Feb. 2, 1926.

F. W. P. ROSE ET AL

1,571,802

TEXTILE FINISHING MACHINE

Filed Dec. 15, 1924

2 Sheets-Sheet 1

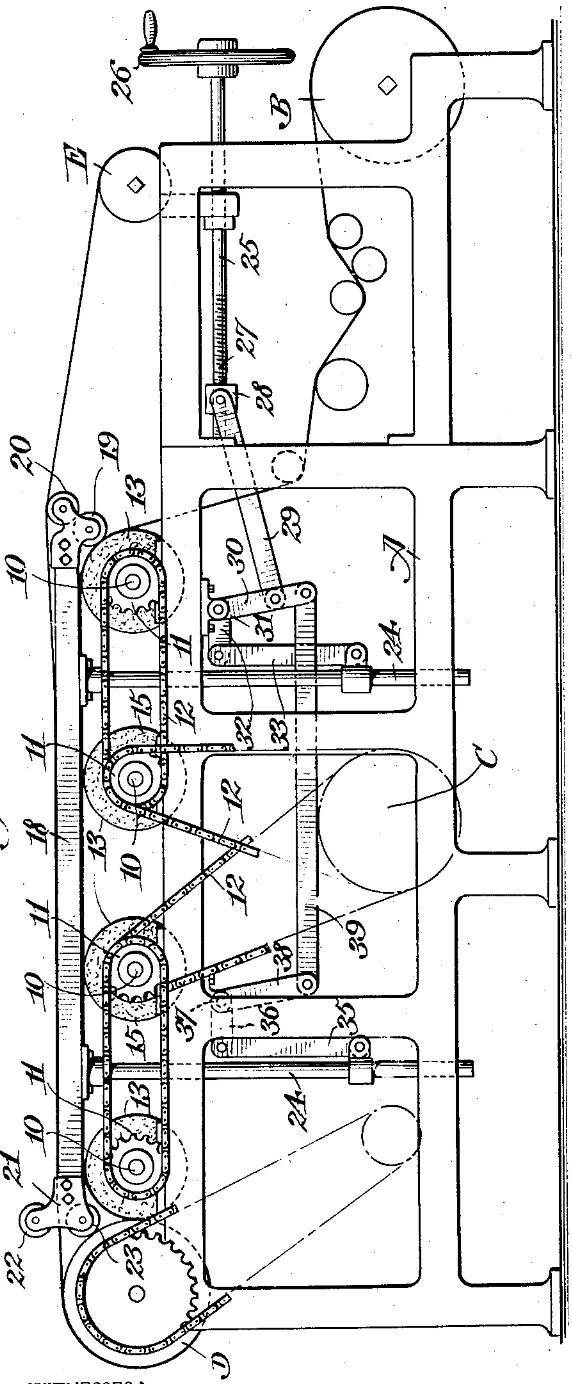

Fig. 1.

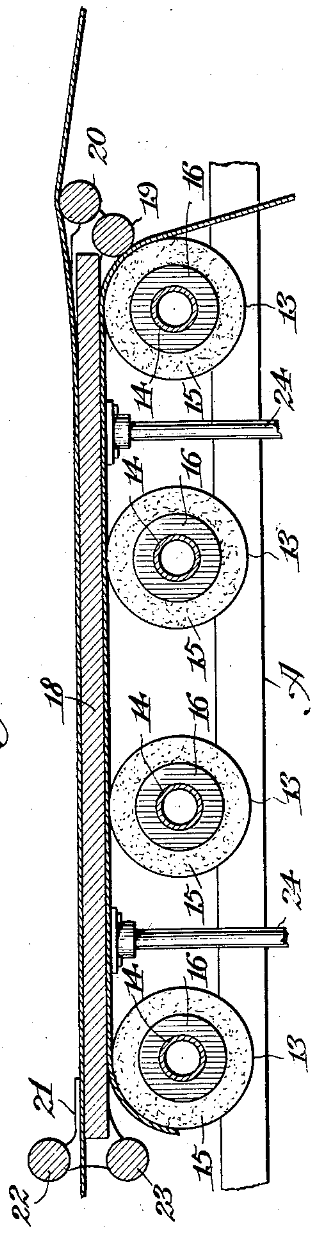

Fig. 2.

