

EARLY BRITISH DOUBLE-TURRETED MONITORS.

During a visit of Said Pasha, Viceroy of Egypt, to Europe, in 1862, he inspected the shipyard of Messrs. Laird & Co., Birkenhead, England, and on his return home gave an order for the construction of two ironclads by Laird & Co. Broway, a French merchant who was well known in the East through his business connections with the Egyptian government. Before the ironclads were completed the Viceroy died, and his successor, Ismael Pasha, declined making the necessary payments on the vessels to Mr. Broway.

Through the influence of the French Emperor, Ismael Pasha was brought to terms, and Mr. Broway, in consideration of a payment of \$250,000, assumed the contract for the ships himself. But it was arranged that the transfer of the contract should be kept secret and that the ironclads should continue to be known as the Viceroy's property.

The motive of the above arrangement is found in the fact that the vessels were actually destined for the use of the Confederate States; and early in September, 1863, the United States Consul-General at Alexandria was informed that the two ironclads were completed and would sail as ostensibly belonging to the Egyptian government, unless evidence of the real ownership and destination of the vessels could be presented.

To secure this evidence was a task as delicate, as it was difficult, as it could only be given by the Viceroy. In the absence of Consul-General Thayer, his substitute, Mr. Francis Dainese, obtained an interview with the Pasha, and made it clear to him that the two ironclads were to be delivered under his name to the Southern States. As a result of the clearness with which it was made evident to Ismael Pasha that unless the plot were disavowed his government would be placed in an extremely compromising position, the Pasha officially declared that the Egyptian government was not in any way connected with the two ships. On the 11th of September, 1863, Mr. Dainese telegraphed to London the

facts of the official denial by the Egyptian government, and shortly after this the two ships were seized by the British government.

The vessel shown herewith was originally known as "El Tousson," and her sister ship as "El Monassir." After their seizure they were purchased by the British government and incorporated in the Royal navy under the respective names of "Scorpion" and "Wivern." They were launched July 14, 1863, and for many years past they have been doing guardship service. The vessels were 224 feet 6 inches in length, 42 feet 4

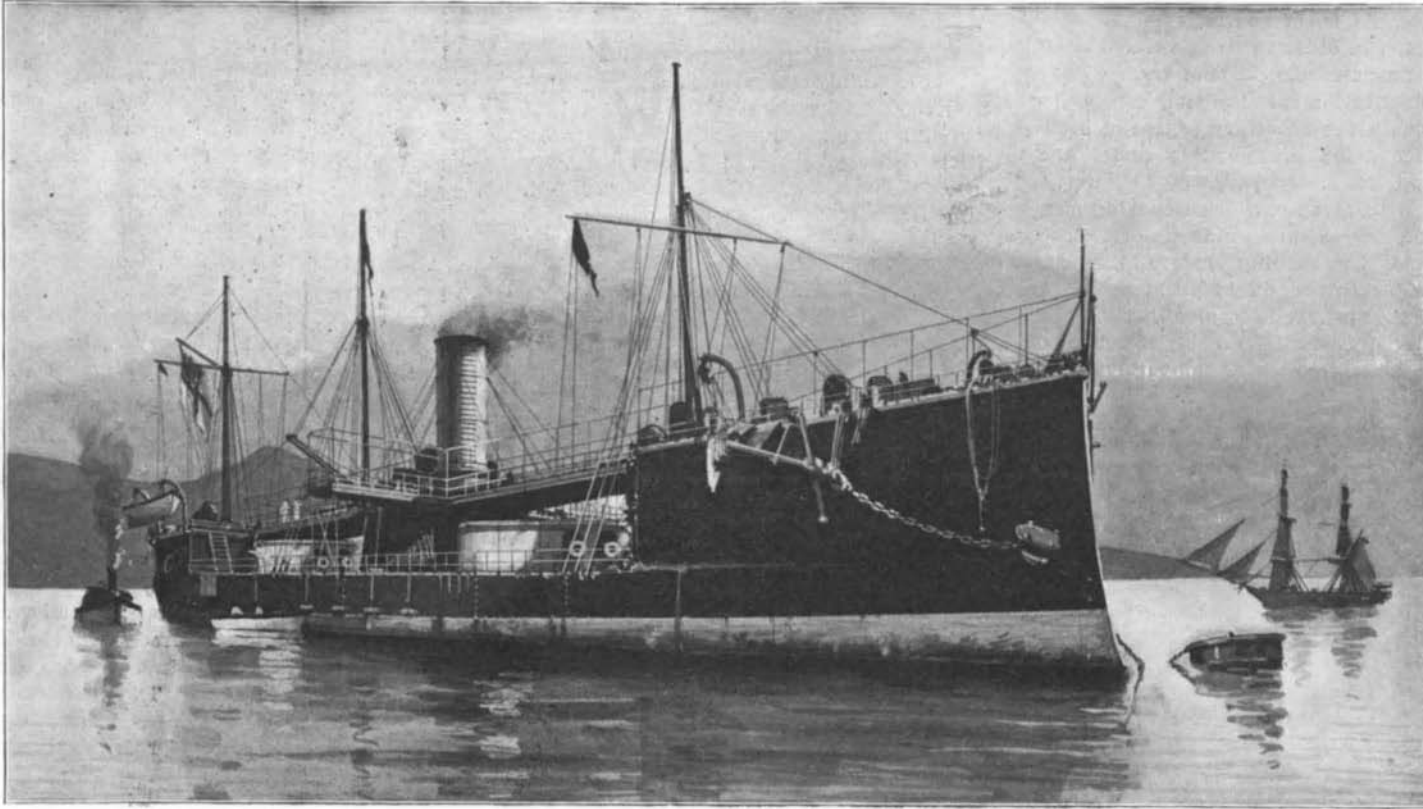
which these ships would have been opposed, had they reached their destination in the Confederate navy, it must be confessed that they would probably have proved more than a match for the Northern craft, and that the subsequent course of the naval campaign might have been considerably modified.

