

TASTE AND SMELL UTILIZED.

The two senses of tasting and smelling are usually considered mainly as servants, capable of contributing to our luxurious pleasures, rather than as aids to business success; yet some departments of business could hardly be conducted without their employment. The sale and purchase of liquors and wines are consummated almost entirely by the help of taste and smell. Although the strength may be judged by the eize and appearance of bubbles formed when shaken, by the sinking or floating of olive oil in them, and their appearance when turned, yet the expert judges more readily and correctly of their strength, as well as purity, flavor, etc., by tasting and smelling. In the great wine marts of Europe the business of wine taster is a distinct profession. Tobacco and hops are judged by the purchaser fully as much by smell as by sight and touch; and it is wonderful what expertness is attained by professional judges by the cultivation of this sense; their judgment being practically infallible.

But the testing of tea exhibits, in a more marked manner, the use of taste and smell in mercantile transactions. In every wholesale tea house will be found a row of tea cups with a little furnace or lamp for heating water. There is no sugar or milk. In the side of every chest of tea, ranged in tiers along the walls, is a small hole stopped by a cork. The taster draws the cork, takes a few grains of tea in his hand, smells it, then puts it in a cup, pours a little hot water on it, tastes, and his judgment is formed, the character of the tea is fixed. Frequently the smelling is sufficient, and it is remarkable how absolutely and decidedly the professional taster declares the character of the article he has tasted. Not less remarkable is the fact that there is seldom any marked disagreement between the estimates made by different individuals. The profession of tea taster in our large cities is frequently quite lucrative. Merchants purchase largely, relying implicitly on the representations of the expert; and it is seldom their confidence is misplaced, whatever "tricks of the trade" there may be attempted to deceive the taster.

The gift, if so it may be called, of being a successful tea taster, is not general, although it might be supposed that experience would be all that is necessary to insure perfection, or at least an approximation to it. The profession is severely taxing to the nervous system, affecting the subject similarly to alcohol or tobacco when used to excess.

Submarine Perambulation.

The *Novelliste* of Marseilles gives a very minute account of the system employed therefor working under water. Fulton, it informs us, was the first to solve the problem of a submarine vessel, which he built of copper for purposes of naval warfare, but was obliged to give up the plan because of the difficulty of supplying the men with air, especially when they were to operate at a distance from the apparatus; and, moreover, his method of propulsion was defective, consisting of jointed oars that could not afford a greater speed than 400 yard per hour. At present many ways have been devised for removing those obstacles. The air is supplied by a mechanical and chemical process combined. Before the vessel is let down a provision of compressed air is secured by means of pumps, and distributed among the various compartments; it is calculated to balance the pressure of the column of water she is to encounter at the depth required. The immersion of the submarine boat is obtained by increasing her specific weight through the introduction of water into its reservoirs; the immersion is effected by the expulsion of this water, which latter therefore acts as a moveable ballast. The boat's center of gravity is so arranged as to make her touch the bottom with her base flat, and almost without a shock. When the ground has not been explored before, the vessel is kept in suspension until, by a skillful manœuvre, a proper place is found for her. By ingenious contrivances an exact equilibrium is obtained between the compressed air and the column of water, and the trap doors communicating with the bed of the sea are then opened. The men, standing with their feet on the latter, but having their heads still in the chamber containing their supply of air carry the boat to the spot they want to explore; but if they find it necessary to leave the craft, each puts on his scapbander, or water tight helmet, provided with a hose, through which he receives air from the vessel, and which is screwed to one of the reservoirs of compressed air, and can thus work at a tolerable distance from the boat.

Editorial Summary.

A SPLENDID BEQUEST.—It is understood in private circles, that Henry Keep, Esq., of this city, whose name is very prominent in the railroad interests, has purchased the block of ground on the Fifth avenue, opposite the Roman Catholic Orphan Asylum, consisting of twelve city lots, whereon he proposes to erect, at his own expense, and for the benefit of the city, an elegant art gallery. The price paid for the ground is \$260,000, and it is understood that Mr. Keep will expend nearly a million of dollars upon the building. Mr. Keep began life a poor boy, and as a reward for his energy and integrity he has amassed a large fortune, and now proposes to spend some portion of it for the good of the people. The particulars of this noble bequest have not yet been made public.

