melts into the crevices, forming a thoroughly tight joint all around.

All the jellies, jams, and preserves that the concern manufacture are made from the pure juice of the fruit with the very best sugars. A hydraulic press is used to extract the juice, which is boiled in copper kettles until thoroughly jellied.

The meat used is bought slaughtered. In the boning department, on the second floor, expert hands cut out every particle of bone. It is then taken to the third floor and cooked in large meat vats, and afterward nicely canned.

The champagne cider is manufactured after approved methods; portions of the second and third floors are devoted to this department.

The department for preparing pickles is just across the alley from the main building. Gherkins, peppers, limes, beans, cauliflower, and a variety of others are manufactured. There are six large pickle tanks, with a capacity of 8,000 gallons each. These are filled solid with pickles, which are prepared every fall, and are allowed to stand in the brine from four to six weeks until wanted. In the pickle packing room they are treated with spices and vinegar, and kept in large quantities to be drawn upon. The concern manufacture their own brine and all their wooden packages. The company make a specialty of manufacturing all pickles for family use in pure malt vinegar.

The first floor, or basement, of the main building is largely devoted to the storage of fruit juices, which are hermetically sealed in large cans and placed on racks, to be drawn upon for jellying during the winter. The floor of this basement is thoroughly "scowed," so as to keep out the tide, which in this part of the city rises several feet.

The labeling department occupies a portion of the third floor. All the cans are lacquered to prevent sea damp and moulding. They are then handsomely labeled and packed in boxes, containing one or more dozen, for shipment.

In the rear of this department the glassing of pickles and sauces is done. Each bottle or glass is corked, bladdered, waxed, and capped with foil to be properly hermetically sealed for shipment. The honey used by the concern is the finest the bee ranches of California can furnish. It is simply run into cans and jars, either with or without the comb. Some kinds of sauces and catchups are put up in barrels. There is manufactured however, a very fine Worcestershire sauce which is handsomely bottled. Olives are prepared in the factory both from native growths and imported. Some very fine stuffed peppers are manufactured, besides a variety of other small articles. The premises have ample water privileges, are perfectly neat and clean, and devoid of any bad odor.

The concern owns and operates three large salmon canneries: one is located at Eagle Cliff on the Columbia, one on Eel River, California, and one in Alaska. Besides manufacturing eleven different kinds of preserved meats, eight different kinds of sauces, eleven kinds of jellies, and nine kinds of jams, the concern are agents for many of the best Eastern preparations, as well as all of Burnett's extracts.

During the busy season, from May till November, the business requires the employment of 500 hands on the average, and 150 hands from November till April. The weekly payroll averages from $2,500 to $3,000. Goods are shipped to the East Indies, to China, to Australia, and the coast is supplied. It is an industry as diversified as it is extensive, and it utilizes the products of nature in a semi-tropical climate for the benefit of mankind everywhere. H. S. W.

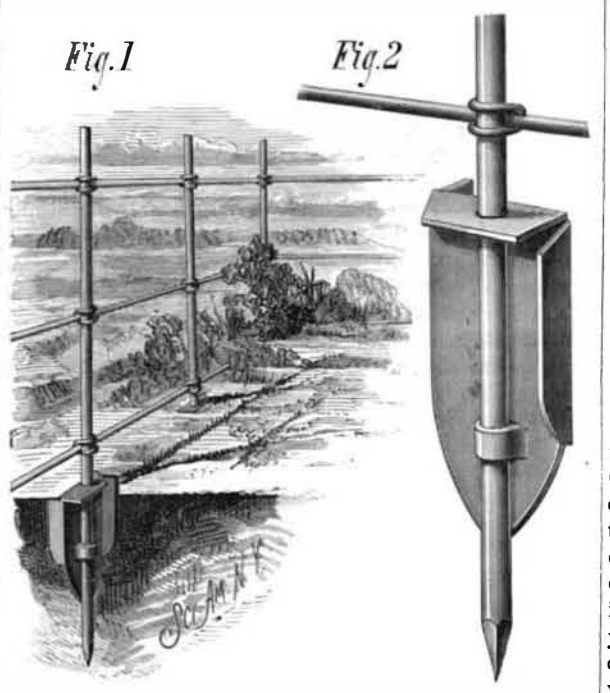
Secretary Evarts on American Industries.

