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PAINTING COMPOSITION

Edwin C. Clayton and Lawrence L. Heffner, Baltimore, Md., assignors to Wm. E. Hooper & Sons Company, Woodberry, Baltimore, Md., a corporation of Maryland

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This application is, in part, a continuation of application 165,168.

This invention pertains to a coating composititon suitable for application to numerous materials. It resembles a paint in that it may when made according to the preferred formula be applied by brushing, spraying and dipping where the articles are of a convenient size but it is further possible and, in some instances, desirable to impregnate various articles by means of vacuum, or pressure and in some instances a second dipping, brushing or spraying or addittional impregnation under pressure is effective in replacing the composition which has entered the pores of the material. The composition does not go entirely thru the material being treated and while it penetrates some distance below the surface does not thoroughly impregnate. It does, however, penetrate sufficiently beneath the surface to protect and waterproof the surface against attack by the elements and in this respect it possesses all the advantages of a high grade paint. It further possesses as an inherent quality superior weathering properties so that when surfaces are painted or coated with the composition of the invention they retain their bright smooth appearance which is characteristic of this coating, much longer and do not become chalky or powdery in appearance as soon as surfaces painted with the previous products. The composition of the invention further possesses adhesive qualities which cause it to cling tenaciously and permanently to iron and steel surfaces while at the same time it prevents rust and the growth of mildew and fungus which tend to accumulate at certain times of the year being in some instances carried by the pollen in the air and deposited from other sources. The composition further possesses a marked affinity for galvanized iron which is most difficult to keep covered, because of the oil used in rolling and preserving the sheets and also because of the tendency of the zinc to flake off bringing the paint or surface coating with it. The coating composition is also ideally suited to be applied to lumber, and various types of wall boards which are sold under the trade names of Celotex, made from sugar cane fibre, and Upson board, a tightly pressed card board of varying thicknesses, also compo board which is very similar to the latter but not quite so dense, Beaverboard, gypsum board, veneer board, and the like. In all of these instances the board in question is supplied by the manufacturers in convenient construction sizes. The composititon of this invention may readily be applied to these products during manufacture, and the coated and impregnated, manufactured article may be applied as such to the wall or other structure as desired. The board thus treated has been proved by actual tests to be rendered highly resistant to water, mildew and fire.

It is a well known fact that the inflammable character of these wall boards is such that their use has been limited on account of the fire risk. Because of the fire-proof properties which have been added by treatment with the composition of the invention and the attractive colors in which this composition may be made, the use and application of these various boards will be greatly extended.

As the paint of the invention does not interfere with the adhesive used, the veneer boards, which generally consist of several thin layers of wood tightly cemented together, may, to a great advantage, have a coating of our composition between each pair of adjacent layers, the resulting board being not only fire resistant but unburnable in that it does not support combustion.

As compared to the painting composition of the invention, the film formed on surfaces by the majority of paints is such that the fire hazard is greatly increased by using them and such paints aid in spreading fire rather than retarding it.

In addition to the various wall boards, shingles may be treated, impregnated and coated at the factory so that they possess fire resisting properties to the highest degree which has proved useful. In this way the insurance restrictions now in force against shingles can be met and satisfied and eventually abolished as to shingles fireproofed in this way. The spark and fire resistance imparted to the shingles by impregnating and or coating with the composition of our invention lasts many years. The shingles may also be coated on the wall.

Lumber, such as piling used in the construction of docks and piers may be treated and impregnated with the composition of the invention after which the piling and lumber is not only fire resistant, but possesses great resistance to various marine growths which tend to collect on construction of this character and to quickly destroy it.

Another slightly different form of the painting composition of the invention is designed to be applied to ships' bottoms, the antiseptic properties of this composition retard or prevent the collection of marine growths which foul the bottoms of ships greatly reducing their speed. Such growths penetrate and eventually destroy the ships. The fire-proofing properties of the com-

position are not needed for this particular application but it so happens the materials which possess these flame proofing qualities attack the fungi forming organisms very vigorously.

