

UNITED STATES PATENT OFFICE.

HARRY B. CHALMERS, OF SCHENECTADY, NEW YORK, ASSIGNOR TO LAWRENCE B. DUNHAM, OF ELIZABETH, NEW JERSEY.

PAINT AND VARNISH REMOVER.

1,066,251.

Specification of Letters Patent.

Patented July 1, 1913.

No Drawing.

Application filed May 22, 1912. Serial No. 698,897.

To all whom it may concern:

Be it known that I, HARRY B. CHALMERS, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Paint and Varnish Removers, of which the following is a specification.

This invention relates to paint and varnish removers.

As early as 1896, a remover having the following formula was made and sold as appears from depositions and a stipulation of counsel in the printed record of a cause reported in vol. 146, *Federal Reporter*, page 988: 4 gals. carbolic acid; 2 gals. wood alcohol; 2 gals. turpentine; 2 gals. benzene (benzole); 10 lbs. beeswax.

In the above remover the supposed function of the carbolic acid is to destroy the paint or varnish layer by chemical disintegration, producing a new product of a mixed character. This effect is said to be clearly observed in the interaction of carbolic acid and the waxes or resins, whereby the two substances after a very short contact seem to get converted into a magma, entirely losing the identity on the one hand of the wax or resin or carbolic acid as such, forming entirely a new body.

The above remover, while highly efficient, is at many temperatures of about the consistency of lard, and is, therefore, thicker than is frequently desired. Of course such a remover can be thinned by merely increasing the volume of some one of the ingredients other than the thickening agent, that is, the wax; but to obtain such desirable thinning of the remover, while retaining the described and highly desirable, peculiar function of the carbolic acid as a destroyer of the paint or varnish layer by chemical disintegration, is far from obvious; but I have discovered as a result of experiments, that the desired thinner condition, coupled with retention of the desired action of the carbolic acid as a disintegrating agent of paint and varnish layers, can be accomplished as follows: I prepare two separate mixtures. The first is in accordance with the above formula, although as paraffin and ceresin waxes are cheaper than beeswax, in the present market and perhaps generally, I prefer to substitute a mixture of paraffin and ceresin waxes in equal proportions for

the beeswax specified in the above formula. The other, or second mixture, consists of two parts of an alcoholic solution of pyroxylin having about the consistency of thin syrup mixed with three parts of benzole (benzene). Of this second mixture I add fifty gallons to the old formula first above stated, so that the formula of my improved carbolic acid remover is as follows: 4 gals. carbolic acid; 2 gals. wood alcohol; 2 gals. turpentine; 2 gals. benzene (benzole); 10 lbs. of paraffin and ceresin wax in equal parts; 20 gals. alcoholic solution of pyroxylin; 30 gals. benzole (benzene).

The carbolic acid remover of the old formula, having a consistency of that of lard, is of unstable consistency—that is, at the high temperatures of ordinary hot weather, it is about right to use; but at lower temperatures it is of varying degrees of hardness; and at very low temperatures around or below the freezing point, is too hard to use. The alcoholic solution of pyroxylin mixed with the benzole, which is a good diluent, does not substantially vary in consistency by variation of temperature; and I have discovered that the addition of an alcoholic solution of pyroxylin in the proportions above stated results in a carbolic acid remover that is of practically uniform consistency at a wide range of temperatures, so that it is readily available for use in cold weather, as well as in hot.

In the primary mixture the benzole is the wax solvent and the alcohol serves to gelatinize the wax partially, but not completely. The difficulty encountered in introducing the pyroxylin, which improves the consistency of the carbolic acid remover of the primary mixture, is to prevent the wax and pyroxylin from agglomerating into a pasty mass, but I find that this important result is effected by making the secondary mixture or diluent in such proportions that it has a sufficient percentage of wax solvent (benzole) to prevent the alcohol in the diluent from further gelatinizing the partially gelatinized wax in the primary mixture, the benzole and alcohol in the secondary mixture or diluent, being so proportioned to each other and to the corresponding elements of the primary mixture that when the two mixtures are mixed together, the partially gelatinized wax in the primary mixture is not further gelatinized or precipitated by the addition of the added

alcohol, but, on the contrary, is further dissolved by the added benzole, while there yet remains partially gelatinized wax in suspension through the whole volume of the mixture. My new product, although containing wax and pyroxylin, is characterized by the absence of a waste deposit or detritus in the form of a pasty mass.

While it has been long known, as shown by Smith's Patent No. 450,388 of June 14, 1891, that alcohol is a gelatinizer of a wax solution, and while carbolic acid removers that skimmed over and therefore retarded evaporation of the more volatile ingredients have been long made and sold, yet no one prior to this invention, so far as I am aware, has made a carbolic-acid pyroxylin remover containing alcohol and benzole.

The proportions above stated may, of course, be somewhat varied without departure from the invention, but I have set forth in detail those proportions which I have found to be the most highly efficient and also those ingredients which, so far as I can ascertain, are the cheapest in the market.

What I claim, is:

1. As a new article of manufacture, a paint and varnish remover having a formula in substance as follows, 4 gallons carbolic acid; 2 gallons wood alcohol, or other suitable alcohol; 2 gallons turpentine; 2 gallons benzole; 10 lbs. suitable wax; 20 gallons alcoholic solution of pyroxylin; 30 gallons of benzole; and having when mixed together the wax in a state of partial gelatinization and in suspension through the remover and the pyroxylin in solution.

2. As a new article of manufacture, a paint and varnish remover comprising a mixture of carbolic acid, alcohol, turpentine, benzole, pyroxylin and wax; the pyroxylin

being in a dissolved state in the mixture and the wax being in a partially gelatinized state therein and substantially free from agglomeration with the pyroxylin.

3. The process of making paint and varnish removers, consisting in adding to and mixing with a mixture of carbolic acid, alcohol, turpentine, benzole and wax in a state of partial gelatinization, a diluent of the aforesaid mixture comprising pyroxylin, alcohol and benzole in volumes which when the two mixtures are intermixed will further partially dissolve the already gelatinized wax and maintain the pyroxylin in solution without agglomeration with the wax.

4. The process of making paint and varnish removers consisting in mixing with a carbolic acid remover containing wax, a wax solvent and an alcoholic gelatinizer of the dissolved wax, a mixture containing pyroxylin, alcohol and wax solvent, all in proportions substantially as stated and thereby further dissolving the partially gelatinized wax in the carbolic acid mixture and also preventing agglomeration of the wax and pyroxylin into a mass.

5. As a new article of manufacture, a paint and varnish remover comprising carbolic acid, a waxy body, a wax solvent and a gelatinizer of the dissolved wax, and an alcoholic solution of pyroxylin in proportions substantially as stated, the wax and pyroxylin being unagglomerated and the wax partially gelatinized and in suspension through the remover.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY B. CHALMERS.

Witnesses:

EDWARD S. BEACH,
EDWARD E. BLACK.