

C. RAFFERTY.
 LOOM SHUTTLE.
 APPLICATION FILED JULY 8, 1909.

955,548.

Patented Apr. 19, 1910.

Fig. 1.

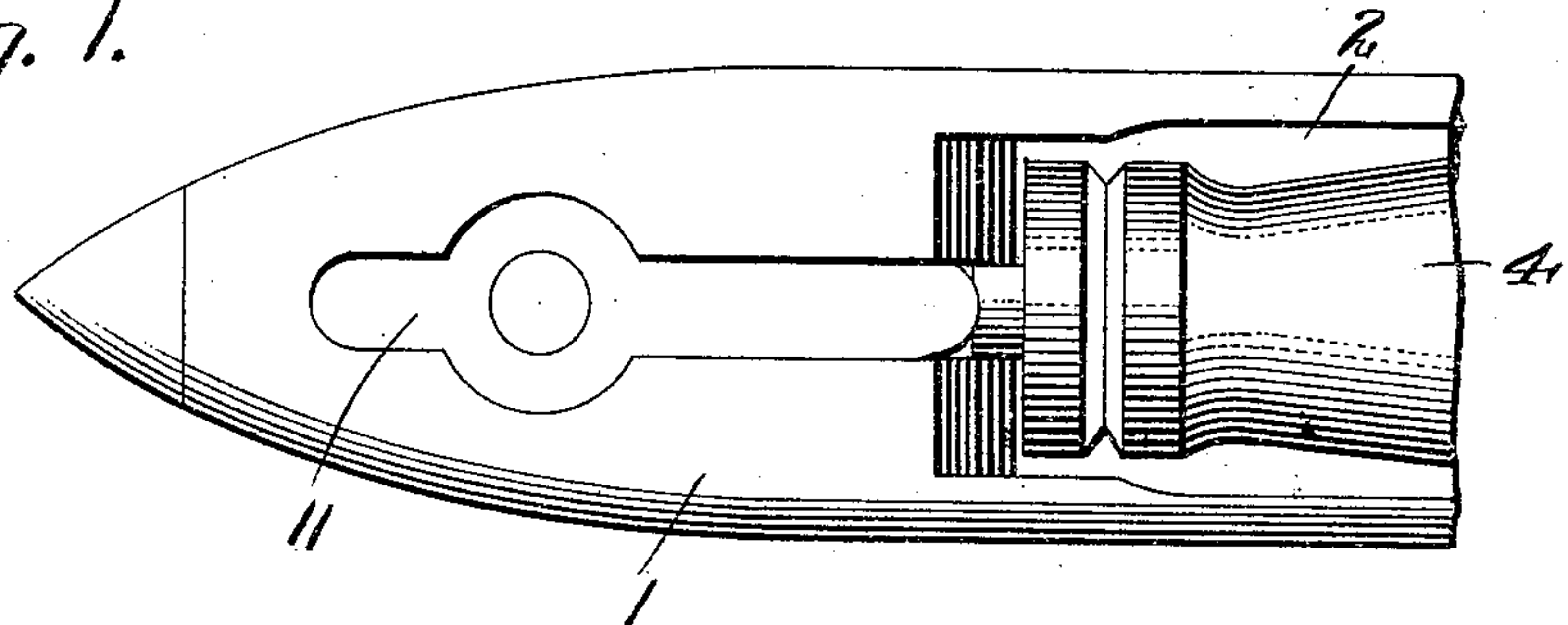


Fig. 2.

