

Poultry.**Successful Artificial Incubation.**

BY W. G. HUGH.

Does poultry-keeping pay? is one of the vexed questions to which one-half of mankind answers yes, and the other half, nay, nay. It, therefore, depends entirely on the keeping, the keeper and the surroundings. One of the best means whereby poultry have been made to pay at least a fair return, is the method of artificial incubation which has of late years attracted attention and made considerable progress. This system is generally adopted in large poultry yards in England, and a deal more in France. Incubators are very successful if thoroughly understood, and well repay the initial cost of purchase. Suffice it to say, they take up less room and less time than a number of sitting hens, and, when well understood, are as successful as the most careful hen. Do not for a moment imagine you have nothing to do but fill the tank with hot water, light the lamp, fill the drawer with eggs, and wait for the chicks appearing. Careful attention is required. It is not necessary to give a detailed account of all the various machines now in use; some are costly and perfectly useless. I would advise those who think of hatching poultry by artificial means, not to purchase an incubator when it is necessary to pour in gallons of boiling water every night, and at the end of twenty-one days be recompensed by six chicks from your fifty or more eggs. I have hatched forty-five chickens out of fifty fertile eggs. How this has been done I will briefly state. An incubator which can give such results must, in every respect, have the natural conditions of the hen. The essential parts of the contrivance are a cistern of water heated by coal oil, with a drawer beneath to receive the eggs. Ventilation is insured by a supply of air being allowed to ascend through a piece of very open canvas, which is kept moist by its margins being in a tray of water. This supply of air passes through perforated zinc, and a layer of finer canvas on which the eggs rest, so that the under sides of the eggs are exposed to cool moist air, and the upper to the heat radiated from the hot water cistern above. The maintenance of a steady temperature, which must not on any consideration be allowed to rise, even for a short time, above a certain point, is the most important consideration. This is very ingeniously accomplished in the incubator under notice. It consists of a small capsule placed immediately over the eggs, hermetically sealed. Within this capsule are a few drops of a volatile hydrocarbon liquid, which, by fractional distillation, can be obtained of the exact degree of volatility required, so as to boil at any desired temperature; when this is reached, the spirit is immediately volatilized, and the capsule from being flattened is distended into an ellipsoid form. On this capsule rests a perpendicular rod, in its turn supporting a horizontal lever, which carries at its end a disc closing the top of the chimney over the lamp, and so directing the current of hot air through the horizontal tube in the cistern. On the heat reaching the required point, the capsule expands, raising the lever and the disc which closes the top of the chimney, thus allowing the heated air to escape directly, in place of passing through the tube in the cistern. Consequently, overheating is im-

possible while the apparatus is in action, and by adjusting a movable weight on the lever, the temperature may be regulated as required. And when once adjusted to any required temperature, no further attention is needed, and for six months the heat in the egg drawer did not vary more than one degree, while the heat of the atmosphere varied from ten to fifteen degrees. I have found that when the air in the room in which the incubator is placed is about 60° or 70°, the best temperature for the drawer is 104°. During cold weather the drawer may be a degree above 104°, and warm weather a degree below. I have hatched fresh eggs out on the nineteenth day. This I attribute to the steady heat maintained in the drawer.

A much more important point than mere exactness of temperature, is the supply of the proper amount of moisture to the eggs during incubation. The hen in hatching furnishes a good supply of moisture from her body, and in ordinary cases of natural hatching this is supplemented by moisture from the earth upon which she makes her nest. There is in an egg, in addition to the material necessary for the formation of the chicken and for its sustenance, a certain quantity of moisture. During the early stages it performs the important function of intervening between the floating germ and the lining membrane of the shell. If the heated air be too dry, the moisture of the egg is absorbed, the germ comes in contact with the lining membrane of the egg and sticks to it. The effect of this is that when the egg is turned the germ is turned away from the top of the egg where the heat is applied in most incubators, to the bottom, where there is too little heat to keep up the development of the germ. As it is stuck it remains down and the germ dies, and in course of time decomposition sets in, and the egg becomes what is known as rotten. It is necessary to turn the eggs at least once during every twenty-four hours. The custom of turning them had its origin in the fact that it is known that the hen moves her eggs about in the nest, placing those in the centre that had been outside, and vice versa. It is also necessary to air the eggs for at least from ten to fifteen minutes once a day.

I have found that the best method to rear chickens successfully, is to place them when hatched out under a sitting hen. When coming off during the night they take care of as many as thirty chicks, and are much preferred to brooders. Deformed chickens are caused by some unusual vibration of the incubator, or when eggs have travelled a distance. Either let the noise be continuous, or prevent as much as possible. It is not wise to keep quiet for a week, and then drop a cordwood stick near your incubator. Remember that the greatest care is necessary from the ninth to the sixteenth day. You will find that your chickens will be equally as strong as those hatched by the most careful hen.

