

A few years ago a stone which had formed part of the wall of a house at Hamath had an inscription upon it which excited great curiosity, because it was neither Assyrian nor Egyptian, but something between both languages. It may be remembered that I called attention in one of my former addresses to the discovery of this stone and one or two others containing like characters, which were then called the Hamath inscriptions, with the suggestion that this might probably be the language of the Hittites, which is now proved to be the fact. The inscriptions found by Mr. Henderson in the exploration of Carchemish are not only of the same character, but the same language which Mr. Layard found impressed upon seals discovered by him in the ruins of the record chamber of Sennacherib's palace, and which greatly excited his curiosity, as the writing was unlike any ever noticed before. Another inscription was afterward discovered at Aleppo, by Mr. Davis, a missionary; and it also turns out that the famous figures sculptured above the roads from Ephesus to Phoea, and from Smyrna to Sardis, which are mentioned by Herodotus, and were supposed by him to represent the Egyptian King Rameses II., the Sesostri of the Greeks, had inscriptions in the same character as that recently found in Carchemish, showing that these figures also are Hittite monuments. It is supposed that this language was the source of what is known as the Cypriote syllabary, found in Cyprus, and which was probably the language in use among commercial people throughout Asia Minor until it was superseded by the simpler and more practical Phœnician alphabet. This discovery is exceedingly interesting, as the Hittites belong to the same race of people who perfected, by the invention of the alphabet, that greatest of human inventions, a written language. We have now, in this discovery of Mr. Smith, the memorials of a lost people, in neighboring proximity to the Phœnicians, of whom also we know so little—a people who had an important part in the early progress of ancient civilization, with respect to which an eminent Egyptian scholar expresses his conviction that future discoveries in the course of this exploration will afford convincing proofs that this civilization, which was of the highest antiquity, was of an importance which we can only guess at.

A writer in the London *Times* has said, in respect to these discoveries, that they have opened up to us an extinct civilization that existed before Rome or Athens was founded, of which nearly every trace and memorial had been lost until these discoveries were made a few years ago; that they have opened a new and earlier page in the history of mankind—in that of religion, science, and of the arts—by the discovery of the remains of this library, which Abraham may have consulted in what was the land of his nativity.

Fishes on the Pacific Coast.

At a recent meeting of the California Academy of Sciences, Professor Jordan, of the United States Fish Commission, said that the labors of himself and associates have, as yet, been principally confined to the waters of San Diego, San Pedro, and Santa Barbara. Among the specimens of fish examined were the European shark, of which little has been heard on this coast, but it is taken by thousands in Los Angeles waters for the oil. Mr. Jordan here exhibited a specimen of the true sole, the only one yet found on the Pacific coast. The fish sold in our markets as soles are different kinds of flounders. The one shown was picked up in the Chinatown of Los Angeles. Of the flounders, two new species have been found. One was caught just outside the Golden Gate, and is evidently the young of a species that grows to a large size. The only other specimens of the species known were found in Greenland. Another flounder was of the halibut form. Other new forms were found of the sting ray. It was found off San Diego, and is of the European genus. Another ray, caught off Santa Barbara, belongs to the Chinese genus. This is only another evidence that fishes of the same genera are common to both sides of the Pacific, and, as the speaker facetiously remarked, "forming another link between California and China." It is almost as easy, said Mr. Jordan, to find new genera as new species on this coast. Several sharks, about three feet long, were found off Santa Barbara, which have the peculiar faculty of inflating themselves with air when caught, until they are two-thirds as broad as they are long. This has only been known before by specimens brought from Van Diemen's Land. To the eleven species of rock cod, seven more have been added. Most of the new species are of a bright red color. Another new species of surf fish or perch was found in the San Francisco market.

A Wasp's Strategy.

Mr. Seth Green says that one morning, when he was watching a spider's nest, a mud wasp alighted within an inch or two of the nest, on the side opposite the opening. Creeping noiselessly around toward the entrance to the nest, the wasp stopped a little short of it, and for a moment remained perfectly quiet. Then reaching out one of his antennæ, he wriggled it before the opening and withdrew it. This overture had the desired effect, for the boss of the nest, as large a spider as one ordinarily sees, came out to see what was wrong and to set it to rights. No sooner had the spider emerged to that point at which he was at the worst disadvantage, than the wasp, with a quick movement, thrust his sting into the body of his foe, killing him easily and almost instantly. The experiment was repeated on the part of the wasp, and when there was no response from the inside he became satisfied, probably, that he held the fort.

