to bore holes in situations where it is impossible to rotate the bit brace, substantially as set forth.

And in connection therewith I also claim the double ratchet wheels on the spindle, a, when arranged in such manner in relation to the detent, e, as to enable the necessary connections and disconnections to be effected between the bit holder, and the permanent and auxiliary handles of the brace, substantially as set forth.

Gas Stoves—Thomas Watters, of Boston, Mass., (assignor to Stephen Sherlock, of Eastport, Me.): I claim the combination of the main chamber of combustion, B, its air and gas burner or burners, C, and the auxiliary chamber of combustion, D, made to communicate—by one or more passages, F,) with the main chamber B, and having pipes E, extending through the chamber, B, and arranged so that air in passing through the said pipes may be heated by the heated products in the chamber B, as specified.

I also claim the air and gas burner, G, and supply pipes, H, in combination with the main and auxiliary chambers of combustion, B and D, made to communicate with each other, as specified.

I also claim the combination of the reverberating bell or dome, K, with its auxiliary chamber, D, and the main chamber B, when furnished with burners, and connected with one another and the external atmosphere, as specified.

Hay Rakes—S. W. Wood, of Washington, D. C., (assignor to Lewis H. Parsons, of New York City: I claim a hay rake, consisting of a loose revolving tube, c, in combination with a segment wheel, F, placed upon an axle, A, said tube being provided with the teeth, D, of any desired form or material, the whole being arranged and operating in the manner substantially as described.

RE-ISSUES.

Cutting Out the Uppers of Boots and Shoes—J. Chilcott and R. Snell, of Brooklyn, N. Y. Patented Sept. 13, 1853. Patented in Belgium, Sept. 16, 1852: We do not claim, generally, the manufacture of boots without crimping.

But we claim cutting, or otherwise making the leather or other material, to form the upper of the boot by folding without crimping of the form substantially as shown in Fig. 4, and having its characteristics herein fully described, whether the said form be produced by a single piece of material, or by the union of two or more pieces

[The fronts of boots have all to be crimped or stretched—if made in one piece—on an instrument made for this purpose. This operation is tedious and laborious, and besides it weakens the leather. It also precludes the use of an inelastic material in boots, such as patent leather, unless the fronts and backs are made of separate pieces. This improvement dispenses with the crimping process, owing to the peculiar form in which the material is cut; and the uppers can be made in one or more pieces, so as to fit the boot to the shape of the foot with perfect accuracy.]

Bomb for Killing Whales—Nathan Scholfield and Wm. W. Wright, (assignors to Nathan Scholfield,) of Norwich, Conn. Patented March 10, 1857: We claim, first, Inserting the end of the fuse through a short pipe or collar e, and securing it firmly therein, by compressing the same, and driving or forcing this within the end of the fuse pipe, having a conical enlargement at its rear end.

Second, Enlarging the end of the fuse chord, by winding it with twine, or its equivalent, so that it cannot be drawn through the pipe, either with or without the fastening pipe e, and putting gypsum, brimstone, or wax, around it, within the nut A, to hold it securely.

Third, We claim the application of the sliding collar h, on a projectile, carrying a cylindric metallic plate covering the projectile, and either slit, to form wings K, or unslit as a cylinder case, and so constructed that the said collar with the case or wings shall slide to the rear, after being discharged from the gun, either by the action of the spring, or the resistance of the air to guide its direction.

Fourth, We claim so constructing and applying these wings K that they may concide with the cylindric surface of the projectile while in the gun, and that their rear ends may be thrown up therefrom, by their elasticity, after being discharged, so as to stand in positions diverging from that surface in the rear.

Fifth, The application of helical or spiral springs S, on the surface of a projectile, to force to the rear a collar h, (either with or without the guide E,) after leaving the gun substantially as described.

DESIGNS.

Stove Ornaments—Samuel D. Vose, of Albany, N. Y. Three patents.

Stoves—John C. Smith, of Troy, N. Y., (assignor to W. Resor & Co., of Cincinnati, O.)