BEE-CULTURE.

BY W. FRANK M'CLURE.

There is no more charming and interesting rural study than that of the habits and occupation of the busy honey-bee.

With the coming of the warm summer days in the country she is everywhere present, though so small as to attract little attention in comparison with the domestic animals of the farm, the birds of the air or the game of the woods. Did you ever stop to think that these little beings of earth's creation possess an anatomy astonishing in its intricate construction, that they are subject to many of the ills of man, that their sagacity



Length, 224½ feet. Beam, 42 feet 4 inches. Draft, 17 feet. Displacement, 2,750 tons. Speed, 8.5 knots. Armament: Four 9-inch muzzle-loading guns. Side Armor, 4½ inches.

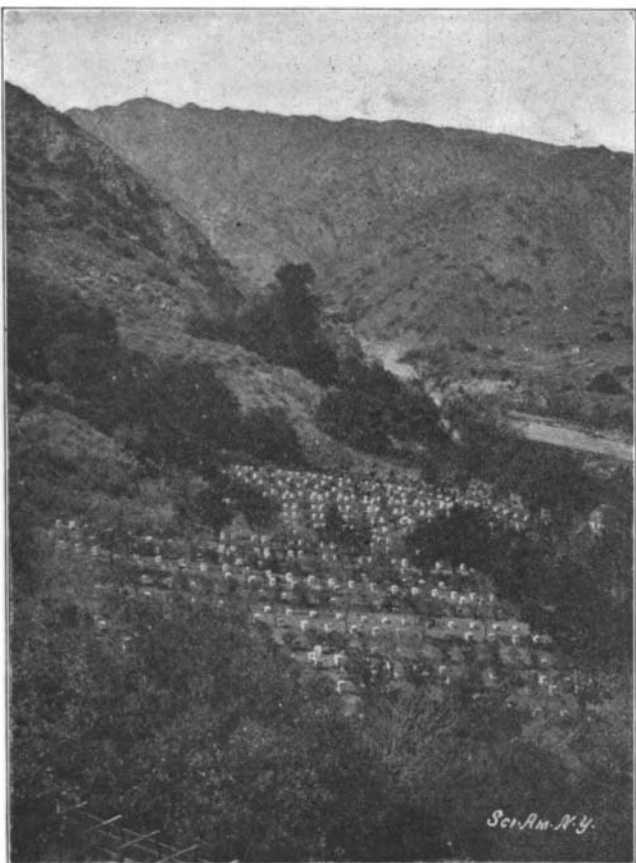
THE "SCORPION," AN ENGLISH DOUBLE-TURRETED MONITOR OF 1863.