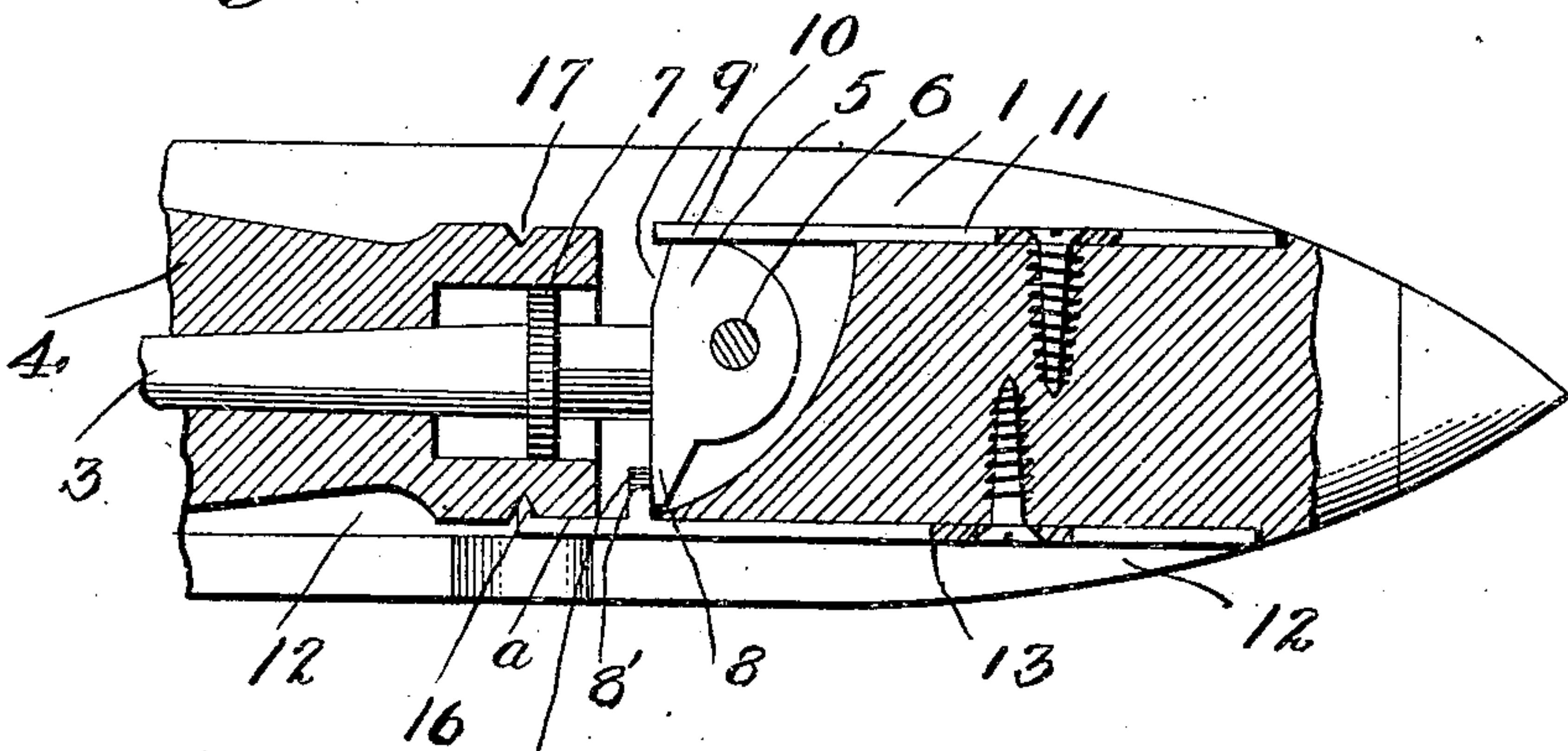


Fig. 3.

