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# For the Week ending February 22, 1879.

Price 10 cents. For sale by all newsdealers.

- Price 10 cents. For sale by all newsdealers.

  I. ENGINEERING AND MECHANICS.—The Cruising Canoe "Jersey Blue." By W. P. STEPHENS, Commodore Jersey Blue Canoe Club. With 9 figures. The sheer, half breadth, and body plans to scale, showing water lines, construction, and interior fittings, and plans of three useful rigs. Directions for constructing a boat that has seen actual service, and embraces the best points of the Rob Roy and the Nautilus canoes. The setting up of keel, stem, and stern posts, the bending of the rips, etc. The combings, the stretcher, the backboard, the paddle, and the masts described. The stores required by the canoeist, and where to stow them, etc.—Whaling Rocket Trial.—The Cleveland Viaduct.—The Proposal to Flood Sahara.

  I. TECHNOLOGY.—"I. C. Eastman, Meat Exporter. By JAMES PARTON. How American meat is exported to England. The refrigerating process on the stemer. Effect of beef export in England. Statistics of the new trude.—Sheep Raising in Montana.—The Grape Crop in Cal. Oriental Styles as Applied to Fabrics. East Indian and Japanese styles, with 15 figures—Waterproof Soles.—A New Method of Decorating Porcelain with Gold —Effect or Brassing and Bronzung.—Signs of Social Progress.—American Silk Velvets.—"I.De Wood.

  One Hundred Choice Household Receipts. For family bread, Indian bread, sally lunn, muffins, corn muffins, hot rolls, soda waffles, waffles, yeast, potata snow, mock oysters of corn, pea fritters, substitute for cabbage, fried cucumbers, fried egg plant, veal frizade, chicken pie, chicken salad, oyster fritters, fried cysters, noondles, apple-custard pie, apple miringue pie, gliden pie, lemon pie, muck mince pie, baked apple dumplings, apple and taploca pudding, fruit puddings, rice cream, snow pudding, suep bunding, with suce, opened of puddings, rice cream, snow pudding, suep bended and processed of puddings, rice cream, snow pudding, suer budding, the suce, opened of puddings, price cream, snow pudding, suer, breved cake, sponge cake, cooke, chocolate cake, cookies, cruller
- III. FRENCH INTERNATIONAL EXHIBITION OF 1878.—Official Trial FRENCH INTERNATIONAL EXHIBITION OF 1878.—Official Trial of Plows. With 29 engravings, illustrating French wooden mould-board plow; French one-wheel plow; 100mbasle's two-wheeled plow; Gale's Michigan plow; Doere's Illinois plow; Durand's Charruea chaine; plow mounted with Bonbisle's avant-trail; Durand's horabant simple; brabant double plow; B din's brabant plow; Bruet Frere's Tourne-oreille; Dalahaye-Tailleur's charrue a trois socs; French tourne-oreille plow; Deere's Illinois gang plow; Gilpin sulky plow; Meixmoron-Dombasle's blose; buttoir, or Ridging plow; Garnier's subsoil plow; trenching plow; Billot's trenching plow; mole plow; Bourdin's subsoil and clearing plow; two forms each of potato diggers and beet root pullers. Explanation of the plows and their uses; their construction, showing every part. Description of trials, etc.
- ELECTRICITY, LIGHT, HEAT, ETC.—Poplars as Lightning Conductors.—Herring's Printing Telegraph. 2 figures.—New Use of Electrolty.

#### THE NEW PATENT BILL.—SHALL IT PASS THE HOUSE ?

In our last issue we recorded the fact of the passage by the Senate of the new patent bill (Senate Bill 300), which is now before the House of Representatives.

likely, if it becomes a law, to impair the future value of prop-4th of March, and the bill must either pass or suffer defeat by or before that day.

would not be difficult to defeat the bill if we would formurepresentatives in Congress in order to induce them to give it their adverse votes.

Inventors, says our correspondent, are generally unlettered men, and although they feel strongly opposed to this attack works; and the pieces of wood experimented upon were on their interests, many of them do not know how to give allowed to be prepared by the inventors themselves. The proper expression to their views.

We suppose that what our correspondent desires is that scope of the intended substitute.

teen years, at an official cost of thirty-five dollars. During this term no person may interfere with the patent without liability for infringement.

dence on the part of the patentee in support of the patent.

The law, as it stands, as shown by the practice of the courts, never overmuch punished.

