

and nuts generally; and the invention belongs to that class of nut locks wherein a ratchet block or spring stop is employed between the inner face of the nut and its contact surface, and engages with grooves upon the said inner face of the nut to admit of the free movement of the nut in one direction and prevent it from moving in the other direction.

**The Yellow Pine of the South.**

The average height of the yellow pine, says a southern writer, in the virgin forest is from 60 to 70 feet, with a diameter of 12 to 18 inches for two-thirds of its height. It is of slow growth, particularly at the later periods of its life. According to the number of annual rings, trees of the above dimensions must have reached an age of 60 to 70 years. The reproduction of a tree from the seed, furnishing an equal supply of timber, would at this rate take two generations. It is a poor seeder, as the younger Michaux observed. In unfruitful years, a forest of hundreds of miles may be ransacked without finding a single cone, and these, according to my observations, are far more frequent than fruitful ones. In its struggle for existence in our days, the odds of a survival of its kind among the arborescent vegetation that disputes its ground are greatly against it. Taken from the flat and moist lands, and it is replaced almost exclusively by the pond and old-field pine; the hilly, broken, dry upland, denuded of the grand old pine forest, is with surprising rapidity covered by a dense and scrubby growth of blackjack, turkeyoak, scarlet, and upland willow oak, above which seldom a young pine raises its head, crowned with its large white-fringed terminal bud.

Full of resinous juices through all stages of its life, the young trees are not as able to withstand the raging fires that annually devastate the woods as the less resinous species and the deciduous-leaved trees; besides that, being of much slower growth, this noble tree is doomed to extinction if not protected by the aid of man. On tracts sheltered from the invasion of fire, groves of young trees from 15 to 25 feet high, can be observed around Mobile, testifying that its existence for the future can in some measure be secured if protected from these destructive influences, unnecessarily caused by man. The utmost efforts by an enlightened community should be made through active and efficient State legislation without further delay, to guard against the calamity of a total destruction of such a magnificent estate intrusted to the hands of our people. Besides its contributions to the manifold necessities of the agriculturist, the builder in naval architecture, the construction of railroads, the arts, medicine, and the innumerable smaller demands of domestic economy, and the varied industries of the world, the influences of this great belt upon the climatic conditions and the salubrity of the Southern coast, are even of more far-reaching importance to the interest of the community at large, extending far out of its confines. Rearing its horizontally outspreading limbs high up into the atmospheric ocean, their branches densely clothed with the long, slender leaves, the forests of these trees present to the canopy of heaven, for many hundreds of square miles, an unbroken sheet of perpetually active vegetation, whose forces at such an altitude affect a constant attraction of the fleeting clouds, causing them to deposit their life-giving and supporting humidity in grateful showers over a large area with wonderful regularity during all seasons. To this fact is due the delightful climate of this part of our country, equalizing its temperature, particularly in tempering the rigors of the long summers of a region near the tropics.

During the great progress of meteorological science of late years, the fact has been established that in this exercise upon the conditions of the atmosphere, as regards the precipitation of its moisture, the pine trees stand unrivaled among all other trees of the forest. Robbed of this protection, the hills and the plains of the Gulf region, now blooming and clothed with the richest verdure, would be arid and parched, presenting as forbidding and austere an aspect as those of the denuded coast of Africa along the Mediterranean Sea, devoid of productive power and unfit for the habitation of civilized man. The efforts of nature are ever directed to recuperation in its aims to insure the existence of different forms of the living organisms from generation to generation.

To secure to our posterity the blessings enjoyed by us in its bounty in assisting these efforts as directed by her laws, as a stern duty imposed upon us. Its discharge in the prevention of a wanton destruction of our forests and the

adoption of measures regulated by the light of science, common sense, and the proper regard to the future, should engage the attention of every intelligent and patriotic citizen, appealing particularly to the owners of the soil. Of little importance to agriculture and industry are the other species of pines found in this region. Of considerably smaller dimensions than the yellow pine, and of a soft and sappy wood, they have, as timber trees, but a small value.—N. W. Lumberman.

**ENGLISH SOFT PORCELAIN.**

In England no regular hard porcelain is made, but a soft porcelain of great beauty is produced from kaolin, phos-



**ENGLISH SOFT PORCELAIN VASE.**

phate of lime, and calcined silic. The principal works are situated at Chelsea. The export of these English porcelains is considerable, and it is a curious fact that they are largely imported into China, where they are highly esteemed.

Our engraving shows a richly ornamented vase in soft porcelain from the works at Chelsea.

**LOBSTERS.**

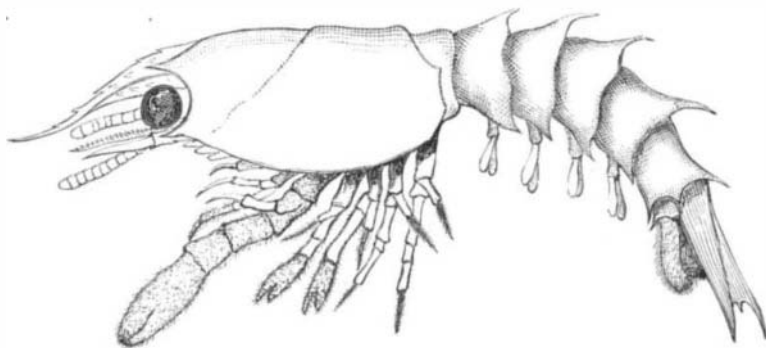
BY A. W. ROBERTS.

