

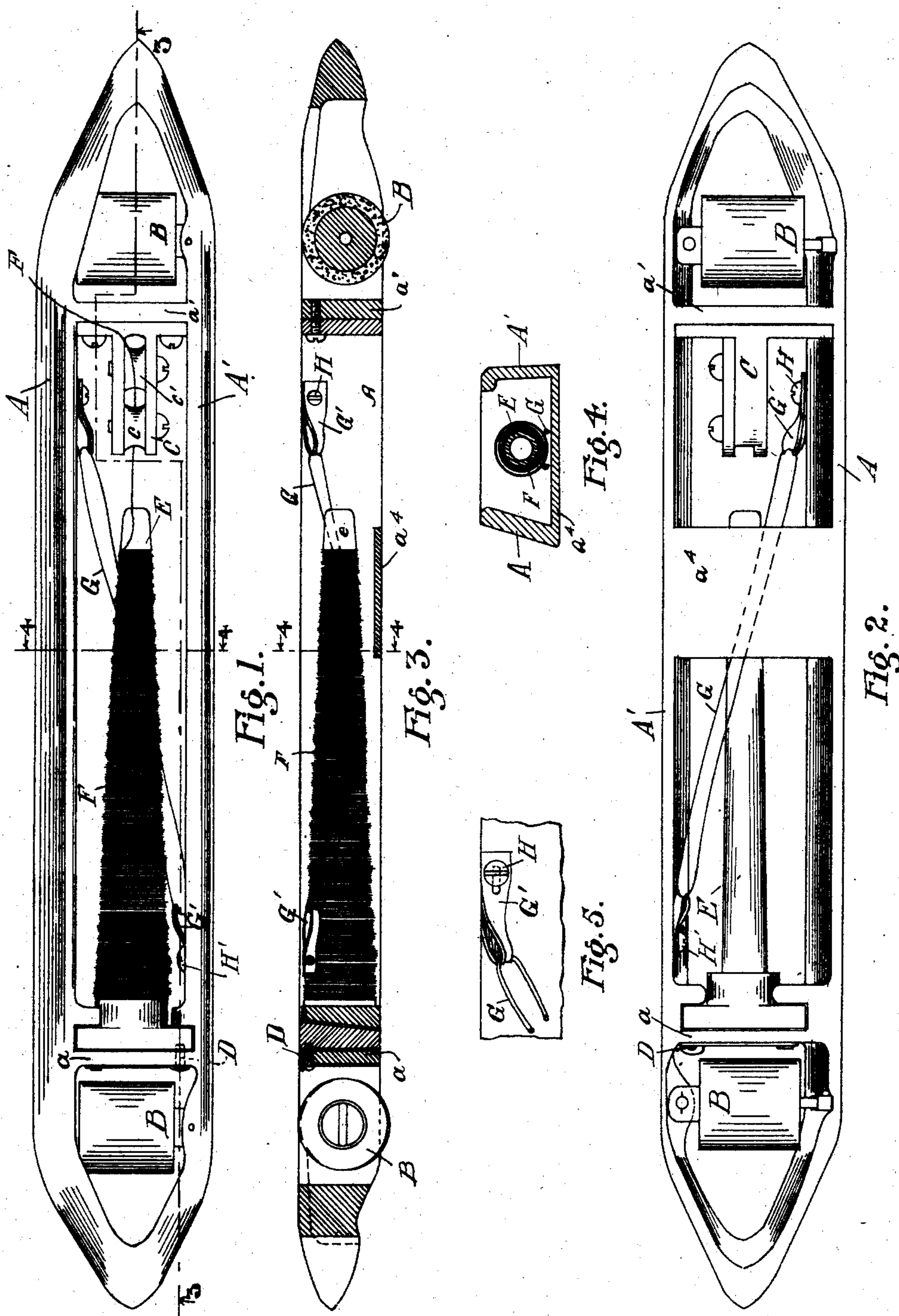
No. 879,184.

PATENTED FEB. 18, 1908.

H. LINDSAY.

# TENSION DEVICE FOR LOOM SHUTTLES.

APPLICATION FILED JULY 30, 1906.



*Witnesses*

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# UNITED STATES PATENT OFFICE.

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## TENSION DEVICE FOR LOOM-SHUTTLES.

No. 879,184.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Original application filed March 15, 1906, Serial No. 306,147. Divided and this application filed July 30, 1906. Serial No. 328,306.

*To all whom it may concern:*

Be it known that I, HAMILTON LINDSAY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Tension Devices for Loom-Shuttles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to shuttles for looms. It is well adapted for looms used in weaving wire cloth, and may be employed in other looms.

The object of the invention is to provide durable and efficient means for supplying a proper friction on the material wound on the bobbin to prevent its pulling off of the same too freely.

The particular characteristics of the invention are hereinafter more fully explained and definitely set out in the claims.

In the drawings, Figure 1 is a plan of a shuttle embodying my invention. Fig. 2 is a bottom view thereof. Fig. 3 is a vertical longitudinal section substantially on the offset line 3—3 of Fig. 1. Fig. 4 is a cross section of the shuttle, as indicated by the line 4—4 in Figs. 1 and 3. Fig. 5 is an enlarged fragmentary view showing the method of securing the tension wire.

Referring to the embodiment shown in the drawings, the frame of the shuttle consists of the two sides A A' brought together at the ends, the two cross bars a a', and the brace plate a'. Between the cross bars and the points of the shuttle are mounted rollers B. The spindle designated E has a tapered head e by which it is removably carried within the shuttle, the spindle being locked by a spring pressed pin D. These features of carrying and locking the bobbin constitute the subject matter of, and are covered by, my application No. 306,147, filed March 15th, 1906, of which the present application is a division.

The thread F from the bobbin E is shown as passing under the roller c and over the roller c' mounted on a bracket C secured to the cross plate a'. It is important, particularly when the wire thread is used in the shuttle, to provide sufficient friction to prevent its being pulled off of the bobbin too freely. For this purpose, I provide a flexible metallic friction member G, which may be a loop of piano wire, the ends of which are mounted in a pair of elastic straps G' so positioned that the friction member passes diagonally across the wire on the bobbin, and bears against it. The straps may be carried by screws H H' projecting from the inner sides A A' of the shuttle frame. The elasticity of the straps, which may be made of rubber, keeps the proper tension on the wire thread; at the same time the metallic friction member receives very little wear. The parts will last a long time, and when worn are easily removed and replaced by stretching the elastics over the heads of their retaining screws. It is unnecessary to remove the screws, as the holes or slots g in the rubbers may be easily stretched to pass over the heads of the screws.

I claim:—

The combination with the shuttle and its spindle, of a metallic tension member adapted to pass diagonally across the spindle in the shuttle, and a pair of tension fastenings for said member secured to diagonally opposite points of the shuttle and pulling on said metallic member to not only put the same under tension but allow it to shift bodily to accommodate itself to the changing conditions of material on the spindle.

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

HAMILTON LINDSAY.

Witnesses:

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