

Intestinal Parasites in Domestic Fowls.

During the past year Dr. Thomas Taylor, microscopist of the Agricultural Department, has examined several sick domestic fowls to ascertain the cause of their ailment. The first examined was in a moribund condition when received, and died within an hour after it was brought to his division. Its comb was of a deep red color, abnormally so, the tips being somewhat black. On dissection, its general viscera presented nothing peculiar; but on removing those of the thorax and abdomen, the lungs excepted, he observed on the intercostal muscles, bordering on the ribs, what resembled a superficial reddish pigment in streaks, while small specks of various forms covered the lining of the abdominal cavity. These varied in size from the point of a pin to that of a small pin bead. On removing a small portion of this colored matter, and viewing it under a suitable power of the microscope, he found it to consist of living mites (*acar*) in various stages of growth. He next removed a small portion of the lung tissue, and placing it under the microscope, here again discovered several living mites. Another portion was removed from the lungs, not exceeding half a grain in weight, when three more mites were discovered. These last were so lively that it was difficult to keep them long in view without changing the stage.

This mite closely resembles *Cytolichus sarcopoides* (Megnin). Although this species has not hitherto been found in America, it is known in Europe and has been found in such habitats as above described, and Megnin states that it causes the death of wild and domestic fowls. He says that they are found in the air passages of the lungs, in the bronchial tubes and their divisions, in the bones with which the air sacs communicate, and in other cavities. They are also found in the bronchi of birds, and when they are extremely numerous, cause titillations of the bronchial mucous membrane, indicated by a slight cough, in some cases causing symptoms of asphyxia, and of congestion, to which the birds may succumb. He instances an example in the case of a pheasant which died of an unknown disease, and in which, when dissected, this obstruction of the bronchi was well manifested.

Dr. Taylor thinks it probable that these mites, after they have effected a lodgment in the lungs, bore through the

meters, they seemed to be of an undescribed species. The male worm has on its posterior terminal point a bulbous body furnished with spines which distinguishes it from any other nematoid with which Dr. Taylor is acquainted. These encysted worms are wholly confined to the muscular coating of the stomach and intestines.

On examining a third fowl, which was dead when brought to him, he found in its cellular tissue numerous mites of the species *gallinorum* above described.

Dr. Taylor says from these examinations it seems probable that a considerable amount of disease prevailing among American fowls, and not referable to any known type, may be due to the presence of such parasites as he found in the cases above mentioned. Investigations in this direction, may, therefore, have an important bearing on the healthful raising of domestic fowls.

He suggests that carbolic acid, or other disinfectants, sprinkled in and about nests and on the floors of henneries, might prove useful as an antidote to parasites of the classes described, as well as to those which infest the exterior of the bodies of fowls.

NEW YORK TERMINUS OF THE N. Y., W. S. & B. R.

When planning the terminus at this end of the New York, West Shore, and Buffalo Railway, the officers anticipated an immense traffic in the future, and provided means for its rapid and easy handling. The location of the terminus being on the west shore of the Hudson River, just below the beginning of the high bluffs, and at a point not yet encroached upon by Jersey City and Hoboken, gave them access to an almost unlimited water front and permitted the erection of dock facilities which are unrivaled in this harbor, and are free from street and other obstructions. The road passes from the plains back of the river through a tunnel 3,985 ft. long, cut through solid trap rock, and sufficiently wide to admit of two tracks. The cuts forming the approaches to the tunnel have a combined length of 3,300 feet. As the road leaves this end of the tunnel, it divides into branches leading to the several docks.

