LUABLE RECEIPTS.

ABLE CLOTHES.—Cotton and linen clothry inflammable and during the winter season fatal accidents occur from clothes taking fire. el or other clothing made of wool should be exclusively for the winter clothing of children, th on account of their warmth and their greater afety from fire. Wool and silk do not inflame when they come in contact with fire, but singe away slowly; and when cotton cloth is so high in price, woolen cloth may be considered the most economical for wear because it is the most durable. Woolen cloth and flannel are generally held to be uninflammable fabrics. Cotton and linen clothes however will always be worn to a great extent when they can be obtained; therefore, a knowledge of the mode of rendering them non-inflammable, to the same extent as woolen clothes, will be useful to very many persons. This is a subject which has engaged the attention of chemists and others for a long period, and various modes and compositions have been tried and used to prepare such fabrics and impart to them non-inflammable qualities. Gay Lussac made a great many experiments with linen and he found that the chloride of ammonium (sal ammoniac) the sulphate, the phosphate and borate of ammonia rendered it inflammable. In 1857 a mixture of three parts of sal amamoniac and two parts of phosphate of ammonia was patented in France for rendering linen uninflammable, and it is a very good composition for this purpose. It is dissolved in water, the solution being moderately strong, the cloth handled in it and perfectly saturated, then taken out and dried in the atmosphere. Among the numerous substances and compounds which have been tried, the sulphate of ammonia and the tungstate of soda are stated to be the best by Messrs. F. Versmann and A. Oppenheim, London, who are engaged in the business. A concentrated solution of tungstate of soda diluted with water to 28° in Twaddles' hydrometer, and then mixed with 3 per cent of the phosphate of soda, is used in the laundry of Queen Victoria for preparing muslins. The clothes are immersed in it, then wrung out, dried and ironed. The tungstate of soda may be mixed with starch and thus applied in a very convenient manner. About one ounce is sufficient for a pound of starch. No substance that absorbs moisture after the clothes are dry should be used for mixing with the starch of clothes or for treating them in solution.

Sail cloth has been rendered uninflammable as follows:—Two parts of the protochloride of tin (a common salt of tin sold by druggists and others) are dissolved in one of water, and according to these proportions the solution is made in such a quantity as will cover the extent of sail cloth to be treated. The canvas is then soaked for two days in this solution; then soaked for one day afterward in another strong solution of the carbonate of soda. The sail cloth is then rinsed in cold water and again dried. Salt water will not remove this substance from the canvas. Such a preparation tends to prevent mildew in the canvas, but it also weakens the fiber of the cloth. These substances also render paper non-inflammable.

PUTTY.—A very good substitute for putty may be easily prepared by mixing calcined plaster-of-paris and water to the consistence of thick cream. It should be prepared in small quantities and applied immediately, for it quickly hardens, when it loses its plasticity. For repairing broken windows, when putty is not at hand, it answers a very good purpose.

THE MINERAL RICHES OF THE LAKE SUPERIOR REGION.

Copper and iron are found in exhaustless quantities in the Lake Superior region, forming the northern peninsula of the State of Michigan. Their existence has long been known to geologists, but it was not till the completion of the Sault St. Marie Canal, in the year 1855, that these mineral treasures became commercially available. Since that time, the great impediment to transportation being removed, the resources of the districts severally known as Ontonagon, Keweenaw Point, and Portage Lake have been wonderfully developed. The aggregate value of copper exported from these points in the year 1845 was $390; in 1860, the amount reached $2,944,000. Seventy sail of vessels and twelve steamers were inadequate to do the business between ports on lakes Erie and Superior. Yet the assertion is made that "we have only reached the morning of copper wonders." The great range comprised within the districts above-mentioned for the most part remains in its primeval state, though mining is being practically methodized; the most approved apparatus is in course of introduction for stamping and separating the rock; and the time is looked forward to, as not far distant, when this region will supply the demand not only of the United States but of Europe. The U. S. Mint refuses to receive any but the pure metal to be obtained from Lake Superior. The most extraordinary features, however, presented by the mines of Lake Superior, are the enormous masses of pure copper blasted out at various points, some of them weighing 300 or 400 tuns.

The copper stamping mills generally stop once per year to make repairs, and an account of the year's work is generally made out at the period of stoppage. We learn from the *Mining Gazette* that, during twelve months' operations in 1862, the five stamping mills on Portage Lake crushed and washed 130,000 tuns of rock, and taking 100lbs for each cubic foot of rock, it amounts to 2,600,000 cubic feet. On Portage Lake, within a radius of five miles, there are seven copper mines in operation. Their produce in 1862 was over 4,000 tuns of copper. The Isle Royal mine is the oldest in the district; it has been opened to a depth of 474 feet. It produces stamp work, that is, the rock containing copper is crushed by stamps, then washed, the debris being carried into the lake, and the copper, containing about fifteen per cent. of impurities, is retained for smelting.

