

UNITED STATES PATENT OFFICE

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PROCESS FOR THE MANUFACTURE OF
PRINTING ROLLERSCurt Neubert, Giersdorf, near Hirschberg,
GermanyNo Drawing. Application December 31, 1931,
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2 Claims. (Cl. 106—23)

Experiments in using rubber or caoutchouc rollers instead of gelatine rollers in rotary printing and like arts have frequently been made in the past. They have, however, not led to the desired result, as it was not possible to produce rubber and caoutchouc rollers of qualities somewhat similar to those of gelatine rollers, because the rubber or caoutchouc rollers all, to a greater or less extent, have the same disadvantage of swelling and changing their surface as soon as they get into contact with organic solvating means, and further of inducing the colour to dry up too quickly and of lacking the quality of adhesion characteristic of gelatine rollers. On the other hand gelatine rollers easily become brittle and unelastic through the colours or dye-stuff penetrating into them and are apt to get soft when an increased temperature is used, so that they lose their shape and must be recast many a time.

An intimate connection between the caoutchouc and the gelatine mass was not possible up to now, because solutions of caoutchouc could only be obtained by means of benzine, naphtha, benzol or the like, which latter, however, were repelled by the gelatine mass containing water.

The purpose of the present invention now is to avoid these disadvantages and obtain a combination of the advantages named as well as an intimate mixture of both original products, and especially to produce a greater durability of the rollers in connection with the colours added and an increased resistance with regards to the organic solvating means.

For this purpose according to the invention a fluid caoutchouc-milk is intimately mixed with glycerine as well as with colloidal bodies, such as molten gelatine, and heated together therewith until a uniform, homogeneous mass is obtained, which can easily be cast into moulds or otherwise worked up to obtain any desired shapes.

In special there are used for this purpose preferably so-called caoutchouc-milk concentrations, such as "revertex," only known since a short time. These concentrations can easily be in their aqueous state intimately mixed with

glycerine as well as with colloidal bodies, such as molten gelatine, whereby a product is obtained which can easily be cast and shaped and is consequently particularly adapted to be used for rollers, because of containing the qualities and advantages of both caoutchouc as well as gelatine-mass used up to now.

At the same time it is possible to change the quantities of the caoutchouc-concentrations in relation to the quantities of the other components, such as glycerine, gelatine, at will and adapt them to any purpose for which the rollers are to be used.

If the fluid mass thus obtained is for instance cast into the shape of a roller and on its cooling down the cover is removed, it only remains to dip the same, for the purpose of coagulating the caoutchouc-particles, into acetic acid or into other known means for hardening the caoutchouc and to then vulcanize the same in any known manner.

By way of example the following ingredients are given for the quantities to be used:

20 kilos caoutchouc-concentration and 20 kilos gelatine are melted together with 40 kilos glycerine and stirred until a uniform and homogeneous mass is obtained. This mass can also be coloured by adding dye-stuff thereto and made heavier by means of chemicals or the like.

What I claim is:

1. The process of making printing rollers including the steps of mixing substantially one part concentrated aqueous caoutchouc dispersion one part gelatinous substance and two parts glycerine, coagulating the mixture, and vulcanizing the coagulate.

2. The process of making printing rollers including the steps of intimately mixing substantially one part heated concentrated aqueous caoutchouc dispersion, one part molten gelatinous substance, and two parts heated glycerine, molding the resulting homogeneous mass to the desired shape, cooling the roller to a solidified state, treating the roller with an aqueous-caoutchouc-dispersion coagulant, and vulcanizing the roller.

CURT NEUBERT.