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Fig. 3.

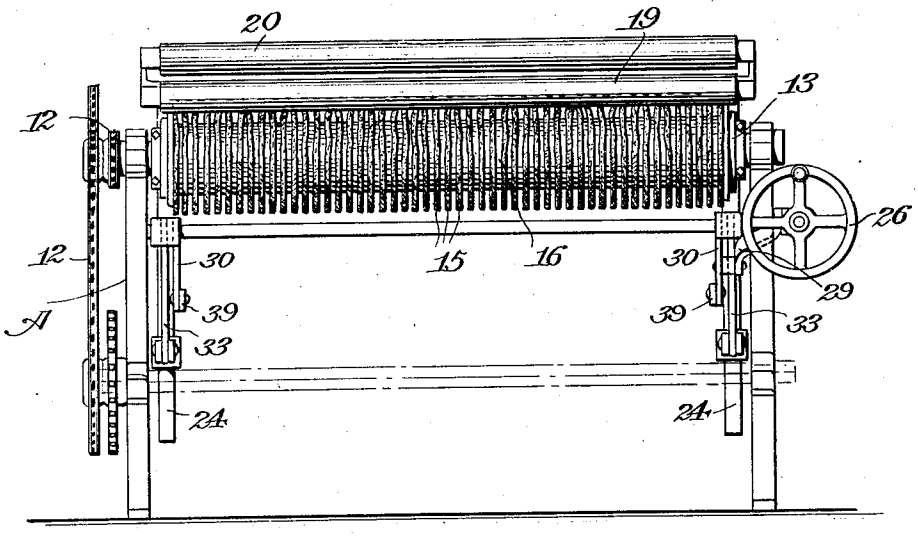
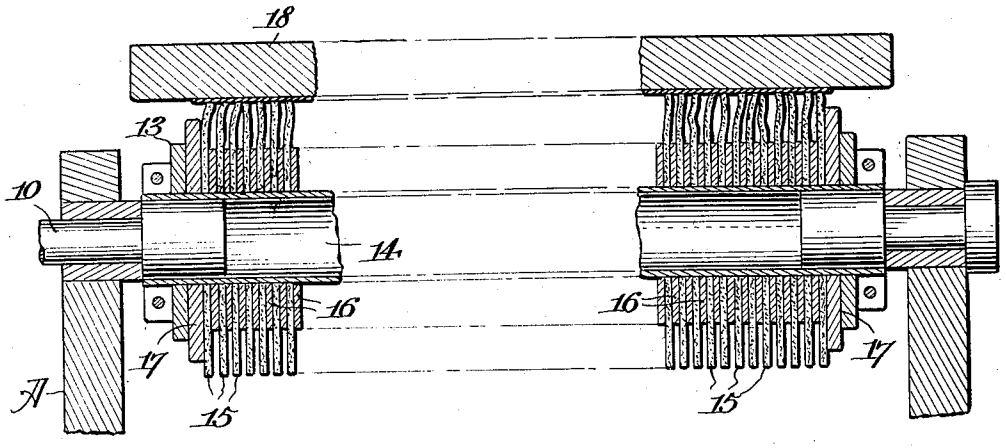


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

FREDERICK W. P. ROSE, OF CLIFTON, AND CHRISTIAN WERNER, OF PASSAIC, NEW JERSEY, ASSIGNORS TO WERNER & COMPANY, INC., A CORPORATION OF NEW JERSEY.

TEXTILE-FINISHING MACHINE.

Application filed December 15, 1924. Serial No. 756,025.

To all whom it may concern:

Be it known that we, FREDERICK W. P. ROSE and CHRISTIAN WERNER, both citizens of the United States, and residents, respectively, of Clifton, in the county of Passaic and State of New Jersey, and of Passaic, in the county of Passaic and State of New Jersey, have invented a new and Improved Textile-Finishing Machine, of which the following is a full, clear, and exact description.

This invention relates to textile finishing machines and has particular reference to a machine for facilitating the operation of smoothing the textile or fabric and imparting thereto a high luster or natural sheen.