At the same time it must be confessed that a patent as now actually own and control his patent, in his own way, like having been found intact. any other property, for the period of seventeen years. It means that his patent shall not be taxed out of existence after it is once granted. It means that a poor man who owns should be taken that the oil is of good quality, the impregnaa patent shall enjoy the protection of the courts, and that tion thorough, and that woods be used that will absorb the rich and grasping corporations or combinations of interests oil readily, as fir and other resinous woods. These conclusions shall not have power to harass, annoy, and altogether rob are confirmed by the experiments of Mr. E. R. Andrews, of him of the fruits of his toil and ingenuity.

years is undeniably due to the fostering influence of the pretures, supplied thousands of new industries, and rendered the American name famous for industry and progress.

The present laws and practices of the courts have worked and are still working so well that it seems a great pity to feetly sound, while the untreated half was riddled by terechange them, except as to such minor particulars where obvious corrections may require.

To boldly overthrow them and reverse, by legislation, the accustomed practice of the courts, seems to be suicidal. But this is what Senate Bill 300 seems designed to accomplish. It is the offspring of the combined efforts of the wealthy railway companies and other interests, who have become impatient to seize and appropriate to their own use every really valuable and important invention, without the customary formalities of payment or the owner's consent, as now by the law and the courts required.

Senate Bill 300 provides substantially, by section 2, that the patentee shall not for the future enjoy the full and exmay, by legal proceedings, which the inventor must defend, having had its temperature sufficiently reduced in a freezing clusive right to control his patent; but anybody who desires take the right from him.

It provides, by sections 3, 4, 5, 10, 11, that infringers may call the patentee into court and subject him to heavy costs and vexatious legal proceedings, so as practically to compel the inventor to deliver over his invention for the use of the infringers, thus reversing the present practice.

In short, the new law aims to punish the inventor and protect the infringer; whereas the present law aims to protect the inventor and punish the infringer.

Section 12 of the new law aims to tax the majority of patents out of existence after they have been issued, by requiring the inventor to pay a tax of \$50 at the end of four years and \$100 more in nine years, or in all \$185 for the patent, instead of \$35, as at present.

In our last number we gave a brief summary of the deductors.—Herring's Printing Telegraph. 2 figures.—New use of Linear Indicty.

Effect of the Motion of the Air within an Auditorium upon its Acoustic Qualities. By W. V. JACQUES.
How the Alps were Formed.

V. MEDICINE AND HYGIENE.—Constitution. Its successful cure by Casacara Sagrado. By F Givenbuy, M.D.—Fluid Extract Casacara Sagrado. By M.LSON J. BEAN.
M.D.—Cascara Sagrado. By Dr. W. Fowler.—Cascara Sagrado. By Dr. Sov. W. D.—Fluid Extract Casacara Sagrado. By W. U.SON J. BEAN.
M.D.—Cascara Sagrado. By Dr. W. Fowler.—Cascara Sagrado. By Dr. Sov. W. Gascara Sagrado. By Dr. S. W. Fowler.—Cascara Sagrado. By Dr. Sov. W. Gascara Sagrado. By Dr. S. W. Gascara Sagrado. By Dr. S. W. Fowler.—Cascara Sagrado. By Dr. S. W. Gascara Sagrado. By Dr. S. W. Ga signs of all the sections of the bill, of which there are twentygiven by us week by week for a long time past, our readers are respectfully referred. We hope that every inventor and patentee who wishes to defeat this bill will make energetic partition prevents the mixture of the metals and facilitates use of the short time now remaining to assist members of the welding by itself being brought into a state of fusion. the House in reaching the truth on the subject, and thus en-; It is said that the product is well adapted for safes, and that

