

# UNITED STATES PATENT OFFICE.

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OF SAME PLACE.

## DEVULCANIZING-BATH.

SPECIFICATION forming part of Letters Patent No. 665,968, dated January 15, 1901.

Application filed October 18, 1900. Serial No. 33,422. (No specimens.)

*To all whom it may concern:*

Be it known that I, JOHN MURPHY, a citizen of the United States, residing in the city of New York, borough of Brooklyn, county of Kings, State of New York, have invented a new and Improved Devulcanizing-Bath, of which the following is a specification.

The object of the present invention is to produce a devulcanizing-bath for caoutchouc, india-rubber, and similar materials; and it consists in a bath containing a desulfurizing and a deoxidizing agent, which bath may be employed as a devulcanizing-bath for vulcanized india-rubber, &c., and when so used the desulfurizing agent acts upon the sulfur in the vulcanized rubber to effect devulcanization and the deoxidizing agent acts upon the portions of the rubber which have become oxidized in order to abstract oxygen therefrom.

The following are examples of baths embodying my invention: To five pounds of vulcanized rubber I employ one pound of a solution of carbonate of soda and two ounces of gallic acid. The vulcanized rubber is treated in this bath for twenty hours at a temperature of 320° Fahrenheit. This bath is effective to effect devulcanization of the rubber by acting upon the sulfur contained therein and proportions of the rubber which are oxidized.

In lieu of the bath and procedure men-

tioned the following may be employed according to my invention:

First. Sulfid of sodium, one pound; rubber, four pounds; gallic acid, two ounces. 35

Second. Phosphate of soda, one pound; rubber, four pounds; gallic acid, two ounces.

Third. Carbonate of soda, one and one-half pounds; rubber, five pounds; pyrogallie acid, two ounces. 40

Fourth. Carbonate of soda, one and one-half pounds; rubber, five pounds; eikonogen, two ounces.

Fifth. Carbonate of soda, one and one-half pounds; rubber, five pounds; hydrochinon, two ounces. 45

The quantities above mentioned may of course be increased.

Having described my invention, what I claim, and desire to secure by Letters Patent, is— 50

1. The bath for devulcanizing caoutchouc, india-rubber, &c., consisting of a desulfurizing agent capable of acting upon the combined sulfur of the mass and a separate deoxidizing agent. 55

2. The bath for devulcanizing caoutchouc, india-rubber, &c., consisting of carbonate of soda and gallic acid.

JOHN MURPHY.

Witnesses:

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