

No. 636,207.

Patented Oct. 31, 1899.

J. L. KINNEY.  
LOOM SHUTTLE.

(Application filed Jan. 3, 1899.)

(No Model.)

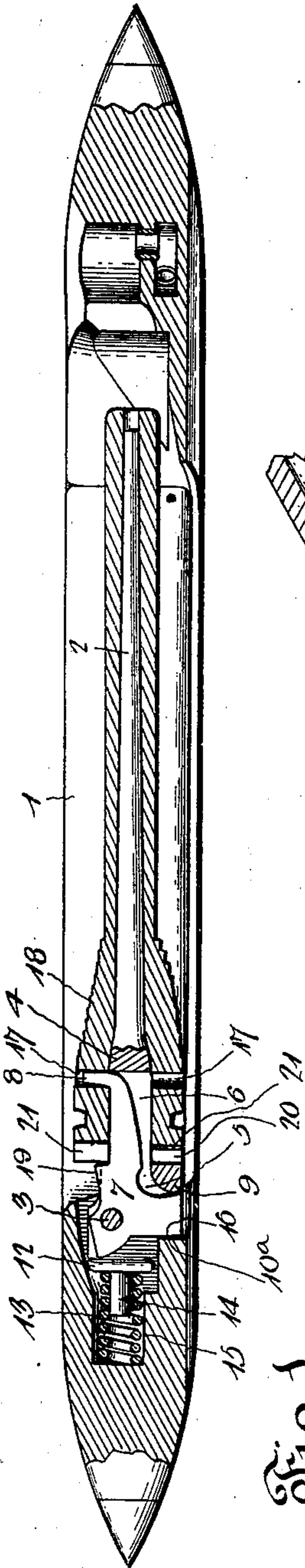


Fig. 1.

