

Duchemin. Case appealed to Commissioner, who, in April, 1870, sustains the action of the Board. Then appealed to Supreme Court of the District, and decision in favor of Duchemin, July 7, 1870. On return of case to the Office, in May, 1871, the correspondence was opened, which resulted, in June, 1871, in still another declaration of interference, in this case with a patent, which interference was dissolved in August, but followed in a few days by a fourth interference. The above leading actions were interspersed with sundry correspondence and conferences too numerous to mention; and finally the points at issue were so adjusted that the case was passed on the 6th instant, and appears in the regular issue of the 28th.

## SCIENTIFIC INTELLIGENCE.

## CHEAP PREPARATION OF CHLORINE.

Tessié du Motay, whose name is identified with the cheap production of oxygen and hydrogen, has invented a new process, for making chlorine, that seems worthy of notice. He first prepares chloride of manganese in the usual way, and decomposes this by heating it, in contact with steam and air, in earthen retorts, whereby chlorine and hydrochloric acid are evolved. If oxygen or air is passed over the red hot chloride of manganese, chlorine is given off and peroxide of manganese reproduced. If over this material a mixture of hydrochloric acid gas and air or oxygen is passed, chlorine is continuously produced and peroxide of manganese regenerated. The method appears to possess advantages over the mixture of common salt, manganese and sulphuric acid, or of manganese and hydrochloric acid, formerly employed, as it is continuous; and, after the first outlay for materials, the chief running expense would be the fuel, as the hydrochloric acid required for decomposition would cost very little.

## DEPOSITING ALUMINUM ON METALS.

J. Baynes Thompson, of White Hall, England, writes to the editor of the *Chemical News* that for more than two years he has been depositing aluminum daily on iron, steel, and other metals, and driving it into their surfaces at a heat of about 500° Fahr., in the same way as he does silver and nickel. He also says that he can do the same thing with aluminum bronze, of various tints from the palest lemon to the richest gold color. Some years ago, Dr. Gore, of Birmingham, England, also claimed to be able to coat copper, brass, and German silver with aluminum by means of electrolysis. As there is no reason to doubt the veracity of either of these gentlemen, it would appear to be a fact that aluminum can be deposited by electro-galvanic action the same as nickel, copper, and other metals. We should be glad to be furnished with the details of the process.

## KLINKERFUES' PATENT GAS LIGHTER.

On page 393, Vol. XXIV., we gave a full description of Dr. Klinkerfues' ingenious contrivance for simultaneously lighting the street lamps of a large city. We learn from the German *Journal für Gasbeleuchtung* that the inventor proposes some important modifications in the apparatus. Instead of having a separate tube for regulating the pressure, he proposes to use the ordinary pressure of the gas mains. There are three conditions required: In the first, the apparatus must be out of function and the gas tube closed; in the second, the plates of the battery must touch the exciting liquid and the gas tube open ready for ignition; in the third, the plates must be raised out of the liquid, but the tube must be open for the supply of gas to the burner. The first condition can be attained for each lamp by regulating the apparatus according to the pressure of the day time; the second is put at the evening pressure, with the addition of a few tenths of an inch so as to assure the lighting of all the lamps. The excess of pressure can then be removed and the lamps will continue to burn until, by reversing the process, the day pressure is reached and the supply of gas again cut off. The parts of the apparatus remain the same as heretofore described.

## RED, GREEN AND BLUE FIRE.

In pyrotechny it often happens that colored fires produce disagreeable fumes or burn too slowly. In order to surmount these difficulties, a German chemist, J. R. Braunschweiger, has been making some experiments, and, as the result of his labors, gives the following recipes:

Red fire, 9 parts nitrate of strontia; 3 parts shellac; 1½ parts chlorate of potash.

Green fire, 9 parts nitrate of baryta; 3 parts shellac; 1½ parts chlorate of potash.

Blue fire, 8 parts ammonium sulphate of copper; 6 parts chlorate of potash; 1 part shellac.

It is only necessary to reduce the shellac to a coarse powder. The nitrate of strontia, baryta, and the ammonia salt ought to be intimately incorporated with the shellac before adding the chlorate of potash; and, as any hard rubbing or percussion of the latter salt in a mortar might occasion an explosion, it is better to mix by transferring from one sheet of paper to another, and not attempt to rub the mixture at all. By the above mixture, the suffocating odor of sulphurous acid is avoided, and the fireworks can be let off without inconvenience in any large room. To obviate the danger of spontaneous combustion, the chlorate of potash could be stored in a separate bottle and mixed when wanted, in the way described.

