

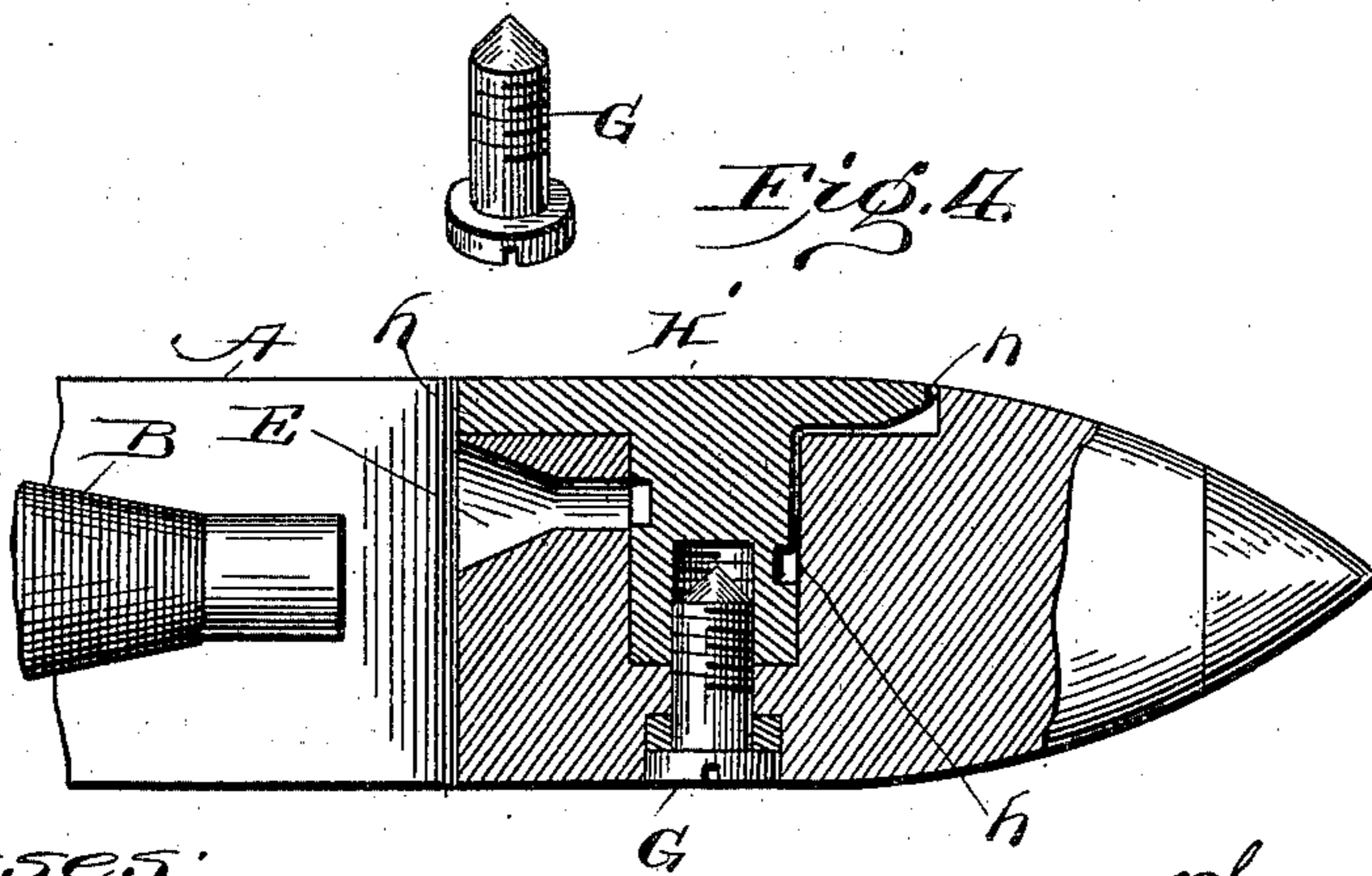
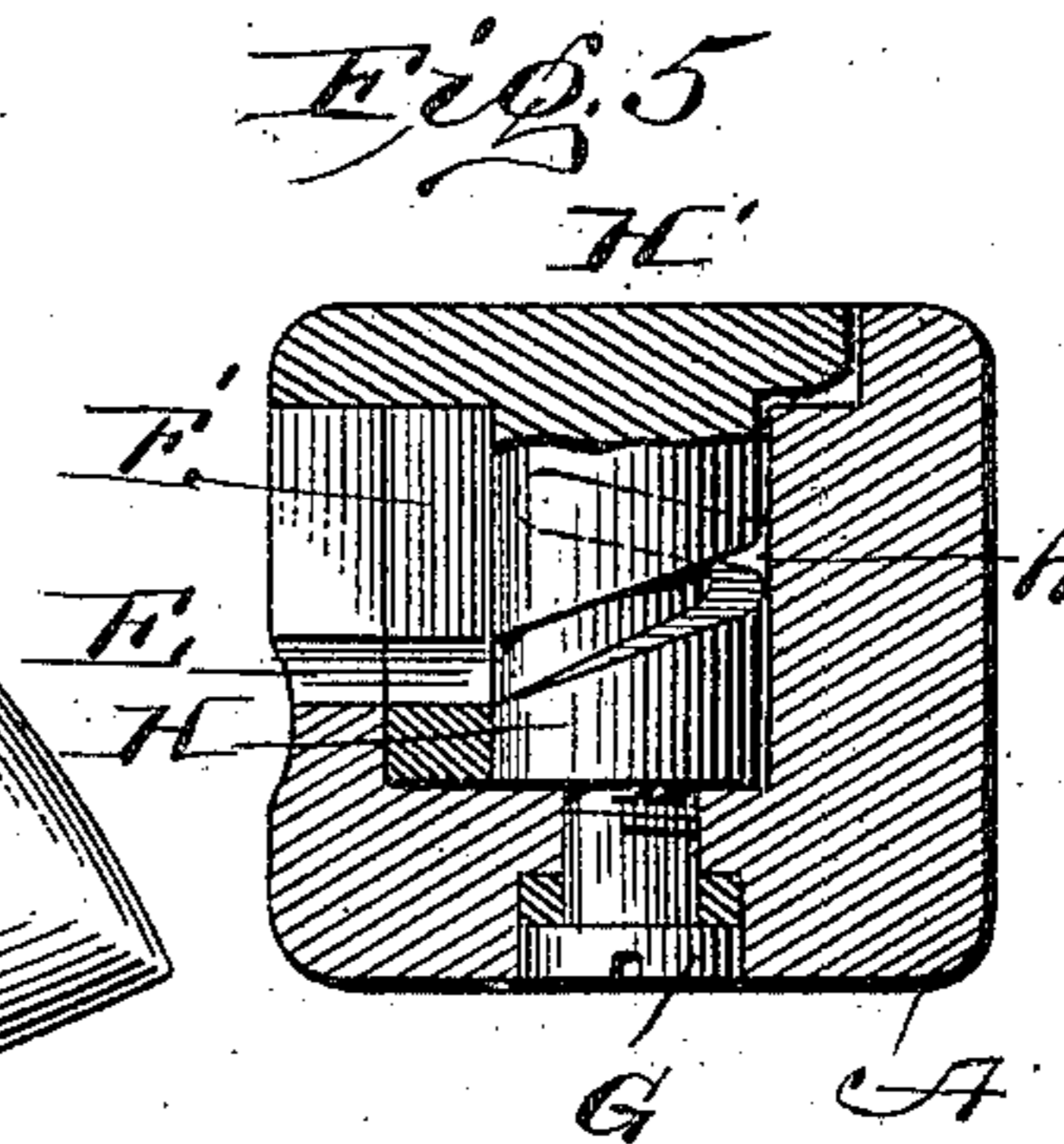