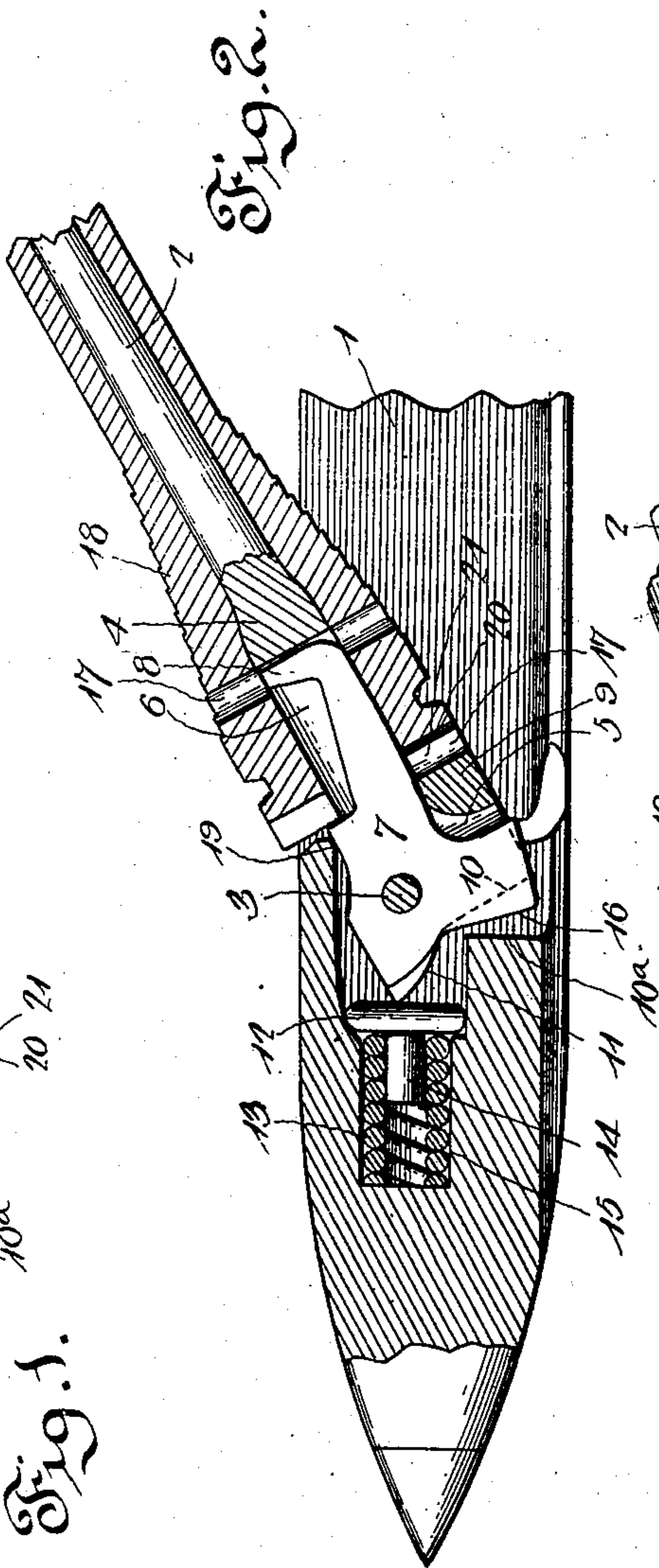


Fig. 2.

