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Contents.

(Illustrated articles are marked with an asterisk.)

Architecture, naval, during last half century..... 127
Armament, British at Victoria..... 131
Army, peace, of the United States..... 129
Anorak borealis..... 135
Beam calorific engine..... 127
Bench and ironing board, combined..... 131
Birds, necessary..... 133
Birds, phosphorescent..... 133
Birds, winter, our..... 133
Blind stop, improved..... 131
Books and publications, new..... 138
Boots or shoes, crimping, device for..... 131
Brush and comb cleaner..... 132
Business and persons..... 138
Charcoal as fossil..... 133
Chevreul's black..... 137
Cocaine habit, the..... 128
Correspondence..... 133
Craze, Yankee, the latest..... 136
Defense of a city, New York within thirty days' time..... 132
Dredger, marine, improved..... 134
Earthquake, Charleston..... 133
Electroplating with platinum..... 132
Emery wheels for smoothing..... 130
Engines, steam, improved..... 137
Eruption in the Tonga group..... 133
Exhibition, American, London..... 137
Fish, meat, etc., canned..... 133
Guns, steel, are they superior?..... 128
Hats, ladies', protector for..... 132
Hydraulic dredging at Washington..... 134
Injector, Penberthy..... 132
Inventions, agricultural..... 133
Inventions, mechanical..... 133
Inventions, index of..... 133
Inventions, miscellaneous..... 138
Life insurance company, a solid..... 127
Locomotive, three-cylinder..... 129
Measuring rack, wood, adjustable..... 131
Medicine, preventive..... 129
Nervous patient, treatment, length of..... 136
Northern lights, the..... 135
Notes and queries..... 138
Patent law, amendment of the, new..... 132
Patent, steel wire brush..... 133
Petroleum in Egypt..... 137
Plasterer's hawk..... 131
Pyrofuxin—a new tanning substance from coal..... 128
Saw-knives, emery vulcanite..... 130
Shark, frilled, the..... 137
Sund, duration of..... 134
Sodium, producing new method of, Castner's..... 129
Steel rail capacity of the United States..... 132
Stump puller, improved..... 132
Sugar process, new..... 134
Sun, duration of..... 134
Thermoscopic balance..... 134
Torpedo boat armed with pneumatic dynamite guns..... 137
Torpedo, effect of, on an ironclad..... 136
Torpedo experiments at Portsmouth..... 136

TABLE OF CONTENTS OF SCIENTIFIC AMERICAN SUPPLEMENT No. 582.

For the Week Ending February 26, 1887.

Price 10 cents. For sale by all newsdealers.

I. AERONAUTICS.—War Balloons.—The establishment of balloon corps in the armies of different countries; the French, English, Italian, and Russian establishments.—1 illustration..... 9288
II. ASTRONOMY.—Astronomical Telescopes; their object glasses and reflectors.—By G. D. HISCOX.—The dialyte telescope; practical details of the mechanical operations of construction, such as lens grinding and shaping; washing flour of emery, tests for correction.—2 illustrations..... 9286
Menrius' Gyroscope Collimator.—An ingenious application of the gyroscope to fixing the horizon line in sextant observations; an instrument crowned by the French Academy.—2 illustrations..... 9291
III. BIOLOGY.—An Epidemic of Micrococcus prodigiosus.—By M. GRUBBER.—Interesting case of bacterial poisoning, with details of the detection of the bacteria..... 9301
The Morphological Conditions of Heredity.—An exposition of Professor A. Weismann's theory of the "perpetuity of germ plasma"; a theory opposed to the doctrine of evolution..... 9296
The Third Eye of Reptiles.—The last conclusions on the pineal gland in reptiles; curious development in anatomy, the possible organ of the sixth sense.—1 illustration..... 9300
IV. CHEMISTRY.—Nitrogenous Principles of Vegetable Mould.—Note of the conclusions of MM. Berthelot and Andre..... 9302
The Lactocurie.—A new method of ascertaining the amount of fat in milk.—By H. FABER.—An apparatus for analyzing milk employing centrifugal force.—Results obtained.—1 illustration..... 9292
V. ELECTRICITY.—Electric Welding.—The new art in metallurgy described by Prof. EDUARD WILSON of his process, apparatus, and current required.—2 illustrations..... 9293
The Electric Waltzers.—An ingenious electric toy.—1 illustration..... 9293
VI. ENGINEERING.—Sustaining Walls. Arched sustaining walls and arched buttress es; elaborate study of French practice.—11 illustrations..... 9288
VII. METEOROLOGICAL.—Popular Errors in Meteorology. Popular fallacies in the habits of animals, the Rocky Mountain locust; the equinoctial storm..... 9299
VIII. MISCELLANEOUS.—Beethoven's Portrait.—An authentic portrait of the great musician. 1 illustration..... 9301
Dwarfs and Giants.—Relative sizes of men; the Austrian giant, Francis Winckelmayer, 84 feet high.—1 illustration..... 9302
The Sinaloa Colony.—The Topolobampo settlement; its origin, progress, principles and prospects..... 9301
IX. NAVAL ENGINEERING.—Torpedo Boat Catchers. A review of recent constructions of fast light armored vessels for combating torpedo boats..... 9290
X. ORDNANCE.—The Use of Machine Guns in the Field in Combination with Infantry.—Abstract of a recent paper on this subject by Major A. D. ANDERSON, R.F.A.—The advantages and uses of the weapon discussed.—Full details of their introduction..... 9293
XI. PHOTOGRAPHY.—Orthochromatic Photography. By J. B. WELLINGTON.—Formulas and practical directions for orthochromatic work.—The use of silver carbonate and erythroin together..... 9293
XII. PHYSICS.—A New Gas Thermo-Regulator.—A simple and efficient apparatus for regulating heat in air baths, etc.—1 illustration..... 9292
A New Thermometer.—The principle of the Bourdon safety gauge applied to thermometry.—Fermi's new thermometer.—1 illustration..... 9291
Phosphorescence of Alumina.—By EDMOND BÉQUEREL.—The effects of impurities on phosphorescence discussed..... 9294
Separation of Nickel by the Magnet.—By THOMAS T. P. BRUCE-WALKER.—The effect of copper on nickel in modifying its susceptibility to magnetic attraction.—Practical deductions as to nickel crucibles and gauze..... 9294
The Capillarity and Density of Liquids.—A simple experiment in physics without apparatus. 1 illustration..... 9294
XIII. SANITATION AND HYGIENE.—A Floating Hospital.—A new structure recently erected at Newcastle-on-Tyne.—2 illustrations..... 9295
XIV. TECHNOLOGY.—Employment of Acetic or Formic Acid in Bleaching.—Ingenious use of a small quantity of organic acids to decolorize indelible amounts of bleaching powder.—The invention of Dr. Lange, of Zurich..... 9290
Sulphurous Acid in the Chemical Industries.—Its use in the phosphate and tartaric acid industries..... 9294
The Withering Apparatus.—A portable blowing apparatus for drying tea.—Use of chloride of calcium to absorb moisture therein.—1 illustration..... 9294