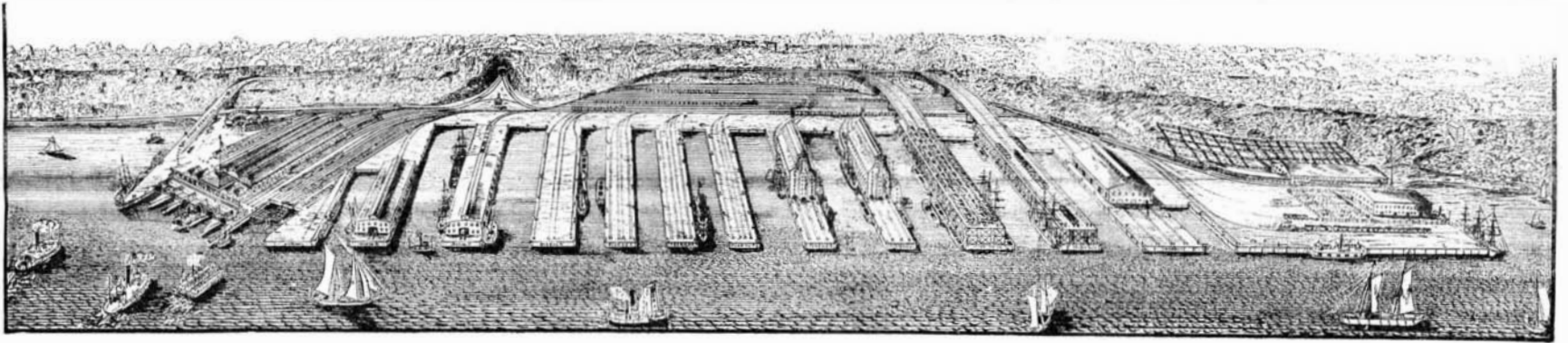
To the extreme left of the drawing, or south, is the round house. Next to this are the ferry slips and railway passenger stations. Lines of boats will run from here to For-

and compatibility of the several constituents of each, for there are many drugs that are not suited to mix with soap, that will not combine or are decomposed and changed by the alkali present in all soaps, and which is always present in slight excess, else it would not do proper duty as a soap; for though soaps are not truly soluble in water, yet their action in use causes an emulsion that has this softening action and pleasant effect, though it be washed away with more water, leaving scarce a trace of soap behind.

In making a medicated soap the first care should be to have the purest and cleanest fats or oils that can be obtained and also the best and purest alkali known, while great skill must be exercised in the making to insure a perfect combination, in fact, a thorough soap; and there are few ready made that can be recommended, as sophistication is now a common practice in the making of most all the soaps of commerce. Having such a soap, the best means of combining the remedy is by means of the mill, for it can be added without heat, while the perfume if used can be combined at the same time. All colors as a rule should be avoided, unless the drug will give an unpleasant one; then to please the eye a color can be used, but care must be taken to have an inert or harmless color, compatible with the medicine.

The best and more suitable soaps for medicinal purposes are undoubtedly those made from vegetable oils, such as olive, palm, and almond oils, though mutton tallow would make a very suitable soap combined with any of the oils named; and if cheapness is desired, a little resin will not injure its healing qualities, but in some cases might prove beneficial, as it enters into many healing salves in the pharmacopœia. In using palm oil it should be previously bleached as the natural color it contains is an objection; this oil is particularly applicable for medicated soaps, but as by itself it becomes too hard it is well to add a nut oil or cotton oil to give it plasticity.

It is impossible here to give all the formulas for the different medicated soaps, in fact, even give a list of the many substances that could be combined with soap to make such; yet I shall try and mention a few that I think are the most worthy. Thus for cosmetic purposes the juice of the lettuce and cucumber have a blanching effect on the skin, benzoin, tar, petrolatum, and carbolic acid give their healing proper-



SECTION OF TERMINAL, WATER FRONT, FRONT AND SIDES OF DOCKS, 500 FEET BY 240 FEET. WEST SHORE & ONTARIO TERMINAL CO. ON THE HUDSON RIVER, OPPOSITE THE CITY OF NEW YORK. WALTER KATTÉ, CHIEF ENGINEER. 275 ACRES DEVOTED TO THE TERMINAL IN 165 ACRES OF UPLAND FOR BUILDING LOTS.

pleura and invade the thoracic and abdominal cavities, where they breed in large numbers, producing great irritation and ultimately the death of the fowl.

About two months after the dissection of the first fowl in which he found the mites above described, a second fowl in a moribund condition was brought to him for examination by the same gentleman who brought the first. The comb of this fowl was also highly engorged with blood and the tips black. Its crop was greatly distended. It was unable to stand up, breathed with difficulty, yet exhibited considerable strength when about to be killed. It had been sickly during the previous four weeks. He took the precaution in this case first to remove the skin, so that he could examine the cellular tissue, when he observed great numbers of small white opaque specks of various dimensions, varying in size from the one-hundredth of an inch to the one-twelfth of an inch in diameter. When viewed under the microscope, the tissue showed within its folds and cell structure numerous mites, which proved on examination to be *Laminosioptes gallinorum* (Megnin). Further investigation showed that the opaque markings above alluded to contained, in many instances, the remains of one or more of these mites. The substance of the opaque specks seemed to be calcareous. The habitat of these mites seemed to be confined to the cellular tissue wholly. He examined the viscera and cavities of this fowl, but found neither living mites nor their remains or calcareous specks.

