

UNITED STATES PATENT OFFICE.

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CORPORATION OF GERMANY.

PROCESS OF PRODUCING BETA-METHYLTETRAMETHYLENE-DIAMIN.

991,721.

Specification of Letters Patent.

Patented May 9, 1911.

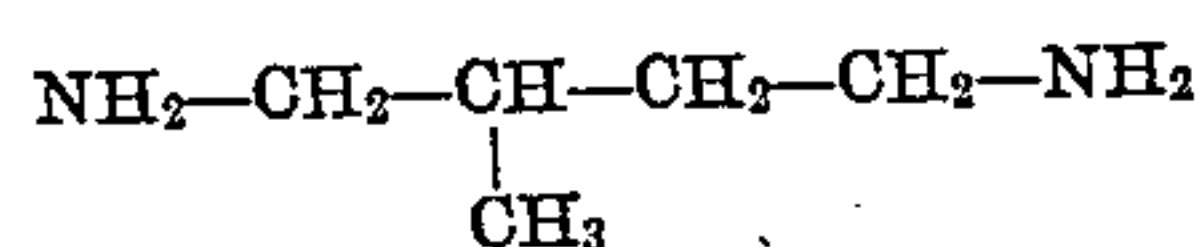
No Drawing.

Application filed November 23, 1909. Serial No. 529,546.

To all whom it may concern:

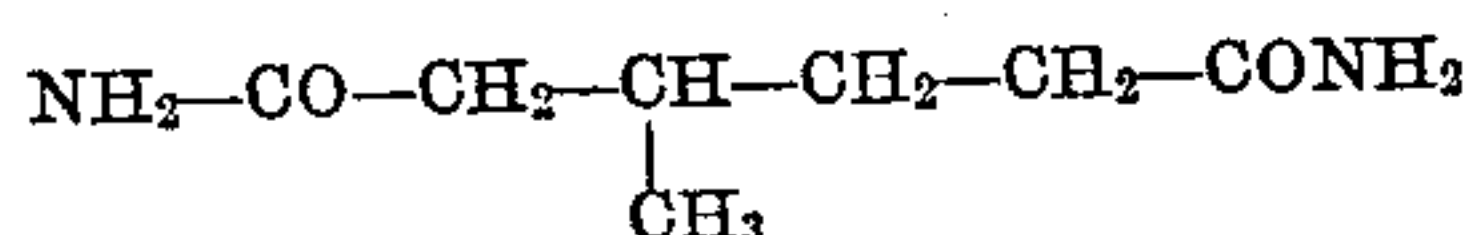
Be it known that we, FRITZ HOFMANN and CARL COUTELLE, doctors of philosophy, chemists, citizens of the German Empire, residing at Elberfeld, Germany, have invented new and useful Improvements in Processes for Producing Beta-Methyltetramethylene-Diamin, of which the following is a specification.

Our invention relates to a new and valuable process for producing beta-methyltetramethylene-diamin.



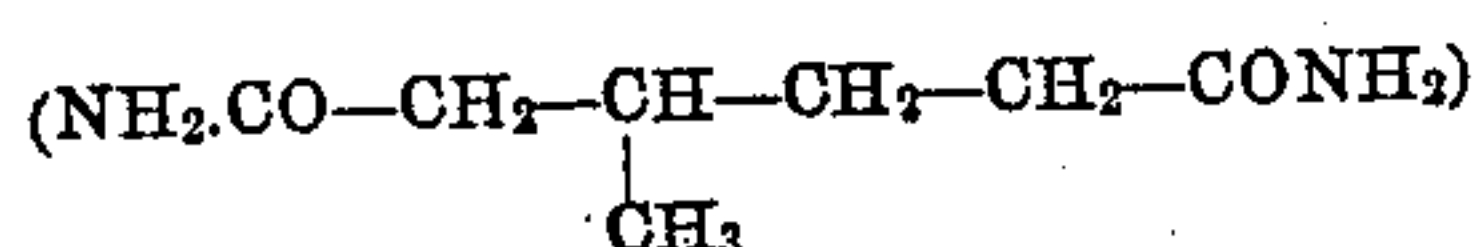
which is a valuable intermediate compound for the production of pharmaceutical compounds, dyestuffs, etc.

