

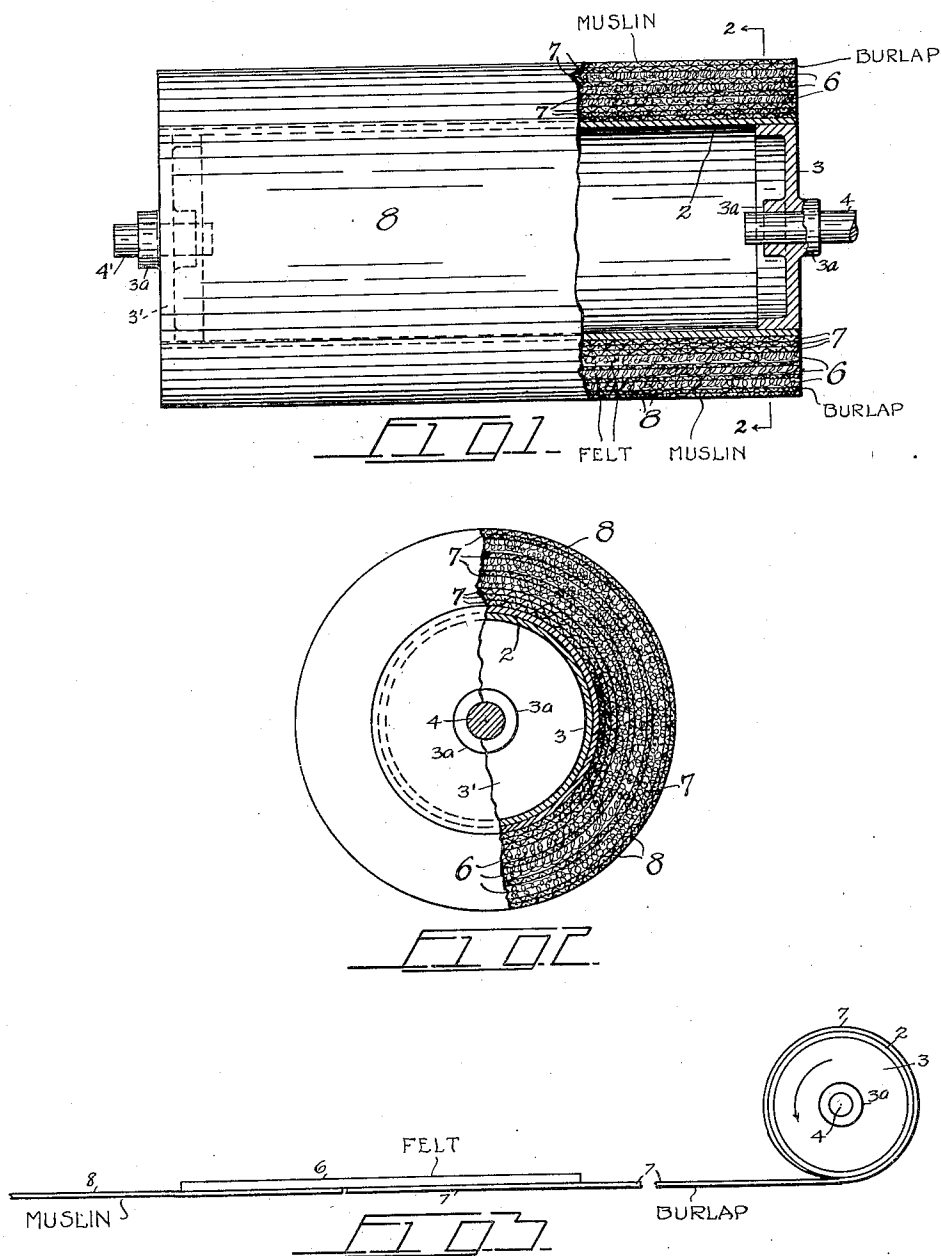
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IRONING ROLL

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IRONING ROLL.

