Aug. 28, 1928. 1,682,483

E. J. CARROLL

PADDING

Filed June 6, 1924

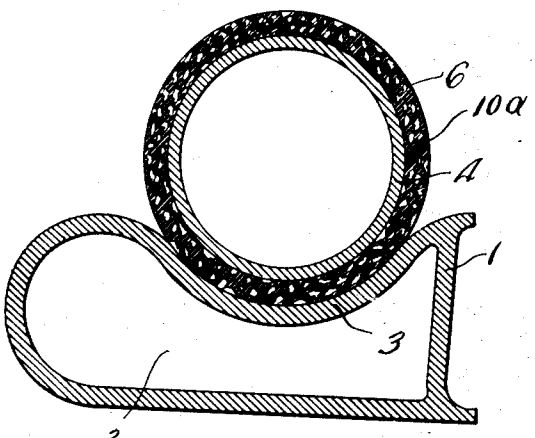


Fig.-1

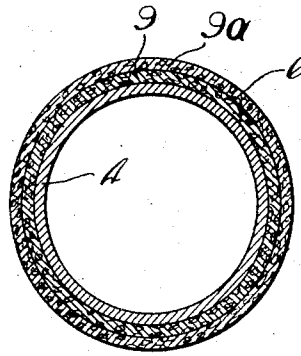


Fig.-3

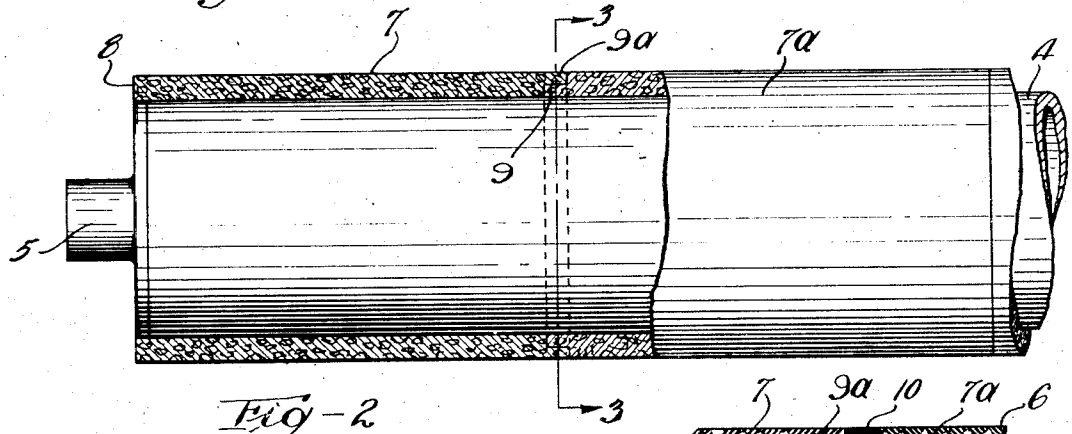


Fig-2

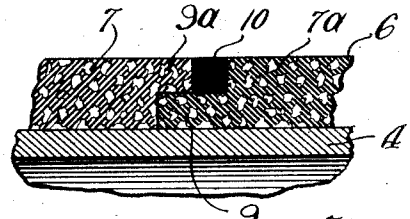


Fig.-5

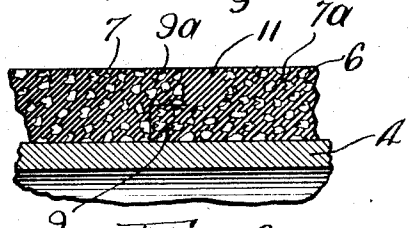


Fig.-6

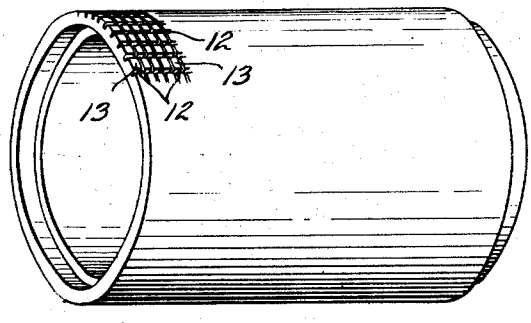


Fig.-4

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UNITED STATES PATENT OFFICE.