NEW AMENDMENT OF THE DESIGN PATENT LAW.

An amendment of the patent law relating to design patents has lately passed both houses of Congress and received the approval of the President. The object of the amendment is to correct a defect in the law, which prevented the patentee from collecting damages in cases of infringement.

Under the old law, the Supreme Court held that in the case, for example, of a carpet manufacturer who complained of an infringement of his design or pattern of carpet, the complainant must clearly prove what portion of the damage, or what portion of the profit made by the infringer, was due to the use of the patented design. It was practically impossible to make this showing. Hence the infringer could imitate the patented design without liability, and the law was a nullity.

Under the provisions of the new law, the infringer is obliged to pay the sum of \$250 in any event; and if his profits are more than that sum, he is compelled, in addition, to pay all excess of profits above \$250 to the patentee. It is believed that the penalty of \$250, irrespective of profits, will put a stop to the wholesale system of infringement heretofore carried on by unscrupulous persons.

The following is the text of the new law:

An act to amend the law relating to patents, trade marks, and copyright.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter, during the term of letters patent for a design, it shall be unlawful for any person other than the owner of said letters patent, without the license of such owner, to apply the design secured by such letters patent, or any colorable imitation thereof, to any article of manufacture for the purpose of sale, or to sell or expose for sale any article of manufacture to which such design or colorable imitation shall, without the license of the owner, have been applied, knowing that the same has been so applied. Any person violating the provisions, or either of them, of this section shall be liable in the amount of two hundred and fifty dollars; and in case the total profit made by him from the manufacture or sale, as aforesaid, of the article or articles to which the design, or colorable imitation thereof, has been applied, exceeds the sum of two hundred and fifty dollars, he shall be further liable for the excess of such profit over and above the sum of two hundred and fifty dollars; and the full amount of such liability may be recovered by the owner of the letters patent, to his own use, in any circuit court of the United States having jurisdiction of the parties, either by action at law or upon a bill in equity for an injunction to restrain such infringement.

SEC. 2. That nothing in this act contained shall prevent, lessen, impeach, or avoid any remedy at law or in equity which any owner of letters patent for a design, aggrieved by the infringement of the same, might have had if this act had not been passed; but such owner shall not twice recover the profit made from the infringement.

Approved, February 4, 1887.

ARE STEEL GUNS REALLY SUPERIOR?

Admiral Porter said recently that there was little hope of building fast war ships as long as the Bureau of Steam Engineering designed the engines, for that, such was the influence of interested persons, it was not free to choose the best devices. Whoever is familiar with the workings of the Ordnance Bureau will admit that this, too, is similarly controlled. Long ago it pronounced in favor of steel guns, and like a judge who records his decision and then asks to hear the evidence, this bureau has been listening unmoved to the most convincing testimony regarding the relative efficiency of cast iron guns.

The importance of this question of steel vs. cast iron guns will be appreciated when it is explained that it would take at least five years after the passage of an appropriation before the first steel gun could be turned out, while only a twelvemonth would be required to establish a cast iron gun plant.

