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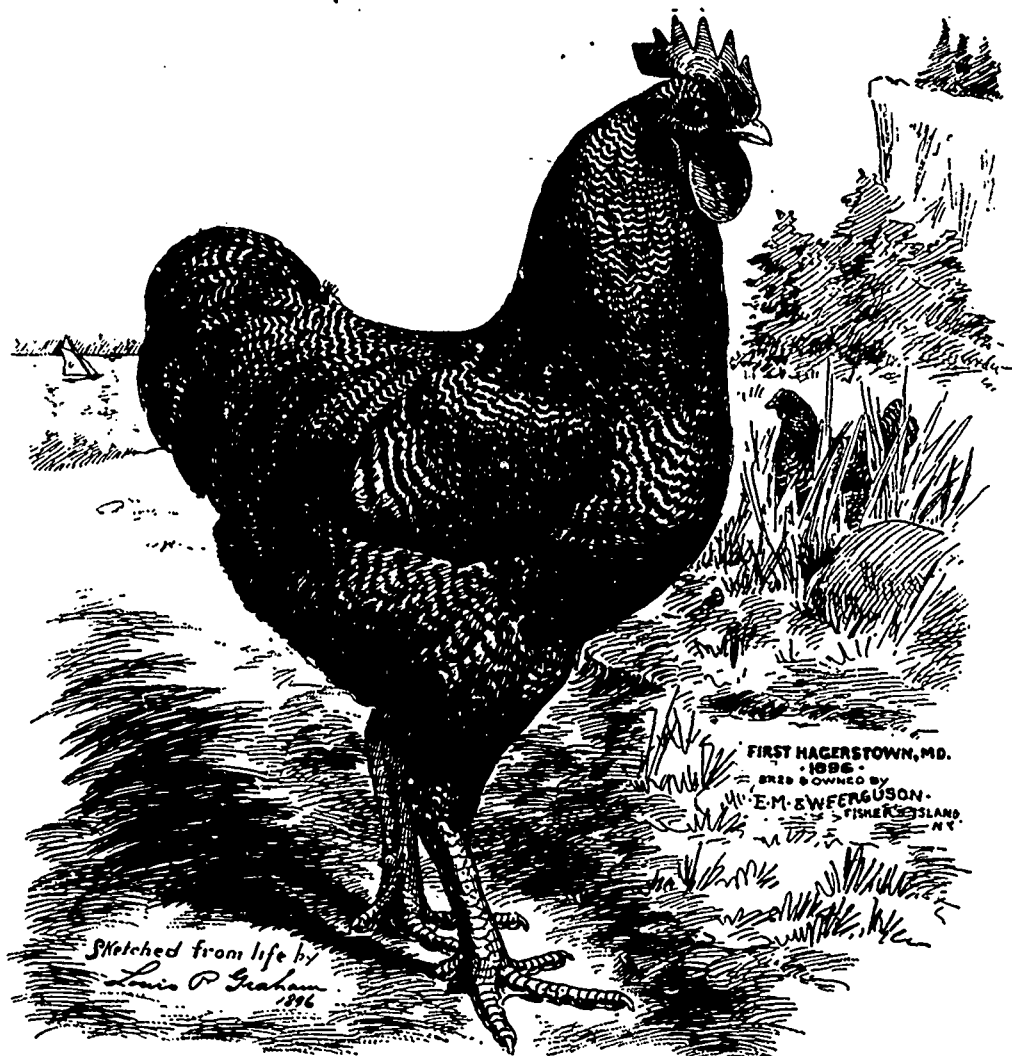
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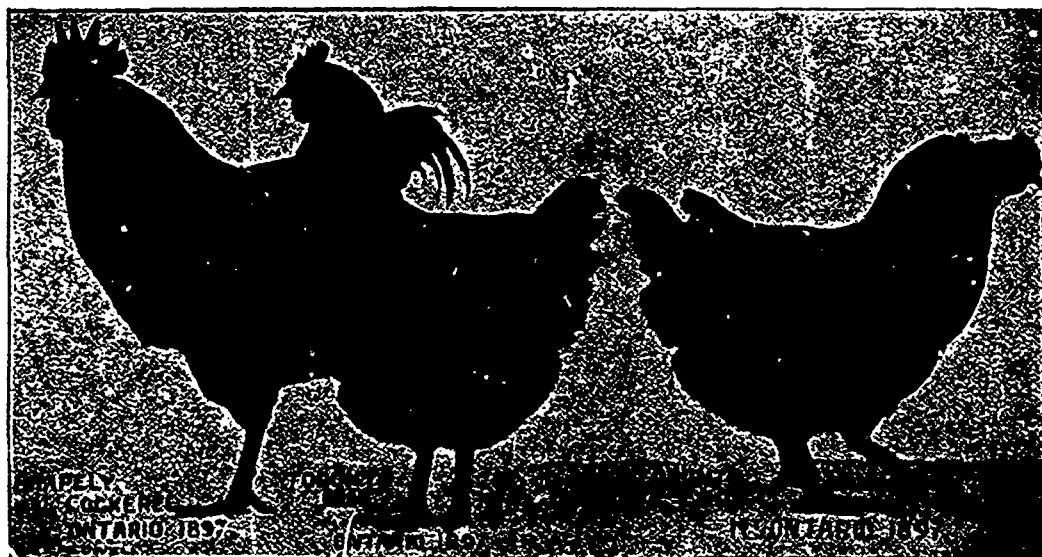
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Barred Plymouth Rock Cockerel, owned by E. M. & W. Ferguson, Fisher's Island, N.Y.



Buff Plymouth Rocks, bred and owned by R. H. Essex, Toronto.

THE CANADIAN POULTRY REVIEW

DEVOTED TO
POULTRY, IN ALL ITS BRANCHES

Pigeons, Cage Birds, Rabbits & Pets.

Vol. XX.

124 VICTORIA STREET, TORONTO, MARCH, 1897.

No. 3

NOTES AND COMMENTS

AN APOLOGY.

WE have been simply inundated with matter for REVIEW the past two months, and find it impossible to get all in this issue. Now that the shows are over we hope to be able to catch up all arrears and ask correspondents in the meantime to possess their souls in patience.

PROF. MILLS' QUESTIONS.

Several replies have been received to the questions propounded in last issue by Prof. Mills of the Agricultural College Guelph, but we want many more, and so defer using those sent in until all are completed. We hope our readers will take this hint and let us have their views. We reprint below the questions at issue.

1. Should the largest prizes be given to those classes and varieties of fowl which admittedly possess the greatest value viewed from the standpoint of egg production and table use?
2. Should poultry judges be instructed and required to award prizes in the utilitarian classes on the basis of practical utility, laying comparatively little stress on fancy points in comb, etc?
3. Should buyers be urged to pay for eggs by the ounce or pound and thus encourage farmers and others to keep those breeds and varieties which produce the largest weight of eggs per bird in the year?
4. Should the Eastern Ontario and Ontario Associations be united on a basis similar to that on which the creamery and dairy associations propose uniting?

THE HON. SYDNEY FISHER,

Minister of Agriculture for the Dominion writes as follows in reply to a letter of ours accompanied by a copy of REVIEW

containing the account of his visit to Guelph.

Department of Agriculture, Canada.
Ministers' Office.

Ottawa, Feb. 10th, 1897.

My Dear Sir,

I thank you for the copy of the "Poultry Review" which I shall gladly read. I am sorry that the extreme pressure of my business prevents my constantly referring to it, as I am sure I would get much valuable information about poultry from it, but I simply have not time.

Yours truly,

SYDNEY FISHER.

H. B. Donovan, Esq.

124 Victoria St., Toronto.

The REVIEW lets no opportunity pass of bringing the great industry with which we are identified, before the notice of those who have the power to bring assistance to it.

AMERICAN BIRDS IN ENGLAND.

It is a source of pleasure to us at all times to learn of the success of American bred birds in England, and Mr. James Forsyth is to be congratulated on the success recorded in appended communication:

Liverpool, Jan. 29th, 1897.

Mr. Forsyth,

Dear Sir,—You will remember me importing to England from you, just twelve months ago, a cock and two pullets of your buff Wyandottes. These were imported for my father-in-law, who wishes me to write you a few lines. With this stock of yours he has just finished the season here at Liverpool with a splendid record for the show season just passing away. He has taken the lead in this variety in England, Scotland and Wales, and has bred and sold more winner than all the other breeders of buff put together. At this Liverpool Show, which closes to-day and finishes, practically, the show season here in England, he has fairly swept the deck by taking 1st, 2nd and 3rd in both the classes among

keen competitors and beating both Dairy and Crystal Palace winners, which only got V.H.C. here. Truly a magnificent performance. During the past season he has taken over 100 prizes, cups and medals with birds bred from this stock. I am sure it is most gratifying to both himself and you to know that your stock has answered so well. It was merely a game of speculation to put his trust in you when he sent for your birds, and by your straightforward dealing you have entirely gained his confidence. He would still like to do further business with you. In the first place, could you recommend a real good American fanciers' newspaper to him, as he would like to see how his brother fanciers in the land of the stars and stripes are going on? He would like to purchase from you the very best you have for disposal in your yards, say, for instance, a cockerel and pullet, or two cockerels and two pullets, which must be of uniform buff color throughout, *not red*. Have you any such for disposal, if not will you kindly give him the first opportunity to purchase your best, as they cannot bring you any competition when here in England? Kindly state your price for pens as above. I am sending you a Liverpool paper so that you can see his successes here. With every good wish for future success,

I am, dear sir, Yours fraternally,

T. A. STUART.

MR. N. A. LOUCKS

writes on Feb. 8th that his hens have layed well this winter and he has given one hen her eggs for hatching and "will start another to-day or to-morrow; this ought to bring early chicks." Eggs have been unusually plentiful this winter and should, owing to the mild weather, prove satisfactory as to fertility.

THE BEST.

London, Feb. 6th, 1897.

The "best report" of the "best poultry show" ever held in Canada. Thanks for REVIEW.

Yours very truly, THOS. A. BROWNE.

Of course we dare not differ with the Secretary of the Ontario.

GALT SHOW.