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This invention relates to a new and useful improvement in press rolls, designed particularly for use in connection with portable ironing machines, such for example as shown in my United States Patent No. 1,560,990, dated November 10, 1925, and has for its object to provide a roll of the circumferentially padded type, wherein the padding is wound upon a metal or other cylinder, and preferably comprises a number of layers of cushion material, such as felt, and alternate layers of coarser, harder and stouter fabric, such as burlap, which grips and binds the softer padding in place, and whereby the alternating of the burlap and cushion material produces a relatively firm, yet resilient roll, whose external surface yields readily to localized pressure, when such pressure is applied to relatively small areas, and effects a substantially evenly distributed springy cushioning throughout its circumferential area, which is very desirable. A further object is to provide a burlap binder for padded ironing rolls, which is first wound around the metal or wooden core several convolutions, for effecting a nonstretchable yet pliable support for the relatively soft and compressible padding. The coarse warp and woof of the burlap effects a ridged surface, and the ridges become embedded in the soft padding, thereby preventing creeping or bunching of the padding, while the roll is being rotated continuously in one direction under pressure, and therefore tends to preserve the true cylindrical shape of the roll, the burlap being of coarser weaving and grain than the relatively soft matted padding obviates all danger of the roll becoming saturated and soggy and liable to be distorted, due to its tendency to freely absorb the moisture (hot vapor) resulting from the ironing of damp cloth between the roll and a heated shoe. And a further object is to provide an ironing roll of the character, which will retain its cylindrical shape, as well as yield the proper cushioning or resilience when subjected to varying degrees of moisture during short and long periods of ironing.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawing, in which—

Figure 1 is a side elevation and partial central vertical longitudinal section, showing the construction and arrangement of the

padding and binding fabric. Fig. 2 is a partial end elevation and partial central vertical section, the latter being taken on line 2—2 of Fig. 1. And Fig. 3 is a diagrammatic view showing the initial winding of the burlap binder upon the core of the roll.

In the drawing, 2 represents the usual hollow metal drum or core of the ironing roll, whose opposite ends are fitted with concentric heads, as 3 and 3', the said heads being formed with hubs 3^a, in which are rigidly disposed a driving shaft 4, and a gudgeon 4', by which the roll may be rotatably mounted in suitable bearings (not shown).

It is essential in press rolls for ironing machines and mangles, that the said rolls be circumferentially padded, in order that they may yield and spring, while ironing washable clothing, dining-room and bedroom linen, and the like, when said articles vary in thickness in their parts, and especially when articles of wearing apparel and the like have tucks, hems and buttons or other thickened portions, which must sink into the compressible circumference of the roll, in order that the normal or plain portions of the articles may be suitably ironed and smoothed.

Furthermore, the ideal ironing roll is required to be more or less firm, in order that when operated under suitable pressure the ordinary plain or flat articles may be evenly pressed against the hard heated shoe, for effectually smoothing the articles by a single operation. In order to produce a roll of suitable firmness and yet possess the requisite resilience when operated under pressure, to yield or compress when certain portions of the articles are thicker than normal, it is necessary to provide a padding that will withstand frequent compression and relaxation and still retain its normal cylindrical shape and resilience, and to fulfill these requirements from day to day, even though the roll may be subjected to varying degrees of moisture and temperature. A detailed description of my improved press roll follows:

In perfecting my invention I have discovered that the padding most suitable for ironing rolls of the class herein shown, should consist of a continuous web or strip of suitable cushion material, as 6, preferably of such length and thickness that the padding may be applied in several convolutions, without unduly increasing the diameter of the

roll. Furthermore, I have found that the binder should consist of a stouter, preferably coarse woven fabric, as 7, such for example as burlap, which is flexible but preferably inelastic, the said burlap preferably being wound upon the core 2 of the roll together with the padding, so that the convolutions of the two materials alternate, and that when the padding 6 and the binder 7 are so applied, the roll appears to be relatively hard to the touch, yet when subjected to ironing pressure up to 100 pounds or thereabout, the overlaid portion of the roll readily yields or compresses temporarily, whenever uneven or abnormally thick portions of a garment pass between the roll and the heated shoe (not shown). I have also found by experiment that when extra thick padding is wound around the drum without the alternation of a binder, like burlap, or an equivalent-grade of canvas, the padding tends to soften and become soggy when subjected to a high percentage of moisture and continuous pressure, with the result that the ironing or smoothing is imperfectly done, and the work also lacks uniformity throughout the extent of the articles. This trouble, I have found, may be obviated by alternating the burlap (7) with sheet padding (6) of somewhat less thickness than commonly employed for rolls of this class, and that when the padding is applied with the burlap, as herein shown, the several convolutions are less liable to become soggy, for the reason that the more or less open weaving of the burlap allows the moisture to escape. Furthermore, owing to the hardness of the grain of the burlap, it is less liable to become softened when wet than the more loosely woven padding.

