

# UNITED STATES PATENT OFFICE.

N. CHAPMAN MITCHELL, OF PHILADELPHIA, PENNSYLVANIA.

## RUBBER COMPOUND.

SPECIFICATION forming part of Letters Patent No. 290,909, dated December 25, 1883.

Application filed November 5, 1883. (No specimens.)

*To all whom it may concern:*

Be it known that I, N. CHAPMAN MITCHELL, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented  
5 an Improvement in Rubber Compounds, of which the following is a specification.

The object of my invention is to improve the wearing qualities and cheapen the manufacture of rubber compounds—such, for instance, as are used for the soles and heels of  
10 boots and shoes; and this object I attain by combining leather with the compound prior to its vulcanization.

In carrying out my invention I first reduce  
15 the leather preferably to a powder, either coarse or fine, as may be desired, by grinding or in any other suitable manner, and this divided leather I add to the raw rubber along with the sulphur, whiting, and other materials  
20 with which the rubber is usually mixed prior to its vulcanization.

The proportion of leather may be varied as the uses to which the compound is to be put may suggest. The addition of the leather  
25 serves to materially improve the wearing qualities of the compound, and to prevent its surface from becoming smooth, thus overcoming two serious objections to compounds now used.

Scrap-leather is preferably used on the score  
30 of economy, it being cheaper than most of the materials now compounded with rubber. My

invention, however, is not limited to the use of leather scrap.

As an instance of the proportion of leather to be used, I may say that when the compound  
35 is intended for the soles of boots or shoes, there may be from ten to thirty per cent., by weight, of leather in proportion to the rubber in the compound; but, as before remarked, other uses may require other proportions, the  
40 purpose for which the compound is intended governing the character of the compound. The leather, being in a divided state and distributed throughout the compound, is in the best condition for effecting the object for which  
45 it is employed.

I claim as my invention—

1. The mode herein described of improving the quality of rubber compounds, said mode consisting in mixing particles of leather  
50 with the compound previous to vulcanization, as set forth.

2. As a new article of manufacture, a rubber compound having particles of leather distributed throughout the same, as set forth. 55

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

N. CHAPMAN MITCHELL.

Witnesses:

JOHN E. PARKER,  
HARRY SMITH.