READ & WYCKOFF.

Sewing Machine Shuttle.

No. 52,881. Patented Feb. 27, 1866.

Fig. 1.

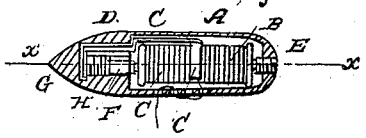
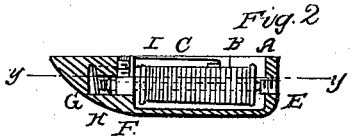


Fig. 2



Witnesses
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UNITED STATES PATENT OFFICE.

NELSON READ AND GEORGE W. WYCKOFF, OF SYRACUSE, NEW YORK.

IMPROVEMENT IN SEWING-MACHINE SHUTTLES.

Specification forming part of Letters Patent No. **52,881**, dated February 27, 1866.

To all whom it may concern:

Be it known that we, NELSON READ and GEORGE W. WYCKOFF, of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Sewing-Machine Shuttles; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a section, taken longitudinally and vertically on the line *y* of Fig. 2, of a shuttle made according to our invention. Fig. 2 is a horizontal section taken on the line *x* of Fig. 1.

Similar letters of reference indicate like parts.

The object of this invention is to produce more perfect tension on the thread in a sewing-machine shuttle; and it consists in the application to a shuttle of a bent lever whose short end is acted upon by the center spring, and whose long end rests upon the body of the thread wound on the bobbin, whereby the tension on the bobbin is automatically regulated, the greater tension being made when the bobbin is full, at which time the short end of the lever confines the spring to the greatest degree, and the lesser tension being made when the bobbin is nearly empty, at which time the short end is pushed toward the nose of the shuttle, and the compression of the spring is consequently lessened. Adjustment is made on the spring by a screw in the heel of the shuttle which comes against the end of the bobbin.

A designates the shuttle, and B its bobbin. F is the sliding bearing which receives at one end one of the journals of the bobbin, and at the other end the pressure of the coiled spring H, which is confined in the toe or pointed end of the shuttle. I is a screw whose end bears on the side of the sliding bearing or bolt F, by means of which friction can be put on said bolt, if desired. E is an adjusting-screw working through the heel of the shuttle against the end of the bobbin. C is a lever pivoted at D in the pointed end of the shuttle and extending from behind the spring H, against whose back end its short arm G is set, to about the middle of the length of the bobbin, over which its flat branching arm C′ extends, as seen in Fig. 1. The short arm of the lever rests against the end of said spring on a line below the level of the pivot D, and therefore the lever is made to vibrate on its pivot and its flat arm C′ brought down upon the bobbin with more or less force, according to the tension of the spring.

When the bobbin is full of thread the lever is thrown upward, and the greater force of the spring is made to act on the end of the bobbin, while as the thread is being wound off, the flat arm C′ of the lever drops and the short arm is swung outward from the spring, thereby permitting it to expand and reduce the pressure on the bobbin just in proportion to the quantity of thread wound off, thus regulating the tension automatically whether the bobbin be full or more or less empty, at all times during the working of the machine. The lever will regulate the tension whether the pressure be light or heavy.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The lever C, or its equivalent, applied to a shuttle in connection with a spring to act on the center or axis of its bobbin, so as to make pressure thereon in proportion to the fullness of the bobbin, for the purpose of regulating tension on the bobbin-thread, substantially as shown.

2. In combination, the lever C, the spring H, and the adjusting-screw E applied to the bobbin of a sewing-machine shuttle, substantially as shown.

NELSON READ.
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Witnesses:
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