Mr. W. McLoud, who acted as one of the judges at Galt, writes in the following strain: "As Mr. Barber has given you a full report of Galt Show I will not say much about the poultry. The show, I think, from all appearances, was a success. There were a number of very good birds, especially the Minorcas, light Brahmas and Leghorns. Some

Minorcas and Andalusians had to be thrown out for coloring on legs, which, I trust, will teach a lesson to the transgressor. The Secretary told me they were going to ask for the Ontario. It would be a good place as the Galt boys know how to give the boys a good time. Our host, Mr. Thompson, made our stay a pleasant one. We were entertained in his parlor by Mr. Senior, of Hamilton, who keeps himself posted with the latest songs, and Mr. Wm. Barber, with some of his classical music, sang "Paddy Don't Care," and "I'd Like to See the Woman that Could Scare Me." Poultrymen who do not attend the shows, and have not met Mr. Barber, have missed a treat. The boys are busy making ready for the Ontario Show to be held in London next year, and intend to make it one to be remembered." Our correspondent refers to "Mr. Barber, of London." Did he have his whiskers with him?

OWEN SOUND SHOW.

Our old friend Mr. Jno. Ramsay, writes: "Our great show is over and I have been trying to do something for the REVIEW, as I always have a good word for it, but our boys are very slow in subscribing. However, I have got two as well as my own, so you will therefore find P.O. order for \$2.25, and I expect to have some more. Well, you did not get up to see us this time, but we had a good show, and the best part of all we paid everybody on the last day of the show, then paid all we owed last year as well. We never told any outsider that we were behind but that does not matter now when we are able to wipe out everything. I think that was pretty good, as well as collecting the money for the same. We have promises of a bigger show than ever next year, and then we want the Ontario. I was sorry I could not go to Guelph as there was sickness in the family, but I hope to be at London next year." We learn from other sources that the success of the show in great part was due to Mr. Ramsay's strenuous efforts, assisted by some of the live members of the big northern association. The shows are now so numerous that we find it impossible to get to them all. Still the REVIEW manages to present all news in good shape and in good time.

MR. J. L. CLARKE,

of the Dr. Hess & Co. firm, was in Toronto on February 4th stirring up business with their local agents. From Mr. Clarke we learn their goods are having a continued and increased sale both in Canada and the United States, in fact so great has been the increase that a removal to larger premises and to a more central point has become a necessity.

THE EXCELSIOR WIRE AND POULTRY SUPPLY CO.

A big New York concern intend catering to Canadian business and their announcement may be found in this issue. Catalogues may be had free on application to them.

PAISLEY ASSOCIATION.

On behalf of the Association I write to inform you that an Association known as the Paisley Poultry, Pigeon and Pet Stork Association has been formed in Paisley. It starts out with twenty five members, nearly all boys. All the officers with the exception of one are boys and we are booming things along. We charge ten cents as a membership fee and intend to have a show some time in March. We are going to canvas the town for special prizes and cash donations and expect to succeed in getting quite a lot. We meet every Thursday night in the Council Chamber, Town Hall, Paisley, when we have a question box, read essays, readings, give speeches, etc. We have only had three meetings and are getting along finely. As I said before, we are nearly all boys, with the exception of a few men. We can not expect to do great things at present, but we hope to soon. I will give you the list of officers, we are all but one under 21 years:—Hon. President, J. Nelson; President, K. McKenzie; Vice-President, F. Rayner; Treasurer, D. Fraser; Executive Committee, J. Thompson, G. Quayle, R. Dewar, H. McGill, E. Hay. P. H. HEAD, Secretary.

SOLD ALL HE HAD TO SPARE.

My ad. in December and January numbers paid me well for I sold all the fowls I had to spare, and could have sold more if I had them. I like the REVIEW for through it I can always dispose of my fowls and learn where to buy the best. Wishing you all sorts of success. Yours truly, N. A. Loucks, Dresden, Ont.

BUFF ROCK CUT.

Mr. Essex writes:—In the illustration of my buff Plymouth Rocks it will be noticed that the photograph was taken during a snow fall. The light was by no means good and the birds were inclined to crowd together for warmth. The engraver has made it appear that the pullet Toronto Lady won first prize at the Ontario show. This is incorrect, Ontario Girl won first as hen, and the note should have been placed under her name. The cockerel Shapely is the best shaped male I have yet produced, he looks squatty in the picture, as he carries his head down on his shoulders by reason of the cold. He is a dark bird of good undercolor, high on his legs. He will make a big bird which in my

estimation is the chief point in this breed. The hen Toronto Miss had clear buff wings and tail when a pullet. These are now slightly pencilled; under colour good; surface even. She won first as pullet, Ontario, 1896, second as hen at Toronto, 1896, and second at the recent Ontario show, beaten in each case by one of my own birds. She is a very large bird, over standard weight. The pullet Toronto Lady is a daughter of Toronto Miss and 1st Ontario cock 1897. She resembles the hen in shape, and will be even larger. Follows her sire in color, light buff, wings and tail clear buff. The hen Ontario Girl will weigh over 8 lbs. She won first at the recent Ontario show. Good even light buff, except tail. She is hidden in the illustration, behind the pullet.

SHALL WE USE INCUBATORS?

THE DISADVANTAGES.

BY H. S. BABCOCK, PROVIDENCE, R. I.

THE first disadvantage may be reckoned as the cost. A good incubator, and no other should be considered for a moment, costs something. Twenty-five to fifty dollars must be invested in the machine, with ten or more dollars in brooders, if an incubator is to be used, and the interest on this sum, together with the depreciation of the machine, will do considerable hatching by hen-power. Unless one intends to rear more than one hundred chickens annually it is not advisable to invest in an incubator.

The second disadvantage is that no incubator will hatch as many chickens from a given number of eggs as trusty hens. We say this, after using incubators for a number of years and some of the best machines made. We very well know that this statement is liable to be disputed, but we speak only from our personal experience, and this experience declares such to be the result. We remember reading in one of the articles of Mr. Rudd, the Orrocco Poultry Farm writer, a statement to the same effect. It has happened probably that in some tests the machine has beaten the hens, because the hens were not trusty. But when both work well and at their best, we have the greater confidence in the hen.

A third disadvantage is the danger of receiving no results whatever from a machine full of eggs. By some accident the eggs become overheated and the germs destroyed, or the lamp goes out and lack of warmth destroys the embryos. Such accidents ought not to occur, and would not with good machines, if the operator were always faithful to his duties.

But human nature is human nature, and accidents do "occur in the best regulated families." If a sitting hen deserts her nest a dozen eggs are spoiled; if an incubator fails eight to twenty-five dozen are done for.

A fourth disadvantage is that there are among incubator chickens more deformed specimens than among those hatched by hens. We do not intend to convey the idea that many incubator chickens are "cripples" but we venture the assertion, without fear of successful contradiction, that there are more of such than among the same number hatched by hens. Just why this should be so we do not know, but it must be due to the failure to observe perfectly the conditions of development. Through some failure in these conditions the chickens become crooked-toed, hump-backed, wry-tailed and the like. Users of incubators quietly give them a quietus and rear only their better favored brethren and sisters.

A fifth disadvantage is the danger of fire. With a good incubator in a proper place this danger is infinitesimal. We have never known an incubator to get on fire. But with brooders, which must be employed if incubators are used, there is some such danger. Brooder houses, chickens and all have gone up in smoke, and broiled or roasted chicken thus prepared come high.

The above are some of the disadvantages resulting from the use of incubators, and need to be carefully considered before the answer can be given to the question we are discussing. Others, probably, will occur to the reader and he must weigh them all against the advantages before a wise decision can be reached.

HOW TO GET FERTILE EGGS AND HOW TO HATCH THEM.

BY C. F. WAGNER, TORONTO.

BEFORE attempting to hatch eggs we must first consider whether they are likely or not to be fertile. The fertility of eggs must obviously depend much upon the number of hens allowed to each male bird, which will vary according to the breed and other circumstances. As a rule when fowls are confined to winter quarters they are not so vigorous. In heavy breeds not more than four or five hens should be allowed to each male, while in the lighter varieties eight or ten females may be put with one male bird. If fowls have not been properly fed we cannot expect to get fertile eggs. To procure well fertilised eggs we must feed on plenty of vegetable food such as cabbage, turnips, lettuce,

dry cut clover steamed, potatoes, carrots, etc., these can be boiled or the former may be given raw. Hens must have plenty of exercise when they are confined in close quarters.

To make them work it is a good plan to throw the grain into a litter of straw, hay, or leaves, I find the latter to answer the best. Make fowls hunt for their living and they are sure not to be too fat. Another good way to make them take exercise is to hang a cabbage up about ten inches out of their reach, they will jump to get it, by so doing they flap their wings, in fact all of their muscles get into motion. Parboiled meat or green ground bones if given three or four times a week is a good egg producer and also strengthens the fertility. It is on good authority, I say, that milk if given fowls to drink instead of water will increase the egg production ten per cent. Fowls should always have plenty of grit before them such as mica crystal, broken oyster shells, etc. I have also seen finely broken earthenware used which took the place of the gravel, etc., the hens find when running at large. Fat hens seldom lay a fertile egg. A hen that lays irregularly, that is, if she skips two or three days at a time, is almost sure to lay unfertile eggs.

Having considered the way to get fertile eggs we must now select those most suitable for hatching. Double yolked and irregular shaped eggs, eggs with thin shells and those with transparent spots in them should never be used for incubation. Some people believe that the shape of the egg effects the sex, *i.e.*, that the long eggs produce cockerels and the short burly ones produce pullets, but this is an erroneous idea. The shape of the egg does not effect the bird so far as the sex is concerned, though sometimes an irregular shaped egg will produce a crippled chick.

The best eggs as they are collected should be kept in a cool place with a temperature of about 40° Fah. until ready to set under a hen. The eggs should be stood with the large end down, thus keeping the air bulb as small as possible. All being ready we must now prepare a nest. I have tried hay, straw, paper, sand, clay and green sods, the latter I found to produce the best results. The nest should be made out of a box or barrel with a hole in the side of it to admit the hen, the top should always be kept covered. Put a piece of carpet or an old bag in front of the hole to keep her in darkness which is advisable. Place some earth in the bottom of the barrel and pound down solid, and hollow out in the centre so that the eggs will roll in, then place a green sod in the hollow with the grass side up. Put some dummy eggs in for a day or so until you find biddy to be true to her nest, after which the dummies may be removed and the eggs placed on the grass. Thirteen is considered a sitting, they may not be too many for a good sized hen in summer,

but it is too many in early spring when the weather is cold and unsettled.

Next thing is to select a hen, sometimes we have no choice but have to accept a wild restless one, if she has feathers on her feet cut them off. If I had any choice I should select a Plymouth Rock or a Wyandotte, either of these make excellent mothers.

