CANARY BIRDS.

A Manual

OF

USEFUL AND PRACTICAL INFORMATIO

FOR

BIRD KEEPERS.

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INTRODUCTION.

We are all lovers of birds—song birds especially. How can we help being so? They are at once the most lovely, and innocent, and joyous of God's creatures. It is good for us to cherish this love—healthful to our souls as well as our bodies:—

> "To go abroad rejoicing in the joy
> Of beautiful and well created things,
> *To thrill with the rich melody of birds,*
> Living in their life of music;
> To see, and hear, and breathe the evidence
> Of God's deep wisdom in the natural world."

"Oh that I had wings like a dove!" said the Psalmist, "for then would I flee away *and be at rest*," and it *does* seem that the proper home of the feathered choristers must be in brighter and more peaceful regions than those which are darkened and deformed by earthly passions and desires; and with this feeling we are inclined to look with indulgence, nay, even with some degree of reverence, upon the superstition of the Indian, who worships his "Wakon Bird," and believes it to be a wanderer from "Happy

Hunting Grounds"—a messenger from the Great Spirit to His children upon earth.

"Lord," said good Izaak Walton, as he listened to the song of the Nightingale, "what music hast thou provided for the saints in heaven, when thou givest bad men such music on earth?"

That the subject of our little work is one that will interest many readers, we can scarcely entertain a doubt. There are few persons who have not, at some period or other of their lives, nourished and cherished a feathered pet; of one of these "*blythe spirits*," the universal favorite, the Canary, we propose to treat in the chapters of our unpretentious book.

A great many people think that to confine birds is cruel. If it were so, indeed, few would be the cage birds one would wish to see; but happily, on the contrary, for those who, like myself, are fond of the little songsters, the more we know about them, the more we are satisfied that theirs is a happy prison. Not for all birds by any means; some would break their hearts, if confined in a cage. The birds of passage, all those that come and go, should never be kept from the sunny skies they seek as winter comes. But with the Canary, as well as a variety of other birds, reared in cages and knowing nothing of that

freedom upon which *depends almost* the existence of their wilder brethren, it would be cruel to expose them to the misery of being loose, little, shivering, trembling strangers, in an unkindly crowd. Poor little creatures, if one of them does get out, how fast it flies to seek some friendly cage; it knows not the language, the ways, and fashions of the birds around it, nor yet does it always meet with the kindest welcome from them. Besides, our canaries want petting—they have no wish, so their gay song tells us, to seek a dirty puddle instead of a crystal bath; to hide from the rain and cower from the cold, instead of hanging singing in a warm pleasant room. Most people forget to reckon on the birds' social habits; nor do they give them credit for half their loving ways. Canaries are often wild and show fear whenever approached by those who have never shown them kindness. This arises from a natural, and a very proper suspicion, of mankind. Their instinct tells them that the human race are inherently savage; and till they have some convincing proof to the contrary, they never change this, their very correct opinion. To be teased, frightened, slighted, or *neglected*, is their too frequent fate. But we may add with a deep feeling of pleasure, there are "exceptions" to all rules, and we know that there are

many, many gentle hearts who *do* "love" their birds—aye, and *hold converse* with them too.

I have known little pets fly all in a flutter to meet and greet me, when really I thought they would have quite forgotten that they had ever known me; and only let any one nurse a wounded bird, and see if it forgets the benefit received.

Besides, they are very clever. I am sure if as many people lived sociably with birds as with dogs and cats, we should have soon a thousand proofs of their sagacious ways. Speaking for myself, I know quite well by their tones what my birds are wanting—sometimes it may be only a kindly recognition of a passing friend; but a few days ago when two were fighting and we took no notice, there was little doubt what the conquered wanted—she called us to her assistance as plainly as if she had spoken.

The editor desires to acknowledge her indebtedness to the following named works from which this book has mostly been compiled—the quotations are, as near as possible, in the exact words of the originals: "Beckstein's Cage Birds," "Kidd on Aviaries," "Adams's Favorite Song Birds," "Maling's Song Birds," "Beeton's Book of Home Pets," and others.

CANARY BIRDS.

CHAPTER I.

THE CANARY FINCH,

Called by Linnæus, *Fringilla Canaria*, because it first came, as is generally supposed, from the Canary Isles, where the species is still found in abundance, singing very sweetly, although not, perhaps, so scientifically as their richly-attired and better instructed relations. Voyagers tell us that these wild birds of the Canary Isles have mostly gray plumage, and this tint prevails to a considerable extent in some of the domesticated varieties, which are rather numerous. White, gray, yellow, green, and

brown, of different shades, and in varying proportions, are the common colors of those birds bred in confinement; how the changes have been produced, it is now impossible to say; climate, food, and intermixture of breeds, have, no doubt, each and all had some effect in producing them, as by a careful attention to these matters, the latter especially, breeders in the country may now calculate with a tolerable degree of certainty on the kind of bird they are likely to have from certain parents, under certain circumstances. With regard to climate, it has been remarked by Adamson, that the canary, which becomes in France nearly white, is, at Teneriffe, almost brown, and this agrees with the general observation of naturalists, that the covering of animals, be it fur or feathers, becomes thicker, and lighter of color, in proportion to the coldness of the climate which they inhabit. We should not, however, lay too much stress upon this argument, for in this, as in all other northern

countries in which they reside, canaries are so sheltered and protected from the weather, that we can scarcely imagine it to have much effect upon the economy of their growth and structure; and then, too, the prevalence amongst us of the darker-tinted birds—greens, and cinnamon browns, and the like—militates considerably against this theory.

The exact date of the introduction of the canary into England is not known; it is mentioned by Gesner, who wrote in the latter part of the sixteenth century, and first described by Aldrovandus, in his "Ornithology," bearing date 1610; the bird was then esteemed a great rarity. According to some authors, the island of Elba was the first European ground on which the canary found a resting-place. A ship bound for Leghorn, they say, having on board a number of the sweet songsters, foundered near this island, on which the birds, set at liberty by the accident, found a refuge, and the climate

was so congenial to their nature, that they remained and bred, and would, probably, have remained there to the present day, had not their beauty and melody attracted the attention of bird-catchers, who hunted them so assiduously, that not a single specimen was left on the island. From Italy the birds soon found their way into France and Germany, from which latter country and the Tyrol, we now derive our principal supply. Canary breeding and training is there conducted on a very large scale, and in accordance with well established rules and principles. In England, canary societies have existed for upwards of a century, and for the last fifty years they have had annual shows and competitions for prizes; and immense prices have been given for prize canaries. Thirty varieties are distinguished; these are separated into two great divisions, the plain and the variegated; the former being called Gay Birds, or Gay Spangles, and the latter Fancy Birds, or Mealy Birds.

The latter are considered the strongest, and have the boldest song. Jonks, or Jonquils, is also a term applied to those of a pure yellow. There is also a variety called the Lizard, the plumage of which is of a greenish-bronze throughout, excepting the upper part of the head, which is covered by a patch of clear yellow, and this variety is looked upon as the nearest of kin to the original stock.

The Jonquil, as its name denotes, is required to be of a deep pure yellow, entirely free from any green tinge.

In the Mealy Bird, the golden plumage of back, breast, and head, appear frosted over, or powdered, through the small feathers, thus producing a whitish edge.

In breeding the Fancy Birds great proficiency is shown in judicious pairing. A Mealy Bird and a Jonquil being put together, the produce will not prove a mixture of the qualities of the parent birds, but the character of one or the other will appear

distinct, and the produce of the nest will probably show specimen of both kinds. Canaries which are blackish-gray, or grayish-brown on the upper part of the body, and at the lower part greenish-yellow, are the commonest and healthiest birds, and have deviated less from the original stock. Their eyes are dark brown.

Yellow and white canaries have often red eyes, and are not so strong. The reddish-brown canaries, with grayish-brown eyes, are the rarest; and in respect to strength and longevity, occupy an intermediate position between the other two varieties. The bird is valuable in proportion to the regularity with which it is marked. Those, however, in which the body is yellow or white, and the wings, tail, and head—particularly if crested—yellowish-dun, are considered the handsomest birds. Next to these are the Golden Yellow Canaries, with black, blue, or blackish-gray head, wings, and tail; then the blackish bird, with gray or yellow head

and collar; next the Yellow Canary, with black or greenish-yellow head, which in this case should have a crest. The gray, or almost black canaries, with yellow breast, and white head and tail, are held in peculiar estimation. Such birds as are irregularly mottled or spotted, as well as those uniform in color, are considered as of but little value.

The female is hardly distinguishable from the male, except that the plumage of the latter is generally brighter in color. His head, also, is rather larger and longer; the body more slender; the neck not so short; and the legs longer and straighter. Another special characteristic is, that the yellow of the temples, and round the eyes, is brighter than in any other part of the body.

Birds which seem moderately shy are generally the best. Tame birds are generally bought quite eagerly, but too great quietness is often caused by illness, and they soon die. A real good bird will make a

great fuss, pretending to be a vast deal shyer than he really is, hopping from perch to perch, twisting his head about, and having many airs and graces. Bird dealers recommend the birds that sing loudly; and this to many is not at all desirable; the lower the tone the sweeter and prettier many would think the song.

In your choice of a bird do as William Kidd recommends; "Sacrifice color to accomplishments; you will never repent it. Nature seldom gives us rare beauty and great accomplishments united." Do not, however, decide too hastily, and examine the bird on which you fix your choice before purchasing. It may, perhaps, have some defect in the plumage, which would deteriorate its market value, although in no degree diminishing its worth as a songster merely. Should the defect be merely a damaged tail, it can be easily remedied: you have only to draw the defective feathers, and their place will soon be supplied with new

ones. Be sure to see that the legs and feet of your bird are clean and perfect; and do not leave it to be sent home, but take it away with you, if you have to buy cage and all.

