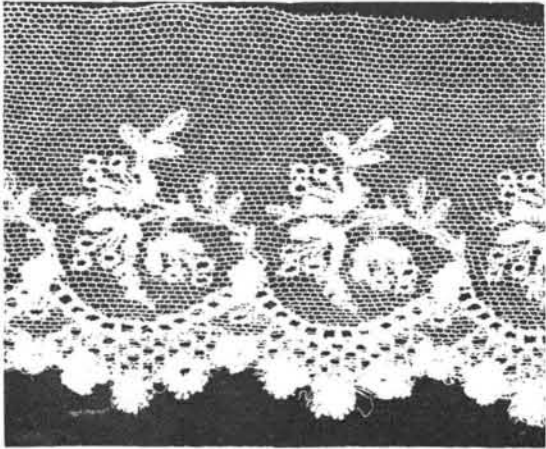


fine lace patterns, etc., the lace itself being placed in the press, and being impressed directly upon the celluloid, a pattern made in this way being shown herewith.

The convenience of such an outfit in a printing office will be at once apparent, as a cellulotype can be made in a few minutes of any form from which a large



LACE SHOWN BY CELLUTYPE PLATE.

number of impressions are to be made, or one which will have to be used in the future, thus releasing type and saving time. The machine constitutes the most efficient of all appliances for making rubber stamps.

The "Climax" machine is made by Messrs. J. F. W. Dorman & Co., manufacturers of vulcanizers, stereotype machinery, and all stereotype supplies, No. 217 East German Street, Baltimore, Md.

Trade Marks.

The law of the land respecting the use of trade marks has been summarized and announced to the bar of the Supreme Court of the United States by Justice Jackson. The opinion was read in the case of the appeal of the Columbia Mill Company, of Minnesota, against W. W. Alcorn & Company, from the circuit court for the eastern district of Pennsylvania. The mill company had brought suit to restrain Alcorn & Company from using the word "Columbia" upon a brand of flour sold by the defendant, but the court refused to entertain the proceeding and dismissed the bill. From that judgment the Columbia Company appealed to the Supreme Court. Justice Jackson said that by a long line of decisions in the Supreme Court the law of trade marks was well settled. Those decisions, he said, established the following propositions:

1. That to acquire the right to the exclusive use of a name, device, or symbol as a trade mark it must appear that it was adopted for the purpose of identifying the origin or ownership of the article to which it is attached, or that such trade mark must point distinctively, either by itself or by association, to the origin, manufacture, or ownership of the article on which it is stamped. It must be designed, as its primary object and purpose, to indicate the owner or producer of the commodity and to distinguish it from like articles manufactured by others.

2. That if the device, mark, or symbol was adopted and placed upon the article for the purpose of identifying its class, grade, style, or quality, or for any purpose other than a reference to or indication of its ownership, it cannot be sustained as a valid trade mark.

3. That the exclusive right to the use of the mark or device claimed as a trade mark is founded upon priority of appropriation.

4. Such trade mark cannot consist of words in common use as designating locality, section, or region of country.

In view of these propositions, the justice stated, the court were of the opinion that there was no valid trade mark in the word "Columbia," and the judgment of the court below was, therefore, affirmed.

Remarkable Thunder and Hail Storms.

At a recent meeting of the Royal Meteorological Society, Mr. W. Marriott gave an account of the thunder and hail storms which occurred over England and the south of Scotland on July 8, 1893. Thunder storms were very numerous on that day, and in many instances were accompanied by terrific hail storms and squalls of wind. It was during one of these squalls that a pleasure boat was capsized off Skegness, twenty-nine persons being drowned. About noon a thunder storm, accompanied by heavy hail and a violent squall of wind, passed over Dumfries and along the valley of the Nith; many of the hailstones measured from 1 inch to 1½ inches in length. At the same hour a similar storm occurred at Peterborough. From about 2 until 10 P. M. there was a succession of thunder storms over the northeast of England and southeast of Scotland, and at many places it was reported that the thunder storms were continuous for nine hours. Two storms were remarkable for the immense hailstones which fell during their prevalence over Harrogate and Richmond

in Yorkshire. The hailstones were 4 and 5 inches in circumference, and some as much as 3 inches in diameter. Great damage was done by these storms, all windows and glass facing the direction from which the storm came being broken. It is computed that within a radius of five miles of Harrogate not less than 100,000 panes of glass were broken, the extent of the damage being estimated at about £3,000. The thunder storms in the northern part of the country traveled generally in a north-northwesterly direction, at the rate of about twenty miles an hour. They appear to have taken the path of least resistance, and consequently passed over low ground and along river valleys and the sea coast. Several storms seem to have followed each other along the same track.

