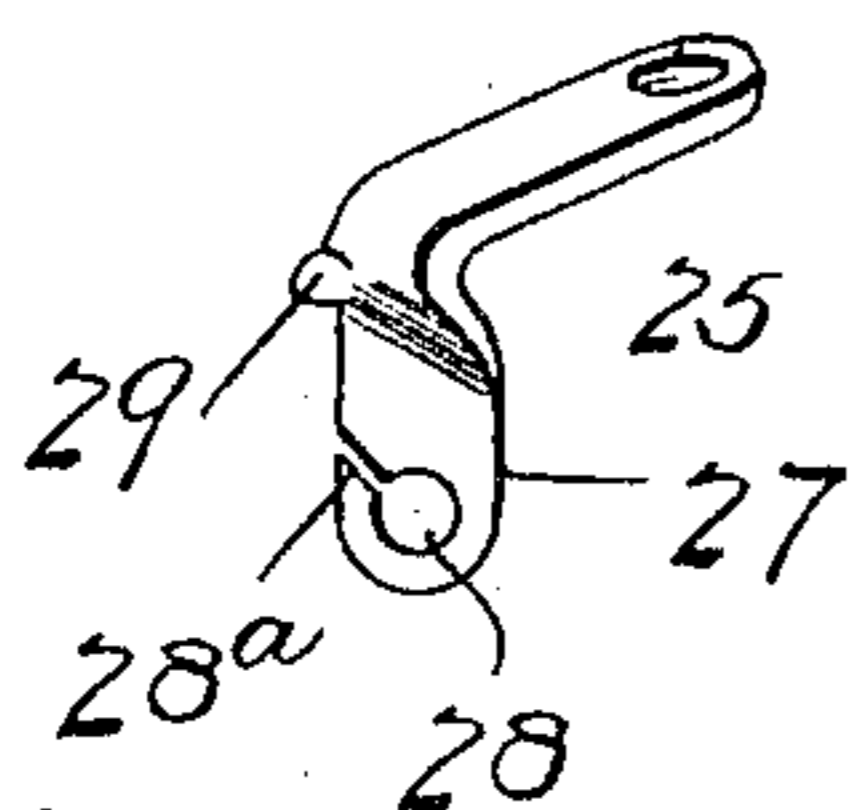


Fig. 5.