Our painting composition has further demonstrated its usefulness when applied to corrugated fibre boxes or cartons. These boxes may be painted, sprayed or dipped or even coated by means of rolls. As an example of the protection which is afforded when corrugated board is coated with this invention a small carton 7" x 7" x 8" was given two coats of the composition of our invention, a small can of Sterno was ignited and placed inside so that the top of the can was 3" from the top wall of the box. Three minutes of exposure to this heat failed to ignite this coated carton. When an untreated box was exposed to this same test, it quickly ignited in less than one minute and the flame was of such intensity that the entire box was rapidly consumed when the lighted can of Sterno was removed.

The coating described in this invention is extremely compatible with paints which have previously been applied to surfaces of wood, iron, and cardboard and other material tending to hold them firmly in place and not loosen them.

A successful coating for outside use suitable for metallic, fibrous and other types of surface is

16.8% Chlorinated paraffine (chlorinated organic material)
6.0% Chlorinated rubber (chlorinated organic material)
1.2% Tricresyl phosphate (plasticizer)
21.6% Pigment and filler
14.4% Zinc borate
40 % Solvent

The percent sign may be read parts and the proportions may be changed and other ingredients may be added without departure from the invention. The foregoing formula is selected as an example found to be most effective for this purpose.

Any type of inert pigment or filler generally used for paint can be employed. Examples of satisfactory pigments are: white lead, zinc oxide, lithopone, titanium dioxide, antimony oxide, the oxides of lead; red, yellow and black iron oxide; earth colors, such as ochers, umbers, siennas; cadmium sulphide, antimony sulphide, arsenic sulphide, ultramarine blue, prussian blue, chrome green, chromium oxide, verte antique, carbon black, lamp black, etc.

When so desired, other ingredients such as drying oils may be added to change the brushing characteristics or time of drying etc.; the percentage of such oils is kept as low as feasible so as not to impair the flame resistance of the coating. Any quantity not giving too great inflammability for the purpose in hand may be used.

The percentage and the amount of the borate may also be varied by a few percent each way. This, to a large extent, depends on the character of the pigments and fillers used and to the degree of flame resistance, mildew and fungus resistance desired.

The proportions of chlorinated paraffine and chlorinated rubber may be varied to suit the requirements of brushing, type of surface, and degree of protection desired. Generally speaking, for a rough fibrous, absorbing surface, the chlorinated paraffine would increase, with a corresponding decrease in chlorinated rubber. A harder, metallic surface on the contrary would require less chlorinated paraffine and more chlorinated rubber.

Solvents which may satisfactorily be used are coal tar naphtha, chlorinated hydro-carbon solvents, such as carbon tetra chloride, other solvents such as ethyl acetate. Turpentine may be used, but only in small amounts combined with any of the other solvents named.

A mildew resisting waterproof and flame resisting composition used with success as a base or sealing coating for interior walls or other similar surfaces not exposed to the weather and where color is not a factor, comprises:

	Parts by weight
Chlorinated paraffine or paraffine oil	16.8
Chlorinated rubber	6.0
Tricresyl phosphate—plasticizer	1.2
Zinc borate—filler insoluble borate	3.6
Solvent	40.0

In this formula the percentage of chlorinated materials and insoluble borate may be varied to meet the particular requirements of fire resistance, water and mildew resistance, and after glowing. The zinc borate not only acts as a filler, but fuses, thus preventing the spread of flame and greatly reduces the after glowing.

A coating composition well suited to resist marine growths, and other fouling of ships' bottoms is given by the following formula:

	Parts by weight
Chlorinated paraffine	18.0
Chlorinated rubber	6.0
Tricresyl phosphate	6.0
Zinc borate	15.0
Paris green (cupric aceto arsenite)	15.0
Solvent (coal tar naphtha, chlorinated hydro-carbon solvents, such as carbon tetra chloride, ester solvents such as ethyl acetate, etc.)	40.0 to 50.0

It is our intent that this anti-fouling paint be kept, to a certain extent, relatively soft and pliable, and, so far as is possible, to permit a gradual release of the fungus-destroying properties so that there is a light film of this released material surrounding the coated substance at all times. This gradual release very greatly aids the destruction of the marine growth. Experience has shown that a hard, inflexible surface rarely, if ever, is able to repell these marine growths which attach themselves to this hard surface. The last formula above has the properties just stated to a satisfactory degree.

