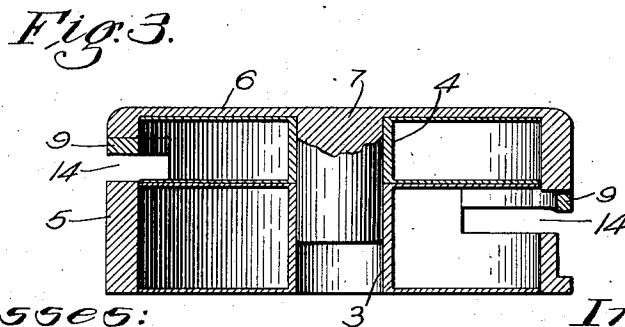
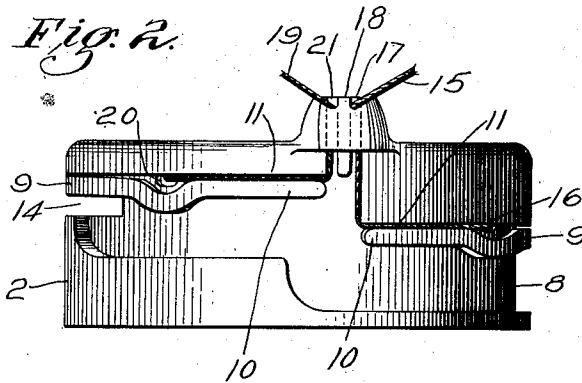
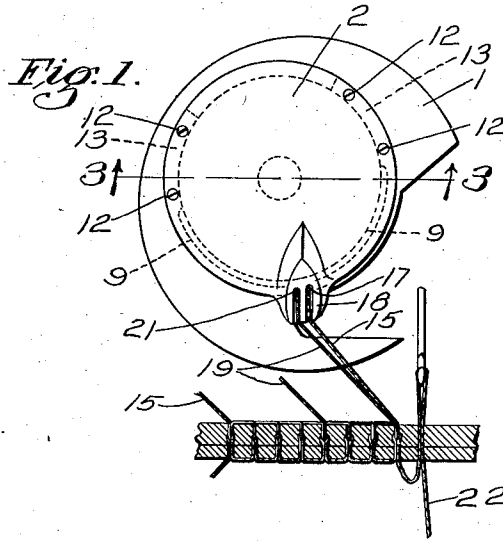


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SEWING MACHINE SHUTTLE.
APPLICATION FILED JAN. 6, 1911.

1,023,033.

Patented Apr. 9, 1912.



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SEWING-MACHINE SHUTTLE.

1,023,033.

Specification of Letters Patent.

Patented Apr. 9, 1912.

Application filed January 6, 1911. Serial No. 601,215.

To all whom it may concern:

Be it known that I, FREDERICK H. PERRY, a citizen of the United States, residing at Beverly, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Sewing-Machine Shuttles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to sewing machine shuttles.

The object of the present invention is to provide a shuttle which will deliver a plurality of shuttle threads to the stitch forming mechanism whereby a stronger stitch may be formed.

In lock stitch sewing machines one thread, known as the needle thread, is drawn through the work in a loop by the needle, and a second thread, known as the shuttle thread, is passed through the loop of needle thread so that when the stitch is set, the needle and the shuttle threads cross one another forming a lock in the stitch. This lock is ordinarily the weakest part of the stitch, since at the lock the two threads lie over each other in sharply bent bights and are likely to cut through each other at this point when the stitch is subjected to strain in use. The present invention contemplates strengthening the lock of the stitch by providing two or more shuttle threads. The use of two or more shuttle threads provides a greater bearing surface between the threads at the lock so that they do not as readily cut through each other at this point.

The present invention is particularly applicable to the operation of sewing on the outsole of a shoe. The outsole stitching is subjected to comparatively little strain along the ball and toe portions of the shoe, whereas it is subjected to a considerably greater strain along the shank of the shoe.

In the application of the present invention to sewing on the outsole of a shoe, a single shuttle thread is preferably used in sewing along the ball and toe portions of the outsole and an additional thread is drawn from the shuttle in sewing along the shank, thus forming a stronger stitch with two shuttle threads along the shank portion. When the shuttle is used for laying an extra thread in the stitch along the shank of the

outsole, a thread of regular size is drawn from the shuttle throughout the entire line of stitching while a second or auxiliary thread preferably of smaller size is drawn from the shuttle to strengthen the stitch along the shank of the outsole. The shuttle of the present invention, however, is not limited in use to this particular application, but such a shuttle may be used to deliver two threads throughout the entire stitching operation of uniting the outsole to a shoe, and may be equally well employed in stitching any kind of material in which it is desired to sew a stronger lock stitch, such as in sewing harness, etc.