The new process consists in treating the diamid of beta-methyladipic acid



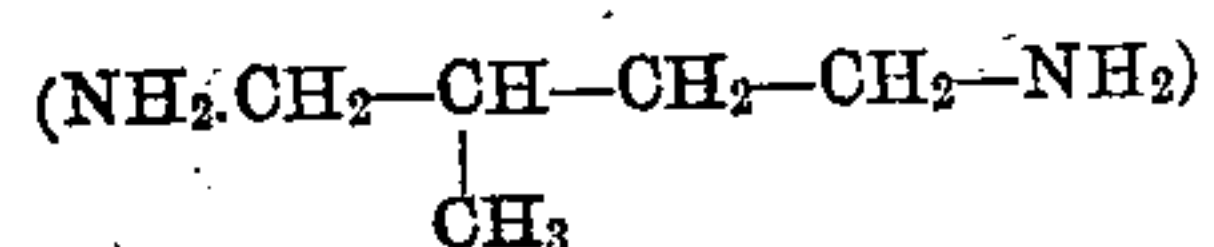
with aqueous solutions of halogens in caustic alkaline lyes.

In order to illustrate the new process more fully the following example is given, the parts being by weight: 8 parts of bromin are added while stirring to a solution of 8 parts of caustic soda (NaOH) in 96 parts of water. Subsequently a solution of 3.9 parts of the diamid of beta-methyladipic acid



in 10 parts of hot water is added. After heating for a short time to 70-80° C. the product of the reaction is neutralized with BrH and then concentrated by evaporation. Sodium bromid separates which is filtered

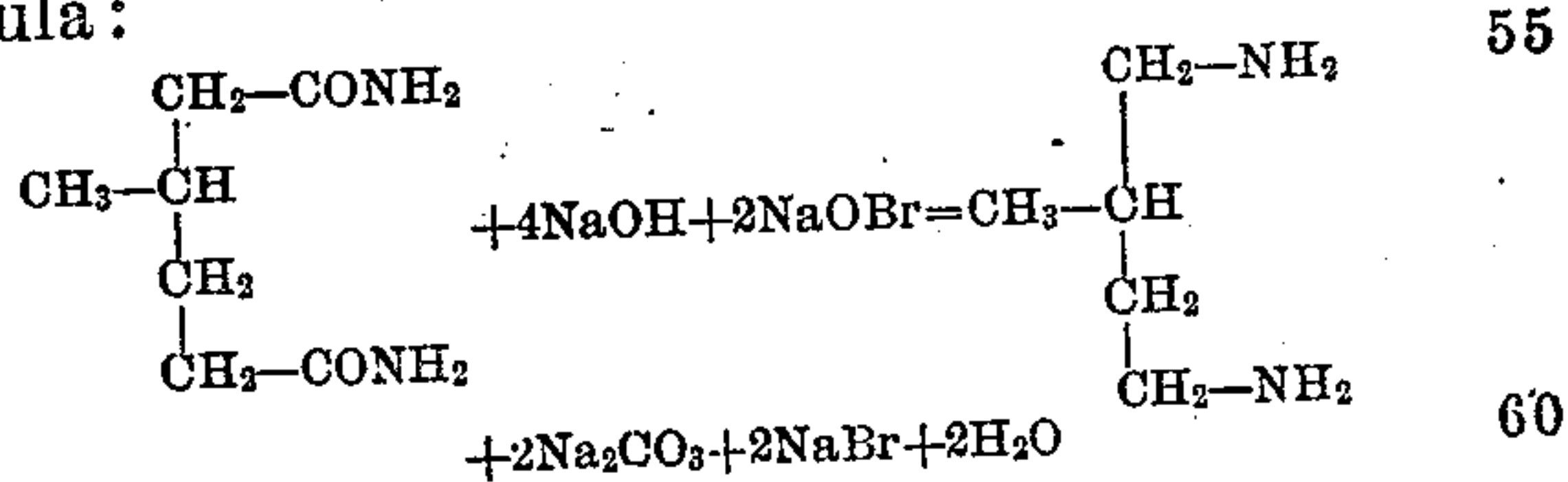
off. The filtrate contains part of the BrNa and the bromohydrate of the base



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from which the latter base is set free by treating the solution with caustic soda. The free base is isolated in the form of an oil, it is dried and finally purified by distillation.

The formation of the product takes probably place according to the following formula:



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The process is carried out in an analogous manner on using instead of bromin the equivalent amount of chlorin. In this case the product of the reaction is neutralized with hydrochloric acid.

We claim:—

The process for producing beta-methyltetramethylene-diamin, which process consists in treating the diamid of beta-methyladipic acid with an aqueous solution of halogen in caustic alkaline lyes and isolating the free base by treating the halogen salt with alkali, substantially as described.

In testimony whereof we have hereunto set our hand in the presence of two subscribing witnesses.

FRITZ HOFMANN. [L. s.]
CARL COUTELLE. [L. s.]

Witnesses:

OTTO KÖNIG,
CHAS. J. WRIGHT.