

UNITED STATES PATENT OFFICE.

E. E. MARCY, OF NEW YORK, N. Y.

IMPROVEMENT IN CURING AND TREATING CAOUTCHOUC.

Specification forming part of Letters Patent No. **25,271**, dated August 30, 1859.

To all whom it may concern:

Be it known that I, E. E. MARCY, of the city of New York, have invented a new and Improved Method of Treating and Curing India-Rubber, which will cause it to retain permanent elasticity, and withstand changes of temperature, and emit no unpleasant odor; and I declare the following is a true description of the same.

The nature of my invention consists in the combination of sulphuret of lead and carbonate of lead with india-rubber or caoutchouc and submitting the compound thus formed to the action of heat. I combine these articles with india-rubber in the following proportions, which are the best known to me, although they may be varied with good results: To two parts of rubber I add one part of sulphuret of lead and one part of carbonate of lead, by weight, and mix or unite the compound by passing the same through the heated rollers or grinders now generally used in preparing and manufacturing india-rubber. After the mixture is thoroughly combined by grinding, it may be spread upon cloth, or rolled into sheets, or put into any other required form for use. It should then be subjected to the action of steam or water at a high temperature, by being placed in a vessel containing steam at a heat from 240° to 350° Fahrenheit, or containing water, or containing water and steam at the same high temperature. It may be necessary for the thorough curing of some articles to increase the temperature to 400° and upward; but the degree of temperature and the length of time that the compound must be submitted to the heat will depend, to a certain extent, upon the size and quality of the fabric, but the heat will in no case be carried so high as to liberate sulphur from the sulphuret of lead.

The application of heat by means of steam or hot water may be made by any of the well-known processes in the manufacture of india-

rubber, and must be made by such means, as the compound will not cure satisfactorily in dry air.

French chalk or paris-white may be added to the compound for the purpose of increasing the bulk of the compound, and plaster-of-paris, for the purpose of hardening it, may be added in small quantities. Other ingredients may also be added for the purpose of coloring the fabric or giving it peculiar properties, as is well known to india-rubber manufacturers; but such articles have no effect in producing the result I have described.

I have sometimes dispensed with the carbonate of lead, and used a quantity of sulphuret of lead nearly equal in weight to the rubber, and combined the same with about half the quantity of protoxide of lead or litharge and chalk, with the addition of some of the above-named substances, for the purpose of giving body and color, with a good result.

I do not claim the curing of india-rubber as set forth in the patent of S. Moulton, August, 1847, (English), nor as set forth in the reissued patent of Charles Goodyear, June 15, 1844, dated June, 1849; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

The improved process of curing india-rubber by combining india-rubber with the sulphuret of lead and carbonate of lead, or the protoxide of lead, in the manner hereinbefore described, and without the use of free sulphur in combination with the rubber or with said compound, and the exposure of these compounds to steam or water at the temperature hereinbefore indicated, and in the mode pointed out.

E. E. MARCY.

In presence of—

JAMES MARRINER,
FREDERICK C. WAGNER.