When you have purchased a bird, carry it home as carefully and gently as possible, having previously prepared for it a comfortable cage, well furnished with seed and water: into this you must let it step of its own accord, as it will be very tenacious of being touched or handled, until it has grown quite familiar to its new home and those about it. Place a light in front of its cage, and the chances are that it will begin to sing at once, especially if you provoke it to rivalry, by whistling or playing some lively air. Kidd remarks that, "The best trait in the character of the canary is, that he will sing place him where you may. These birds very seldom show a sulkiness of disposition; and even if they should do so, a single hemp-seed or a morsel of chickweed

will set all to rights in a moment;" and all experience goes to show that this amiability of disposition is quite characteristic of this bird of the Fortunate Isles, whose nature appears to be as sunny and genial as the clime from which it originally came.

It is sometimes extremely difficult to get newly-captured birds to eat at all, partly because that which is offered to them is not quite what they have been accustomed to, and partly, no doubt, on account of grief at their loss of liberty, and fear arising out of the strange scenes and circumstances amid which they find themselves. They will not unfrequently refuse to take any nourishment, and will inevitably pine and die if some means are not taken to induce them to art. Dr. Meyer, of Offenbach, communicated to Bechstein the following mode of getting over this difficulty. Place the bird in the cage in which it is intended to keep it, with plenty of the proper food and drink in open vessels; let it remain undisturbed

for several hours; then catch it, and immerse it in fresh water; after which, place it back in the cage, and again leave it for awhile. The employment of pruning its wings and setting its feathers straight, will divert its attention from the great grief of captivity, and its appetite being sharpened by the bath, there is little doubt that the bird will soon take freely of what is set before it, and become cheerful and animated. Those birds that at first creep into a corner and sulk and refuse their food, are most likely to do well afterwards; those which eat greedily at once of the artificial food, frequently die from the effect of the sudden change of diet, or else the unnatural indifference to the loss of liberty implies that they have some disease which impels them to eat.

The following is a new and approved method of taming birds: A portion, larger or smaller, is cut off from the inner plume of the pen-feathers, so that the bird cannot

hurt itself if it attempts to leave the hand. The nostrils of the bird are then touched with bergamot, or any other odorous oil, by which it is for a time so stupified as to perch quietly on the finger, or to hop from one finger to another. It may, indeed, attempt to fly away once or twice; but this is not often repeated, especially if the experiment be tried in a dark place—as, for example, behind a curtain, which offers the further advantage, that if the bird fall, it is not likely to hurt itself. As soon as it sits quietly on one finger, another finger must be placed in such position as to cause the bird to step upon it, and so soon as it is accustomed to hop quietly from one finger to another, the main difficulty is overcome. For if when the bird is gradually aroused from its stare of stupefaction he perceives that its teacher does not use it roughly, he will become quite tame.

CHAPTER II.

BIRD CAGES.

Having purchased a bird, the first consideration is, which is the best kind of bird cages.

Of wooden cages those made of mahogany are decidedly the best, as they are less likely to harbor insects than any other. If soft wood is the material it should invariably have two or three coats of paint over it. Green is the best color; but the wires of a cage should *never* be painted green, as the metal being non-absorbent, the color will loosen and peel off, and being pecked at and eaten by the bird will cause its death. Wire cages of bell or pagoda shape are mostly used in this country, and are superior to wooden cages, being easily cleaned, and are light and elegant in appearance. The bot-

tom of a wire cage has a projecting rim or ledge around it, which keeps the dirt and seeds thrown out by the bird from making a litter; and as it is simply fastened to the upper part by hooks and catches, it is easily removed for the purpose of being cleaned. Care must be taken that the bottom is securely hooked to the top, for many a bird has been lost by its dropping off after the cage was hung up, and thus releasing the bird. The receptacles for food and water in the wire cage are very safe and convenient; barrels open on one side are attached to the side, not hung below, and glass cups set in them, and the open side turned inward.

For young birds, which are apt to hurt themselves against the wires by fluttering and sporting about, a NET CAGE should be provided. This can easily be made of an old common cage out of which the wires have been taken, and a covering of fine net substituted.

What are called SCHOOL CAGES are some

times used for a number of birds. These are boxes having a wire front, and solid back and sides, divided into a number of compartments, each of which is tenanted by a single bird, to which access may be obtained by means of a little door at the back of its dormitory. There may be several tiers of these apartments, and a single sliding bottom and feeding trough does for each tier, going through the whole length: thus, where it is desirable to economize space, they may rise one above another like a nest of drawers, and form a sort of bird-barracks. A single preceptor, a good lark or nightingale, may be the drill sergeant for the whole company of occupants, however numerous; the little pupils, not being able to see each other, will be all the more likely to give due attention to the music lessons.

A STORE CAGE, with wooden back and sides, wire front, and cloth or calico top, made about two feet long, and six inches high and wide, will be found useful to put

newly caught birds into; having no height to fly, they cannot well hurt themselves.

HOSPITAL CAGES, in which to place sick or wounded birds, are very necessary where several birds are kept. A good plan is to take the wires entirely out of a cage from eight to twelve inches square, and sew round the frame, both top and sides, a tight strained piece of canvas or flannel. The floor should be covered with bran or coarse oatmeal, this being cooling as well as soft; everything of wool is objectionable, on account of the fibre or hairs which twist round the claws, and if not removed will tighten and cut off the toes.

The perches should be movable, that they may be taken out and cleaned. If the bird's leg is wounded, the perches should all be removed from the cage; but if it is the wing that is affected, one perch would be advisable.

BREEDING CAGES are best made of mahogany or some polished wood, with one end

as well as the front of wire. Drawers are objectionable, as the grating of removing them is injurious to young birds, but the best way is to lay a piece of oil cloth or stiff brown paper on the floor of the cage already covered with sand; the paper can be drawn out, cleaned, and replaced. Wooden boxes for the nests can be hung at least half way up, and material for the nests, such as raw cotton or hair, supplied.

GLASS CAGES are bright and gay; the material is capable of being wrought into beautiful forms and combinations, making a delightful miniature crystal palace. But though elegant and easily kept clean, yet there is danger attending them, as the slightest chip from the glass might produce death, and if the bird can reach the putty, he will eat it and die.

The square or oblong wooden cages are simple and common, and the best to hang up in an aviary. They are convenient when made eighteen inches high and wide, and

just the width of a window, in which it is very nice to place them. If one end has glass sides for the bath, the amusement of watching the birds will be very great. A cage like this will hold two dozen birds. In drawing-rooms it would look well to have the wood match the furniture or the window frame; whatever is the wood it must be solid, with no veneers or inlaying in any part that the birds can get at.

These cages can have an eating-room at one end, with the walls wholly or partly of glass outside the wire to keep the seed in, or they may be supplied with food boxes. I think, however, the two shut-in apartments, one at each end for food and bathing, is a good arrangement. A long, well-polished round perch should run along the front and back of the cage, the front next the room particularly, because if the birds are tame they will probably, when they want anything, come and sit in one long line along the front, looking at their mistress, and mak

ing their meaning generally quite clear to her.

Nothing adds so much to the birds' delight, as well as to their beauty, as to have a sort of shelf about five inches wide, on which a box full of roses, myrtles, and other plants may stand, forming a hedge of foliage between them and the window.

PERCHES should be round and polished, fitting into niches or between the wires. Polished deal or maple is the best material, after *cane*, which is at once a natural round perch for the bird's foot to grasp, and perfectly light and easily cleaned. The perches should be kept perfectly clean; after washing them with yellow soap and water every day, they should never be returned to the cage until perfectly dry. They should not, however, be dried too quickly by heat as that would warp them. They should be carefully arranged into the cage, so as not to be just over each other. A good way is to have one across the front, another across

the back, another higher up, further in the cage, and another quite near the top. The birds like the high perches best, and the higher they roost the better. Another advisable plan in bell cages is to put a perch from the water to the seed cup, another higher up, also across the cage.

The cage will need some attention every day, and twice a week the bottom should be detached and washed, being careful to dry it thoroughly, and cover it with fine river sand, or gravel, which can be purchased at the bird stores, or procured from the shore of the river. It is essential to the health of the bird, and must not be marine sand, as salt is injurious.

The practice of hanging birds out at a window in a small cage open on all sides, and so fully exposed alike to the burning rays of the sun and the chilling winds, cannot be too strongly reprehended. Great suffering must be at times endured by the little prisoners, whose exposure, when in a wild

state, to the atmospheric influences, is counteracted by the exercise of limb and muscle, which it is unable to take in the cage; this, therefore, should always be covered at the top when the sun is shining very brightly, and muffled at the side on which the wind sets with green baize, or other thick material, in dull and gusty weather. In wet weather the cage should not be put out at all, except now and then during a gentle summer shower, which is likely to be succeeded by sunshine.

Leaving cage birds to the care of servants cannot be too strongly reprehended; by these they are generally considered as a trouble and a nuisance, and their destruction, if it be not hastened, is seldom guarded against, for "the sooner they are out of the way the better." Let the lady feed and tend her pet canary, or other sweet songster, herself *regularly;* ay, let her clean out its cage, too, or, at least, *see that it is done*, and so repay in some slight degree the debt of gratitude

which she owes the bird, kept a prisoner for her gratification.