THE atmosphere in the tunnels of the Metropolitan Railway in London is reported to be absolutely poisonous, and without any sufficient cause, as their proper ventilation is perfectly practicable. Several deaths are reported as having occurred in these neglected passages, and the compulsory purchase of the road by the Government is loudly demanded by some of the English journals.

SMOKY CHIMNEYS.—A correspondent of the *BUILDER* submits a simple and cheap remedy for smoky flues, which is stated to be successful in eight out of ten bad chimneys. The principle upon which it depends is sound, and its use would obviate, in many instances, the employment of the unsightly chimney-tops which so often mar the architectural effect of otherwise fine buildings, without answering the desired end. He says: "I find from experience that, by the use of fine wire gauze of from thirty-six to forty wires to the inch, as a screen, blower, or guard, judiciously applied to register stones, ranges, or stove doors, little if any smoke will come into the room. The atmospheric pressure prevents the smoke entering the room through the gauze, and if applied immediately to the front of the fire more smoke will be consumed than by any other means. In that case the wire should be kept two inches from immediate contact with the hot fire."

HOW NOT TO STRAIGHTEN CURLY HAIR.—Two different applications for patents were lately made for compounds, claimed to take the natural curl out of the hair of negroes and make it straight. In one of the compounds, the chief ingredient was extract of Iceland moss, and in the other nitric acid $N O_5$. It was proved by actual experiment, to the satisfaction of the examiner that neither of these compounds would accomplish the result, and the claims were refused. Evidently the applicants only wanted patents as a recommendation to induce as many colored people as possible to try a bottle of the worthless stuff. Indeed, if every colored woman in the United States would only spend fifty cents to buy the remedy, being persuaded to do so by the recommendation of a United States patent, the patentees would make a nice little fortune. The result of these applications shows the value of a preliminary investigation into the merits of alleged new discoveries.

THE enterprising city of Chicago is to have a grand park, to be located on the Riverside Farm, about seven miles out of the city, and known as the Gage property—owned by D. A. Gage, of the Sherman House, embracing about eleven hundred acres, and to be connected to the city by a broad boulevard. The park is to be laid out in winding avenues for drives, and the grounds will be offered by the proprietors as sites for the erection of suburban residences. This strikes us as a very sensible project, and the natural advantages of Chicago will place the proposed park within easy access of those who seek for rural beauty and homestead enjoyment.

WOODEN PARASOLS.—The wooden parasols which were introduced extensively in the French capital and will likely find patrons in other fashionable centers, may thus be described: They are painted to represent peacocks' feathers, each feather being a separate rib, like those of a fan. By ingenious mechanism they can be fastened into the form of a parasol, and can also be folded up into as small a compass as a fan, which purpose they answer admirably. They also can be turned into a variety of things, and have joints by which they shade the wearer on any side where the sun is too powerful.

THE Abyssinian King—Theodore—wished his captains to attack the British by night, but preferring to meet death by daylight they declined the proposition. Had they accepted, it is doubtful whether they would not have been put to rout without a single shot, by the magnesium light Sir Robert Napier carried with him on the expedition. Had they stood their ground in face of the blaze of light thrown directly in their faces from a distance of 600 yards, the English shielded by the night could have picked them off at their leisure.

THE first Northwestern Woolen Exposition and Convention of Wool Growers and Manufacturers at Chicago, opened August 4th. It promises to be interesting. Mr. W. G. Coulter, in his speech during the second day's proceedings, stated that the superior facilities possessed by Western woolen manufacturers were nearly 25 per cent. in their favor over those possessed by the New England States. Fifteen hundred different lots of goods are on view, and many distinguished agriculturalists, wool growers, and manufacturers are present.

