UNITED STATES PATENT OFFICE.

THOMAS H. DUNHAM, OF BOSTON, MASSACHUSETTS.

METHOD OF MAKING BANDING FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 384,138, dated June 5, 1888.

Application filed August 11, 1887. Serial No. 246,746. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. DUNHAM, a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in the Method of Making Banding for Spinning-Machines, of which the following is a specification.

The object of my invention is to make a banding from cotton, water-proof, uniform in draft, and not liable to shrink.

To carry my invention into effect, I take a slack-twisted roving of cotton, which is termed a "slubber," the process of making which is fully set forth and described in Letters Patent issued to me May 25, 1880, No. 227,885, for a process of making rope-yarns from cotton, in lines 15 to 30, inclusive of said patent. I twist the slubber very soft, giving such number of turns to the inch as may be necessary according to the size used, but preferably to the number of three turns to the inch, twisting to the left. I then take two compound slubbers, twisted as above described, and twist them very soft together, giving such number of turns to the inch as may be necessary according to the size used, but preferably to the number of two turns to the inch, twisting to the left. I then pass the slubbers thus twisted through a bath of hot tar, in a way well known to all skilled in the art of rope-making, and over driers, all of which is well known. It will be advisable to add to this tar-bath an extract of some tanning substance—such as fustic, turmeric, oak-bark, and gambier—first boiling one of these substances—as, for example, fustic—in water until its tanning and coloring properties have been extracted, using very little water in proportion to the amount of fustic used, in order that the extract may be made very strong, then mixing this extract with boiling tar in the proportion of one part in bulk of extract to three parts of tar. The fibers are firmly attached together and made water-proof by the tar, and with no tendency to kink or untwist, and in case the tanning-extract is added to the bath the fibers are strengthened and preserved by it in addition to the tar. The addition of the tanning-extract to the tar-bath is not necessary, but is desirable. I then take two slubbers, after being twisted and tarred, as above described, and twist them together very soft, giving such number of turns to the inch as may be necessary according to the size used, but preferably to the number of two turns to the inch, twisting to the right.

The size of the slubbers twisted together vary according to the size of banding desired. The fibers of the cotton are set by the tar, so that the stretch is taken out of the banding when made, and it will not shrink or give in dry or damp weather.

I have practically demonstrated that the banding described is much better than the banding now used, in that it does not require to be laced so tight as dry banding, while it carries the work without slipping, giving more power as well as more uniformity in draft, by which a steady speed is secured as well as greater draft with less power. The wear is uniform, as all the fibers are bound together. The size of the banding is one third less than the usual sizes, showing the solid compact nature of the banding, and yet being soft and supple. In fastening the banding, there is no slipping of the knots, while there is no tightening or loosing of the bands required when once put in running order. The banding becomes more like wire in steadiness of draft as well as in strength, and yet is very durable and elastic.

What I claim as my invention is—

The method of making banding from cotton, which consists in softly twisting to the left a slubber of cotton, and then softly twisting two or more slubbers together, twisting to the left, then passing such compound slubbers so twisted through a bath of tar, and drying as described, then softly twisting together two or more such compound slubbers thus tarred, twisted, and dried, twisting to the right, all as and for the purpose specified.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 8th day of August, A. D. 1887.

THOMAS H. DUNHAM.

Witnesses:

H. DUNHAM,

F. DUNHAM.