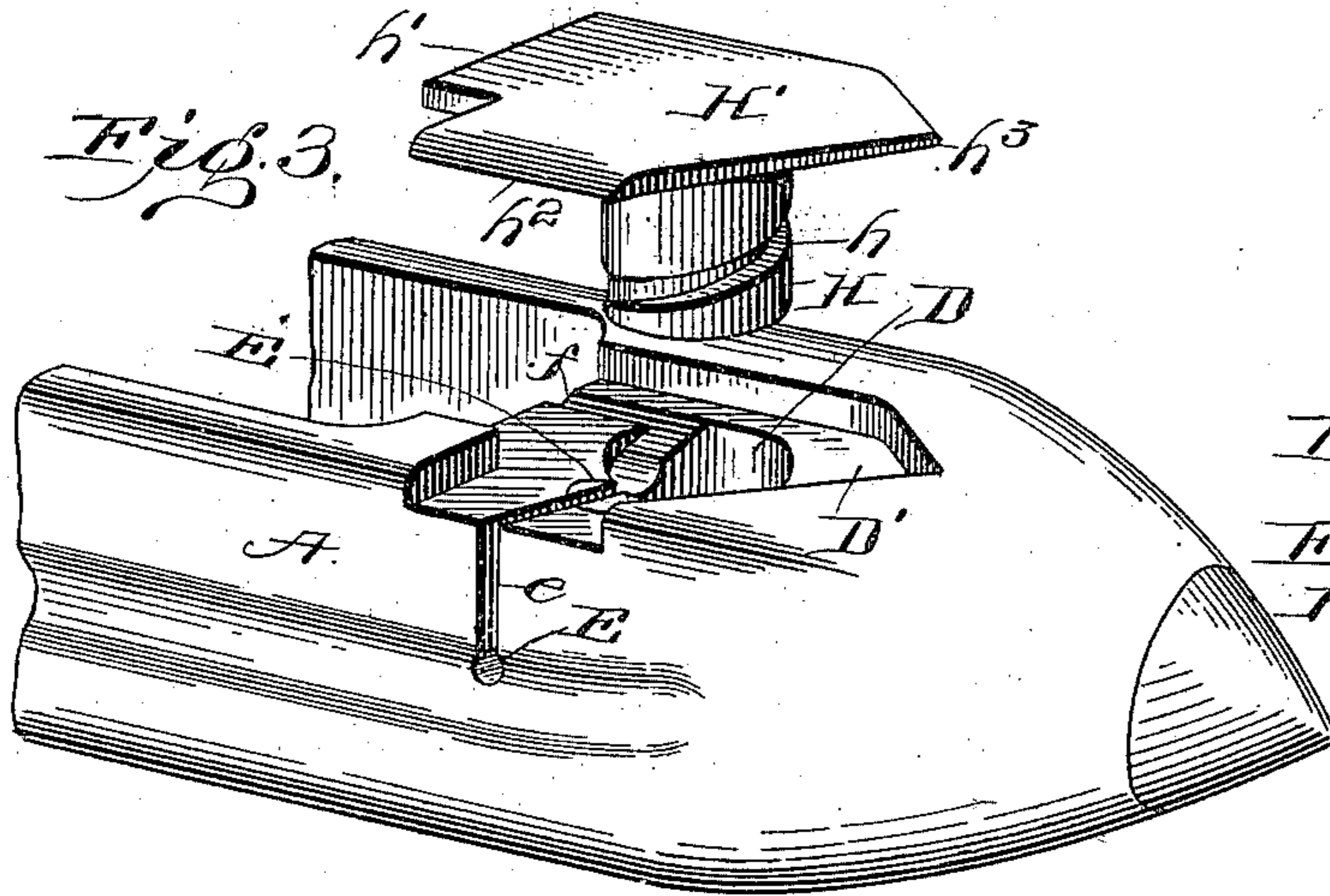
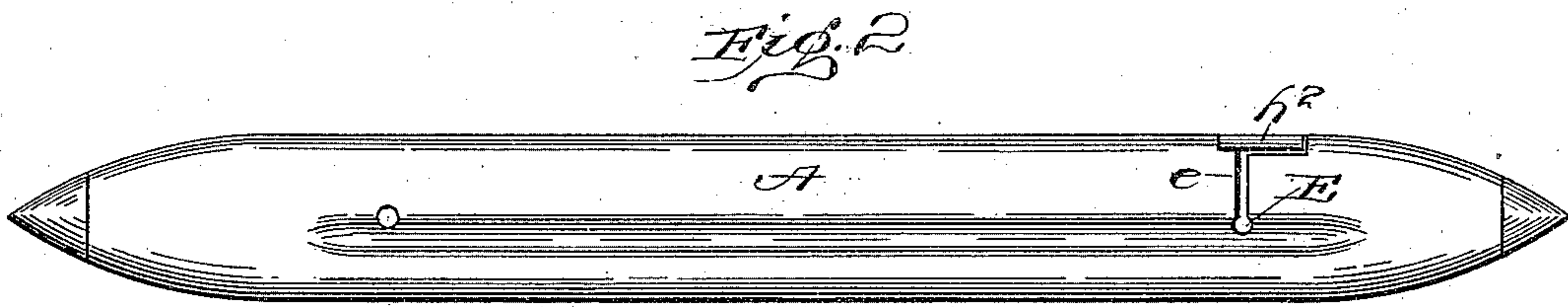
