Aug. 20, 1935. R. W. CUTLER 2,012,223

TEXTILE FIBER WORKING UNIT

Filed May 2, 1935

Fig. 1

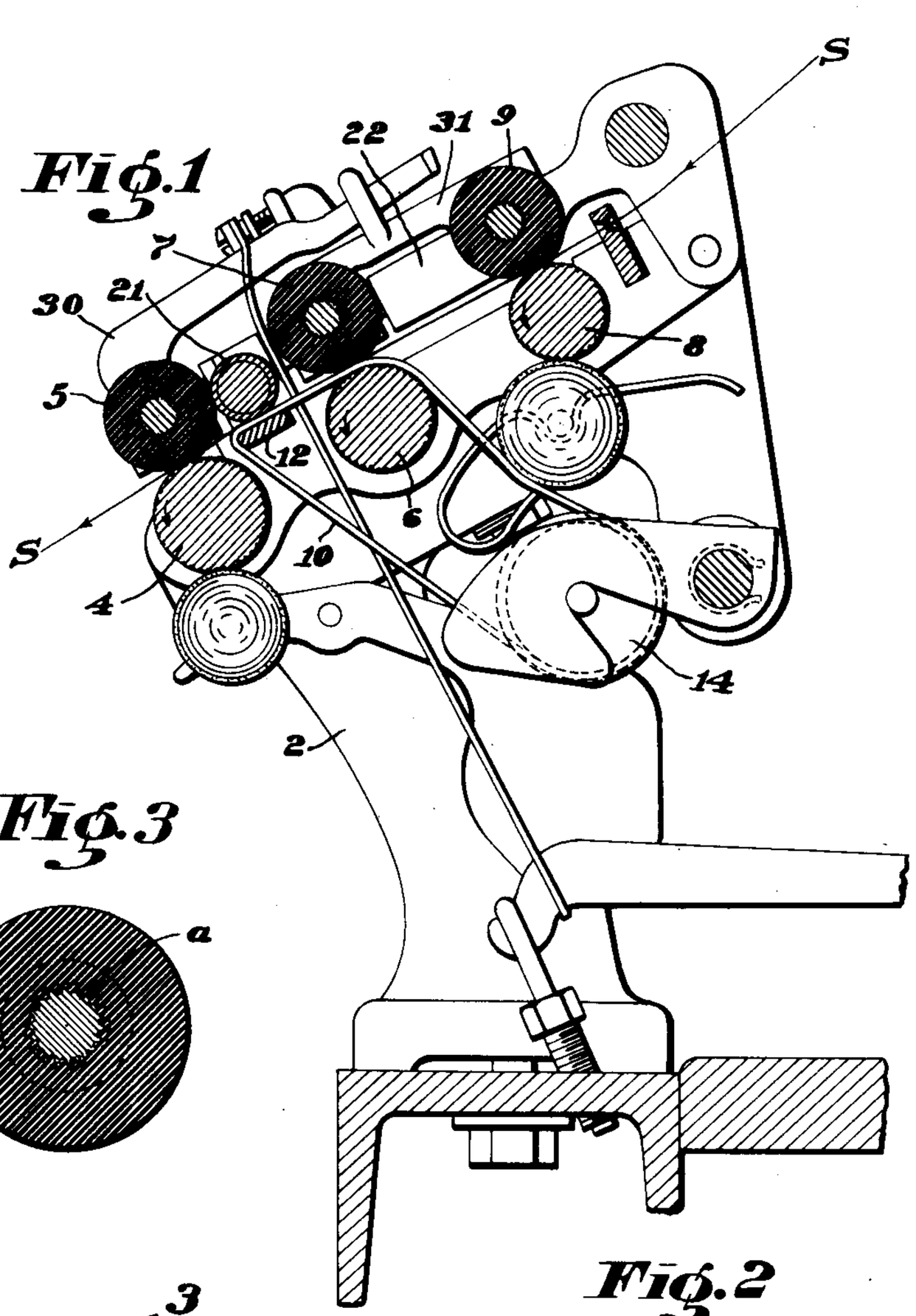
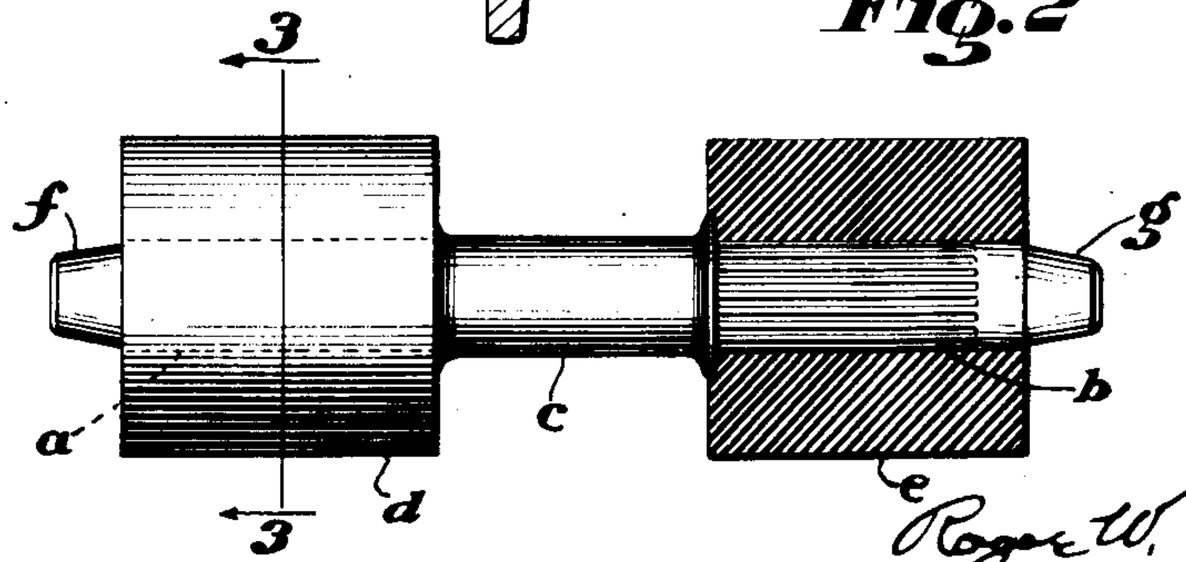