inches in beam and their draft was 17 feet. Single screw engines of 1,000 indicated horse power gave them a speed of about 8.5 knots an hour. The "Scorpion," which was 2,750 tons displacement, carried a crew of 151 men. For a great many years past she has acted as depot ship at Bermuda. She was built of iron and carried two turrets which were disposed on the center line of the ship, one forward and one aft of the smokestack. The freeboard amidships was low, the vessel in this respect approximating to the monitor type, but she had a high forecastle deck and poop, features which, of course, gave her a great advantage in a seaway over the monitors of the Ericsson type. Each turret contained two 9-inch muzzle-loading guns.

When we bear in mind the low freeboard and unseaworthy character of the earlier monitors to

is almost equal to that of a dog or a horse, and that their dispositions vary and are susceptible to many influences? As workers of the insect world they are only equaled by the ant, to which for wisdom Solomon directed the attention of all posterity.

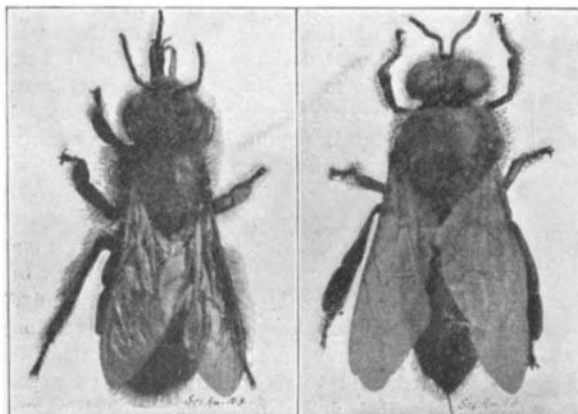
The older inhabitants of rural America remember the bee as found wild in the woods. They recall the interesting and often exciting experiences which followed an attempt to secure the honey of these wild bees. Bee-hunting is not an altogether obsolete pastime, although little is said about it to-day. There are thousands of bee-trees in the United States to-day which inclose vast stores of honey. Honey from bee-trees is secured sometimes by felling the tree, sometimes by scaling its heights and, after extricating the sweet harvest, lowering it by means of a rope attached



A TYPICAL CALIFORNIA APIARY.



A WORKER BEE AND ITS STING.



A WORKER WITH A DRONE ABDOMEN.

A DRONE WITH A WORKER ABDOMEN.



LOWERING PAILS OF HONEY FROM A 100-FOOT BEE-TREE.

to pails or baskets. This wealth of honey is often found at a great height, and it is no easy matter to battle with the bees in such quarters. Skilled bee-hunters, nevertheless, often secure not only the honey, but also the bees. After reaching an elevation on a level with the hive, the top of the tree is sawed away close to the home of the bees. Then the tree trunk is severed again just below the hive. The hive is in the hollow of the trunk and the entrance is, many times, through a knothole. Then the entrance is cov-



THE SHRIVELED GRAPES HAD BEEN PRICKED WITH A PIN AND WERE SOUGHT OUT BY THE BEES. THE PERFECT FRUIT IS UNTOUCHED.

ered with a wire netting, the screen of which is sufficiently small to imprison the bees, and this natural hive of the woods is lowered to the ground.

This interesting pastime of hunting the homes of wild bees is pursued with care and in accordance with a knowledge of the habits of the little workers. When the bee has found profitable honey-making territory, she sizes up the location. In taking wing she circles in the direction of her home, with each circle approaching nearer and nearer her hive in the tree until, all of a sudden, she makes a "bee-line" for the tree. The wild-bee-hunter must be enabled to watch carefully the direction in which this bee finally goes, and he can usually depend on it that the destination is not more than a mile or two away. The exact distance is sometimes ascertained by timing a bee, giving it five minutes to go a mile, and two minutes to unload its honey. A particular bee is distinguished by touching it with a drop of white paint while it is engaged in gathering honey.

