(No Model.)

A. SEAL & M. HANDRAHAN.

APPARATUS FOR FELTING HAT BODIES.

No. 306,181. Patented Oct. 7, 1884.

Fig. 1.

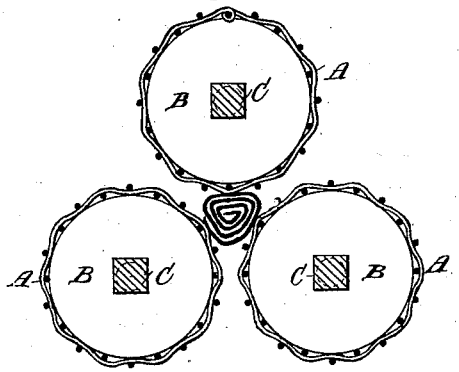


Fig. 2.

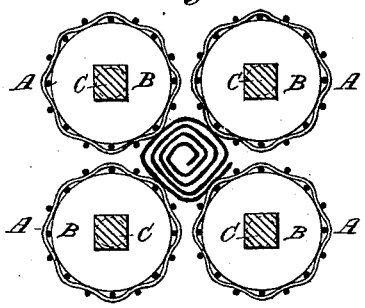


Fig. 3.

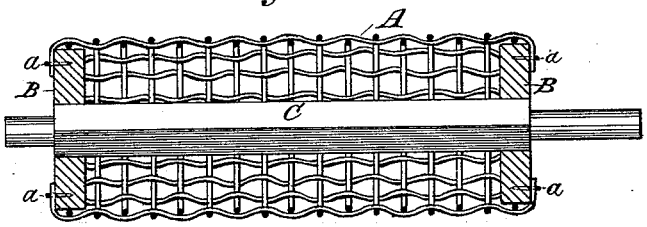


Fig. 4.

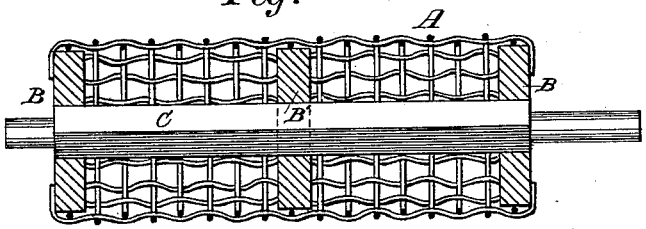
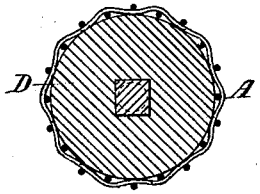


Fig. 5.



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UNITED STATES PATENT OFFICE.

ARTHUR SEAL AND MICHAEL HANDRAHAN, OF MATTEAWAN, ASSIGNORS OF ONE-THIRD TO WILLIAM CARROLL, OF NEW YORK, N. Y.

APPARATUS FOR FELTING HAT-BODIES.

SPECIFICATION forming part of Letters Patent No. 306,181, dated October 7, 1884.

Application filed January 26, 1884. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR SEAL and MICHAEL HANDRAHAN, of Matteawan, in the county of Dutchess and State of New York, have invented a new and useful Improvement in Apparatus for Felting Hat-Bodies and other Articles, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to that class of felting-machines commonly known as "sizing-machines," and used for felting or sizing hat-bodies, the principal working parts of which consist of three or more rollers mounted with their axes parallel to each other in suitable frame-work and provided with means whereby the working-surface of one or more of them may be pressed toward those of the others while all are in rotary motion with a roll of the hat-bodies or other articles to be operated on enveloped in a cloth contained between them.

It is found in practice that rollers having smooth working-surfaces are inferior for the work intended to those having an uneven surface, and various means of producing uneven surfaces have been adopted.

The object of our invention is to obtain for felting or sizing machines rollers with uneven surfaces of a more effective character than those heretofore employed; and to this end our invention consists in a roller for a felting or a sizing machine composed of a supporting-body or foundation and a cylindric shell or covering of wire-cloth or wire-netting.