Fig. 3

Fig. 2



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2,012,223

TEXTILE FIBER WORKING UNIT

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Application May 2, 1935, Serial No. 19,453

19 Claims. (Cl. 19—143)

This invention relates to the rolls, aprons, and similar devices used in various branches of the textile industry, for such purposes as drawing, feeding or otherwise working textile fibers. The invention will be herein illustrated as embodied in a drawing roll of a type used in drawing mechanisms for spinning and twister frames.

The drawing mechanism used in a spinning frame comprises two or more pairs of rolls arranged one in advance of the other, the sliver or roving being fed between the upper and lower rolls of each pair as it travels toward the spindle. In a common construction three such pairs of rolls are used, each pair being driven at a higher speed than the pair immediately behind it, so that in connection with the feeding action the rolls also draw out the fibers into a more nearly parallel relationship to each other and thus prepare them better for the spinning operation. Similar rolls are used in a variety of machines in the textile industry for drawing and feeding of textile fibers in various stages of the processes to which they are subjected.

Some of these rolls are made of metal, but in most processes the gripping of the fibers between two metal rolls would be too harsh, and it is more usual to run a metal roll against another roll having a leather or cork jacket, the latter roll being usually the upper roll of the pair. It is a common practice in making these upper rolls to cover the metal core or body with a cot consisting of some resilient material, usually cloth, and then to cement an outer leather jacket or cover around the periphery of the cot. In some cases one or both rolls of a pair are replaced with an apron, usually made of leather, and which performs much the same functions as a roll. Frequently such an apron or a leather or cork covered roll is run against a fluted metal roll in order to improve the grip on the sliver, roving, or other fibrous body which they are feeding.