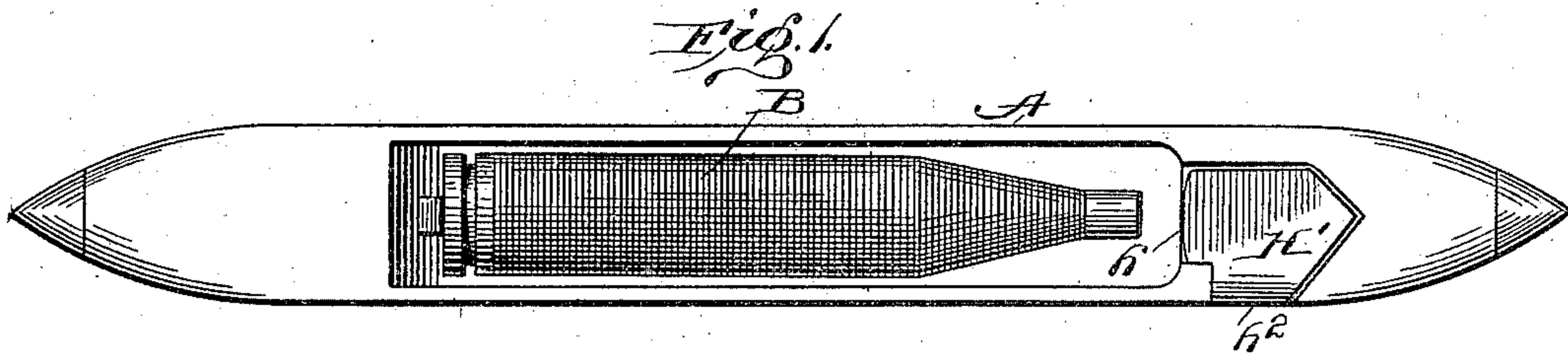
No. 687,821.