A satisfactory painting composition closely similar to the formula first stated is 25% of substantially 60% chlorinated paraffine, or paraffine oil, sometimes referred to in the trade as neutral oil; 10% similarly chlorinated rubber; 5% tricresyl phosphate; 15% zinc borate; 25% pigment and filler, and 20% volatile solvent of said chlorinated materials and phosphate. The solvent and filler, etc. being in any desired quantity to give the desired consistency, so that the proportion of the formula, being subject to variation, the words "parts by weight" may be logically substituted for the per cent. (%) sign in the above formula. This formula gives a very thick paint, or paste, which would, ordinarily, be thinned for use by the addition of the desired amount of solvent.

While chlorinated paraffine oil in the proportions stated in the specific formulas herein recited, is particularly effective with chlorinated rubber, said proportions being approximately three

parts of chlorinated paraffine, or paraffine oil, to one part of chlorinated rubber, it being varied to approximately 2 parts of chlorinated paraffine to one part of chlorinated rubber, the equivalents of chlorinated paraffine are also effective for combination in these proportions with chlorinated rubber. Examples of the equivalents of chlorinated paraffine, regarded as effective for this purpose are: chlorinated paraffine oil, or neutral oil, chlorinated vinyl-resin, castor oil, fish oil, soya bean oil and other vegetable oils. Though these other oils are equivalents, and usable, they are less satisfactory.

The effectiveness of these materials, combined in the proportions stated, as a highly flexible, strongly adhesive paint, which adheres permanently to numerous substances not previously regarded as capable of permanent coating, is regarded as imparting inventive importance to this combination for this purpose; however, the effectiveness of this paint as to its fire and mildew-resisting properties and its power to repel the attacks of insects, and its preservative action otherwise than as a mere coating, which is water-proof, but not in itself burnable or capable of supporting combustion, is dependent on the presence of the borate in finely divided solid form, suspended in the chlorinated material and attached thereby to the painted surface.

The borates used, zinc zorate being most generally effective, are water insoluble so that they do not interfere with the water-proofing properties and are fusible at the combustion temperatures encountered so that they form a fire resistive coating, which protects the material treated from creeping, glowing and retention of the fire, as distinguished from flaming, which is prevented, in the presence of the borate, by the discharge of gases containing chlorine, due to the disposition of the chlorinated materials at the temperatures of combustion.

In addition to zinc borate, manganese borate, manganous borate and magnesium borate, are known to serve at least the fire-proofing function to a satisfactory degree, and to be so nearly insoluble in water as not to interfere with fire-proofing. Zinc borate is, however, more effective in resisting the growth of fungus, attacks by insects, worms, marine growths, etc., and similar tendencies to deterioration.

Any water insoluble salt, which is fusible at these temperatures and does not give off oxygen when heated, would serve the fire-proofing function to a reasonably satisfactory degree.

The product made in accordance with the formulas stated is entirely satisfactory for application by dipping, and spraying and for impregnation by immersion under pressure, or for impregnation at atmospheric pressure where the penetrating qualities of the material are relied upon, or by the vacuum process.

Although the paint dries very quickly, it is satisfactory for application by brushing where the area painted is not brushed over after it has become tacky; in other words, it is necessary to complete brushing promptly as to each area painted, and not to brush over it later than two or three, or possibly five minutes after it is first coated, except where a second coat is applied after drying of the first coat.

Where it is considered desirable to make a paint for application by brushing, which is adapted for manipulation after the manner of the ordinary linseed oil and lead paints, and to sacrifice for this purpose, a portion of the fire-proofing properties, a corresponding proportion of an oxidizing oil may be introduced into the fire-proof formulas above recited.

