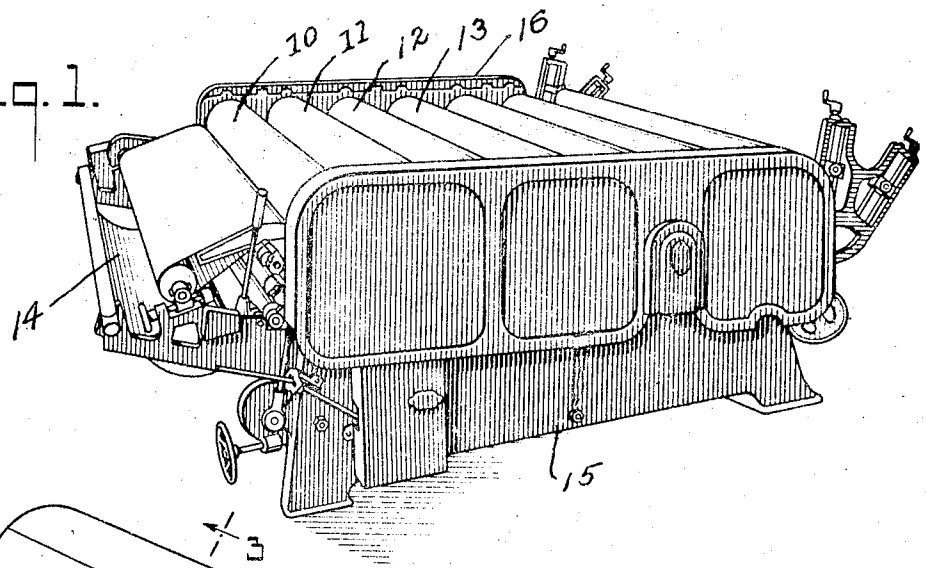
July 29, 1930. W. F. GRUPE 1,771,784

ENVELOPE FOR LAUNDERING MACHINES

Filed July 6, 1926 2 Sheets-Sheet 1

Fig. 1.



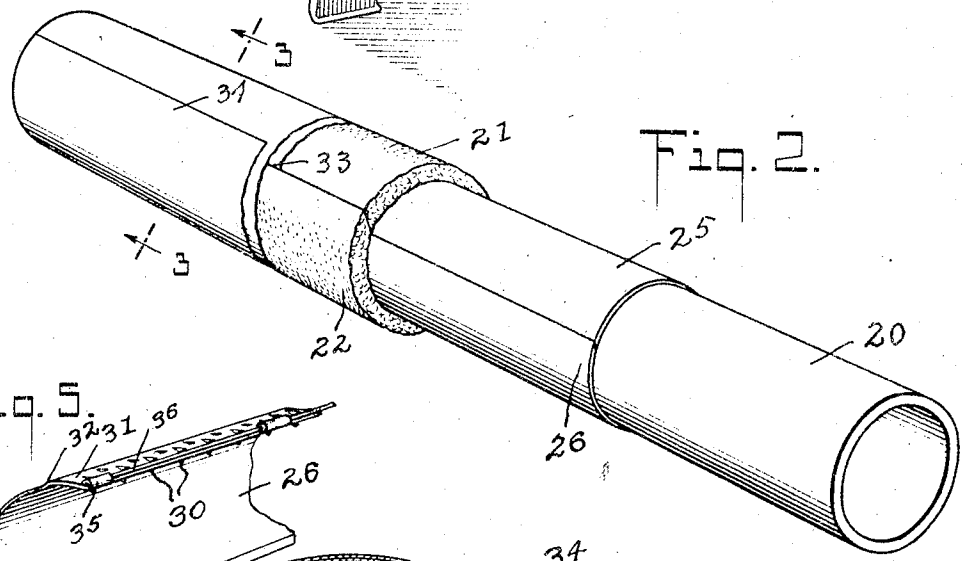
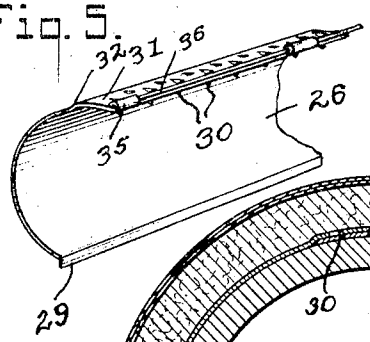


Fig. 2.

