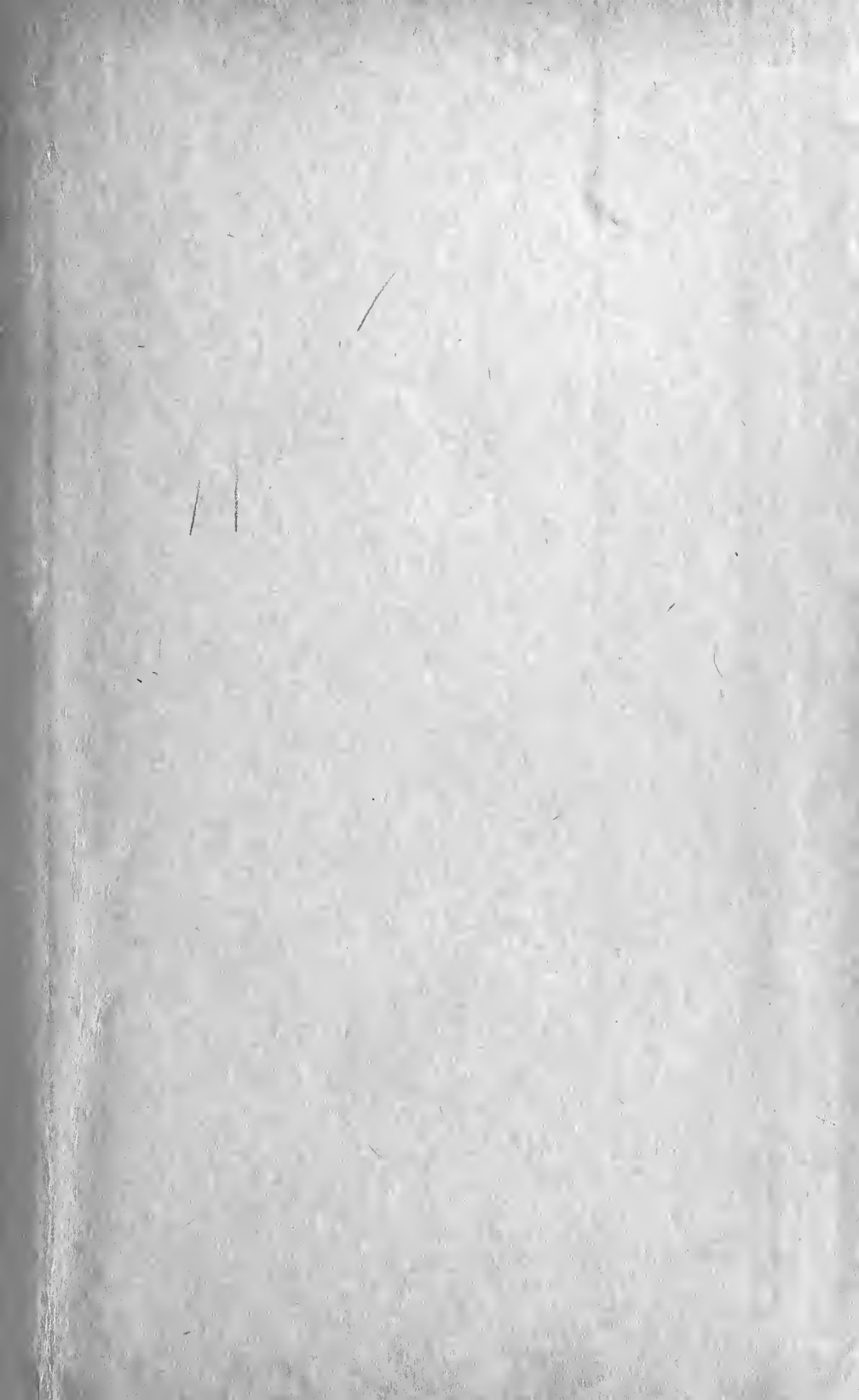
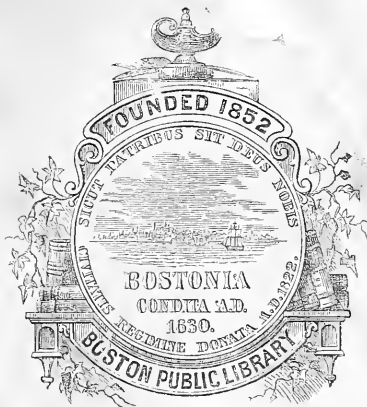


