

UNITED STATES PATENT OFFICE.

LAWRENCE REID AND JOHN ROGERS, OF NEW YORK, N. Y.

IMPROVEMENT IN MANUFACTURE OF GLUE.

Specification forming part of Letters Patent No. 27,310, dated February 28, 1860.

To all whom it may concern:

Be it known that we, LAWRENCE REID and JOHN ROGERS, of the city of New York, in the State of New York, have invented an Improvement in the Manufacture of Glue; and we do hereby declare that the following is a full, clear, and exact description thereof.

The nature of our invention consists in the combined application of heat and alkaline and earthy alkaline substances to the skins or sinews of animals, or such parts of animals as are generally employed in the manufacture of glue, saving much time, loss of materials, and improving the quality of the manufactured article by the speed of our operations, combined with the more thorough cleansing of the article from soluble matters, hot or cold, from the pure gelatine or glue, and this either for the preparation of articles for the table or glue to be used in the arts.

For the purpose of operating our invention we take such pieces of the skin or sinews of animals as are used for the manufacture of gelatine for the table or glue for the arts. We subject them to heat, either of boiling water, steam, or dry-air heat until such time as they shall swell or assume a coagulated form. By this means we render soluble what is soluble in boiling water and coagulate the remainder. As in the ordinary process of glue-making the article has never been subjected to heat previous to boiling, it must be obvious that all that matter contained in the skins which is of a soluble nature, and neither coagulated by heat nor soluble in cold water, will, on the boiling of the glue pieces for the manufacture of glue or gelatine, become soluble and contaminate such glue or gelatine, rendering it, if to be used in the arts, a weaker article, and if on the table, a less firm jelly. Also, the pieces of skin and sinews, being subjected to such heat previous to the application of lime, are rendered much more susceptible to the action of that substance or similar earthy alkaline or alkaline substances, and a more speedy conversion of the substances used into the state fit for the production of glue or gelatine is induced. After the operation of heating has been performed we subject the pieces of skin or sinew to the action of lime and water, or milk of lime, or

other alkaline or earthy alkaline substances, for about twenty-four hours, or such time as we shall see the pieces softening by the action of such alkaline or earthy matter. When this softening takes place we remove the pieces from the alkaline earthy or alkaline solutions and place it in cold water, and we wash repeatedly until such excess of lime or alkaline solutions may be removed; or we wash with dilute acid, as the sulphuric containing about one per cent. of such sulphuric acid, to more speedily remove the lime or alkaline matters adhering to the pieces. After such washing the pieces are ready, without further waste of time or expense, for the manufacture of glue or gelatine; and it will be perceived that in this process we avoid the disagreeable effect of subjecting substances to be used as articles of food to any putrefactive fermentation whatever, the whole process being capable of being performed in three days. We also obtain a much greater product from the materials employed, less destruction or chemical changes being effected in the pieces of skin or sinews employed by this speedy process than in the usual process of steeping in lime for a long period of time, when it is found that nearly one-half of the material employed, which is well known to chemists to be originally gelatinous in its nature, is converted into an insoluble albuminous substance.

We consider that by our method of operating to the manufacturer are not only saved time and expense, but that also the product is increased from nearly twenty to fifty per cent. of glue or gelatine.

Having thus described our invention, its uses, effects, and advantages, we do not claim the liming or treating with acid or alkaline substances the glue-stock as new.

What we claim as new, and desire to secure by Letters Patent, is—

The rapid preparation of glue and gelatine of better quality and increased quantity from skins and sinews by the method herein described.

LAWRENCE REID.
JOHN ROGERS.

Witnesses:

ANDREW THOMPSON,
E. STEPHENSON.