The accompanying photograph of a beehive, cut down and with a part of the honey taken out, shows a company of children enjoying the sport, but without veil or other protection from stings. Those who know say that, contrary to what we might expect in this regard, the bees are not to be feared after the tree has been felled. The fall of their high quarters has the effect of stunning them. However, it is not always best to take risks in handling the bees themselves unless one is an expert, for bees will always sting when pinched.

Some folks who handle bees extensively become very much attached to them, and they resent the idea that the bee is vicious. In fact, they go so far as to claim that bees are gentle and not prone to anger when handled with knowledge, care and consideration. The knowledge which is required should include a realization of the species to which the little workers to be dealt with belong. Nationality here counts for as much as it does in the human family. The black bee, so common in this country, is much more easily stirred to anger than the Italian bee. The black bee is also known as the German bee, and the cross between the black and the Italian is commonly styled a hybrid—a more vicious species by far than the black bee. In all nationalities, as before stated, there is a difference in disposition. The members of each colony have a personality which the experienced handler of bees can detect. The man or woman, boy or girl who grows up to know the peculiarities of his various colonies solves many problems. Here, too, pedigree counts. It will doubtless be news to the general reader to know that apiarists sometimes purchase queens at a cost of \$25 each, and that there is at least one queen bee in the United States valued at \$200, and yet the life of the average queen does not exceed four years.

Speaking of the age of a queen, it is of additional interest to realize that the average life of the honey-bee, a worker, is seldom more than two or three months in summer, depending upon its activity. In the height of the honey-making season it often exists but six weeks. It simply works its little body out. When about ready to die, its silken wings will be found ragged and half gone. However, when young bees hatch out in September and October and go into winter quarters, they will probably live until the following April or May. The life of the lazy drone is no longer than that of the average bee, but this, of course, is not on account of overwork. The drones are usually killed. The busy workers cannot tolerate them about. In every instance it is a queen, not a king, that rules over this form of God's creation.

When the resources of honey are scarce, it is then that the bees, having little to do, are likely to form bad habits. It is then that they get to robbing. One of the number may somewhere find that there is honey to be had in large quantities in the hive of a nearby disabled colony or, perhaps, through the open door of the honey-house of the apiarist. The capacity of the honey-bee for honey is about the size of a small pea. To extract this load from the flowers often requires a bee to work for a full day, while, if she can get it from a hive or storehouse, she can fill in a few minutes. Robber bees in visiting another hive are met by sentinels and scouts, but these they soon overpower if the colony is a weak one.

It is a peculiarity of bees that when robbing they become very angry. They attack everything and everybody. An amusing incident is told concerning the experiences of an apiarist at Groton, N. Y., in which the bees figured to the extent of tying up an entire line of railroad for several hours. A box car containing some honey was broken open in a wreck and some of the honey scattered. A bee on its homeward journey discovered that great quantities of rich honey were to be had within a few hundred feet of the home of many colonies. It filled up to its fullest capacity, and started for its hive. On entering, the bees noticed that it carried an extra large load. They cleared the way for it to pass and, after it had deposited its precious load in a cell of the comb, followed it out into the open air. They followed it to the car, and soon the news passed about from colony to colony, until the broken box car was filled with bees. The engineer and fireman, and eventually the entire train crew, were finally driven from the train by the angry robbers. The apiarist found it necessary himself to mount the engine and, taking hold of the throttle,

haul the broken car a mile away. Several days were required to again secure peace and quiet in the apiary.

In another instance, at Medina, a little country town in Ohio where there are extensive apiary interests, a quantity of extracted honey was spilled in a box car on a branch of the Baltimore & Ohio Railroad nearby. The apiarists knowing that if the bees got a taste of the honey there would be serious results, sought to



HANDLING A SWARM OF BEES.

cover the sticky floor with sawdust. The bees, nevertheless, found the spilled honey, and thousands of them were soon busy burrowing in the sawdust. For weeks afterward these bees could be seen examining each box car left on the siding, and when one day one was found with sawdust upon the floor, they crowded to it and burrowed in the sawdust just as they had done in the car of honey, thus showing their sagacity.

The manner of communication which one bee must have with another is not known. Men of twenty-five and thirty years' experience in the apiary are unable to definitely solve this problem. It is likely that they have some form of communication in sound. The bee makes its sounds with its wings. In robbing the note is a high one, and can readily be distinguished. In time of swarming the old method of bringing down a cluster of bees and hiving them consisted in beating pans and ringing bells. The efficiency of this consists in disorganizing a swarm by keeping the bees from hearing the distinct sound made by their queen.

