

No. 889,327.

PATENTED JUNE 2, 1908.

D. L. NORRIS & W. B. BROWN.
HAND THREADING LOOM SHUTTLE.

APPLICATION FILED JAN. 8, 1908.

Fig. 1.

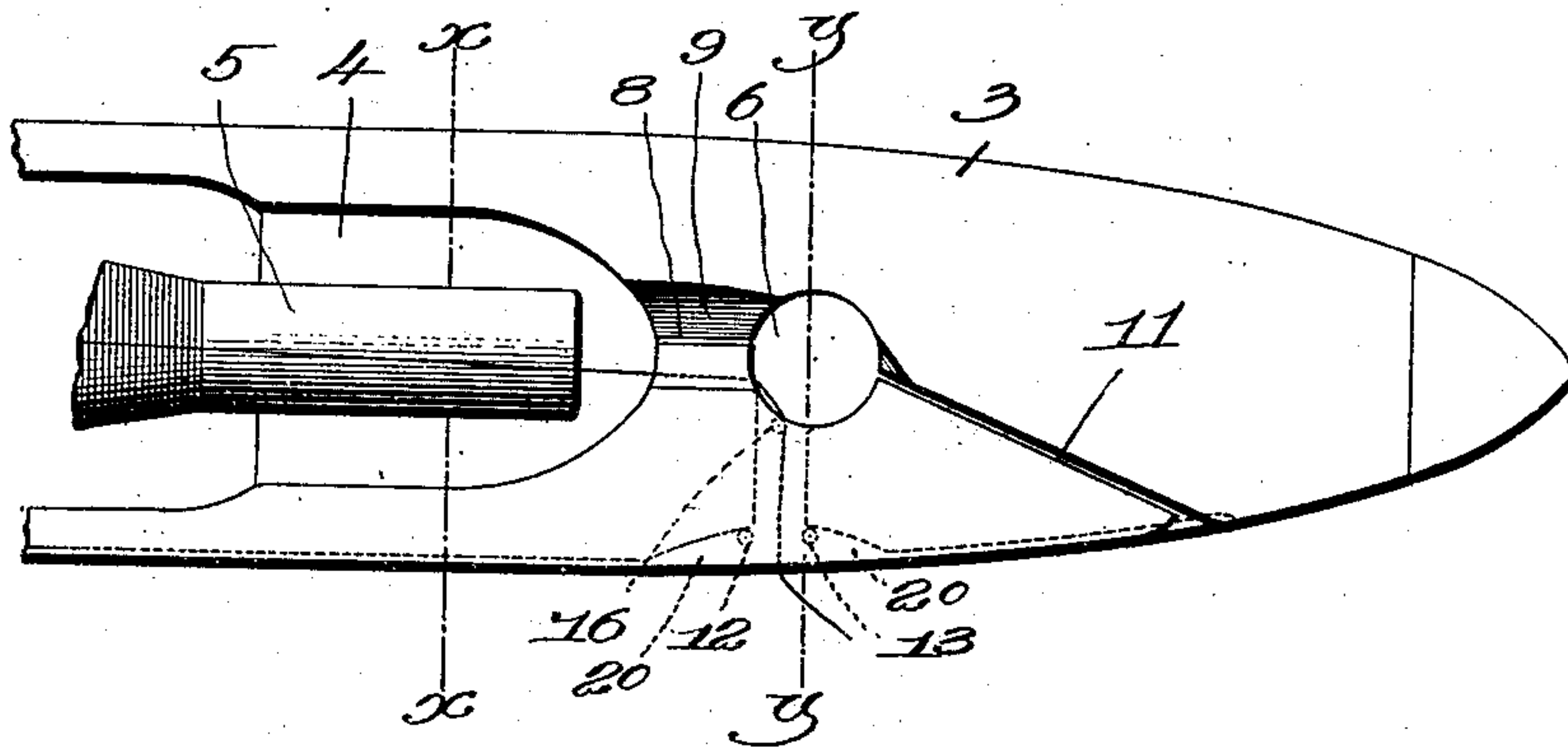


Fig. 2.