Fig. 5.



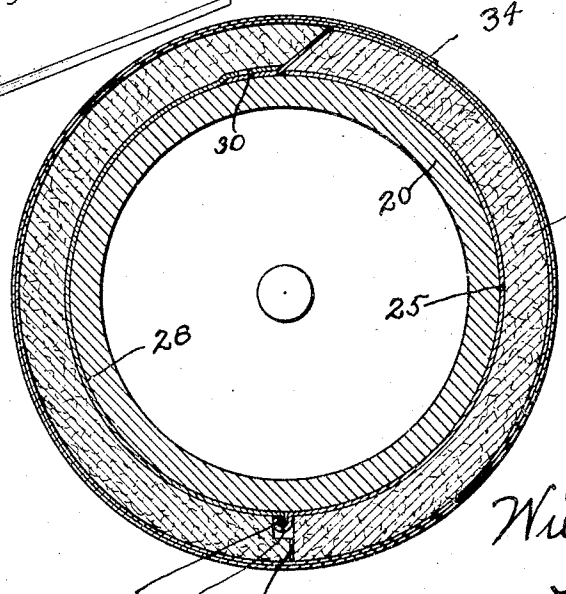
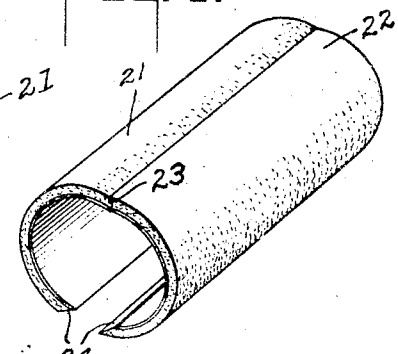


Fig. 3.

Fig. 4.



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ENVELOPE FOR LAUNDERING MACHINES

Filed July 6, 1926 2 Sheets-Sheet 2

Fig. 6.

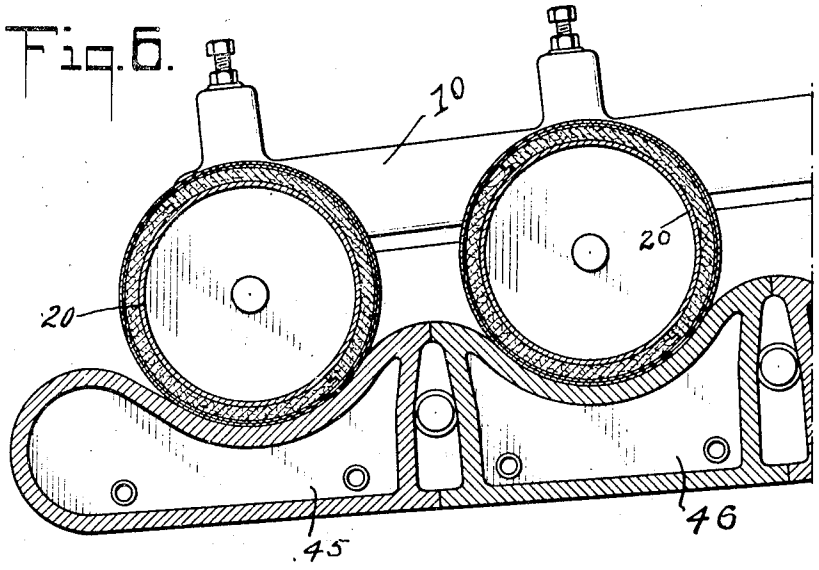


Fig. 7.