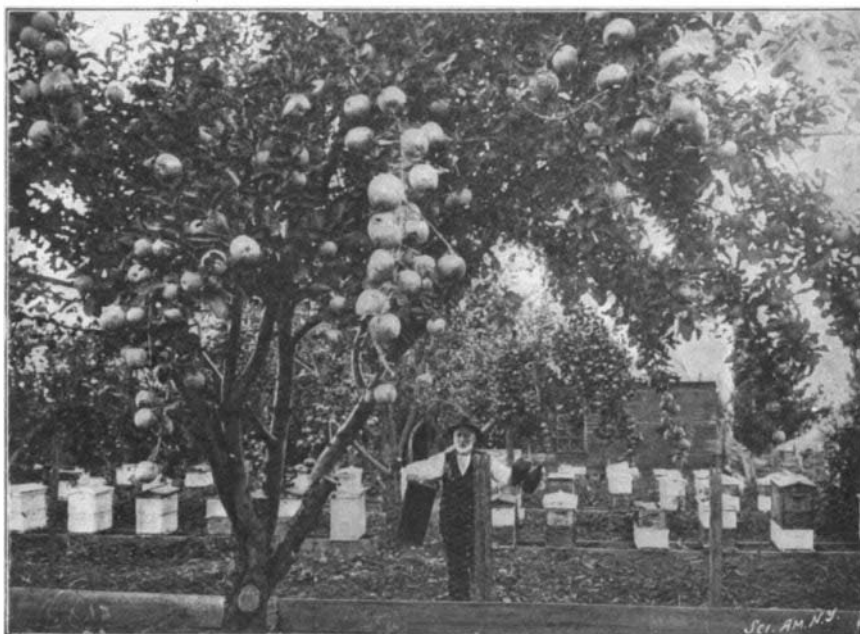
Swarming is an interesting time in the haunts of the honey-bee. It usually occurs in the honey-making season of May or June, and often in July. The natural conditions which lead up to swarming comprise the crowding experienced by the bees as their storehouse of honey becomes full, and as their numbers multiply. A few days before they are to swarm they will gather little or no honey, but will hang about, often on the outside of the hive, until with one accord they rush out into the air and, after circling about for a few moments, finally alight upon a tree and there form a great cluster. Here they may remain anywhere from fifteen minutes to four days, but as a rule they start for the woods within two hours. The tree in the woods on which they alight is one previously selected by the scouts.

To place the queen in a new hive is to hive the bees, for they will always follow their queen. There is not much danger in handling the bees at swarming time. Then they are not usually cross. Women are often as proficient about handling swarms as are men. Many of them work without veils. An important rule to follow consists in appearing unconcerned when a bee seems about ready to make an attack. The outstretched hand should not be withdrawn quickly but rather allowed to remain. There is less danger of being stung. I have seen apiarists place their hands gently upon a hundred bees without being attacked.

The human breath is very offensive to bees, likewise the breath of an animal. It makes them very cross. They, too, have a great antipathy for hair. Both of these dislikes seem instinctive. In the early days of the country the bear



REMOVING WILD HONEY FROM A FELLED BEE-TREE.



HOW FRUIT AND BEES THRIVE SIDE BY SIDE.

was a natural enemy of the bees. Bruin was always seeking to satisfy his love for honey, and would rob hives of wild bees fearlessly. Other natural enemies of the bees are ants, kingbirds, mice, skunks and toads. It is not an unusual sight to see a toad sitting in front of a bee-hive and swallowing the bees as fast as he can catch them coming out.

It requires some 20,000 bees to make a pound of honey in a day. Honey, as we all know, comes from very many different flowers and plants. It is obtained from white and red clover, sunflower, buckwheat, fruit blossoms, basswood blossoms, dandelion, goldenrod, and even blossoms of the turnip. In the West, alfalfa is found to be a great honey-producer. The flower of alfalfa resembles much our sweet clover blossoms of the East. The cacti of the West is also a honey-producing plant.

