F. W. OEHRLE.

TUFT.

APPLICATION FILED JAN. 3, 1910.

1,038,943.

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FIG. I.

FIG. II.

FIG. III.

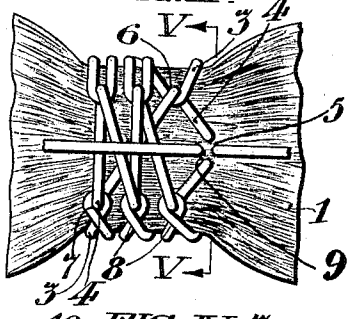


FIG. IV.

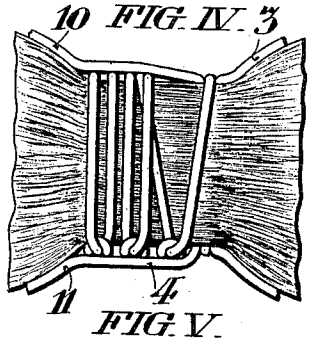
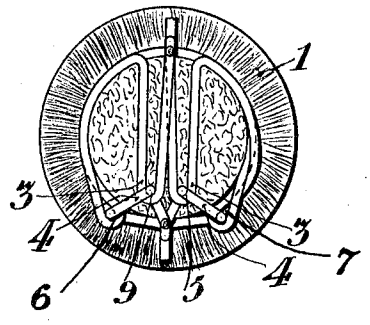


FIG. V.



Witnesses

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TUFT.

1,038,943. Specification of Letters Patent. Patented Sept. 17, 1912.

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To all whom it may concern:

Be it known that I, FRANKLIN W. OEHRLE, a citizen of the United States, and a resident of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Tufts, of which the following is a specification.

My invention relates to improvements in the construction of the tie or loop employed for binding or tying an article,—such as the rope or warp of yarn consisting of a number of strands or fibers lying in contiguous and generally parallel relation to each other employed in the manufacture of ball frings; or sections of material, as cords of yarn consisting of a number of strands or fibers lying in contiguous and generally parallel relation to each other, to be used as tufts or binders in the construction of mattresses and upholstery, and in the combination of the said tie or loop with the said article.

It has for its object the construction or formation of a tie or loop which when made and combined with the article tied will not loosen or untie therefrom.

For the purpose of enabling a better understanding of my invention, I have illustrated a convenient embodiment of the same in the accompanying drawings.

It will be understood that changes in the details of construction may be made without departing from my invention as the same is set forth in the specification and particularly pointed out in the appended claims.

In the drawings:—Figure I is a bottom plan view of a portion of rope of yarn tied or bound at a number of places according to my invention; Fig. II is a top plan view of the same; Fig. III is an enlarged bottom plan view showing the manner of interlocking the threads to form a tie embodying my invention; Fig. IV is a side elevation of the same; and Fig. V is a section on the line VV of Fig. III.

In the drawings the numeral 1 designates a rope of suitable material, such as untwisted cotton yarn, tied at intervals as indicated by the numeral 2.

In the construction or making of a tie embodying my invention, I employ two threads, designated by the numerals 3 and 4.

Although, in the brief description of the drawings, I have described Fig. III as being a bottom plan view of a construction embodying my invention, it is to be understood that these words are employed merely for purposes of description and that as a matter of fact no side or section of the rope is any more the bottom or top or side than is any other side or section.

In the carrying out of my invention the two threads extend on opposite sides of the rope of yarn or other material from one to another of the ties at the points 2. Preferably a needle, not shown, is placed upon the thread 3 in order that it may be inserted through the material 1 for the purpose of being interlocked with the thread 4 as shown at 5 in Figs. III and V. After interlocking the thread 3 with the thread 4 it is drawn back through the material 1 with sufficient force to embed the threads at the point where they are interlocked within the said material, as shown in Fig. V, so that in the finished structure the said threads at their points of interlocking, as a general thing, are hidden from view. The thread 3 is then carried to the right around one side of the rope of yarn 1 and is interlocked with the thread 4 as indicated at 6. The thread 3 is then carried around the material 1 to the opposite side and is again interlocked with the thread 4 at the point 7 as indicated.