These remarks have been forced from us by a keen sense of the wrongs and injuries to which our feathered friends are constantly subjected, arising from an observation of the vast amount of unnecessary suffering entailed upon them by carelessness more than heartlessness. We are persuaded that many of the tears which have been shed over dead birds, have proceeded as much from contrition for neglect, as from sorrow for the loss sustained; and our fair readers will, we trust, pardon us if we remind them in the words of Thomas Hood, that,

> "Evil is wrought by want of thought,
> As much as by want of heart."

The cage should never, in winter, be left in a room without fire.

CHAPTER III.

BATHS.

Birds like to have a good depth of water to bathe in; at the same time, of course, they do not wish to be drowned. If birds are ill, a bath seems to be their most universal remedy; they are hydropathists. A bird looks mopy, and then ensues a grand bathing; a hearty lunch follows, and the patient brushes up and returns to active life. If a newly bought or unhappy bird can be induced to bathe, it is the best of signs that it is getting better.

Canaries should be daily supplied with fresh water for a bath; they will not bathe in stale or dirty water. Procure from the bird-store, or china-store, an article made on purpose for birds, bathing-tubs; or, if unable to get one of them, a common vegetable

dish of small size will answer; one that will easily pass through the cage-door, as some owners never take the bird out of the cage. After the little pet has bathed, dry the cage with a soft towel; first taking out the tub, which should never be left in the cage, as few birds take more than one bath in a day. If the bird is in a wire cage which can be detached from the bottom, it is a very good plan, which was practised by a friend of the writer. She unhooked the bottom of her cage every day, and lifted off the top (the bird being on the highest perch), and set it on the floor over the bird's bath-tub, filled with fresh water. The little fellow seemed to like it, for he never failed to bathe immediately, and splashed the water, hopped away, returned and took another dip, and sometimes several plunges. The cage was then fastened together again, and was perfectly dry. Some care is, of course, necessary to prevent his getting out, but it will be no trouble after a little practice. The

greatest danger in this plan resulted sadly in a recent case. The lady did not fasten the top and bottom together securely, and after the cage was hung from the window the bottom dropped off and the bird flew away out of her sight. In aviaries, glass bathing-pans are sometimes used; they can be hung up in a wire basket, like those used for flowers, in the front of an aviary, where a little splashing is likely to do no harm; but when the birds are in a room in a large cage, a glass house in which the bath can stand is very nice. Have a common square bird cage, glazed, the floor being covered with sand, and a bath placed within it: we can thus have the fullest amusement in watching the birds. If some shells are put into the water, the pretty creatures will stand on them, balancing on the edge, dashing down their heads, and fluttering their wings in the water in an ecstasy of delight.

CHAPTER IV.

FOOD AND WATER.

However much we may feel inclined to give our pets plenty of such dainties as sugar, cake, and other rich food that we know Dickey is as fond of as any boy of sweets, yet it will not do for us to forget that plain simple diet is far more likely to keep him in good health.

It is easy enough to accustom canaries to eat and enjoy whatever comes to table, but in canaries as well as children, in so doing we lay the foundation of future disease, and early death. While, on the contrary, poor people who are not acquainted with even the names of these delicacies, succeed in rearing healthy, lively, and handsome birds.

The best regular daily food for the canary is a mixture of rape and canary seed, with

a *few* hemp-seed, more in winter than in summer, as it is oily and heating. There have been many opinions on the subject of giving birds hemp-seed. It certainly does tend, homœopathically, to shorten the duration of their lives; but still, strange though true, they cannot live without it. It warms their stomach, and possesses an oleaginous peculiarity of flavor, which mixing with the other food, forms a good general diet. It must be given sparingly. It is greyish brown outside, and has a hard shell that the birds when weakly, or quite young, are not able to break; it should therefore be slightly cracked before being given to such birds. It is white inside, and tastes like a nut. The birds are so fond of it that they will take it from the hand when they will not any other food.

Rape-seed is a round blackish-brown little seed with a bright yellow kernel, looking like the yelk of an egg.

Canary-seed is the produce of Canary-

grass, and should be hard, bright, and of a brownish-yellow color, and look white and flowery when broken through.

It is essential that seeds should be kept where mice cannot get at them. Birds have a horror of seed that mice have been among; in fact, they will not eat it unless they are very hungry. A bottle or china jar with a cover is best to store them in. Birds have been almost starved to death by having seeds given to them that had the inside eaten out by mice, while the outward appearance of the seeds was entire.

Oats or oatmeal may be given with the seeds, or bread or barley meal moistened with milk, given fresh every day. In summer canaries should be supplied with green food—cabbage, salad, celery, groundsel, turnip tops, chick-weed, water-cress, if well washed, and in winter with pieces of sweet apple. They will also relish occasionally a little boiled carrot or cauliflower. Sugar at rare intervals will not hurt them, but the

less of it the better; they enjoy water-cracker or pilot bread suspended in their cage, or stale bread grated may be given to them. The English books do not mention a common appendage to an American cage; a cuttle-fish bone is hung in the cage or placed between the wires, and the bird often resorts to it for the lime it contains, and apparently to sharpen its beak. Birds waste their seed terribly, and if they can get into the seed cups they scatter it about and spoil it; some people have a cover to the cup with small round holes in it, or a coarse wire gauze over it. It is less trouble to feed birds on seeds as a general rule, and one author says: "It seems to me the most plain course to take—and my own birds have, generally, never tasted anything but seeds and vegetables, with a little egg, or a few stale bread crumbs, for weeks and months together." In the case of both hemp and rape-seed, it must be remembered that they are heating food, and contain a large amount of oil. In

the summer, birds having as much green food as they like, often do not eat a great deal of seed; but where they are fed entirely on seed, it would be necessary to make a marked difference between summer and winter diet. When birds are exposed to some cold, have exercise and green food, the rape and hemp, in the proportion of one to three parts of canary seed, will seldom be found too much. An old bird brought up without hemp, would suffer were it given to him.

The seed box should be cleaned out daily, the husks of the seeds blown away, and the good returned to the box. It is well to see at night that the birds have food enough for the next morning's breakfast, if they are not fed in the morning before daylight; great injury has been done by forgetfulness of birds' early habits, and a few hours' waiting for food in the morning, especially in the case of nestlings, is most severely felt. Very often, indeed, it gives a check from

which they do not recover. A bird's day is from sunrise to sunset.

A cage bird is very liable to suffer from thirst; he has scattered all the water from the cup, and it not being replenished more than once a day, he becomes exhausted and cannot eat. No owner of a bird should retire at night without seeing that the water cup is supplied. The fixtures to the bell and pagoda-shaped wire cages are much safer for the bird than the hanging glasses, which have doubtless killed many birds, and caused the greatest suffering in others, from the water in them being too low to be reached.

GERMAN PASTE.—Bruise in a large mortar, or on a table with a rolling-pin, a pint, or quart, as may be required, of rape-seed, in such a manner that you may blow the chaff away; to this add a good-sized piece of stale bread, reducing the whole to powder, and well mixing together: put them in a wooden box, which should be kept from the sun.

A teaspoonful of this powder, with the addition of a little hard yelk of egg, and a few drops of water, will make an excellent food for young birds; to the old ones it may be given dry. The powder must not be kept more than two weeks, as the rape-seed is apt to turn sour, so that when the water is put to it it smells like mustard. It is best to make a small quantity of this paste every day; under such treatment young birds grow rapidly. Stale sponge cake, rubbed to powder, with hard white of egg, is a good food for birds for two or three days after being taken from their parents.

In the way of live food throw in *occasionally* ants' eggs, small red worms, spiders, etc. When the windows are kept open in summer, hundreds of flies, gnats, and other minute ephemera, will find their way into aviary cages and aviary rooms, and no small amusement is it to watch the gyrations of the birds as they topple over to catch their prey.

CHAPTER V.

BREEDING.

The propagation of canaries is attended with many difficulties and disappointments, which have not been diminished by the many expedients to obviate them. For pairing, young males, of from two to five years old, are usually selected; and experience shows, that if such breed with females older than themselves, the majority of the brood will consist of males. Old birds may be recognised by the projecting blackish scales of the legs, and by their strong claws. Good breeding birds are rare and costly. Both males and females have their faults of temper or constitution, and it is best for the amateur to get rid of faulty birds, and to supply their places with others, for none

of the corrections proposed are entirely effectual.

To procure handsome young ones, the best method is, to allow only such birds to pair as are both of the same color, and themselves clearly marked; though, of course, in large aviaries, this precaution cannot be taken. Greenish or brownish, paired with light-yellow birds, often produce very handsome offspring. One rule, however, may be laid down as invariable; not to allow two crested birds to pair, as the young ones are almost always bald, or in some way disfigured on the head.

Canaries begin to pair about the middle of March or April, and may be allowed to do so either in a room or cage. Wash their breeding cages well and thoroughly with soft or strong black soap and water, both inside and out, and particularly in all the corners, crevices, and joinings, of the cage; to get at which you must use a painter's brush, and rub and press it well with the

soap suds into all the crevices and corners, for in these places lurk the little minute vermin which destroy more birds in the breeding season than all other causes put together;—for the same reason also, never allow the nest boxes to be made out of the corners or any other part of the breeding cage, nor be fixed to it; but have moveable boxes to hang on hooks or nails, as you cannot by any possibility keep them free from these destructive vermin, unless you can take out the nest boxes, and wash them clean inside and out; burning the dirty nests; and giving them a fresh clean box and nest also.

It is a good plan to cover the floor *thickly*, at first, with sand, and then, if absolutely necessary, the top can be raked off; a slide is preferable to a drawer, which is open to the very grave objection that it affords a harbor for insects to lodge. You should have two slides, which is simply a smooth board, that they may be cleaned and dried

by turns. If one keeps a cage both clean and quiet for five weeks, it will be found no easy task.