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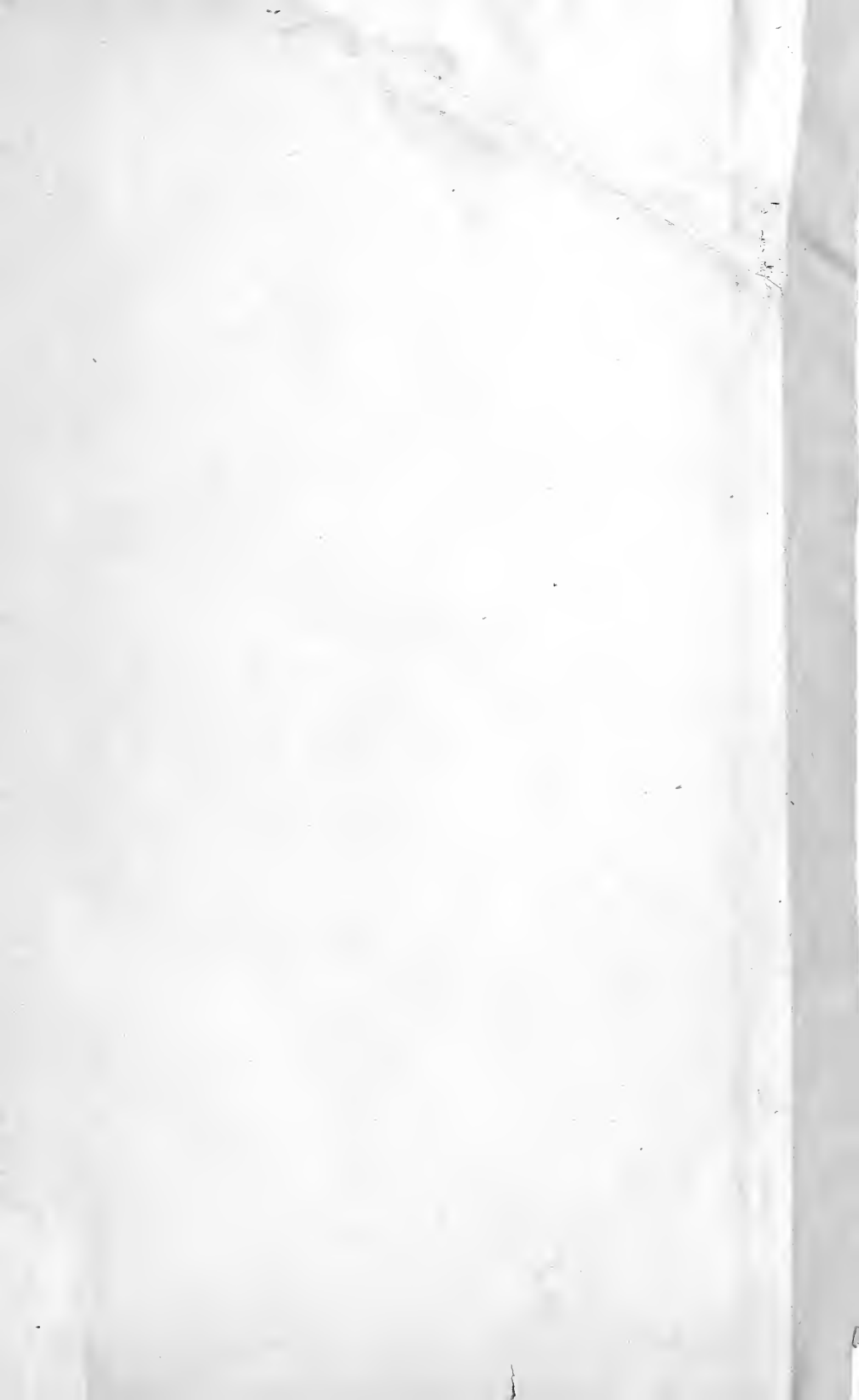
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PAMPHLETS.

*Agriculture,
Essays.*

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Gallinoculture Institute,

HICKSVILLE, QUEENS CO., N. Y.

HOW TO
HATCH AND RAISE

Every Kind of Poultry,

WITH THE AID OF MANURE.

HOW TO MAKE
FIVE HUNDRED DOLLARS A YEAR,

WITH
TWELVE HENS.

By A. CORBETT, MANAGER.

PRICE, - - 50 CENTS.

HEMPSTEAD, L. I.:
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PRICE, - - - - - FIFTY CENTS.

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1874.

PRICE OF THE APPARATUS.



To contain 100 Eggs, - - - - -	\$20 00
“ “ 200 “ - - - - -	35 00
“ “ 500 “ - - - - -	80 00
“ “ 1,000 “ - - - - -	140 00

PACKING AND INSTRUCTION INCLUDED.

A. CORBETT,

Manager of the Gallinoculture Institute,

HICKSVILLE, QUEENS CO.,

LONG ISLAND, N. Y.

HISTORY OF ARTIFICIAL INCUBATION.

“There is nothing new under the sun,” says Solomon the Wise, so that artificial incubations is also not a new thing, although little practiced. In the most ancient times the Egyptians knew the art of hatching eggs without placing them under hens. These enlightened and wise people who had found every means to make life easy and pleasant only because they had sought it through agriculture, yet possessed several precious ideas which we have not yet discovered, and almost now despair to find out, and it is only by direct observation and according to the harmonious laws of nature that such discoveries are made. It is hardly necessary to call the attention of the public to the manner in which birds set on their eggs. And every one knows, also, that there are some birds (hens for instance) which not only hatch out eggs that they have not laid, but even those also of other species.

These peculiarities in revealing themselves to our notice have naturally led us to think that there should be, perhaps, a means to obtain broods independent of the hen, since her intervention has been already shown to be insignificant, and without any regard to the species. This our apparatus does accomplish. I was convinced of the possibility of it on reflecting that even the sun could take the place of the bird—as it serves in some instances to hatch out eggs, we know. Thus the crocodile, turtle and the ostrich bury their eggs in the sand, and it is the warmth of the sun that hatches the young ones. The example of the ostrich, especially, appears to be conclusive, and, therefore, I believed that if the sun could hatch out the eggs of the ostrich it would not be impossible to have a like success with other eggs by applying artificial heat.

To-day the Museum of Natural History, in Paris, exhibits to the view of amateurs and the curious enormous serpents born in hot-houses by the artificial incubation of their eggs.

Nothing, in fact, is easier, says an author named Parmentier,

than to create the art of hatching eggs without the aid of the hen. It only consists in imitating the process that chance has indicated to man and simplifies itself to this, to choose a place where the eggs can receive the same temperature that they would have under the bird that laid the eggs, and during the time that would be required to hatch them under her wings.

ITS ORIGIN AND ITS ANTIQUITY.

The art of artificially hatching hens' eggs has been known in Egypt and China for centuries. In Egypt the invention is attributed to the ancient priests of Isis. According to some historians Isis and Ceres are the same benignant princess who reigned once over Egypt. According to others the art of agriculture is personified under these names, and she was represented with a garland of ears of corn on her head, holding a lighted torch in one hand and in the other a poppy, which was sacred to her.