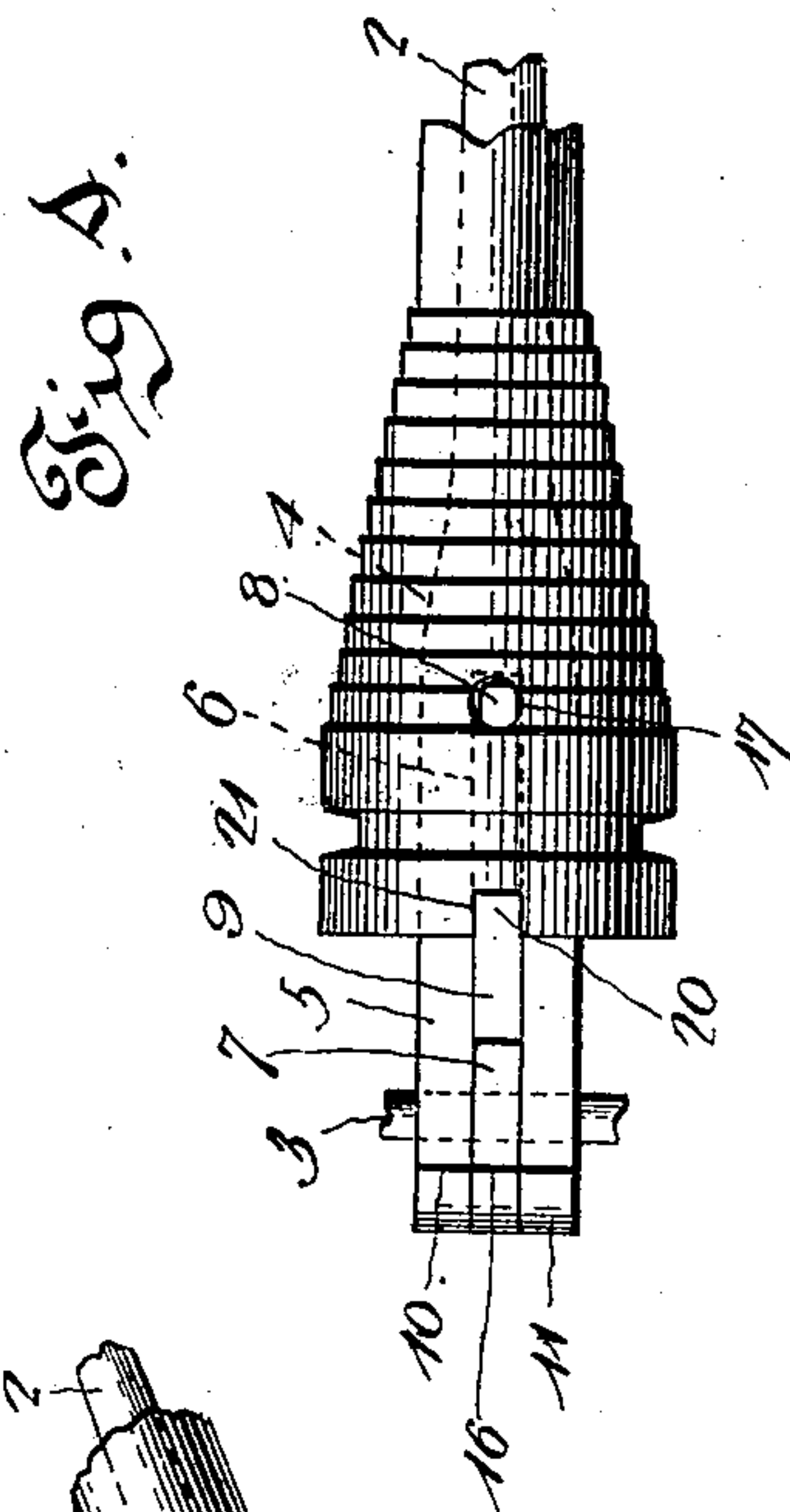


Fig. 3.