A CORRESPONDENT from Franklin, N. Y., sent, some days ago, a communication in regard to some reports heard by many individuals in that locality. By some mischance the communication was mislaid. The explosions occurred at a time when the sky was cloudless, and we learn from a second communication that they have been ascribed to the falling of a meteor. The reports were so loud in some cases as to severely jar houses and cause dishes to rattle, etc.

THE *Revue Populaire*, of Paris, gives an account of some very curious experiments made by Dr. Claude Bernard. If oxygenized blood be injected into the arteries of the neck immediately after decapitation, warmth and sensibility return, the eye gets animated and displays such perception that an object shaken before it will cause winking of the eyelids and movements of eyeballs as though to avoid injury.

THE dwellings found at the bottom of the fresh water lochs in Scotland continue to be discovered in various parts of the country and are attracting great attention, as throwing light upon the habits and history of the Celtic race which for many centuries inhabited that country. The first one was brought to light by the draining of a loch on the property of the late Mr. F. D. P. Asley, in Arisaig.

RUSSIA will soon have the Black Sea and the Baltic in direct railway connection. This was a long contemplated project, and will not only develop her commerce but enormously increase her defensive power.

WE are in receipt of several communications requesting information in regard to the spectroscopy and spectral analysis. A full description of the instrument and its use, with engravings is to be found upon pages 17 and 18, Vol. XV. of the SCIENTIFIC AMERICAN.

THE Commissioner of Patents has extended the patent of M. A. C. McIllier, of Paris, for making straw paper. It is a chemical process for reducing straw and other vegetable matter to pulp by the application of a solution of hydrate of soda, also in the employment of hypochlorites in the process of bleaching. It is said to be a valuable invention.

MONEY PACKAGES.—Persons who send money to this office by Express, should always enclose a letter in the envelope along with the money. We frequently receive packages without the accompanying letter and are sometimes bothered to know who sent it. A letter would save time and trouble.

ANOTHER victim to science has fallen on African soil. Le Saint, the geographer, who had left France about nineteen months ago, has died at Abn Khaka. Malte-Brun has received letters from Alexandria which leave no doubt as to the young traveler's fate.

CYRUS W. FIELD telegraphed from London, August 3d, that the Atlantic cable of 1866 ceased to work about thirty-five minutes past twelve o'clock on that day. The damage is at the Newfoundland side, according to the tests, and is supposed to have been caused by an iceberg.

A PETITION signed by four hundred ladies has been presented to the Russian Minister of Public Instruction, praying that the Professors at the University might give special lectures for ladies, so as to satisfy their legitimate desire for higher instruction.

A SPINNING wheel made in the year 1768, and in good preservation, was recently sold in Lancaster, Pa., for ten cents, we should think that a poor compliment to the old family friend.

OFFICIAL REPORT OF PATENTS AND CLAIMS

Issued by the United States Patent Office.

FOR THE WEEK ENDING AUGUST 5, 1868.

Reported Officially for the Scientific American.

PATENTS ARE GRANTED FOR SEVENTEEN YEARS, the following being a schedule of fees:—

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| On filing each caveat..... | \$10 |
| On filing each application for a Patent, except for a design..... | \$15 |
| On issuing each original Patent..... | \$30 |
| On appeal to Commissioner of Patents..... | \$20 |
| On application for Reissue..... | \$30 |
| On application for Extension of Patent..... | \$50 |
| On granting the Extension..... | \$50 |
| On filing a Disclaimer..... | \$10 |
| On filing application for Design (three and a half years)..... | \$10 |
| On filing application for Design (seven years)..... | \$15 |
| On filing application for Design (fourteen years)..... | \$30 |

In addition to which there are some small revenue-stamp taxes. Residents of Canada and Nova Scotia pay \$500 on application.

Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of model required, and much other information useful to Inventors, may be had gratis by addressing MUNN & CO., Publishers of the Scientific American, New York.