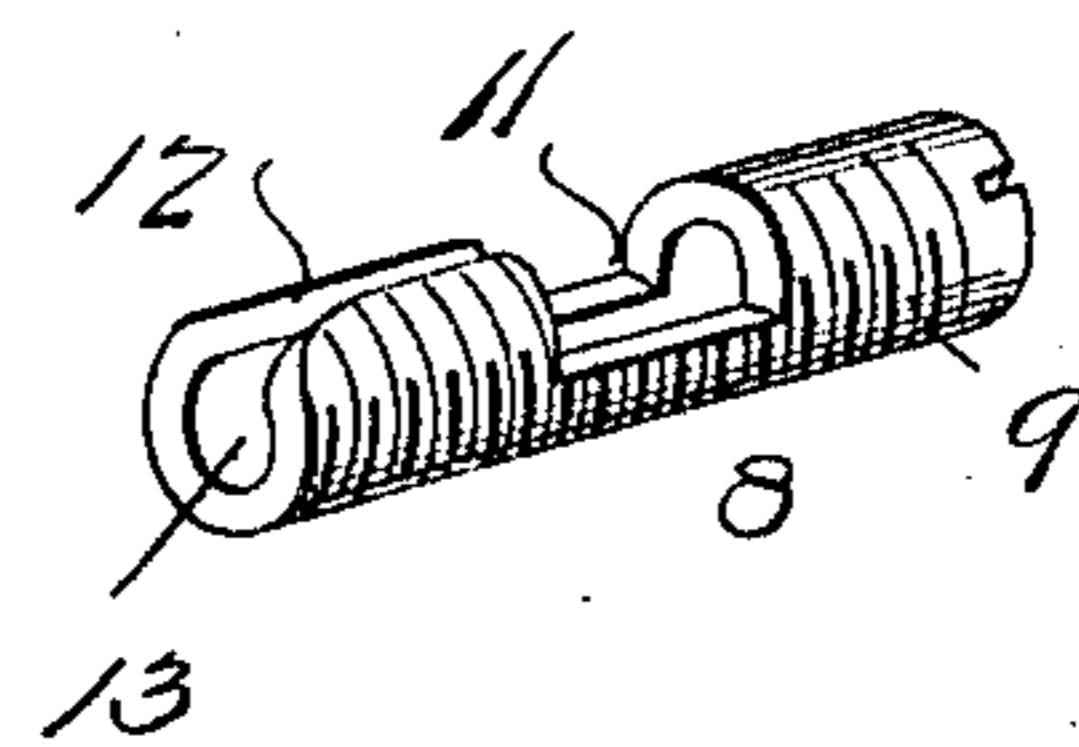
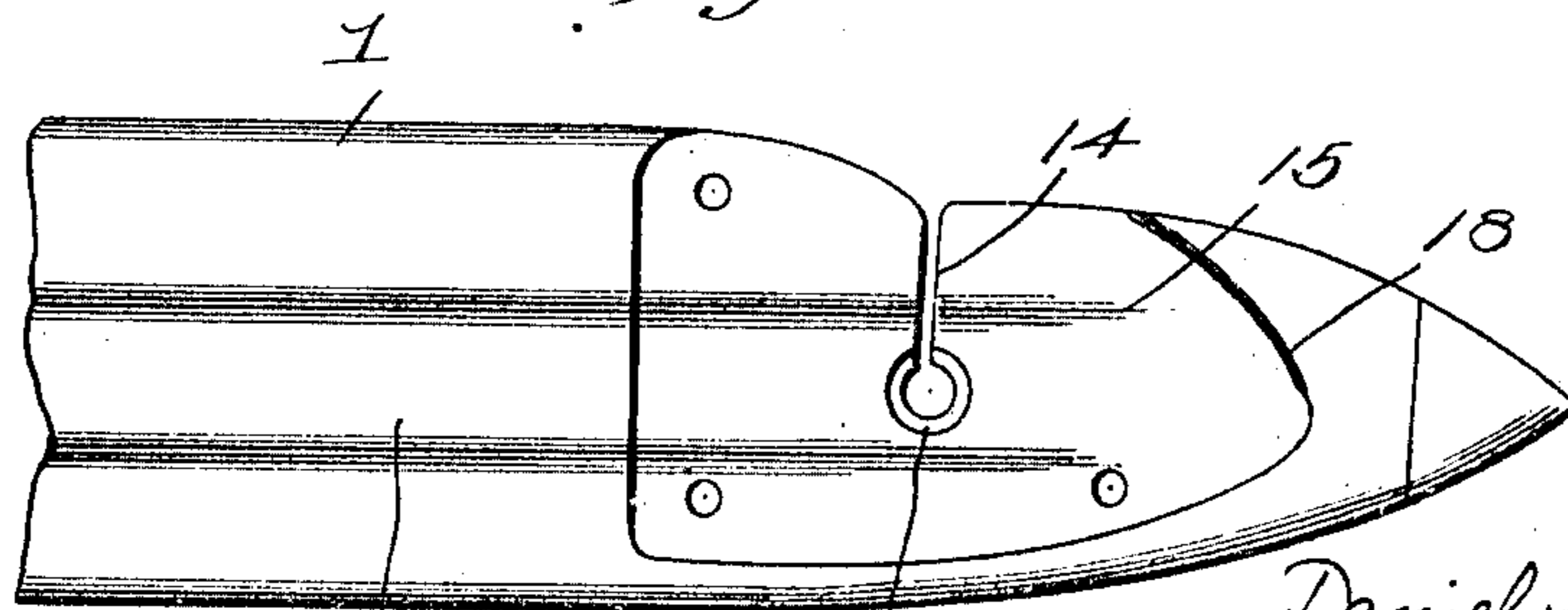


Fig. 6.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## LOOM-SHUTTLE.

947,523.

Specification of Letters Patent.

Patented Jan. 25, 1910.

Application filed September 4, 1908. Serial No. 451,654.

*To all whom it may concern:*

Be it known that I, DANIEL HOKE BEAIRD, a citizen of the United States, residing at Alabama City, in the county of Etowah and State of Alabama, have invented a new and useful Improvement in Loom-Shuttles, of which the following is a specification.

The primary object of my invention is to provide a shuttle with improved and simplified means for facilitating the threading of the shuttle.

The invention consists in the improvements to be fully described hereinafter, and the novelty of which will be particularly pointed out and distinctly claimed.

I have fully and clearly illustrated my invention in the accompanying drawings to be taken as a part of this specification and wherein:—

Figure 1 is a top plan view of a shuttle embodying my invention. Fig. 2 is a view in side elevation of the improved shuttle. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is a detail perspective view of the tension arm or device. Fig. 5 is a detail perspective view of the thread guide-eye or bushing. Fig. 6 is a view of one end of the shuttle without the threading plate.

Referring to the drawings by numerals of reference:—1 designates the body of a shuttle of a form or type well known in the textile arts, said shuttle consisting of an elongated wooden body having tapered ends 2, 2, provided with buffer points 3, 3, said body being formed with a longitudinally extending chamber or pocket 4 to receive the bobbin, at 5, the latter being maintained within said chamber by any suitable means, which, as it forms no part of my present invention, I do not specially illustrate or describe.

At the forward or let-off end of the shuttle is provided a small pocket or chamber 6 which communicates with the chamber 4 through a restricted passage 7. Extending through the chamber 6 and arranged transversely of the shuttle body is a thread guide bushing consisting of cylindrical body 8 having external screw threads 9, by means of which it is screwed into an opening 10 extending transversely of the shuttle. This guide bushing is cut away at its central portion within the chamber 6, as at 11, and the remaining cylindrical portion at one end is slotted longitudinally of the bushing, as at

12, said slot communicating with the bore 13 of the bushing. This bushing opens through one side of the shuttle, as shown in Fig. 6, and it will be noted that the slot 14 opens upwardly through one of the side walls of the shuttle which form the chamber 6.