The priests of the temple of Isis in Egypt, as well as in Celt, appear especially to have been employed in agriculture and rural economy. The importance of this seems to have deserved a like institution since they studied this great science and extended its principles under the name of the goddess Ceres, who was the divine guardian of the fields and every kind of nature's produce.

Whatever it was it seems certain that the prosperity of the ancient kingdoms of Egypt, Damascus, Palestine, Jerusalem and Samaria was, in a great measure, due to the benefits they derived from the artificial hatching of hens' eggs.

The ovens, or hatching places of the Egyptians, called in the the country ma-mals, and which were very numerous in the kingdoms before mentioned, are now only in existence in Mausoura, in the village of Berma, situated in the Delta of the Nile. The latest historians give the name of Behamians to all the inhabitants of five or six villages, of which Berma is the chief and centre, and where the ovens are most numerous. The inhabitants of these villages are the only ones who to-day have preserved the hereditary industry of directing these ovens.

On research I find that the ovens of Egypt alone in olden times hatched out annually one hundred millions of chickens; even to-day the ma-mals of the Behamians still hatch out annu-

ally thirty millions, but history is silent upon the kind of nourishment given to these chickens. But one will say, how is it that so flourishing and prosperous a business has for the most part disappeared from these countries, and is only found to-day in a small and limited province of the Egyptian Delta? I cannot account for it any more than that these countries have become barren and depopulated, which once, according to history, were fertile and inhabited, and of the destruction of towns and cities of which the ruins still exist and bear witness to their ancient splendor.

To the Emperor Constantine is attributed a memoir upon the artificial incubation of the Egyptian ovens, so much did he consider the multiplication of every kind of poultry to the welfare of the nation.

Another memoir on the same subject is attributed to Democritus, the ancient philosopher who was in the habit of crying with joy on beholding the beauties of nature in opposition to his companion, Heraclitus, who always laughed at the same.

Pliny, the naturalist, and Diodorus, of Sicily, speak in their writings of the great benefits a nation would receive from this method.

The history of the Egyptian ma-mals and the Chinese boxes (these are only for hatching duck eggs) was brought into Europe by the Pastor Juan Gonzales, of Mendocce, in Spain, and translated into French in 1600 by Lue de la Porte.

Before Gonzales' times historians had spoken of the Egyptian ovens, and amongst them Aristotle, but these had only written from traditions, whilst at Florence and at Naples they have already built these ovens or kilns.

In the year 1415 Charles VII. built some à Amboise in France, and Francis I., at Montrichard about the year 1540. These undertakings probably met with but little success, because these ovens were built according to hearsay or tradition. One of the Florentine dukes sent for an Egyptian director, and they say that this man succeeded well. Francis I. also followed the same plan and met with a like success; but, notwithstanding this, it was abandoned later. A physician of Nauterre, named Bonnemain, is the first since 1777 to establish hatching ovens, which commu-

nicated their heat to the eggs by means of the circulation in tubes of hot water. Bonnemain tried every expedient, and, after several unsuccessful attempts, started an establishment at No. 4 Rue des Deux Portes, in Paris, and, where he had these ovens sufficiently large, that he hatched out one thousand a day. He is often accused of exaggeration, but, nevertheless, history records the fact that he had chickens all the year round, and that he supplied the Imperial Court of France in all seasons, and that the public markets were overstocked with his birds. The disastrous events of 1814 were the ruin of this fine establishment. Bonnemain published a pamphlet in 1816 giving a description of his ovens regulated by fire, and he said his method was the result of fifty years' deep meditation and trials.

In this pamphlet he does not give the key of his method, but asks for subscriptions to buy his ovens, and to induce amateurs to try it, he gives statistics of the profit each hatching gave every year.

Bonnemain, moreover, assures us that he did obtain this success during 15 years, and it was only after his establishment was ruined by the invading armies that he asks for aid and assistance from the government, capitalists, and amateurs; but all failed him, either from disdain, want of confidence, or from political motives.

The price of his boxes was very high, the small ones costing \$2 an egg and large ones 75 cents. His fire regulator was considered a very useful invention.

Martial Bonnes, mathematical professor and astronomer in the observatory at Toulouse, wanted the government to send a commission to Egypt to introduce the art of making these ovens or machines for hatching chickens, and to bring back at the same time experienced Behemians to manage these ovens, etc.

Another author, under the same administration of the Haut Rhin, I find has published also a book explaining to the government the great importance of this importation to France. He says: "I would like to see these men and their machines enter France and establish themselves in the palaces of our king;" and then he adds: "The enemies of this enterprise will at first scoff at and ridicule the project of hatching chickens artificially,

and will have a thousand stories to tell of these hens' eggs, the quality of their flesh, &c. ; but all these pleasantries ought not to discourage the undertaking, and they will pass away as smoke."

I can only join my good wishes to the hopes of these men—true friends to the prosperity of their country and to the welfare of every one, which would result in the multiplication of poultry yards.

I will now relate the attempts that have been made of this kind by my contemporaries, and the success they have met with.

In 1844, Mr. Bir, a merchant of Courbevoie, near Paris, sent to the exhibition of that year a box for hatching, containing 60 eggs.

In 1848 Mr. Vallie, keeper of the serpent gallery at the museum of the Jardins des Plantes, at Paris, sent also to the exhibition of that year an incubator to hatch out 100 eggs.