The method of applying the wire cloth or netting, of which the working-surface is composed, on or to the rollers may be varied, and various methods are shown in the accompanying drawings and herein described; but in any case the roller consists of a supporting-body or foundation, and a hollow cylindrical shell or covering of wire-gauze or wire-netting.

Figure 1 in the drawings is a transverse section of the rollers of a "three-roller" sizing-machine constructed according to my invention, illustrating one method of applying the wire-cloth or wire-netting and exhibiting a roll of hat-bodies between the rollers. Fig. 2 is a similar view of similar rollers as adapted for a "four-roller" machine. Fig. 3 is a longitudinal central section of one of said rollers. Fig. 4 is a longitudinal central section of a roller, illustrating a modification of the invention. Fig. 5 is a transverse section of a roller, illustrating another modification.

Similar letters of reference refer to similar parts throughout the several views.

As the organization of the machine constitutes no part of our invention, but rollers constructed according to our invention may be applied as substitutes for the ordinary rollers in the machines in common use, we have not thought it necessary to represent any other parts of the machine than the rollers.

A designates the wire-netting or wire-cloth, which constitutes the peripherical working-surface of the rollers.

B B, Figs. 1, 2, 3, 4, are disks or heads of wood or other suitable material for supporting the ends of the wire-netting, which is made in or brought to the form of a cylinder and fitted tightly to the said disks and secured thereto by hook-headed nails or staples *a*, or other secure means. An intermediate supporting disk or head B', (shown in Fig. 4,) may be used when necessary.

C is the shaft, upon which the disks B B B' are mounted, and upon which they may be secured by keying, or in any suitable manner.

In the example represented in Fig. 5 the roller, instead of having a skeleton body or foundation, as shown in Figs. 1, 2, 3, 4, is made with a solid cylindrical body or foundation, D, of wood or other suitable material of the full length of the working-surface of the roller, and the wire-netting in the form of a hollow cylinder is made to envelop the peripherical surface of the said body, and secured thereto by nails or other fastenings.

The rollers constructed or provided with their peripherical working-surfaces of wire-cloth or wire-netting, as herein described, may have their shafts mounted, geared, and driven like those of other sizing-machines having rollers of other known construction.

By this invention, rollers having a working-surface of very effective and very durable quality are very cheaply constructed.

In all the examples of our invention represented the working-surface is of reticulated construction.

In the example of our invention represented in Figs. 1, 2, 3, 4, the reticulated working-surface is entirely open; but in the construction shown in Fig. 5, while the interstices between the wires are partly closed by the solid body, the wire-work stands up in high relief from the said body, and while the reticulated working-surface is well supported in all parts against the pressure to which the roller is subject in working, its effect is very little, if at all, impaired by the interstices between the wires being partly closed by the solid body.

We are aware that it is not new to make rollers for felting or sizing machines of skeleton or open construction, and that such rollers have had their working-surfaces formed of bars or rods extending parallel with and oblique to the axes of the rollers.

We are also aware that it is not new to secure hempen rope to the cylindric surface of a solid roller in order to form ribs thereon. We do not therefore make any claim to rollers constructed as above described as of our invention.

By the use of wire-cloth or wire-netting to form the working-surface of the roller, we secure an irregular and uneven surface, which is very effective, very durable, and which may be made very cheaply and renewed, if desired, at small cost and with little trouble.

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

1. A roller for a felting or sizing machine, composed of a supporting body or foundation and a cylindric shell or covering of wire-cloth or wire-netting, substantially as herein described.

2. A roller for a felting or sizing machine, consisting of a central shaft, two or more circular heads or disks secured upon the shaft, and a cylindric shell or covering of wire-cloth or wire-netting, substantially as herein described.

ARTHUR SEAL.

his
MICHAEL + HANDRAHAN.
mark.

Witnesses:
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