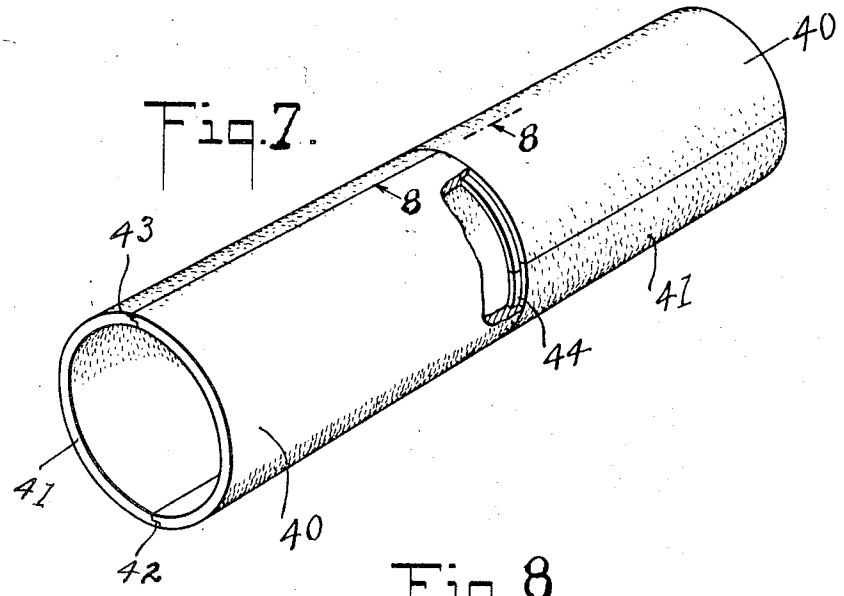
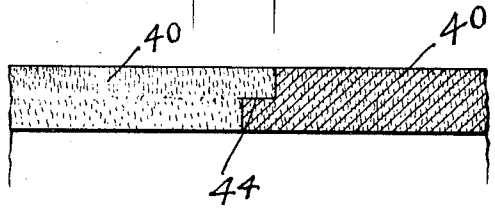


Fig. 8.



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UNITED STATES PATENT OFFICE

WILLIAM F. GRUPE, OF LYNDHURST, NEW JERSEY, ASSIGNOR TO ARMSTRONG CORK COMPANY, OF LANCASTER, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

ENVELOPE FOR LAUNDERING MACHINES

Application filed July 6, 1926. Serial No. 120,806.

This invention relates to improved envelopes for the rolls of laundering machines, and of machines of similar character employed at elevated temperatures.

Pursuant to my invention, the ironing or other laundering operation is carried out by the use of a covering formed of cork for the ironing or other laundering operation whereby under the conditions of laundering and particularly under the temperature of approximately 200 degrees F. the cork composition effects a pressure and resiliency of a character whereby maximum ironing results are attained.

Pursuant to the preferred form of my invention, the cork envelope is applied to the roll of the ironing or other laundering machine in molded sections of arcuate lengths having interconnecting or rabbeted joints, thereby enabling the molded cork lengths to be applied to the roll without removing the roll from its bearings. This is of particular advantage in the more modern types of ironing and other laundering machines wherein the rolls are five feet and more in length and of a diameter exceeding one foot.

The cork composition is preferably formed of cork waste and subjected to temperature and pressure conditions as is set forth more fully in my copending application entitled Cork padding, Serial No. 5,089, and filed by me on the 27th day of February, 1925, and entitled Cork padding for ironing machines, Serial No. 51,753, and filed by me on the 22nd of August, 1925.

In the more preferred forms of my invention, the cork envelope is in multiple form and mounted on carrier members of metal or other suitable material, which carrier members are of hinged formation and extends completely about the periphery of a roll to thus provide for a complete peripheral envelope for the roll, the securement of the combined carrier members and cork envelope being readily attained by means for exterior wrappings of the usual winding sheets. In such form of my invention, the combined carrier and cork envelope may be readily applied, even by the female or other less physically able operators of the laundering plant and similarly removed for replacement of any renewed cork envelope.

Further features and objects of the invention will be more fully understood from the following detail description and the accompanying drawings, in which

Fig. 1 is a perspective view of a type of ironing machine, known as a flat work ironer, equipped with a cork envelope embodying my invention;

Fig. 2 is a detail perspective view of a roll indicated in Fig. 1 and provided with a form of my cork envelope, the parts of the same on the roll being broken away progressively to illustrate otherwise hidden parts;

Fig. 3 is a cross-sectional elevation, on an enlarged scale, on line 3—3 of Fig 2;

Fig. 4 is a detail perspective view of a sectional carrier member and cork envelope shown in Figs. 2 and 3, on a reduced scale;

Fig. 5 is a detail perspective view of one embodiment of a half section of metal carrier;

Fig. 6 is a vertical transverse sectional view of a multiple roll flat-work ironer, two rolls only of the same being shown;

Fig. 7 is a detail perspective view of two sections of a cork envelope embodying my invention and indicated in Fig. 6, and

Fig. 8 is a sectional elevation on line 8—8, Fig. 7 on an enlarged scale.