These textile fiber working units, such as rolls and aprons, as heretofore made, do not operate as efficiently as could be desired, and certain difficulties have always accompanied their use. Of these the most important is the tendency of the fiber to adhere to the surface of the rolls or other units. When this occurs on a roll or a revolving apron, the fiber winds up, thus interfering seriously with the operation of the unit, and consequently, of the machine in which it is an element. Frequently such "lapping up", as it is commonly called, is sufficient to cause a jam, and thus necessitates the stopping of the machine.

This difficulty is present throughout practically the entire range of textile fiber working machines. It is an incessant cause of annoyance and expense. It is chiefly due to the presence of static electricity, and apparently occurs wherever the fibers are subjected to friction, although it is far more troublesome under some conditions than others. Notwithstanding the common practice of grounding the machines for the purpose of obviating this difficulty, this expedient merely reduces, but does not eliminate, the trouble. It is not uncommon to have fires caused by these static discharges.

It frequently happens also that fiber will adhere to the surface of a roll or other fiber working unit when, so far as can be determined, static is not responsible for it but the action apparently is due to surface characteristics and conditions which are very difficult to analyze and to counteract.

Additional difficulties commonly encountered in running upper cork or leather covered rolls in contact with lower fluted metal rolls, is the tendency of the former to become "fluted" or corrugated. This tendency is greatly increased by the necessity for weighting the upper rolls in order to enable them to grip the rovings, slivers, or the like, sufficiently to perform their functions properly. It becomes more pronounced as the rolls age, due to a gradual hardening of the cork or leather jackets. Usually after only a few months of service such rolls become so hard and so misshapen that it is necessary to renew them. When these jackets and aprons are made of leather, such as sheepskin, calfskin, or kangaroo skin, all of which are the leathers commonly used, a further objectionable characteristic is the fact that the qualities of different skins, even of the same general kind, vary greatly. This is even true of different sections of leather cut from the same skin.

An ideal roll should have a fair degree of resiliency in order to grip the fiber sufficiently to exert the desired drawing or feeding action without injuring the fibers. It should have good wearing qualities, must not pick up lint, either due to its surface characteristics or to any tendency to carry a static charge, and it should be capable of being ground or buffed to produce the smooth, uniform surface finish required for proper feeding and drafting. It should be oilproof, waterproof, and especially of uniform density throughout.

So far as I have been able to learn, no textile roll or apron has ever been devised which has all of these desirable characteristics. The covers which have proved most satisfactory in practice and are now used commercially, are made of cork or leather, the latter material being much more commonly employed than the former. And as above stated, rolls covered with these materials do have certain highly objectionable characteristics.

The present invention is especially concerned with these conditions. It aims to devise a textile roll or other textile fiber working unit which will be better suited to the handling of textile fibers, will afford the desired grip to feed and draw the stock while still minimizing the tendency to break, crush, or otherwise injure the fibers, and will have the characteristics above mentioned as desirable in an ideal roll. It is also an object of the invention to devise a textile roll, roll cover, apron, or the like, the manufacture of which can be controlled in such a manner as to predetermine its physical characteristics in accordance with the nature of the work which it is to perform. An especially important object of the invention is to devise a textile roll or other fiber working unit which will not produce or carry a static charge and which will, therefore, be free from the difficulties created by static charges now present in almost all textile machines, particularly those which draw or otherwise work the fiber.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawing, and the novel features will be particularly pointed out in the appended claims.

In the drawing,

Figure 1 is a vertical, sectional view, partly in elevation, of the drawing mechanism of a spinning frame embodying features of this invention, the plane of section extending from front to rear;

Fig. 2 is an elevation of one of the upper rolls of the mechanism shown in Fig. 1, a portion of this roll being shown in section; and

Fig. 3 is a sectional view on the line 3—3, Fig. 2.