Last spring breeders generally complained in my neighbourhood of having bad sitters. I purchased six common hens at one dollar each and set them on valuable eggs, the result was that five out of the six left the eggs before they were due, one of them within a few days of the eggs hatching. This nest full of eggs made me feel like (I won't say swearing) but it reminds one of the boy's rhyme.

Here lie birdies for whom I mourn,
Birdies who died before they were born,
Oh, what an awful thing is death,
When it comes before you get our breath.

I might have saved this batch of eggs by putting them into water heated to about 100 degrees, but as that lot were hatching in February it was impossible to get another hen. A year ago, I had the same thing happen, but it was my own fault, I had forgotten to shut the hen in after feeding her, and when I came to look at night I found her off the nest and the eggs stone cold. I quickly put the eggs into hot water for about five or ten minutes, and then put them back in the nest and the hen on again—the result was that three chicks came out a few days afterwards.

Every sitting hen should be well dusted with insect powder before being placed on the eggs and then dusted again about the seventeenth day. Sitting hens should be carefully lifted off if they do not come off themselves each morning. Some people think a hen that does not want to come off the nest is the best kind of a sitter, and will even encourage their maternal solicitude by feeding them on the nest. This practice is not only cruel, sometimes laming a bird for life, but actually injurious, the periodical cooling of the eggs while the hen is off acting an important part in invigorating the embryo chick. Sitting hens should be allowed to dust themselves in a dust bath, if they will, and should be fed on whole corn and wheat alternately, and given plenty of clean water and grit each day. They should be left off for about five minutes in cold weather and ten or fifteen minutes in mild weather.

The heat of hens when sitting varies from 102 to 105 degrees. The underside of the eggs will be about four degrees cooler than the side next to the hen. The outside row of eggs are very often rolled into the centre by the hen,

and vice versa—these change stake place three or four time every day.

About the third day a membrane begins to envelope the entire organism, which is to supply the blood of the chick with oxygen, which it obtains through the shell from the external air. This can only be seen by a very powerful light. I once experimented with a few eggs by greasing them all over, to see what the effect would be. I found they did not even start to hatch, the pores of the eggs being closed up the germ could not get air from outside. It is, therefore, essential that the eggs should be kept clean and free from dirt while hatching. The eggs, after hatching five or six days, should be tested, when the fertile ones will be seen to have the germ floating on top with a webbing of blood vessels stretching out from it—the germ at this stage looks like a spider in form. No matter how an egg is turned the germ will rise to the top. The manner in which this is effected is beautiful. Besides the ordinary white of the egg there are two longitudinal cords, or strings, of much denser and even slightly fibrous albumen, are formed, which are easily distinguished if an egg be broken into a saucer. These cords are attached in a spiral form to the under side of the yolk, to which they, therefore, serve as ballast or weights, and always keep the germ uppermost, where it can best receive the heat from the sitting hen.

All sterile and broken eggs, if any, should be removed from the nest. When an egg has been broken and the nest has been smeared, the nest should be cleaned out and the eggs washed in water heated to about 100°.

To test eggs a good plan is to make a light tight box with a small hole in the top for the lamp fumes to escape by. Cut an oval shaped hole in front an inch or two larger than an egg and then tack a piece of an old felt hat over the hole and cut an oval hole in the felt a little smaller than an egg in size, then place a lamp inside of the box, by placing the egg against the hole just opposite the flame the germ can be seen distinctly if the egg is fertile.

When sitting hens, a good plan is to sit two or three or more at one time, and on the fifth or sixth day when all the infertile eggs have been removed the fertile eggs which are left can be put under one or more hens and the other hens could be set over again without any harm being done to them.

Eggs should be tested on the twelfth day again and the rotten or dead germed eggs removed. When the hatch is due leave the hen alone and keep her dark. All holes should be filled to prevent any chicks from running through or getting away from the hen, for chicks will run to the light.

Eggs have been known to hatch in nineteen days, the reason of this is because they were put under the sitting hen immediately after they were laid. It is advisable to set eggs as near one age as possible because chicks do better when all are hatched the same day.

The chick breaks the shell by giving two or three smart taps every now and then. This is not done with the point of the beak as thought by many, but is done with a sharp pointed scale, provided for that purpose by the Creator on the top of its beak. This scale falls off about two days after. When the hatch is concluded leave the chicks under the hen for twenty-four hours before they get their first meal.

The yolk of the egg provides the chick with nourishment during the first day or day and a half of its existence. The chick's first meal should consist of oatmeal or very fine cracked wheat given perfectly dry, never give them sloppy food. Keep plenty of fine grit before them, such as mica crystal. Give plenty of clean water in a shallow dish. Milk is said to be too strong for them the first week. Feed four times a day for the first month and after that reduce to three meals a day until nearly matured, when they will do with two rations per day. Give plenty of green food every day. Lettuce is very good and is eaten ravenously. After the first week give stale bread soaked in milk well squeezed out for their morning meal. A little meat two or three times a week will help the growth wonderfully. Always feed grain at night and see that every chick has had all it can eat.

When chicks get to be one week old catch each one of them and search the down on the head for lice with a pair of jewelers tweezers or something of the sort. As many as a dozen have been found on one chick's head, these things stand on end with their heads down and suck the chicks blood. They are hard to discover and take off if one has not got the proper instrument. When these insects are there any length of time the chicks run about with their wings drooping, and have a distressful chirp. After removing the lice take a little soft butter and rub each bird's head with it, they will look unsightly for a day or two, but that is nothing compared to the annoyance the lice are to the chicks. The old hen will sometimes beat and reject her little ones when this operation is performed in daylight, as they look so strange to her, therefore it is expedient to do it at night when the chicks are at rest, by the next morning the down will have dried a bit and all will be well.

The hen and her chicks being ready to be put out doors we must make a coop of the following dimensions. Make

a coop 2 feet square, 18 inches high at back, and 2 feet high in front. The roof should be made adjustable and project about four inches in front and rear to shed water; being loose it can easily be removed to clean the coop out and also to whitewash with lime inside when necessary. The front should be lathed with 1 x 2 strips 2 1/2 inches apart, the centre one being left loose so it can be removed to let the old hen out occasionally. The chicks run out between the laths at any time, excepting when the sliding board front is put in place. This slide is put down at night in front of the laths, by raising and pushing back the roof. The slide is held in position by two strips which are nailed on in front of same to form grooves on each side of the coop for slide to work up and down in. After the slide is put in the roof is placed in its position, making all perfectly storm-proof. The slide in front has a small ventilation hole at top about 4 x 6 inches, which is covered with 1/4 wire meshing to keep out rats, etc.

The whole of the outside of this coop is covered with well saturated No 2 tarred felt, which makes it wind and water proof. The felt will last a season easily. In front of this coop is placed a fence about 6 feet long, 18 inches high and width of coop. This fence is made up of 1/4 wire meshing nailed on to frames made of 1/2 x 2 in. laths. The top is also wired over on a frame. These frames can be removed at any time and will last for years. All being placed in position, lay a board 6 inches wide on the ground close up to the wire fence, one at each side and end; these are covered with 4 inches of earth well packed down, making all secure, in case the chicks, when scratching should undermine the fence they cannot escape, nor can vermin get in without a good deal of trouble. The whole thing is portable and can be shifted from one grass plot to another when desirable. I have seen cats sit and watch through the wire those little downey balls running about, it being so small in the mesh that not even a mouse could enter.

Having considered the natural process of incubation. I will now give some experience in hatching chickens by artificial means. It is not all gold that glitters, neither is it all incubators that hatch.

About three or four years ago I purchased an incubator from a manufacturer not 100 miles from here, this machine was guaranteed to hatch ninety per cent, I agreed to accept it if it would hatch seventy-five per cent of the fertile eggs. I sent it to an experienced man to have it tested, the result was that it did not hatch ten per cent. The hot water tank burst several times and caused a great deal of trouble. Last spring I invented a hot air incubator, this machine was heated by a lamp at the back, the heat entered in one side of the

heater and the consequence was I roasted all the eggs nearest the lamp while those farthest away from it were chilled. I think one chick came out and the rest were dead in the shell. That was not at all satisfactory to me, so I made some alterations to it and I found it hatched better. It puzzled me why the machine should not hatch as well as a hen, if it would hatch chickens at all. So I made more improvements until it hatched seventy-five per cent of the fertile eggs. Now I am satisfied that chickens can be hatched by artificial means just as well as with the old hen. The chicks being hatched I had to invent a brooder to rear them in. A thought struck me that I would use the old hot water boiler of that ten per cent hatcher I paid \$47 for. I thought it would make a heater if I cut a hole in the bottom and placed a lamp underneath it, then form a board fence around it and cover one end for the chicks to run under. I kept the birds in it for four weeks and apparently they did very well until one day I thought I would let them have a run on the cellar floor which was sandy loam. I no more than had done this when they fell over and kicked, they instantly lost all power in their legs, so I learned a lesson that brooders with heated floors are no good, heat under the feet is unnatural and when thus applied causes leg weakness. This being unsatisfactory I invented another brooder which works admirably. The heat is all above the chicks, top heat is natural. I find the chicks thrive well in this machine. It is so constructed that the heat can be regulated to a lower degree as the chicks grow older.

To hatch chickens either by natural or artificial means one must use some judgment. Hens will not hatch a large percentage of chickens in early spring if they are not fed and properly cared for. Neither will an incubator if the lamp is not filled and trimmed regularly.

The advantages of hatching and rearing poultry by artificial means are numerous. An incubator enables the poultry breeder to hatch outchicks at a season of the year when hens are disinclined to do so. For market purposes chicks hatched in January, February, March and April bring the highest prices. Early chicks are also early layers, and therefore the most profitable. The winning chicks at fall shows are usually hatched in early spring when sitting hens are scarce. Chicks hatched in incubators are never infested with vermin, as are those which are hatched under a hen. Lice are the cause of many great losses in raising poultry.

Chickens reared in brooders don't run any risk of being trampled to death by the old hen, nor are they likely to be troubled with scaly legs, which sometimes is imparted to the chicks by the brooding hen.

GOLD-DISTEMPER--ROUP.

BY G. HESS, M.D., D.V.S., ASHLAND, OHIO.



G. HESS, M. D., D. V. S.

RROUP is an inflammatory disease affecting the mucous membrane of the upper air passage and contiguous parts.

