

J. R. MOFFATT.
 NEEDLE FOR SEWING MACHINES.
 APPLICATION FILED SEPT. 16, 1914.

1,235,587.

Patented Aug. 7, 1917.

Fig. 1.

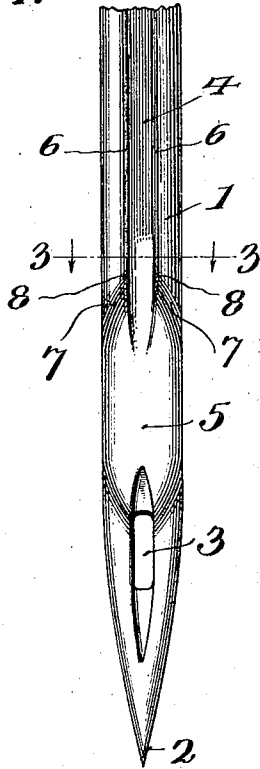


Fig. 2.

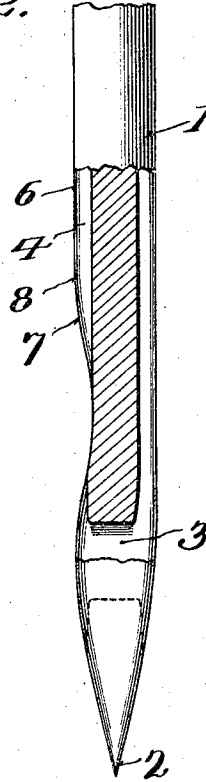
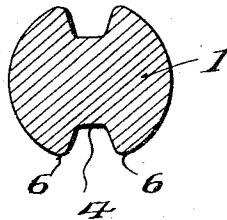


Fig. 3.



Witnesses

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NEEDLE FOR SEWING-MACHINES.

1,235,587.

Specification of Letters Patent.

Patented Aug. 7, 1917.

Application filed September 16, 1914. Serial No. 862,055.

To all whom it may concern:

Be it known that I, JAMES R. MOFFATT, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Needles for Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

The invention relates to new and useful improvements in sewing machines and more particularly to needles which are provided with a longitudinal thread groove in the body thereof, and a transverse scarf above the eye of the needle for forming a clearance space for the passage of the looper.

In needles of the above character where the scarf intersects the longitudinal groove, sharp edges or shoulders are formed which are liable to chafe or break the threads of the fabric being stitched.

An object of the present invention is to provide a sewing machine needle which has all the advantages of the longitudinal thread groove and the transverse scarf which allows the looper to be set so as to enter the needle loop with certainty without these objectionable shoulders or sharp edges which injure the stitched fabric.

In the drawings:

Figure 1 is a front view of the lower portion of a needle having my improvements embodied therein.

Fig. 2 is a view partly in section and partly in side elevation of the same.

Fig. 3 is a sectional view on the line 3—3 of Fig. 1.

My improved needle consists of the body portion 1 which has a point 2 and an eye 3. Extending longitudinally of the body portion is a thread groove 4. Directly above the eye of the needle is a transverse scarf or groove 5. This scarf provides a clearance space for the looper which allows the looper to be set so as to pass with certainty between the needle thread and the body of the needle as it enters the needle loop. The thread groove 4 forms a housing for the needle thread, which thread lies along the side of the needle and passes through the eye 3. These parts are of the usual construction in sewing machine needles. The thread groove 4 necessarily enters the scarf 5 so that the needle thread may pass directly

from the groove to the eye of the needle without being laterally bent or deflected.

The side walls of the groove 4 passing through the upper wall of the scarf form shoulders. The outer edges of the groove 4 are indicated at 6—6 in the drawings, while the upper edge of the scarf is indicated at 7. The intersection of these edges form the shoulders 8—8. Prior to my invention, these shoulders 8—8 have been more or less sharp and when the needle enters the fabric being stitched, these shoulders have engaged the threads of the fabric to force the same laterally to permit the body of the needle to pass into the fabric and the sharp shoulders have chafed the threads of the fabric and often broken the same.

In order to avoid this serious objection of the needle cutting the fabric, I have rounded the outer edges 6—6 of the walls of the groove 4, as clearly shown in Figs. 1 and 3 of the drawings. This rounding of the edges of the groove does away with the sharp edges formed by the substantially radial walls of the groove intersecting the circular periphery of the body portion of the needle.

I have also rounded the upper edge 7 of the scarf 5, as clearly shown in Figs. 1 and 2 of the drawings. This rounded upper edge of the scarf forms with the rounded outer edges of the thread groove a rounded shoulder as distinguished from a more or less sharp shoulder heretofore found in sewing machine needle construction of this character. When the needle enters the fabric, the point of the needle passes between the threads of the fabric and crowds the same laterally so as to separate the threads and form an opening for the needle to pass into. The threads of the fabric are more or less elastic and will hug closely to the side walls of the needle. When the reduced section of the needle above the eye formed by the scarf 5 passes through the fabric, the threads hugging the side walls of the needle will be brought closer together and must be again separated to allow the larger portion of the body of the needle to enter. The upper wall of the scarf 5, therefore, becomes active in separating the threads of the fabric so as to allow this larger portion of the body of the needle to enter. By rounding off the edges, as above described, I have provided a needle body wherein there is a tapered surface

gradually increasing in diameter for causing this second separation of the threads in the fabric being stitched, and the rounded shoulders 8—8 cause this separation of the threads 5 in the fabric without chafing or cutting the same.

It is obvious that minor changes in the shaping of the parts of the needle may be made without departing from the spirit of 10 the invention as set forth in the appended claims.

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

15 1. A sewing machine needle having a groove extending longitudinally of the body thereof above the eye for the thread, and a transverse scarf above the eye of the needle into which said groove extends, the portions 20 of the body of the needle where the outer edges of the walls of the groove intersect

the scarf being rounded whereby the threads of the fabric being stitched when engaged by said rounded portions of the needle will be laterally displaced without being broken. 25

2. A sewing machine needle having a groove extending longitudinally of the body thereof above the eye for the thread, and a transverse scarf above the eye of the needle into which said groove extends, the outer 30 edges of said groove and the upper edge of said scarf where the same intersects the groove being rounded whereby a rounded shoulder is formed for engaging the threads of the fabric being stitched for laterally dis- 35 placing the same without breaking.

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

JAMES R. MOFFATT.

Witnesses:

GEORGE TATE,
T. C. FETROW,

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."