These two boxes, made after Bonnemain's model, but much smaller, were heated with lamps. Mr. Vallie even admitted that his box was not fit to be used on a large scale, but only as a piece of furniture for amateurs and the curious. About the same time, however, appeared the great incubator of Messrs. Adrien, Junr., & Tricoche, who founded an establishment at Vaugirard. In 1853 Mr. Cantallo established an institution of numerous incubators, and, according to the English papers, these are all heated with lamps, and he sends a large quantity of poultry to the London market annually.

A Mr. Greaves, of Boston, has for sale an incubator also heated by lamps, and Mr. Preterre, dentist, of New York, has also devoted much of his time to artificial incubation ; we do not know that he has invented or improved any machine, but I have seen and met him at the Farmers' Club at the Cooper Institute, New York ; and in March, 1874, he exhibited several chickens which were hatched artificially.

I believe I have now exhausted all my information about recent incubators, and have posted my readers in all that has been done in this line, and he can now form some idea of the different experiences that have been made to arrive at a practical

and paying machine, for it is not enough to hatch eggs, but it must be done with profit; for if, to obtain a few chickens, you must spend more than they are worth, or more than they will sell for, the thing is a failure; and I have never heard that any great success has been attained by machines heated by lamps. One can easily understand that those persons who wish to engage in the raising of poultry are much embarrassed, and hesitate before risking their money in an enterprise in which the best means to carry it out are still being looked for. Thus does it happen that, after due reflection and deep study, I have decided to found my establishment; and, before investing \$40,000 in a poultry establishment, I certainly ought to thoroughly understand what I am undertaking, and even better than any other, I ought to be most interested in finding the most advantageous manner of applying artificial incubation. My first plan was to follow the natural raising of hens, etc., for, like many others, I had only a weak reliance on the present machines, for I have seen them in operation both in Paris and London; but both proprietors told me that they did not believe it would be practicable on a large scale; for an establishment that would contain 60 artificial hatching boxes in operation ought to have 120 lamps burning night and day with kerosene; and there was great danger, to say nothing of the difficulty of directing to an equal height such a number of wicks to give to each incubator an equal warmth. And how much money would it not cost daily for kerosene?

These considerations, added to those of the necessary expense required to buy these machines, were a very serious objection to me, and I was forced to reject this system, without condemning it, however. I bought several machines to try them; those that gave me the greatest returns were kept in operation for a time; but from one only a small percentage, and from another I never could obtain a single hatching, and thus it was that I did not spend much time with such expensive toys, and, at the same time, with such little profit. I still continued to look for some other way of arriving at the desired end, and to see if it was not possible to obtain practical and commercial results, for, if it was once found, I had before me an important affair; with my

organization I could take care of any quantity of chickens that I could hatch. I then bought every book that treated of incubation, and you can judge my surprise when I found that each author recommended particularly a different machine. It was not long before I discovered that these recommendations were only complimentary, for I had already one of the machines thus strongly recommended by one author, and from which it was impossible to obtain the birth or hatching of a single chicken. But what struck me most was, that only a few of them spoke of Reaumur's system, amongst which is Burnham, who mentions in his work, at page 124, that Mr. Manowry, at Mouy, had tried it.

However, not being able to let him pass without mention, the greater number ingenuously say that he did obtain some success, but they take good care not to give any explanation; this is easily understood, as they would have injured their favorite. Our astonishment changes into indignation when we read that these authors, who were so reserved about the celebrated Reaumur, were lavish in their praises of the sellers of the boxes without value (the rotten work of some tinsmith), who, perhaps, had money enough to buy the good will of the writer.

Mr. Reaumur was a clever French naturalist, and author of several works, memoirs of great value, and several of his treatises are well known, and the best that were written before Buffon's times; and, in consequence of these works, was made a member of the Royal Academy of Sciences in Paris, where he read his first paper on St. Martin's Day, 1747, when the public of that time seemed to have judged as he had done of the great advantages to be expected of making a business of chicken raising; and he further stated, 125 years ago, that the multiplying of poultry yards, of which such a large number are consumed, could not be overdone.

The Abbé Copineau undertook to perfection Reaumur's method; in 1780 he published a work called, "Artificial Omithotrophie; or, The Art of Hatching and Raising Poultry by means of Artificial Heat." The same work was republished in 1795, under the title of "Man Rival to Nature; or, The Art of giving Existence to Birds, and principally of Poultry." In 1816 the learned Bonnemain also published a very instructive

memoir, and of real value. So that at last we find a number of eminent men occupying themselves with this important question.

The public will now understand from what sources I have sought to learn; and after all the experiments I have made, I concluded, at last, that Reaumur's system appeared to be most feasible—it being the easiest and less expensive to follow. I, therefore, from that time began to practice it; thus: six casks were placed in a heap of manure, and 600 eggs were placed in them. All were lost. It was in winter, and I thought that in the cellar the casks would keep at a better degree of heat; but there not being room enough, and the want of ventilation, were the cause of my failing. Not in the least discouraged, although disappointed, I again placed eight casks under an old shed, and this time put 800 eggs in them; the success would have been entire had not the rain fallen one day on part of the manure heap, which cooled it off. Nevertheless, from the other part I proved the success, and you can judge how delighted I was to see several hundred young chickens hatched.