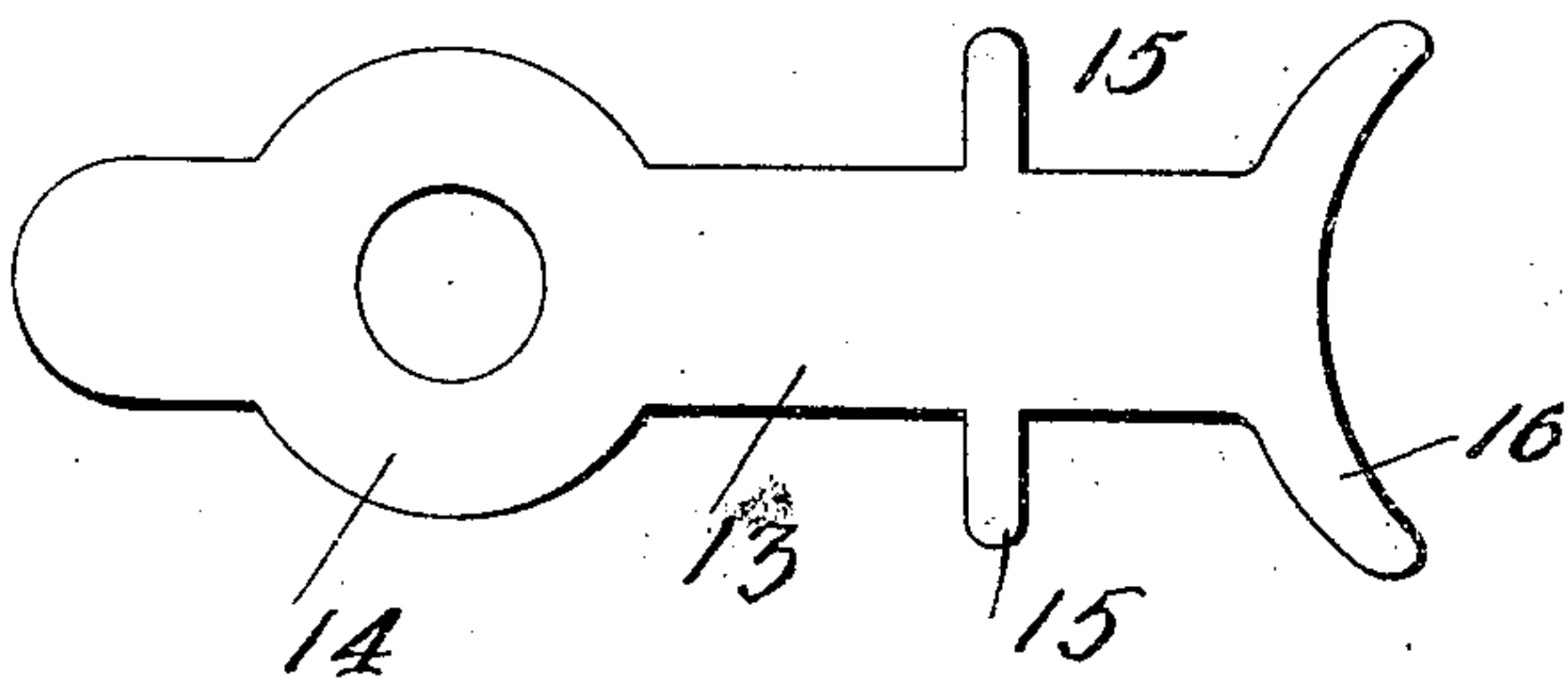


Fig. 4.