For purposes of illustration, the invention is herein shown as embodied in a long draft spinning frame of the character described and claimed in Letters Patent of the United States No. 1,804,968, granted May 12, 1931, it being understood, however, that the invention is equally applicable to any drawing frame and to a great variety of other units and mechanisms used in the working fibers in the textile industry. For an explanation of the construction and familiar operation of the machine here illustrated, reference should be made to the patent above designated. A brief description only of this mechanism is necessary for present purposes. As shown, the drawing mechanism comprises a roll stand 2 equipped with suitable bearings in which are mounted three driven rolls indicated, respectively, at 4, 6 and 8. Three upper rolls 5, 7 and 9 cooperate with the respective lower rolls 4, 6 and 8 to form three pairs of rolls, namely, front rolls 4 and 5, intermediate rolls 6 and 7, and rear rolls 8 and 9. All of the lower rolls are made of metal and the lower front and rear rolls 4 and 8 are grooved or fluted in the usual manner, while the lower middle roll 6 is knurled. This middle roll is utilized to drive a belt or apron 10 which passes between the rolls 6 and 7, and travels forward over a stationary bar 12 which is mounted closely adjacent to the lower front roll. From this bar the apron extends downwardly and backwardly around an idle tensioning roll 14, and a slip roll 21 is arranged to cooperate with the apron where it passes over the bar 12 to grip the sliver or roving lightly as it moves from the intermediate to the front rolls. The path taken by the sliver or roving as it travels through the drawing mechanism is indicated by the line S—S.

Each of the upper rolls 5, 7 and 9 preferably is of the construction shown in Figs. 2 and 3. This roll is provided with the usual bosses *a* and *b* connected by an intermediate neck *c* on which one of the saddles 30 or 31 of the weighting mechanism bears. On the bosses *a* and *b* are mounted the cots or covers *d* and *e*, respectively, and projecting beyond the ends of these cots are the gudgeons *f* and *g* that run in the bearings provided for them in the cap bars 22.

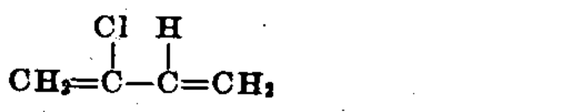
As above indicated, the present invention is especially concerned with the composition of the cots or covers for these rolls designed to overcome the objections to the former constructions. Extensive research has disclosed and demonstrated that a roll, cot, or cover having all of the desirable characteristics and qualifications above described, can be made from a base consisting of any one of a certain group of synthetic rubbers. While such a base material does not, of and by itself, have the desired properties, it can be compounded or combined with other ingredients or materials to produce a composition having the desired characteristics. A typical formula which has proved satisfactory in actual practice is as follows:

	Parts by weight
Synthetic rubber (such as chloroprene)	100
Soft gas black	50
Magnesium oxide	10
Zinc oxide	10
Rosin	5
Neozone D	½

In this composition the synthetic rubber base is the essential constituent. The soft gas black acts as a reinforcing and filling agent and gives greater strength, firmness and mechanical stability to the composition. The magnesium oxide and zinc oxide are curing agents. The rosin serves as a stabilizer, and the neozone D (the chemical name of which is phenylbetanapthalmine) is an anti-oxidant. Equivalents for these various constituents, which are well known to those familiar with the compounding of synthetic rubber products, can be substituted for them. For example, blanc fixe or whiting might be substituted for the gas black, and other oxides, such as litharge, might be used instead of zinc oxide. The magnesium oxide can be replaced by lime. Pigments, of course, can be used to give the desired color. But the substances compounded with the synthetic rubber base and the proportions of the constituents necessarily will be determined by the requirements of different units and the use to which the unit is to be applied. Preferably, however, the proportion of the synthetic rubber base should not be less than approximately 16% of the entire compound, and its percentage should not ordinarily run over approximately 65%. Also, the proportions of such constituents as the first three compounded with the synthetic rubber should be such that the final product after curing, vulcanizing or polymerizing, will have the desired degree of elasticity and still have the necessary degree of hardness to stand up under the pressure of the weighting mechanism, while being sufficiently yielding to give the proper area of "bite"

or contact with the fluted driving roll against which it runs, this property being important in order to produce the necessary grip of the rolls on the sliver or roving. As measured by a Shore durometer the hardness should ordinarily run somewhere between 60 and 90. The hardness, however, can be increased or decreased, as desired. For some units it has been found desirable to make the hardness as low as 22, while for feed rolls it usually should be at least 95. As above indicated, however, the physical properties of the final product can be varied substantially by making suitable changes in the composition or curing, or both. For example, certain of the synthetic resins are very useful as compounding agents in modifying the consistency and characteristics of the product. And diluents may be added, such for example, as natural rubber. Its use, however, is not recommended since in any substantial proportions it is detrimental, and its advantage is solely that of reducing the expense of manufacture. An acetylene polymer known as A. X. F. forms a better diluent and is also useful in producing certain desirable physical characteristics in the final product.