Place the breeding-cages in an airy and light room; and if the morning sun shines into the room for two or three hours, it will be much the better. Avoid draughts of air, for young callow birds are tender, and cannot stand cold streams of fresh air. In fine weather, open one of the windows, an hour or two early in the morning, when the sun shines, and in hot weather leave it open the greater part of the day, and also for a portion of the night, provided you prevent draughts by keeping the doors closed. Take care the window has a secure wire guard.

The grand principle for you to observe is an even temperature, for too much heat is as much to be avoided as too little; the former, with want of good air, making the hens sickly, producing weakening perspirations, and breeding very weak birds.

The pair which are designed to breed to-

gether should be put for a week into a small cage, before being removed to the large breeding-cage. If a male is to be mated with two females, the females should be previously confined in a small cage, till they have learned to agree. In this case, the breeding-cage should be divided into two parts, by a partition, in which is a communication, closed by a sliding-door. The male is first put with one of the females into one of the compartments, with the door of communication shut. When she has laid, he is to be taken away and put into the other compartment with the second female. When she has also laid her eggs, the door may be left permanently open, and the male allowed to pass from one to the other, and they will not be jealous of each other if they were old friends. In a room full of canaries, the proportion of males to females should be one to two, or even three. Each male will at first select a mate, with whom he will always continue on the most affectionate

terms. But he will also pair with other females, without afterwards troubling himself much with either them or their eggs. It is noticed, that from unions such as these, the largest broods and the best birds are produced. But we lose in these unions one source of pleasure to the bird-keeper: for who would like to lose that prettiest of sights, when the forwardest nestling arrives at the perch, and sits between its parents, fluttering its little wings, and being fed by them alternately, in the midst of busy and delighted twittering. Of course, when one bird is the father of several young families, there is not much chance of his being much at home with any of them; and the mother has no business to be always off her nest, as she must be, to supply a strong brood all by herself, with food. Cheerfulness, too, is an important thing in a bird cage, and a poor little hen, toiling on all alone, is by no means a lively sight. When the females can get at their rivals, a general skirmish

terminates in torn nests. One little canary hen invariably flew off her nest in the most reckless manner, and went dashing after her most particular enemy whenever she passed near her, and, of course, these sudden antics were very dangerous, both to eggs and young. When the birds are about to build, strew fine moss and wool on the floor of the cage, or have two little net-bags filled with soft dry moss or grass, free from stalks, and a little soft wool or hair, which is better short, as long hairs sometimes get caught about a bird's foot. A few nice little feathers is also a great boon, and some soft down for lining. I think it best to have two bags, putting that with the moss in first; but the bags should be hung outside the wires, to prevent, not only entanglements, but considerable waste of strength, as in one case the birds dragged up forcibly the whole bag into their nursery. Jenny thought she was conveying her nest up wholesale, and she meant to jump upon it and scoop out a

hole. Make the bags yourself; do not buy them ready prepared, as much of the comfort of the brood depends on perfect cleanliness. It is absolutely essential that all bought materials should be thoroughly baked or scalded before they are used, to destroy vermin concealed in them.

One cannot well see the shape of these insects with the naked eye; but, with a magnifying glass, they resemble somewhat the bug species. If you kill them on white paper, it is stained with blood; in fact, it is evident that they wholly subsist on the blood, which they extract by slow degrees from the vitals of those little songsters. Hence arises much disappointment as well as vexation during the breeding season. The poor hens often get blamed for neglect; but are not such continuous torments enough to make the birds quit their nests even when the young ones have been formed in their shells? These little vermin, which you can scarcely see with the naked eye, so com-

pletely worry the poor hen, that she can sit no longer on her eggs.

On going into my breeding-room, I have found, in one or two instances, hens dead on their eggs; the poor things were mere skeletons. On examination, I found them covered with small insects, and the nests and nest bags swarming with the same sort of troublesome vermin, which must have sucked them to death; the poor old hens were sitting on their eggs in their usual position, suffering themselves to be worried to death rather than quit their charge. We do not, however, generally find them inclined to put up with such repeated torments; and they are therefore necessitated to forsake their eggs or young.

The birds, sometimes, after breeding properly, will, without any apparent cause, coolly fill up the nest, generally with some white stuff, and quietly forsake it. This is usually when they have been disturbed by strangers, or when the eggs are addled.

The latter is sometimes caused by thunder or other loud noise. In such case, remove the nest, and give facilities for making a fresh start; also change the situation of the cage. When it would be troublesome to remove the nest, it may remain; but deserted nests are bad nooks for insects, and a bird is all the better for not being reminded of its former failure. A real good bird for sitting and bringing up her young is a great acquisition, and should have every advantage; if she is an inferior bird, otherways, first-rate eggs can be substituted for her own.

Some mischievous birds will break and suck their eggs as soon as they are laid; to prevent this, supply them with plenty of food every night, that the birds may feed early in the morning: if this does not succeed, put a little mustard, or bitter aloes dissolved, inside a bad egg; when they begin to peck it, the bad taste may prevent a repetition, and in all probability induce them to rear instead of destroying their progeny.

As is the case with most birds, the female is generally the builder, while the male only chooses the place for the nest, and carries the materials. One egg is laid each day—generally at the same hour—till they reach five or six in number. If the birds be good sitters, it is sufficient to leave them to themselves, as they do not approve of any interference, and the less they undergo the better they will succeed. It is, however, usual to take the eggs away as soon as laid, supplying their place in the nest with an ivory or china nest-egg, and laying them up in a box, the small end downwards, in fine, dry river sand. When the hen has ceased to lay, the eggs are put back into the nest to be hatched. She lays three or four times a year, from April to September; the eggs are sea-green in color, more or less spotted, and streaked with reddish brown and violet.

The period of incubation is thirteen days. The male relieves the female at the labor of

incubation during a few hours in every day; though the latter flies back as soon as her hunger is satisfied, and if the male refuses to give up his place, drives him from it with beak and claws. She is probably aware that he will perform his office imperfectly; will not turn the eggs sufficiently often, or will allow them to become too hot or too cold. The life of the young bird, even in the shell, is very precarious; and it is often killed by the discharge of a gun, the slamming of a door, or any other loud or sudden noise.

We dislike the practice of hanging cages, as people often do, by the side of a window, to be out of a strong light. The *nest* itself should be in a shady corner, and either a spray of leaves, or a piece of green baize, may be hung over the spot where it is being built; but of all depressing things to the old birds, and of all hurtful and weakening things for the young, the absence of direct light and of the warm soft rays of the morn-

ing sun, are the worst to which they can be exposed. Some young birds, in fact, leave their nests less than half fledged from this very cause, as nothing adds so much to the quick growth of the feathers, as the warm (not scorching) sunshine, such as flickers down through the leaves of some waving shrub; and the fresh air and moisture of the summer dew help the nestlings both in their growth and feathering.

If the hen should have fits while sitting, as is very likely in cold weather, it is best to put her very gently in a warm bath, laying her afterwards on a piece of heated flannel. The greatest care is necessary, however, not to hurt the bird while holding it in the hands.

While birds are sitting, the supply of food should always be very abundant. Where hard boiled egg is given, powder it fine and mix with grated stale bread. Only a small quantity should be given at a time, and it should never be left to get sour in the cage. Well baked stale bread answers

very well mixed with pounded hemp-seed, some say pounded rape-seed, and Mr. Kidd recommends bread and milk; just enough *cold* milk should be poured on grated bread to moisten it. The day before the young are expected to be hatched, and afterwards, some grated bread, soaked in water and pressed dry, and a finely chopped up hard boiled egg, should be put into the cage in a saucer. This should *always* be given in the evening, an hour before the birds' usual roosting-time, and again in the morning as early as it can be conveniently done; eight or nine o'clock will do, but then the evening supply must *never* be omitted, that it may be ready for the early hours of small birds who often die for want of an early breakfast. For bread some persons substitute biscuit. A second saucer should contain rape-seed, which two hours before has been boiled, and afterwards washed in cold water, to take away its pungency. The main thing to be attended to, is, that no food

intended for young canaries should stand until it becomes sour, as sour food is as injurious to them as to young infants.

The chief occupation of the male now, for some time, consists in supplying the young with food, which he takes almost wholly upon himself, probably with a view of allowing the female to rest after her fatigue.

If, in consequence of any accident, it should be necessary to feed the young birds by hand, the best food is wheaten bread, or biscuit grated fine, mixed with rape-seed crushed small. A little of this food, moistened with yelk of egg and water, should be given to each bird, by means of a quill, ten or twelve times a day. About four quillfuls will be found sufficient for a meal. A lady says, "four living nestlings are a common thing with us, but then we are not too helpful to the parent birds, but let them alone. Once the hen died, and the male seemed perplexed as to how he was to act nurse, so we undertook to help him, and by

feeding endlessly from early morning to quite evening, we contrived to rear a tame and pretty set of little downy birds."