#### CREOSOTED WOOD AS A PROTECTION AGAINST TEREDOES.

A series of experiments of great interest was some time ago undertaken by the Royal Academy of Sciences, of Amsterdam, to determine the best means of preserving wood This bill, as we have on several occasions tried to show, is from destruction by the teredo (Teredo navalis). The examination made by Mr. Harting (one of the commission of inerty in patents; and therefore it behooves all who wish to vestigation), embodied in a recently issued report, is very inpreserve the existing privileges of inventors to use their best structive. It is ascertained that the mechanism of the molinfluence with their Congressional representatives to defeat or lusk is of a twofold nature. Those animals which are found set aside the measure. Whatever is done in this direction in calcareous rocks make their excavations chemically must be done quickly. Congress is to adjourn finally on the through the agency of a dissolving acid secretion; but the teredo that perforates wood employs mechanical means only. The teredo appears to have existed at a geological period An esteemed correspondent writes us that he thinks it earlier than our own; this view being confirmed by the discovery of fossil wood perforated by a species of this mollusk late specific instructions addressed to inventors and patentees, in the Eocene formations. It has been discovered also that telling them how to band together to oppose the passage of certain circumstances favor the increase and ravages of the the bill, specifying exactly what they ought to say to their animal; these being a moderate rainfall, an increase of the saltness of the water, and an increase of temperature. The experiments of the commission included processes that had been recommended to the government to protect marine ports of Flessingue, Harlingen, Stavoren, and Nieuwendam were selected first for the trials, the woods used being oak, now, in this closing hour of the contest, we shall briefly re- red fir, common fir, and pine, in pieces about 3 feet long by capitulate the status of the present law and point out the about 12 inches square. By the side of these blocks other blocks of the same kind of wood were placed without any The present law, substantially, has been in operation for preparation, as counterproofs. The trials consisted (1) of some forty years. It secures to the inventor an exclusive coatings applied to the surface; (2) impregnation with differproperty in his own invention for the small period of seven- ent substances which modify the interior and exterior of the wood; (3) use of exotic woods.

All exterior applications—such as coal tar, paraffine varnish and Claasen's mixture of coal tar, resin, sulphur, and pow-The existing practice of the United States Courts is to condered glass—absolutely failed. A coat of mail consisting of strue the present patent laws liberally in favor of the in-inails is costly, and an examination of some piles proved that ventor and against the infringer. But on the other hand, the coating of iron and rust was not proof against the ravthe courts are careful to guard the interests of the public ages of the teredo in the interior. Sheets of iron, copper, or against the claims of unauthorized or pretended patentees; zinc are found effectual only as the surfaces remain intact and the more widely a new device is wanted for public use, and undamaged. Nature itself often affords a better protecthe more particular are the judges to require the clearest evi-tion than this in covering marine timber with barnacles or other shell fish. As to the second remedy-impregnationthe following substances all proved inefficacious and worthless: Sulphate of copper, copperas, acetate of lead, and merprovides ample safeguards for the public interests, as against curial and arsenical salts. The soluble glass and chloride of untenable or wrongfully granted patents. The courts also calcium process also proved powerless. Oil of paraffine inregulate the measure of damages, so that even infringers are jected into the blocks proved of no avail, as in about two years fully developed teredoes were found in all the pieces. Of the oil of creosote process, however, more favorable results granted means something. It means that a man shall | are recorded-all of the woods prepared with this substance

The conclusions drawn by the commission are that the only effectual preservative is crossote, though in using it care this country, who also has made interesting experiments The amazing progress of the country during the past forty with creosoted wood. A pine slab was taken, half of it was thoroughly impr nated with the oil, the other half being sent patent laws. They have given impetus to manufac- left untreated. It was then exposed during the season of 1877 in the waters of the Gulf of Mexico. When it was removed it was found that the creosoted portion was clearly and sharply defined by its darker color, and that it was perdoes, which had perforated it quite close to the edge of the creosote.

# SKATING ON ARTIFICIAL ICE.

A skating rink, offering 16,000 square feet of artificial ice in one sheet, is in successful operation in this city. The projector, Mr. Rankin, is widely known in connection with the ice trade, particularly in the West and South, where his machines for producing ice are largely used. His present enterprise is notable chiefly for its magnitude, the area of ice produced being very many times larger than anything of the sort previously attempted. Something like ninemiles of gas piping are required for the circulation of the refrigerating liquid, which is pumped through the pipes after chamber some two hundred and fifty feet long, in which ice is liquefied by means of salt and other solids. The principle involved is simply that of the ice cream freezer. A tight floor was laid over a surface 200 feet by 80 feet; on this floor a network of pipes was laid, and the whole flooded by two or three inches of water. On pumping the refrigerating fluid through the pipes, the water is frozen and kept so cold that the surface of the ice remains dry, though the atmosphere of the rink is warmed by half a dozen large furnaces. The project might have been carried out equally well and much more profitably at midsummer, when a skating rink would have been more of a novelty. Mr. Rankin informs us that the temperature of the refrigerating liquid is raised but ten degrees while on its nine mile journey.

A NEW composition of iron and steel is described. A cast five; to which, and also to the several interesting discussions iron monld is divided into two sections by means of a transverse plate of thin sheet iron. The two metals are then poured into the respective compartments. The sheet iron it resists drills.