

brought out so as to give them the appearance of the common photographic albumen prints. The process is adapted to the practical requirements of photographers, as any number of photographs may be printed from the plate cheaply and rapidly, and in colors of absolute permanency.

Messrs. Edgar M. Luckett and Nelson Belanger, of Terrace, Utah Ter., have patented an improved Mode and Device for Packing Valve Stems, whereby the use of glands, bushing ring, and hemp packing is obviated and friction reduced, while the valve stem is exposed to no wear in the stuffing box.

Influence of Gaslight on the Eye.

The German Minister of Instruction, in a recent report on the influence of gaslight on the eye, concludes that no evil results follow a moderate use of gas, if the direct action of the yellow flame on the eye is prevented. Grave objections he makes to the use of zinc or lead shades, most evils affecting the eye being traceable to them. Their use, it is said, inevitably tends to blindness or inflammation, and other harmful effects. The milky white glass shade is the best, as it distributes the light and has a grateful effect on the eye. The burner should not be too close to the head, as congestions of the forehead and headaches result from the radiated heat. The glass plate below the gas is especially useful for the purpose, as it causes an equal distribution of the light—necessary where a number are working at one burner—prevents the radiation of heat, and tends to a steady illumination by shielding the flames from currents of air. In cases of highly inflamed eyes, he recommends dark blue globes.

A Mustard Congress.

The French are a famous nation for holding "congresses," as they term meetings for examining and discussing the merits of all sorts of discoveries and articles. Among the last announced at the Paris Exhibition is a congress to determine the merits of the mustards of various nations included in the Exhibition. This mustard congress is to consist of twelve gentlemen and twelve ladies, the suggestion having been made that men's palates are vitiated by smoking, and that women are likely to have a nicer appreciation of condiments. The trial is to be made on a large piece of boiled beef, followed by boiled pork, to be served to the twenty-four experts.

MR. FOWLER CROSSING THE CHANNEL.

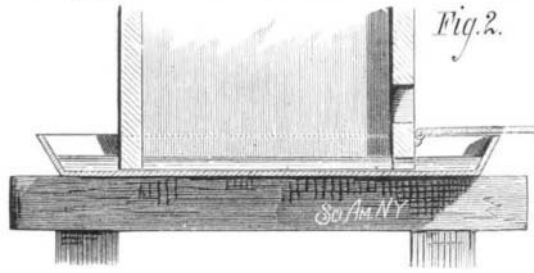
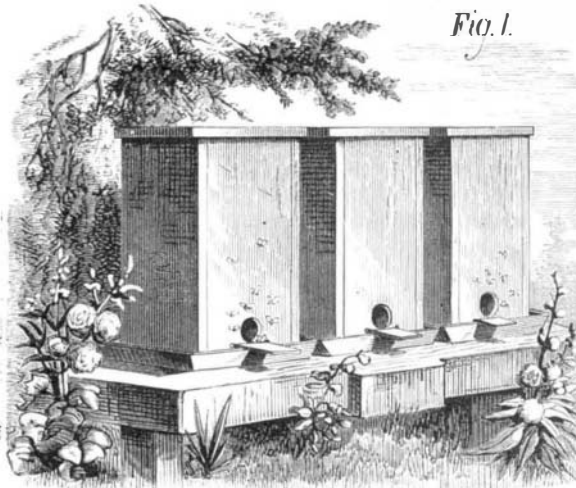
A curious project was recently carried out by Mr. Fowler, an American residing in Bordeaux. He crossed the Channel on a podoscaph, 6 meters in length. Each tube of this podoscaph, which is joined by rods, is 20 centimeters broad, and 30 centimeters high above the water. Leaving Boulogne at ¼ past 4 in the morning, he arrived at Sandgate at 3:35 in the afternoon. He experienced contrary wind and a heavy swell during a great part of the journey. The pilots and fishermen were surprised at seeing a man walking, as it were, on the water. The bold navigator was met with loud acclamations. He arrived at Folkestone somewhat fatigued. During the crossing, which lasted 12 hours, the only refreshment he took was a little coffee and a small piece of bread. The state of the sea prevented his stopping. The feat was accomplished to the satisfaction of everybody, and is a striking proof of energy and boldness. Mr. Fowler is Chevalier of the Legion of Honor, and owner of the yacht Peau-Rouge, which has gained several prizes in England and France. He was accompanied by the Petrel, belonging to an English captain.