Look at the nest of young birds twice a week, to see if all is going on right; if they appear red, with their crops full of victuals, you may be assured they are doing well; in case, however, you find them of a sickly pale hue, without any food in their neck or crops, most likely the nest and birds are infested with vermin. Change their nest box and nest for a new one immediately, made warm with a hot egg rolled in it, which should be done as expeditiously as possible; for many hens are of a very fretful disposition, and will not sanction any interruption to their maternal care, often forsaking their young by too much familiarity. When this happens to be the case, feed the young occasionally with a small bit of the yelk of hard egg, dissolved by one or two drops of clean water; add to this a little sopped bun or sponge-cake, forming it into a thinnish paste,

and with the point of a wooden skewer feed them every hour, to keep up their strength. If the old hen or cock should feed them, you need not. Oftentimes the cock will bring them up, although the hen may have forsaken her little ones; do not, therefore, keep them out of the breeding-cage, but give the cock every opportunity to supply them with food from his fostering mouth. In case he does not do it, they may be taken entirely away, and brought up by hand; keeping their nest covered with flannel to prevent cold.

Sometimes, when the eggs are irregularly hatched, particularly under a young mother, she feels so anxious for the eggs not hatched, as to refuse to leave her nest to feed the young ones that have already come to life; and thus the poor birds get starved. To prevent this, take care everything enticing in food, as egg and crumbs, fresh greens, etc., is provided and given over night. Then watch, to see if the hen feed, or the cock

carry food to her; if neither be the case, you must put the hen off her nest, and if she sees plenty of food, she will eat; and the hen, thus induced to take food, will, when she sees the young ones gaping for food, feed them, which will induce the cock to assist her in this duty; for when once the cock sees the hen feed the little ones, he will follow the example.

The pious and excellent Dr. Watts has borne testimony to the harmony of the early condition of these birds:

"Birds in their little nests agree."

But it is well the worthy Doctor stopped here; for no sooner have the young of the canary scrambled from their cradle, than they fight like young harpies.

Up to the twelfth day the young are almost destitute of feathers, and need the warmth of their mother's wing; and it is sometimes the case, especially in cold, dry seasons, that they never become properly

fledged. The growth of the feathers is sometimes promoted by a bath of lukewarm water.

After the thirtieth day, they are able to feed themselves, and begin to twitter, and when a month old, may be taken from the parent birds and confined in separate cages, which it is advisable to hang at some distance from one another.

The sooner the little birds will wash, the better for them, and their cage should never be without green food—chickweed or water-cresses. A hard-boiled egg, white and yelk finely chopped, is useful for these little things. It must be constantly fresh.

A rather novel and exceedingly useful remedy is a little strongish tea, when the birds seem sickly. If left in their cage with fresh water also, they can take it or not, as their instinct leads them, and when they are weakly, or liable to cold, it often is good for them.

The more soft sunshine they can have, the

better; but do not leave them to be almost baked in a hot sun. There should always be a shaded place in the cage; not a dark cloth over it, but a branch or two of some tree, making a trembling shadow. They thrive best with the food of wild birds, such as thistle-seed, plantain, chickweed, and perhaps more important than all, some insects; ants' eggs are good, and are found in their hills; but aphides and most insects are welcome. I doubt if young birds can eat too much. The chief danger is their not getting enough food.

The little birds moult at a very early age, almost before they can fly. Extra warmth, extra food, and extra quiet are at this time necessary. If they survive September, it may fairly be hoped they will do well.

"Wonderfully tame these little pets grow. I have one who follows my hand about the side of a large cage, just like a little dog, nestling up against it, and putting its little claw out through the wires to take hold of

my fingers; and as to Bully and Bobby, it is laughable to see how they sidle and bow, and fluff out their fine plumes, and go edging along as long as any one will talk to them. One of the prettiest sights is a little bird requesting to be fed; it looks so pretty, fluttering its wings and putting up its head." Crack a hempseed and present it on the end of a finger, and the entreaty of the little fellow for "more" reminds us of Oliver Twist.

When the young are from twelve to fourteen days old, the hen begins to prepare for a second brood, builds a new nest, and has often laid her eggs before the former brood are fully fledged; the male taking care of the first brood. When a male has been paired, in the manner before mentioned, with two females, one of which dies before her eggs are hatched, the other will receive them into her nest, sit on them till they are hatched, and treat the young birds with as much attention as her own, proving a good step-mother.

CHAPTER VI.

TO TEACH YOUNG BIRDS TO SING.

At a fortnight old, the male may be distinguished from the female by the more connected character of his song. If a young bird is to be taught to whistle, it should now be separated from its comrades and confined in a small wire cage, which should be covered, at first, with a linen cloth, and afterwards with some thicker material. A short air should then be whistled, or played on a flute or bird-organ, within his hearing five or six times a day, and repeated on each occasion half a dozen times. "My idea is to play to them while they are at their breakfast, and after they have done eating—they are always then much more disposed to listen. After the bath, again, there is a grand twittering time, while they are plum-

ing themselves, and at bedtime, when there is always an amazing fuss; though I doubt whether playing to them then would do any good."

The earlier the birds are taken from the nest, the freer their song will be from notes that are not wanted. The German trainers blow on the bird's feathers, and look cross and scold it when it sings a wrong note, rewarding with hempseed, or some such dainty, when it performs successfully. It takes several months to learn a tune perfectly. As a general rule, those tunes which have a sort of running scale will be found the easiest to learn. It is a fact, that the song of birds is not, strictly speaking, natural, but acquired at the very earliest age, from the notes of the parent singing near the nest; just as the child of an American is taught by his parents, and would know nothing of his father's native tongue if he heard only the French language spoken. The knowledge of this fact should be a great

assistance in teaching birds to sing artificial songs. A bird, accustomed to hearing the mewing of a cat, forgot his own melodies and mewed also. He was cured by being taken to a neighbor's, and his cage hung near another bird who was a sweet songster. The very general introduction into an acquired tune of a few of the bird's own notes, is owing to its having been taken into training too far on in its life; even at four or five days old, when the nestlings cannot see, it appears they can remember the sound of the parent's voice; probably they listen to that alone, as at that early age they do not catch the notes of other birds, though many may be chirping around them.

In teaching young birds to sing, *school* cages are useful; either a row of the little six-inch square cages, or else a long narrow box, wired in front, and divided into compartments. One really good singing bird may be hung overhead, and will teach them all. They will learn whatever it is they

may hear, and so we had better provide them with a good instructor. It is only in rare cases that a bird will sing while moulting, and after the first and second moulting season the bird is obliged to re-learn its song, and thus learns to intermix the notes of other birds. Instances have been known in which canaries have been taught to repeat short words distinctly, to distinguish names, colors, letters, and numbers, and to perform certain actions at the word of command. A female, in the possession of a person named Jeantot, selected from an alphabet, and placed in order, the letters of certain words; added, subtracted, and multiplied in German, and indicated, by means of numbers, the exact time of a watch. He had also three males with him, which were able to select letters and numbers which were named. Hunger had been the chief means used in the education of all; a species of cruelty without any excuse, and which should be wholly condemned.

Many birds are so self-willed as never to sing except they can display their vocal powers alone, while the song of others is always soft and low, except when excited to rivalry by hearing the performance of a neighbor. It is important to give them their allotted portion of food every day; for if too large a supply is given them at once, the result is that they pick out the best first, and leave the rest for another day, which impairs their vocal powers.

A bird of two or three years old was taught to sing a national air very sweetly by some children who had a little bird-organ, and they played the tune on every occasion possible.

CHAPTER VII.

AVIARY BIRDS AND CAGES.

E. A. Maling gives useful information in relation to aviaries, but mostly adapted to English birds and English climate. "The most enjoyable arrangement that I ever knew for the cage bird building, was a plan adopted for my birds when I was a child. We had at that time a good many birds kept in different ways; some loose in a room, some in single cages, and others in one large cage, standing about six feet high, which was divided into separate apartments, and provided with gratings to shut off young broods. The top had a sloping roof to shed rain, and a water-proof curtain was hung at night before the wire front.

"This cage used every spring to be carried out into the garden, when the green-

house plants went, and there it stood under a beautiful scarlet Thorn, till the first cold days of autumn warned us to take it back to its winter quarters in the hall, near enough to the fire to be kept pretty warm."

In a cage of this size, if birds of only one or two kinds are kept, there may be as many as ten or a dozen pairs. We generally had a few linnets and goldfinches, and all the rest canaries; and all these used to pair a good deal, canaries with goldfinches, and so on.

The two sides being separated by a wire grating, the young birds were often kept in one division, with, perhaps, a party of a different kind overhead, their own parents still being kind to them through the dividing bars.

In the winter, the partitions being opened, the whole number, sixteen or twenty, would live together happily.

One very good plan to adopt in having this kind of cage, is to have one half made

permanently separated by a wire division from the other, while that other is so arranged, by means of brackets, serving for perches when not in use, as to support the floor of an upper story not more than a foot from the top, or at different heights going up.

The advantage of this plan is, that the two sides can contain couples which would be disposed to molest each other in their building, while the small division up-stairs, when the cage is in three compartments, forms a roomy nursery for any broods of young birds that may require a little feeding after they have left their mother. If a perch or branch is placed near the wires, the old bird will very often patronize his children, and example is of great service in teaching them to wash and make themselves look respectable.

This is of such consequence, that when my young birds (bought when just fledged) do not do well in this way, I put a very

dandy bird, either Chaffie or Goldie, in the adjoining part, that by seeing him they may be fairly shamed by the elaborateness of his toilette.

Many people divide *lengthways* an aviary like this; some, again, contrive a third story in winter, at least, by removing the front slope of the roof and substituting wire. The top should, however, have a ceiling when out of doors, for protection from heat and damp in the summer time, and from cold in winter.

I myself prefer very much the high divisions, as the birds seem fond of hopping up and down; they admit also a much nicer tree, and show the inmates off to greater advantage.

No paint, I need hardly say, should be used inside, and no brass whatever.

If glass is adopted, the maker must be particularly warned to put the putty entirely outside.