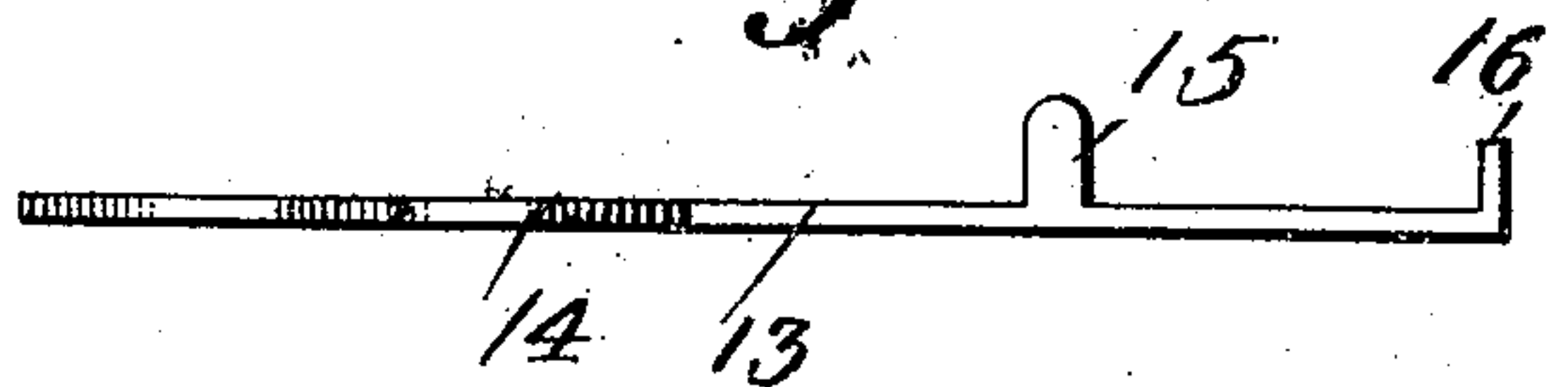
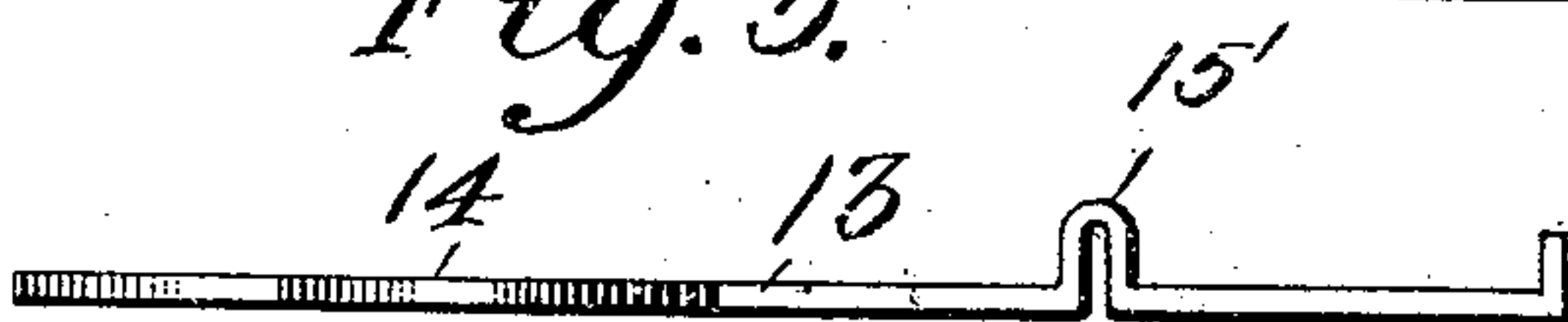


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES RAFFERTY, OF FALL RIVER, MASSACHUSETTS.

LOOM-SHUTTLE.

955,548.

Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed July 8, 1909. Serial No. 506,555.

To all whom it may concern:

Be it known that I, CHARLES RAFFERTY, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Loom-Shuttles, of which the following is a specification.

This invention relates to loom shuttles and pertains more particularly to improvements in the means for mounting and locking the bobbins on the shuttle-spindles.

The object of my invention is to improve the construction of shuttle bobbin catches and locks.

It is a further object to form a shuttle bobbin catch and lock in a blank which may afterward be bent or otherwise formed to afford the projections which engage the bobbin and spindle heel.

With these and further objects in view, my invention will now be hereinafter fully set forth and described, reference being had to the accompanying drawings, which form a part of this specification and in which—

Figure 1 is a top plan view of the spring end of a shuttle, Fig. 2 is a sectional elevation showing the relation of the lock plate or spring to the heel and base of the bobbin, Fig. 3 is a view of the blank used to form the lock plate and spring, Fig. 4 is a side elevation of the lock plate showing the locking elements formed into position, and Fig. 5 is a side elevation of a modified form of lock plate.