Stoves—S. W. Gibbs, (assignor to Rathbone & Co.,) of Albany, N. Y. Three patents.

Grate or Stove Fronts—John E. Bendix, of New York City, (assignor to S. B. Sexton & Co., of Baltimore, Maryland.

ADDITIONAL IMPROVEMENTS.

Winnowing Machines—Joseph Keech and Stephen Stilwell, of Waterloo, N. Y. Patented June 13, 1854: We do not claim, broadly, the passing of a screen across a blast trunk: but we claim as additional to our patent of June 13, 1854.

The arrangement of the inclined perforated diaphragm S", within the removeable blast trunk C, as and for the purposes set forth.

Snake Bites.

Messrs. Editors—In the 7th vol. of A. J. Downing's *Horticulturist*, page 188, there is an article on what was then called the "Snake Plant of South America," and if the statements it contains are facts, it is certainly a wonderful plant, and should be more generally known. The best remedy I ever tried for a snake bite was whiskey and red pepper, a table spoon full to half-pint of whiskey, for one dose, to a grown negro man; two doses made him drunk, and cured him. This remedy has been often tried with success, in this region. E. J. C.

Centerville, Miss., July, 1857.

Renovating Articles of Wearing Apparel.

The art of removing stains from clothes produced by acids, grease, mud, coffee, wine, &c., is denominated scouring. To carry the process to perfection requires not only vast experience, but some practical knowledge of chemistry. Our observations upon this subject must therefore be only received as applicable to the ordinary cases of stained fabric; because so much modification of the process is required to be subservient to the various colors and materials worked upon that nothing but practice can teach.

The commonest marks are grease spots, and to scour them out of silk or satin the best materials to employ are oxgall or pure turpentine. If gall be used, it should be quite fresh, unless it is purified, of which we will speak hereafter. If turpentine be employed, it should be distilled, and perfectly free from resin. The preparation called "scouring drops" is pure turpentine, perfumed with essence of lemons. Either of these substances may be applied with a piece of sponge, or with a remnant of the same material that is being cleaned. When the grease spot is large, the greater part may be removed, in the first instance, by the application of blotting paper and a hot iron.

If the stain upon silk or satin is produced by an acid, such as from fruits, and that upon black or dark colors, the best re-agent is liquid ammonia (strong hartshorn) rubbed in till it disappears. For plain and figured silks, of delicate colors, we cannot give a general applicant, and therefore leave them to be operated upon by the professed *degraisseurs*. To obliterate grease spots from white silk or satin, we may proceed as directed for colored silks; but fruit, ink and glove marks require a different treatment. These marks are generally removed by damping the part with oxalic acid dissolved in water; about the eighth part of an ounce in a wine-glassful of water is strong enough. The common salts of lemons in water also answers well. Coffee stains, mud splashes, &c., will mostly give way to the use of soap and water. Curd soap should be applied for this purpose.

For grease spots upon cloth and all kinds of woolen goods, soap and water may be used without fear, provided it is well washed out afterwards. Fuller's earth, or powdered French chalk, made into a paste with water, and laid upon the part, is however the best applicant, to be brushed out when dry.

Paint marks are removed with turpentine, the smell of which may be quickly dissipated by hanging the article upon a line in the air.

The clarified bile, or gall, as it is termed, of the ox is invaluable to painters in water-colors: it not only increases the brilliancy and durability of the colors, but makes them spread better upon paper, and especially ivory. When purified it is also much used by scourers for renovating the delicate colored silks and satins. In its natural state it contains greenish coloring matter, and is then only applicable for restoring the brightness of dark materials. It is discolored thus:—Take one pint of gall; boil and skim it; then divide into two parts; to one half pint add half an ounce of salt, to the other add half an ounce of powdered alum; each part is to be heated till the additions are dissolved; then pour into separate bottles, and allow them to stand and clear (in a quiet place) for a month or eight weeks, even longer if not bright. The clear portions of both are then to be poured gently off the sediments and mixed together; the coloring matter coagulates and falls, from which the transparent gall is finally separated by filtering through blotting paper. In this state it will keep any length of time with its qualities unimpaired, and free from odor. S. Piesse.