80,529.—YARN-BEAM FOR LOOM.—Benjamin A. Bailey (assignor to himself and William H. Kilvert), Lewiston, Me. I claim, 1st, The serrated keys and key-seats, for holding the head in position, substantially as set forth. 2d, A yarn beam, having main heads, made movable and adjustable, in combination with serrated key seats and adjustable keys, substantially as described.

80,530.—ELEVATED RAILWAY.—Eli M. Barnum, N. Y. city. I claim, 1st, The construction and arrangement of the supporting columns of three plates, two outside corrugated plates joined upon a third central plate, arranged substantially as described.

2d, The construction and arrangement of the base block of the columns, substantially in the manner described, with a bearing in the top and bottom thereof, the bottom bearing being fitted with keys, by which the column can be adjusted to a vertical position after the base or foundation block has been set, and without disturbing the same, the upper bearing acting as a fulcrum, by which the keys in the bottom bearing bring the tops of the columns to their proper position, in the manner substantially as described.

3d, In combination with the top of the columns, a separate cross-head, T, constructed, applied, and secured, substantially as described.

4th, Combining, between the wooden cross-tie, Q, and the iron cross-head, T, when constructed, the latter with a V-shaped top, and the former with a V-shaped bottom, the iron-rubber bearing pieces, I, inserted in the recesses cut in bottom of the cross-tie, so as to shed the water, and avoid the accumulation of ice and dirt upon the rubber.

5th, The method and arrangement of securing the cross-tie and rail chair to the cross-head, substantially as described.

6th, Combining with the columns and rails of an elevated railway, a pipe or tube, for the purpose of supporting, sustaining, and bracing the same, substantially as described.

7th, In combination with the supporting columns, the adjustable brackets, B, Figs. 8 and 6, for supporting stop, X, Y, shaft, E, rod, H, and cast, A, B, substantially as and for the purposes specified.

80,531.—MACHINE FOR CUTTING RAGS.—Allan T. Bennett, and William O. Anderson, Cincinnati, Ohio.

We claim in the combination of the gang of hooked knives, C, G, I, C, G, C, arranged spirally along the shaft, so as to reach the material to be acted upon in rapid and regular succession, the notched bench, D, and yielding feed-wheels, E, E', E'', all constructed as described, the knives working immediately between the feed wheels and projections of bench, D, for the purpose set forth.

80,532.—COAL-STOVE.—David B. Cox, Troy, N. Y.

I claim the annular horizontally-circulating flue, b, around the base of the fire-pot, and separated from the chamber above by a perforated partition, g, substantially as and for the purpose herein specified.

80,533.—GOVERNOR FOR STEAM-ENGINE.—Christopher G. Cross, Chicago, Ill.

I claim the arrangement of the lever or crank, T, beam, P, and pumps, N, with the cylinder, B, regulating stop, X, Y, shaft, E, rod, H, and cast, A, B, substantially as and for the purposes specified.

80,534.—LET-OFF FOR LOOM.—George Draper, Hopdale, Mass.

I claim the combination of the connection rod, P', or the mechanical equivalent thereof, with the lay, B, and the mechanism applied to the whip-roller, D, and the Yarn beam, C, such mechanism consisting of the friction-strap, f, its wheel, g, and spring, d, and the operative lever and train of gears, as explained.

80,535.—APPARATUS FOR SWAGING THE SWIVEL-EYES OF WATCH-CHAINS.—Virgil Draper (assignor to Edmund J. Richards), North Att.boro, Mass.

I claim the combination of the grooved supporter, A, the carrier, B, the bed die, D, the swaging die plate, E, and the punch, F, such being constructed for use in manner and for the purpose substantially as described.

80,536.—AUTOMATIC BOILER FEEDER.—Samuel Driver (assignor to Robert H. Driver), Philadelphia, Pa.

I claim the combination and arrangement of the chambers, B and B', and valves, G and G', provided with pistons, F1 and F2, and operated by means of the wheel, F, on the driving-shaft, D, substantially in the manner above described.