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- Fourts.
 IV. ELECTRICITY, LIGHT. HEAT, ETC.-How to Make a Dynamo-Electric Machine; with working drawings to scale. By GEO. M. HOP-KINS. Particulars of construction of a very simple hand power ma-chine, with electro-magnets, also a machine with permanent magnets, the first form being capable of decomposing water, heating from four to six inches of No.3 platinum wire, running an induction coil, and producing an electric hgit, affording strong shocks, charging small permanent magnets, and ringing large gongs. Simplest and most con-venient construction of the electro-magnets. The armature. The Commutator and commutator springs. Rinding screws provided that the machine may be connected with a battery, so that all of the cur-rent of the armature may be utilized. Size of wire on magnet and armature. The switch. Most favorable speed. Dimensions of every part the connections under the base, and practical lints for most con-venient putting together, with 8 figures, showing all parts, both in per-spective, plan. and clevation.-Electro-Dynamic Ilustration. 10 fig-ures, showing the curious forms male by iron fillows in the magnetic field with brief history of investigations of this kind.-The Telephone on a Volcano. Its use in detecting subterment sounds.-Electric Clock Dials.-Curious Sensations of fluxt.

SOME PATENTS THAT SECTION 11 WOULD HAVE KILLED. described as undeveloped and useless, yet involving princi- instances might be drawn. In a very able paper lately read ples or devices which subsequent experimenters may want to | before the Cincinnati Board of Trade, Mr. George H. Knight use. To accomplish this end a special tax is laid upon all has furnished a long list of them-instances of patient, perpatents, in a fee of \$50 at the end of four years and another sistent, and long protracted struggles against poverty and fee of \$100 at the end of nine years; non-payment of either | class prejudice, to bring valuable inventions up to the point killing the patent.

claimed, are virtually abandoned by their owners; and, that the country can least afford to discourage or to destroy. although the patentee has done nothing contrary to his agreement with the nation, nothing to warrant the forfeiture of his right, the nation may justifiably break its part of the in the terms of the Constitution) to be freely invaded.

part of the patent law of the past.

knows what a long and, for many years, profitless fight he genuine honey. had to wage with prejudice and injustice before his invention was so far established as to be beyond condemnation as "un- his attention was lately called to some fine looking comb developed and useless." What would have been the effect honey sold by a grocer in Williamsburg. He bought some of adding to his already overwhelming burdens the additional of it at twenty-five cents a pound. It was very white, put fees prescribed by Section Eleven?

the problem of the harvesting machine. For many years he of pennyroyal, and was so unlike glucose that he decided, labored almost in vain to advance his invention to the stage without testing, that his friend's suspicions were wrong, and of practical and profitable usefulness. Would the country that it really was honey. It was placed on the tea table have been equally benefited had his right and his efforts with some clover honey, and although the family all pre-

He was indebted to the kindness of a Scotch mechanic for a honey until they saw it tested. steerage passage home. He found his wife and children des. This is carrying the matter altogether too far. It is well have had to pay \$50 or forfeit his right to his invention.

questioned at this late day. Taking up the struggle under is the refinement of swindling, and ought to be punished as which Heywood had succumbed, Goodyear toiled through such. years of terrible privation to perfect his invention. Success left him in the deepest poverty; and at no time during the entire period of the original patent was his invention a source of profit to him. Under provisions embodied in the proposed amendment to the law the spoilers of Goodyear could easily, and at any time, have dispossessed him of the last remnant of right.

The Sarven carriage wheel is known the world over. Section Eleven would have killed the patent on it most certainly and effectively. During the first eight or ten years of the life of the patent the inventor's efforts to induce carriage makers to adopt his improvement were almost fruitless. crushed and the oil is extracted by means of ether; they are His efforts were persistent, his diligence remarkable; yet then dried and agitated with the white of eggs, so as to form his invention was commercially "undeveloped and profit. a sort of paste, and the latter is exposed for several days to less," almost to the end of the term of the patent.

his partner Strong, to persuade men to adopt his method of to merely moisten the crushed and desiccated coffee berries finishing boards by machinery, up to the time of his death with water, expose them three or four days to the air, and in poverty in the eleventh year of his patent, would make a extract the coloring matter by means of alcohol. volume. His invention was radical, valuable, era making in the art of carpentry; yet Section Eleven would have killed his patent without compunction.

