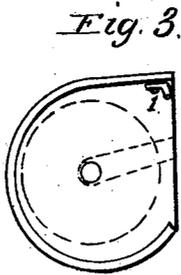
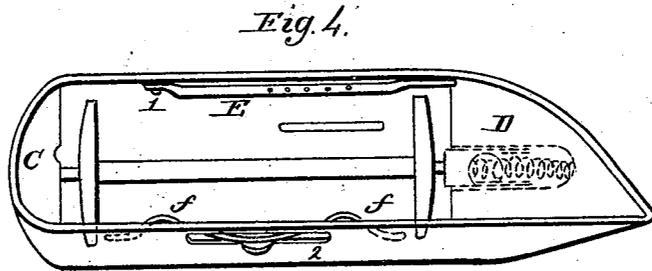
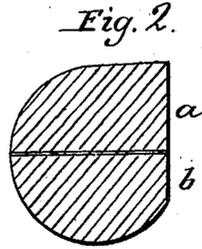
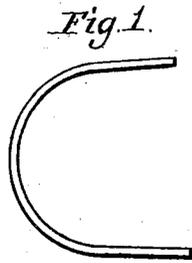


E. H. SMITH.
Sewing Machine Shuttle.

No. 59,088.

Patented Oct. 23, 1866.



Witnesses:
W. M. Ashley
W. C. Wilson

Inventor:
E. H. Smith

UNITED STATES PATENT OFFICE.

EARLE H. SMITH, OF BERGEN, NEW JERSEY.

IMPROVEMENT IN SEWING-MACHINE SHUTTLES.

Specification forming part of Letters Patent No. 59,088, dated October 23, 1866; antedated October 7, 1866.

To all whom it may concern:

Be it known that I, EARLE HARRY SMITH, of Bergen, Hudson county, New Jersey, have invented an Improved Shuttle for Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, and of the peculiarities which distinguish it from others, reference being had to the accompanying drawings, which form part of this specification.

My improved shuttle is intended generally for those machines in which it is desirable to have a shuttle of a cylindrical form, and principally for sewing-machines in which the needle is withdrawn from the cloth during or before the passage of the shuttle through the loop of needle-thread—as, for example, where the needle is driven by a crank or eccentric.

Heretofore such shuttles have been made from a solid block of steel, the interior of which is drilled out, and then the exterior finished off and shaped by turning and filing, a slow and costly process of manufacture, making a shuttle which will not admit a bobbin at the side, but necessarily requires it to be inserted from the end, involving the use of a cap to close the end; and it also requires the tension arrangements to be placed on the outside of the shuttle.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same.

I first form a shell of sheet metal, (in dies, as usual,) of which Figure 1 in the drawings is a cross-section. I then have a block having the form, in cross-section, shown in Fig. 2, but otherwise corresponding to the interior of the shell, and insert the same in the shell; then place them in a suitable press and force in the lower inside corner. This gives the shell a shape in cross-section shown in Fig. 3. The block is now removed. This is facilitated by

its being made in two sections, *a b*, as indicated in Fig. 2. The shuttle is then completed by inserting the solid pieces *c d* and the tension-bar and thread-guide *e* and *f*.

It will therefore be seen that while the shuttle is cylindrical in shape in so far as to conform to the loop of needle-thread, yet there is sufficient space for the insertion of the bobbin at the side, thereby dispensing with the cap heretofore referred to, and for the adaptation of tension devices within the shuttle. Hence I have all the advantages of form of the solid metal shuttles at about the cost of those of sheet metal, and at the same time retain all the operative advantages of both, without any of the disadvantages described.

The tension-bar *e*, I have pivoted at one end, 1, so that it may be turned out to adjust the tension, but at other times remaining within the shuttle.

The curved thread-guide *f* is fixed within the shuttle, and is for the purpose of causing the thread to draw off the bobbin at right angles, or nearly so, to the axis thereof. In order that this guide and the thread running under it shall occupy as little space as possible within the shuttle, I form a slit, 2, in the lower side of the shuttle, into which the curved part of said guide may project.

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

1. A cylindrical shuttle formed of sheet metal, in combination with a bobbin inserted and removed from the side, substantially as described.
2. The fixed curved guide for the shuttle-thread, in combination with a slit in the shuttle, substantially as set forth.

EARLE H. SMITH.

Witnesses:

M. MORLEY,
C. C. WILSON.