## NITRIC ACID IN WELL WATER.

A. Wagner has determined the amount of nitric acid in a large number of wells in the city of Munich, and finds, for the water obtained directly, an average per liter of 0.1555 grammes nitric acid, equal to 0.2908 grammes saltpeter; and for water introduced by pipes, 0.0249 grammes nitric acid, equal

to 0.0485 grammes saltpeter. As 14 milliard liters of water are annually consumed in Munich, if it were all drawn from the wells it would yield 4,071,200 kilogrammes of saltpeter. The author thinks that enough saltpeter is annually consumed in the drinking water of Munich to make 5,500,000 pounds of gunpowder. What the effect of this enormous consumption of saltpeter may be upon the health of the inhabitants is not stated by the author.

## PRESERVATION OF MEAT.

At the meeting of the Lyceum of Natural History on Monday evening, Dr. H. Endemann read a paper on this important subject, in which he gave an account of a process invented by himself. About 100 pounds of meat are placed in a suitable chimney, and air, heated to 140° Fahr., is drawn by an exhauster through it until it is entirely dry.

Great care is observed, by the introduction of thermometers in different places, that the heat does not get above 140°, as in that case the albumen and fibrin might be coagulated and much more difficulty encountered in expelling all of the water. The air is filtered through cotton before being passed through coils of steam pipe for heating. The meat is subsequently ground into powder, and will keep in ordinary paper packages. It can also be compressed into hard cakes, for diminution of bulk. Four to five ounces of the dry powder represents one pound of meat. Scattered upon bread, its flavor is excellent and preferable to that of raw meat. It has an agreeable aromatic odor; and, as all of the albumen and fibrin are present, all of the nutritious properties of the flesh are retained, which cannot be said of Liebig's extract where these important constituents are wanting. It was stated that the expense of drying need not exceed one cent a pound. Any method by which we can reduce the price of beef must be looked upon with favor; and it is to be hoped that the plan proposed by Dr. Endemann may prove successful.

## PRINCE ALEXIS--HIS WELCOME TO AMERICA.

Full accounts of the brilliant reception of Prince Alexis have appeared in the dailies. The reception was admirably arranged, and the unmistakable cordiality and warmth of his greeting must have been highly flattering to the youthful scion of royalty.

The prince is the third son of the Emperor Alexander II, and was born January 14, 1850. He bears the name of Alexis Alexandrovitch, or Alexis the son of Alexander. He is a Grand Duke, and Chief of the Infantry regiment of Ekaterinbourg and of the first division of the Finland fleet. The Prince Alexis has received a good German education, as well as a thorough training in military and naval tactics. He is reported as in favor of liberal principles, and as opposed to the reactionary policy of the Old Russian party, of which his elder brother, the Czarévitch Alexander, is at the head.

All unite in praise of his fine manly bearing. His stature is above the average of what are usually called large men. He is six feet two inches in height, and broad in proportion. His look is commanding, and he seems possessed of a fine, cultivated mind. Followed everywhere by good wishes, we trust his visit to the United States will prove one of the happiest events of his life.

## NEW BOOKS AND PUBLICATIONS.

**ENGINEER'S POCKET BOOK.** A Pocket Book of Useful Formulae and Memoranda for Civil and Mechanical Engineers. By G. L. Molesworth, Member of the Institution of Civil Engineers. Seventeenth Edition. Royal 32mo; roan. Post Free, \$2. E. & F. N. Spon, London, and 446 Broome Street, New York.

This invaluable pocket book for the engineer is just published in this country, and is a new and improved edition, containing 150 pages additional matter—450 in all. This, the seventeenth London edition, has been rewritten and thoroughly revised, the past year, by its author, bringing into its pages the results of the latest experiments and advances in engineering science. It is one of the most complete, correct, and reliable collections of Civil and Mechanical Engineering Formulae and Memoranda extant. The sale in England alone has reached 40,000 copies, with an increasing demand; and we recommend it to the attention of our engineers and inventors as a profitable investment.

## Examples for the Ladies.

Mrs. Mary O. Lewis, of Tremont, Westchester County, N. Y., reports her personal earnings, by stitching only, with a Wheeler & Wilson Machine, as follows: Earned in 29 months, \$7900; average per month, \$269; per day \$10.76; earned in one day of 13 hours, \$30; earned in one month, \$350, an average per day of \$14; earned in 12 months, \$3745, averaging per day \$12.50. She has used the sewing machine 17 years, and is now, and was during that time, in robust health.

**Dandruff** can be removed by the use of Burnett's Cocoaïne; also Irritation of the scalp.

## Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, One Dollar and a Half per Line will be charged.

Workingman's National Illustrated Paper—the "People's Monthly" of Pittsburgh. Pure, live, cheery and wholesome. Teems with cuts and practical information. Try it for the new year. Only \$1.50.

The paper that meets the eye of manufacturers throughout the United States—Boston Bulletin, \$4 00 a year. Advertisements 17c. a line. An Incubator wanted. G. L. Wing, Somerset Mills, Me.

For Sale—A First Class Engine, 40 Horse Power, two years in use. To be seen working at 102 Attorney Street, New York.