In concluding an official review of the information furnished by American consular agents abroad, with respect to the conditions of trade, wages paid, cost of living, commercial prospects, and so on, in foreign countries, Secretary Evarts says:

"For the first time our manufactures are now assuming international proportions. At a time of universal depression we have met those nations which held a monopoly of the world's markets, met them in their strongholds, and established the fact that American manufactures are second to the manufactures of no other nation, and that, with a proper and patriotic understanding between capitalist and laborer, we can command a fair share of the buying world's patronage, and command that patronage with larger profits to the capitalist and higher wages to the laborer than can be made or paid in any other country. There is something in the Republic which gives an individuality to the people of the United States possessed by no other people to such a degree. Our inventive genius in mechanical appliances is original, and at least 25 years ahead of Europe. Our people accept innovation, are prepared for it by anticipation; Europeans do not. One workman in the United States does as much as two workmen in most of the countries of Europe; even the immigrant from Europe attains this progressive spirit by a few years' association with American workmen. We have no oppressed and stupid peasantry, little more intelligent than the tools they handle. All are self-thinking, self-acting, and self-supporting. Within the last 15 years we have demonstrated our ability, by the brilliant development of our own resources, to exclude, by honest competition, foreign manufactures, to a large extent, from our shores. The question which now peremptorily challenges all thinking minds is how to create a foreign demand for those manufactures which are left after supplying our home demands. We cannot stand still, for the momentum of increase will soon become so great that it will push us outward anyway; to push us safely and profitably is of so much importance as to almost overtop all other public questions of the hour. This question appeals equally to the selfishness and patriotism of all our citizens, but to the laborer it appeals with tenfold force, for without work he cannot live, and unless we can extend the markets for our manufactures he cannot expect steady work, and unless our manufacturers can undersell foreign manufacturers we cannot enlarge our foreign market. The first great truth to be learned by the manufacturers and workingmen is that the days of sudden fortunes and double wages are gone. We must realize the fact that ocean steam communication has annihilated distance and brought the nations face to face. This drawing together of the nations means equalization in trade, profits, wages, etc., the advantage being with those who soonest accept the situation, and show the most sensible continuity in the new paths of success. The Consul at Newcastle-upon-Tyne shows that that city is commercially nearer to New York than to London. If steam communication can thus bring one of the leading cities of a small island like England nearer to New York than to its own capital, it can work equal wonders with the leading seaport cities of all Europe in their commercial intercourse with the seaport cities of the United States. This is a question of great importance to both laborer and capitalist, for it must revolutionize all past theories of trade and commerce, by establishing international equalization. In the near future, the workingman of New York cannot expect twice or thrice the wages of his fellow worker in Europe, while all other things—food, rent, clothing, etc.—are on an equality; nor can the coal miner of Pennsylvania expect twice the wages of the Northumberland miner, while coal from the Northumberland mines can be landed in New York at less than the price of Pennsylvania coal."

NEW IRON FENCE POST.

The engraving shows a novel iron fence post recently patented by Mr. James Carpenter, of New Hope, N. Y. The invention consists in an iron bar forming the post, and a flanged pointed blade that slides over the bar and is driven into the ground to prevent the post from swaying. By looking at Fig. 1 the construction of the post will be readily understood; and Fig. 2 shows a fence built with these posts.



CARPENTER'S IMPROVED FENCE POST.

It is claimed by the inventor that two men can put up and finish 100 rods of this fence in a day, the posts being one rod apart, and three strands of barbed fence wire being used. The cost of this fence, compared with other kinds, is said to be very low.

A Vegetable Curiosity.

A remarkable freak of vegetation has appeared in the grounds of R. B. Tatman, at Worcester, in the shape of a potato vine which bears tomatoes. It appears to be a mixture of the two vegetables, and is accounted for by the fact that a strong tomato vine from chance-sown seed grew in the same hill with the potatoes, and the pollen of the two plants became mixed. Unfortunately the vines were pulled up before the peculiarity of the growth was noticed. Some of our agriculturists may derive a valuable suggestion from this. As both the potato and the tomato are of the solanaceæ family, it is not impossible that one should be fertilized by the other, and a remarkable economy of labor might be effected if careful and scientific cultivation should produce a plant which should bear good potatoes at the roots and good tomatoes on the tops.—*Springfield (Mass.) Union.*

Arsenic in Paper Collars.

