

UNITED STATES PATENT OFFICE.

REINHOLD GAHLER AND THEODOR PILZ, OF BALTIMORE, MARYLAND, AS-
SIGNORS OF ONE-HALF TO EPHRAIM M. COHEN, OF SAME PLACE.

GLUE.

SPECIFICATION forming part of Letters Patent No. 318,367, dated May 19, 1885.

Application filed April 14, 1885. (No specimens.)

To all whom it may concern:

Be it known that we, REINHOLD GAHLER and THEODOR PILZ, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Glue, of which the following is a specification.

Our invention relates to an improved method of making prepared glue. We take ordinary glue, any desired quantity, and have a kettle or other suitable vessel in which to place it. It is better, for a purpose hereinafter to appear, that the vessel be set in a larger vessel, so as to form a water-jacket. Provision should be made for entering steam into the kettle or vessel. With an ordinary kettle this may be effected by placing a piece of pipe upright in the vessel, and other pipe or hose connecting the upper end of said upright pipe with a steam-boiler. The first step in the method is to place the dry glue in pieces in the vessel, and while placing it therein it is sprinkled with nitric acid sufficient to wet it, and at the same time it is also sprinkled with powdered zinc oxide, no more being used than will be dissolved by the acid. By this step each piece of dry glue in the vessel will be coated with the dissolved zinc oxide. The second step is to steam the glue thus treated by entering hot steam into the vessel containing it. This may be readily done by the simple apparatus referred to. By this treatment the glue is simultaneously melted or dissolved and also acted on by the dissolved zinc oxide. Upon stirring the mass the greasy impurities of the glue will promptly separate and rise to the surface, whereupon they are to be removed by a skimmer. The mass should then remain in the vessel forty-eight

(48) hours and be kept warm, preferably by means of the water-jacket, a slow fire being maintained under the outer vessel. This rest allows any dirt or heavy impurities in the mass to precipitate. The third step is to remove the glue mass from the vessel and add thereto nitric acid in the proportion of one part, by weight, of acid to ten of glue mass. When the union of these parts has been thoroughly effected, the glue compound is ready for use, and may be put up in bottles or jars and used at any time. By this method an article is produced possessing extraordinary strength. As all impurities have been removed, it is free of disagreeable odor, it will keep when in a close vessel without change, and when applied to cement wood, leather, or paper the parts cemented will resist the action of water for a long time, the glue therein being almost unaffected by the water.

Having described our invention, we claim and desire to secure by Letters Patent of the United States—

The method herein-described of making prepared glue, consisting of, first, treating as described ordinary dry piece glue with nitric acid and powdered zinc oxide; second, steaming the glue thus treated until melted or dissolved and then skimming the greasy impurities from the surface, and, third, adding to the mass nitric acid substantially in the proportion described, as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

REINHOLD GAHLER.
THEODOR PILZ.

Witnesses:

JOHN E. MORRIS,
JNO. T. MADDOX.