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PATENT SPECIFICATION

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NO DRAWINGS.

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Int. Cl.:—C 07 g 7/00.

COMPLETE SPECIFICATION.

Improvements in or relating to Gelatine Compositions.

We, THOMAS TABBERNER & CO. LIMITED, a British Company, of Vauxhall Street, Manchester 9, and RONALD WILLIAMS, a British Subject, of the Company's address, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to improvements in Gelatine compositions such as are used in the formation of blankets and rollers employed in the printing and the tin plate coating industries.

It is well known, that compositions based on powdered or sheet gelatine, dissolved and/or dispersed in water and a polyhydric alcohol such as Glycerol, and Triethylene Glycol, may be produced with a shore 'A' hardness ranging from 10° to 100°, and that such compositions may be modified by the addition of sugars, e.g. Sucrose, reduction products of sugar, e.g. Mannitol and Sorbitol and sulphonated fats and pigments such as Titanium Dioxide or Lithopone.

Such compositions have been used for many years for the production of printing blankets and printing rollers but have the disadvantage of low meltability and a high degree of tackiness.

It is well known that the meltability can be controlled by the addition of Formaldehyde, Hexamine, soluble salts of Chromium and other substances but such additions do not reduce surface tackiness. The problem of surface tackiness, has however, now become of considerable importance particularly in connection with the high speed lacquering and printing of tin coated steel sheet for use in the production of containers such as used in the canning industries.

It has now been found, as a result of ex-
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periment, and this forms the basis of the present invention, that by the addition of either N-Phenyl Morpholine or 8-Hydroxy Quinoline to gelatine compositions of the type to which the present invention relates, surface tackiness can be controlled between zero and maximum surface tack, depending upon the amount of the additive employed, but for normal usage between 0.1% and 5% by weight is generally sufficient.

The following example are given as illustrative of the invention but the invention is not limited thereto:—

Example I.

A gelatine composition comprising the following is produced in the usual manner.

Gelatine	...	...	13 parts by weight	60
Water	...	...	16 " " "	
Triethylene Glycol	...	...	40 " " "	
Sucrose	...	...	8 " " "	
Lithopone	...	...	3 " " "	

and after re-melting there is added:— 65

N-Phenyl Mortholine ... 2 parts by weight

Example II.

A gelatine composition consisting of

Gelatine	...	...	13 parts by weight	70
Water	...	...	16 " " "	
Triethylene Glycol	...	...	40 " " "	
Sucrose	...	...	8 " " "	
Lithopone	...	...	3 " " "	

is produced in the usual way and after re-melting there is added:— 75

8-Hydroxy Quinoline ... 2 parts by weight

In both examples I and II the gelatine

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composition is produced initially without addition of the Heterocyclic compound, and cast into suitable slabs for subsequent re-melting and production of printing blankets, rollers and the like and the Heterocyclic compound is only added when the composition is re-melted immediately before production of the printing blanket or roller for the reason that it has been found that its addition not only controls or destroys surface tackiness, it also causes non-meltability when the composition is stored at room temperature for more than seven to ten days.

At room temperature, the surface tackiness, after incorporation of the additive may only reach a minimum after storage for up to fourteen days, but if the composition is maintained at a temperature of 90°C or thereabouts, maximum reaction and minimum tackiness occurs within two to four hours.

Example III.

In some cases printers blankets or similar articles are reinforced by a backing of a woven or knitted fabric e.g. a woven fibre glass fabric, the gelatine composition being applied to the surface of the fabric. With such a construction it may not be possible to maintain the coated fabric at an elevated temperature for long owing to flow and distortion of the gelatine composition coating, and in cases where it is not possible to store at room temperature, a more rapid reaction can be initiated by the addition also of up to 5% by weight of Formalin, Hexamine, Chrome Alum or the like, but this addition of Formalin, Hexamine, Chrome Alum or the like in no way affects the control of surface tackiness, this tackiness being controlled alone by the N-phenyl Morpholine or 8-Hydroxy Quinoline.

A typical composition produced by this latter method is as follows:—

Gelatine	...	...	22	parts by weight
Water	...	...	19	" " "
Glycerol	...	...	43	" " "
Sorbitol	...	...	8	" " "
Urea	...	...	0.5	" " "
Sulphonated Tallow	...	...	5.5	" " "
Titanium Dioxide	...	...	2	" " "

to which is added after re-melting for application to the fabric

Hexamine	...	...	2	parts by weight	55
8-Hydroxy Quinoline	...	...	2	" " "	

WHAT WE CLAIM IS:—

1. A gelatine composition for use in the formation of blankets and rollers employed in the printing and tin plate coating industries having included therein an additive for controlling the tackiness of the composition, said additive being either N-Phenyl Morpholine or 8-Hydroxy Quinoline.
2. A gelatine composition as in Claim 1 wherein the amount of the additive is between 0.1% and 5% by weight of the composition.
3. A method of producing the gelatine composition containing an additive for controlling the tackiness of the composition as claimed in Claim 1 or Claim 2 wherein the composition is first prepared and the additive incorporated therein after re-melting the composition.
4. A gelatine composition as in either Claim 1 or Claim 2 wherein a substance is added to the composition with the additive which will accelerate the reaction without affecting the control of surface tackiness.
5. A gelatine composition as in Claim 4 wherein the substance added to accelerate the reaction is Formalin, Hexamine, or Chrome Alum.
6. A gelatine composition for use in the formation of blankets or rollers employed in the printing and tin plate industries substantially as described in Example I, Example II or Example III of the foregoing Specification.
7. A printing roller produced from the gelatine composition claimed in any one of Claims 1, 2, 4, 5 or 6.
8. A printers blanket formed from or coated with the gelatine composition claimed in any one of Claims 1, 2, 4, 5 or 6.

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