I do not think any wood really answers

better than well smoothed and polished deal; but many persons dislike it, and it is merely a fancy, perhaps, of my own, though having seen how well it has answered, I have now a preference for it. Mahogany is particularly unsuitable to display the birds' bright plumage.

I am much in favor of a double set of food-holders, changing them each day, so as to insure a good washing, drying, and airing. The boxes should be so arranged as to be easily got at by doors, as the water should be changed twice a day in summer, and the seed daily. A mixture of old lime, red sand, and chalk is useful in keeping birds in health.

I will give the exact working description of an aviary cage I have lately had made by the pattern, in great measure, of that before alluded to. Woodwork entirely, of well seasoned deal. Dimensions: height, from floor to top, four feet, *i. e.* from floor to spring of slope, three feet, and one foot

allowed for the slope of the roof. Width, two feet; length, four feet. The top slopes down from a shelf six inches wide, which is at the back. The whole front, back, sides, and top, are of wire. The bottom has a drawer made in two parts to draw out, and a wire partition runs up the cage, and is unhooked at pleasure. A green baize curtain can be drawn round the cage, and a floor (a tray itself) can be put in to divide each side into two stories—making four in all. The doors are all at the ends, which also open entirely. The seed vessels are all covered, and have drawers lined with glass for containing seed and water. They stand in the cage, and have small perches fastened to them, which look very pretty when crowded with birds. The great charm of this cage is, that, standing in a window, the birds have full air and light, while perfectly visible within and without. When nicely arranged, fronted with a few plants and creepers, and with a bath, etc., it is extreme-

ly pretty, and the bird's bright plumage makes it look almost as gay as flowers, even in the gloomier time of year when only evergreens can make up "a wood."

There is always a doubt as to the agreement of many birds together; but it must be remembered that two birds alone in a cage will fight, if it so pleases them, just like cat and dog; while in an aviary, or large cage, the space for flight and for dodging is far greater if they do fight, and it is very rare that more than a single bird at once will attack another. When a whole cage-full *do* set themselves against one individual, the only thing for him is to give him another home. But a great deal depends on careful management; letting the birds get well acquainted, at least by sight and hearing, before they actually share the same cage, letting them loose together, above all when they are not hungry, and consequently cross.

Our birds throve well with their nurseries

out of doors. They had the early sunlight, the sweet morning air, the dew, and the cheerfulness of everything around, all keeping them well and happy, till, indeed, I should now be quite afraid to say how many young birds, year by year, used to grow up with us.

When there was a young family old enough to leave the maternal wing, a small cage would be provided, or a division of the aviary prepared for them. In whichever they were placed, we took care they should have plenty of little round holes (like those miserable holes for getting at seed and water), which they could be fed through if their parents pleased. We used always to strew a good deal of crushed hemp, and maw seed, and crumbs of stale bread, upon the floor of the cage, as soon as the young ones began to leave their nest and to hop about, so that afterwards, the same plan being continued in their own new cage, half the difficulty of teaching them to eat was obviated.

It is a good thing to accustom young birds to be very clean: baths in fine weather are not likely to be hurtful; but if they do not wash, a little sprinkling from a fine brush is sometimes desirable to force them to preen their feathers. To be in a cage in view of the old birds is often helpful here, and at any time I would gladly give up one hatch of birds for the sake of the pleasure it is to see the little fledglings getting their education—the parental scoldings, pecks, and pokes, which are so amusing.

Unless a set of birds are already on a very familiar footing with their mistress and extremely tame, it does not do to seem to watch them much. At the same time when a young pair bred up from nestlings, or long become tame, have begun to build, they will often go on composedly, and allow of almost any amount of friendly interference.

I suspected the other day that one of mine had been building a floorless nest, and put a

finger into the nest to see: both birds came immediately, and, standing at the door to watch me, gave no sign of fear or of displeasure, but simply wished to know what I could be at. A very soft, well-felted lining, after all, I found, and directly I removed my finger, into her nest popped the little bird, and there she sat amidst her fir branches, with her little black eyes glittering as I hardly thought a bird's eyes would glitter; she also took crumbs of biscuits or of hempseed when I held them to her, with evident satisfaction.

I have no faith at all in match-making; in nine cases out of ten it is quite certain that the birds suit themselves better than we could suit them. Besides, half the amusement is seeing what they will do. The prettiest nest I have had this year was the production of a strong-minded female, who fairly hunted down a poor little German bird not more than half her size. Never was anything more amusing than Jenny's perti-

nacity; first she drove away all the other birds, daring them to come near her, and then she fairly flattered little timid Tuft into becoming her most submissive spouse. She treated him well, however, and fought his battles for him.

It does not answer when they begin to sit very late, because then the second or third brood is apt to be made too backward. About six weeks generally elapse from the time of the first sitting till the next begins. And it is very common to have four or five broods of canaries in a season. The wild birds in Madeira begin to build in February, and hatch quite as often. The canary often begins sitting from the day on which her first egg is laid, thus beginning to hatch in thirteen days after. Some people "take care" of the eggs for the unhappy birds; but I am sure that the rule of letting things alone answers much the best here, and the deserted nests and the uncared-for young are not usual in the woods and fields—they

are events reserved for places where "every possible pains is taken."

Of all the knotty points in the keeping birds, the knottiest and the most troublesome is to know which will live together.

My own belief is that much more depends on the way of treatment than on the birds themselves. Of course, if a wild bird is put into a cage full of tame and gentle ones, it is much like a young gorilla set loose in a peaceful family; the mischief, the spite, the tricks, are something inconceivable,—every bird gets cross,—and the mistress is in despair. Civilized birds do not behave in this way, and it should be an unalterable law never to put a bird into an aviary, or large cage full of others, till it has been kept some days, and has got used to the *place*. Birds are upset and bewildered by any change, as much or more than human beings; and the catching to put them in a travelling cage, and the journey,—being carried, perhaps, through some noisy streets,—is a disturbing

business; and then, again, in the change of cages, very often, indeed, *new birds do not know where to look for the food and water.* Having once given the new-comers time to get perfectly at home with the room and their owner, and used to the faces and voices of those going in and out, the actual putting into the aviary is generally a very quiet work; when in a single cage, too, they have wanted so much to be promoted to it!

At this moment I have before me, living for a time in a large store cage three feet six inches by eighteen inches deep, a company of twenty birds. The cage at night stands in a passage, and is covered well over with a woollen table-cloth. In the day it stands in a window of my sitting-room on the top of a plant case. A bath, glazed at the top and three sides, is hooked upon the door, the amusement of which is indescribable. Birds emerge at intervals in parties of two or three, and go afterwards to "hang themselves out to dry" on t e sunniest perch or

in the swing, looking most woebegone. I have seen two of these half-drowned creatures hanging out in the swing together. The toilette that concludes the business is very elaborate, and it is most amusing to see the little things, who want to have credit for washing, but do not like the cold; how they put in one leg and pull it out again, and finally perch just upon the edge while somebody else is washing, to catch the shower sent up so vigorously. And then the little cheat shakes itself out, makes an immense to-do, and sometimes drives down a really washed bird from a sunny corner that *it* may dry itself.

It is not uncommon in England to have quite a variety of birds in an aviary; such as chaffinches, bullfinches, linnets, siskins, and goldfinches; but canaries seem to be the only legitimate builders in an aviary. The admixture of a number of other tribes (for breeding purposes) is evidently a mistake. At least so Mr. Kidd, who has had

large experience, thinks. He says: "A little calm reflection will show good reason for this; seeing how very dissimilar are the tastes and habits of some birds compared with others—these courting retirement, and feeling annoyed when disturbed; those rejoicing in mischief, and never so happy as when up to their ears in excitement and noise."

CHAPTER VIII.

THE ROOM AVIARY.

I believe one of the least troublesome and most enjoyable of aviaries is that fitted up in a small spare room. It is better without paper on the walls; but if it is on, be careful not to have the least bit loose, as the birds will find it, and tug at it till they get off all they can. The birds will peck a merely plastered wall, but that will do them good.

The glass sashes have to be covered with wire-work, or are, some say, much better taken out altogether during the summer months. I do not quite agree to that view myself, as it seems to me that the means of closing a window is not to be despised in case of heavy storms; and, putting aside the birds, I have visions of housemaids in con-

fusion when "the water has come through." Besides, a permanent open window-frame does not tend to warm, in spring and autumn, the adjoining rooms. Thus I should be much disposed, with all due deference to those who advocate the more open plan, to advise that the window-sashes should be left in place, covered within with a frame in which wire-work has been fitted, the top sash being let down every day in spring and autumn, and in summer both day and night. A Venetian blind outside, or between the window and the wire, is a great gain, for the windows can then always be closed directly if any violent storm comes on.

I have known birds often die in numbers a few days or hours after a severe thunder-storm, to the glare and fear of which the poor frightened things had been exposed. When any such alarming event is going on, I always let in my birds to my own room, and talk to, and pet them, which is an evi-

dent consolation, for no one knows how much they get frightened.

Having a room like this affords great opportunities of taming and playing with the birds: while for those who have a weakness for "keeping things in their proper places," a glass door into the next room gives a pretty view of the various antics played while keeping the birds quite separate.

In such a room, however, we must beware of mice; they utterly spoil any food they touch for the birds that have to eat it; indeed, I believe it is even made very injurious by them; and as people cannot actually keep both cats and birds—unless the cat is a genius, like one of ours, who knew that the birds were "friends," and let them perch upon him, and even peck his ears—great care is needed to guard against such inroads.