Of the great number of synthetic rubbers, only a limited number are suitable for use in accordance with this invention. Those which I have found the most satisfactory are the polymerized halogenated acetylenes of which chloroprene and bromoprene are the best examples. Chloroprene is known as chlorobutadiene 2 chloro-1:3-butadiene- or chloro-2-butadiene-1,3. Its formula is commonly given as follows:



Bromoprene is essentially the same compound as chloroprene but has a bromine atom in place of the chlorine atom. It is also known as bromobutadiene or brombutadiene and is often written bromo-2-butadiene-1,3. The other members of this class are iodoprene (commonly written iodo-2-butadiene-1:3) and fluoroprene (commonly written fluoro-2-butadiene-1:3). These are raw materials and are used in polymerized form in the final product, as is well understood by those familiar with these materials. The synthetic rubbers of the olefin polysulfide type also produce good results in many of the articles above named, the reaction products of this type having characteristics much like those above described. Their compounding, manipulation and curing is well understood by those skilled in this art. A reaction product of this series which is well suited to the requirements of these textile rolls, aprons, and the like, is that known chemically as ethylene tetrasulfide having the chemical formula $C_2H_4S_4$. It is a reaction product of sodium polysulfide and ethylene dichloride.

In general, however, I have found chloroprene to be superior to these other substances, its chief advantage being the fact that it can be polymerized into forms having a very high degree of elasticity and the quick snap back and "nerve" characteristic of natural rubber. This property is extremely important in many of the articles above mentioned, as for example, in the top rolls for spinning and twister frames, where a roll without a high degree of resiliency soon becomes fluted and misshapen. For purposes of identification the group of synthetic rubbers enumerated in the foregoing paragraph will be hereinafter designated, both in the specification and in the claims, as "synthetic rubbers of the highly elastic type", this designation being used to distinguish them from the great number of synthetic rubbers which do not satisfy the requirements of this invention.

I have found in actual practice that roll cots made in the manner above described have a high resistance to abrasion or wear, they can be ground or buffed to the desired surface finish, and when so finished have no substantial tendency to pick up lint, either due to their own surface characteristics, or because of carrying or creating a static charge. In fact, they seem to have the property of dampening or killing a static charge. A small proportion, say 5% to 10%, of cork dust, or some equivalent filler, added to the composition is advantageous both in contributing to the static dampening properties and also in producing the peculiar surface characteristics necessary to prevent lapping up when handling fibers in which this tendency is especially pronounced. The proportion of cork dust or the like can be made as high as 40% without impeding vulcanization.

These rolls do not become fluted or corrugated, show great resistance to ageing, and give a long period of wear without undergoing any substantial change in properties affecting their performance in drawing or feeding textile fibers. They give an excellent grip on fibers, which is very important in drafting short length fiber, and are substantially unaffected by contact with oil or water, mild acids or weak alkalis. In wet spinning or twisting they are particularly valuable since they have the unique characteristic of not becoming slimy when run wet, which is a serious objection to the textile rolls heretofore used. They compare favorably in price with cork covered or leather covered rolls but are immensely superior to them for the reasons above pointed out.