The mucous membrane is the tissue which lines the hollow organs of the body such as the mouth, nose, trachea, intestines, and is a reflection or continuation of the skin, to which it is very similar. It is so called from its being covered in its healthy state by a smooth viscus, substance, known as mucous. The mucous is secreted by glands situated in the deeper layers of the membrane and which reach the surface by delicate tubes. The health of the secretion of the mucous is just sufficient to lubricate the surface to prevent friction, and to facilitate the passage of foreign material. In domestic fowls where no provision is made for breaking up the food, by mastication, abundant secretion of mucous is required to facilitate its movement to the crop or gizzard, in which organs the process of mastication and grinding occur. In serpents this same provision is made, and their prey is completely covered with a slimy mucous before an attempt is made at deglutition.

The pharynx of the domestic fowl is very large, and it is remarkable what large objects can be swallowed without inconvenience or injury. The pharynx or throat of a chicken or turkey is very elastic and capable of great distention and is also very abundantly supplied with mucous follicles. Blood vessels and nerves ramify in every conceivable direction the deeper layers of the lining membrane, and exaggerate or modify the secretions in a very remarkable way. The capacity of the minute blood vessels is reduced by irritation of the nerves and a diminished secretion of mucous follows.

Every one has noticed in his own experience the dryness of the mucous membrane of the nose induced by sudden changes of temperature and the abundant secretion a few hours later. The same phenomenon will follow exposure to irritating gases. In these cases the offending cold air or gas acts as an irritant, stimulates the nerves, controlling the lumen of the vessel, limits the blood supply and diminishes the secretions. This is known as the dry stage of catarrhal inflammation and is followed by a relaxation of the walls of the vessels, engorgement with blood, and an abundant secretion of mucous. The congestion may be so great as to cause an exudate of serum white, or even red blood cells, mixed with mucous which breaks down and forms pus. The retention of this material in the nostrils or in the sinuses of the head may close the nasal air passages. Inflammation of this character very soon extends to the eyes through the tear ducts, which are extremely large in the fowl.

The eye of the bird is also very large being covered by soft pliable lids which are extremely glandular and very susceptible to poisonous materials. The nasal cavities of the domestic fowl are encroached upon by the turbinated bones, small spongy bones, covered with a vascular membrane, which may become thickened from repeated irritation and completely close the air passage. The roof of the mouth or palate is cleft or fissured and communicates with the nostrils, or anterior nares in front, the tear ducts which carry the tears from the eyes, also open above the soft palate. A free communication is thus established between the nose or anterior air passages, the mouth, throat, and the eye and all these parts are abundantly supplied with blood vessels and secreting cells and an irritation or inflammation set up in one part will very readily extend to another.

COLD, DISTEMPER, AND ROUP.

It is not easy to determine just where a cold terminates or where roup begins. A simple cold may terminate within its own sphere, without involving the more serious compli-

cations found in roup, and the dividing line might best be drawn, where a simple cold ceases to be sporadic and becomes capable of communication or contagious. This brings us to consider a very important question, viz; May a simple non-contagious disease become contagious without the introduction of a specific virus or poison? If not, a simple cold can never terminate in roup without the introduction of the particular poison to which roup is due. Numerous cases observed in medicine answer this question in the affirmative. Ferments which form will inaugurate in another subject, identical diseases. Distemper is another word for disease, and carries with it no idea of the nature of the disease; thus bumble foot and roup are equally distempers.

Symptoms.—The symptoms shown in roup are so well known to almost every one who has devoted any considerable time to poultry raising that it might seem a waste of time to rehearse them here. It is not always the cases that show the greatest changes in the parts affected that are most serious or most difficult to control. The disease usually shows its presence by a watery discharge from the nostrils, by palor and half-closed condition of the eyes and some redness and swelling of the skin under or over the lids. The discharge soon becomes muco-purulent and purulent or pus like. The nostrils may become closed from drying or the discharge about the orifices, and frequent attempts may be made to clear them by sneezing and shaking the head. The bird will keep the eyes closed and very frequently gape. The eyelids usually remain pale, sometimes becoming dropsical, and the eye sunken. The washer or membrana nictitans become congested, swollen and inflamed and encroaches upon the eye which organ is retracted and sunken. If the lids be separated a copious discharge of pus will escape. The tear duct which is very large in health becomes so infiltrated with the products of inflammation that its lining membrane will completely close the canal and prevent the escape of the secretions from the eye. The mucous surface of the lids become intensely inflamed and deposits of cellular elements render them thick, heavy, and resisting. The eye itself thus bathed in pus becomes mascerated, soft and sheds its delicate epithelium. The transparent part of the eye has no blood vessels but receives its nutrition by imbibition, and pressure exerted by the swollen lids may cause ulceration or molecular death of the part. If these ulcers go unattended, they will soon destroy the sight either by the escape of the humors of the eye or by the opacity of the scar or cicatrice. The purulent discharge is not confined to the eyes but issues from other parts of the diseased mucous surface.

The fissures of the palate may become closed and large quantities of very fetid material accumulate above and behind the soft palate. These morbid conditions are attended by great constitutional disturbance. The patient loses strength, refuses food, stands with feathers erect and head retracted, or it may be unable to stand. It is not uncommon to find tumors or nodules form about the head, varying in size from a shot to a large chestnut. These tumors appear on the comb, face or eyes, sometimes completely covering the latter organ. The tongue may also become the seat of one of these tumors, and the taking of food rendered quite difficult or impossible. These excrescences usually remain hard for a considerable time and if the bird does not succumb to the disease or other causes, they will eventually become detached and leave a smooth tender surface.

Treatment.—The treatment of roup should be constitutional and local. The former should include the hygienic conditions.

The first consideration in the treatment of any disease is to remove the cause of that disease. The cause of the disease under consideration may be found in sudden changes of temperature, filths, draughts, foul air, from over-crowding, improper feed or feeking, which tend to directly or indirectly reduce the standard of vitality, and invite an attack of disease. Cleanliness, with all that word implies, with good food in liberal quantities, with occasional course of tonics, will do much to prevent disease. When the disease is once established good surroundings with tonics internally is of utmost importance, local treatment afterward.

Local treatment is of great value, and the two should be combined, when best results are desired. The head should be kept clean by frequently bathing with warm water, to which has been added a drachm of soda biclorate or ten to twenty grains of quinine to the quart of water. If quinine is used, a few drops of sulphuric acid may be added. Every part should be well cleansed several times a day.

This preparation is antiseptic and slightly astringent. Later five grains of sulphate of zinc to the ounce of water may be applied to the diseased parts with a feather or camel's hair brush. If indolent ulcers form they may be touched with powdered blue stone. The eyes after cleansing should have a drop of the zinc solution, given above. If ulcers or opaque bodies form on the eye, yellow oxide of mercury ointment (2 gr. to a drachm of vaseline) may be put to the eye. A favorite powder for application to the diseased mucous surface is made as follows:

R. Hydrast. Can.

Soda Bibor. aa drachm i.

A small quantity of this powder may be thrown into the mouth and throat. It is a common opinion that birds once affected with roup never fully recover and this is true where local treatment alone has been employed, but we have no hesitation in stating that where reliable tonics are combined with such drugs as directly counteract the poison that lurks in the system, a complete recovery will follow.

This tonic and alterative treatment should be continued for a considerable length of time.



SEAFORTH SHOW.

DESPITE the most severe and prolonged storm in this section for years, a large exhibit was on hand. The show was creditable alike to the exhibitors and promoters, and the best of all it was a financial success. Mr. L. G. Jarvis did the judging in a very satisfactory way, and he expressed his surprise at seeing so large an exhibit of first class birds and also purchased several for the Model Farm at Guelph. The next show will be held in our county town, Goderich, where we expect a very large turnout. WM. HARTY, Sec.

NOTE.—Scores show the relative position of birds. Birds had to score 90 or over for first.

PRIZE LIST.

Brahmas—Light cock Wm Carter 88, Geo Irwin 85, hen Carter 90, J C Lyons 87½, cockerel Lyons 88½, Carter 88, pullet Irwin 87; dark hen J W Ford 91, Irwin 90, Lyons 87, cockerel Irwin 92½, ditto 92, ditto 89, pullet Ford 91, Irwin 90, ditto 87½. *Cochins*—Buff cock Lyons 86, hen Lyons 90½, cockerel Irwin 93, Lyons 90 and 87, pullet Lyons 92, Irwin 92 and 91½; Partridge hen Lyons 91½; AOV cockerel Lyons 92½, pullet Lyons 94 and 93½. *Langshans*—Hen J A Barnard 93, cockerel Barnard 91½ and 90, pullet Barnard 94 and 92. *Games*—BB red cock C A Wells 90½, A J Gregg 88, hen Gregg 93½ and 89, Wells 88, cockerel Wells 87, pullet Gregg 92; duckwing cock Gregg 89½, hen Gregg 91 and 92½, pullet Gregg 90½ and 89½; Indian hen Josiah Tyrems 90, cockerel H Johnston 89½, pullet Johnston 92½ 91½; AOV cock Wells 91½, hen do 92, cockerel do 90½, pullet do 2nd 89. *Hamburgs*—Golden or silver spangled cock Wm Austay 2nd 88½, hen Carter 92, cockerel Carter 90½, pullet Lyons 2nd 88½; golden or silver pencilled hen Carter 91½, cockerel Irwin 89½ and 89, pullet Lyons 95. *Leghorns*—White cock Hartly 2nd and 3rd 89½ and 89, hen Hartly 93 and 93, cockerel Carter 1st and 3rd 92½ and 92, Howson 2nd 92, pullet Walter Taylor 95 and 93, Hartly 92; brown hen Wm Wallace 2nd 89, cockerel Taylor 92½. Austay 92, Wallace 91, pullet J E Taylor 93, W Taylor 92½, Anstay 92; black hen Wallace 91, Wallace 90½, cockerel Wallace 2nd 85½, pullet Wallace 92; rose-comb cockerel Lyons 90. *Spanish*—Cockerel Irwin 90. *Dorkings*—Cock