Fig. 1 illustrates generally a flat bed ironer and embodying any desired number of rolls 10, 11, 12, 13 and so forth. The foot end of the machine is indicated at 14. Such rolls are journalled at their opposite ends in suitable bearings carried by the oppositely disposed side plates 15, 16. It will be understood however, that my invention is applicable to other forms of flat iron workers.

Pursuant to my invention, as described more fully hereinafter, the envelope for each laundry roll is formed of a plurality of sets of sections, the sets of sections being arranged longitudinally of each laundry roll.

The cork envelope sections are formed from cork waste and molded individually to finished form, the cork waste is fed into a suitable mold and compressed intermittently in the filling of the mold, the compression being

continued similarly for the respective chargings into the mold. I prefer to compress the cork waste in the mold at a minimum pressure represented by the reduction in volume of the cork from three to one and at a maximum compression of say a pressure corresponding to a reduction in volume from six volumes to one volume.

The compressed cork while in the mold is then subjected to a baking temperature for a range from 150° C. to say 275° C.

It will be understood that the compression and temperature during the baking stage of the cork to form the envelope are selected in accordance with the degree of hardness of the cork envelope desired at the ironing or other laundering temperature, which is usually of 210° F. and upwards.

Under laundering conditions, my product possesses a degree of elasticity coupled with a degree of resistance or firmness, which affords most superior results in ironing. By the aforesaid process and as is set forth more particularly in my aforesaid copending applications, Ser. No. 5,089 and Ser. No. 51,753, the cork particles are bonded by the resin inherent in cork, with or without additional resins, which during the baking stage has been subjected to temperatures greatly exceeding laundering temperatures, so that the bonding medium is resistant to steam and maintains its solid form at laundering temperatures. For example, in ironing of garments carrying buttons, buckles or like addenda, such addenda are passed by the cork envelope without damage. Similarly, in laundering table cloths having embroidered portions, the relatively flat portion of the table cloth is ironed smoothly up to the embroidered portion, and the embroidered portion is also ironed smoothly.

As is illustrated in Fig. 2, a laundry roll 20, either solid or hollow, is protected by the cork envelope formed of the set of sections, such as two in number, 21, 22, having rabbeted joints 23, 24, as is indicated in Figs. 3 and 4. One rabbeted joint may be of the form as is indicated in Fig. 3 at the bottom and at the top of Fig. 4 and the other joint may be in the form of a skived joint as is indicated at the top of Fig. 3 and at the bottom of Fig. 4.

Preferably each cork envelope is supported by a carrier in the form of sheet metal sections of a number corresponding to the sections of the cork envelope and glued thereto. As is shown in Figs. 3 and 5, such carrier may be formed of thin sheet iron of two sections 25, 26, hinged as a unit to one another at one joint, as is indicated on an enlarged scale at the bottom in Fig. 3, including the extension 28 integral with the metal section 25 and an upturned portion 29 integral with the section 26, to provide for bodily displacement of the sections relative to one another tion is turned relative to the other section. At the other joint of the metal sections, one of the sections 26 is provided with a set of teeth 30, as by punching, and the terminal edge portion 31, is somewhat offset, as is indicated by the angle 32. The cork envelope, together with its metal carrier, when thus provided, is readily handled as a unit, even by female or other less physically able operators. The cork envelope, when cork sections alone are used, is directly applied to the laundry roll 20 by applying glue to the surface of the roll; when metal carrier sections are used, the cork sections are bound to the metal sections by means of glue. When the roll has been completely enclosed by the required number of sections of my envelope, the inner end 33 (see Fig. 2) of the wrapping of linen, canvas or the like, is lodged under the teeth 30 of the carrier. In the event that teeth are omitted, the end is anchored between the cork envelope and the laundry roll. The sheet of canvas, linen or the like is encircled a sufficient number of turns to attain the desired thickness and its exterior end 34 left free, as is indicated in Fig. 2. The wrapping of canvas, linen or the like is wound in the direction to automatically keep the free end 34 taut, that is to say, the direction of winding of the canvas, linen or the like is opposite to that of the rotation of the laundry roll.

Preferably, the end portion 31 of one metal carrier 26, see Fig. 5, is provided with spaced ears 35, and ears 35 of the respective sets of sections are aligned with one another to receive a rod 36 for interlocking the ears with one another and thereby interlocking the respective sets of metal carriers.