A further advantage attending the use of drawing rolls for spinning and twister frames made of the compositions above described is that it permits a very substantial reduction in the weights applied to the top rolls. These reductions may run up to between 25% and 50% of the weight commonly used, depending upon the character of the fiber being worked, and other local conditions. Such a reduction in weight is of advantage both in saving power, and more particularly in producing a better drawing action on the fibers, with a consequent increase in the strength of the yarn or thread being made. In fact, it has been found feasible to use a lower roll having an elastic surface instead of the usual fluted metal roll, and to run against this a top roll of essentially the same character, both rolls having smooth surfaces and both having a hardness of, say, in the neighborhood of 60 or 65, as measured on a Shore durometer, so that the contacting surfaces of these two rolls will be flat and of substantial width. This, together with the somewhat tacky nature of the surfaces, produces a good grip on the fibers, even under a moderate degree of weighting or pressure. It is advantageous in maintaining a better control of the fibers during the drawing operation and producing a more uniform slip of the fibers, one on the other, during drafting, as distinguished from the tendency of a fluted roll running against a smooth roll to introduce brief variations or interruptions in the movements of the fibers due to the action of the flutes or ribs on them. Actual tests have shown that the smooth surfaced rolls give a better yarn from the same fiber, other conditions being equal. A further advantage is the fact that the very long life of these rolls affords

a much longer period of uniform operation, unaffected by changes in surface characteristics of the rolls, which is a troublesome factor with prior art devices due to the relatively rapid ageing which occurs.

When such rolls are new, their surface characteristics may not be as good as they are after being run for a time when they apparently become coated with a very thin film of some oil or juice taken up from the fiber. The production of the desirable surface properties, however, can be hastened by rubbing a small quantity of whiting on to the surface of the rolls, or rubbing them with fiber of the kind which they are to work on.

The essential characteristics above described, particularly the freedom from lapping and static, are highly desirable in a considerable variety of fiber working units used in textile machines, such as various kinds of rolls, cots, covers, jackets, aprons, and the like, used in drawing, conveying, frictioning, trapping, feeding and other fiber working operations, and the advantages of my invention above described are equally valuable in all such units. In addition, it is entirely feasible to so control the compounding, polymerizing, vulcanizing, or other curing action to which the material is subjected, that the physical properties of a particular unit can be adjusted to, and predetermined substantially in accordance with, the nature of the work which it is to perform. The desired degree of stretch, elasticity and hardness varies with different units and the particular use involved. These factors can be controlled by the compounding and curing treatment. As above indicated, the material can be molded to the desired forms and shapes in much the same manner as natural rubber, and in the firmer or harder forms it can be ground, machined, or cut with a diamond.

As examples of variations for different units used in the textile industry, it may be pointed out that for the top rolls for spinning, twisting, drawing, carding, combing, weaving, and similar machines, a composition such as that made by the formula previously given, preferably with 5% to 10% of cork dust incorporated, and having a hardness of in the neighborhood of 70 to 75, gives very good results, the synthetic rubber base used preferably being chloroprene. For feed rolls in such machines as those above mentioned, and in coilers, spoolers, warpers, slashers, lappers, and the like, a similar composition, but without the cork, and cured to a hardness of 95 to 97 is entirely suitable. In making the aprons for long draft spinning frames, such as those used in the Casablanca, Roth, and Saco-Lowell systems, the typical formula previously given may be used, but with the addition of, say, 5% to 10% of cotton flock, or some other equivalent fibrous constituent. This composition cured to a hardness of about 80 to 85 has proved highly satisfactory. Aprons for bale breakers, lattice feeders, openers, hopper feeders, lappers, willows, and the like, may be made of the same compositions. The fiber constituent of these compositions increases the tensile strength and reduces the stretch. In some aprons, however, and in clearers, the hardness should be lower, for example, in the neighborhood of 50.

In any of these textile fiber working units in which the black color of the material having a composition of the typical formula above mentioned, is objectionable, part or all of the carbon black can be replaced with blanc fixe (artificial barium sulphate) or with aluminum flake, these particular constituents being preferred to most of the fillers having the desired colors because of the tendency of many of these materials to give the composition a "set". Other fillers are, however, suitable for the purpose of producing special effects, as for example, diatomaceous earth, litharge, pumice, talc, and others.

The composition above described can be extruded into a tubular form of suitable dimensions for covers, so that in making a great variety of covers any cementing or lapping of portions of the cover is avoided. These tubular forms can be vulcanized between polished metal inner and outer tubes so that no cutting or polishing will be required in order to bring the finished article to its final inside and outside diameters. On the other hand, the composition can also be made in the form of sheets adapted to be wound on a core or body and cemented in place, or applied in the manner common with leather covers. Such an apron as 10 can also, with advantage, be made of this material, and it has the added superiority over leather aprons of being more uniform in character, substantially more stable in mechanical properties, and avoiding the tendency which has proved troublesome in leather aprons, of one margin stretching more than the other, so that one edge of the apron becomes longer than the other, due to differences in physical properties of the leather in different portions of the apron.