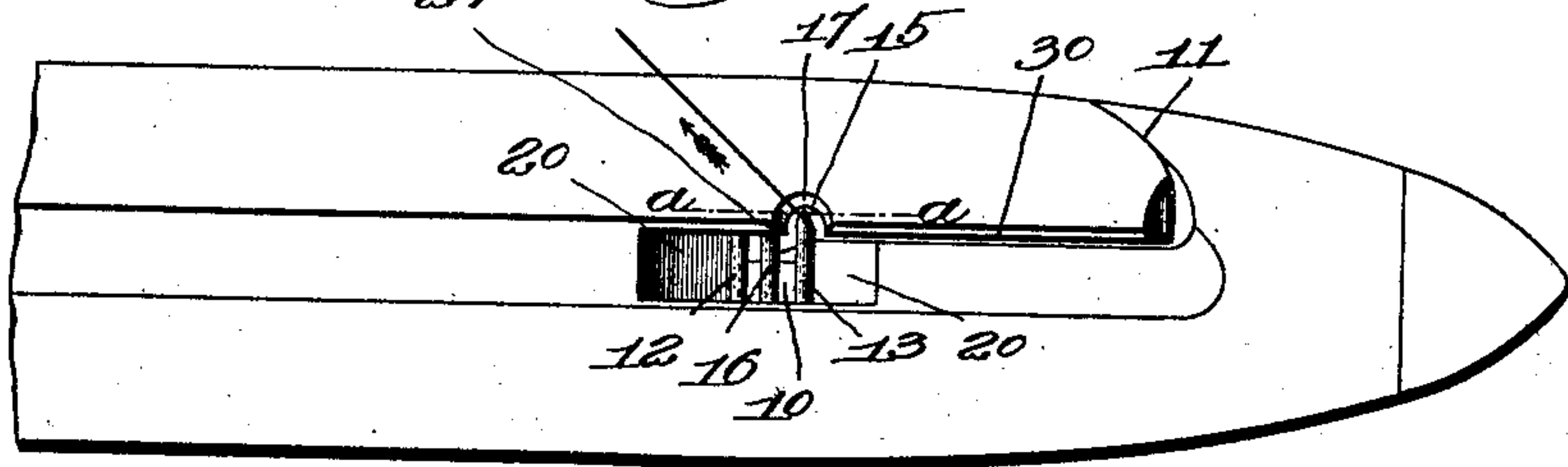


Fig. 4.

