

# UNITED STATES PATENT OFFICE.

FRITZ HOFMANN AND CARL COUTELLE, OF ELBERFELD, GERMANY, ASSIGNORS TO  
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CORPORATION OF GERMANY.

## PROCESS OF MAKING TETRAMETHYLENDIAMIN.

965,903.

Specification of Letters Patent.

Patented Aug. 2, 1910.

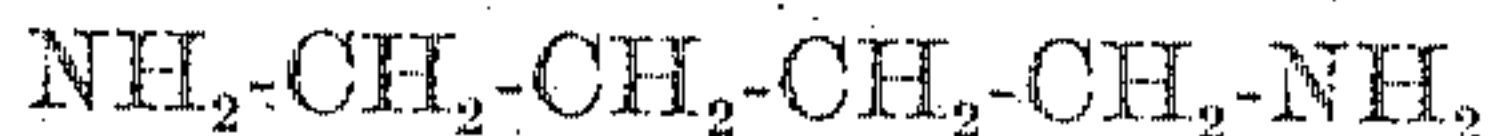
No Drawing.

Application filed April 12, 1910. Serial No. 554,938.

*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, Kingdom of Prussia, German Empire, have invented new and useful Improvements in Processes of Making Tetramethylendiamin, of which the following is a specification.

Our invention relates to a new and valuable process for producing tetramethylendiamin



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

The new process consists in treating the diamid of adipic acid



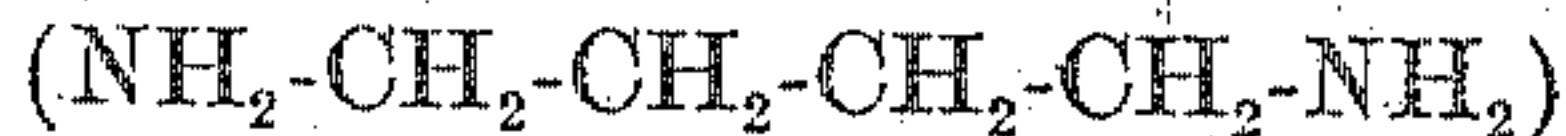
with solutions of halogens in caustic alkaline lyes.

In order to illustrate the new process more fully the following example is given, the parts being by weight:—142 parts of chlorin are introduced into a mixture of 1000 parts of caustic soda lye (33 per cent) with 1200

parts of ice. Subsequently 144 parts of the diamid of adipic acid



are slowly added. The temperature rises to 70–80° C. while the diamid enters into solution. Against the end of the reaction the mixture is heated on the water bath for 4 to 6 hours and the base



is driven over in a current of steam.

The process is carried out in an analogous manner on using bromin instead of chlorin.

We claim:—

The process for producing tetramethylendiamin, which process consists in treating the diamid of adipic acid with a solution of halogen in caustic alkaline lyes, substantially as described.

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

FRITZ HOFMANN. [L. S.]

CARL COUTELLE. [L. S.]

Witnesses:

OTTO KÖNIG,

CHAS. J. WRIGHT.