I find that by spraying the compound in a liquid form on fabrics and other sheet materials, or impregnating these and various other articles having a cellular or porous structure by the vacuum or pressure systems of impregnation, or in many cases simply by soaking, materials can be produced from which aprons, rolls, cots, covers, and the like, can be made in which the advantages of the compounds above described will be obtained. At any convenient stage in the process of manufacture, after impregnation or spraying, the compound can be vulcanized or cured.

Chloroprene has one objection, namely, its extraordinary disagreeable odor. I have discovered, however, that the objectionable characteristic above described can be eliminated by treating the synthetic rubber either in its simple, polymerized, or compounded form with an alkaline substance of the nature of triethanolamine. This chemical substance is liquid at normal temperatures, giving an alkaline reaction, and containing small proportions of monoethanolamine and diethanolamine. Approximately 80% of the commercial product, however, is true triethanolamine. Its chemical formula is $C_6H_{15}O_3N$ or $(C_2H_4OH)_3N$.

This material can be used as a gas, vapor, or liquid, as may be most convenient in acting upon the synthetic rubber under treatment. If parts made of synthethic rubbers of the character above described, or compounds in which these are the essential constituents, and which may, therefore, be regarded as the equivalent of synthetic rubber so far as this invention is concerned, are immersed in the liquid for a substantial length of time, say twenty-four hours, it will be found that the disagreeable odor has disappeared. Naturally the period of treatment will depend upon the sizes of the articles, the amount of synthetic rubber contained in them, and other variations of a practical nature.

Reodorants of various kinds, such as musk, lavender, ginger root, sassafras, mint, and the like, can also be used in these compounds. These constituents in relatively small proportions will

kill the vile odor of the chloroprene and produce a material free from objectionable odor.

An especially important feature of the invention is the fact that it produces a textile roll, apron, or other fiber working unit, which is free from the effects ordinarily caused by the presence of static electricity and that it also has peculiar surface properties that are exceptionally valuable in working textile fibers.

This application is a continuation, in part, of my pending applications Serial Nos. 711,511, filed February 16, 1934 and 6,304, filed February 13, 1935.

Having thus described my invention, what I desire to claim as new is:

1. A fiber working unit for textile machines provided with a surface layer substantially devoid of ability to carry a static charge and having as an essential constituent a base of synthetic rubber of a highly elastic type comprising any one of the following: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1,3, olefin polysulfide.

2. A fiber working unit for textile machines provided with a surface layer substantially devoid of ability to carry a static charge and having as an essential constituent a base of synthetic rubber of a highly elastic type comprising any one of the following: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1:3, olefin polysulfide; said synthetic rubber base being compounded with reinforcing and curing agents, and said layer having a hardness of at least 60 as measured on a Shore durometer.

3. A fiber working unit for textile machines provided with a surface layer comprising a base of a highly elastic synthetic rubber of any one of the following types: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1,3 olefin polysulfide; said base being compounded with substances serving to reinforce it and to make the compound substantially static free under normal working conditions, and the synthetic rubber base forming from 16% to 65% of the compound.

4. A fiber working unit for textile machines having a highly elastic surface layer to engage the fibrous material on which the unit operates, said layer being substantially devoid of ability to carry a static charge, highly resistant to abrasion and to the action of oil, and having, as an essential constituent, a highly elastic synthetic rubber of any one of the following types: polymerized 2 chloro - 1:3 - butadiene, bromo-2-butadiene - 1,3, olefin polysulfide.

5. A fiber working unit for textile machines provided with an elastic cot made of a base of a highly elastic synthetic rubber compounded with constituents serving to give it a relatively hard body of uniform density, and to make it substantially static free under normal working conditions, said base being of any one of the following types: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1,3, olefin polysulfide.