Henry Voelter's process of making paper-pulp from wood, been trying to discover a method for preserving the fresh-The best years of the inventor's life were given to the development and introduction of the improvement, and in codfish ball. They have at last succeeded, the Boston Adcombating the prejudice of the trade to the use of wood vertiser reports, and the rapid demand for the article the pulp in paper. He was able and willing to spend the greater world over seems to prove either a wide dispersion of New part of the life of his patent, and \$70,000, in demonstrating Englanders or else a widespread need of such an addition the usefulness of his idea. He may have been able to pay to the world's kitchen supplies. the additional fees prescribed in Section Eleven; another in-In either case would the payment or non payment of the are carefully scraped and cleaned. When salted and dried lessness of the invention? ably valuable. He was a poor man; and before he had suc- hermetically sealed, after which they are put up in cases of chusetts regiment and was killed at Fredericksburg. Just at first sale was made in New York last May, and to such an that time, the first fee under Section Eleven would have been extent has the business grown in nine months that the firm demanded of his widow by the Patent Office-a penalty for employ a force of 250 men and women in preparing and invention!

It is needless to multiply cases. From the history of in-The object of Section Eleven is to make void certain patents' ventors and inventions in this country hundreds of similar of profitable and established usefulness; instances of inven-It is argued that if an invention has any real merit its tors now ranked among the world's best benefactors, who profitable development will speedily follow, as a matter of would have been cheated of their rights, and the progress of course; in which case the additional fees will be no serious the useful arts thereby delayed indefinitely, had there been burden. If, however, the invention is not at once profitable, any Section Eleven to thwart their efforts. From the very or if the inventor does not believe in it sufficiently to be will- nature of things the most pregnant and novel inventions art. ing to pay \$150 for the confirmation of his right, it may be the hardest to make commercially successful; and it is these fairly presumed that the invention does not constitute a progress in the arts, and accordingly does not deserve the pro- ently worthless inventions, that would suffer most from the tection of the law. All such undeveloped inventions, it is killing influence of the proposed amendment; and it is these -----

GLUCOSE HONEY.

. For a long time strained honey has been so largely adulcontract and allow the inventor's right ("exclusive right," | terated with glucose, that intelligent buyers are very shy of honey in that state. Honey in the comb, however, espe-The fallacies which underlie this specious argument have cially if the comb is clean and white, disarms suspicion. been repeatedly exposed in these columns and elsewhere. though it is well known that respectable grocers are accus-We do not propose to discuss them here. Our purpose is tomed to surround comb honey in jars with clear honey rather to note briefly some of the inventions for which mixed with a small percentage of glucose, to prevent the America is justly proud, inventions which have added enor- granulation which occurs in pure honey exposed to the mously to the nation's wealth and power; and to ask how it light. One does not object to the use of a little glucose for would have fared with them had Section Eleven formed a such a purpose, though the preserving sweet is worth in market only one tenth as much as the sweets preserved. It To no one man is this country more indebted for its indus-, is a very different matter, however, when the comb itself is trial and commercial rank than to Eli Whitney. The world filled with glucose, and the fraudulent substance is sold as