A Traveler of experience and reputation could sell specialties in Crockery, Cutlery, Silver and Glass Ware, Lamps, Gas Fixtures, House Furnishing, &c., on commission, from Jan. 1st, to the Jobbing trade only. Address Lock Box 123, Pittsburgh, Pa.

Wanted—Straw Paper Machinery. N. P. Mix, Columbus, O. Boiler and Pipe Covering manufactured by the Chalmers Spence Non-Conductor Co. In use in the principal mills and factories. Claims—Economy, Safety, and Durability. Offices and Manufactories, foot E. 9th street, New York, and 1202 N. 2d street, St. Louis, Mo.

Hand Saw Manufacturing at the West is comparatively a new industry. Western dealers and consumers are referred to the advertisement of Woodrough & McParlin, on another page.

The best Engine Lathe and Planer Makers, please send circulars and price list to G. P. Capewell, Cheshire, Conn.

N. H. Taylor, Engraver on Wood, re-established at 30 W. Madison Street, Chicago.

Patent Iron Rim Moulders Riddles and Sieves. Send for Circular. Horton & Mable, Peekskill, N. Y.

3 Hydraulic Presses for sale on reasonable terms. Apply to Whitneyville Armory, Conn.

Wanted a set of second hand Stamps, complete, such as used for stamping ores. Address Box 4600, New York Post Office.

Cutting and Stamping Presses, Lathes, Small Engines, other Machinery, small lathe Castings. Address Jno. Dane, Jr., 93 Liberty st. N. Y.

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The best wood filler in use, 25 cents per lb. Made, used, and sent (in packages of not less than 16 lbs.) all over the country, C. O. D., by L. W. Jones, Unionville, Conn.

The best and cheapest Self Oilers are manufactured by Holland & Co., 8 Gold Street, New York. Send for price list.

Land sufficient for the purposes of any good manufacturing business, and most admirably located on the Poughkeepsie & Eastern R. R., with plenty of water for steam purposes at hand, and only fifteen minutes' walk from the center of the city, will be given to any parties who meet the views of the owner. Address P. O. Box 534, Poughkeepsie, N. Y.

Tested Machinery Oils—Kelley's Patent Sperm Oil, \$1 gallon; Engine Oil, 75 cts.; Filtered Rock Lubricating Oil, 75 cts. Send for certificates. 115 Maiden Lane, N. Y.

Use Soluble Glass for fireproofing Wooden Pavements, Shanties, R. R. Bridges—also as common hardening Mortar and Cements. makes most durable Stove and Foundry Putty, Iron Cement. Apply to L. & J. W. Feuchtwanger, Chemists, 55 Cedar street, New York.

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Portable Farm Engines, new and beautiful design, mounted on Springs. Compact, light, and efficient. Send for descriptive circular, Mansfield Machine Works, Mansfield, Ohio.

For the best 15 inch Eng. Lathes, Bench Lathes, or Friction Pulleys, address John R. Abbe, P. O. Box 345, Providence, R. I.

Kelley's Chemical Metallic Paints, \$1, \$1.50, \$2 per gallon mixed ready for use. Send for cards of colors, &c., 116 Maiden Lane, N. Y. Stencil Tools & Steel Letters. J. C. Hilton, 66 W. Lake st. Chicago.

To Boiler Makers—Water Gauges sold cheaper by us than any other House in the Country. Holland & Co., No. 8 Gold st., N. Y.

Baxter's Adjustable Wrenches fit peculiar corners where no other will work. All first class mechanics need one. Baxter Wrench Co., 18 Park Place, New York.

Taft's Portable Hot Air Vapor and Shower Bathing Apparatus. Address Portable Bath Co., Sag Harbor, N. Y. Send for Circular.

Shoe Peg Machinery. Address A. Gauntt, Chagrin Fall, Ohio.

We will remove and prevent Scale in any Steam Boiler, or make no charge. Geo. W. Lord, 107 Girard ave., Philadelphia, Pa.

Builder's Scaffold—Patent for Sale—For further particulars, address Redick & Kunkle, Butler, O.

For Steam Fire Engines, address R. J. Gould, Newark, N. J.

Walrus Leather, for Polishing Steel, Brass, and Plated Ware. Greene, Tweed & Co., 18 Park Place, New York.

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All kinds of Presses and Dies. Bliss & Williams, successor to Mays & Bliss, 118 to 122 Plymouth St., Brooklyn. Send for Catalogue.

The best lubricating oil in the world is Winter pressed Sperm. Sold in bottles, cans, and barrels, by Wm. F. Nye, New Bedford, Mass.

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To Cotton Pressers, Storage Men, and Freighters.—35-horse Engine and Boiler, with two Hydraulic Cotton Presses, each capable of pressing 35 bales an hour. Machinery first class. Price extremely low. Wm. D. Andrews & Bro., 414 Water st. New York.

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Francis Schleicher, Consulting, Analytical and Man'g Chemist. Laboratory, Newark St., bet. Jackson and Harrison St., Box 172, Hoboken.

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