A preferred embodiment of the present invention is illustrated as applied to an oscillatory shuttle of the kind commonly employed in a lock stitch sewing machine of the type known to the trade as the Goodyear rapid outsole stitcher, which is described and illustrated with substantial accuracy in the patent to French and Meyer, No. 473,870, April 26, 1892.

Referring to the drawings in which the preferred embodiment of the present invention is illustrated, Figure 1 is a front view of the shuttle showing also a cross section of work in which a lock stitch is sewed partly with a single shuttle thread and partly with two shuttle threads, Fig. 2 is a bottom view of the bobbin case, and Fig. 3 is a cross section of the bobbin case and inclosed bobbins taken along the line 3—3, of Fig. 1.

As illustrated the shuttle comprises a substantially discoidal shuttle body 1, a bobbin case 2 rotatably mounted therein, and two thread-carrying bobbins 3 and 4 inclosed in the bobbin case. The means which cooperate to oscillate the shuttle and to hold the bobbin case in place are illustrated and described in the above-mentioned French and Meyer patent and no description thereof is here considered to be necessary.

The bobbin case 2 is a round cup-shaped body comprising an annular flange 5 and a flat front wall 6 from whose center projects a pin or post 7 upon which are rotatably mounted the bobbins 3 and 4. The outer surface of the flange 5 is recessed at 8 to provide a space for thread tension springs 9 whose ends 10 frictionally hold the threads against the side walls 11 of said recesses. The springs 9 are secured in place by screws 12 which pass through from the front of the

bobbin case and secure the other ends 13 of the springs 9 against the front walls of apertures 14 cut through the flange 5. The apertures 14 allow the clamped ends 13 of the springs 9 to be of a width equal to the thickness of the flange wall 5. The thread 15 is drawn from the bobbin 3, through the aperture 16 in the flange 5, then under the end 10 of one of the tension springs 9, and outwardly through the aperture 17 formed in a button 18 projecting forwardly from the lower edge of the front wall 6 of the bobbin case. The thread 19 is similarly drawn from the bobbin 4, through the aperture 20 in the flange 5, then under the end 10 of the other tension spring 9, and outwardly to the aperture 21 in the button 18. The bobbin 4, as illustrated, is smaller than the bobbin 3, since the thread 19 on the bobbin 4 is preferably smaller than the thread 15 and is intended to be used on only a portion of the line of stitching.

In Fig. 1 a cross section of work is illustrated in which the first part of the line of stitching is formed by a needle thread 22 and the single shuttle thread 15, while the latter part of the line of stitching is formed by the needle thread 22 and both the shuttle thread 15 and the auxiliary shuttle thread 19. When it is desired to sew a stitch employing but a single shuttle thread, the auxiliary shuttle thread is cut sufficiently close to the shuttle so that its end will be drawn clear of the loop of the needle thread and will not be caught by the loop of the needle thread, when said loop is drawn back to set

the stitch. When it is desired to employ two shuttle threads in the stitch, the operator seizes the end of the auxiliary thread and pulls it out from the shuttle sufficiently so that the auxiliary thread will be caught and drawn into the stitch by the loop of the needle thread.

The present invention is not limited to the preferred form which has been illustrated and described but may be otherwise embodied within the spirit of the invention and the scope of the following claims.

1. A sewing machine shuttle, having, in combination, a discoidal shuttle body, a cup-shaped bobbin case rotatably mounted therein, a bobbin receiving post in the bobbin case, and a plurality of bobbins rotatably mounted on the post, substantially as described.

2. A sewing machine shuttle, having, in combination, a discoidal shuttle body, a cup-shaped bobbin case rotatably mounted therein, a bobbin receiving post in the bobbin case, and two bobbins rotatably mounted on the post, one of the bobbins being larger than the other, substantially as described.

3. A sewing machine shuttle having provision for supporting two bobbins in axial alinement and having separate thread guides and tension devices for the thread drawn from the respective bobbins, substantially as described.

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