

UNITED STATES PATENT OFFICE.

RAYMOND B. PRICE, OF NEW YORK, N. Y., ASSIGNOR TO RUBBER REGENERATING COMPANY, A CORPORATION OF INDIANA.

REVULCANIZING RUBBER.

1,166,784.

Specification of Letters Patent.

Patented Jan. 4, 1916.

No Drawing.

Application filed January 25, 1913. Serial No. 744,255.

To all whom it may concern:

Be it known that I, RAYMOND B. PRICE, a citizen of the United States, residing in the borough of Manhattan, city of New York, State of New York, have invented new and useful Improvements in Revulcanizing Rubber, of which the following is a specification.

My invention relates to the treatment of rubber, and has particular reference to a novel process of revulcanizing rubber, as will be hereinafter more particularly described.

My novel process contemplates the treatment of vulcanized rubber, generally waste or scrap, and embodies the following steps: First, exhausting from the material being treated the air, moisture, etc., by means of a vacuum. Secondly, compressing the material so exhausted to any desired degree, which may be as high as three or four thousand pounds to the square inch, or even higher. Thirdly, heating the material so exhausted and compressed, the amount of heat being governed by the character of the scrap being treated, and which may run as high as 500° F. or higher.

It may be found desirable under certain conditions to apply some heat to the material being treated during the exhausting or the compressing step in the process, or during both of these steps, or beforehand, but the heat so applied thereto must be retained below the fusing point of rubber.

I, furthermore, contemplate under certain circumstances an additional step in the process, viz.: quickly cooling the material after the application thereto of the third or heating step in the process to check vulcanization and prevent over-curing of the exterior of the product.

By compressing the material being treated, which constitutes the second step in my

improved process, I provide that destructive distillation is minimized, and, while the process of regenerating rubber in other respects differs widely from that of revulcanizing rubber, I wish it to be understood that this step of compressing in my improved process may be applied with good results to any of the now known processes of regenerating rubber, wherein it is also highly desirable that destructive distillation during the process of regenerating shall be minimized.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The process of revulcanizing rubber, which consists in exhausting, heating, and compressing the material under compacting pressure in excess of that required for consolidating the mass, and finally subjecting the same to a vulcanizing heat.

2. The process of revulcanizing rubber, which consists in exhausting and compressing the same under excessive compacting pressure in the presence of heat below the raised fusing point of rubber under said pressure, and then subjecting the material so treated to a vulcanizing heat.

3. The process of revulcanizing rubber, which consists in exhausting, heating, and compressing the same under excessive compacting pressure to minimize destructive distillation, then subjecting the same to vulcanizing heat, and finally quickly cooling the same to check surface vulcanization.

In testimony whereof, I have hereunto set my hand in the presence of two subscribing witnesses.

RAYMOND B. PRICE.

Witnesses:

PERCY B. HILLS,
A. L. MILLS.