

UNITED STATES PATENT OFFICE

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HECTOGRAPH BLANKET

Irwin Kramsky and Norbert F. Toussaint, Chicago, Ill., assignors to Ditto, Incorporated, Chicago, Ill., a corporation of West Virginia

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9 Claims. (Cl. 106-14.5)

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This invention relates to a gelatinous composition containing sorbitol and more particularly to a hectograph blanket.

The use of sorbitol to partially replace the glycerin in gelatin hectograph blankets, printing rolls and the like, is known. Sorbitol has the advantage that it greatly increases stability to adverse temperature and humidity conditions. This increased stability is due to the fact that sorbitol has a narrower humectancy range than glycerin. It tends to give off less moisture from a humid atmosphere and take on less moisture from a dry atmosphere than does a corresponding glycerin composition. However, sorbitol has a disadvantage that it imparts tackiness to the

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All glycol type compounds are suitable, including both the liquid and solid compounds. These include such compounds as propylene glycol, tripropylene glycol, dipropylene glycol, hexylene glycol, diethylene glycol, and higher polyethylene and polypropylene glycols. The upper limit of glycol type compound varies, depending upon the solubility or compatibility limit in the composition. Tripropylene glycol may be used up to about 30% by weight of the composition whereas dipropylene glycol gives satisfactory results in concentrations up to about 70%.

The following table gives ranges of the principal ingredients used in hectograph blankets in accordance with this invention:

Table I

Material	Preferred range in percent by weight	Suitable range in percent by weight
Gelatin.....	5% to 9% inclusive.....	5% to 20% inclusive.
Water.....	7% to 15% inclusive.....	5% to 50% inclusive.
Glycerin.....	30% to 80% inclusive.....	10% to 80% inclusive.
Sorbitol.....	15% to 30% inclusive.....	10% to 60% inclusive.
Glycol type solvent.....	5% to 30% inclusive.....	5% to 70% inclusive.

composition so that it is rarely used in amounts greater than 10% by weight of the gelatinous composition. Also in hectograph blankets it has the further disadvantage that it decreases copy brightness due to its lower moisture retention capacity as compared with that of glycerin.

An object of this invention is to provide a substantially non-tacky gelatinous composition containing more than about 10% sorbitol.

A further object is to provide a hectograph blanket containing more than about 10% by weight of sorbitol and having satisfactory copy brightness and freedom from tackiness.

Other objects and advantages of the invention will become apparent as the following description progresses.

We have found that tackiness and decreased copy brightness in a gelatinous composition containing sorbitol may be overcome by including in the composition, glycol type solvents such as glycols and glycol ethers in a concentration of 5 through 70% by weight of the composition, and preferably in a concentration of 5 through 30% by weight of the composition.

The glycol type compounds are effective in reducing tackiness in compositions containing from 10% to about 60% of sorbitol.

Following are examples of hectograph blankets which have been found particularly suitable in practice. The amounts are in parts by weight.

Example I

Material	Specific composition	Range
Gelatin.....	150	130-195
Glycerin.....	840	645-975
Water.....	225	100-400
Triethanolamine.....	45	5-60
Titanium dioxide.....	8	2-12
Sorbitol.....	780	600-900
Tripropylene glycol.....	285	220-330

Example II

Material	Specific composition	Range
Gelatin.....	150	130-195
Glycerin.....	935	720-1080
Water.....	225	100-400
Triethanolamine.....	45	5-60
Titanium dioxide.....	8	2-12
Sorbitol.....	780	600-900
Hexylene glycol.....	190	145-220

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Example III

Material	Specific composition	Range
Gelatin	150	130-195
Glycerin	733	550-840
Water	225	100-400
Triethanolamine	45	5-60
Titanium dioxide	8	2-12
Sorbitol	780	600-900
Tripropylene glycol	196	150-225
Polyethylene glycol (average molecular weight of 300)	196	150-225

Example IV

Material	Specific composition	Range
Gelatin	150	130-195
Glycerin	537	400-620
Water	225	100-400
Triethanolamine	45	5-60
Titanium dioxide	8	2-12
Sorbitol	780	600-900
Tripropylene glycol	196	150-225
Hexylene glycol	196	150-225
Polyethylene glycol (average molecular weight of 300)	196	150-225

Other ingredients commonly used in hectograph blankets, such as tanning agents, may also be incorporated in the compositions.

These hectograph compositions are coated on a cloth or paper backing in the usual manner. A drying oil such as a linseed oil bonding agent is suitably used to bond the gelatinous copy mass to the backing. The other side of the backing may be coated with a nitrocellulose or other cellulose ester lacquer.

The invention is also applicable to printing rollers, in which case the proportion of gelatin to the liquids is considerably greater than in a hectograph blanket as is well known in the art.

The invention is applicable to any gelatin composition containing sorbitol wherein it is desired to reduce the tackiness caused by the sorbitol.

While there have been shown and described certain embodiments of the invention, it is to be understood that it is capable of many modifications. Changes, therefore may be made without departing from the spirit and scope of the invention as described in the appended claims, in which it is the intention to claim all novelty inherent in the invention as broadly as possible in view of the prior art.

We claim:

1. A hectograph composition comprising gelatin from 5% to 20%, water from 5% to 50%,

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glycerin from 10% to 80%, sorbitol from 10% to 60%, and from 5% to 70% of a glycol.

2. A hectograph composition comprising gelatin from 5% to 9%, water from 7% to 15%, glycerin from 30% to 80%, sorbitol from 15% to 30%, and from 5% to 30% of a glycol.

3. A hectograph composition comprising gelatin from 5% to 9%, water from 7% to 15%, glycerin from 30% to 80%, sorbitol from 15% to 30%, and from 5% to 30% of diethylene glycol.

4. A hectograph composition comprising gelatin from 5% to 9%, water from 7% to 15%, glycerin from 30% to 80%, sorbitol from 15% to 30%, and from 5% to 30% of polyethylene glycol.

5. A hectograph composition comprising gelatin from 5% to 9%, water from 7% to 15%, glycerin from 30% to 80%, sorbitol from 15% to 30%, and from 5% to 30% of polypropylene glycol.

6. A hectograph composition comprising gelatin from 5% to 9%, water from 7% to 15%, glycerin from 30% to 80%, sorbitol from 15% to 30%, and from 5% to 30% of tripropylene glycol.

7. A hectograph composition comprising gelatin from 5% to 9%, water from 7% to 15%, glycerin from 30% to 80%, sorbitol from 15% to 30%, and from 5% to 30% of hexylene glycol.

8. A hectograph composition comprising gelatin from 5% to 20%, water from 5% to 50%, glycerin from 10% to 80%, sorbitol from 10% to 60%, and from 5% to 70% of a polyalkylene glycol.

9. A hectograph composition comprising gelatin from 5% to 9%, water from 7% to 15%, glycerin from 30% to 80%, sorbitol from 15% to 30%, and from 5% to 30% of a polyalkylene glycol.

IRWIN KRAMSKY.

NORBERT F. TOUSSAINT.

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