Referring now more particularly to said drawings, 1 indicates the body of a loom shuttle, said shuttle being in these drawings broken away to disclose only the spring end of the shuttle or that portion in which the bobbin spindle is pivoted. 2 is the bobbin cavity formed in said shuttle body and centrally of which is mounted the spindle 3 carrying bobbin 4. By being formed as a part thereof, or being rigidly secured thereto, spindle 3 is mounted at its lower end on a heel 5, said heel being transversely apertured to receive a shaft 6, which is mounted in the sides of said shuttle body and forms a bearing upon which heel 5 rocks to permit spindle 3 to be swung outwardly from the cavity 2. A disk or base plate 7 mounted at the lower end of spindle 3 forms a seat for the bobbin 4. Said heel 5 is formed as a solid block, and in cross section, as best shown in Fig. 2, has a rounded back and a

straight face, the latter being extended over one side of the main portion of the heel to form a point or projection 8, the face 8' thereof being very slightly rounded or beveled toward its outer end. At its upper extremity, said heel 5 is formed with faces 9 and 10, upon which, as the heel is swung upon its axis, the spring plate 11, secured to the face of the shuttle body is adapted to bear to exert pressure thereon. At its opposite face, the shuttle body is recessed, as at 12, to a level almost tangent with the base of the bobbin body at *a*, and in said recess is seated the spring lock plate 13. The latter is fastened in position as by screws, or in any other desirable manner, said fastenings occurring at a distance from the heel 5 to permit the plate 13 to exert the full power of its resilience. Said spring lock or plate 13 is cut from sheet metal in the form of a blank, as indicated in Fig. 3. Intermediate its length, said blank is provided with a circular enlargement 14, formed about its point of securement. Near its projecting end, ears or lugs 15 are formed, and at its outer end, said blank is provided with a substantially crescent shaped projection 16. To form the spring lock plate for application to the shuttle body lugs 15 are bent upwardly at right angles to the body of said plate and the upper ends thereof are shown slightly rounded. The crescent-shaped projection 16 is likewise turned upwardly at right angles to said plate, to present its entire crescent form above said plate. When the spring plate 13 is in position and secured in the recess 12 by a screw through the enlargement 14, the lugs or ears 15 will be thrust in front of the projection 8 on the heel 5, when the latter is thrown to place the spindle 3 inside of the bobbin cavity 2, and when a bobbin is placed on said spindle, the crescent-shaped projection 16 will engage in the lock groove 17 usually found in bobbin bases. It will thus be evident that a plate is provided which locks the bobbin on its spindle, and resiliently locks the heel in its upright position. When the bobbin is to be removed, the upper end thereof is grasped and pulled outwardly from the cavity 2. This causes the heel 5 to rock on its axis, and the beveled face 8' of projection 8 to ride over and above the rounded ends of the lugs or ears 15, and at the same time projection 16 will be caused to ride out of groove 17.

Another desirable form of spring lock plate is shown in Fig. 5. In this form the portion of the plate which locks the heel is formed by flanging or crimping said plate at 15', thereby providing a rigid lug which has its upper end rounded to permit the projection 8 to ride thereon.

It is evident that in the provision of this blank which is afterward bent as described, a simple, effective bobbin catch and lock is afforded, which is economical and highly practicable.

Having thus described my invention, I claim as new and desire to secure by Letters Patent;—

1. A shuttle bobbin lock comprising, in combination with a shuttle body and bobbin, a heel having a projection formed as a continuation of its face, a spindle carried by said heel, and a spring lock plate secured to said shuttle body, said spring plate comprising a blank having lugs bent from its sides to engage said projection on said heel when the spindle is in its normal position and having

a crescent shaped projection at its end bent to embrace said bobbin.

2. A shuttle bobbin lock plate comprising in combination with a shuttle body, and bobbin, a heel having a projection formed as a continuation of its face, and having its face beveled, a spindle carried by said heel, and a spring lock plate secured to said shuttle body, said spring lock plate comprising a blank having lugs bent from its side to engage said projection on said heel when the spindle is in its normal position, the upper ends of said lugs being rounded to ride on said beveled face, and a crescent-shaped projection at its end bent to embrace said bobbin.

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

CHARLES RAFFERTY.

Witnesses:

ADA E. HAGERTY,
J. A. MILLER.