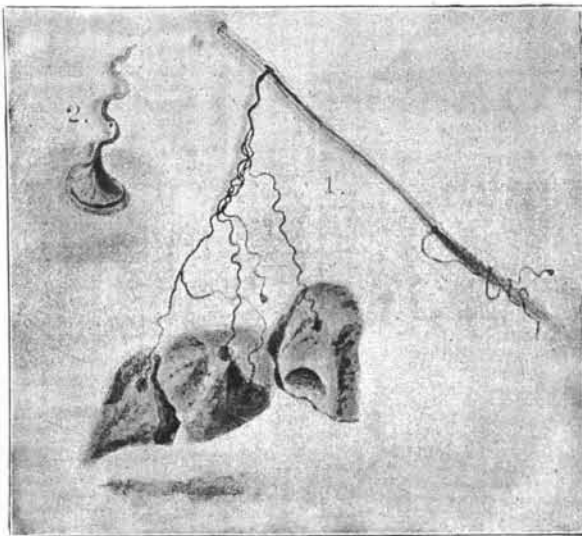
A NEW JERSEY PICK UP PLANT.

For new features in fauna and vegetable life, we are largely indebted to New Jersey. It was but recently that we saw how the daisy crop of the country might, through her instructive example, be doubled. Again has a new lesson come to us from that fertile land, of the handiwork of Nature operating as the handmaid of man.

In the quiet back garden of a New Jersey residence, devoted to the propagation of innocent flowers with savage mosquitoes in juxtaposition, have grown up, to the astonishment of scientists, molecules of vegetation that, by natural attachment to and consequent "swinging to and fro, vehemently encountering other molecules," have moved stones. Our illustrations will show the mechanical and botanical means by which such results were accomplished. Fig. 1 shows the parent stem, from which are projected cord-like tendrils; our sketch, which is from nature, shows their final attachment to any mineral kingdom in the neighborhood; and Fig. 2 shows the way it is done, which seems, microscopically, to be similar to the way we boys used to take a round piece of boot leg, with a string in the center, and when it had been surreptitiously soaked in the Monday's wash tub, attachment similar to Fig. 2 would permit a good sized stone to be lifted.

Of the sized mineral at present utilized by this new agent of the industries, we are not concerned; it is its future that interests us. Here we have given us by a bountiful nature an embryo power that remains but for the Agricultural Department at Washington to develop to its full capacity. The mind dwells with pictured smile upon the development of those tendrils to rope-like proportions under fostering care. Chemical formulas of potash, nitrates, phosphates, silicas, etc., fed to this infant plant shall bring forth a power useful for man's domination, and not to be sneezed at. Tracts of land in Connecticut, now bountifully sown with boulders, shall bless her sister New Jersey for this new salvation.

When the department shall have done its duty, a



right-minded citizen of Connecticut may casually sneak out at night and plant a few seeds in his neighbor's hedge, and rightfully find, later on, that this valuable plant has cleared his land. Each of these rope-like tendrils (Fig. 1) has attached itself to a boulder, and jerked them all off his land on to the next man's lot.

The Frozen Fish Industry at Sandusky, Ohio.

A representative of *The Register* visited the warehouse of the Sandusky Fish Company the other day and there met Mr. Stoll, who showed him the plant and explained the method which he has perfected within the past few months of freezing and preserving both fresh and salt water fish.