Fermented Bread.

The following are a few extracts from a work recently published in England called "Acton's English Bread Book." They are sensible and instructive, and are worthy of consideration by all those who eat fermented bread in any country:—

Wholesome and Unwholesome Bread.—Whether it be made with wheat flour or meal only, or with a portion of sound floury potatoes, or of well-cooked rice, bread will be perfectly wholesome, provided it be sweet, light, and thoroughly baked, though it will be more or less nutritious. This will be the case also if it be composed in part of rye, or Indian corn meal, or oatmeal, or even of barley meal, unless it should be for very delicate eaters, to whom the Indian corn meal and barley are not so entirely adapted as flour or wheat. Hot, or quite new bread, is exceedingly unwholesome. Heavy bread is dangerously so. That which has become sour, either from having been over-fermented in the making, or from having been ill-managed afterwards, is very objectionable, and mouldy bread also is unfit for food.

The Tests of well-made Bread.—Good bread will feel *light in the hand* when lifted, which will not be the case with that which has been imperfectly kneaded. Good bread when cut will resemble a fine sponge of uniform texture, and be equally free from the spaces caused by large air-bubbles, and from the dark streaks which show either that it has been inattentively prepared, or too heavily kneaded when it was made up for the oven. The loaves also of well-made and well-baked bread will retain their shape, and not spread about into unsightly forms, as they will when the dough has been rendered too moist. They will also be equally browned, but not dark-colored, and the crust will be firm and crisp, without being thick and hard. Loaves which have been carelessly baked are sometimes burned in one part, while the dough is scarcely set in another.

Cleanliness in Breadmaking.—If instead of being satisfied with the aspect of the loaves exhibited in the windows of the bakers' shops, we were to descend into the offices where they are made, and witness the want of cleanliness and wholesomeness which attend their fabrication; could see here a reservoir of water *which is never changed*, there supplies of flour exposed to the influence of an impure atmosphere, either too damp or over-heated; and above all, sickly, perspiring men in contact with our food, we should turn away with a very legitimate feeling of disgust. These are revolting pictures, but they are true; yet much which repels us in them is beyond the control of the bakers themselves, arising from the want of space, and fitting accommodation for the trade they follow. How can the air of the ill-ventilated underground premises in which their operations are carried on generally in populous or crowded cities be otherwise than most unhealthy, foul, destructive to the men employed in them, and having the worst effects on the food which they prepare? No article of our nourishment requires more scrupulous nicety in everything connected with its fabrication than bread. Its value—which cannot well be over-estimated—is *dependent on its purity*; and this can be preserved (even when it is composed of *genuine* ingredients) only by the utmost *cleanliness* in all the details of its preparation, and the absence of every unwholesome influence in the locality where it is effected.

Black on Wool.

The *London Engineer* describes a new process for dying black on wool, by Mr. A. Neunheffer. It is conducted as follows:—Into a vessel (boiler) containing boiling water, add 1.75 kilograms (a kilogram is 2lbs. 3oz. 5 dr.) of the tartrate of potash (crude tartar) 1.75 kilograms of the bi-chromate of potash; 0.75 sulphate of copper, and 0.75 sulphuric acid. The woolen yarn or cloth to be colored is allowed to boil in this mordant for an hour and a half; then it is taken out, cooled in the air, rinsed in cold water, and is fit for the next operation. Into another bath of clean boiling water, twelve kilograms of logwood and one of fustic are added and boiled for an hour. The cloth or yarn is then boiled in the clean liquor (the chips having been removed) for three-quarters of an hour, when it acquires a deep and durable jet-black shade.

This quantity of chemicals will color 60 kilograms of cloth or wool. It is quite a common process to dye black on woolen cloth, by using the chromate of potash, and crude tartar only, for the mordant, the rest of the process being nearly similar to that given above.