Let the reader rightly understand that we did not have entire confidence in the success to be derived from this venture at the time, as it was necessary to find a place to put the newly-hatched chickens in, which appeared to us like a true army of invaders. Those persons who have never seen hundreds of young chickens, of one and two days old, can form no idea of the busy and noisy household. Luckily, we had an artificial mother, warmed by one lamp, and I placed the young chickens in it; whether it was the smell of the kerosene that was injurious to them, or whether the heat produced by the hot water did not accomplish the wished for object, I lost the greater number of them, and I had the misfortune to prove that it was especially from crowding themselves in the corners that they died. This was a bitter disappointment to me. As there was now no doubt that I could hatch the eggs with the aid of manure, it only remained to improve on the casks and mothers, and the manner of directing or regulating the heat, besides providing the proper and necessary ventilation, and to supply the necessary quantity of air. I, first of all, began my improvements on the artificial mother, in suppressing the corners as much as possible, and at last had one

built without corners, measuring twelve feet in length and ten feet in width, and warmed by two kerosene stoves. I thought myself very happy in having such a large artificial mother, in which I could place 1,800 chickens of different ages. Everything was complete in it, park, perches and ventilation. Unfortunately, one night in April one of the lamps exploded and set the building on fire in which it was (which measured 200 feet in length, and cost \$6,000). The dog gave the alarm, and soon every one on the farm was awakened, and commenced to extinguish the fire by means of the India rubber hose kept on the premises for such a calamity, and with a plentiful supply of water the building was saved by a miracle, but I was not so fortunate with my young brood—nearly all of them were smothered or suffocated. Again was I forced to resign myself to fate, and give up the raising of my pullets artificially by means of lamps. The insurance company paid the damage to the building, but the poultry was not insured.

Having got over this loss I puzzled my brains to find a new system of raising them, and began to think I should have to renounce it, when the happy thought struck me to try the manure heap, and to see if I could not make it do for the chickens what it did so well for the eggs. I then placed a common box in the manure and put in it some newly-hatched chicks; this was rather a bold proceeding, for the chances were that I should only find dead ones in the morning. Judge my surprise when at five o'clock in the morning I opened the box and saw all these little ones with their large eyes open, waiting their first meal, and *they were* quickly fed.

This, then, was the solution of the great problem. Was it chance or luck? Nevertheless, I had before me the fact that there were animated beings born in manure and receiving the warmth necessary for their welfare from the same source. Having already received so many checks and deceptions, I hesitated and refrained from shouting "Victory!"—Eureka it might be.

A few more days will show me what success I might depend on in using this means of raising them, and all those that were daily hatched received the same treatment. At length,

after fifteen days' experience, I had only to fight with the corners of the box. For those who have the opportunity of visiting an establishment for rearing young chickens know full well how they will crowd into the corners; the stronger ones mount on the backs of the weaker, and these are, almost in all cases, victims to their companions.

I now began to look for a box that would, in a certain degree, resemble the hen. Everybody knows that if she gives warmth to the chickens it is by covering them with her wings; but, again, if an account was taken of the number she crushes by treading on them, of those she loses in walking round with them, you can easily see that the raiser pays dearly for the heat she gives. I will admit there are some mothers patterns of gentleness, tenderness and carefulness, and quite worthy of the praise and admiration bestowed on them, and will allow several authors to say all they can in their favor; but if they were like myself, daily watching them and convinced of the reality, they would soon see how very many, in general, destroy their young; it is by millions yearly that they could be counted. Up to the present time very few have troubled themselves about this great question, for the simple reason that this enormous loss being shared in by all, it has not awakened the attention of the great poultry raisers. One of my neighbors, who raises a great quantity of poultry, especially turkeys, lost in one day sixty-four chicks, their careful mothers having taken them off to a distance, when the rain came, and they were lost. This man, a clever farmer, suffering so great a loss, has he ever thought that he might avoid it? I don't believe he has.

In order that my apparatus should be good, I kept strict account of the heat given to the chickens by the mother, the movement of the wings and especially of the amount of air that penetrated under her. After several days' labor and combinations I succeeded in obtaining all these results, and I found I had replaced the hen with great advantage, for really my apparatus is much superior to the hen. The stomach and the wings are, by a clever combination, beautifully imitated. Especially do chickens find this to be the case whilst growing up as well as when they were small. This apparatus having so admirably succeeded in raising

chickens, why could it not serve also to hatch them? To this important question I could not immediately reply; so I began another experiment, and the first trial failed, and upon my making further researches I discovered that what prevented the success of the incubation was simply in the quality of the wood of which the boxes were made. I then made another apparatus and new experiments, and at last succeeded.

From this day I found I had solved an important problem, and that I could hatch and raise chickens without the assistance of any lamp, nor with any fire, and that manure alone would do it. Ah! if Reaumur could rise from his ashes how happy would he be to see these facts established, and I would wish to see present near the hatching broods those authors who have so little gratitude for this renowned man of the past century.

“Every pen that is employed in the praise of any subject or industry does honor to the author who renders justice to the merits of others, more especially when it alludes only to their memory.”

Possessing my apparatus, my first business was to ask of the American and European Governments the protection that the law gives to inventors, etc. In granting me a patent, every one who has seen my apparatus has immediately recognized its importance, and the benefit each might derive from it.

I have been advised to sell my patent to a company so that I might at once realize a large fortune, but I prefer to remain the sole owner, fearing that once the apparatus is spread over the country our poultry and eggs would decrease in value in consequence of there being too large a quantity of poultry thrown on the market. Several of my friends have tried to dissuade me from this, and a gentleman of some celebrity and of great talent made use of these words: “If I had discovered this ingenious idea I would esteem myself happy to leave it to my contemporaries as a souvenir of my passage on this earth.” I replied, if your name was not already surrounded with glory I would propose that you add yours to mine. You have witnessed my trials, disappointments and hopes, and have not only consoled me at times but encouraged me to try again, and this share is only your right. He refused this offer and said if I would sell my