EMIL J. CARROLL, OF NORWOOD, OHIO, ASSIGNOR TO THE AMERICAN LAUNDRY MACHINERY COMPANY, OF NORWOOD STATION, OHIO, A CORPORATION OF OHIO.

PADDING.

Application filed June 6, 1924. Serial No. 718,318.

This invention relates to yieldable padding for ironing or pressing machines and to the method of making the same.

The object of the invention is to provide improved padding which may be readily and conveniently applied to or assembled with the ironing member; which is durable and not so likely to be burned out or scorched by the working temperature as textile fabric or other cellulose paddings for the purpose; which is rendered more soft and pliable if anything by heat and moisture; which supplies a uniformly yielding surface; which avoids staining or discoloration of the cover cloth or wrapper; and which may be readily adapted and applied either to new machines or to machines already in use.

Further objects of the invention are in part obvious and in part will appear more in detail hereinafter.

The invention comprises the apparatus and the several method steps hereinafter described and claimed.

In the drawings which represent one embodiment of the invention, Fig. 1 is a sectional view through a padded ironing roll and cooperating chest or platen; Fig. 2 is an elevation, partly broken out and in section, of a portion of the padded roll; Fig. 3 is a sectional view on the line 3—3, Fig. 2; Fig. 4 is a perspective view of one form of padding sleeve; Fig. 5 is a detail section showing the preparation of one form of sleeve joint; and Fig. 6 is a similar view illustrating the finished joint.

In certain of its phases the invention is capable of use in any type of press or ironing machine, such as garment presses of the type embodying upper and lower relatively movable pressing members or platens, or ironing machines including cooperating rollers or one or more cooperating rollers and platens. For purposes of illustration the drawings show a portion of a chest or platen 1, provided with an inner chamber 2 to which steam may be supplied for heating purposes, said chest having a concave surface 3 to receive the hollow ironing roll 4, heated if desirable, the rotation of which in the concave chest seat carries the work through the machine. The roll is of usual form, consisting of a hollow cylindrical, preferably metal member, provided with end trunnions 5, said roll having its cylindrical surface provided with padding 6 forming the subject matter of the present invention. Said padding consists of a layer of some suitable material capable of application to the roll or pressing surface in the manner to be described and which preferably is a material which is softened or made more yieldable and pliable, instead of being hardened, by heat or by heat and moisture. It is also heat resisting or insulating in the sense that it is not so inclined to absorb or accept and retain heat as metal parts and does not therefore become so hot as to throw off heat and scorch a cover cloth from beneath. A suitable material for the purpose is cork, more or less in the natural state properly formed to shape, or a composition containing cork fragments of suitable size held together by a binder. The binder may be any suitable material, but preferably is of rubber or a rubber like material which is capable of being cured, set or fixed in more or less permanent form by a curing process similar or analogous to the vulcanization of rubber or rubber compounds.

Such a composition may be prepared in masses and molded or shaped to any desirable form. According to one arrangement the cork composition is molded to cylindrical form of proper thickness and with an internal diameter proportioned to the roll body to which it is to be applied. The padding cylinder for the complete roll may be a single piece, but for convenience in assembly and in handling and transporting the material may be divided into a number of sections. For example, and as shown in Fig. 2 the padding cylinder may be in the form of a series, two, three or more of sleeves 7, the end ones of which are plain at their outer ends, as at 8, while the inner ends thereof and both ends of all intermediate sections 7^a are grooved or channeled to form inner and outer interlocking sleeve flanges 9, 9^a, the surfaces of which provide a more or less tortuous joint between the ends of adjacent sleeves. Said interlocking flanges may be of equal size and shape, as shown in Fig. 2, or if desired one flange may be longer than the other, as shown in Fig. 5 where the inner flange 9 of section 7^a is shorter than the outer flange 9^a of sleeve 7, leaving a space be-

tween the exposed adjacent ends of the sleeve. This space after assembly may be filled or calked with rubber or a rubber cement, as at 10. Again, either a padding sleeve for an entire cylinder, or the multiple sleeve sections shown in Fig. 2, may be divided or jointed along one or more longitudinal lines, the adjacent edges being scarfed or bevelled, as shown in Fig. 1, and the space between them being filled or calked with rubber or a rubber cement, as at 10^a.