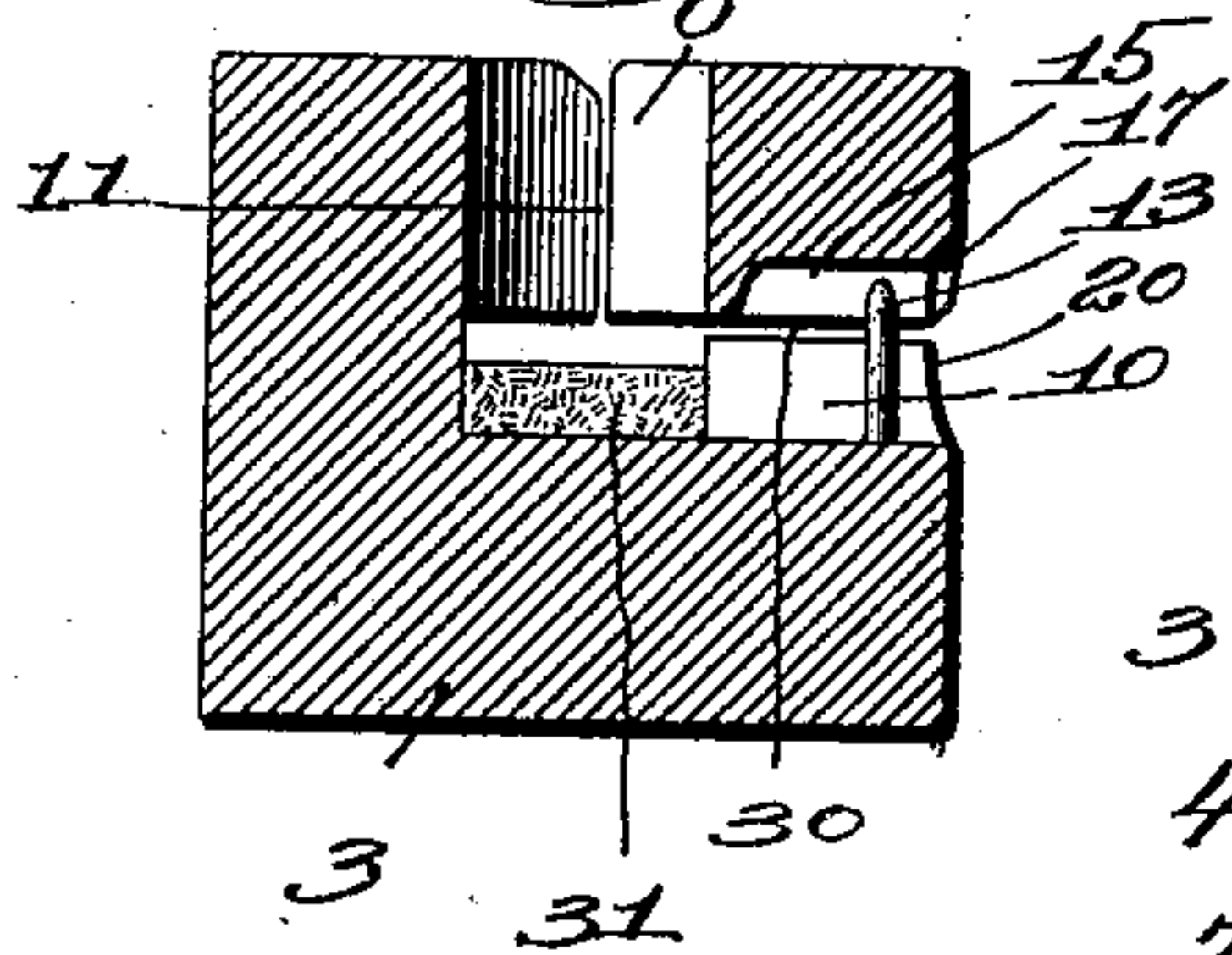


Fig. 3.

