metallic or other base capable of forming an insoluble compound with hydro-fluo silica acid, is forced into the timber, wood, or other vegetable matter to be acted upon by hydraulic or other means, and this process is repeated until the wood, &c., is sufficiently charged or impregnated with the solution to enable it to withstand the influence of flame. After the impregnation has been thoroughly effected with any of the given solutions, hydro-fluo silicic acid is forced into the wood, &c., by analagous means, with a view to render the solutions insoluble.

1783. E. G. F. De La Provotais. *Extracting the fibres from genista scorparia (broom) and other application to manufacturing paper and fabrics, and also treating the washing waters so as to obtain dyeing products therefrom.* Dated July 15, 1861.

The patentee claims, 1. Preparing ligneous fibres from genista scorparia (broom) for the manufacture of paper, pasteboard, and also of fibres intended to be converted into fabrics. 2. Colouring products from the washing waters remaining after the treatment of the fibres.

1802. A. V. Newton. *An improved process and improved machinery for obtaining fibres from the stalks or leaves of fibre yielding plants.* (A communication.) Dated July 17, 1861.

The object of the first part of this invention is to obtain directly from stalks, or leaves of fibre-yielding plants, the fibres in the white state, and of full strength. To this end the fibres are separated from extraneous matter of the stalks or leaves (which have been cut from the plants before the sap has ceased to flow through such stalks or leaves and while they are yet in the green state) by breaking, beating, scraping, or combing, or by other like mechanical operation, the extraneous matter being removed from the fibres whilst the fibres are protected from the action of the colouring agents by the presence of water or other equivalent fluid, which will prevent the extraneous colouring matter of the plant from impregnating the fibres. The second part of the invention consists in an arrangement of mechanism, whereby the stalks or leaves are held firmly and introduced slowly to the action of rapidly-moving combs and scrapers, which break through, loosen, and scrape off the extraneous substances from the fibres. When this is effected, then the motion of the feeding mechanism is reversed. The portion so acted upon is by this reverse motion withdrawn, and the other ends of the stalks or leaves are presented in like manner to the action of the comb and scrapers.

1836. C. N. Kottula. *Certain new compositions to be used in the manufacture of soap.* Dated July 22, 1861.

This invention consists in forming new compositions, by mixing alum with caustic soda, or with soda ash. When the caustic soda composition is dissolved in water, and the soda ash composition in water to which lime has been added in the usual manner in making ley, purified leys are produced superior to any hitherto obtained for the manufacture of soap.

1894. E. H. Joynson. *Improved machinery or apparatus for disintegrating, crushing, or drawing out vegetable fibres.* Dated July 29, 1861.

The improved machine consists as a travelling endless table, composed of metal plates joined together in the form of an endless chain, which passes round two octagonal or prism rollers, to which motion is communicated from the prime mover by any convenient arrangement of gearing. A stationary table on which the vegetable fibre to be operated on is placed by the attendant, is situated at one end of the machine, and another table, inclined board, or suitable receptacle, to receive the disintegrated fibres after they have passed through the machine, is situated at the other end.

1947. M. A. F. Mennons. *An improved odontalgic elixer.* (A communication.) Dated August 6, 1861.

This consists in the preparation of a medical extract, applicable to the treatment of caries and other diseases of the teeth. This extract is obtained as follows:—To about ten quarts of cognac brandy are added cochlearia two and a quarter pounds (avoirdupois), milfoil, thirteen and a half ounces, pulverized cloves, one ounce, pulverized cinnamon, one ounce, pulverized cochineal, two ounces. The mass is left to infuse for fifteen days, after which it is filtered and completed by the addition of tincture of quinquina, ten ounces, concentrated essence of aniseed one and two third ounces, concentrated essence of mint, two-thirds of an ounce.

1956. W. Clark. *Improvements in bleaching and clarifying saccharine matters and an apparatus for the same.* Dated August 6, 1861.

This consists mainly in treating saccharine juices of all kinds, either in a heated or cold state, by animal black in a state of fine powder, together with argillaceous or other earths; stirring up the mixture with a suitable agitator. After stirring for a certain time, the juices are bleached by fine black argillaceous or other earths, and one or several jets of steam introduced into the mixture, which produces a violent effervescence, and sets the whole mixture in motion, and after continuing this for a certain time the juices will become bleached. A mechanical agitator may be used as well as the steam jets to produce more complete agitation of the liquid.

1997. A. Barclay. *Improvements in machinery or apparatus for raising, lowering, or moving heavy bodies.* Dated August 10, 1861.

Under one modification this crane consists of a main pillar or column, fitted in a footstep bearing, and movable or not about its axis. This pillar has jointed to it a jib extending upwards in angular direction, and having jointed to its free extremity a secondary jib or beam, which sustains the load to be raised or moved. This secondary jib or beam is jointed to the main jib at about one-third of its length from the upper extremity, which is connected to the main pillar by a connecting rod or radius bar. A pulley is fitted to the lower end of the secondary beam, over this the chain to which the load is attached is carried, and this chain is carried up over a pulley at the junction of the secondary beam and the radius bar, and down to an ordinary winding barrel, which is fitted to the main pillar, and may be actuated either by hand or steam-power. The hoisting chain is wound round the front of the barrel, and there is a second chain for drawing in the main jib, which is wound on a duplex barrel in a direction contrary to that