Various oxidizing oils may be used for this purpose, and the formula may be modified. Under the conditions and for the purposes just stated, the following formula has been found satisfactory:

	Pounds
Solution (70% highly chlorinated paraffin and 30% monochlor benzene or salveso)	33
Oxidizable oil	15
Titanium oxide (TiO_2)	30
Antimony oxide (SbO_2)	30
Zinc borate (ZnB_4O_7)	16
Coal tar naphtha (known in the trade as 250—w)	70
Highly chlorinated rubber	10
Japan dryer	1½

This formula, as above described, contains 60% solids, the formula being subject to considerable variation. These solids may be described as 40% wet solids; i. e. fluid, or semi-fluid, and 60% dry solids, or non-fluids.

The wet solids comprise 50%; i. e. 20% of the entire solid content—chlorinated paraffine—60% chlorinated being regarded as the standard of high chlorination, though the exact degree of chlorination is not important. The wet solids also include 30%, or 12% of the whole solid content, of oxidizable oil and 20%, i. e. 8% of the entire solid content—chlorinated rubber.

The dry solids, comprising 60% of the entire solids in the above formula, may comprise 40% TiO_2, titanium oxide, i. e. 24% of all the solids in the paint, and these dry solids may also include 40% antimony oxide, SbO_2, the same comprising 24% of all the solids in the paint. The dry solids also include approximately 20% zinc borate, equal to 12% of all the solids in the paint. As to the entire composition including the solvent, which is, of course, varied to give the desired texture to the paint, the chlorinated paraffine, or paraffine oil, is 12% of the entire composition, the oxidizable oil 7.2%, chlorinated rubber 4.8%, the titanium oxide 14.4%, the antimony oxide 14.4%, the zinc borate, 7.2% and the solvent about 40%—the formula being variable to a considerable degree, and the percentages named being actually parts by weight, deduced from the formula as first stated in units of pounds.

While linseed oil is the drying, or oxidizable oil, which has been employed according to the above formula to give brushing qualities to the paint, other oxidizable oils may be substituted, as, tung oil, soya bean oil, castor oil, perilla, oiticia oils and various drying oils, which have been used to advantage to give brushing qualities.

The naphtha, or other solvent, is completely evaporated in drying so that it does not interfere with the fireproofing properties of the paint when dry.

It may be noted that the oxidizable oils, to a large degree, take the place of the plasticizer, and the titanium and antimony oxides may be used to advantage as pigment and filler in the other formulas, being introduced into this formula for this purpose. While they have particular advantages, other pigments and fillers may be used.

The painting composition which may also be employed for impregnation of porous materials having a high degree of penetration, may be mixed

in accordance with the practice which is well-known in the manufacture of paints—the ingredients being combined in any preferred order to give the desired texture, being preferably ground in a paint mill, or equivalent apparatus.

The painting composition, as a coating, has the important advantage that it possesses adhesiveness to the highest degree, and is not affected by any oily or greasy deposit, which may be on the surface of the material coated, or by the presence of a coat of the ordinary paints. This is of particular advantage in not only repainting previously painted surfaces, but in the treatment of galvanized iron and steel, which are not only inclined to be greasy on account of the oil used in the galvanizing process, but also inclined to lose their zinc surface due to flaking, which with other paints, causes the paint coating to be destroyed. The adhesiveness of the present material and the tenacity, strength, and durability of the coating has an important effect in preventing this deterioration by flaking.

While the paint as a coating, as well as in the capacity of an impregnating agent, has important advantages in that it possesses weather-proofing, water-proofing, and mildew-proofing properties to the highest degree, and is also highly effective in repelling the attacks of insects, marine growths, toredo worms and the like, and is more resistive to weathering than the well-known painting compositions, its fire resistive and flame-proofing properties are even of greater importance. It is also of interest that the solvents used are quickly evaporated at normal atmospheric pressure and temperature.