6. A fiber working unit for textile machines provided with a surface layer having as an essential constituent a base of a highly elastic synthetic rubber of any one of the following types: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1,3, olefin polysulfide; said base being compounded with other constituents serving to give said layer the characteristic of not carrying a sufficient static charge to cause the fiber on which it works to adhere to it under normal working conditions.

7. A fiber working unit for textile machines provided with a surface layer having as an essential constituent a base of a highly elastic synthetic rubber of any one of the following types: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1,3, olefin polysulfide; said base being compounded with reinforcing agents including fiber and with constituents giving said layer the charteristic of not carrying a sufficient static charge to cause the fiber on which it works to adhere to it under normal working conditions.

8. A fiber working unit for textile machines provided with a surface layer having as an essential constituent a base of a highly elastic synthetic rubber of any one of the following types: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1,3, olefin polysulfide; said base being compounded with other constituents serving to produce a compound highly resistant to abrasion and substantially static free, said layer containing as a constituent of said compound a substantial proportion of cork dust.

9. A fiber working unit for textile machines provided with a surface layer having as an essential constituent a base of a highly elastic synthetic rubber of any one of the following types: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1,3, olefin polysulfide; said base being compounded with other constituents serving to produce a compound highly resistant to abrasion and containing a sufficient proportion of blanc fixe or an equivalent filler to give the product a non-staining grayish color, said layer being substantially unaffected by oil or water and substantially static free.

10. A fiber working unit for textile machines provided with a surface layer comprising a base of a highly elastic synthetic rubber of any one of the following kinds; polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1:3, iodo-2-butadiene-1:3, fluoro-2-butadiene-1:3, olefin polysulfide; said base being compounded with substances serving to reinforce it and to make the compound substantially static free under normal working conditions.

11. A fiber working unit for textile machines provided with a surface layer which is substantially unaffected by oil and water, is highly elastic, substantially static free under normal working conditions, and includes as an essential constituent a synthetic rubber base of any one of the following: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1:3, iodo - 2 - butadiene-1:3, fluoro-2-butadiene-1:3.

12. A fiber working unit for textile machines provided with a surface layer of a synthetic rubber compound comprising a base of any one of the following: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1:3, iodo-2-butadiene-1:3, fluoro-2-butadiene-1:3; said base being compounded with agents serving to increase its hardness and wearing qualities and to make it substantially static free under normal working conditions, said synthetic rubber base forming from 16% to 65% of the compound.

13. A fiber working unit for textile machines provided with a surface layer comprising a synthetic rubber base of any one of the following: polymerized 2 chloro-1:3-butadiene, bromo-2-butadiene-1:3, iodo-2-butadiene-1:3, fluoro-2-butadiene-1:3, compounded with agents serving to increase its hardness and wearing qualities and to make it substantially static free under normal working conditions, said layer having an elastic snapback approximately equivalent to that of

natural rubber and also having a hardness of at least 60 as measured on a Shore durometer.

14. A fiber working unit for textile machines provided with an elastic cot of polymerized 2 chloro-1:3-butadiene compounded with other constituents serving to produce a relatively hard elastic body of uniform density and to make it substantially static free under normal working conditions.

15. A fiber working unit for textile machines provided with a surface layer of polymerized 2 chloro-1:3-butadiene compounded with other constituents serving to produce an elastic body of uniform density, said body being substantially devoid of an offensive odor and of ability to carry a static charge.

16. A fiber working unit for textile machines provided with a surface layer of polymerized 2 chloro-1:3-butadiene compounded with cork dust and other agents serving to increase its hardness and wearing qualities and to make it substantially static free, said layer having a high degree of elasticity.

17. A fiber working unit for textile machines provided with a substantially static free surface layer consisting of a synthetic rubber compound containing polymerized 2 chloro-1:3-butadiene.

18. A fiber working unit for textile machines provided with a substantially static free surface layer consisting of a synthetic rubber compound containing as an essential constituent polymerized 2 bromo-1:3-butadiene.

19. A fiber working unit for textile machines provided with a substantially static free surface layer consisting of a synthetic rubber compound containing as an essential constituent a polymerized olefin polysulfide.

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