For the floor of the room it is advisable to have oil-cloth, which can be easily cleaned. Keep the windows constantly open, closing

them only in damp or cold weather. The birds will get in the habit of perching on or rather clinging to the ledges of the window frames. To obviate this, which is very objectionable, as it soils the glass, have some narrow (say one and a half inch) slips of wood fastened to the bottom of every pane of glass in a slanting position. By using this precaution the birds will slide off, and they will soon find you are "just one too many for them." It will take birds some little time to get used to each other's ways, but time will terminate their quarrels, disagreements, animosities, and battles. War will gradually cease, and peace be proclaimed. Never turn in many at once; let two or three in mysteriously, early in the morning. This will prevent any unusual fluttering, and the "wonder" at seeing a few new faces will gradually subside.

We must caution against the sudden introduction of a lighted candle into or near an aviary at night. It has so alarming an

effect on the inmates, that they will precipitate themselves headlong from their perches and fall about the room in an agony of fear. We have known many legs and wings broken in this way, and the sufferers had to be put to a premature death.

Another terrible annoyance to birds of an aviary are the *cats*, especially on moonlight nights. They will prowl about, and, if possible, jump into the windows; this renders wire-work on the lower panes necessary, if there is any way for the cats to approach the window.

All persons who *will* have fine birds, must be exact in keeping their room clean; also in seeing to their toe-nails being kept properly cut, and their feet not clogged up, nor fouled with dirt. Carefully provide against the entrance of mice; they poison all they touch.

Mr. Kipp, of Hammersmith, England, had an aviary on a large scale, having at one time three hundred and sixty-six birds. He

tried many experiments, and having, moreover, not a high opinion of the female endowments, he banished all hen birds from his enclosure. He says, "It is deplorably odd that when two or three of the gentler sex are met together, they can never be long in each other's company without there being a 'row.' It was so with our colony. We thoughtlessly left the ladies and gentlemen together, and the results were awful; but we rectified our error. Every lady bird was withdrawn, and the gentlemen vocalists left alone in their glory." Mr. Kidd had a great variety of birds together, and no wonder they quarrelled and fought; besides, there was such a crowd that their nests were robbed and destroyed by those whose only excuse was, that "'twas their nature to." There was a "thrush that was ready at a moment's notice to 'assist' any of the rival malcontents in a crusade against the eggs and young. No sooner were the latter born —we did succeed in getting a few broods

hatched—than the conspirators went to work with an energy and unity of purpose worthy of a better cause. Despite the vigorous resistance of the parent birds, their infant offspring were remorselessly dragged from their cradles, suspended in mid-air (like Mahomet's coffin), and then dashed forcibly to the ground; they were all tried and banished. The sex called gentle it was found needful to banish for ever."

From Mr. Kidd's own account it was not the females that made the disturbance, except as they were the objects of the ferocity of the males, but the latter were the best songsters;—therefore the martyrs were banished. He seems to consider the birds as only kept for song; but no amount of song would compensate us for missing the pretty sight of the little fledglings, or being deprived of the amusement of witnessing the courtships.

As interesting a fixed aviary as any I have known, is formed from one end of a

moderate sized conservatory. The space, about twelve feet wide, was merely wired off with galvanized zinc wire, the surrounding glass being also lined with wire. The birds here gain the morning sun, but in winter, when it is very cold, the glass walls are screened from without by shutters.

The birds in such a position are very warmly housed, and the sweet scent of the flowers adds greatly to their pleasure. In the enclosed space, which is rather narrow, a row of evergreen shrubs is placed along the back, and grouped closely at each corner, the higher trees nearly reaching the top; and again in the centre, three or four more are grouped. In an aviary like this, it has a charming effect when a pretty bath is suspended from the roof in one of the wire baskets; by the use of some strong cement the outside may be made pretty, ornamented with shells and coral, like the plaything that it is; and there the birds will amuse themselves for hours, pretending

to be frightened, and putting in one foot and pulling it out again, behaving for all the world just like naughty children.

The floor being formed of tiles or stone, and the walls also being solid, there is every reason to hope that further precautions against rats and mice will be unnecessary. Their presence certainly should be guarded against with every care imaginable. The floor should be covered with two or three inches of sand, or gravel, or old mortar ground fine. Lime or gravel is about the best thing birds can have to peck at. Evergreens, stood in the corners, are pleasant to the birds, and a fountain in which they can bathe is very pretty. The perches should be made to take out to clean, and thoroughly dried. They should be perfectly round and polished, that the birds may not catch their feet in any kind of cranny. Have one or two perches quite high up.

CHAPTER IX.

DISEASES OF CANARIES.

It gives a most miserable and discouraged feeling to read the long list of diseases incident to the canary, and the remedies proposed for them. It is our firm belief that most of these maladies are the result of bad management or neglect, and that those who really love their birds will not be troubled by many of them.

It is very touching the way the sick birds cling to one in their troubles; they lie looking at one for help so pitifully, taking so gently the offered food, and always seeming disposed to nestle so closely to one. After all I can say, however, I can but repeat my conviction that cleanliness, watercress, and abstinence from *messes* are the best means of preserving a bird in health; and if, after all,

it does become ill, keeping it very warm—not roasted before the fire, but nestled in snugly—is the best mode of both comforting and curing it.

COLDS.—Canaries have a peculiar talent for taking colds, and are heard conversing in the hoarsest notes. They also frequently sneeze and shake their heads. For this, melon seeds, chopped fine, are beneficial, and a piece of Spanish liquorice about the size of a pea, dropped into the water-glass, is a very simple remedy. If, however, it is left there long, I always give a second glass of clean water, after a short time in the morning, as the birds begin to dislike the taste if they have nothing else to drink. For sneezing, produced by obstruction of the nostrils, pass a very fine feather, dipped in olive oil, through them.

DECLINE.—This disease, the symptoms of which are a general roughness of the feathers, a great appetite, and yet a gradual wasting of the flesh—is usually the result of an un-

natural diet, which impairs the digestive powers. The most effectual remedy, besides supplying the patient with the best and most natural food, is to make it swallow a spider which will act as a purgative, and to put a rusty nail into its water-glass, which seems to give vigor to the stomach and bowels. Watercress is a specific for decline in canaries. The narrow cage which prevents much exercise, and the sugar, confectionery, and other dainties given them, frequently produce decline.

Huskiness or Loss of Voice.—Young males, when moulting, are frequently so affected, but birds of all ages and at all times may be; a cold is the general cause. Never purchase a husky bird: you may be told it is only a little cold, and will pass off. So it may, but it will most likely return before long, and become a chronic disease, ending in decline. The remedial measures are:—Keep the bird warm, and give it some linseed with its rape and canary. Every morn-

ing it should have a small teaspoonful of warm bread and milk, and now and then a little bit of sponge cake soaked in sherry wine.

Overgrown Claws and Beak.—These, although scarcely to be called diseases, sometimes have as bad an effect upon the health of the bird as if they were really such; for the consciousness of possessing claws and beak of an undue length, and the fear of getting them entangled in the wires of the cage, or other objects about, will cause it to mope and refuse its food: therefore, they should be properly trimmed with a pair of sharp scissors. Care should be taken not to cut them so closely as to produce blood. This may always be avoided by holding the claw to be operated on up to the light, and seeing how far down the toes the vessels extend. Your grasp of the bird should be firm, yet very gentle, and all that you do should be done without haste or trepidation.

Wooden Shoes, it is a real pleasure to

cure, it is so pleasant to see the bird's relief when the load falls off. This discomfort arises from a damp or dirty cage, or one not sufficiently supplied with clean gravel; when the feet become perfectly clogged with a sort of dirty shoe. When bought with clogged feet an immediate cure should be attempted; we take it for granted no one will allow their own birds to get into such a condition. Take a saucer, containing lukewarm soft water, not hot, but tepid, and then carefully catching the bird in one hand cause it to stand for at least five minutes, if possible, in its shallow bath.

To take hold of the bird without hurting it, it is very essential to keep the hand quite *outside* the wings; watching an opportunity for lightly closing it when the bird has both its wings folded. It is best to keep the head over the thumb; and as the feet are very often tucked up just when we want them down, the mistress's hand is usually forced to take a bath with the bird. Jenny, one

of my pets, was extremely bad when I got her; but after three days of this treatment, she was as comfortable as could be; and considering how she pecked and screamed at being caught at first, it was very amusing to witness her complacency as her shoes wore out. I always present the patients with hemp-seeds while in the bath; sometimes they only hold them (taking them back to their cage to eat); but at any rate it assures them that people who give them such delicious things, cannot possibly mean harm.

There should be always a little bed of rather fine dry oatmeal for the bird to stand on for a moment when its bath is over; this dries the feet, and in all ways is useful, while its dusting the feathers does not the slightest harm.

Broken Limbs.—When a bird meets with an accident of this kind, it should be taken very tenderly and placed in a cage without perches, with a little soft hay or

flannel (anything thready or hairy must be avoided, as the bird is apt to get its feet entangled) to lie upon, and its seed and watercups on the floor near it so that it may help itself without being obliged to flutter about, sprinkle some of the seed about on the floor of the cage also. Plenty of green stuff, chickweed and watercress, may be given at such times. Warmth and quiet with this treatment will, with the aid of nature, often effect a cure in a few days.

A strange cat last winter by some extraordinary means made its way into my room one evening in the twilight, and before I knew of its presence, it had sprung upon and knocked down a cage from a table near. One bird flew away unhurt, but the other was injured by the falling cage, and had its leg broken. It was taken up and given to me quite gently, and without even attempting then to examine the injury, I laid it in a cage just such as I described, and kept it close beside me for the next ten days: talk-

ing to it seeming to comfort and amuse it mightily. The leg was stiff and useless for a long time after, but when once it had begun to bathe, the recovery was rapid, and the bird now is a very fine and healthy one, and has built and hatched this summer.

