

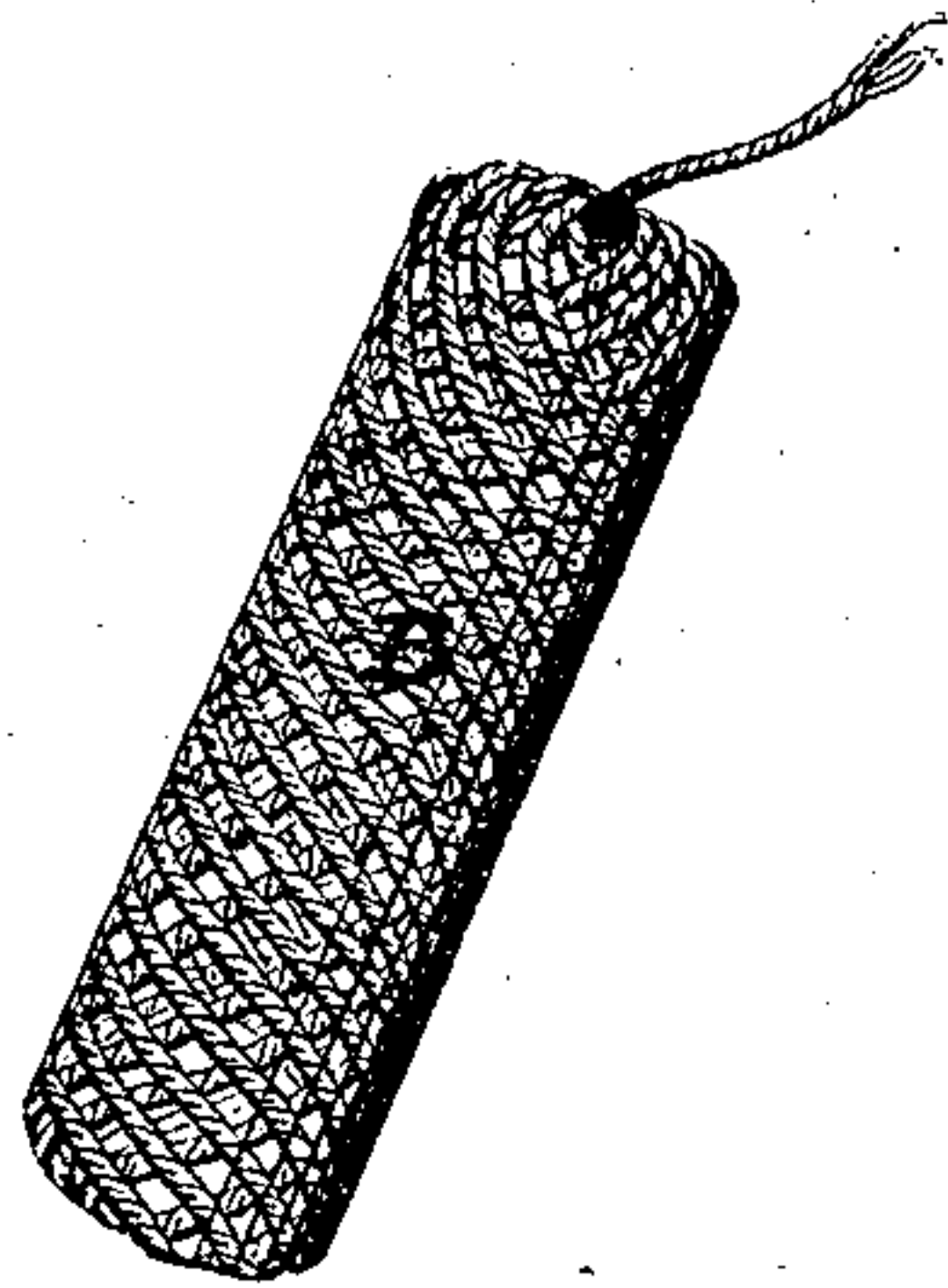
*F. W. Boland,*

*Shuttle.*

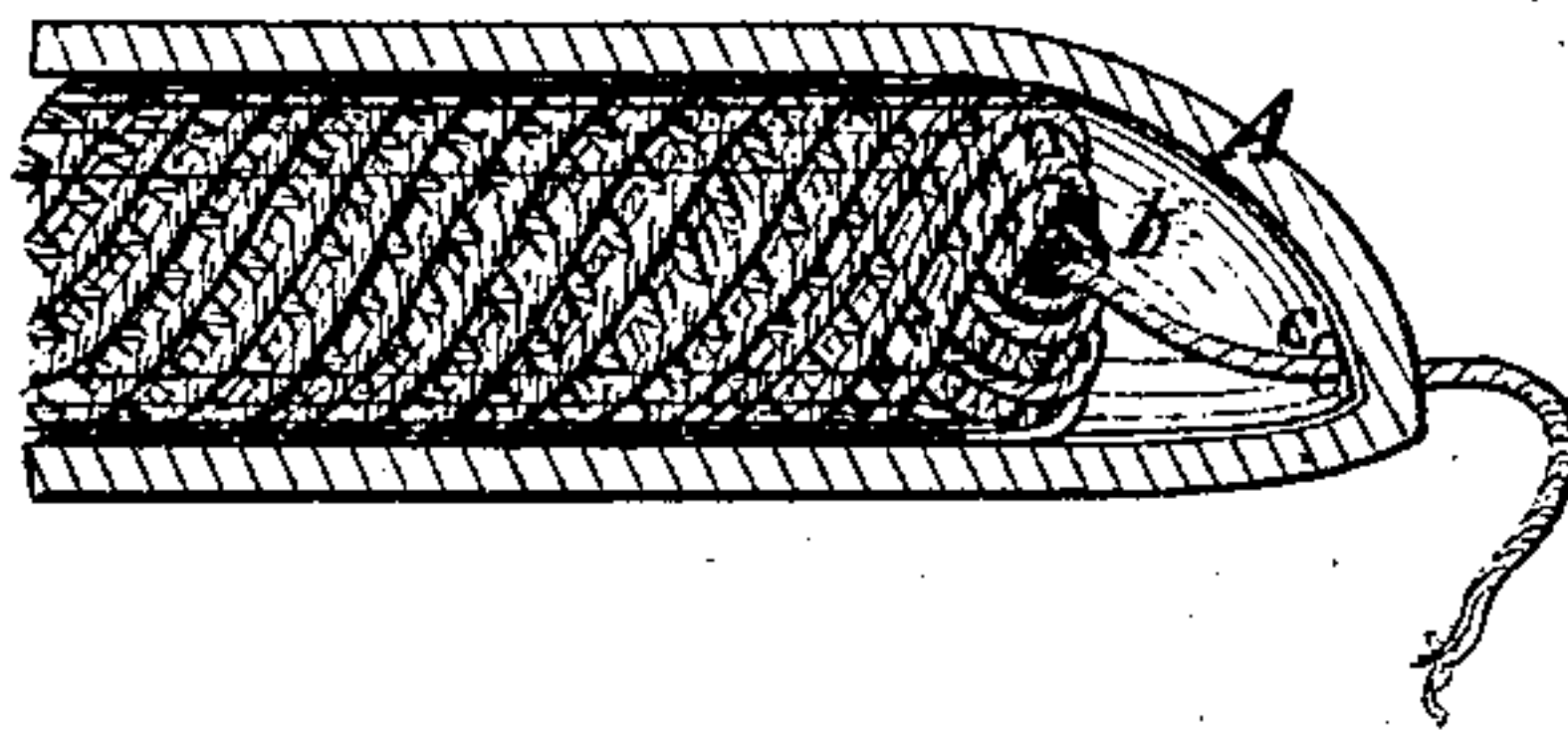
*No. 110,730.*

*Patented Jan. 3. 1891.*

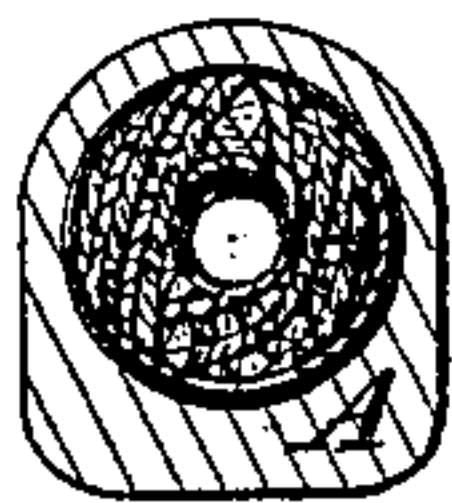
**Fig. 1.**



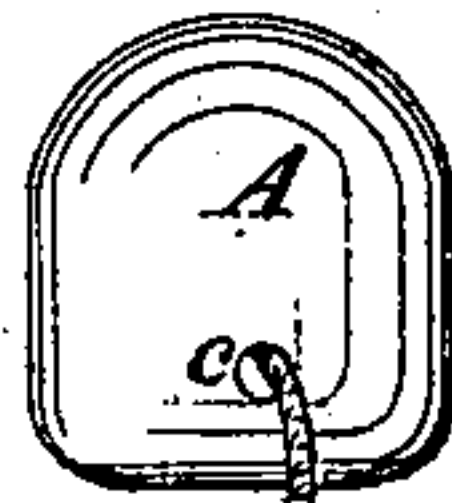
**Fig. 2.**



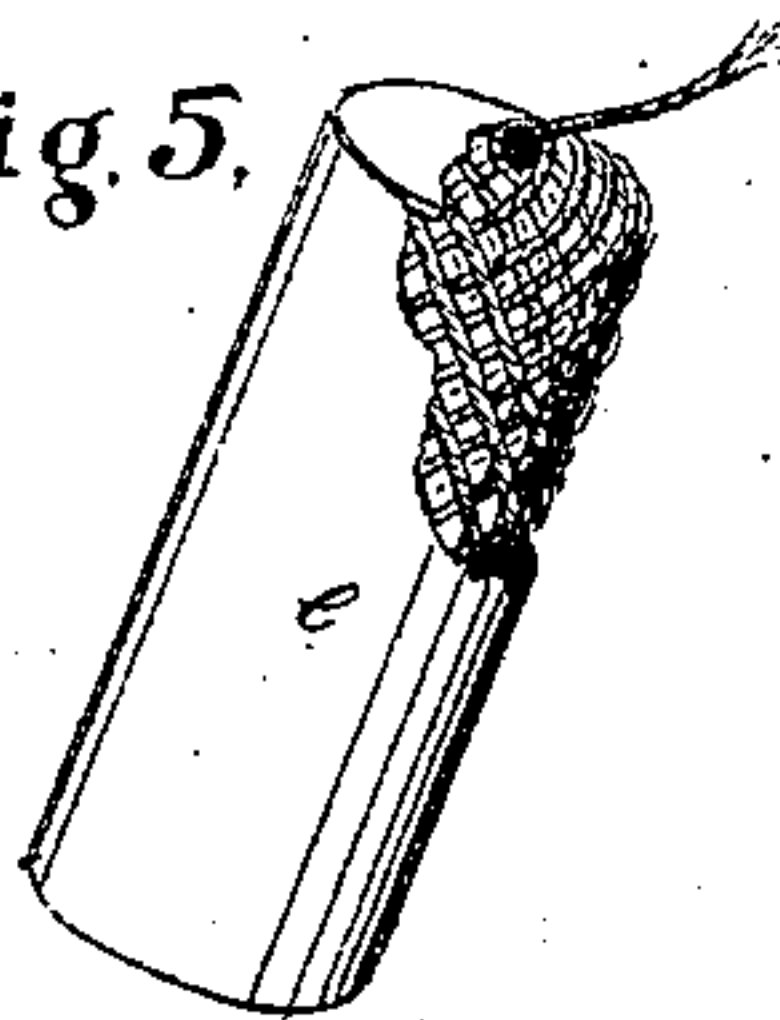
**Fig. 3.**



**Fig. 4.**



**Fig. 5.**



*Witnesses.*

*Villette Anderson.*

*Charles Henryon.*

*Inventor.*

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# UNITED STATES PATENT OFFICE.

FREDERICK W. BOLAND, OF NEW YORK, N. Y.

## IMPROVEMENT IN SHUTTLES FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **110,730**, dated January 3, 1871.

*To all whom it may concern:*

Be it known that I, FREDERICK W. BOLAND, of New York, in the county of New York and State of New York, have invented a new and valuable Improvement in Shuttles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of my cylinder of thread. Fig. 2 is a longitudinal vertical central section of my shuttle, showing thread-cylinder within it. Figs. 3, 4, and 5 are details.