At the present time in finishing textiles or fabrics, especially those with a high luster such as silks, broadcloths, artificial silks and the like, it is essential to smooth the fabric after the dyeing and drying operation. The finishing at present, is generally accomplished by hand with the use of fatty mixtures and the surface rubbed manually with felt blocks which is a costly and expensive process.

While there are in existence patents which purport to accomplish the purpose of the machine set forth in the present application, the present invention resides in certain improvements over the prior patents and machines and said invention resides in providing a roller of novel and improved construction, together with an adjustable means or table over which the textile or fabric is fed and maintained in contact with the finishing roller.

The present invention furthermore comprehends a machine of the character set forth which is comparatively simple in its construction and mode of operation, inexpensive to manufacture and produce and which is highly efficient in its purpose.

With the above recited and other objects in view, the invention resides in the novel construction set forth in the following specification, particularly pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that the right is reserved to embodiments other than those actually illustrated herein, to the full extent indicated by the general meaning of the terms in which the claims are expressed.

In the drawings—

Figure 1 is a side view of the machine parts being diagrammatically shown and illustrating the same constructed in accordance with the present invention.

Fig. 2 is an enlarged fragmentary longitudinal sectional view through the machine.

Fig. 3 is an end view.

Fig. 4 is an enlarged transverse fragmentary sectional view.

Referring to the drawings by characters of reference A designates the frame of the machine which supports at one end a roll B of fabric to be trained and finished. The framework A of the machine constitutes a support for the roller shafts or trunnions 10 which shafts have connected therewith sprockets or pulleys 11 around which the sprocket chains or belts 12 are trained from a common driving means C which functions to drive at high speed all of the roller shafts or trunnions 10 in the same direction. The machine frame A supports at one end a guiding and driving roller D and at its opposite end a receiving roller E upon which the finished textile or fabric is wound.

Each of the finishing rollers indicated generally by the reference character 13 is of identical construction and includes a hollow and tubular core 14 from the opposite ends of which the bearing shaft sections or trunnions 10 project. A plurality of annular felt disks 15 of substantially uniform thickness are positioned upon the core 14 and are spaced by annular spacing elements 16 which are of lesser diameter than the felt disks 15. The disks and spacer elements 16 are pressed and clamped together between the opposite ends of the core by suitable clamping members 17 so that the rollers present a plurality of spaced felt disk peripheries which admit of compression and lateral movement or "flapping." In order to guide and maintain the textile or fabric which is fed through the machine in engagement with the peripheries of the "flapping" rollers 13 a table 18 is provided which is preferably disposed in superposed relation to the peripheries of the

"flapping" rollers. The end of the table which is disposed toward the end of the machine from which the textile or fabric is fed is provided with guide rollers 19 and 20, the former serving to guide the textile or fabric against the first "flapping" roller and between the underside of the table and said roller. The opposite end of the table is provided with a bearing bracket 21 within which upper and lower guide rollers 22 and 23 are mounted. From the last of the "flapping" rollers 13 the material is trained around the guiding and drive roller D thence between the guide rollers 22 and 23 over the upper surface of the table 18 and the guide roller 20 and thence to the receiving roller E. In order to render the table 18 adjustable to compensate for different thicknesses of material and to vary the pressure of the material against the "flapping" rollers, the said table is mounted upon depending standards 24 located at opposite sides of the machine and vertically movable with respect thereto. The means for adjusting the standards and table vertically consist of a jack shaft 25 which is horizontally mounted in the machine and provided at one end with a manipulating wheel 26. The jack shaft is provided with a threaded portion 27 engageable with an interiorly threaded nut 28 which is connected by a connecting rod 29 with one arm 30 of a bell crank 31 the opposite arm 32 of which is connected by a link 33 with one of the standards 24. The other standards are connected by links 35 with the arms 36 of a bell crank 37 the opposite arm 38 of which is connected by a connecting rod 39 with the arm 30 of the bell crank 31. It is thus obvious that upon rotating the jack shaft 25 in opposite directions the nut 28 is fed in opposite directions to raise and lower the table for the purpose specified.