Irwin 2nd 88½, hen Irwin 89½, cockerel J H Fisher 91½, Irwin 88, pullet Irwin 1st and 3rd 92 and 87, Fisher 2nd 90. *Plymouth Rocks*—Barred hen Leo Charlesworth 9½ and 90, Irwin 89½, pullet Charlesworth 92, Lyons 88; white cock Charlesworth 93, hen J Ward 93, cockerel Hartry 94, Ward 93½, Willis 93½, pullet Willis 95½, Ward 94½ and 93½. *Polands*—W C cock Carter 93½, cockerel Carter 93½, pullet Carter 93½; S C cock Carter 90½, hen Carter 90; GCB hen Carter 92, pullet Carter 2nd 89; white cockerel Wallace 93½. *Houdans*—Hen Irwin 2nd 86½, cockerel Lyons 2nd 88, pullet Dr Scott 95. *Wyandottes*—Cock Lyons 90, hen Lyons 90½, Kennedy 90, cockerel Lyonr 90 and 88, pullet Kennedy 92½, Lyons 87½; AOV cock Irwin 2nd 88, hen Kennedy 92½, cockerel Kennedy 2nd 87½, pullet Irwin 92, Kennedy 91½. *Minorcas*—Black cock Irwin 2nd 85½, hen Austay 91, Irwin 90, Austay 88, cockerel Hartry 93, Austay 91, Halloway 89½. *Red Caps*—Cock Taylor 9½, Wallace 85½, hen Lyons 91½, Wallace 91, Lyons 87½, cockerel Lyons 1st and 3rd 90 and 88, Taylor 2nd 89, pullet Lyons 92, Taylor 92. *Bantams*—Game, B B red cock Taylor 94, Irwin 91, hen Grigg 93½, Taylor 92, Irwi 91½, cockerel Grigg 90 and 90½, pullet Grigg 94 and 93½, Taylor 3rd 91½; Pyle cock Coleman 91½, Grigg 90, hen Grigg 91½, pullet Coleman 93½; Sebright cock Irwin 2nd 88½, hen Irwin 93, Taylor 92½, Lyons 92, pullet Lyons 91; Pyle cock Grigg 92½, Lyons 90, hen Lyons 91½, Grigg 91½, pullet Grigg 92½ and 91. *Breeding Pens*—Brown Leghorns, Melville 185½; white Leghorns, Hartry, 185; Games, Well-, 184½; white Rocks, Hartry, 184½; Houdans, Dr. Scott, 184½; Wyandottes, Fisher, 184; Cochins, Lyons, 180; Minorcas, Hartry 186, Lyons 178; Red Caps, Taylor, 182½. *Turkeys*—Cock Thos M Michael 1st, John Gammell 2nd, hen McMichael 1st and 2nd, pullet McMichael 1st, Gammell 2nd, Irwin 3rd. *Ducks*—Aylesbury drake Carter 1st, duck Carter 1st; Rouen duck Wallace 1st, drake Wallace 1st; Pekin drake Irwin 1st and 2nd, Lyons 3rd, duck Irwin 1st, Lyons 2nd; Pekin young Wallace 1st, Lyons 2nd, Irwin 3rd, duck Irwin 1st, Wallace 2nd, Lyons 3rd. *Geese*—Toulouse gander Grieve 1st, goose Grieve 1st and 2nd, gander young Grieve 1st; Bremen gander Irwin 1st, goose Irwin 1st. *Specials*—Youngest exhibitor, Charlesworth; best Game cock, Wells; breeding pen Asiatics, Lyons; Cochins, Lyons; Houdan cockerel, Lyons; pen of Minorcas, Hartry; highest scoring breeding pen, any variety, Hartry; best light Brahma, Carter; best Rock, Ward; highest scoring white Rock cockerel, Hartry; best Poland cock, Carter; brown Leghorn cockerel, Melville; breeding pen white Leghorns, Hartry; white Rocks, Hartry; pair geese Grieve; pair ducks, Irwin; Guinea fowl, Carter; Sebright Bantams, Irwin; highest scoring bird, Irwin; best barred Rock owned by farmer, Gammell; best exhibit of turkeys, McMichael; collection of pigeons, Milton Davis; best Leghorn pullet, Hartry; best dark Brahma, Irwin; highest scoring Houdan pullet, Dr. Scott.

OWEN SOUND SHOW.

THE fourteenth annual show of the Owen Sound and County of Grey Poultry and Pet Stock Association held in the Town Hall, Jan. 19th to 22nd, '97, was by far the most successful ever held, and reflects great credit on the officers, who all worked hard to make it a success. The President, Mr. J. Ramsay, and Treasurer, Mr. W. H.

Irving, deserve special mention for their untiring efforts, and of our old friend, Mr. Harry Wright, nothing need be said as he has always been noted for his willingness to do anything or everything for the benefit of the Association.

J. F. MONCK, Sec.

NOTE.—Scores show the relative position of birds.

PRIZE LIST.

Brahmas—Light cock Sam Irvine 91½, W H Irving 88, Barker & Muir 85, hen Barker & Muir 91½, same 91½, Irving 90, cockerel AA Vernon 91 and 90½, Barker & Muir 90, pullet Irwin 93, Vernon 92½, Wilkinson & Mackenzie 90½; dark cock J Foster 90½. *Cochins*—Buff cock 2nd T W Douglas 88, hen Douglas 91½, J C Lyons 90½, cockerel Douglas 91½, Lyons 88½, pullet Douglas 91 and 90, Lyons 88; partridge hen Lyons 91½, cockerel W C Wilson 90, Beaton Bros. 88½; white hen Foster 92, cockerel Foster 92½ and 92, pullet Foster 93½, Lyons 89½; black cockerel Foster 93½, pullet Foster 93½. *Langshans*—Black hen Foster 95½, cockerel Foster 93½, pullet Foster 94½, Lyons 90. *Plymouth Rocks*—Barred hen Foster 2nd and 3rd 89 and 86½, cockerel Foster 90, Wilson 88½, Harkness 87, pullet 2nd Foster 88½, Gorwood & Paynter 87½; white cock J A Pierson 92½, R R Cameron 88½, hen Pierson 94½, Barker & Muir 94, Elliot & Son 94, cockerel Barker & Muir 93½, Pierson 92½, Elliot & Son 91½, pullet Barker & Muir 95, Elliot & Son 94½, Elliot & Son 94. *Wyandottes*—Silver hen 2nd and 3rd Wilkinson 88½ and 85, cockerel Foster 92½, Wilkinson 87½, pullet Foster 92; golden hen Foster 92½; white cock Foster 91½, hen Foster 92½, cockerel Foster 92½, pullet Barker & Muir 91. *Javas*—Black hen F R Webber 93 and 92, cockerel Foster 92½, pullet Foster 91½; white cock Webber 93 and 92, hen Webber 95½ and 95, cockerel Webber 91, pullet Webber 91½. *Leghorns*—S C white cock Ramsay 93½, Foster 93½, Irvine 92½, hen Ramsay 92, Barker & Muir —, Irvine 89, cockerel Barker & Muir 93, Currie 91½, Courtney & Buie 90½, pullet Foster 95 and 92½, Courtney & Buie 92½; S C brown cock J C Benner 93½, Gorwood & Paynter 88½, hen Benner 92½ and 92, Beaton Bros. 91, cockerel W Barnard 92, Wilson 9½, W J Player 89½, pullet Barnard 93, Benner 92½, Wilson 92; S C black hen A McNeillage 91½, Benner 91, Courtney & Buie 88½, cockerel Benner 93, McNeillage 92, pullet Harkness 94, McNeillage 93½, Benner 89½; R C white cockerel Lyons 90. *Spanish*—Black hen Harkness 94½ and 93½, cockerel Harkness 93, Foster 89, pullet 2nd Foster 89½. *Andalusians*—hen Pierson 91½, Wm Matthews 89, cockerel Pierson 91. *Minorcas*—Black hen McLaughlin 92 and 88½, cockerel McLaughlin 91½, Ferguson 91, pullet McLaughlin 92½, Lyons 92, Lee 90½. *Hamburges*—S P hen 2nd Wilkinson 87; golden spangled cock Foster 88, hen 2nd Foster 89½, cockerel 2nd Foster 89½, pullet Foster 92; S S hen Foster 92, Wilson 91, Foster 88½, cockerel Foster 91, pullet Wilson 91½, Foster 89½ and 89; black cock Elliot & Son 93, Ankon 91½, hen Elliot & Son 94, cockerel Elliot & Son 91½, pullet Elliot & Son 96½. *Red Caps*—Cock Pierson 90, hen Pierson 91½, Lyons 86, cockerel 2nd Lyons 89. *Polish*—W C black hen Pierson 94½; silver cock Foster 90½, Wilson 89, cockerel Wilson 90½. *Houdans*—Cock Pierson 93, Wilson 89, hen Pierson 92 and 89½, Wilson 87, cockerel Pierson 94, pullet Pierson 97 and 95. *Dorkings*—Silver grey cock Foster 91½, hen Foster 91. *Game*—B B R cock Ferguson 90, Close Bros. 90, Courtney & Buie 90, hen Ferguson 94, Wilkinson & McKenzie 89, cockerel Close Bros. 91½, Ferguson 91½, pullet Close Bros. 95 and 93½, Ferguson 89; brown-breasted red cock Close