It is not stated what the superior results (if any) are, which are obtained, by the use of the sulphate of copper and sulphuric acid. The old method of coloring black on wool, was by the use of the sulphate of iron and copper.

In all dying operations, electricity, no doubt, plays an important part. If woolen cloth be boiled in a strong decoction of logwood, without a mordant, it will not be colored black.

In all likelihood, the fibres of the wool become polarized by the preparatory process, and they acquire an electric affinity, for attracting the coloring matter held in the solution, and thus forms a new chemical compound, which adheres firmly to the wool upon the same principle that metals are deposited by or precipitated on metalic surfaces, in the art of electrotyping.

Improvements in Drying Glue.

In the manufacture of glue, large drying sheds are employed, in which the glue in thin cakes is exposed on netting to a current of air, flowing through the slats or grating, Glue manufactories are very conspicuous constructions, on account of their long drying sheds; some of which are over four hundred feet long. During damp, warm weather, this method of drying glue, is very precarious the glue being liable to rot, and spoil, because it is a very putrescent substance. A patent has recently been taken out in England by E. Tucker, of Belfast, Ireland, for an improvement on the old air-drying method. The new process is simple; instead of first running the boiled glue from the kettle into wooden troughs, as in the old process, then drying it on suspended nets in the air, he runs the glue into small thin drying pans, and disposes these on racks in a stove room or heated chamber. In its liquid state, in these pans, the glue is subjected to a heat of from 140° to 160° Fah., and at the same time, while the pans are thus heated, thorough ventilation is going on, either by fans or blowers, so as to evaporate all the moisture from the glue very rapidly. By this method, it is stated that the glue is more effectively and more rapidly dried than by the old process, and large sheds are not required for the purpose. The fuel for heating the stove room and the mechanical power required for operating the fans are extra expenses, as compared with the air-drying process; but on the other hand, less labor is necessary in attending the glue in drying, and there is not that liability to loss, by putrification, so that on the whole, the process appears to be an economical improvement.

Alumina in Purifying Sugar.

Alumina unites with coloring substances forming combinations known to painters by the name of *lakes*. The alumina used in their preparation, unites with coloring matters held in solution, and forms a precipitate, thus purifying the water of its coloring ingredients. The office thus performed by alumina has been applied by M. Mene, chemist, of Creusen, Germany, to the purification of sugar syrups, for which animal charcoal is now exclusively used. He takes a solution of alum, and decomposes it with a solution of carbonate of soda, then washes the precipitate in a filter, and allows it to dry; this is the substance which he employs to decolorize sugar syrups. One quart of molasses in water was discolored with seven grains of this alumina preparation; it required 125 grains of animal charcoal to produce a like effect with a similar quantity of molasses. Sugar syrup is decolorized by making it to flow very slowly through animal charcoal, great quantities of which are required for this purpose in sugar refineries. If this preparation of alum proves to be only of equal purifying power to the charcoal—all other things being equal—it will be a useful improvement in sugar refining.

Stand for Umbrellas in Carriages.

A patent has been issued to C. H. Dilke, of London, Eng., for a peculiar stand for holding umbrellas in railroad carriages. To the door of the carriage, he applies two studs, and the stand is slotted to fasten on to them. The sides of this stand are bevelled off so as not to incommodate passengers; it is made of galvanized iron, and perforated at the bottom, so that the drippings from the umbrellas may escape from it by an outlet to the outside, and thus preserve the floor of the car dry in rainy weather.

Sun Stroke.

This is the season for *coup de soliel*, or sun stroke. A cotemporary recommends to laborers in the sun, the employment of coarse palm leaf hats, with a moist sponge in the top. We believe that very nearly as efficient protection may be obtained by filling the top of the hat with cotton, as is practiced in some localities. It has been affirmed that no one was ever known to be affected with these fits who wore a thick bat of cotton over his head. A remedy so simple deserves to be generally known.