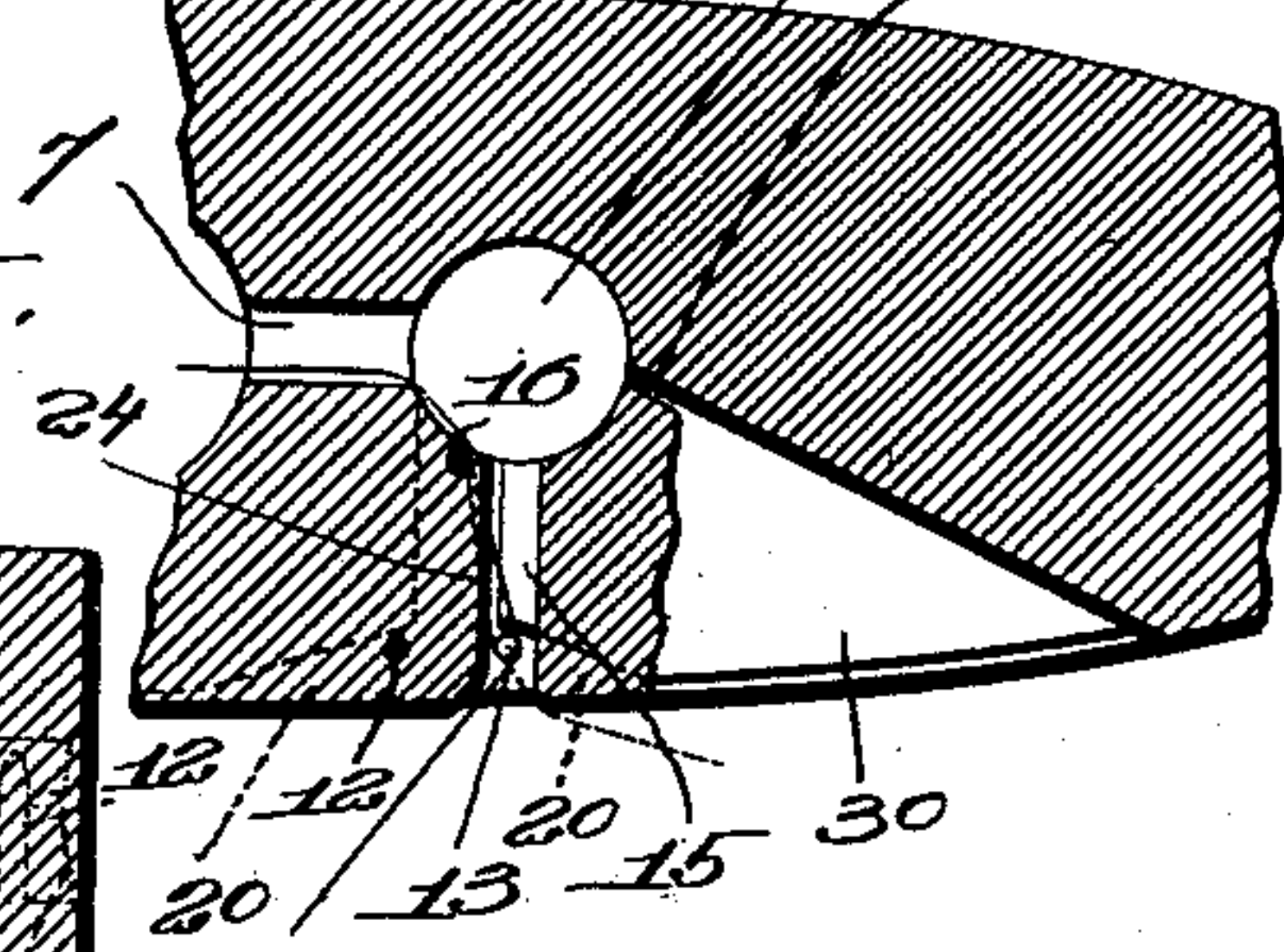
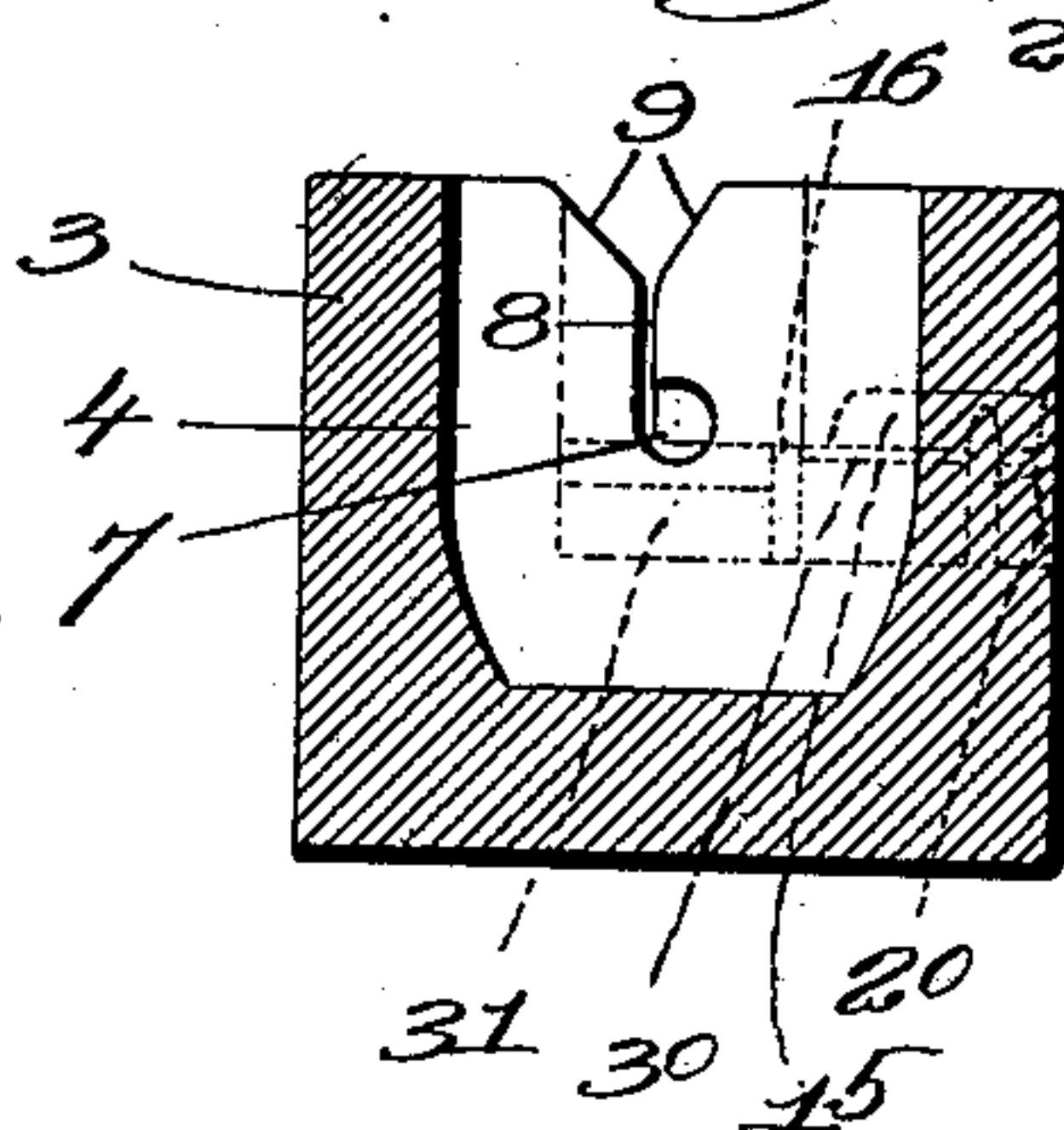