The Durability of Submarine Telegraph Cables.

The expedition sent out to raise the submarine cable of 1866, like the one sent to raise that of 1865, failed to accomplish its mission. In the middle of last year, a new attempt was made, followed by more success, for two faults, one on the coast of Newfoundland and the other on the coast of Ireland, were then repaired. In consequence of this the Anglo-American Company and Telegraph Construction Company fitted out, at their joint expense, two vessels, which put to sea on the 25th of last May, for the purpose of finding and repairing the cable of 1866. The expedition has just returned to London. It reports having succeeded in grappling and raising the cable to the surface of the water fifteen different times, but the outer wires were so weakened by oxidation that it broke and was lost again in each case. The engineer in charge of the expedition therefore deemed the work of repair as entirely impracticable, and decided to return home. The unanimous opinion of electricians, says *L'Electricité*, is that the two first cables are defunct, and that ten years may be fixed as the average period that any cable will last which is not better protected against the corrosive action of the ocean. Fortunately the new cables are, as well known, better provided for in this respect.

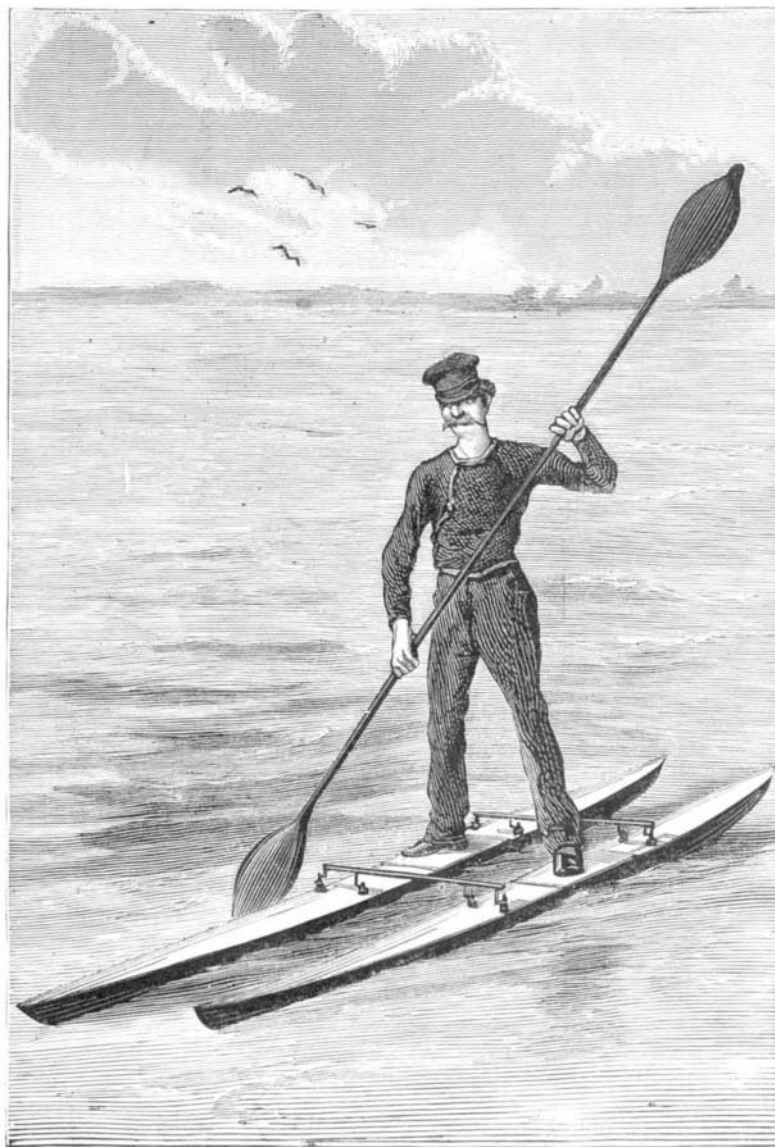
A NEW BEEHIVE.

The accompanying engraving represents a simple and effective device for protecting bees from the destructive moths which enter the hives and, depositing their eggs at the bottom of the hive or stand, gradually work upward under cover of their own webs until they reach the honeycomb and cause the bees to abandon the hive.



SPEARMAN'S BEEHIVE.