In gathering honey from these sources the bee uses its wonderful tongue, the anatomy of which would

They are not the first to puncture a grape, although, because of their conspicuousness on and about grapes, they are often blamed for so doing. It is oftener a bird that first attacks fruit. The bee then seeks honey through the opening thus made.

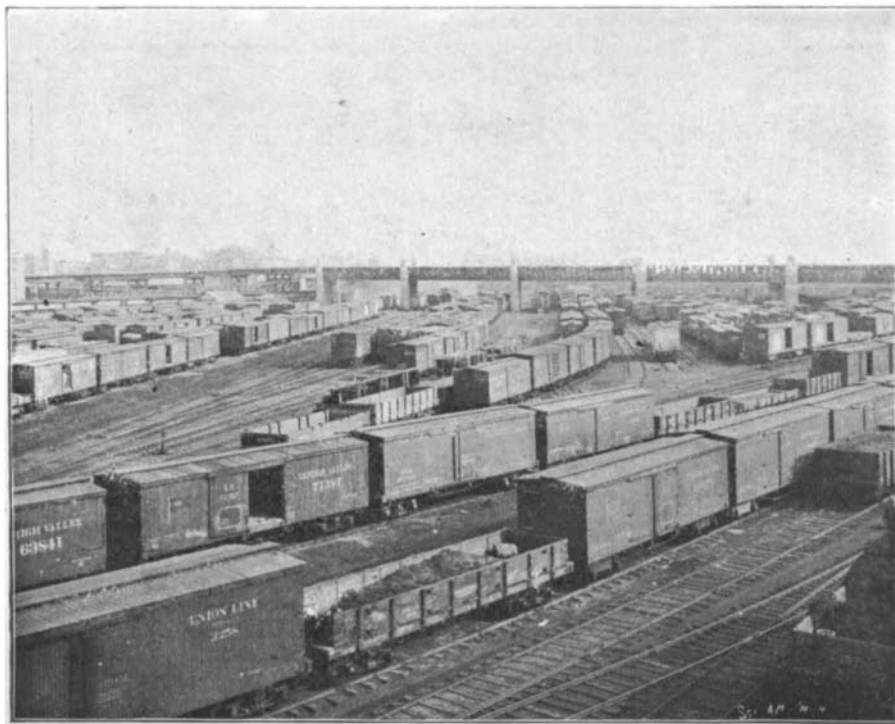
Bee-keeping nowadays has resolved itself to a science, and, in many sections of the country, an extensive industry. There has been a very marked evolution since the time when bees and honey were to be found in the woods only. Modern inventions and genius are to-day assisting both the bee and the apiarist. The annual consumption of honey in the United States aggregates nearly 125,000,000 pounds.

RAILROAD FREIGHT HANDLING IN NEW YORK CITY.

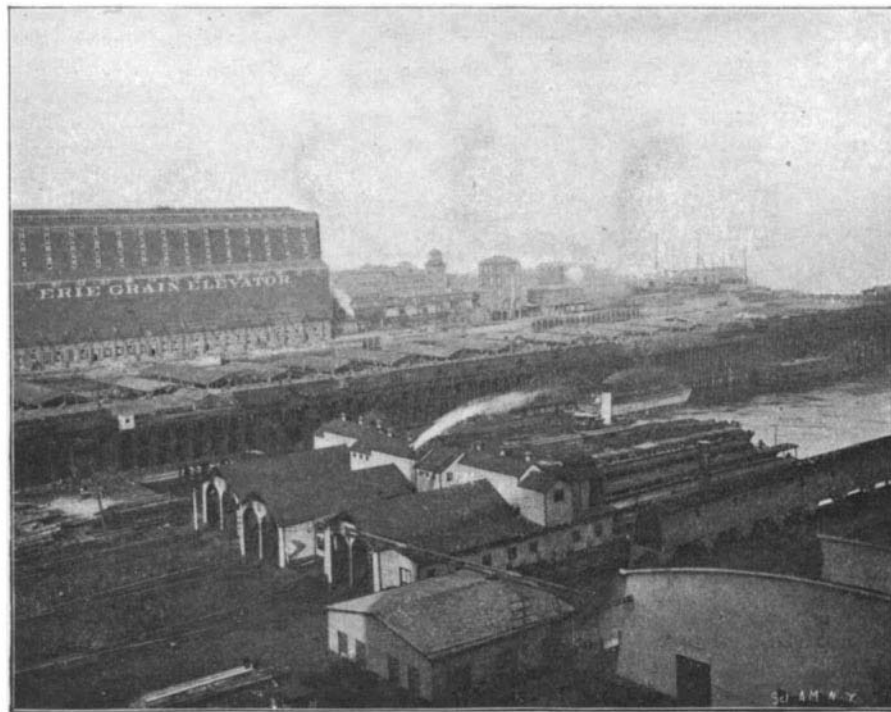
New York city is the only prominent port in the world where freight cannot be delivered directly from the railroad to the ship, or *vice versa*. The deep, broad body of water which surrounds the island of