Sleeves which are circumferentially continuous or without longitudinally extending joints, either of length equal to the roll or in sectional form as shown in Fig. 2, may be assembled with the roll body by relative endwise telescoping movement. Sleeves porvided with a longitudinally extending joint, either of length equal to the roll of in sectional form, may be opened out and wrapped around the roll like a band or belt, but if the sleeve is provided with two oppositely disposed longitudinal joints, or more than two of such joints, the segments, semi-cylindrical or otherwise, obviously may be initially formed in a definite shape and applied sidewise to the roll. The padding might also be made in belt form and wrapped around the roll with a spiral arrangement and consequently with a helical joint or seam extending along the roll.

With any of these arrangements the padding material in the form of a band or belt, continuous sleeves or cylinders or sections thereof is assembled about the roll and permanently secured thereto. Usually completion of the joint or seams in the manner to be described is sufficient to secure the padding to the roll and prevent relative rotation therebetween in use, but if desired the padding may be cemented to the roll surface by applying a thin layer of cement to the inner surface of the sleeve or to the outer surface of the roll before assembly.

The securement of the padding to the roll may be readily effected in an ironing machine by a curing or vulcanizing process produced in the machine itself. In other words, this arrangement enables the padding layer to be vulcanized or cured in proper permanent form about the roll without removing the roll from the machine. For example, a padding layer of sleeves, segments or bands is assembled about the roll with all joints calked or filled with rubber or rubber cement or composition and the roll is then applied to its cooperating member, such as the chest 1. In all ironing machines either one or both of the cooperating ironing members is heated, usually by steam supplied to its inner chamber. Therefore, with the two ironing members, roll and roll or roll and platen, as the case may be, in cooperating contact, a heating medium, such as steam, is supplied to one or the other or to both of the ironing members, said heat serving to effect the curing or vulcanizing process and to make all parts of the padding, including separate or adjacent sections, segments or sleeves thereof, and the rubber, rubber cement or composition calked into the joints, to be welded or joined together in one homogeneous mass. Indeed, the calking material at the joints becomes practically fully and completely a part of the padding, as indicated at 11, Fig. 6. The curing process may continue for any desired or necessary period of time and rendered effective over the entire padding area by successively applying different parts of the roll in turn to the chest surface.

The outer surface of the padding material may be provided with any desired arrangement of pattern configuration to increase its resiliency and pliability where desired. In Fig. 4, the padding sleeve shown has its outer surface provided with a serie sof longitudinally and circumferentially extending slots or channels 12 which divide its exposed surface into a series of closely and regularly spaced substantially rectangular mounds 13 separated by intervening recesses, although other arrangements are suitable for the purpose.

Tortuous joints between sleeves or sleeve sections, such as shown in Fig. 5 and at the scarf joint in Fig. 1, are not essential, as the sleeves or sections thereof may present square abutting surfaces to each other, the joints therebetween being closed or calked with suitable cement or other material. Such sealed joints, whether merely of tortuous form, or joints calked with suitable cement or other material, whether plain or tortuous, have the advantage of preventing any possibility of flow of moisture to the underlying metal surface, usually steel or iron, and thereby prevents staining or discoloration of a cover cloth due largely to moisture dissolving and carrying tannic acid or tannic products from the cork to the iron and thereby forming a discoloring ink.

The invention described not only provides an improved method of assembling padding upon rollers which materially decreases the labor cost and prevent dismantling the machine, but also supplies a practically permanent padding of uniform yielding ability which requires no metal springs of textile or other cellulose padding and which is far more durable and of longer life than prior padding for the purpose. However, a cover cloth and one or more layers of textile padding or a closely woven asbestos padding may be laid over the cork padding, if desired.

What I claim is:

1. In an ironing machine, an ironing member provided with a padding formed of separate parts joined to each other and each made of a cork material, the joints between

said parts being filled with cured material so as to seal the same.

2. A padded roll for ironing machines, comprising a roll body and a sleeve surrounding the same, said sleeve being formed of a plurality of parts joined to each other and each part being made of a cork material, the joints between said parts being of tortuous form and being filled with cured material so as to seal the same.

In testimony whereof I hereby affix my signature.

EMIL J. CARROLL.