At all events, he proceeded to enter the nest and slaughter the young spiders, which were afterward lugged off one at a time.

Decision on an Injector Patent.

March 10, 1880, Judge Wheeler, of the United States Circuit Court for the Southern District of New York, rendered a decision in a case in which Nathan & Dreyfus, proprietors of James Gresham's patent (No. 57,057) for "a supplementary jet-lifting apparatus for injectors," sued the New York Elevated Railroad and Wm. L. Chase for an infringement of that patent. The injector which they claimed to be an infringement was that known as the "Little Giant Injector," made and sold by the Rue Manufacturing Company, of Philadelphia. This suit was brought in 1876. The court sustained the validity of the Gresham patent, found that the "Little Giant" injectors complained of were an infringement of that patent, and granted an injunction and referred the subject for an accounting of the damages. Nathan & Dreyfus now give notice that lifting injectors of this pattern are infringements of their patent, and announce that they will settle for such infringements on reasonable terms with all users who respond promptly, and without litigation.

RECENT DECISIONS RELATING TO PATENTS, ETC.

U. S. Circuit Court.—Eastern District of Wisconsin.

GOTTFRIED *et al.* vs. THE PHILLIP BEST BREWING COMPANY *et al.*—IMPROVEMENT IN PITCHING BARRELS, PATENTED MAY 3, 1864.

[It is not often that so many interesting questions are involved and decided in a single case as in the following.]

JOINT INVENTION.

1. To overthrow the presumption of joint invention raised by the filing of a joint application upon a joint oath the evidence must be clear and unequivocal.
2. Joint invention is the result of mutual contributions of the parties; and if one suggests an idea in a general way and the other falls in with it, and by his aid develops and gives definite practical embodiment to it, the two may be considered joint inventors.

A LICENSEE FOR A PARTICULAR MACHINE CANNOT SUBSTITUTE THEREFOR A NEW MACHINE.

3. The defendants claimed to be licensees under the patent by reason of a purchase from one of the inventors of a machine used by him; but it appearing that said machine was subsequently torn down and afterward rebuilt of substantially a new construction, it was held that the identity of the original machine was thereby destroyed, and the evidence did not disclose such facts as to show that the patentees had expressly or impliedly given to the defendants license or permission to use such machine.

SIMPLICITY AND ECONOMY OF CONSTRUCTION ARE SUFFICIENT TO SUPPORT A PATENT.

4. The patent law protects simplicity and economy of construction as against prior complex and expensive combinations; and although the general and abstract effect may be analogous, if the two mechanisms produce their respective results by essentially different processes, the one being more simple and capable of being operated with greater economy than the other, it is not anticipated thereby.

REQUISITES OF SUCCESSFUL PRIORITY.

5. A prior patent or publication, to anticipate a patent, must appear in the description to embody substantially the same organized mechanism, operating substantially in the same manner as that described in the patent claimed to have been anticipated.

THE NEW ARRANGEMENT OF OLD DEVICES MAY BE PATENTED.

6. Old instruments placed in new and different organizations, producing in such situation different results, or the same results by a new and different mode of operation, do no prevent such newly-organized mechanism from being patentable.

TO OVERTHROW A PATENT THE ALLEGED PRIOR DEVICE MUST BE PERFECTED AND PRACTICAL.

7 To justify the court in overthrowing a patent granted for what appears to be a new and useful invention or improvement, on the ground that the device has been anticipated by another and earlier invention, the court should be well satisfied by clear and credible testimony that the alleged earlier invention actually existed; that it was a perfected device capable of practical use; that it was embodied in distinct form and carried into operation as a complete thing, and was not of such character as to entitle it only to be regarded as an unperfected or abandoned experiment.

8. A rude machine constructed for the purpose of experiment, and subsequently broken up, deserted, and abandoned, cannot be regarded as such a perfected invention as will defeat a patent.

NEW COMBINATIONS OF OLD PARTS ARE PATENTABLE.

9. Although the various elements or parts of the patented mechanism, when separately considered, may be regarded as old, they are to be viewed in the light in which they have been combined in connection with the new and useful results which the combination accomplishes.

THE CLAIMS ARE TO BE EXPLAINED BY THE SPECIFICATIONS.