Previous to the establishment of the oil works at Hunter's Point and Greenpoint, the lobsters caught at Hell Gate were considered to be the finest that came to the New York markets. But the few caught now are so strongly impregnated with sludge, acid, and coal tar, that it is next to impossible

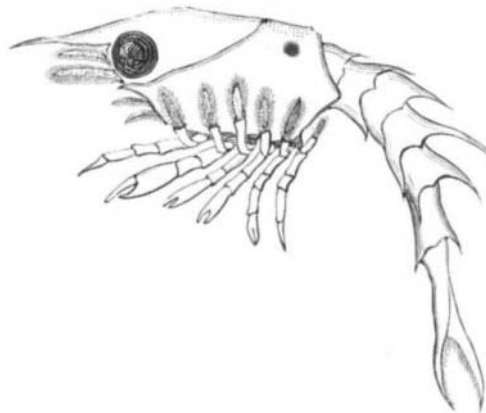
ing their value. Our common lobster (*Homorous Americanus*) belongs to the order of long-tailed crustaceans (*Macroura*), which includes the crayfish, prawns, and shrimps. As an article of food the lobster is the most important of all crustaceans, and dates back to the early ages of the world. Latium was famous for its lobsters, and Athenæus, whose cook book is the oldest in the world, mentions Apicius, who spent much of his time at this place on account of its lobsters.

Fifty years ago large quantities were taken on the reef of rocks that extended from Castle Garden to Pier 4, North River, and also on the reefs off Governor's Island; now only a few are taken in the neighborhood of Fort Lafayette, our markets being supplied from Maine, Nova Scotia, and Massachusetts, the lobsters reaching here alive in "well" smacks. Large quantities are sent to New York from Boston, all ready cooked, during the winter season. On the Maine and Nova Scotia coasts thousands of girls, women, and boys, are employed in the canning of lobsters. On the first floor of these canning establishments are brick furnaces, in which are placed large copper boilers filled with sea water kept at boiling heat. As fast as the lobsters are received fresh from the fishermen they are plunged into the hot water for a few minutes, after which they are distributed on long benches covered with zinc. The women and girls then break them up and extract the solid meat from the tails and large claws, the only parts used in filling the cans, which are then placed in shallow boilers to expel the air before sealing them up, after which they are taken to the second floor to be labeled and packed in boxes capable of holding four dozen cans; these sell at four dollars per box. The number of lobsters boiled per day varies from one thousand to three thousand. The American canned lobster goes to all parts of the civilized world.

The usual way of catching lobsters is in what are known as "pots." The "lobster pot" is made of a variety of materials, laths, netting, and wicker work. On the Eastern coast nearly all the pots are made of laths, forming a long semicircular cage; at each end is a door, which lifts up when the lobster presses against it; after he has passed in the door drops back into its place, and the lobster is imprisoned, as the door cannot be raised from the inside; others have a funnel-shaped netting of rope. The pots are weighted with stones and fastened on set lines, which are buoyed at each end to mark their positions. A smart fisherman can fish one hundred and fifty pots on a single line, but it is very hard and laborious work lifting and hauling up from the deep water into the boat so many heavily weighted pots; each pot has to be rebaited and emptied of its lobsters, also cleared of all seaweed and drift. The pots are baited with what are known as "evil" fish, such as stinging rays, skate, bonkers, etc., which cost the fishermen a few cents per hundred-weight. After the lobsters are caught they are placed in large stationary cars provided with a hopper on the top, the lobsters are thrown into the hopper and pass into the car, where they remain until the "well" smack returns from New York for a fresh load. Lobsters are in season all the year round, but are the fattest from April to October. It is a mistake that any part of the lobster is poisonous; although the "lady," which is the stomach of the lobster, is very tough and indigestible, it is not poisonous. The bluish vein situated along the back and tail is to be avoided, as it often causes sickness. Lobsters are prepared for the table in many ways, the flesh is boiled, fried, pickled, scalloped, and is used for soups, salads, sauces, croquettes, pies, and pastry, but the most delicious of all is a fried "shedder" lobster. A "shedder" is a lobster who is within one or two days' time of casting its shell, which is removed artificially from the lobster before cooking. The shell of a lobster is composed of an unyielding calcareous substance, which, without doubt, is a most excellent defense for a full grown lobster, but it leaves no room for growth. To overcome this, all crustaceans possess the power of shedding their shells at certain seasons of the year, after which a new shell is formed; this again is cast off, and so



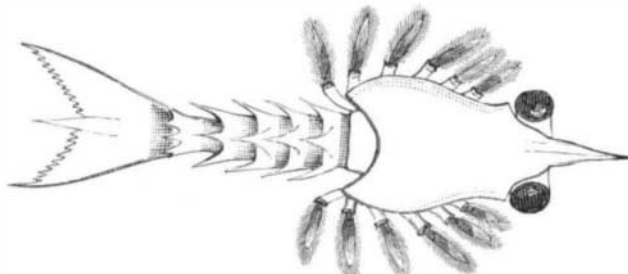
Last larval stage.



First larval stage (side view)



Cephaline thoracic leg of the second pair.



First larval stage (back view).



Embryo of lobster

to eat them. There is no doubt that the blastings at Hell Gate destroyed immense quantities of lobsters; so great a dread have lobsters of thunder that they will cast off their large claws when a loud clap occurs or when a gun is fired. In olden times captains of vessels often extorted blackmail from lobster fishermen by threatening to fire cannon over their fishing grounds, knowing full well that the concussion would cause the lobsters to cast their claws, thereby destroy-

continually until the animal has attained its full growth. Not only is the shelly coat of the body and limbs cast off, but also the following portions of the body: The foot-stalks of the eyes, external cornea of the eyes, internal thoracic bones, membrane of the ear, membranous covering of the lungs, tendons of all the claws, lining of the stomach, and the stomachic teeth. There can be but little to wonder at that a lobster often experiences great difficulty in shedding