apparatus he would buy one. Two days after I sent him one, begging him to accept it, being the only one that has left the Gallinoculture Institute, and instead of sending it to his country seat he has it for exhibition, and takes great pleasure in showing it to his friends in Wall street. I will not divulge his name—not wishing to follow in the steps of a great number of venders, who fill their prospectuses with honorable names it is true, but who, having no interest in the affair, and far from being satisfied with the merchandise sent them, perhaps, are only to be pitied in having just cause of complaint. We are unwillingly obliged to admit this fact, having seen in a prospectus the name of one of our friends, and on writing to him on the subject he replied, in answer to our letter, “that he never permitted them to use his name as a reference.” A good thing recommends itself, and there is no occasion to use any humbug to make it sell, and I wish it particularly understood that I desire the welfare of my friends and neighbors, the farmers of these United States, and work as willingly for their benefit as my profit, and any reasonable person can clearly see that the profits I derive from this book will never begin to pay me for my time, money or labor bestowed on this patent, but expect a great deal from the interest the public will take in a business so simple and so interesting and offering such good returns for the time and attention bestowed upon it, and especially when a thing is really good the inventor generally begins to turn it to his own profit. But such is not my present desire. What I have done at my establishment with a great many of these apparatuses is to hatch and raise poultry of every kind—chickens, turkeys, ducks and Guinea fowls, and one reason why I have not delivered the machines to the public sooner is that, as I before stated, I would not flood the market and, to a certain extent, put an end to the demand for poultry and eggs; but now, from the reports and statistics received on this subject, I happily find myself deceived, and find that, notwithstanding the quantity raised, buyers at a fair price will always be found.

In the elegant and celebrated work on poultry by Mr. George S. Burnham, at page 6, we find that in New York and Boston alone were sold \$6,000,000 worth of poultry, which ex-

ceeds the commercial value of all the swine and half the value of all the sheep, the entire value of the neat cattle, and over four times the total value of the horses and mules. One large hotel in Boston uses an average of one hundred dozen of eggs daily, and another in Philadelphia consumes one hundred and fifty dozen daily. The New York *Evening Post* subsequently set down the value of eggs and poultry at the enormous sum of \$265,000,000.

It is easy to understand that from such an enormous business there must be a great profit to those who busy themselves in the poultry business, and if it were possible for me to get at the daily sales, and of which no account is taken, I am sure we should arrive at wonderful and fabulous figures; but although these United States are so rich in grain, minerals, lumber, and the different commercial productions, the first amongst which may be placed the raising of cattle, etc., yet they are obliged to send to Europe for a part of the necessary quantity of eggs to meet the demand, a thing almost impossible to believe, yet it is unfortunately but too true, and I could hardly believe it, until I had received it from the Hon. Ed. Youngs, Chief of the Bureau of the Government Statistics at Washington—several reports, which, unfortunately, are too sparsely scattered through the States—and one of these reports shows me that there was imported into the United States during a period of eleven months in 1872, 5,025,958 dozens of eggs, being worth \$688,796, and during the same time in 1873, 5,467,264 dozens, and worth \$732,234. This increase is again repeated in previous years, not necessary to enumerate, for it would make these statistics wearisome.

So it can be easily seen that there is no danger of overstocking the markets, and I firmly believe that the consumers would rather have their eggs fresh than coming from Europe, as the voyage would not improve their flavor. After having read these figures, one can fancy the astonishment of my friends, the readers, that so lucrative a business is not more generally followed and better managed. Why poultry does not take its place amongst other industries and occupy that rank which it ought to amongst commercial affairs is, that the thing is too sim-

ple ; and if I was to tell a father with two sons to teach them a trade of some sort, he would very likely reply they may be doctors or lawyers, and if I was to ask him the question : Have you any fortune ? or, have your sons any disposition for those professions ? he would reply : " Not much ; and I don't know if they are so inclined ;" and suppose I hazarded the advice : " Have them taught the art of raising poultry," I should make that man my enemy, and he might ask me if I took him for a madman. Don't get angry, my friend, I might justly say, for it is not every one who can raise poultry with profit. Generally every farmer raises some poultry, and his wife and children attend to this little affair ; he must go to the field and tend his corn, etc., etc. ; talk to him of these crops it is all right ; he may have a large barn to hold his crops, whilst he will have some old shed, dirty, etc., for his poultry, and they must hunt for their living, or, at best, are only fed once a day. If you should visit any of the farmers, how seldom do you see a pail of water for the fowls ? No ; the thing is very rare, and seldom the owner will spend a cent to build a fowl house ; he would sooner put his money in the bank at four per cent., or on mortgage at seven per cent., or some other equally good interest paying security. Some, not so lucky, will invest in railroad bonds that traverse the wilds of this vast country, and are fifty years before they pay any interest. Is it not so ? Whilst on the other hand his poultry might bring him in two hundred per cent.

I think it will not be long before this state of things will change, for I find every day (by the demand of this work only) that the hatching and raising of poultry is receiving serious ameliorations, and, thanks to the assistance and kindness of educated men, who are forming societies in every county, and who are more enlightened, and duly appreciate the importance of this business ; and I must, also, do justice to those special newspapers who devote a portion of their time to the subject of raising poultry. Unfortunately, the public in general hardly ever read these papers ; if they did they would find many instructive and interesting articles ; but, notwithstanding this drawback, this important and serious question has made great progress lately, and he day is not very far distant when the capitalists will seek to

invest their funds in this business, the only one where there are no risks to run. Our farmers also will learn to employ their time in winter with my apparatus, I trust, and will find more than enough profit in the sale of their spring chickens to pay for the manure they will require in the culture of their fields for the ensuing year, and which I think they will allow is sufficient remuneration for the trouble they may have taken.

Many of my readers may be astonished that the farmers have not thought of using manure for hatching out young chickens, since nearly 100 years have passed since Reaumur promulgated his discoveries to the world, *helas!* Yes, it is true, but then you know it was such a simple thing and so easy to do that no one would bother with it, and, especially, as no one could be found to puff it, and nothing to be made in giving it the publicity it deserved, whilst a machine with lamps (there was some chance of making a business of it with enormous profit for the maker) received its due amount of brag.