Fig. 5.



Witnesses:

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David L. Norris,
William B. Brown,
by Henry H. Myers, Attys.

UNITED STATES PATENT OFFICE.

DAVID L. NORRIS AND WILLIAM B. BROWN, OF WESTMINSTER, SOUTH CAROLINA.

HAND-THREADING LOOM-SHUTTLE.

No. 889,327.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed January 8, 1908. Serial No. 409,862.

To all whom it may concern:

Be it known that we, DAVID L. NORRIS and WILLIAM B. BROWN, citizens of the United States, and residents of Westminster, in the county of Oconee and State of South Carolina, have invented an Improvement in Hand-Threading Loom-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 particularly to shuttles of the "hand threading" variety wherein the filling thread is guided by hand into the delivery eye of the shuttle.

The invention has for its object to provide a novel form of shuttle which can be inexpensively manufactured and which has a delivery eye of such a construction that it will not become dethreaded while the shuttle is in use.

We will first describe one embodiment of our invention and then point out the novel features thereof in the appended claims.

Referring to the drawings, Figure 1 is a top plan view of one end of a shuttle embodying our invention; Fig. 2 is a side view; Fig. 3 is a section on the line *a-a*, Fig. 2; Fig. 4 is a section on the line *y-y*, Fig. 1; Fig. 5 is a section on the line *x-x*, Fig. 1 looking to the right.

3 is the body of the shuttle which is made with the usual bobbin-receiving chamber 4 within which the bobbin or filling carrier 5 is situated. The shuttle herein shown is formed with the vertically extending chamber 6 which is connected with the bobbin-receiving chamber 4 by a thread passage 7, said thread passage having the open thread-guiding slot 8 leading thereinto, the upper edge of the slot having a flared mouth, as at 9, to facilitate the guiding of the thread into said slot and thus into the thread passage. The thread delivery eye 10 leads from said chamber 6 laterally through the side of the shuttle as usual. The shuttle is also provided with the vertically extending slot 11 which leads from the chamber 6 towards the side of the shuttle in an inclined direction and which communicates with a horizontal slot 30 that in turn communicates with the thread-delivery eye 10.

The features thus far described are such as are frequently found in hand-threading shuttles and form no part of our present inven-

tion. In threading these shuttles the thread is guided into the thread-guiding slots 8 and 11 and from thence into the transverse slot 30 from which it is drawn into the thread-delivery eye.