The deposits of iron in this region are of great extent, and in several places they form hills of ore several hundred feet in height. The mines (or quarries, for the ore is simply thrown down by the use of powder from the side of a cliff) are fourteen miles back from Marquette, at which point several blast furnaces are now in operation. Large quantities of Lake Superior iron ore are exported to Ohio, lower Michigan and Pennsylvania, where it is made into pig iron. As every special kind of ore requires special treatment, considerable experience is necessary in the smelting of this ore. We have been informed that the pig iron obtained from it in some establishments is of an inferior character, it being what is called "burnt iron;" while in other establishments pig iron of an excellent quality is obtained. These differences of quality in iron obtained from the same ore are due to differences in the modes of treating it in the smelting furnace. As it is a very pure ore, we have been told that it should be smelted under a moderate blast, and a comparatively "low head" of furnace.

FATTENING OF POULTRY.

In the hands of many persons the fattening of poultry has almost become a science. They know how to take a lean turkey, for example, and so feed it as to double its weight in a few days, and at the same time they render its flesh savory and agreeable. There are two modes of feeding poultry for fattening; namely, the natural and the artificial methods. The former is that most generally pursued in England and America; the latter is the French method. The natural mode consists in allowing the fowls a degree of liberty in the barn yard, and supplying as much nourishing food as may satisfy their appetite. This method is generally preferred in America, and many experienced poulterers affirm that they can obtain as good fowls in this way as by any description of forced feeding.

The artificial method consists in forcing food at regular intervals down the gullets of the fowls. This food consists of a mixture of corn meal, milk and water; or, as in France, barley meal, which is fed by means of a filler and funnel, the latter being made of tin with an india-rubber ring on the bottom to prevent injury to the throats of the birds. Some persons instead of using a filler, employ the finger for stuffing down the food, which is prepared in a more solid form, and consists of a hash made of boiled potatoes, corn meal, sweet milk, and finely chopped suet. During the period of artificial feeding, the fowls are kept in boxes, which are well littered and placed in a moderately warm situation. They are usually fed three times per day, and the period of fattening is from fifteen to twenty days. In applying the food with a funnel, the fowl is seized by the wings near the shoulder, the head is held forward between the knees and grasped by the left hand; the beak is opened, the funnel inserted, and the proper quantity of the mixture poured down. Two persons can feed quite a large number of fowls in this manner in a very short period.

Some persons who make a business of fattening poultry are exceedingly careful of the food which they apply, and they keep their mixtures somewhat secret, ascribing a mysterious influence to their particular modes. A mixture of boiled Indian meal, mashed potatoes and sweet milk, with a little finely chopped suet, is as good food for turkeys as can well be provided. Fowls should always have access to gravel during the period of fattening, as they swallow small stones, these being found necessary to promote digestion.

Some feeders of poultry assert they can give the flesh of fowls any particular flavor they desire by the kind of food which they give to them. This is probably true, as the flesh of wild game acquires the flavor of the berries and aromatic buds upon which the birds feed.

APPLICATIONS FOR THE EXTENSION OF PATENTS.

The following persons have applied to the Commissioner of Patents for the extension of their patents for a term of seven years:—

Steam Engine.—George H. Corliss, of Providence, R. I., obtained a patent on March 10, 1849, for an improvement in steam engines. This patent was surrendered and re-issued on the 13th of May, 1851, and again surrendered, re-issued and divided into six patents on the 12th of July, 1859, said patents being numbered respectively Nos. 758, 759, 760, 761, 762 and 763. The patentee now prays for an extension of the last patent (763). The testimony will close on Feb. 9, 1863, and the petition will be heard at the Patent Office on the 23d of that month.

Cutting Teeth of Beveled Gear.—George H. Corliss, of Providence, R. I., obtained a patent on March 10, 1849, for an improvement in cutting teeth of beveled gear. The testimony will close on Feb. 9, 1863, and the petition will be heard at the Patent Office on the 23d of that month.

Loom.—Erastus B. Bigelow, of Boston, Mass., obtained a patent on March 10, 1849, for an improvement in looms for weaving Brussels carpets, &c. The testimony will close on Feb. 9, 1863, and the petition will be heard at the Patent Office on the 23d of that month.

Persons who wish to oppose the extension of these patents should attend to it without delay. Copies of the claims in each case will be promptly forwarded from the Scientific American Patent Agency upon the receipt of $1.

Great Ages of Trees.

There is "a glory in trees" as they lift their tall branches on high, giving shelter to the merry squirrel or the singing bird in summer; or when forming Eolian lyres in winter as the winds sing in their leafless boughs. There are many trees which have become sacred by the endearing associations of family scenes. Generation after generation connected with the old homestead have sported beneath them in infancy, and reclined in their shadow in old age. That exquisite ballad, "Woodman, spare that tree!" is brimful of poetry, because it is full of truth and vibrates on the tendrils of every heart.

Some trees attain to a great age. In a recent lecture on geology by Mr. Denton—delivered in Montreal, C. E., and reported in the *Gazette* of that city—he said that there was a tree cut down in California 96 feet in circumference. He had counted on a block of it, shown in Wisconsin, 13 rings of annual growth to an inch! Here then was a tree 2,496 years old—a tree that was a sapling when Nebuchadnezzer was a boy—that was nearly 200 years old when Socrates was born. A yew at Forthingall, in Scotland, was calculated to be 2,600 years old, and one in Kent, 3,000. There was a tree in Senegal in which an incision was made and the concentric rings counted, from which it was calculated to be 5,150 years old!