10 A claim to "the application of heated air under blast to the interior of casks by means substantially as described and for the purposes set forth," embraces the particular means and mode of operation described in the specification.

11. Claims containing words referring back to the specification must be construed in the light of the explanations contained in the specification.

12. It is sufficient for the purpose of distinguishing old parts from new in the specification and claims of a patent to describe each and all of the parts, and claim the mechanism as a whole, so constructed and operated as to produce the result set forth.

MECHANICAL INVENTIONS.

An improvement in axle boxes which will prevent the oil or grease from flowing out of the box, and will prevent sand from entering it, has been patented by Mr. Irving F. Burdick, of North Stonington, Conn.

An improved hay press has recently been patented by Mr. Beverly Tompkins, of St. Albans, West Virginia. This invention is an improvement on the hay press, for which application for patent was allowed to the same inventor June 13, 1879. It consists of a novel arrangement of levers for operating the traverser and follower of the press.

A harrow that can be readily adjusted for light or heavy work, be made to accommodate itself to uneven ground, and be moved anywhere without being taken to pieces, has been patented by Mr. William W. Cook, of Kansas Centre, Kan.

Diamond Making.

The London *Photographic News* sums up briefly the result of diamond making as follows: A hydrocarbon gas—such as marsh gas, for instance, which is composed of hydrogen and carbon—is put into a stout iron tube of considerable thickness. A nitrogen compound—presumably cyanogen—is also introduced, with a view to the nitrogen combining with the hydrogen, and leaving the carbon free, for a diamond, as our readers are aware, consists of pure crystallized carbon. The gas in the iron tube is subjected to enormous pressure to liquefy it, the tube being heated to aid in this work. The liquefaction of oxygen by Pictet, of Geneva, was effected by pressure in this way. The pure carbon passes under pressure from a gaseous into a liquid form, and finally crystallizes, in which condition it is found upon the iron tube being opened. The diamonds are, however, of the most minute character, and Mr. Hannay, of Glasgow, who has thus succeeded in making them, frankly owns that the game is not worth the candle.

When Trout May be Caught.

The *Sea World*, a sprightly little paper devoted to the fish interests, published at New Haven, Conn., gives the following information regarding the laws of different States in respect to trout fishing:

California, April 1 to November 1.
Connecticut, April 1 to July 1.
Iowa, February 1 to November 1.
Maine, May 1 to October 1.
Massachusetts, April 1 to October 1.
Michigan, May 1 to September 1.
Minnesota, April 1 to October 1.
New Hampshire, May 1 to October 1.
New Jersey, March 1 to October 1.
New York, April 1 to September 1.
North Carolina, January 1 to October 15.
Pennsylvania, April 1 to August 1.
Province of Ontario, Canada, May 1 to September 15.
Province of Quebec, Canada, February 1 to October 1.
Rhode Island, March 1 to August 15.
Vermont, May 1 to September 1.
Virginia, April 1 to September 15.
Wisconsin, April 15 to September 15.

Total Solar Eclipses.

According to Professor Davidson, of San Francisco, the most important total solar eclipses during the present century will be as follows:

Date.		Most favorable locality for observation.	Duration of Totality.
Year.	Month.		
1882	May 17	Arabia	2 min. 00 sec.
1883	May 6	Marquesas Islands	5 min. 15 sec.
1885	Sept. 9	New Zealand	2 min. 00 sec.
1886	Aug. 29	West Africa	6 min. 21 sec.
1887	Aug. 19	Russia	3 min. 40 sec.
1889	Dec. 22	Angola, West Africa	3 min. 34 sec.
1893	April 16	Brazil	4 min. 44 sec.

The next total solar eclipse visible near the United States will be that of May 28, 1900, at 3 o'clock in the afternoon; wherein the central line of totality passes through Mexico, the Azores, and Egypt.

Water Cresses.

At a recent meeting of the Royal Horticultural Society of England, Mr. Shirley Hibberd exhibited a lot of home-grown water cresses, which created considerable interest among the members. The display consisted of a series of pans, fifteen inches in diameter, each filled with a luxuriant growth of tender cresses. The exhibitor claims that the pan culture of water cresses may be profitably pursued with the aid of a frame or cool plant house during the severest winter weather. The cresses shown were produced in the course of six weeks, and had been daily gathered for the table, thus showing how rapidly and prolific they grow. According to the testimony of Mr. Hibberd any one may supply his table with this wholesome and delicious salad any time of year without much trouble or expense.