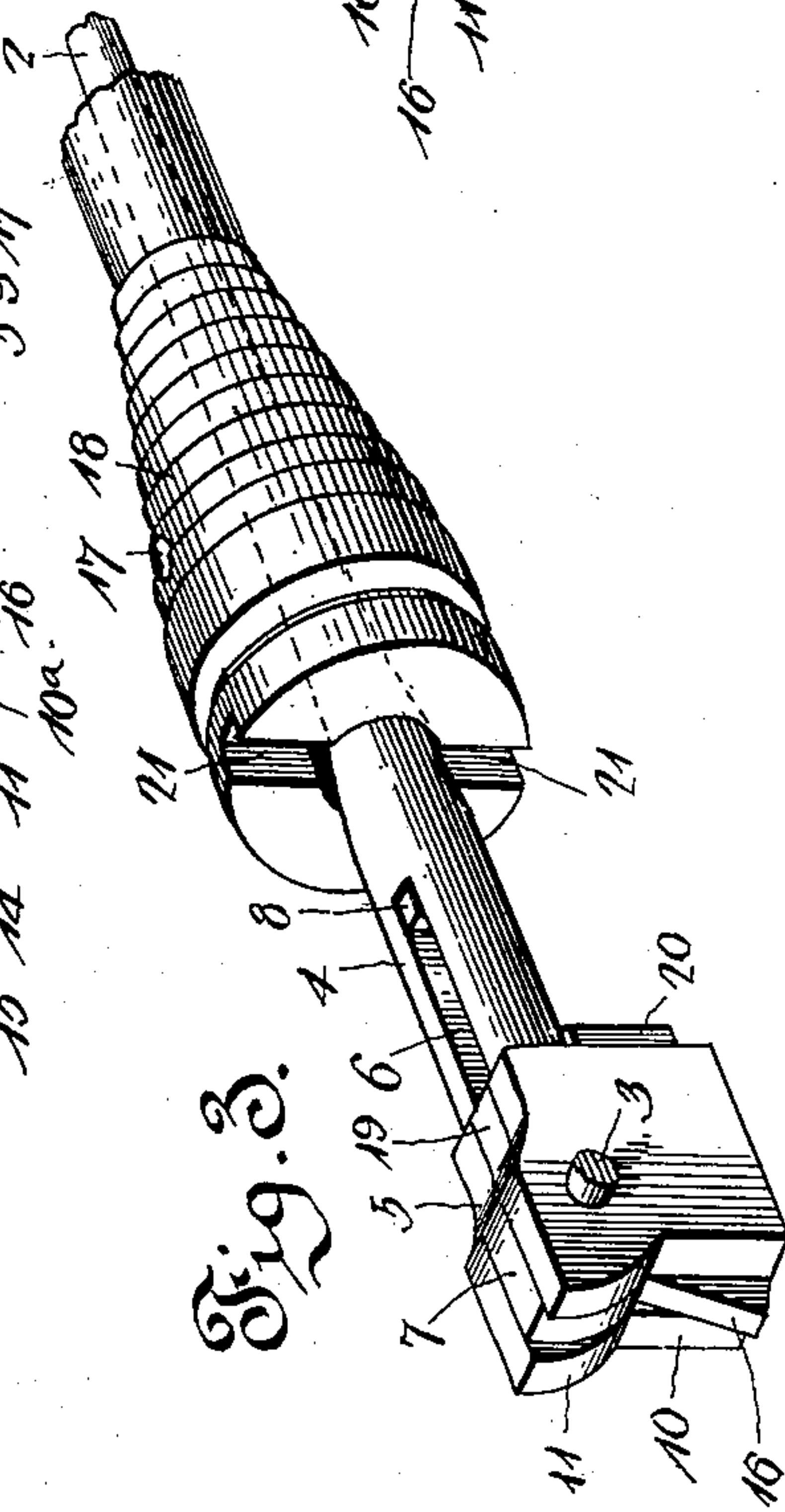


Fig. 4.

Witnesses

J. Frank Fulmerwell.  
O. D. Ryle

By his Attorneys,

J. L. Kinney, Inventor.

C. A. Snow & Co.



# UNITED STATES PATENT OFFICE.

JOHN LUTHER KINNEY, OF BURLINGTON, NORTH CAROLINA, ASSIGNOR TO  
EDWIN C. HOLT, STEPHEN I. MOORE, AND HENRY C. FOWLER, OF SAME  
PLACE.

## LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 636,207, dated October 31, 1899.

Application filed January 3, 1899. Serial No. 701,016. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN LUTHER KINNEY, a citizen of the United States, residing at Burlington, in the county of Alamance and State of North Carolina, have invented a new and useful Loom-Shuttle, of which the following is a specification.

My invention relates to loom-shuttles, and has for its object to provide a simple and improved construction of tongue and quill or bobbin, and particularly to provide an improved construction of means for locking the quill or bobbin upon the tongue, the operation of the locking device being automatic and the same being positively held in its engaging position when the tongue is operatively located in the cavity of the shuttle shell or body.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a longitudinal section of a shuttle constructed in accordance with my invention, the parts being shown in their normal or operative positions. Fig. 2 is a similar view showing the bobbin-tongue elevated to release the bobbin. Fig. 3 is a detail view in perspective of portions of the bobbin-tongue and bobbin, the latter being shown displaced or partly removed from the tongue. Fig. 4 is an inverted plan view of the same, showing the parts in their interlocked or engaged positions.

Similar reference characters indicate corresponding parts in all the figures of the drawings.

1 designates the shuttle shell or body, in the recess or cavity of which is mounted a tongue 2, adapted for swinging movement into and out of said cavity or recess upon a transverse pivot-pin 3. The tongue is enlarged or increased in thickness toward its pivoted end, as shown at 4, and terminates in a still further enlarged shoe 5, which, in common with the adjacent thickened portion of the tongue, is bifurcated to form a longitudinal slot 6. In this slot is mounted a latch 7 upon the pivot 3, which supports the tongue, and carried by the latch is a locking-

pin 8, adapted to be sheathed within the slot when the latch is in one position and to be extended beyond the side surface of the tongue when the latch is in another position. Located in the slot is a fixed block 9, of which the sides form stops for limiting the swinging movement of the latch in opposite directions.