Although the position of the interlock 7 is shown upon the opposite side of the several threads from the point 5 where the first interlock of the threads is made, the position of the said interlocking point 7 may, of course, be changed so as to be located upon the same side of the various threads as the interlock or loop 5. In other words the positions of the various points of interlocking between the threads 3 and 4 may be changed relatively to each other without affecting my invention.

The interlocking loops upon one side are straight, as indicated at the upper side of Fig. III of the drawings, while those at the opposite or other side are twisted or crossed, as indicated at 8 in the said figure of the drawings.

In the construction shown the thread 3 is twisted. This is due to the fact that the thread 4 is held taut while there is more or less slack or looseness in the thread 3. If, however, the thread 3 is held tight or taut with more or less slack or looseness in the thread 4, the twist corresponding to the twist 8 will be present in the thread 4 instead of in the thread 3.

The lines of the series of interlocking points; that is, the positions of the said points may be varied with respect to the periphery of the rope of yarn 1. In the construction shown, it will be noted that the said lines of interlocking points are located relatively near to each other on the periphery of the said rope.

Either the thread 3 or the thread 4, depending upon which is of greater length, is carried around the rope as many times as is desired. After having carried the thread as many times around the cord as is desired, it is carried through the central portion of the rope and is interlocked with the thread 4 at the point 9. The threads 3 and 4 then extend, as indicated at 10 and 11, to the next point 2, where they are to be tied or looped about the said rope.

In the making of ball fringe, the rope of yarn is severed at points between the ties or loops 2. After having been so severed the ends of the relatively short sections flare out and bend over the adjacent intermediate threads tied or interlocked around the same so as to practically cover them, the said relatively short sections presenting generally a ball-like shape and adapted to be used or employed in the manufacture of ball fringe. When it is desired to use sections of the rope in connection with upholstery work, as in the tufting of mattresses, the said rope is similarly cut and the short sections thereof used for that purpose.

By reason of the peculiar interlocking of the threads and by reason of the further fact that the first and final interlocks or loops are made practically in the interior of the rope, the said loops are prevented from untying or loosening when the rope is cut into short sections as stated above.

Having thus described my invention, I claim:—

1. The combination of a plurality of threads and a cord-like article about which said threads are bound, one of the said threads being longer than the other and extending back and forth around the said article and being interlocked with the shorter of said threads at two different points or places, the interlocking loop or loops at one point or place being straight and one of the threads at the other interlocking point or points being twisted adjacent to the point or points of interlocking of said threads.

2. The combination of a plurality of threads and a cord-like article about which said threads are bound, one of the said threads extending through the said cord-like article and being interlocked with the other thread, the said first thread beyond the said interlocking point extending back through the said article and then around one side of the same and being again interlocked with the said other thread and thereafter extending back and forth around the said article and being interlocked along opposing lines or sides with the said other thread, the loops at one point of interlocking being straight while one of the threads adjacent to the other point of interlocking is twisted, and the said first-named thread being again extended through the said cord-like article and interlocked with the said other thread to complete the tying or binding of the said threads about the said article.

3. The combination of a bundle of strands of yarn lying in contiguous and generally parallel relation to each other with a plurality of independent threads bound around said strands each of the said threads extending partially around the said bundle of strands a plurality of times and the said threads being interlocked with each other at different circumferential points on the surface of said bundle of strands and the said threads being grouped together as shown in a plane approximately at right angles to the length of the strands in said bundle.

In testimony that I claim the foregoing as my invention, I have hereunto signed my name this 31st day of December, A. D. 1909.

FRANKLIN W. OEHRLE.

In the presence of—
GEO. H. WEIDNER,
CYRUS N. ANDERSON.

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