It has never been the custom among American mechanicians to blindly follow the lead of others, but rather to work untrammelled by traditions; to carefully note what has already been done, and to strike out anew in whatever direction gives the most promise. Experienced gun-makers and artillerymen have recently admitted that the steel rifle has not fulfilled the promises made for it. The Krupp guns, of which we hear so much, have never yet, been subjected to such high pressures as have been applied to cast iron guns, and experience has shown it would not be safe to put them through such tests. Indeed, the cast iron smooth bore guns which have been converted into rifles by the insertion of wrought iron rifled cylinders have been fired under a pressure fully three times as great as it has been thought advisable to subject steel guns of the same caliber to. An authority says: "Cast iron guns have often been fired hundreds of rounds under pressure of nearly seventeen tons to the square inch of bore, yet there has never been a

failure, nor a sign of one. The United States has now a 12½ in. cast iron rifle constructed on the same plan as the 8 in. converted rifle. This gun was made ten years ago, as an experiment. It has been fired with charges as high as two hundred pounds of hexagonal or quick powder (as compared with powder now considered suitable), and is still serviceable. The United States has another experimental 12 in. rifle, entirely of cast iron. It has been fired more than a hundred rounds with high power charges (265 pounds powder, 800 pound shot), and is still serviceable."

Curiously enough, the experiments with these guns ceased at the very time when there was the most reason for continuing them, to wit, while they were giving evidence of their ability to stand a long series of continuous rounds. The mode of testing a high pressure gun, upon which all authorities agree, is to fire it, round after round, until it bursts or shows weakness. There is authority for the statement that there is not a 12 inch steel gun in Europe which has been fired two hundred rounds, and yet, just as soon as these cast iron guns gave promise of withstanding successfully such a test, a peremptory order came from the Ordnance Bureau to cease firing and stop further experiment.

The failure of steel guns in Europe is frequent, though there is good reason for the belief that we only hear of a tithe of them, the balance being kept secret. Only the other day a big steel gun exploded at the muzzle, on the French trial grounds, and news comes that both in the war ships Collingwood and Ajax a number of steel guns have been condemned.

Because of these facts it is not at all surprising that the majority in the House of Representatives, though willing to appropriate money for guns, are averse to having the outlay controlled by the Ordnance Bureau, which is wedded to the steel gun theory and others not much better sustained.

THE COCAINE HABIT.

A number of cases of confirmed cocaine habit have recently been reported. While some of them lack confirmation, it is certain that several physical and mental wrecks have been caused by the excessive use of this alkaloid. The South American Indians, long famous as coca eaters, seem as a rule not to succumb to its effects. They use the dried leaf, which they chew, previously introducing a small amount of alkali, to set the cocaine free. In civilized countries the alkaloid as a chloride is usually employed, and is administered by hypodermic injection.

The practice of using it habitually in excess is hitherto reported as almost confined to physicians. Its effects upon its victims are very sad. The brain becomes permanently or for a period affected, a species of lunacy being produced. Just as in the case of opium eaters, the moral nature is undermined. One doctor was reported, so recently as to be within the memory of our readers, as having turned on the gas in a drug store where the alkaloid was refused him, with the design of asphyxiating the clerk, in which attempt he nearly succeeded. Another doctor, within a space of some sixteen months, has gone insane from the cocaine habit and has been removed to an asylum, leaving his wife also ill from the effects of the same drug, with which he had experimented on her.

If the cases continue to multiply, there may be room for questioning the utility to man of the discovery of this anæsthetic. It is doubtful if all the services in local anæsthesia rendered by it can compensate for the ill it has already done.

Pyrofuxin—a New Tanning Substance from Coal.

A new extract of coal is being introduced in Germany for industrial purposes, especially for tanning leather and disinfection generally, to which the name "pyrofuxin" is given by the discoverer, Professor Paulus Reinsch, of Erlangen, Bavaria. Unlike the generality of such compounds, this new material is not a derivative of coal tar, or of any of the distillates of coal, but is obtained directly from coal itself. Pit or bituminous coal contains most of it, and is prepared for treatment by being broken into nuts. The crude pyrofuxin is extracted by repeated boilings in a solution of caustic soda. The pyrofuxin enters into solution, and is allowed to stand for a time. It is then poured off, and a carbonic acid gas is passed through it. The resultant liquor has a specific gravity of 1.025 to 1.030, and holds from 10 to 15 grammes of pyrofuxin to the liter. In its purified form the compound is a fine, non-triturable substance, without taste or smell, non-poisonous, and in appearance like catechu. Some Russian coals contain 18 per cent of pyrofuxin. After the extraction of this material the coal remains combustible. It is described as being one of the most powerful and effective antiseptics known to science. On this account it is expected to be most valuable for tanning, as being twenty-eight times quicker in action than bark, and producing a better result at decreased cost.

It will be soon enough to give credence to this alleged leather tanning agent when specimens of good leather are produced.