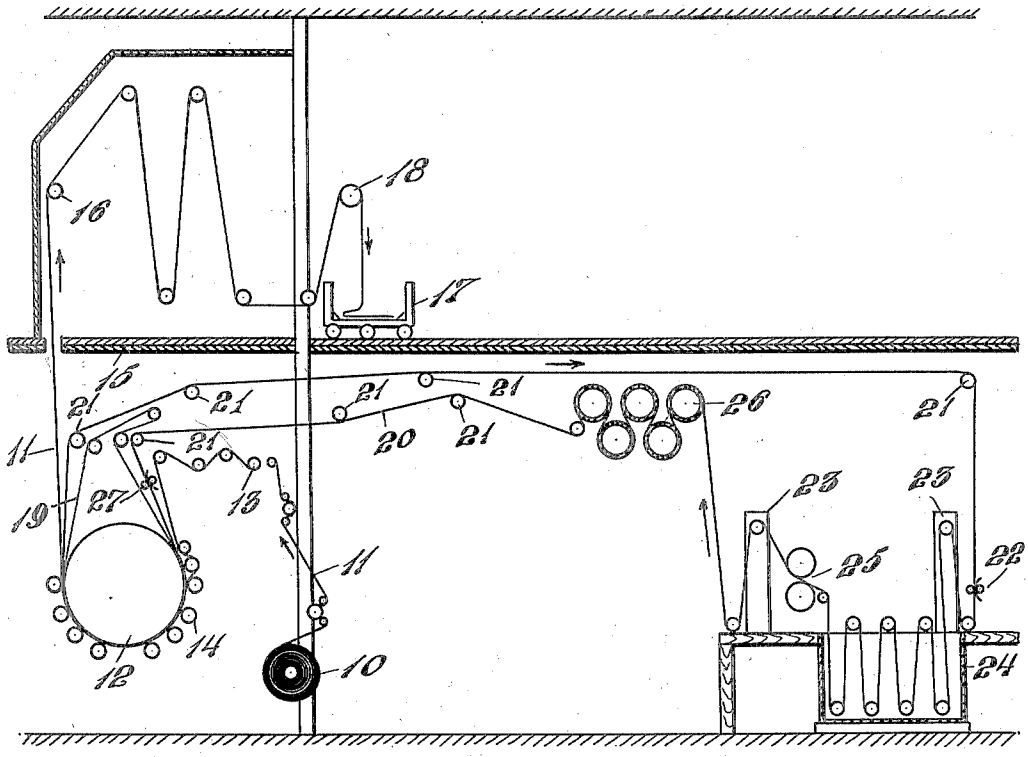
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BACK GREY FOR TEXTILE PRINTING

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BACK GREY FOR TEXTILE PRINTING

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This invention relates to printing of textile fabrics, more particulary to the so-called back grey in a textile printing machine.

One of the objects of the invention is to provide a back grey which will be sufficiently resilient so as not to distort the pattern and one which may have its operative life increased.

Another object of the invention is to so treat the back grey that it will not become stained to the same degree as heretofore.

Another object of the invention is to so treat the back grey that it will not become stained to the same degree as heretofore.

Another object of the invention is to provide a back grey from which stains may be more easily washed than heretofore.

Another object of the invention is to so treat a back grey that it will not absorb during washing as high a percentage of water as back greys which are not treated, and thus one which may be dried more quickly and with less heat.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawing:

The figure is a diagrammatic elevation illustrating the travel of the work and the back grey about the bowl roll of the printing machine for textile printing and the travel of the same through the washing tank.

In textile printing, the bowl roll, over which the fabric passes and against which the engraving cylinder engages the fabric for printing the same, is usually covered with a lapping to afford some resiliency to the same and then over this lapped bowl roll there is an endless traveling band or web of material usually termed a blanket. This blanket serves to provide some resiliency that a better impression may be obtained, and, as the printing ink is frequently transmitted through the cloth or beyond its edges against the blanket, the blanket when soiled is washed or scrubbed while on the printing machine during the time it is idle. As the blanket becomes seriously stained in this sort of operation, it is in many instances desirable to protect the blanket; and accordingly, a back grey or web of fabric is usually passed through between the blanket and the work so that the ink which passes through the work will be gathered by this back grey. In many cases substantially the same length of back grey is necessary as the length of goods which pass through the machine, as this back grey is reeled as the goods are reeled and then washed and dried before a subsequent use.