In our improved shuttle the thread-delivery eye is formed by boring or otherwise forming a transverse aperture in the shuttle which leads into the chamber 6, and the body of the shuttle is cut away on each side of the thread-delivery eye, as at 20. Situated at each side of the eye at its outer end is a vertically-arranged pin, said pins being designated 12 and 13. Both ends of the pin 12 enter the body of the shuttle, but a thread passage is formed around the upper end of the pin 13 to permit the thread to be drawn into the thread-delivery eye, said thread passage being so constructed as to prevent the thread from being thrown out from the delivery eye. To accomplish this the shuttle is formed with a transversely-extending recess 15 which is situated directly over the pin 13 and which communicates both with the slot 30 and with the thread-delivery eye 10. The pin 13 is of such a length that a slight space is left between the upper end thereof and the wall of the recess, this space being sufficient to permit the thread to be drawn up over the pin from the slot 30 into the thread-delivery eye. At the inner end of the thread-delivery eye another vertically arranged guide pin 16 is provided around which the thread runs as it is drawn from the delivery eye, said guide pin being situated somewhat further from the point of the shuttle than the guide pin 13.

The shuttle is preferably beveled or cut away at 17 at the end of the transverse recess 15. In threading the shuttle the thread is led into the thread-guiding slots 8 and 11, and from the slot 11 into the slot 30. The thread is then drawn backwardly in said slot 30 until it comes into the transverse recess 15 and strikes the pin 13. The operator then lifts the thread against the bevel portion 17 of the shuttle and draws backwardly on the thread, as seen in Fig. 2, thus drawing the thread over the pin 13 into the delivery eye.

It will be noted that when the thread has been drawn against the pin 13 and is being pulled backwardly, as seen in Fig. 2, the thread makes a comparatively sharp angle around said pin, as seen in full lines Fig. 3, and is thus readily drawn up over said pin. After the thread is drawn into the thread-de-

livery eye the portion between the pins 16 and 12 lies under the shoulder 24 forming the edge of the recess 15. After the shuttle has been properly threaded the thread is prevented from being drawn out from the delivery eye when said thread is drawn into the dotted line position shown in Fig. 3 partly because the positions of the pin 16 and the end portion 17 of the recess relative to the pin 13 prevents the thread from being drawn around said pin at a sufficiently sharp angle to permit the thread to be drawn over the pin, and partly because the shoulder 24 assists in preventing the thread from being lifted high enough in the recess 15 to pass over said pin 13. This form of delivery eye is very simple to manufacture because after the hole is bored to the shuttle the formation of the eye requires simply the insertion of the two pins 12 and 13, and said pins may be readily inserted from the bottom of the shuttle.

We also preferably provide a friction device in the nature of a felt washer 31 situated in the bottom of the chamber 6 and in such position that the thread is drawn through the same as it is delivered from the shuttle. The felt washer affords sufficient friction to the thread so that the latter will be delivered uniformly from the bobbin and a better grade of cloth can be woven.

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

1. A shuttle having formed therein a bobbin-receiving chamber, a thread-guiding slot

leading from said chamber to the side of the shuttle, a horizontal slot communicating with said thread-guiding slot, and a thread-delivery eye extending laterally through one side of the shuttle and communicating with the horizontal slot, said shuttle having a transverse recess situated above said horizontal slot and communicating with both said slot and the delivery eye, and a pin at the outer terminus of said delivery eye and forming one side of the latter, said pin extending above the slot and terminating within said recess.

2. A shuttle having formed therein a bobbin-receiving chamber, a chamber 6, a thread passage connecting the two chambers and a thread-delivery eye leading from the chamber 6, an open thread-guiding slot leading into the thread passage and extending to the side of the shuttle, and a horizontal slot connecting said thread-guiding slot with the thread-delivery eye, said shuttle having a transverse recess communicating both with the thread-delivery eye and the horizontal slot, a vertically-arranged pin 13 at the end of the thread-delivery eye, the end of which pin is received in the transverse recess, and a felt friction material within the chamber 6.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

DAVID L. NORRIS.
WILLIAM B. BROWN.

Witnesses:

SARAH B. ANDERSON,
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