In the spring of the year birds sometimes become mopish, and without any apparent cause stop singing and allow their feathers to become, and to continue ruffled. Hanging the bird in the window, or near some green plants, will often effect a change.

Fits.—Sometimes, especially if a bird builds early in the year while the weather is cold, she will be subject to a sort of fit when she begins to lay her eggs or sits; probably cold weather renders her much more exhausted. In the cold spring this year, one of my birds was very ill indeed; she lay on her side with all her feathers fluffed out, and did not even stir when her mate in the excess of his affectionate disquietude perched himself on her shoulder, and setting his feet

firmly together, took her wing in his beak and tugged it with all his might to induce her to get up. I thought such nursing, however, might be dispensed with, so having got some warm water, and with exceedingly great care given the bird a bath (of course holding her in my hand the while), I wrapped her up, insensible as she was, in a very warm piece of flannel, and having kept her warm all day, I had the pleasure at night of seeing her eating crumbs of sponge biscuit (which was her favorite refreshment), with considerable appetite. She has never, I am sure, forgotten that day's nursing, for she is the only bird who now makes no fuss at all if I take her up. The others kick and scratch and peck as hard as they can, maintaining firmly the difference between being taken, and coming of themselves.

GAPES.—Young birds are excessively liable to a disease which resembles that called in poultry "the gapes," though it does not seem to be at all the same thing in

reality. The bird mopes and is uncomfortable, ruffles up its feathers, and keeps opening its bill as if it wanted air. The bill is generally dry and yellowish underneath the eyes, and the bird has a generally miserable look about it suggestive of its real disease, an exceedingly bad cold. Some strong black *tea* without milk, linseed, poppy seed, plenty of green stuff, and a little liquorice in the water, are amongst the best remedies, but perfect warmth is the greatest requisite. I think this complaint is contagious, and, therefore, should always recommend removing any other birds from the same cage, or if in an aviary, placing the sick bird in hospital.

PARASITIC INSECTS.—Canaries who are diseased, or not kept clean, are apt to be troubled with small yellow lice in the skin, or hid among the feathers. The birds are constantly restless, and peck at different parts of their bodies. Frequent bathing, or water from a syringe, and a little aniseed

mixed with the gravel on the floor, are the best preventives.

I once bought two birds at the door which were evidently made very uncomfortable by a torment arising from want of bathing—very minute red insects like cheese mites, which were amongst their feathers. Newly-bought birds, for fear of such annoyances, should never be mixed at first with others, unless they are obtained from a dealer on whom one can depend.

EGG-RUPTURE consists of an obstruction of the passage through which the eggs are ejected, and most frequently proves fatal; she often fancies she has laid, and broods upon an empty nest: a few drops of olive oil applied to the vent is one of the best remedies. Great care must be taken in handling the bird, or the confined egg may be broken, a catastrophe that would probably cause immediate death. After the remedy has been applied, do not let her loose, but place her gently upon the nest, and she may

then be able to lay the egg easily. A warm bath is also very good.

CANCER, unless arrested before it becomes developed, is a fatal disease, and is thought to be contagious (it will be better to separate the infected bird from its companions at once). It always attacks the foot or the bill, which become much swollen. The curative process is to keep the cage constantly clean, so that no particles of dust or dirt may adhere to the scirrhous part, and to bathe it frequently with sweet or olive oil, and wash with lukewarm milk.

WANT OF APPETITE usually occurs after breeding, moulting, or other sickness: in this case take about equal parts of millet, canary, rape, yellow, and a little hemp-seed, mixed with the same quantity of clean moistened garden loam; knead well together, then dry the composition, cut it up in small pieces, and feed it as required; it will keep a long time.

SCABS ON THE HEAD may be best and

most easily cured by feeding on light and cooling food, such as lettuce and rape-seed.

EPILEPSY is brought on by too rich food. Keep the bird quiet and free from sudden alarms, and feed on lettuce, rape, and canary-seed. Give no hemp-seed for a while; it is always fatal.

MOULTING is always a trying time; it is sometimes dangerous to young birds; it commences when they are from six weeks to two months old, and lasts several weeks. You will observe that the birds lose their natural vivacity, and sit moping about with their heads under their wings, and soon the bottom of the cage will be strewed with the shed feathers. All you have then to do is to keep them quiet, and free from draughts. At this time they require warmth, and as they have little appetite, it is better to give them as much variety in their food as possible, also being careful to crush for them any hard kind of seed like hemp, as they are very weak. A rusty nail or a shred of

saffron in the water glass is a useful tonic. And if the bird should be attacked with any sort of fit, some authorities recommend dipping its feet in warm water, or dashing a little cold water over it.

Hang them in the sunshine, and give them any nourishing food they may fancy. Let them have a lump of sugar to peck at. Supply them with green food, and keep the floor covered with sand or gravel.

If the moulting proves unusually tedious and distressing to the bird, it may have some sponge cake soaked in sherry wine; very little wine, and some of the wine might be blown over its feathers.

DIARRHŒA.—This is frequently a fatal disease with canaries, as with other cage birds. The bird attacked with it constantly voids a white fluid matter, which causes great inflammation of the rectum. The best remedial measures are as much natural food as possible. A rusty nail placed in the drinking cup, and a little hard-boiled egg,

may be given. A piece of chalk may be put between the bars of the cage for the bird to nibble, or some scraped chalk scattered on the floor. If these remedies fail, I have not much faith in anything else. Green food to be omitted.

CONSTIPATION is most effectually relieved by green food.

RUPTURE OR SURFEIT is not uncommon with improperly fed birds, from their eating too much food, though of nourishing kinds, producing an inflammation of the bowels. Relief is sometimes obtained by a spare diet, with a little salt, alum, or a rusty nail in the drinking vessel; anoint any skin which has become bare with lard.

ACCIDENTS.—The best way to accustom a bird to fly, when it is old enough to do so, is to let out a few of those who are quite accustomed to it, and then, having drawn down the blinds, or, still better, closed any muslin curtains, the bird will hop out of its cage peaceably, and when it has once exa-

mined the room well, will ware glass sufficiently.

If unfortunate accidents do, however, happen to birds getting loose, I think the best thing that can be done is merely to keep them wrapped up warmly for a day or two, feeding them with egg or milk from a quill, if their heads have been badly bruised, as often happens. Should they meet with a fall or blow so severe as to stun them in their rapid flight, a few moments generally are sufficient to bring them to themselves, and they must be held in the hand or put into a soft cage to recover, as otherwise they begin at once to beat about in a great fright: a little cold water dropped on the head and bill, is the best thing for them; and after such escapades, the cage should be shaded for an hour or two to give the patient a little time to rest, when, if it is not seriously injured, it will soon be again quite comfortable.

Obstruction of the Rump Gland.—In

every bird there is a gland just above the tail, which secretes the oily substance necessary for oiling the feathers, and preserving them from the effects of rain. As in captivity birds rarely get wet, they sometimes neglect to use this gland, and it swells, dries up, and even ulcerates. The bird sits still, with the tail bent downwards, and frequently pecking at the rough feathers on the affected part. Apply an ointment of unsalted butter and sugar, or enlarge the opening of the gland with a needle; but the latter, though it cure the disease, destroys the gland, and the next moulting season the bird dies for want of the oil to soften the feathers. An ointment to be procured at the druggists' is effectual. It is composed of litharge, white lead, wine, and olive oil.

We have now given a tolerably complete list of the ills and casualties of canary life in a state of confinement, with their appropriate remedies; though we think that, so far as ladies are concerned, the non-doctor-

ing system is the best, as they may be entirely mistaken as to the nature of the disease with which their birds are affected, and give medicine that would take life. With moderate but constant care of their little pets, proper food and cleanliness, they will rarely have to refer to this part of my book. The canary is not a delicate bird by any means; but if properly cared for, will keep in good health and full power of song for many years.

The love of birds, and the increasing number of ladies and gentlemen who possess these little enliveners of the house, has called for this book, which we hope will make bird-keeping as easy as it is delightful.

CHAPTER X.

WANTS OF BIRD-KEEPERS.

Amongst the various things found useful in keeping birds, I may mention, first, the cages, varying from the cheapest and commonest forms to the largest and most elaborate aviaries—these have been herein described.

A tray for placing all the apparatus on.

A few tin canisters, or glass preserve-jars, or even common bottles, without corks, for containing the seeds; "without corks," because of the danger of small pieces being swallowed by the birds; glass stoppers may be used.

A bread-grater is essential; and if there are many birds, a small marble mortar will be serviceable, for rubbing down hard-boiled eggs. A coffee-mill will be useful, because easier to work than a mortar.

A glass dish for a bath; with a wire basket, for suspending it in the aviary.

A sieve, for sifting the seed or sand from the husks or dirt, will be wanted.

A piece of hard wood, twelve inches square, made on the principle of what housekeepers call a chopping-board; that is, having a back to it, and a low strip or wall on each side. On this place your hempseed, to crush it with a hard rolling-pin. After using it, scrape and scald the board.

A spatula, or apothecary's knife, and a glass spoon, both of which must be kept sweet and clean.

To cleanse the floor of an aviary by removing the sand, a hoe will be needed. A trowel also, for scraping the corners of the floor.

The sand should be coarse, or rather gravel.

Of course, you will keep well supplied with sponges, flannels, nail-brushes, seed and bath glasses, to replace broken ones.