Attention having been called by the SCIENTIFIC AMERICAN to the poisonous character of the starch used for some laundry purposes, the paragraph was reproduced and attracted attention in the English papers. The result has been an analysis of certain paper collars and cuffs, by a doctor, at the instance of a patient who showed symptoms of arsenical poisoning. The doctor reports that he has extracted 10·4 grains of arsenic from a single collar.—*Science News.*

The July Product of Petroleum.

According to *Stowell's Petroleum Reporter*, the number of producing wells at the close of July was 11,468, being an increase in July of 245. Total production in July, 1,714,517 bbls. Daily average for the month, 55,307 bbls. The average daily production of each well for the month was 4·9 bbls.

The total shipments of crude, and refined reduced to crude equivalent, by railroad, river, and pipes to the following points, were 1,625,035 barrels

New York took	706,135	bbls.
Pittsburg "	278,030	"
Cleveland "	292,924	"
Philadelphia "	139,968	"
Boston "	85,696	"
Baltimore "	57,187	"
Ohio River refiners took	20,336	"
Other local points "	44,759	"
Total shipments	1,625,035	"

Included in the above shipment there were 212,213 barrels of refined from Titusville and Oil City, which is equal to 318,320 barrels of crude.

The stock in the producing regions has been increased during the month, 89,482 barrels, making the total stock at the close of the month, 7,330,132 barrels, and is held by pipe companies, tankers, and operators.

Retouching Varnish.

A good retouching varnish is a boon to all retouchers, and those who are unfortunate enough to be plagued by too thin films will gladly hail a formula which promises this desideratum. In his recent work on retouching, M. Janssen, the *Photo. Correspondenz* says, recommends the following varnish:

Alcohol (sp. gr. 0·830)	60 parts.
Sandarac	10 "
Camphor	2 "
Venetian turpentine	4 "
Oil of lavender	3 "

This varnish may also be used for paper pictures. The retoucher should not set to work as soon as the negative has been varnished, as the film will not then be hard enough to bear the touch of a lead pencil. The varnished film is in the best condition for retouching when a day old.

GLOSS FOR PHOTOS.

The same gentleman also gives a formula (said to be used by Salomon, of Paris) for a cerate for giving a high gloss to albumenized pictures. The components are:

White wax	800 grammes.
Elemi resin	10 "
Oil of lavender	300 "
Benzoin resin	200 "
Oil of spikenard	15 "

Olives in California.

Recently Mr. Elwood Cooper, of Santa Barbara, California, shipped to San Francisco 1,000 gallons of well clarified olive oil, the product of his orchard at Santa Barbara. According to the San Francisco *Alta*, Mr. Cooper has 6,000 trees, some of them 7 years old, and these produce 20 gallons of berries each on an average in a good year, and one gallon of oil is obtained from seven of berries. Trees 10 years old in a good soil will average 50 gallons of berries in a good year, but sometimes will yield 150 gallons. After a good crop the tree usually takes a year's rest, so that its good years alternate. The whole yield from a mature orchard may be set down at 200 gallons of oil to the acre, and of this 50 gallons may be deducted to pay for gathering the berries and making and marketing the oil.

The *Alta* believes that the olive should receive more attention in California, since it will bear good crops, on poor soil, with less care than any other plant. The hillsides, now worthless, should be covered with olives. The olive requires no irrigation, grows on clayey or rocky soil without much cultivation, and begins to bear in five years, coming to full bearing in ten years.

Rat and Mice Exterminator.

A German newspaper gives the following simple method for exterminating rats and mice, which, it states, has been successfully tried by one Baron Von Backhofen and others for some time past: "A mixture of two parts of well bruised common squills and three parts of finely chopped bacon is made into a stiff mass, with as much meal as may be required, and then baked into small cakes, which are put around for the rats to eat." Several correspondents of the paper write to confirm the experience of the noble baron and his neighbors in the extirpation of rats and mice by this simple remedy.

Transparency of Metals.

With the aid of electricity films of several metals of such minute thickness as to allow the light to pass through them can be produced. An electric current is passed into a wire of one of the metals, that extends into a glass tube containing rarefied air or gases. The particles of metal that the electric current loosens from the wire are deposited on the sides of the tube and form a transparent film. The light that passed through gold was a very handsome green, silver produced blue, copper light green, platina bluish gray, zinc dark bluish gray, and iron brown.—*Chemiker Zeitung.*