Bros. 91, Lyons 90. hen Close Bros. 93, Lyons 93, cockerel Lyons 90½, pullet Lyons 91, pit cock Irving, Wilkinson & McKenzie, hen Ankorn, Rankin, cockerel Courtney & Boie, Rankin, pullet Courtney & Boie, Rankin; silver duckwing cock 2nd Ferguson 87½, hen Ferguson 92½, Ankorn 90; golden duckwing hen Ferguson 91½, Hart & McKnight 91, cockerel Ferguson 93½, Close Bros. 92½; pyle cock Close Bros. 91, Lyons 89½, hen Close Bros. 92½, Currie 91, Lyons 90½, cockerel Close Bros. 93½, pullet Close Bros. 94 and 93; Indian cock 2nd Foster 89½, hen Foster 91½, Courtney & Boie 90, cockerel Foster 94, Courtney & Boie 92½, Harkness 92, pullet Foster 92½, Beaton Bros. 90, Harkness 87½; B E R cock Wright 95½, Close Bros. 93½, hen McClaren 93½, Close Bros. 92½, Foster 91½, cockerel Foster 96½, McClaren 91, pullet McClaren 91½, Foster 90½. *Bantams*—Silver duckwing hen Hart & McKnight 92½, pullet Hart & McKnight 91; pyle cock Hart & Grimoldby 93, hen Hart & Grimoldby 95, cockerel Close Bros. 90, pullet Hart & Grimoldby 93½ and 95, Close Bros. 93; AOV hen Hart & McKnight 91; rose-comb black cock Foster 93½, hen Foster 92, cockerel Webber 93½, Foster 92, pullet Webber 96½, Foster 93½; golden Sebright cock 2nd Foster 87½, Lyons 86½, cockerel Foster 93, pullet Foster 93, Lyons 90; silver Sebright cock Foster 91, hen Foster 92, cockerel Foster 91½, pullet Foster 90. *Breeding Pens*—Light Brahmas, Vernon; W P Rocks, Pierson; S C W Leghorns, W Malone, J Ramsay; S C B Leghorns, Benner; black Minorcas, 2nd W T Lee; black African Bants, Webber; Houdans, Pierson. *Geese*—A O V old gander Foster, goose Foster, young gander Foster. *Ducks*—Rouen drake young Close Bros., duck Close Bros.; Pekin drake old Webber, duck Webber, drake young Webber, duck Webber; Aylesbury drake old Webber, duck Webber, drake young Close Bros., Webber, duck Close Bros., Webber; A O V drake old Irving, duck Irving. *Special Prizes*—Silver cup Pierson, on Houdan 97, highest scoring bird in the show; best light Brahma pullet, Vernon; black Java pullet, Foster; buff Cochin pullet, Douglas; white Wyandotte cockerel, Foster; S C brown Leghorn cockerel, Benner; S C white Leghorn pullet, Foster; S C white Leghorn cock, Ramsay; pyle Game Bantam pullet, Wright; Indian Came cockerel, Foster; B B R Game cock, Close Bros.; black Minorca pullet, Lyons; S C W Leghorn cockerel, Barker & Muir; S C brown Leghorn cock, Benner; highest scoring breeding pen, any variety, Benner; buff Cochin cockerel, Douglas; Farmer Fogie's Frizzley fowl, Wilkinson & McKenzie; black Lang-han pullet Foster; black Minorca cockerel, McLaughlin; black Java, Wright; R C black Bantam cockerel, Cameron, pullet Cameron.

CORRECTIONS.

RINDLY correct error in prize list of Ontario Show in last month's REVIEW. Third white Wyandotte hen scored 95 instead of 92½, as given in list. Yours, C. MASSIE.
Port Hope, Feb. 19th, 1897.

In your report of the Montreal Show there are a couple of errors that should be corrected. I won the Sir Donald A. Smith Cup and the Smith Bantam Cup, with the highest

scoring pen, and not a pair, as you state; while Messrs. Oldrieve & Wilkinson won the Lady Aberdeen Medal, not with a pen, but with a pair. Yours truly, E. F. MURPHY.
Ottawa, Feb. 19th, 1897.

At the Eastern Ontario (Kingston) J. A. Cardwell won 2nd and 3rd on buff Wyandotte pullets.

At the Ontario (Guelph) the score of J. Dorst's silver Wyandotte pullet should be 93½ (tying with first). The score of J. E. Bennett's first prize barred Rock should be 93½.

I notice in report of Galt Show you mention: Golden Wyandotte, 1st cockerel Cox. This is a mistake, I won 1st on cockerel (score 92) and 1st on hen (score 93). Please correct and oblige.
JOHN J. FOLEY, Brantford.

SPECIALS AT THE ONTARIO SHOW, GUELPH.

For 6 highest scoring laced Wyandottes or barred Plymouth Rocks, Oldrieve & Wilkinson, score 556½; do Asiatics (solid color), T. H. Scott, St. Thomas, 571; do Asiatics (parti colored), Thorpe & Scott, London, 550; do Fowls in Mediterranean class, Thos. Rice, Whitby, 570½; do. Game fowls, John Crowe, Guelph, 565½; do Ducks, Allan Bogue, London, most prizes not all scored; do. spangled or pencilled Hamburgs, Wm. McNeil, London, most prizes not all scored; the heaviest Turkey on exhibition, James Ford, Dunquinn; do. Goose on exhibition, Wm. Main, Milton, highest scoring Java cock or cockerei. Thos. Brown, Durham, 95.

THOS. A. BROWNE, Sec'y.

TORONTO, POULTRY, PIGEON AND PET STOCK ASSOCIATION.

THE regular monthly meeting of the above Association, was held in Temperance Hall on Thursday evening, Feb. 11th, the President, Mr. R. H. Essex, in the chair, and about sixty members in attendance. The minutes of the previous meeting were adopted as read. Accounts for printing By-laws, postal cards, and coops were ordered to be paid. Copies of the By-laws were on sale at 25 cents each and may be obtained in future from the Secretary. The following gentlemen were proposed for mem-

bership and accepted: Messrs. Warrington, Benson, Todd, Frame, Smith and Thompson.

A motion that the President and those members of the Association who did their utmost to obtain the Ontario Show for Toronto in 1898 be tendered the thanks of the Association was carried unanimously. A vote of thanks was extended to Dr. Bell for his comprehensive essay on "Breeding Buffs for Exhibition." At next meeting an essay will be read by Mr. Dilworth on "Borrowing and Lending Birds for Exhibition."

The following varieties were on exhibition and all classes were well filled: Dark Brahmas, cock or cockerel, 1st and 2nd E. Stephens; hen or pullet, 1st E. Stephens, 2nd J. Brown. Black Minorcas, cock or cockerel, 1st C. W. Wood 2nd J. S. Carter; hen or pullet, 1st R. Durston, 2nd H. Warrington. Spanish and Andalusians, all to J. Yates. Black Red Game Bants, cock or cockerel, 1st F. B. Hawkes; hen or pullet, 1st F. B. Hawkes. Duckwing Game Bants, all to Wm. Barber.

The following varieties will be on exhibition at the next meeting, March 11th: Partridge, buff, white, and black Cochins, white and black Langshans, and Tumblers, Trumpeters, Pouters and Jacobins.

There being no further business to transact the meeting adjourned at 10.30. Receipts for evening, \$11.70.

R. DURSTON, Sec'y.

AN ASSOCIATION IN NORTH BAY.

It is gratifying to notice that the recent formation of a poultry association for northern Ontario, with headquarters at North Bay, in the District of Nipissing, has awakened a general interest in the poultry industry and promises to enlist many intelligent business men in the project. If the formation of this association should lead to the general adoption among poultry breeders in this territory the same skill and care that they devote to other industries the object of its promoters will be attained. That the poultry industry is capable of producing very satisfactory financial results when prosecuted under such conditions is proven by the success of many poultry farms now in operation in Canada and the United States.

Among the number in the vicinity of North Bay who have embarked in this enterprise with fair prospects of success should be mentioned Mr. Thos. McMurray. He is entitled to the distinction of being the first in this locality to give it the rank of a primary industry and to invest a large capital in providing the most approved facilities for its pro-

secution. It was the privilege of the writer recently to visit his establishment and inspect his stock of poultry and his methods of procedure. His hen house consists of a build-40x16 feet, built of cedar logs, chinked and plastered. The roof is composed of shingles, underlaid with board and tar paper, sufficiently high enough to afford an ample supply of fresh air secured by properly constructed ventilators. The building fronts southward, and is furnished with numerous windows, through which floods of sunlight and heat enter to the great comfort and delight of the occupants. It is divided into several apartments, affording conveniences for separating his varieties of stock during the breeding season. Surrounding it are extensive grounds bordering on the lake shore and covered with a plentiful growth of cherry trees which furnishes during the summer months a delightful shade for his chickens.

Mr. McMurray devotes his attention to the cultivation of two breeds only, viz.: S. C. brown Leghorns and golden pencilled Hamburgs.

S. HUNTINGTON.

SCRATCHING GROUND.

I HAVE got on to a scheme for giving my fowls fresh air and a good sun-bath every fine day, and as I have never seen it in poultry papers I give it now hoping it will benefit other poultry keepers as it certainly has me. Before the snow fell I had a good load of long straw drawn in, and spread on the ground in front of the house. After each fall of snow I have taken a broom or shovel and cleared off the straw as much as possible. The result has been that with a day or two of bright sun the snow has completely disappeared and the straw dried out enough to turn the hens on to it.

It is a pleasure each fine day to see them sitting around sunning themselves, and it is not necessary to drive them in as they go in themselves as soon as it gets cooler. I have tested this plan in regard to egg production and the result was that in two weeks I got one-third more eggs from two pens running out than I did from other two pens confined. Everything else being equal as near as possible. There is one thing however that must not be forgotten and that is to keep them always supplied with drinking water of the proper temperature. If this is done there will be very little snow eaten by the fowl. I have also found that this plan gives me a very large percentage of fertile eggs. If desired the straw can first be used inside until it becomes damp when it may be thrown out. Try it and you will find that the sun will keep the top perfectly dry.

FRANK J. BARBER.

Georgetown, Feb. 19, 1897.

ROUP—A NEW REMEDY.

Editor Review :

I WISH to draw the attention of poultry-keepers to a comparatively new remedy for some forms of roup, so called, which is at once easily applied, efficacious, and cheap. When fowls are affected with what might be called the diphtheretic form of roup, the indications of which are—purplish appearance of throat and mouth, membranous growth in throat, fever, prostration, and death in a few hours or days, the fumes of burning calomel will I believe, be found the best remedy yet used. I merely want to put this as a suggestion. I have found it of value myself, and if it helps some brother poultryman out of a predicament with roupish fowls shall feel well repaid for writing.

A convenient way to administer it might be to make a tent over roost with old carpets or other material, or place fowls to be operated upon in a box, then take a small quantity of calomel say enough to go on a five cent piece for each dozen hens, put it upon a piece of iron or other material heated very hot and place in such a manner that the fumes will be breathed by fowls. This can be repeated every three or four hours if severity of case demands it.

Fumes of burning sulphur would answer the same purpose, but are apt to smother fowls which danger is absent when calomel is used. Possibly some member of the medical profession can suggest a still better manner of administration. The advantages of above treatment are, avoidance of handling of fowls which is sometimes very dangerous to human life through infection, ease of application, cheapness, and last but not least, effectiveness.

This treatment would be of comparatively little value for treatment of the catarrhal form of roup, indicated by swelled face, watery discharge from eyes, mucous discharge from nostrils and later from eyes, sneezing, etc.