Auction Sales of Live Stock.

Mr. Rock Bailly, Union, Ont., will sell, on March 24th, a number of well bred Jerseys, Merinoes and Trotting Horses. See advertisement.

Mr. J. C. Snell, Edmonton, Ont., will sell Shorthorns and Jerseys on March 25. When writing to us, in referring to the animals offered for sale, Mr. Snell says the Shorthorns are a very good lot, and the Jerseys particularly fine, all being descended from grand butter families. See his advertisement in other columns.

On March 26th Mr. Jas. S. Smith, Maple Lodge, Ont., will sell twenty head of Shorthorns. Mr. Smith has had several auction sales, and on every occasion has conducted them in a most honorable manner. Read carefully his advertisement.

We bespeak for these gentlemen liberal patronage.

Family Circle.**The Bubblyjock.**

At Abbotsford Sir Walter sat,
His friends about the board,
In easy after-dinner chat,
When spoke an English lord:

"Talking of troubles, we are told
Each mortal takes his share;
Now there are happy lives, I hold,
Exempt from thoughts of care."

"Not so," Sir Walter said: "No heart
That beats in human breast
But bears apart some inward smart,
Some burden of unrest."

"I'll venture," said my lord, "I'll find
One neck without its yoke;
One truly calm and tranquil mind:
Take that daft laddie, Jock."

By shaded walks of Abbotsford,
Sir Walter led them down,
Called the poor lad before the lord,
Whom, tossing half a crown,

"You live in luck, good Jock, I see;
Well fed, light work to do?"
"Oo, ay, the maister's gude to me,
An' I hae plenty, too."

"Well said, brave Jock, and now once more—
Of troubles know you aught?"
At once his face was "sickled o'er"
With the "pale cast of thought."

"Trouble enough! Wha could hae mair?"
He shuddered as he spoke.
"Oo, ay, wi' fear I'm fashit sair,
Ye'll mind the bubblyjock?"

"The bubblyjock? What thing on earth
May that be?" says my lord.
And then amid a roar of mirth,
They see, across the sward,

A turkey-cock of stately size,
Slow strutting into sight,
Poor Jock beholds with quailing eyes,
And quickly takes to flight.

"Ah!" says Sir Walter, "it's the same
With all poor human folk;
Our troubles differ but in name,
Each has his 'bubblyjock.'"

—St. Nicholas.

A DOMESTIC REVOLUTION.**INFLUENCE OF A WOMAN'S CLUB.**

Mr. Philander Hawkins was a slave. He lived in the land of the stars and stripes; he was a property owner and an office-holder; he came and went, like any other man. Still, he was a slave. He bent the knee to the most despotic tyrant that ever reigned over cowering humanity. That tyrant was his wife.

Mrs. Hawkins was a clever woman, but ignorant, narrow-minded and unreasonable, with a temper that carried all before it, including Mr. Hawkins and the three children. People said Mr. Hawkins didn't dare to say his soul was his own. Still less dared he assert any rights as to the house, the children, or any worldly possessions.

When Mrs. Hawkins drew down the shades and looked up all the front part of the house, and made the family sit in the dining-room, the neighbors hinted that it was "cranky." But poor Mr. Hawkins dared not remonstrate. He was equally powerless when she dictated the family all winter on buckwheat cakes and apple-sauce, and all summer on boiled potatoes and mush and milk.

Mr. Hawkins was fond of music, but Mrs. Hawkins kept the piano securely locked, save on those rare occasions when they had company. Mr. Hawkins longed to go into society, and to entertain his friends in his own home, but his wife set her face against all manner of amusements and recreations, and although Mr. Hawkins had been petitioning ever since they were married that they might have "a little company," this petition had always received a withering veto from the reigning power.

Mr. Hawkins was a Methodist and strongly attached to his own church but his stronger half was a Baptist, and, much against his will and conscience, Mr. Hawkins followed his wife every Sunday to the Baptist church around the corner.

One afternoon Mr. Hawkins sat in his office with a cloud on his brow. He had just come from a stormy scene at home, in which Mrs. Hawkins had informed him that no one in her house should go in and out at the front door except on Sundays.

A knock at the door, and a lady entered, wearing a black silk dress, a stylish bonnet, and a pleasant smile. She introduced herself as Mrs. A., from Boston, and at once made known her errand.

"I am soliciting contributions," she said, "for a most worthy object. I desire to found a club for the ladies of this city. It is called the Woman's Mutual Improvement Club. We shall study history, literature, art, housekeeping, hygiene—in short, all that tends to enlighten and cultivate women. I think I can promise that this club will make the women of this place more intelligent, cultured, independent."

"Stop!" shrieked Mr. Hawkins. "For heaven's sake, stop!"

The lady looked at him in amazement. Mr. Hawkins was seized with an awful fear. "Independent! O heavens!" he groaned. "I'll have nothing to do with the thing!" he