In Figs. 6, 7 and 8 the cork sections 40, 41 are shown interconnected with one another by the rabbeted joints 42, 43; such joints are positioned either in alignment or in staggered relation. The cork sections are secured to the laundry roll 20 (see Fig. 6) by glue or the like, and thereupon the spiral wrapping of linen, canvas or the like is wound. Preferably a rabbeted joint is provided at the lateral edges of the abutting sets of cork sections, as is indicated at 44 (see Figs. 7 and 8).

The steam chests 45, 46, indicated in Fig. 6, are of the general or other approved form, and are located toward the bottom of the main frame of the laundry machine, as indicated in Fig. 1.

Whereas I have described my invention by reference to specific forms thereof, it will be understood that many changes and modifications may be made without departing from the spirit of my invention.

I claim:—

1. An envelope for the roll of a laundering machine or the like operating under conditions of compression and at an elevated temperature of approximately 210° F., which

comprises a plurality of sections of cork particles bonded to one another by a bonding medium resistant to steam and maintained at said elevated temperature, each section extending a full circumference about the roll, each section comprising a plurality of arcuate sub-sections, said sub-sections having overlapping joints between the sub-sections of each section, one of said joints being rabbeted.

2. An envelope for the roll of a laundering machine or the like operating under conditions of compression and at an elevated temperature of approximately 210° F., which comprises a plurality of sections of cork particles bonded to one another by a bonding medium resistant to steam and maintained at said elevated temperature, each section extending a full circumference about the roll, each section comprising a plurality of arcuate sub-sections, said sub-sections having overlapping joints and further having joints in overlapping relation with sub-sections of adjoining sections.

3. An envelope for the roll of a laundering machine or the like operating under conditions of compression and at an elevated temperature of approximately 210° F., which comprises a plurality of sections of cork particles bonded to one another by a bonding medium resistant to steam and maintained at said elevated temperature, each section extending a full circumference about the roll, each section comprising a plurality of arcuate sub-sections, said sub-sections having overlapping joints between the sub-sections of each section, one of said joints being rabbeted and a multi-part support for said cork sections disposed between said cork sections and said roll, said multi-part supports corresponding in number to the number of the sections of each support having a number of sub-parts corresponding in number to the number of sub-sections supported thereby.

4. An envelope for the roll of a laundering machine or the like operating under conditions of compression and at an elevated temperature of approximately 210° F., which comprises a plurality of sections of cork partiparticles bonded to one another by a bonding medium resistant to steam and maintained at said elevated temperature, each section extending a full circumference about the roll, each section comprising a plurality of arcuate sub-sections, said sub-sections having overlapping joints between the sub-sections of each section, one of said joints being rabbeted and a multi-part metallic support for said cork sections disposed between said cork sections and said roll, said multi-part supports corresponding in number to the number of cork sub-sections respectively supported thereby.

5. An envelope for the roll of a laundering machine or the like operating under conditions of compression and at an elevated temperature of approximately 210° F., which comprises a plurality of sections of cork particles bonded to one another by a bonding medium resistant to steam and maintained at said elevated temperature, each section extending a full circumference about the roll, each section comprising a plurality of arcuate sub-sections, said sub-sections having overlapping joints between the sub-sections of each section, one of said joints being rabbeted, a multi-part support for said cork sections disposed between said cork sections and said roll, said multi-part supports corresponding in number to the number of cork sub-sections respectively supported thereby, and hinge means for interconnecting said multi-part supports as individual hinged units.

6. An envelope for the roll of a laundering machine or the like operating under conditions of compression and at an elevated temperture of approximately 210° F., which comprises a plurality of sections of cork particles bonded to one another by a bonding medium resistant to steam and maintained at said elevated temperature, each section extending a full circumference about the roll, each section comprising a plurality of arcuate sub-sections, said sub-sections having overlapping joints between the sub-sections of each section, one of said joints being rabbeted, a multi-part support for said cork sections disposed between said cork sections and said roll, said multi-part supports corresponding in number to the number of cork sub-sections respectively supported thereby, and toothed elements carried by some of said multi-part supports at their concave faces for engagement and retention of a fabric wrapping for the roll.

In testimony whereof I have signed this specification this 6th day of July, 1926.

WILLIAM F. GRUPE.