Megnin states that in Europe this acar has been found in all turkey hens, and especially in foreign turkeys of the family *Phasianina*.

He says that these acar gather in millions in the cellular tissue and destroy the fibers, but without causing any other change than the production of the calcareous concretions spoken of. He further says "They have been noticed in such numbers in old birds as to leave no doubt as to their being the cause of death." The existence of either of the mites above described in American fowls has not hitherto been known.

In this same fowl he found thousands of encysted nematoids, resembling, when viewed under a low power of the microscope, *Trichina spiralis*; but when removed from their watery cysts and viewed under a power of about 500 dia-

ty-second Street, New York city, and also to a down-town point. Adjoining the ferries are the freight transfer slips, where loaded cars are run upon scows and towed across the river to their destination. Steamship docks and warehouses for the loading and unloading of the largest ocean vessels come next. Docks devoted to the local river and coast trade, and to lumber form the next division. On piers 8 and 9 will be built two grain elevators of great capacity, one of which is now being erected. Two coal transfer piers come next. The loaded cars will be run upon a trestle high enough to enable them to discharge their loads directly into vessels lying alongside. The tracks leading to these piers, after passing from the mouth of the tunnel, make a sharp turn and skirt along the base of the hill, gradually rising and finally turning again toward the river, going over the lower tracks on bridges to the piers. To the extreme right of the drawing are shown the completed stock yards and abattoir.

There are 275 acres devoted to the terminal, and 165 acres of upland suitable for building lots. An idea of the extent of the work may be formed from the fact that the water front measures 6,790 feet, and the front and sides of the docks measure 30,290 feet, or 5.74 miles. The terminal property is owned by the West Shore & Ontario Terminal Company, of which Mr. Walter Katté is chief engineer. The accompanying drawing is reproduced from a pen sketch by F. S. Cook, engineer in chief of the topographical department of the N. Y., W. S. & B. R. All the capital stock of the Terminal Company is owned and held in equal amounts by the West Shore and Ontario Railway Companies.

Soaps as a Vehicle for Medicine.

Pure soap alone is a valuable and convenient remedy for many affections of the skin, causing a softening and soothing influence pleasant to the feelings and the sight, besides exerting a healing effect in most cutaneous diseases; and from this softening property it causes any medicinal substance it properly contains to act more certainly, and with greater promptness, than perhaps any other vehicle that is at present known.

In adding a medicinal substance to soaps, some intelligence should be had to properly understand the character

ties to all soaps, and borax has a very softening influence. For disinfection, soap is a good vehicle for menthol and thymol, and other well known drugs, in fact, with suitable intelligence the manufacturer could make an endless variety of medicinal soaps, using the drugs in the proper proportion and making them all carefully. A mucilage of gum tragacanth added to all soaps for medicinal purposes causes much emollience, and exerts a great softness to the skin. In my technology of soaps details are given for most all the medicated soaps now known, and the proper proportions for manipulation.—*R. S. Cristiani, in Oil, Paint, and Drug Reporter.*

Pouchkoff's Modification of the Holtz Machine.

As well known, the fixed plate of the Holtz machine, as at present constructed, carries *externally* two paper armatures that are charged in order to prime the apparatus. Each of these armatures is fixed at the edge of an aperture through which one or several paper points act upon the movable disk.

In order to simplify the construction of the machine, and avoid the always delicate operation of making apertures in the plate, Mr. Pouchkoff, after gluing the armatures on the exterior of the latter, glues the points on the interior and connects the two by a horseshoe-shaped band of paper on the edge of the disk.

The machine thus constructed works, according to Mr. Pouchkoff, just as well as one of the ordinary kind.—*La Lumière Electrique.*

Micro-organisms in Water.

Osmic acid possesses the property of hardening protoplasm, hence microscopists make use of it for detecting animalcula in water. According to L. Maggi, the chloride of palladium may be substituted for the more poisonous osmic acid, an acid more dangerous than prussic acid. By adding to the water a solution of palladium chloride (one in eight hundred) he obtained a precipitate in which the bacterial forms could be recognized under the microscope just as distinctly as in those obtained with osmic acid.—*Gazz. Chim.*