The shoe of the tongue is provided with a transverse shoulder 10 and a cam-faced or oblique surface 11, and arranged in operative relation therewith is a spring-pressed follower 12, which is adapted to bear permanently against the rear surface of the shoe in contact with said oblique or cam face to secure the tongue yieldingly in one of its adjusted positions. Said follower is actuated by a spring 13, and consists of a disk having a flat face for contact with the shoe of the tongue and a stem 14 to extend rearward into the spring, and the spring and follower are mounted in a guide 15, formed in the shuttle shell or body in communication with the main cavity or recess thereof. When the tongue is in its normal position within the cavity of the shuttle, the follower bears against the cam-face, while the transverse portion or shell 10 of the shoe, which is located below said cam-face, bears against a stop-shoulder 10<sup>a</sup>, formed on the shuttle shell or body, and when the free end of the tongue is elevated to swing the same out of the cavity or recess the oblique or cam face of the shoe traverses the follower, thereby repressing the same in opposition to the tension of its actuating-spring until the toe or point of the shoe bears against the follower.

Registering transversely with the transverse shoulder or shell portion of the shoe is a heel portion 16 of the latch, and hence when the tongue is in its normal position said heel portion of the latch bears against the stop-shoulder of the shuttle-shell simultaneously with that of the shoe. Thus the free end of the latch is elevated to extend the locking-pin to engage an opening 17, passing centrally through the quill or bobbin 18, which is fitted upon the tongue. In the same way as the follower traverses the cam or oblique face toward the toe of the shoe the heel of the latch is released, and pressure is applied to the toe portion 19 of the latch to reverse the



latter and thus withdraw the locking-pin into the longitudinal slot of the tongue. Thus it will be seen that the follower and actuating-spring are adapted to secure the tongue in either of its adjusted positions—namely, either within the cavity of the shuttle-shell or projecting obliquely therefrom—and that the pivotal latch, which is mounted coaxially with the tongue, is also adapted for actuation by the same follower, whereby when the tongue is arranged within the shuttle-shell the locking-pin is extended to engage the socket in the quill or bobbin, and is thus held positively as long as the tongue maintains its operative position, and when the tongue is deflected to provide for the removal of the quill or bobbin from the tongue the locking-pin is withdrawn from the socket to release the quill.

Furthermore, I preferably extend the stop-block 9 to form a rib 20 for engagement with one of a plurality of notches 21, formed in the rear end of the quill or bobbin at diametrically opposite points. I preferably employ two of these notches for engagement with the rib of the tongue-shoe to facilitate the engagement of the bobbin, and correspondingly I provide the latter with a plurality of sockets for engagement with the locking-pin of the latch.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having described my invention, what I claim is—

1. The combination with a shuttle-body, of a slotted tongue pivoted therein, a latch in the slot of the tongue pivoted coaxially with the tongue, said latch having a locking-pin adapted to lie in the slot of the tongue to permit the passage of a quill onto the tongue and to project from the slot to enter an opening in said quill to prevent its removal from the tongue, a shoulder upon the tongue adapted for engagement by the quill to stop the latter in operative alinement with the latch longitudinally, a rib upon the tongue adapted to enter a slot in the quill and hold the latter in operative alinement with the latch transversely, and a spring-actuated follower engaging the latch and adapted to hold it at the limits of its motion.

2. The combination with a shuttle-body, of a slotted tongue pivoted therein, a latch in the slotted tongue pivoted coaxially with the tongue, said latch having a locking-pin adapted to lie in the slot of the tongue to permit the passage of a quill onto the tongue and to project from the slot to enter an opening in said quill to prevent its removal from the tongue, a spring-actuated follower engaging the latch and adapted to hold it at the limits of its motion, and a fixed rib on the tongue adapted to engage a notch in said quill to prevent rotation of the latter.

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

JOHN LUTHER KINNEY.

Witnesses:

STEPHEN IRVIN MOORE,  
J. A. BAMWELL.