It is of great advantage that the inert material including the pigments and fillers used, and also to some degree the borate, apparently assists in the protection of the chlorinated materials, from dechlorination by action of the weather, whereby they have in other so-called fire-proof paints been rendered useless for the protection of surfaces exposed to the action of the weather, particularly the sun's rays and moisture, other light and heat rays having a similar effect, though generally to a lesser degree. In the matter of giving fire resistive properties, the zinc borate and equivalent materials are of great importance in that they have an important effect in supplementing the action of the chlorine containing gases given off by the chlorinated materials. The gases do not prevent creeping of the fire and, or the resumption of burning when the release of the gases is discontinued for any reason. The fused borate, or similar insoluble salt, combined with the filler and pigment, serves this purpose most effectively, forming, by fusing of the borate, or similar salt, a fire-proof coating in the highly heated area. Known equivalents of the borate, which are slightly inferior in the point of mildew-proofing and similar functions, are, manganese borate, manganous borate, and magnesium borate—other equivalents being probably available. These materials, which are in finely divided form, as impalpable powder, should be fusible at or below the combustion temperature of the materials protected, and for water-proofing and the like, they should be water insoluble. Those named are insoluble in water, or nearly so. The solvents used do not dissolve the borate or the filler or the pigment, all of which are finely divided solids.

The organic materials as chlorinated rubber and chlorinated rubber and chlorinated paraffine are preferably above 60% chlorinated, but a higher degree of chlorination is not harmful and a lesser degree of chlorination, as 50%, is regarded as effective.

When the paint is subjected to the combustion temperatures of fabrics, wood and other cellulosic materials, and to higher temperatures, the chlorinated ingredients are decomposed, giving off chlorine gases, either in the form of chlorine, or chlorine compounds, which exclude oxygen and prevent flaming, and the inert ingredients, pigment and the like, form, with the borate which is fusible at these temperatures, a highly resistive coating which adheres closely to the surface of the material coated and prevents creeping of the fire. While burning of inflammable materials, when subjected to high temperatures, and consequent destruction by heat is not absolutely prevented, the materials treated in this way will not support combustion nor will they burn when the source of external heat is removed, being self-extinguished as described in connection with the corrugated box experiment.

While certain specific formulas have been disclosed, these are capable of a reasonable degree of variation and certain ingredients may be added to give drying and brushing properties. Where inflammable materials are added, the proportions of these materials must be kept extremely low if the fire resisting properties are to be retained.

While the formulas given are specific as to our formulas which have been found highly satisfactory in actual use and have very important advantages, it is also known that the chlorinated materials, and borate, may be effectively employed in proportions varied as indicated in connection with the formulas given as most satisfactory for the use to which the decomposition is to be applied, the pigment and filler and plasticizer being usable in the proportions named, or similar proportions, and the solvent being determined largely according to the fluidity desired, being preferably in the proportions named.

While the formula may be varied as above, the combination of highly chlorinated rubber and highly chlorinated paraffine in substantially the proportions named, gives an important novel result in painting and impregnation as above outlined.

We have thus described specifically and in detail a coating composition embodying our invention, including several different formulas adapted to the respective purposes of the invention as already outlined, the description being specific and in detail in order that the manner of operating, applying and using the invention may be fully understood; however, the specific terms herein are used descriptively rather than in a limited sense, the scope of the invention being defined in the claims.

What we claim as new and desire to secure by Letters Patent is:

1. A coating and impregnating composition, also adapted for use in and on wall board of cellulosic materials and between the plies of laminated sheets of cellulosic materials, such as wood or paper, the composition having fire, water and mildew-resisting properties, and comprising substantially 17 parts of approximately 50% to 60% chlorinated paraffine, 6 parts approximately 50% to 60% chlorinated rubber, approximately 1 part tricresyl phosphate, 20 parts pigment and inert filler, 14 parts zinc borate, and 40 parts volatile solvent, which is evaporated in drying at normal atmospheric temperatures and pressures.

2. A mildew-resisting, water-proof, flame resisting composition for use as a base, or sealing

coating, comprising approximately 17 parts approximately 50% to 60% chlorinated paraffine, 6 parts approximately 50% to 60% chlorinated rubber, approximately 15 parts tricresyl phosphate, approximately 3 parts zinc borate and sufficient of volatile solvent, which evaporates in the air at normal temperatures, to provide for application by brushing or spraying.