I think it a pity that we have not a better understanding as to what really constitutes a case of roup. You cannot read a poultry journal without coming across frequent mention of roup but what a number of diseases are included in that term, all the way from a simple cough, through swelled head, choked nostrils and throat, canker, even to inflammation of bowels as I have read in a recent article. And in the same publication will be found any number of cures for roup, contributed or advertised. Some of these are calculated to reduce inflammation, others to kill germs, others to act as general tonics. Some authorities class roup as an infectious disease principally caused by filthy surroundings, confusing it with canker, others call it a case showing simply

watery eyes or inflamed nostrils a case of roup. Now I think this is all wrong and if such confusion exists among authorities as to the diagnosis of the disease termed roup, then the sooner we do away with the term and substitute one or more suitable terms and definitions the better. A roup cure that might give very good satisfaction as a cure for catarrh might be utterly valueless when there occurred the membranous formation in the throat, either in conjunction with catarrh or alone. The following case will illustrate this point.

A poultry keeper having had a number of birds die with what he was told was roup wrote to a prominent poultry journal for a cure for roup. The recommendation of this editor was to bathe the head and swab out the mouth and throat frequently, with a liniment composed of one part vinegar or acetic acid and three parts glycerine (probably a capital cure for "swelled face.") This was done but with no success as far as saving birds was concerned. Now these birds showed all the symptoms of diphtheria and probably could have been cured if some treatment that would kill the germs of diphtheria had been used. I am advising this simply as an amateur. Probably some older hand at the business can throw further light on the subject and give much more valuable suggestions.

I did not intend to ask you for so much of your valuable space but I believe if you could induce some expert inquiry into the subject of roup and devise better means of combating this prevalent disease, you would earn the undying gratitude of the community.

Yours truly,

Toronto.

G. J. LOVELL.

LATE NOTES.

Mr. J. H. Paton is not breeding double-combed buff Leghorns as his ad. in last issue would lead prospective buyers to suppose. A misprint in the description of cockerel No. 2 gave him two—or more—combs.

We notice the Wagner Incubator Co. now offer a fifty egg machine for the modest sum of nine dollars and fifty cents. If the hatcher will do what the maker claims—and we don't doubt it—it should be popular.

Mr. W. G. Lovell, Galt, has 27 chicks, partridge Cochin and black Leghorns, hatched January 7th. He has them in a greenhouse and they are doing nicely, pullets now well feathered.

POULTRY NOTES

Turkeys and How to Grow Them.

A Treatise on the Natural History and Origin of the Name of Turkeys; the Various Breeds, the Best Methods to Insure Success in the Business of Turkey Growing. With Essays from Practical Turkey Growers in Different Parts of the United States and Canada. Edited by Herbert Myrick, Orange Judd Company, Publishers, 52 Lafayette Place, New York City. 12 mo., cloth. \$1.

It is a curious fact heretofore no book has given an adequate account of the turkey, its development from the wild state to the various breeds, with directions for breeding, feeding, rearing and marketing these beautiful and profitable birds. The present book is an effort to fill this gap. It is based upon the experience of the most successful growers and breeders of turkeys, both as breeders of fancy stock and as raisers of turkeys for market. In this work, the editor has had the assistance of Samuel Cushman, late poultry manager Rhode Island Experimental Station; breeds and show points are treated by H. S. Babouck, editor American Standard of Perfection; with articles by George Wolf, judge of turkeys at Chicago Fat Stock Show, A. F. Greene of Massachusetts, George Enty of Pennsylvania, E. Richardson of California, J. F. Barbee of Kentucky, and other specialists. In addition to all this, the prize-winning essays out of nearly 200 submitted by the most successful practical turkey growers in America are embodied, and there is also given one essay on turkey culture from each of the different parts of the country. The difficult and critical work of rearing the turkey chicks is minutely described, and embraces the experience of the most successful turkey raisers in the country. The chapter on fattening and marketing is equally complete, with directions for turkey broilers for fancy profits, catching, killing, picking, packing and shipping, how, when and where to sell to the best advantage, marketing feathers, etc., and every possible hint for getting the utmost money out of the industry.

This paper is mailed regularly to its subscribers until a definite order to discontinue is received and all arrears are paid in full.

SEND A STAMP FOR REPLY.

Enquiries not of a business nature must be accompanied by a three cent stamp for reply.

Two Subscriptions for \$1.50.

If you send us the name of a new subscriber together with \$1.50 we will extend your own subscription for one year as well as send REVIEW to the new name for one year. This makes it but seventy-five cents each. The only condition we make is that the name of the subscriber be a new one and not a renewal.

An Easy Way to Get Felch's Great Book.

To any one sending us four new subscribers with \$4 we will send a copy of "Poultry Culture," by I. K. Felch, value \$1.50, a book no fancier should be without. We have lots of these books, so don't be afraid the supply will run out. Send four new subscribers with \$4 and get a STANDARD free.

Mr. J. H. Cayford, Box 1,168, Montreal, is our Agent and Correspondent for the Province of Quebec. Any correspondence relating to subscriptions or advertising may be addressed to him.

The Canadian Poultry Review

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Advertisements will be inserted at the rate of 10 cents per line each insertion, 1 inch being about 10 lines.

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Advertisements contracted for at yearly or half yearly rates, if withdrawn before the expiration of the time contracted for, will be charged full rates for time inserted.

Back and front cover pages a matter of special correspondence.

Breeders' Directory, 15 col card, 1 year \$8; half year \$5.

These are our only rates for advertising, and will be strictly adhered to. Payments must be made invariable in advance. Yearly advertisements, paid quarterly in advance, changed every three months without extra charge.

All communications and advertisements must be in our hands by the 20th to insure insertion in issue of same month. Address,

H. B. DONOVAN
124 Victoria Street, Toronto, Ont.

JOHN HORD & SON, PARKHILL, ONT.,
Breeders of 15 different varieties of Land and Water Fowl, Toulouse Geese, Rouen Ducks.

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Advertisements of 27 words, including address, received for the above objects, at 25 cents for each and every insertion, and 1 cent for each additional word. Payment strictly in advance. No advertisement will be inserted unless fully prepaid.

TWELVE ADV. FOR \$2.50.

A no advertisement of 30 words will be inserted EACH MONTH for one year in this column for \$2.50, PAID IN ADVANCE. Advertisement may be CHANGED EVERY MONTH if desired.

This Coupon is good for one advertisement of 30 words in the "For Sale and Exchange" or "Stock Transfers" columns.

Canadian Poultry Review, Toronto, Ont.

To meet the wants of advertisers who are continually using this column, and who find it a great trouble to be constantly remitting small amounts, we have adopted the plan of issuing Coupons (as above) good for 30 words each, 4 for 1. Any one buying these Coupons use them at any time in lieu of money when sending in an advertisement. Not less than four Coupons sold.

Andalusians.

Blue Andalusian eggs from pen containing first and second prize hens, pullets, and first prize imported cock, \$2 per 13; also three fine cockerels. Geo. Weightman, Brantford, Ont. 597

Eggs for Hatching from high-class Andalusians, at Ottawa won 1st cock, 1st and 2nd cockerel, 1st and 2nd pullet; at the Eastern Ontario, Kingston, on seven entries won 1st and special cock, 3rd hen, 1st and 2nd cockerel, 2nd and 3rd pullet. Eggs 120 dollars setting. Peter McGregor, Almonte, Ont. 597

Andalusians—A few fine birds for sale of both sexes, bred from my prize-winners. See February REVIEW for prizes won. No eggs for sale. Eggs from pen Minorcas containing 1st cock and 1st pullet Woodstock show, and others of equal merit \$2 per 12. Also three cockerels for sale. Newton Cosh, Woodstock, Ont. 497

Bantams.

Grand Game Bantams—Eggs for sale from all colors. Prices on application. Also a few brown red Bantams for sale, and a trio of willow-legged Pyles, one pair St Bernard bitch pups, 5 months old, registered, for sale cheap. W. Barber, 242 Queen St. West, Toronto. 497

For Sale—A few choice B B Red Game Bantam cockerels and pullets, some prize takers at Ontario Show. Prices reasonable and satisfaction guaranteed. Address A. W. Tyson, P.O. Box 452, Guelph, Ont.

Black Red, Duckwing and Pyle Bantams, winners at Woodstock and Galt, some grand birds for sale. It will pay you to write me. Wanted—Good Silver Sebright Bantams. F. M. Wolfe, Galt.

Sir Donald A Smith's Challenge Cup and the Smith Bantam Cup were among the prizes won by my Black African Bantams at the late Montreal Show. I have some choice birds for sale. E. F. Murphy, Ottawa, Ont.

PIGEONS AND PETS.

PIGEONS

PIGEONS, ETC., AT OWEN SOUND.

Fantails, 1st Wilkinson & McKenzie, 2nd Beaton Bros.; Pouters, 1st Hart & Grimoldby; Carriers, 1st and 2nd Wilkinson & McKenzie; Owls, 1st Hart & McKnight; Antwerps, 1st Wilkinson & McKenzie, 2nd J. C. Benner; Jacobins, 1st Benner; Turbits, 1st R. Agnew, 2nd Wilkinson & McKenzie; Trumpeters, 1st Hart & McKnight; A O V, Hart & Grimoldby; Ornamental—English Pheasants, 1st Douglas; Guinea Pigs, 1st and 2nd W. H. Irving. Squirrels, 1st Irving. Rabbits, Lop-ear 1st Wilkinson & McKenzie; A O V, 1st Rankin, 2nd Wilkinson & McKenzie. Rats, best collection, 1st Wilkinson & McKenzie; mice, 1st Irving, 2nd Agnew. Cats, prettiest, 1st Wilkinson & McKenzie, 2nd Rankin, largest Irving. Best pair Turbits Agnew, Fantails Wilkinson & McKenzie, pair Guinea pigs, Irving.

It doesn't look as though the prospects for a continuance of this department were very bright. We fear our pigeon and pet stock breeders have had their ideas congealed, although the winter is mild.

Mr. McBride, of St. Paul, near Montreal, Que., is now manufacturing seamless bands, a thing that Canada has long needed.

Mr. R. Burroughes has bought a large number of birds from Mr. Baulch, consisting of Carriers, Turbits, Trumpeters, Kite and Almond Short Faces, etc.

CAGE BIRDS

THE TORONTO CANARY AND CAGE BIRD SOCIETY.

The regular meeting of the Toronto Canary and Cage Bird Society was held at Forum Hall, Feb. 1st. Secretary Appleton was absent through illness, consequently the annual report was not in. Amongst the important matters dealt with was the annual discussion on Standards. It was finally resolved that those in effect last year be adopted without alteration for 1897.

