

# UNITED STATES PATENT OFFICE.

JOHN A. JUST, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE ASPHALTINA  
COMPANY OF AMERICA, OF SAME PLACE.

METHOD OF MAKING PAVING, ROOFING, OR SIMILAR COMPOSITIONS.

SPECIFICATION forming part of Letters Patent No. 561,322, dated June 2, 1896.

Application filed March 13, 1895. Serial No. 541,603. (No specimens.)

*To all whom it may concern:*

Be it known that I, JOHN A. JUST, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Improvement in Methods of Making Paving, Roofing, and Similar Compositions, of which the following is a specification.

This invention relates to the preparation of that class of compositions of matter which are used as cementing compositions for admixture with finely-divided mineral matter in the construction of pavements, roof-coverings, &c.

In practicing this invention I treat rosin with sulfur by heating about ten parts of rosin and one part of sulfur to a temperature of from 480° to 500° Fahrenheit, whereby the rosin undergoes a complete change and is converted into a black substance which at the ordinary temperature is hard and brittle and which is substantially free from highly-volatile ingredients, the latter having been driven off during this treatment either alone or in combination with sulfur. This sulfurized rosin is then mixed, while in a melted condition, with a heavy hydrocarbon and sulfur, and this mixture is heated to a temperature of from 350° to 500° Fahrenheit and maintained at this heat until a thoroughly homogeneous product is produced. I prefer to use for this purpose the petroleum sediment known as "B. S." This sediment or residuum is heated sufficiently to drive off the water and is added in about the proportion of from two to four parts of the B. S. to five parts of the sulfurized rosin. I add to the B. S. sulfur in about the proportion of from five to ten per cent. of the heavy hydrocarbon—or, in other words, from one to two parts of sulfur to twenty parts of the heavy hydrocarbon. Upon heating this mixture, as above described, the sulfur acts upon the heavy hydrocarbon and drives off the more volatile substances, and the heavy hydrocarbon combines at the same time with the sulfurized rosin, so that the ingredients become intimately blended.

Instead of sulfurizing the heavy hydrocarbon after it has been added to the sulfurized rosin, as above described, it may be sulfur-

ized separately by mixing it with the above-described proportion of sulfur or thereabout and heating to the above-mentioned temperature. The sulfurized heavy hydrocarbon is then added to the melted sulfurized rosin, and the mixture is then heated to the above-described temperature and kept at that heat until a thorough union of the ingredients is effected. The sulfurized rosin may be allowed to become cold, in which case it is afterward melted for admixture with the heavy hydrocarbon and sulfur, or it may be allowed to cool to a temperature suitable for mixing the heavy hydrocarbon and sulfur therewith, which temperature is usually about 250° to 300° Fahrenheit.

The product of this process is a substance which closely resembles natural asphalt and is much cheaper than the latter. It can be advantageously used in paving and roofing compositions as a substitute for natural asphalt, and it is also very useful for admixture with natural asphalt for softening the same.

I claim as my invention—

1. The herein-described method of producing a composition of matter resembling natural asphalt which consists in heating rosin and sulfur until the rosin has been thoroughly changed by the action of the sulfur and then adding a heavy hydrocarbon and sulfur and heating the mixture, substantially as set forth.

2. The herein-described method of producing a composition of matter resembling natural asphalt which consists in sulfurizing rosin by heating rosin and sulfur substantially in the proportions set forth to a temperature of about 480° to 500° Fahrenheit, then adding to the melted sulfurized rosin a heavy hydrocarbon and sulfur substantially in the proportion specified and heating the mixture to about 350° to 500° Fahrenheit, substantially as set forth.

Witness my hand this 8th day of March, 1895.

JOHN A. JUST.

Witnesses:

JULIE R. JENNEY,  
EDWARD WILHELM.