3. A coating composition for submerged surfaces and to resist marine growths, comprising approximately 18 parts approximately 50% to 60% chlorinated paraffine, 6 parts approximately 50% to 60% chlorinated rubber, 6 parts tricresyl phosphate, 15 parts zinc borate, 15 parts cupric aceto arsenite, and sufficient of volatile solvent to provide for application by brushing or spraying—the solvent being capable of evaporation at normal atmospheric temperatures and pressures.

4. A coating and impregnating, or similar composition, also adapted for use in and on wall board of cellulosic materials and between the plies of laminated sheets of cellulosic materials, such as wood or paper, the composition comprising approximately 15 to 20 parts approximately 50% to 60% chlorinated paraffine, approximately 5 to 10 parts approximately 50% to 60% chlorinated rubber, a relatively small percentage of plasticizer, approximately 3 to 15% of a substantially water insoluble salt, fusible at or near the combustion temperatures of cellulosic materials, and adapted to form, when fused, a fire resisting coating which checks the creeping of the fire, the same being one which does not give off oxygen when thus heated, manganese borate, manganous borate and magnesium borate, and sufficient of a volatile solvent of the chlorinated materials to provide for application by brushing or spraying; the solvent being capable of evaporation in drying at normal atmospheric temperatures and pressures.

5. A painting composition comprising 25% of substantially 50 to 60% chlorinated paraffine, 10% similarly chlorinated rubber, 5% tricresyl phosphate, 15% of a water insoluble salt which does not give off oxygen when heated and which fuses at the combustion temperatures of cellulosic materials as wood and the like, the same being in finely divided solid form and mixed with the other materials, 25% pigment and filler, 20% volatile solvent of said chlorinated materials and phosphate.

6. A coating, or similar composition, comprising major proportions of approximately 50 to 60% chlorinated paraffine, approximately one-third to one-half as much similarly chlorinated rubber, a water insoluble salt which does not give off oxygen when heated and which fuses at the combustion temperatures of cellulosic materials as wood and the like, the same being in finely divided form, and mixed with the other materials, in substantially less proportions than the chlorinated materials combined, the minimum being approximately 5% of the mixture, a pigment and filler and a volatile solvent for the chlorinated materials which does not dissolve the said fusible salt, a filler and pigment.

7. A painting composition, comprising solids and solvent, the solids comprising approximately 30% of substantially 60% chlorinated organic materials, approximately ⅓ of the chlorinated materials being chlorinated rubber, and the reminder being another chlorinated organic material, which acts to impart flexibility to the rubber when dried the same being selected from the group consisting of the following chlorinated materials, paraffine oil, neutral oil, vinyl resin, castor oil, fish oil, soya bean oil, 12% oxidizable oil and filler and pigment the solids also comprising a considerable proportion of a salt which fuses at the combustion temperatures of cellulosic materials and when thus fused, forms a fire resisting coating which prevents creeping of the fire, said salt being water insoluble and also of a nature which does not give off oxygen when thus heated.

8. A painting, or similar composition, the solids in which comprise approximately 30% of substantially 60% chlorinated organic materials, approximately ⅓ of the chlorinated materials being chlorinated rubber, and the remainder being another chlorinated organic material which serves to impart flexibility to the rubber when dried the same being selected from the group consisting of the following chlorinated materials, paraffine oil, neutral oil, vinyl resin, castor oil, fish oil, soya bean oil, the solids also including a water insoluble borate in finely divided form, the same being fusible at the combustion temperatures of the cellulosic materials treated and serving to form a coating which retards the creeping of the fire said salt being one which does not give off oxygen when heated, the remainder of the solids being of an inert nature, serving as pigment, filler, etc., and part of the filler having the function of protecting the chlorinated material from decomposition by light and weather.

9. A coating and impregnating composition also adapted as an ingredient for use in or on wall boards of cellulose material and between the laminations of laminated materials consisting of solids and solvent the solids comprising in the neighborhood of one third of 60% chlorinated organic materials approximately one third of the chlorinated materials being chlorinated rubber and the remainder of the chlorinated material being another chlorinated organic material which imparts flexibility to the chlorinated rubber when dried the same being selected from the group consisting of the following chlorinated materials, paraffine oil, neutral oil, vinyl resin, castor oil, fish oil, soya bean oil the remainder of the solids comprising inert filler and a salt which fuses at the combustion temperatures of the cellulose material forming a coating which tends to prevent creeping of fire and which salt is water insoluble and does not give off oxygen when thus heated.