Mr. J. Hasbrouck writes to the Bce Keeper's Magazine that up in the neatest possible box, and was altogether the finest In 1833 Obed Hussey patented an invention which solved 'looking honey he had seen this season. It had a nice flavor fallen under the encouraging (!) influence of Section Eleven? ferred the suspected comb on account of its fine appear-The early struggles of Elias Howe, Jr., the inventor of ance, the unanimous decision after eating was that the honey the sewing machine-struggles against poverty and injustice was not good. It was then thoroughly analyzed, and found as well as the stolid prejudice of the community-are known to be "simply glucose diluted with water and flavored." to all. His first machine was finished in the spring of 1845. Mr. Hasbrouck carried a sample to New York, and veterans Four years after he was alone and poor in a foreign land. in the honey trade almost invariably pronounced it splendid

titute, all their personal effects being still detained to secure enough to manufacture honey comb for saving the labor of the payment of their passage home. His wife was sick; ten bees, so long as the bees are allowed to furnish the filling; days after his arrival she died. He was penniless; and just and there may be no vital objection even to the selling of at that moment, had Section Eleven been in force, he would paraffin cells filled with glucose as a cheap substitute for the industrial product of bees, if any one wishes to eat it. The real value of the Goodyear rubber patent will not be But to sell such compounds for honey, at the price of honey,

----A VEGETABLE GREEN FOR CONFECTIONERS.

It appears, according to one of our French exchanges, that from the grains of raw coffee there may be extracted a beautiful green coloring matter adapted to all the purposes of the cook and confectioner, and which will undoubtedly prove of great value as a commercial product, inasmuch as the number of green colors suitable for such uses, and which are not poisonous, is very limited. According to M. Zech, who describes the process of extraction, the coloring matter is obtained in the following way: The coffee grains are the air. The presence of the white of eggs then determines The struggles of Woodworth alone, and afterward with the appearance of an emerald green. A simpler process is

A NEW INDUSTRY.

For a number of years a Boston firm, emulous of the suc-Another radical and immensely valuable invention was cess which has attended the canning of baked beans, has ness and flavor of that other essentially Boston product, the The fish are killed by being stuck in the neck, and are ventor of the same or an equally valuable process might not. hung up until every drop of blood is removed, and the napes fees have been any evidence of the intrinsic worth or worth- the fish are equal to the best Phillips' Beach fish. Nova Scotia potatoes are used, and instead of pork fat, the best Daniel Lamson invented a machine for notching hoops. It Vermont and New York butter is contracted for at the was not a great invention, yet it was novel and unquestion- dairy. The fish balls are packed solid in tin cans and ceeded in introducing his invention he enlisted in a Massa ten dozen each, when they are ready for the market. The

- V. MEDICINE AND HYGIRNE Experimental Physiology. By ROBERT MEADE SMITH. M.D. How to narcotize animals. Appliances for fast-ening live animals, rabbits, doxs, frogs, etc. Physiology of digrashin. The uses, effects, and components of saliva. Conversion into starch of sugar by saliva. Construction of a water bath. The heat regulator, 4 figures —Baldness and its Treatment. How to check falling out of the hit, with prescriptions Treparation of Pepsin and the Good to be Obtained from it. By Jos Anol. Phys. M.D. Tepsin in the physical for the block. The urne. The vomit. The liver, the kidneys, the spleam. The block The block Management and the local to be a stormach, the intersting of the liver, the kidneys, the spleam. The stormach, the interstings, the block The intersting of the liver, the heart, the brain. —Discovering spermatozos.
- VI. AGRICULTURE. HORTICLETURE. ETC.-The Agriculture of Japan. From the lecture of President Clark, delivered before the Massachusetts State Board of Agriculture. The political comony and the society of Japan. Mechanical work. Personal habits, dwellings, modes of Irayeling, food tea growing etc., a terse and entertaining lecture -Horticulture in Fairmount Park. By MARGARET P. JANES. -Best Sheep for Farmers.-Plants in Flower Pots.

VII. MISCELLANEOUS.—The Statue of Cleopat a, 1 illustration.—Record of Recent Scientific Publications. In natural history, physical science, medicine and chemistry, mechanics and engineering, industrial science, and new serials. The Carpet Beetle and other Domestic Pests. By DR. H. A. HAGEN. History of the insect. Helps to prevention. Fleas and their preven-tion. Other insects. Polish flea trape. How animals and plants emi-grate. European insects that enter this country.

packing the fish balls, and 60 tinners in making the cans.