Patented Dec. 3, 1901.

T. H. CROMER.  
LOOM SHUTTLE.

(Application filed June 28, 1901.)

(No Model.)



witnesses:  
J. M. Fowler Jr.  
Thomas Durant.

Inventor  
Thomas H. Cromer.  
by Christ & Child.  
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# UNITED STATES PATENT OFFICE.

THOMAS HAYNE CROMER, OF PIEDMONT, SOUTH CAROLINA, ASSIGNOR OF ONE-HALF TO W. F. WALKER AND JAMES L. ORR, OF PIEDMONT, SOUTH CAROLINA.

## LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 687,821, dated December 3, 1901.

Application filed June 28, 1901. Serial No. 66,393. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS HAYNE CROMER, of Piedmont, in the county of Greenville, State of South Carolina, have invented certain new and useful Improvements in Loom-Shuttles; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to loom-shuttles, the objects of the invention being to provide a shuttle capable of being easily and quickly threaded without the necessity of sucking the thread end through the eye, the arrangement being such as to impart a sufficient tension to the thread without danger of filling from kinking or sloughing and at the same time so balance the weight of the shuttle as to reduce the liability of its being thrown out of the raceway by the impact of the picker.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and pointed out particularly in the appended claims.

In the accompanying drawings, Figure 1 is a top plan view of a shuttle embodying the present improvements. Fig. 2 is a side elevation of the same. Fig. 3 is a perspective view of one end of the shuttle, showing the parts separated. Fig. 4 is a detail section longitudinally of the parts shown in Fig. 3 when assembled. Fig. 5 is a section at right angles to Fig. 4 and taken in rear of the tension-post.

Like letters of reference in the several figures indicate the same parts.

The present invention is applicable to any ordinary form or type of shuttle, and in said drawings there is represented a conventional double-pointed shuttle-body A, having a central chamber for the spindle and bobbin B of usual construction, with the point of support or connection with the body at one end of the central chamber. The eye for the passage of the thread from the bobbin is at the opposite end of the said chamber, and in order to permit of threading without the necessity of drawing the end of the thread through the eye,

an operation always more or less difficult and slow, I provide an eye with a slotted wall and a passage leading thereto, through which the thread may be passed transversely into the eye, said passage, however, being so formed as to bar the accidental escape of the thread, and while imparting a sufficient tension thereto will not become choked in use.

