

and one-third for food, there is therefore, scarcely an atom of waste.

If the whole of the fibrous substances were worked up into paper there would be produced about 1,500,000 cwts. of paper from the lichen collected in the Austrian monarchy. There is no doubt whatever that paper made from pure maize substance far surpasses the best rag paper in strength, toughness, durability, and power of bearing. Experiments made in my own room and before my own eyes, showed that one sheet of bleached maize paper chosen from the portfolio, sustained a weight of 460 Vienna pounds.

If the substance is ground short, on which the transparency depends, maize paper can probably be used as an excellent substitute for glass, owing partly to its natural transparency. It may further be remarked that factories for the extraction of fibre and substance for bread, require no expensive machinery, and but little additional material.—*From the Technologist.*

[The remaining portion of this article, as it appears in the *London Technologist* for March, 1863, is copied word for word from the January No. of this Journal without the slightest acknowledgment.]

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## Patent Laws and Inventions.

### ABRIDGED SPECIFICATIONS OF ENGLISH PATENTS.

2645. H. ELLIS. *Improvements in the manufacture of compounds of silica, and in the application of certain compounds of silica to mineralize woven fabrics, paper, and paper pulp, to harden and preserve stone and cement in the production of artificial stone and paint, and in the production and glazing of porcelain and such like manufactures.* Dated September 29, 1862.

To manufacture compound silicates, the patentee first precipitates the compound silicates out of solutions of silicate of soda, or of potash, by means of solutions of any of the salts of the metals, or of the earths. He then strains and washes the silicates so obtained; and while recently formed, or in the gelatinous state, he redissolves them in as much as may be sufficient of a solution of silicate of soda, or of potash or of both. If the silicates have been allowed to get dry he heats the mixture up to the boiling point to facilitate their solution. All gelatinous silicates, however obtained, may be made soluble in the above manner, and by addition of carbonates of soda or of potash. Solutions of the boro-silicates, phospho-silicates, and chromo-silicates he obtains by mixing saturated solutions of borate of soda, or chromate of potash,

with an equal quantity by measure of solutions of silicates of soda, or potash, or of both, of about 1.2 specific gravity, and then precipitating by means of solutions of the metallic or earthy salts, and washing and redissolving the recent precipitates so obtained in the manner described. All the above compound soluble silicates may be reduced by evaporation into a gelatinous state, and preserved for use in that state in air-tight vessels.

2654. A. PRINCE. *Improvements in the manufacture of varnish, printing ink, paint, and printing colours.* (A communication.) Dated September 30, 1862.

This invention consists in the use and application of petroleum, or the products thereof (instead of linseed oil hitherto in use), to the manufacture of varnish, printing ink, paint, and printing colours, and oil colours of every kind. Instead of natural petroleum, coal and schist oil, prepared in an artificial way, may likewise be applied.

2982. P. W. REUTER. *Improvements in dyeing.* (A communication.) Dated November 4, 1862.

In carrying out this invention, the inventor takes slacked lime in the proportion of 1 lb. to every 100 gallons of water, or thereabouts, and after the same has been well mixed, he takes the clear solution of lime and adds thereto powdered oxide of lead, litharge, minium or massicot, or other salt or compound of lead, in the proportion of about 2 oz. to every lb.