Mr. W. H. Naylor suggested that the Society hold monthly shows at the meetings. After the members had expressed their views it was decided to give the idea a trial and the matter was handed to the management committee for preparation. Mr. J. Powell was placed on the Committee of Management. Mr. J. Bertie's offer to give an exhibition of bird washing at the March meeting was accepted unanimously. Mr. W. S. Appleton was appointed official reporter for the Society.

MATING.

If the birds have been separated during the winter and are in good condition, little trouble will be experienced in mating, but in no case should the pairs be introduced to their boxes until they are thoroughly paired. To pair the selected birds, place both in the pairing cage, and if at first the cock is too rough, put the partition between them till he shows better manners. Lastly, some little care must be taken in getting the birds used to their nesting places. Some pairs will want to monopolize several nests, and these should either be removed for a time, or fastened up in their respective nests until the others have all settled down. —*Feathered World.*

Cage Birds, &c.

For Imported Birds—Try Hope's Bird Store, 109 Queen Street West, Toronto. Fine young Mocking Birds, warranted cocks, \$4 each.

Cages, Japanned, from 35c.—Cages, brass, from 65c; Cages, breeding, from 75c; Cage appliances, nest and nestings, seed &c.; everything in the bird line at Hope's Bird Store, 109 Queen Street West, Toronto.

A Parrot for \$6—Fine healthy young Cuban Parrots, price \$6 each, in nice plumage, also Parrot Cages, Parrot Food, etc., at lowest rates and of best quality, at Hope's Bird Store, 109 Queen Street West, Toronto.

English Birds—Imported, Goldfinches, Linnets, Skylarks, Thrushes, Jays, Starlings, &c., Mocking birds, Cardinals, Fancy Finches &c. at Hope's Bird Store, 109 Queen Street West, Toronto.

Parrots, Cockatoos, Love birds, Paroquets, Gold fish, fish globes, bird cages, seeds, &c., &c. Fancy Pigeons, Guinea Pigs, Rabbits &c. A large stock now on hand at Hope's Bird Store, 109 Queen Street West, Toronto.

FULTON'S BOOK OF PIGEONS

Reduced to \$5

Large full page engravings of all varieties. New edition re-written right up to date. For sale by H. B. DONOVAN, Toronto.

Pigeons.

Robert Burroughes, Importer and breeder of Fancy Pigeons, 24 Ph. & St. Toronto. Varieties—Russian Trumpeters, Almond Kite, Bald and Solid Colored Tumblers, Magpies, Nuns, Pouter, Ice Pigeons, Swallows, Turbits, Archangels. A few pairs and odd birds to spare. Best kept, best shipped, Stamp for reply.

10 Pairs Red German Swallows at \$3 and \$4 per pair, marking, beauty, etc., considered. W. M. Anderson, Palmerston, Ont.

To Make Room for the breeding season I will sell at great bargain pairs and odd birds in Swallows, Owls, Turbits, Magpies, Pouters, Barbs, etc. Write quick! W. H. Readwin, Guelph, Ont.

Hints to Beginners (Pigeons) by F. M. Gilbert, new edition, 1894, revised with additional chapters. A most practical, timely and comprehensive work. Indispensable to the amateur. Price paper 50c. Address, H. B. Donovan, Toronto.

For Sale Cheap—A few choice Pouters, Fantails, Jacobins, Barbs, Owls, Pigmy Pouters and some fine Belgian Homers, all of prize-winning stock, Burnham & Sanderon, Box 333, Stratford, Ont. 597

Jacobins—All colors. A few odd red cocks and yellow and white hens, also two fine White Fantail hens. The best are always the cheapest in the end. Stamp for reply. Chas. Mastie, Box 202, P. rt Hope, Ont. 298

Pouters Only—Standard colours, winners at the Industrial, Ontario, Port Hope and Cobourg Shows. Choice stock and exhibition birds for sale at reasonable prices. Magill & Glidden, Port Hope, Ont.

**THE AMERICAN BUFF PLYMOUTH
ROCK CLUB.**

One of the most important things in connection with the great Rochester Show was the meeting of the buff Plymouth Rock breeders and the forming of a permanent organization, January 14th, 1897.

By a unanimous vote of those present, J. D. Wilson, Worcester, N. Y., was elected President, and G. W. Hamm, Battle Creek, Mich., 1st Vice-President; also the following Vice-Presidents, W. O. Southwick, Friend, Neb., H. M. Doubleday, Mertensia, N.Y., E. W. Andrews, Elmira, N.Y., H. M. Nice, Moberly, Mo., H. S. Burdick, Rome, N.Y., Mrs. H. G. Parker, North Collins, N.Y., Fred. L. Rainbow, Morrison, Illinois, C. A. Wheeler, Cuba, N.Y., Frank E. Kimball, Denver, Col., E. J. Richardson, Allentown, N.Y., J. F. Bonner, Tyler, Texas, Dr. C. J. Andruss, Canandaigua, N.Y., L. B. Hanna, Columbus, Ia. Wm. C. Denny, Rochester, N.Y., Sec. and Treas.

The following gentlemen were elected members of the Executive Committee, J. F. Knox, Warren, Pa., E. W. Brown, Old Mystic, Conn., P. F. Rohler, North Beach, Long Island, N.Y., W. A. Chase, Willis, Kas., L. S. Backe, Bound Brook, N.J., J. H. Giger, Allentown, N.Y., Dr. T. J. Rush, South End, O. Terr., H. E. Benedict, Elmira N.Y., J. P. Newhard, Carey, Ohio, Geo. Burgott, Cawton Station, N.Y., A. S. Couch, Elmira, N. Y.

Constitution and by-laws were adopted and will soon be sent to all those interested. The object of the club is to further the interests of the already popular buff Rock and decide on changes to be recommended in the revision of the Standard.

The membership fee will be \$1 and is to accompany applications. The yearly dues are \$1 also and are due in July. Let all who breed buff Rocks in the United States and Canada send their names to me and join the organization at once. We are determined to have one of the strongest and best clubs of this kind in the country.

WM. C. DENNY.

LATE ADVERTISEMENTS.

Up to February 26th we received several advertisements—which appear on this page. These late advertisements upset all our calculations, and give a lot of extra work to the printers. In future ads not sent in in proper time must stand over until succeeding issue.

MR JARVIS' REPORTS

of the Ontario, Owen Sound and Seaforth shows were received too late for this issue, but will appear in April REVIEW.

FOR SALE OR EXCHANGE.

Dorkings.

Coloured—Bred from imported stock, pen headed by grand bird, mated to produce prize-winners. Order early. Eggs \$2 per setting. E D Dickinson, Barric,

Dogs.

Scotch Collie bitch pups, three months old, eligible for registration, \$3 each or will exchange for Pekin Ducks or W. Plymouth Rocks, also Partridge Cochins for sale. D J Jeffrey, St Pauls, Ont.

A Grand Red Dachshund bitch, winner at Toronto and fully pedigreed, for sale or exchange for Incubator or best offer. Sid Saunders, Box 656, Guelph.

Game.

White and Laced Indian Game, winners in Canada and State, cock and Cleveland, Ohio, 2nd Hamburg, 1st Elmira, New York; same offer with premium as Golden Wyandottes, Black Sumatras. C J Daniels, 221 River St, Toronto.

Javas.

Black and White Javas—No better stock on the continent, winners all 1897 at Rochester and Elmira, New York, also Canada. Same price with premium as Golden Wyandottes. See Wyandottes. C J Daniels, 221 River St, Toronto.

Leghorns.

Now, you Want Something Nice in Black Leghorns. Birds in my pen score, pul. t 95 1-2, 66 hen, 95 1-2; never saw better; cockerel 2nd at London. Same offer with premium as Golden Wyandottes. C J Daniels, 221 River St, Toronto.

Red Caps.

Derbyshire Red Caps—Winner, all 1895 Montreal, Ottawa, Kingston, Ont, Elmira Rochester and Hamburg, New York. Birds in my pen score 95. Same offer with premium as Golden Wyandottes. C J Daniels, 221 River St, Toronto.

Various.

Buff Leghorns and Buff Rocks—Winners Canada and Cleveland, Ohio, Rochester, Elmira, Hamburg, New York. Buff Pekin Bantams. Buff, is all the rage. Same offer with premium as Golden Wyandottes. C J Daniels, 221 River St, Toronto.

For Sale—Trio White Wyandottes with cockerel, score. 93 in Montreal, \$10. Trio H. udans, five birds, \$8. Trio Rose comb Biew Leghorns, \$8. Bishmas, Langhans and Bantams to make room. Kingston Poultry Yards, Kingston, Ont.

Imported White I. Games, new buff, and Standard varieties Wyandottes, Rocks, Brahmans, Cochins, Leghorns, Minorcas, Andalusans, Bantams, Ducks, Turkey. Bock free. Eggs from high-coring prize winners, \$1 per 13, \$6 per 100. Davis Bros., Box U, Washington, N.J. 597

Wanted—Squirrels, Prairie Dog, Quail or other livegame. Exchange Fancy Pigeons, Bantams, etc. Address H B Donovan, Toronto, Ont.

Eggs \$1 50 per 13 from S C B Rocks, S C B Leghorns, B Minorcas, B B R Games, S P Hamburgs, H B R Bantams, Duckwing Bantams. Geo Bower, Ingersoll, Ont. 497

For Sale—Eggs for hatching from all our pure winning varieties, \$3 for 13, winning two hundred prizes at the Eastern Ontario (Kingston), Ontario (Guelph) and Montreal Exhibitions in 1897. Oldrieve & Wilkinson, Kingston Poultry Yards, Kingston, Ont.

Wyandottes.

Eggs—Golden Wyandotte—Winners everywhere both in Canada and States. To introduce Dr. Hess' Panacea, and Instant Louie Killer, will give package of either, value 4c, and 13 eggs, 42c. C J Daniels, 221 River St, Toronto.

The Best Incubator for Fanciers.

DOMINION INCUBATORS

are well built, up-to-date, self-regulating machines, 30 to 200 egg capacity. 30 egg size, price complete, \$10.

Economic Incubator—hot air, self-regulating machine. 30 egg size, complete, \$6.

Economic Brooder—Awarded Diploma of Merit at Ontario Poultry Association Show, Guelph, 1897. Price, complete, \$4.

Dominion Insect Powder

is effective and cheap. Price, one pound box 25 cts, by mail, 20 cts.

Send for Price List Poultry Supplies and Machines.

G. J. LOVELL,

130 Richmond Street West, Toronto, Ont