After the material has been dyed and dried the same is fed through the machine as heretofore specified and illustrated in the drawing. As the material moves between the table 18 and the "flapping" rollers 13 the peripheries of the felt disks 15 which constitute the "flapping" rollers engage and rub the surface for smoothing and imparting a high luster or sheen thereto. As particularly illustrated in Figs. 3 and 4 it will be noted that the portions of the disks 15 which project beyond the spacer elements 16 are free to move or flap laterally as the fabric moves therebetween and hence the possibility of injuring the fabric as has been found where solid felt rollers are used, is eliminated. It is of course to be understood that the machine may be equipped with a means for applying fatty mixtures to the fabric before presenting the same to the "flapping" rollers.

From the foregoing it will thus be seen that a highly efficient yet comparatively simple machine has been devised for the purpose set forth.

We claim:

1. In a machine for finishing textile materials to impart a natural luster to the same after the dyeing and drying operations, a series of rotating members over which the material is tangentially fed, each of said members including laterally spaced transversely flexible elements of substantially uniform thickness with which the material engages.

2. In a machine for finishing textile materials to impart a natural luster to the same after the dyeing and drying operations, a series of rotating members over which the material is tangentially fed, each of said members including laterally spaced transversely flexible elements of substantially uniform thickness with which the material engaged, and means coacting with the opposite surface of the material for effecting the engagement of the same with the spaced peripheries of the elements constituting the rotating members, said means being adjustable to compensate for materials of various thicknesses and for regulating the pressure of said materials against the members whereby to vary the finish imparted thereto.

3. A machine for finishing textile materials to impart a natural luster thereto after the dyeing and drying operations, including a series of rollers over the peripheries of which the material is transversely fed successively, each of said rollers including axially spaced laterally flexible disks of uniform thickness throughout against the peripheries of which one of the surfaces of the material is presented tangentially whereby lateral flexing of the marginal portions of the disk is imparted thereto by the pressure of the material thereagainst.

4. In a machine for finishing textile materials to impart a natural luster thereto after the dyeing and drying operations, a series of rollers over the peripheries of which the material is tangentially fed, said rollers comprising a core, a plurality of annular flexible disks of uniform thickness throughout mounted on the roller, a plurality of annular inflexible spacer elements of lesser diameter than the disks mounted on the core between each adjacent disk and means for clamping said disks and spacer elements against lateral shifting on the core, said disks presenting laterally flexible spaced peripheral portions engaging one surface of the material, adapted to be laterally flexed by the pressure of the material against said peripheries to set up a transverse rubbing action thereon in addition to the longitudinal rubbing action.

5. In a machine for finishing textile materials to impart a natural luster thereto after

the dyeing and drying operations, a series of rollers over the peripheries of which the material is tangentially fed, said rollers comprising a core, a plurality of annular flexible disks of uniform thickness throughout mounted on the roller, a plurality of annular inflexible spacer elements of lesser diameter than the disks mounted on the core between each adjacent disk and means for clamping said disks and spacer elements against lateral shifting on the core, said disks presenting laterally flexible spaced peripheral portions engaging one surface of the material, adapted to be laterally flexed by the pressure of the material against said peripheries to set up a transverse rubbing action thereon in addition to the longitudinal rubbing action and a vertically adjustable table overlying the rollers and constituting means for effecting the engagement of the material with the roller peripheries.

6. In a machine for finishing textile materials to impart a natural luster thereto after the dyeing and drying operations, a series of rollers over the peripheries of which the material is tangentially fed, said rollers comprising a core, a plurality of annular flexible disks of uniform thickness throughout mounted on the roller, a plurality of annular inflexible spacer elements of lesser diameter than the disks mounted on the core between each adjacent disk and means for clamping said disks and spacer elements against lateral shifting on the core, said disks presenting laterally flexible spaced peripheral portions engaging one surface of the material, adapted to be laterally flexed by the pressure of the material against said peripheries to set up a transverse rubbing action thereon in addition to the longitudinal rubbing action and a vertically adjustable table overlying the rollers and constituting means for effecting the engagement of the material with the roller peripheries, and means for effecting vertical adjustments of said table as and for the purpose specified.

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