Formed in the side face of the shuttle through which the bore of the bushing opens, is a recess 15, in which is rigidly secured a threading plate 16, which lies substantially flush with the side face of the shuttle so as not to project therefrom, the forward end of said plate being tapered to a point, as at 17, which point is housed behind a wall 18 of the recess 15 at the forward end of the shuttle. The threading plate is also formed with a longitudinally extending depression or groove 20 which forms a continuation of the guide channel 1<sup>a</sup> formed in the shuttle body.

Formed in the threading plate 15 is a thread-eye 21, which is disposed to register with the bore of the guide bushing, and extending upwardly from this eye is a slot 22 of a length sufficient to clean the upper edge of the slotted portion of the bushing and at this point opens into a slot 23 which extends forwardly to a point adjacent the points of the threading plate. This slot 23 separates the threading plate into a lower and upper portion, the latter constituting a horn, as at 24, which is spaced from the shuttle a sufficient distance to permit a thread to slip easily between the two without catching or snarling.

Located within the chamber 6 of the shuttle body is a tension device which consists of an arm 25 formed from a flat metal strip having one end rigidly connected to the shuttle body, by a screw 26, and the forward end of which is directed forwardly over the cut-away portion of the guide bushing where it is fixed transversely on an oblique line and directed downward, into said cutaway, as at 27. It will be noted that the lower end of the portion 27 lies in a plane substantially coincident with or parallel to the longitudinal axis of the shuttle, and at its lower end is formed with a thread-eye 28, to which access is had for the thread through an upwardly inclined slot 28<sup>a</sup>, opening through the forward edge of said portion 27. Upon the outer face of the portion 27, or the face

away from the threading plate is an overhanging shoulder 29, which serves a purpose to be presently set forth.

The parts being as above described, the shuttle is threaded by the following manipulations of the thread:—The shuttle being held in one hand, say the left one, the thread is grasped by the right hand and carried forwardly into the space between the tension plate and the wall of the shuttle away from the support for said plate, is then turned at an angle toward the point of the threading plate, and is passed under the point of the horn into the slot, 23, and drawn toward the slot 22 and eye 21. When the thread reaches the upper end of the slot 22 it is pulled down into the eye 21, which movement serves to draw the thread down through the slot 14 in the shuttle body into the eye 15, and through the slot 28<sup>a</sup> into the eye 28 of the tension plate. During the threading operation, the shoulder 29 on the tension plate serves to prevent the thread from passing up over said plate while the thread is being pulled through the slots in the threading plate.

It will be noted that the eye 28 in the tension plate, the bore of the guide bushing and the eye in the threading plate are in substantial alinement, and that the open end of the slot leading from said eye 28 is at a point in advance of the said bore and the eye 21, so that the thread in being drawn into the eye of the threading plate rides down the edge of the tension device until it reaches the open end of the slot 28<sup>a</sup> which permits it to move laterally into the eye 28.

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

1. In a loom shuttle, a shuttle body having a bobbin chamber and a transversely disposed thread-eye communicating with the chamber and opening through one side of the body, and a tension device located in the body and having a transverse eye therethrough in substantial alinement with the thread-eye of the body, said tension device having a slot opening through one edge and communicating with the eye, said tension device furthermore having a projecting shoulder on the side having the slot, said shoulder being located above said slot and eye.

2. In a loom shuttle, a shuttle body hav-

ing a bobbin chamber, a thread eye and a slot leading to said eye, a tension device located in said chamber and having an eye in substantial alinement with the eye in the shuttle, and a slot leading to the eye said tension device having a downwardly facing shoulder above the thread eye therein, and a threading plate on the outside of the shuttle and spaced therefrom, said plate having a slot leading from the forward edge thereof to a point adjacent the eye in the shuttle.

3. In a loom shuttle, a shuttle body having a bobbin chamber and a transversely disposed thread eye in one wall opening through one side and communicating with the chamber, and a thread guide plate secured to the outer side of said wall and having an eye alined with the thread eye, said plate having a longitudinally disposed slot having a downturned portion communicating with the top of the eye and opening through the front end of the plate, the portion of the plate above the slot being spaced from the wall, and means for securing the portion of the plate below the slot to the wall.

4. In a loom shuttle, a shuttle body having a bobbin chamber and a transversely disposed thread eye communicating with the chamber and opening through one side of the body, a tension device secured to the body and having an inturned portion that is disposed parallel to the longitudinal center of the body and having a transverse opening therethrough in substantial alinement with the thread eye of the body, said tension device having a slot opening through one edge and communicating with the eye, and a thread guide plate secured to the outer side of the body and having an eye alined with the thread eye, said plate having a longitudinally disposed slot provided with a downturned inner end communicating with the top of the thread-eye and opening through the other end of the plate, the portion of said plate above the slot being free and spaced from the wall.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL HOKE BEAIRD.

Witnesses:

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