The plant consists of two Hendrick Pontifex refrigerating machines, manufactured at Carbonale, Pa., of the absorption principle, their combined capacity being equal to a melange of 50 tons of ice every 24 hours. If used for the purpose of making ice, these machines would produce twenty-five tons daily. At the present time only one machine is operated, the second being

held in reserve. Briefly stated, the principle of the machine is as under:

A large cast iron cylindrical generator is charged with a quantity of aqua ammonia of the specific gravity of 26 degrees. In this cylinder is a coil, heated by steam, which starts the aqua ammonia to boil. The heated gases thus driven from the water are conveyed into condensers where they are cooled off and condensed into liquid anhydrous ammonia. Thence the anhydrous ammonia is conveyed into a chamber called the cooler. Underneath the floor is a cistern with a capacity of 4,000 gallons, containing liquid chloride of calcium. This liquid is sent through the cooler in a system of coils, and the anhydrous ammonia expanding, the chloride of calcium is cooled and then passes into the service pipes. The ammonia gas passes from the cooler into a vessel called the absorber, where there is a spray of weak aqua ammonia. Having a great affinity for water, it is combined with it and resolves itself into its original form of aqua ammonia, which is sent back into the generator to be used again.

A large main pipe containing the cold liquid passes from the engine room into the warehouse, and from this lead smaller pipes which are carried into the sharp freezers and cold storage chambers. A constant circulation is maintained and the chloride of calcium returns to the tank, whence it is used over again with a very slight loss of temperature, in the space of five minutes.

When the fish are unloaded from the boats they are first sorted and graded as to size and quality. These are placed in galvanized iron pans, 22 inches long, 8 inches wide and 2½ inches deep, covered with loosely fitting lids, and each containing about 12 pounds. The pans are then taken to the sharp freezers. These are solidly built vaults with heavy iron doors, resembling strong rooms, and filled with coils of pipes so arranged as to form shelves. On these shelves the pans are placed, and as one feature of the fixtures is economy of space, not an inch is lost. The pans are kept here for twenty-four hours in a temperature at times as low as 16 degrees below zero. Each vault or chamber has a capacity of 2½ tons and there are sixteen of them, giving a total capacity of 40 tons, which is the amount of fish that can be frozen daily if required.

On being taken out of the sharp freezers the pans are sent through a bath of cold water, and when the fish are removed they are frozen in a solid cake. These cakes are then taken to the cold storage warehouse, which is divided into chambers built in two stories, almost the same as the sharp freezers. The cakes of fish, as hard as stone, are packed in tiers and remain in good condition ready for sale. It is possible to preserve them for an indefinite time, but as a rule frozen fish are only kept for a season of from six to eight months. They are frozen in the spring and fall, when there is a surplus of fish, and sold generally in the winter or in the close season, when fresh fish cannot be obtained. The warehouse has a storage capacity of 1,500 tons.

Though the freezing plant has only been in full operation since the first of August, about 550 tons of various kinds of fish have been frozen. Some cisco or lake herring from Canada and some sturgeon were frozen last July and the following varieties were frozen during the fall: No. 1 pickerel, No. 1 blue pike, medium blue pike, yellow saugers, yellow perch, suckers and mullets, sheepheads, white bass, upper lake and Lake Erie white fish, ocean blue fish and weak fish.

It is an interesting sight to note the process of freezing. The interiors of the freezers and cold storage chambers are thickly coated with beautiful snow crystals that give them the appearance of some enchanted cave. The fish, though frozen together, keep their shape; they are very clean and their condition can be seen at a glance. When our reporter visited the place large stacks of sturgeon and other fish were being taken out of the cold storage warehouse for shipment, and they were all in excellent condition. It is expected that there will be a large demand for frozen fish in the next few months, as the fall catch was the smallest on record.

The freezers and cold storage warehouse are of stone, with iron roof and iron doors and concreted attic floor. The place is well ventilated and fireproof, and the entire plant represents an investment of no less than \$45,000. Mr. Stoll is to be congratulated upon the successful realization of his plans, which are founded on scientific principles and should be the means of increasing the importance of Sandusky's fish industry and preserving for the use of man the valuable food products of Lake Erie.

A Deep Boring.

The deepest boring of which we have any knowledge up to the present time, says *Revue Scientifique*, is at Parvshowitz, in the district of Ribnik, in Western Silesia. The depth attained is 6,568 ft., and the diameter of the hole is only 2.75 in. The work has been temporarily stopped in order to lower especial thermometers, which have been made with great accuracy, into the hole for the purpose of obtaining the temperature at different depths. The boring will then be resumed, and it is hoped that a depth of 8,200 ft. will be reached.