10. A coating and impregnating, or similar composition, also adapted for use in and on wall board of cellulosic materials, the composition comprising approximately 15 to 20 parts approximately 50% to 60% chlorinated paraffine, approximately 5 to 10 parts approximately 50% to 60% chlorinated rubber, a relatively small percentage of fire-resistive plasticizer, approximately 3 to 15% of a substantially water insoluble salt, fusible at or near the combustion temperatures of cellulosic materials, the same being selected from the group consisting of zinc borate, manganese borate, manganous borate and magnesium borate, and sufficient of a volatile solvent of the chlorinated materials, and an oxidizable oil to provide for application by brushing; the solvent being capable of evaporation in drying at normal atmospheric temperatures and pressures.

11. A coating and impregnating composition for cellulosic materials also adapted for use in and on wall board of cellulosic material and between the plies of laminated sheets of cellulosic material, the composition having fire, water

and mildew resistive properties and comprising substantially seventeen parts of approximately fifty to sixty percent chlorinated paraffine, six parts of approximately fifty to sixty percent chlorinated rubber, a plasticizer, twenty parts pigment and inert filler, and fourteen parts of a salt which does not give off oxygen when heated and which fuses at the combustion temperatures of said cellulosic materials and is substantially insoluble in water, the same being in finely divided solid form and approximately forty parts of a volatile solvent of said chlorinated materials and plasticizer which is evaporated in drying at normal atmospheric temperatures and pressures.

12. A mildew resisting, water proof, flame resisting composition for use as a base or sealing coating, the same consisting of approximately seventeen parts of approximately fifty to sixty percent chlorinated paraffine, six parts of similarly chlorinated rubber, approximately fifteen parts of tri-cresyl phosphate, three parts of a water insoluble salt which fuses at the combustion temperatures of cellulosic materials and which does not give off oxygen when heated, the same being in finely divided solid form and mixed with said other components, and sufficient volatile solvent which evaporates in the air at normal temperatures to provide for application by brushing or spraying.

13. A coating composition for submerged surfaces to resist marine growths, comprising approximately eighteen parts of substantially fifty to sixty percent chlorinated paraffine, approximately six parts of similarly chlorinated rubber, six parts of tri-cresyl phosphate, fifteen parts of zinc borate, fifteen parts of cupric aceto arsenite, and sufficient volatile solvent to provide for application by brushing or spraying the solvent being capable of evaporation at normal atmospheric temperatures and pressures.

14. A coating and impregnating or similar composition for wood and similarly burnable materials, also adapted for use on wall board and between the plies of laminated sheets such as wood or paper, the composition comprising approximately fifteen to twenty part of approximately fifty to sixty percent chlorinated paraffine, approximately five to ten parts of approximately fifty to sixty percent chlorinated rubber, a relatively small percentage of plasticizer, approximately three to fifteen percent of a substantially water insoluble salt which does not give off oxygen when heated and is fusible at or near the combustion temperatures of said material, the same being in finely divided solid form, and sufficient of a volatile solvent of the chlorinated materials to provide for application by brushing or spraying, the solvent being capable of evaporation drying at normal atmospheric temperatures.

15. A painting composition comprising solids and solvents the solids comprising approximately thirty percent of approximately fifty to sixty percent chlorinated organic material, approximately a third of said chlorinated organic materials being chlorinated rubber and the remainder being another similarly chlorinated organic material which serves to impart flexibility to the chlorinated rubber when dried, the same being selected from the group consisting of the following chlorinated materials, paraffine oil, neutral oil, vinyl resin, castor oil, fish oil, soya bean oil, and an oxidizable oil, filler, pigment and a water insoluble salt which fuses at the combustion temperatures of cellulosic materials forming a fire resisting coating which tends to prevent creeping of the fire, said salt being one which does not give off oxygen when thus heated.