Chance, however, is sometimes the origin of many things, and now and then clears away the clouds that lead to fortune. We were just finishing our experiences, and our tale about completed when we read in the *Commercial Advertiser*, of New York, of the 25th June, the following:

ARTIFICIAL INCUBATION.

“A lady residing near the Sisters’ Hospital keeps a half dozen or more hens, and has been astonished at the strange manner in which a nest full of eggs was hatched. A quantity of manure had been thrown from the stable, and yesterday the children heard young chickens in this pile. They at once called the attention of their mother to the fact, who, to solve the mystery directed that the heap be pulled down. When this was done a short distance from the surface a cavity was discovered in which were nine little chicks. The hen had managed to make her nest in a cavity in the heap, and after laying eleven eggs, the opening had been closed by the stableman piling on more of the cleanings from the stable. The warmth generated in the heap had incubated the eggs, and nine of the eleven hatched out. This may be a discovery which some one may turn to account.”
—*Paterson Guardian*.

We have not the honor of being known personally to the ad-

ministration of this newspaper; however, some of our friends have asked us if it was I who inserted the article in that paper, and which would have remained unread by us if a friend had not sent it to us, and as you can perceive this article involuntarily served well our cause. We advise those who shall have read the article to give their attention to what precedes it; it is, in fact, nothing but the truth. It is the result of a long and expensive experiment. Let them do as we have done, take up the poultry business in preference to any mercantile pursuit, and it is in the raising of poultry that we expect to find the way and means to recover a large fortune lost in the sad events of 1870. It is in this alone that all the members of a large family find a very pleasant and lucrative employment, besides overseeing a farm of 100 acres.

The success that we have obtained from the warmth of manure cannot be questioned by any one, as we do not claim to have invented this manner of obtaining heat. Worthier pens than mine have related the different trials made in the manure heap, but that for which we claim to be the inventor is of a simple apparatus which, when placed in a heap of manure serves first of all to hatch out the eggs, and, secondly, serves to raise the young chickens without the aid of lamps, kerosene or fire. That is the whole thing. Competent men who have seen my apparatus have unanimously allowed that I must have assiduously worked and experienced many trials before having met with success, and before having united all the conditions required to place in the hands of the public a simple apparatus, very easy to direct, only requiring a little manure which is always to be had so easily.

Some newspapers have already done me the honor to draw the attention of the public to my application; this gratuitous notice has been the cause of my receiving hundreds of letters requiring a number of explanations, and this it was that decided me to write this little book, and I beg the readers to clearly understand and be persuaded that what has been written in the preceding pages is nothing but the truth, and the whole truth.

Five Hundred Dollars Profit WITH TWELVE HENS.

I have not wished by misrepresentation to sell at a high price a complicated incubator, or one that is often too difficult and dangerous for a great number of persons to direct. Many persons, especially ladies, have asked me what success and profit they might hope to attain with twelve hens and one of my apparatuses, and my reply has been, although somewhat difficult to assume as circumstances always alter cases, and many things are to be taken into consideration, yet the following result could easily be attained: "If the hens are two years old they will give altogether in a year about 1,200 eggs, allowing 10% for clear eggs (eggs not fertile) the remaining 1,080, if we only allow a success of 800 hatched, and deducting 25% for deaths and accidents, there would remain to be sold as spring chickens, 600, which, if sold direct to the consumer, ought to bring at least \$500, expenses deducted. Is not this money very easily and pleasantly earned?"

If you think we have exaggerated in this statement we will allow you to reduce our figures, and tell us is there any lawful business that will pay so well as the poultry?

Anyhow, we may not be of sufficient weight to plead this cause, but remember, that all those who have written or spoken on this subject, and in favor of poultry, have sufficiently demonstrated the profit of it. On referring to Mr. Burnham's new poultry book (page 77), I find the following account of Mr. De Sora's establishment: The quantity of eggs during the last year averaged 50,000 dozen weekly, which, with the sales made of his yearly chickens, yielded him \$280,000 gross. His expenses, all told, were some \$145,000, leaving him a profit of \$135,000 for the year.

I sincerely hope that all those who have fowls will not hesitate to hatch some eggs in manure; and as I am certain they will derive a handsome profit from doing so, before concluding this little work I ask permission to give the biography of the Hon. M. de Reaumur, who was the first to make this great discovery.

experiments have led him to promulgate a formulæ for the production of fifty bushels of the grain of corn, and its natural production of stalks to the acre, more than the natural yield of the soil, as follows :

Nitrogen,	64 lbs. }	In the	{ Sulp. ammonia, 24 pr. ct. dry salt 320 lbs.
Potash,	77 lbs. }	form	{ Muriate potash, 80 " " " 154 "
Phosphoric acid,	31 lbs. }	of	{ Superphosphate, 13 " sol. acid 248 "

His formulæ have been pretty generally experimented with by the farmers of New England, and while it is believed he has struck the key note to much practical truth, it must also be said that in many instances the results have been such as to make the trials very unsatisfactory.

You will be glad, I know, that I have but one other point to mention ; that a dry and uninteresting one, which I have reserved for the last, and which can be disposed of in few words. I refer to statistics ;—and if at the first we were bewildered with the labyrinth of conflicting facts and opinions regarding the origin of this plant : at the last we are certainly bewildered by the array of figures which indicate the wide extent of its culture throughout our country, and the vast quantities produced, consumed, and exported.