road to another. A number of lighterage companies have been formed which do the lightering for the railroads.

Many lines, however, do their own lightering. One of the best equipped railroads for this branch of the work is the New York, New Haven & Hartford Railroad. This road does an enormous business in transporting raw material from the West and South into New England, and in the subsequent return of the same material manufactured into the finished article. All this through traffic must be transferred around Manhattan Island. It is essential, therefore, to the life of the road that its tugs and floats should be among the largest and best in the harbor. The company owns a great number of floats, three of which are the largest on the river, having a capacity of twenty-two cars each. The tugs are also very powerful, some of them being fully capable of handling singly a pair of the twenty-two-car floats. The fast freight,



The Harlem Yard of the New York, New Haven and Hartford Railroad.



The Berwin-White Coal Pier and the Erie Grain Elevator.



Upper Jersey City Yard of the Pennsylvania Railroad.



Lower Jersey City Yard of the Pennsylvania Railroad.

RAILROAD FREIGHT HANDLING IN NEW YORK CITY.

form an interesting day's study for any student of the insect and animal world. The bee has a true stomach and a honey-stomach. In the honey-stomach the nectar is separated from the pollen, the pollen being cared for by the true stomach. In the study of the bee's anatomy it will also be found to possess a brain and a nervous and a respiratory system. Its compound eyes are alike wonderful. In comparing its ills to those of man it may be noted, for example, that the bee suffers from paralysis. Remarkable, too, it is that the bee makes a product which no manufacturer can duplicate, at least as far as putting it in combs and capping it is concerned.

There is a common belief abroad that when a bee stings it soon after dies. This nowadays is generally discredited, though in some instances bees do die from this cause.

It has been claimed that fruit and bees cannot exist in the same farmyard, but this is false, a fact illustrated in one of the accompanying photographs. Bees are not the enemies of whole and perfect fruit.

Manhattan affords excellent wharves and docking facilities, but at the same time cuts off direct connection with the railroads. Of the ten trunk lines which deliver goods at this harbor, only one enters this city, the other nine having their terminals on the Jersey shore. Thus, the greater portion of the freight is received in Jersey City and shipped from New York, while Brooklyn is used as a warehouse in which the goods are stored. This unique state of affairs has developed an elaborate system of lighterage and "floatage" peculiar to this harbor.

In earlier times warehouses were built on the Jersey side of the North River, and freight was transferred by lighters to and from piers on the New York side. This system, however, was replaced by the present one, in which the loaded cars themselves are ferried over on floats and their contents delivered to steamer or wharf without landing the car. The cars are thus transported to Brooklyn also, where the freight they carry is stored in the warehouses. Another branch of the work is the transfer of freight from one rail-

however, is carried by two steamers, "Express" and "Maryland," which make the trip down the crowded East River, around the Battery and across to the Pennsylvania yards, a distance of 12 miles, in the exceedingly short time of 52 minutes. The steamers are both modern steel vessels, provided with electric steering gear. The "Maryland" is fitted up with a fine dining room, for in addition to her freight duties she carries daily two passenger trains, the Federal express and the Colonial express. Aside from the through traffic, however, local freight forms a large part of their tonnage. The Berkshire milk arrives at the Harlem River terminus every night at 10 o'clock, and the fish train at 1:30 A. M. Of the four yards, the one shown in the illustration is situated in the very heart of the piano industry, consequently a large part of the freight here handled consists of pianos, which are shipped daily into New England in great numbers.

But aside from the subject of lighterage, it will be interesting to look into the method of handling cars,