It is our purpose to provide the back grey in an endless band, washing the same during its travel, and to so treat the back grey that from several standpoints its operation may be improved. It has heretofore been known to provide rubber blankets or waterproof blankets, but these are undesirable because they do not absorb any moisture and result in a distorting of the pattern. Further, when a water-proof treatment is given to a usual cotton web, it becomes rather hard-surfaced and detracts from the desired resiliency which is required for a good impression of the engraved roll. In order to overcome these different difficulties, we have treated the endless back grey with a water-repellent which will decrease partly, but not completely, its water-absorbing properties and will not make the same so hard or crispy as to depreciate its desirable resilient qualities. By the reduction of its absorptive properties, the color which comes through the printing is more easily washed out, and also, during washing there is but a small portion of water absorbed, and therefore drying is much more easily accomplished; and the following is a more detailed description of the present embodiment of this invention, illustrating the preferred means by which these advantageous results may be accomplished:

We have shown diagrammatically a printing machine in which 10 designates the supply package of the web of work 11 to be printed which is guided over tension rolls 13, thence about the bowl roll 12, beneath the printing cylinders 14 which we show in skeleton form, and thence up through the floor 15 of the building over other rolls 16 where drying occurs, and thence into a receptacle 17 from some packaging device 18. The exact travel of the goods to be printed is not essential and is not a specific part of this invention. The bowl roll is usually provided with a lapping of a resilient material and over the bowl roll so lapped there is a blanket 19, which is also of a resilient nature, the lapped bowl roll and the blanket (where the blanket is used) being of sufficient resiliency so that a good back-up surface is provided for receiving the impression from the engraved rolls 14.

Were it not for some guard, ink would pass through the goods and accumulate upon the bowl roll 12 or blanket to besmirch the printing. Accordingly, we have provided a back grey, designated generally 20, which is a web of material, usually cotton, of a width wider than the goods

to be printed and which will pass about the bowl roll to collect such ink as passes through the printed goods or collects beyond the end of the printing roll. The ends of this back grey are sewed together so that the same is a continuous belt-like formation and the same passes about the bowl roll and over suitable rolls 21, through guiders 22, and thence through compensator 23, thence into a washing tank 24 where the accumulated deposit collected at the bowl roll is washed from the back grey. The back grey then passes through squeeze rolls 25 through another compensator 23 and thence into drying cans 26, over rolls 21 and through guider 27 and again about the bowl roll 12.

The back grey is a cotton web of fabric with some water-absorptive properties and is treated with some permanent water repellent so as to reduce its absorptive properties, and yet leave the back grey soft and resilient, the quantity used to obtain the desired percentage of water repellency is of importance. We prefer to use the water repellent in a sufficient quantity so that the goods will after treatment absorb only substantially 20% of their own weight of moisture, it being usual that untreated cotton back greys will absorb about 100% of their own weight of moisture. One suitable water repellent which may be used is "Zelan," a product placed on the market by DuPont, which is a pyridine derivative of a complicated chemical formula. This water repellent is a permanent water repellent and will remain upon the back grey for a large number of usages. The quantity of "Zelan" which is used is 4 to 16 ounces per gallon of water.

By the treatment which we give the back grey, we may use a heavier back grey which will have longer wear, and the same may be used over and over again. The band which we provide will be about 80 yards long or longer, depending upon the size of the machine upon which it is used. By this treatment the back grey may be more easily washed in the washing tank, and during such washing only about 20% of its weight is absorbed so that when it is dried it may be more easily and quickly dried with less heat. The resiliency of the back grey is retained and good impressions are obtained even with this treatment, while its advantageous properties will be readily apparent.

The foregoing description is directed towards the method and construction illustrated, but we desire it to be understood that we reserve the privilege of resorting to all the equivalent changes to which the construction and method are susceptible, the invention being defined and limited only by the terms of the appended claims.

We claim:

1. In a textile finishing machine for printing fabrics having a back-up surface, a water-absorptive back grey for protecting the back-up surface, said back grey being treated with a water-repellent material to decrease partly but not completely its water-absorptive properties.

2. In a textile finishing machine for printing fabrics having a back-up surface, a water absorptive back grey for protecting the back-up surface, said back grey being treated with a water-repellent material to decrease to substantially 20% of its own weight its water-absorptive properties.

3. In a textile finishing machine for printing fabrics having a back-up surface, a water-absorptive back grey for protecting the back-up surface, having its ends attached together to provide for a continuous travel, said back grey being treated with a water-repellent material to decrease partly but not completely its water-absorptive properties.

4. In a textile finishing machine for printing fabrics having a back-up surface including a bowl roll, a back grey for protecting the back-up surface having its ends attached together to provide for a continuous travel about the bowl roll, said back grey being treated with a water-repellent material to decrease partly but not completely its water-absorptive properties, and means for washing and drying portions of said back grey between successive travels about the bowl roll.

5. In a textile finishing machine for printing fabrics have a back-up surface including a bowl roll, a back grey for protecting the back-up surface, having its ends attached together to provide for a continuous travel, said back grey being treated with a water-repellent material to decrease to substantially 20% of its own weight its water-absorptive properties, and means for washing and drying portions of said back grey between successive travels about the bowl roll.

6. The method of protecting the blanket of a textile printing machine in its passage about the bowl roll which consists in providing an endless back grey, treating the back grey with a water repellent to decrease partly but not completely its water-absorptive properties and then washing and drying said grey between successive travels about the bowl roll.

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