Before the American Revolution, maize had not only become an important staple crop of home consumption, but was also largely exported ; Virginia alone, in a single year often sending abroad 600,000 bushels. The immense and rapid increase in its production dates back, however, only forty years, and is largely due to the gradual extension of settlements westward, and the development of means of transportation. In 1840, corn first appeared in the returns of the National Census, with 377,531,875 bushels ; in 1850 it had reached 592,071,104 bushels ; occupying 31,000,000 acres of land, and yielding a value of \$296,034,552. This was a gain in ten years of 57 per cent., while the increase of population during the same period was but 35 per cent. At that date it formed three-sixteenths of the whole agricultural production of the country, occupied more than three-tenths of the improved land, and amounted to more than 25½ bushels to each inhabi-

tant. In 1860, it had reached the enormous production of 838,792,742 bushels; its highest annual yield—as it had fallen to 760,944,549 bushels in 1870; due largely to the increased production of wheat and the occupation of the land with this crop. Of this amount eighteen States produced over 14,000,000 of bushels each; Illinois occupying the grand position of yielding 129,921,395 bushels in a single year. The exports of corn from the United States, chiefly to Great Britain, for the year 1873 alone, amounted to 38,541,930 bushels, valued at \$23,794,694; besides 403,111 bushels of corn meal valued at \$1,474,827: being equal in amount to the entire quantity exported by the United States for a period of twenty-three years, from 1825.

Our own State does not make a large showing in this magnificent schedule, the last census giving us credit for only 1,089,888 bushels, or about $2\frac{1}{2}$ bushels to each inhabitant. Oxford county leads off in this list with 181,319 bushels; the second rank being taken by York, with 175,924 bushels, and the third by Cumberland, with 154,360; while Washington takes the lowest place, with only 953 bushels. Aroostook, which is generally set down as a county that does not produce any corn worth speaking of, added to the above total the very respectable amount of 4,242 bushels. With the most favorable conditions for growing this crop in its greatest excellence; with a record showing that our average production per acre is 33 bushels—a yield of but ten bushels per acre less than that of the great corn producing States of Illinois, Iowa, Indiana, Missouri, Kentucky and Ohio;—it is a fact which shows heavily against us, that we only produce $2\frac{1}{2}$ bushels to each inhabitant, or that our 56,941 farmers grow but nineteen bushels each. By just doubling this amount in 1877, we shall produce 1,179,776 bushels, and save to our State in this item alone, more than \$600,000 which now goes out of it only by many hard knocks, to purchase western corn. I appeal to you if it is not time we made a strong effort to become more independent of corn cribs three thousand miles away?

The greatest attention and care will be paid to the pupils, and board will be of the first class. Besides teaching the boys a useful and profitable employment, the parents will find it a safe and economical dwelling place for their sons during the summer vacation of the public schools.

Parents can visit their children by the Sunday excursion trains on either the Central or Long Island Railroads.

For further particulars apply to

MONS. A. CORBETT, MANAGER,

Hicksville, L. I.

TO THE LADIES.

The husband, generally, is supposed to be the bread earner of the family, and I now call your attention seriously to the following :

Every mother is more or less troubled for the future welfare of their families, and I would not wish them to lose sight of this fact. I have known many families who were very comfortable during their husband's life, but at his death are placed in straightened circumstances, if not in actual poverty. What business can the mother follow if she has been the wife of a merchant's clerk and able to keep her own servants, but the requirements of position have prevented her from saving anything, and whenever misfortune comes it is necessary to have the means of living and educating the children? How much better is it to anticipate such a crisis, and to begin as soon as possible to have a certain income? "*Engage in the poultry business,*" and when you have sold the first \$500 worth your fortune is made; for, should misfortune arrive (God grant it may not), all that you have to do is to increase the number of your hens.

However grievous the loss of the husband may be, and when- ever it may happen, you may be sure he would bless you for securing the welfare of his children and driving that gaunt dog, poverty, from the door; and even should not death, but commercial panics, which are a most frequent cause of misery,

cause a change of living, *your* poultry will supply all the necessities of life, and I should be happy if I knew that this advice had been followed.

Our establishment will furnish gratuitously all the advice asked to those applying for it.

Already has the example been set in Europe by several ladies, who certainly would never require assistance from the raising of poultry, and yet are not ashamed to acknowledge that they do receive a large profit from this pursuit, and have great pleasure and satisfaction in devoting their time and intelligence to it.

Her most gracious Majesty, Queen Victoria, of England, has a splendid poultry house, and spends numerous days in studying, with great attention, the different remedies for ameliorating the condition of poultry, and we are indebted to her, with due gratitude, for the system of feeding which she has *pursued* for young turkeys, so as to avoid the great mortality that takes place when they get the red. This receipt has been regarded by those who are engaged in turkey raising as very superior and quite worthy of its author.

Mr. W. Trotter, who received the first prize from the Royal Society, of England, devotes a long and eulogistic article on its value in his book. This receipt has been used, as before stated, in the Gallinoculture Institute, at Hicksville, this year without the loss of a single young turkey.

We find also that the example set by her most gracious Majesty has been followed in France by the Countess d'Albertas and the lovely Marchioness Bugean de la Tour de Pine, Antonie Passy, Cora Millet, Marie Barriere de St. Polen Garret, etc., etc. Madame Baronne de Leinas, widow of an officer without fortune, and six children, became immensely wealthy in raising poultry, and already two of her accomplished daughters are married to men of the first rank and position. The fortune of Madame de Leinas is daily and steadily increasing from this source.

TO CAPITALISTS.

At no distant day capitalists will decide to embark their funds in raising poultry or in instituting companies that will follow this business. We herewith tender them all the information in our power, and could enable them to hatch 1,000 chickens and even more if they wish to, every day. We will not only aid them to choose their hens to begin with, but advise them what books and publications to procure to know what is indispensable to realize 200 %. No loss.



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