16. A coating and impregnating composition also adapted as an ingredient for use in or on wall board of cellulosic material and between the laminations of laminated cellulosic materials, the same consisting of solids and solvent, the solids comprising in the neighborhood of one third of approximately fifty to sixty percent chlorinated organic material, approximately one third of the organic materials being chlorinated rubber and the remainder of the chlorinated material being another similarly chlorinated organic material selected from the group consisting of paraffine oil, neutral oil, vinyl resin, castor oil, fish oil, soya bean oil, which chlorinated material imparts flexibility to the rubber when dried, the remainder of the solids comprising inert filler and a water insoluble salt which fuses at the combustion temperatures of cellulosic materials forming a fire resisting coating which tends to prevent creeping of the fire, said salt being one which does not give off oxygen when thus heated.

17. A coating and impregnating or similar composition also adapted for use in and on wall board of cellulosic materials, the composition comprising approximately fifteen to twenty parts of substantially fifty to sixty percent chlorinated paraffine approximately five to ten parts of similarly chlorinated rubber, a relatively small percentage of plasticizer, approximately three to fifteen percent of a substantially water insoluble salt which does not give off oxygen when heated and which is fusible at combustion temperatures of said materials, the same being in finely divided solid form and mixed with said other chlorinated materials and oxidizable oil to provide for application by brushing, the solvent being capable of evaporation in drying at normal atmospheric temperatures and pressures.

18. A coating or similar composition comprising major proportions of 50% to 60% chlorinated paraffine, approximately one third to one half as much similarly chlorinated rubber, a water insoluble salt which does not give off oxygen when heated and which fuses at the combustion temperatures of cellulosic materials as wood and the like, the same being in finely divided solid form and a water insoluble pigment and filler sufficient to substantially protect the chlorinated material from decomposition by light and weather, a substantial proportion of said pigment being arsenic sulphide and a volatile solvent for the chlorinated materials which does not dissolve the said fusible salt.

19. A painting or similar composition, the solids of which comprise 30% of substantially 60% chlorinated material, approximately one third of the chlorinated material being chlorinated rubber, the remainder being another chlorinated material which serves to impart flexibility to the rubber when dried and being selected from the group consisting of the following materials, paraffine oil neutral oil, vinyl resin, castor oil, fish oil, soya bean oil, the solids also including a water insoluble salt in finely divided form the same being fusible at the combustion temperatures of the cellulosic materials treated and serving to form a coating which retards the creeping of the fire, said salt being one which does not give off oxygen when heated, the remainder of the solids serving as pigment, a filler, a substantial proportion of said pigment being

antimony oxide, and part of the filler and pigments having the function of protecting the chlorinated material from decomposition by light and weather.

20. A coating or similar composition comprising major proportions of 50 % to 60% chlorinated paraffine, approximately one third to one half as much chlorinated rubber, a water insoluble salt which does not give off oxygen when heated and which fuses at the combustion temperatures of cellulosic materials, the same being in finely divided solid form, and a water insoluble pigment and filler sufficient to substantially protect the chlorinated material from decomposition by light and weather, a substantial proportion of pigment being antimony sulphide and a volatile solvent for the chlorinated materials which does not dissolve the said fusible salt.

21. A coating or similar composition comprising major proportions of substantially 50% to 60% chlorinated organic materials approximately one third of the chlorinated materials being chlorinated rubber and the remainder of the chlorinated material being another chlorinated organic material, the same being selected from the group consisting of the following chlorinated materials, paraffine oil, neutral oil, vinyl resin, castor oil, fish oil, soya bean oil, of a water insoluble salt which does not give off oxygen when heated and which fuses at the combustion temperatures of cellulosic materials, the salt being in finely divided solid form, and a water insoluble pigment and filler, sufficient to substantially protect the chlorinated material from decomposition by light and weather, a substantial proportion of said pigment consisting of antimony oxide and titanium oxide, and a volatile solvent for the chlorinated materials which does not dissolve the said fusible salt.

EDWIN C. CLAYTON.
LAWRENCE L. HEFFNER.