The hive or bee stand is placed in a shallow trough which is somewhat larger than the hive, and is partly filled with water. Below the hole through which the bees enter there is a small platform, which is hinged to the front of the hive so that it may be raised up to close the entrance, or let down upon the edge of the trough as a bridge over which the bees may pass to the entrance.



MR. FOWLER CROSSING THE CHANNEL.

Moths can enter the hive only through the entrance for bees, and those that enter will be drowned, and their eggs will be destroyed.

It is claimed that this device is an effective exterminator of the bee moth and protector of the bees, and that it is of great advantage to have the water near the hive, as bees in

summer drink water in considerable quantities. For further particulars address the inventor, Mr. John R. Spearman, Silver street, Newberry county, S.C.

History of our Mining Laws in Brief.

A correspondent of the *Mining Record* says: I notice in the *Record* an inquiry by a reader, as to what is meant by a mine having a certain number of feet. The Consolidated Virginia owns 710, he says, and asks if these are square feet. They are linear feet, as mines are located and have been for many years. In early times in California, when rich quartz croppings were first discovered, the locations were confined to 50x100 feet, and some to 100 feet square.

Those were the times when persons could take rock from the croppings and pound it in a hand mortar, and get a great deal of gold; so it was supposed that 50x100 feet would furnish one man his share of gold contained in the country. It was soon ascertained, however, that this was not enough in deep quartz mining. A man was allowed to take up only one claim on a ledge. That law of the miners was evaded in this manner: a person finding a quartz ledge would mark off the number of feet to which he was entitled, 50x100 or 100 square feet, by putting a stake at each corner of the claim, with his name on a center stake; then staking out as many more claims as he wanted, he put the names of friends on the center stake of each. He then went to the Recorder of the district, after putting up his notice of location on the ledge, and had a copy of the notice and name of ledge, also names of locators, put on record. Next he went to the parties whose names he had used, and got bills of sales from them to himself of the claims located in their names. The parties would always sign the bills of sale without hesitation, or even inquire as to the locality of the location or richness of the rock, for they all did the same thing for each other. When it came to be understood that quartz ledges cropping above the surface with rich specimens in such abundance that a man could make a large amount of money in a short time, yet after they had been worked on for a time, and the cream was taken off, they became less productive, a change of the system of location was found necessary. Machinery had to be devised that could be driven by steam or water power to reduce the rock to a powder. Miners formed themselves into companies (unincorporated), and located ledges; then they made arrangements with persons having more money than muscle, or disposition to use what they had, to erect a mill with the appliances to run it and the amalgamating apparatus. The company of miners would put the mine in against the mill, so that each, the miners and person or persons erecting the reduction works, would receive one half of the profit made in the business. Persons would erect mills in the different quartz mining camps to do custom work, and charge so much per ton for working ore. The miner would receive the product, less the amount charged for working it. When the ore did not yield as much as the miners thought it ought, they accused the mill man of stealing the gold. Generally the miners would over value their ore, and of course were disappointed with the result.

A man owning a mill and doing custom work did not occupy a very enviable position. He was accused of stealing, whether falsely or not. Persons with means then began to purchase quartz ledges and form stock companies, and erect reduction works to work the ore. It soon became apparent that the mode adopted of taking up quartz claims would not do. Then the more liberal and reasonable plan was adopted of locating claims 100 feet in length on the ledge to each person locating, except that the discoverer was allowed to include 200 feet in his location. Afterward the miners became more liberal to themselves still, and made laws allowing 200 feet to a claim, the discoverer of the ledge to have 400 feet.

The law of Congress allows an individual or company to locate 1,500 linear feet on a quartz ledge, and 300 feet in width each side of the center of the ledge vein, or lode, with the dip, spurs and angles. That has been the mode of locating all ledge claims since the act was passed, and will continue to be until the law is changed, which is not likely to be done.

Preservation of Fruit.

A. Dal Piaz recommends to lay the fruit in a solution of sugar, mixed with salicylic acid. The proportions are 100—500 grammes sugar, 2½ to 3 grammes salicylic acid to 1 liter water. Cherries, raspberries, pears, grapes, etc., have been preserved in this manner for a year without losing their natural aroma.

We intend in our next issue to publish an illustrated description of the new Wilson Sewing Machine which is soon to be placed upon the market. This machine possesses many points of novelty which will be of interest to our readers.