In the present case, to start the winding of the roll, one end of the continuous strip or web 7, of the burlap, is applied to the drum or core 2, and held in place, while the drum is rotated in the ironing direction for winding the burlap (see Fig. 3). I prefer to first wind two or three layers of the burlap 7 upon the drum, preferably under considerable tension in close relation. At the end of this primary winding, I place a strip of the felt or other padding 6, preferably of the same breadth, and of any suitable thickness and texture, upon the unwound portion of the burlap, the farther end of the padding preferably extending beyond the corresponding end of the burlap, as shown in Fig. 3; then rotate the drum 2 in the same direction, for simultaneously winding the burlap 7 and the padding 6, in alternate layers, upon the primary winding until the burlap is fully wound (see Figs. 1 and 2). I prefer to continue this two-ply winding under the same tension until from two to four convolutions of the padding are effected. When the last of the burlap is wound, I complete the build-

ing of the roll, by winding or overlaying the remainder of the padding that protrudes beyond the burlap with a sheet of fine-grain muslin, or like relatively smooth finish fabric 8, which makes direct contact with the articles during the ironing operations. The muslin jacket 8 is preferably wound at least one full turn after the winding of the padding is completed and the said jacket may be finally secured in place by any suitable fastening means (not shown).

It is obvious that some variations or changes in the character of the materials, as well as in the method of applying and arranging the overlaid parts may be made, within the scope defined by the appended claims.

Having thus described my invention, what I claim, is—

1. In an ironing roll, a core, a strip of coarsely woven material coiled about the core to provide a primary series of layers and having an extension, padding coiled with said extension of the strip about said primary layers to provide secondary alternate layers of said material and padding, the padding having an extension which latter is coiled about the secondary layers, and a layer of finishing material coiled about the padding.

2. In an ironing roll, a core, a primary covering for the core composed of a series of layers of burlap, a secondary covering composed of alternate layers of padding and burlap, and a final covering composed of padding with a finishing material extending over the padding.

3. In an ironing roll, a core, a primary covering for the core composed of a relatively coarsely woven fabric, a secondary covering composed of alternate layers of relatively soft padding and a relatively coarsely woven fabric, and a final covering extending about the secondary covering.

4. In an ironing roll, a core, a covering for the core composed of alternate layers of coarse textured material and soft material, and a finishing material extending over the final one of said layers.

5. In a padded ironing roll, the combination with a cylindrical core, of a strip of coarsely woven and hard-finish fabric wound several times around said core the convolutions thereof being in intimate and tense contact with each other, a strip of relatively thick cushion material, and protruding beyond the free end of the fabric, the said fabric and said felt being simultaneously wound in alternate layers upon the primary windings of the said fabric, the protruding portion of said padding being tightly wound alone around the cushion layers, and an external covering of relatively fine woven fabric overlying and concealing the final winding of the padding.

6. A padded ironing roll comprising a cylindrical drum adapted to be rotated above a heated shoe, a padding for the circumferential surface of the drum consisting of a relatively long strip of coarsely woven burlap and a shorter strip of soft cushion material, a portion of the said burlap and said cushion material being wound several times around the drum in alternate arrangement with sufficient tension to cause the coarse surface of the burlap to become embedded in the soft cushion material for preventing creeping and bunching of the padding, and a final winding of smooth fine grain fabric inclosing and concealing the burlap and padding.

7. A padded ironing roll comprising a cylindrical drum adapted to be rotated above

a heated shoe, a padding for the circumferential surface of the drum consisting of a relatively long strip of coarsely woven burlap and a shorter strip of soft cushion material, the said burlap being wound alone several times around the drum, the convolutions thereof being in close and tense relation, and the two strips being wound together several times around the primary convolutions of the burlap in alternate order, the portion of the cushion material protruding beyond the terminus of the burlap being wound alone in a single layer, and a smooth fine grain fabric jacket encircling and concealing the adjacent cushion surface.

In testimony whereof I affix my signature.

MEAD HEDGLON.