Forward of the bobbin-chamber a secondary chamber or recess D is formed in the shuttle-body, and opening into this secondary chamber are eyes E and F, the former leading out transversely to the side of the shuttle and the latter leading from the bobbin-chamber into the secondary chamber. Both eyes have transverse slots in their walls, the slot *f* for the eye F being at an inclination and the slot *e* for the eye E being vertically arranged, and both slots open out at the top into an enlargement D' of the secondary chamber.

The eye E is preferably formed by inserting a wire or rod E' vertically in the side wall of the shuttle, drilling the same transversely to form the eye and slotting down vertically or longitudinally of the wire for the transverse entry of the thread.

A tension and guide post H is located in the chamber D and is provided with a spiral or groove *h*, in which the thread travels around the post from the eye F to the eye E. Said post is held in place by a screw G, entering its lower end from the opposite side of the shuttle, and it is surmounted by a cover-plate H', preferably integral therewith and adapted to substantially fill the top enlargement of the chamber D, only a sufficient space for the passage of the thread being left between said plate and the shuttle-body. The cover-plate and the recess or enlargement in the shuttle are of irregular shape and preferably pointed toward the end of the shuttle, the point of the plate being smoothed down to prevent any possibility of its catching and allowing threads to enter the slot or creating friction during the travel of the shuttle from one side of the loom to the other. The rear edge of the plate at *h'* extends back to the bobbin-chamber and overlies the slot of the eye F, while the side *h*<sup>2</sup> extends out to the side of the shuttle and overlies the slot

of the eye E, thereby preventing the accidental escape of the thread or the catching of other threads in said slot or eye. At the point  $h^3$  the plate fits tightly against the body of the shuttle, and thus it will be seen that at no point is the thread-opening of such shape or so arranged that a thread can accidentally catch therein during the run of the shuttle; but at the same time the shuttle may be easily and quickly threaded by taking the bobbin-thread and drawing it beneath the rear corner of the cover-plate, thence forward and around the point of the plate, and thence back and down into the eye E. The thread will draw down into the spiral or groove in the post and retain its position under any and all conditions of use. Where the two eyes are at different levels, the spiral or groove extends from one to the other, and thus forms the shortest path of travel for the thread.

The metal portions—*i. e.*, the post, cover-plate, and eyerod—serve to impart weight to the end of the shuttle, and thus serve to equalize the weight, so as to prevent the shuttle from being thrown out of the raceway, as sometimes happens with shuttles when the greater weight is at one end.

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

1. The combination with a shuttle-body having a delivery-eye extending through one side thereof, a threading-slit extending vertically from said eye, a chamber for the spindle and bobbin, a supplemental chamber with which the eye and slit communicate, an eye connecting said chambers and a diagonal threading-slit for said eye, of a guide and tension post located in said supplemental chamber and having a groove leading from one eye to the other, and a cover-plate mounted on the post and having extensions overlying the slots for each of the eyes and a forwardly extending projection, said cover-plate being

located in an enlargement of the supplemental chamber; substantially as described.

2. The combination with a shuttle-body of a wire inserted in the wall thereof and having a delivery-eye formed transversely there-through and a thread-slit extended from said eye longitudinally of the wire and out at the top of the shuttle; substantially as described.

3. The combination with a shuttle-body having a spindle-chamber, a delivery-eye extending through one side of the shuttle, a thread-slit communicating with said eye, a second eye extending longitudinally of the shuttle and a diagonal thread-slit communicating therewith, of a cover-plate mounted in a chamber in the shuttle and having projections overlying said thread-slits, said cover-plate having a projection extending forward of the delivery-eye and having a threading-passage beneath its edge; substantially as described.

4. The combination with the shuttle-body having the spindle-chamber therein, the supplemental chamber at one end, having its top portion enlarged, the delivery-eye leading from the supplemental chamber through the side of the shuttle with the thread-slit extending vertically from the eye, the eye connecting the two chambers and the thread-slit extending upwardly therefrom, of the guide and tension post having the groove leading from one eye to the other, the screw passing in from the under side of the shuttle and engaging said post to hold it in place, the cover-plate on the upper end of the post and having the central forwardly-extending point, and the rear and side extensions covering the thread-slits, said cover-plate being located within the enlarged upper end of the supplemental chamber; substantially as described.

THOMAS HAYNE CROMER.

Witnesses:

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