My invention relates to the shuttles of sewing-machines; and consists, mainly, in the construction and novel arrangement of devices designed to dispense with the use of a bobbin or roller for the shuttle-thread.

The letter A of the drawing designates my shuttle, formed with a cylindrical bore, *b*, and provided with an aperture, *c*, at the nose of the shuttle, but arranged a little to one side, in the manner shown. This aperture is designed for the passage of the thread, and is placed in this position in order to favor the introduction of as long a cylinder of thread as possible, and at the same time prevent the abrasure of the thread at the point of issue.

B represents my cylinder of thread wound obliquely in the manner shown, and arranged to unwind from the inside. This arrangement is adopted to lessen the friction, as the cylinder will remain in a fixed position in the shuttle until it is completely used.

When the thread is waxed these cylinders may be manufactured in the manner and form shown; but where the thread is without such a coating it will be found convenient to place the cylinders of thread within paper cylinders *e*, manufactured for the purpose, and adapted to be inserted with the thread into the shuttle. The cylindrical bore is adopted as the best form to receive and retain the cocoons of thread.

In order to prevent the thread from becoming untwisted from the rotation of the shuttle, the bottom or bearing part thereof is made perfectly plain.

As the thread is designed to be drawn from the inside of the cocoon, with the same object in view, of keeping the cocoon in the same relative position with reference to the shuttle, the issue or aperture through which the thread passes is made at the point of the shuttle, it being thrown a little to one side to prevent abrasure.

What I claim as my invention, and desire to secure by Letters Patent, is—

The flat-base shuttle herein described, having cylindrical bore *b* and exit-opening *c* arranged at the front end, but a little to one side of the point, in the manner and for the purpose shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

FREDERICK W. BOLAND.

Witnesses:

WM. W. LYON,  
W. SCHRUM.