



A BIRD'S-EYE VIEW OF BEE-KEEPING.



BY

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PREFACE.

Not since the days of Virgil, whose Georgics are still classical reading, has there been, so far as I know, any poetry of bee-keeping, with the exception of occasional allusions in general literature. How is this? Has the poetry all gone out of bee-keeping, leaving only dull prose? It is high time that some one tuned the lyre, and courted the muse on this subject. Here is a humble attempt to supply the lack, and it is respectfully dedicated to

ALL BEE-KEEPERS,

except the unhappy wretch, if such there be, whom Shakespeare describes in the not very flattering lines :

“ The man that hath no music in his soul,
And is not moved with concord of sweet sounds.”

Guelph, Ont.

W. F. C.



A BIRD'S EYE

VIEW OF BEE-KEEPING

Apis Mellifica!— the honey bee!—

My unpretending song shall be of thee,
Of honey-gathering, and the simpler part
Of the bee-keeper's fascinating art.

The busy bee since ever time began
Has waked the curiosity of man,
And many a painful sting has testified
How curiosity was satisfied.

He was a bold, adventurous mortal, who
First dared the bee at home to interview,
But ancient history does not give his name,
Or he would be immortalized in fame.

When or where was it that the little bee
Awakened man's intense cupidity,
And set him thinking, how in spite of stings,
Commerce might profit by the bees' swift wings?
The father of bee-keeping is unknown,
Else he would have a proud, exalted throne

Upon a pyramid of wealth, erected
 Out of the stores by myriad bees collected.
 As apiculture, from the shadowy past
 Has now evolved into a business vast,
 A literature has been developed too,
 Till we can hardly say, "Lo this is new!"
 "Of making many books there is no end,"
 And some to bulky amplitude extend.
 But there is room and need for one small book,
 Into whose few, brief pages those may look,
 Whose minds by various influences have come
 To find a charm in the bee's merry hum,
 And to contemplate as an undertaking,
 The enterprise of apiary-making.
 Besides, the general public wish to find
 A little publication of this kind,
 Where they, as with a bird's-eye view, can see,
 In brief, "How doth the little busy bee."
 To meet this want is what I now propose,
 And take to poetry instead of prose.
 I leave bee natural history to others,
 Professor Cook and his collegiate brothers:—
 The Bible stories, Aristotle, Virgil,
 And hosts of modern works would quickly fill
 My little poem, leaving me no space
 The methods of bee management to trace,

Bee pasturage, large pictures of bee-stings,
 And lots of interesting, useful things,
 I leave to other books in bee-lore rich,
 Content to fill a very humble *niche*.
 This treatise is for novices, and such
 Should take care not at first to attempt too much.
 Before a bee is bought, it will be well
 To get a book such as supply men sell,
 Quinby, or Newman, or Professor Cook,
 Or Mr. A. I. Root's "A. B. C." book,
 King's "text book," or the Reverend Ballantyne's,
 Or Alley, who in queen-producing shines,
 Or "Langstroth on the honey-bee" so prized,
 Now in the Dadant's hands to be revised,
 Or if the highest plane you wish to tread on,
 "Success in bee-culture," by Mr. Heddon.
 Let this be studied and not simply read,
 But all its teachings got into the head,
 Nor in the head alone, but in the heart,
 Enthusiasm there must do its part.
 Take a bee-paper, that you may find out,
 What other apiculturists are about,
 Unless you read the journalistic page,
 You'll fall behind the progress of the age.
 Journals abound, from the *American*

That five and twenty years ago began
 Shedding the light of knowledge to and fro,
 To the *Canadian* which a year ago,
 Boldly its banner to the breeze unfurled,
 "The first \$1 weekly in the world."

The *Magazine*, the *Apiculturist*,
Gleanings, and *B. K.'s Guide* complete the list.

Read, ponder well, and seriously ask

If you are fit to undertake the task
 Of keeping bees,—if you indeed possess
 Qualification to secure success.

To be a skilful bee-keeper, you ought

To know that you must mainly be self-taught.

Experience is a most expensive school,
 But he who shirks it will remain a fool.

No one however wise, can tell you all

That you must know if you yourself would call
 Master or mistress of the modern art

Of keeping bees ; so do not make a start

Until you fully, fairly count the cost,

Or else your time and money will be lost.

The management that does in one location
 Will in another bring but sore vexation.

You think that you, at length, have learned it all,

Next into some unthought-of error fall ;

And when you have supplied one glaring lack,
 Another switches you on the wrong track.
 'Tis said the "deil" once undertook the job
 Of raining a purse-proud, rich nabob,
 And after trying many plans, at last
 Upon "a newspaper for sale" he cast
 An eager eye,—“the very thing!” he said,—
 An apiary would have done instead!
 North, south, east, west, all through the land,
 More costly monuments and tombstones stand



Inscribed to dead and buried bees and hives,
 Than to all else that vexes human lives.

“ Who should keep bees ? ” this question often
asked

Has many wise bee-keepers sorely tasked,
And must be answered by advice to such
As need experienced counselling so much.
First, then, no one should think of keeping bees
Who means to let them do just as they please,
Or who believes the ditty greenhorns sing,
‘ Bees board themselves, and, *gratis*, ply the wing.’”
None should attempt the business till they learn it,
Or hope to make a cent unless they earn it.
None who are seeking a soft place to lie on,
Need trouble themselves this pursuit to try on.
Some think that none should meddle with bee-
hives

Unless determined to devote their lives
Wholly and solely to the care of bees,
And that no man should seek himself to please
By keeping just a few, as a side-show,
To which, in leisure moments, he may go.
This seems an arbitrary prohibition,
Unsuited to our free-born, proud condition.
Life, liberty, pursuit of happiness,
Are precious birthrights which we all possess.
Why do not market-gardeners insist,
That all and sundry must at once desist

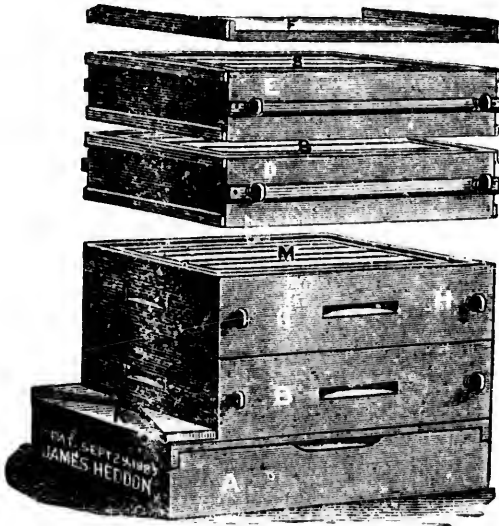
From vegetable-growing except those
 Who to make this their one life-work propose ?
 Or why not poultry-fanciers object
 When others barn-yard fowls as pets elect ?
 It has been urged that little gain or pleasure
 Has been obtained by those who give their leisure
 To amateuring in an apiary,
 So that of doing this we should be chary,
 And that to keep a few stocks on the farm
 Results in doubtful good and certain harm.
 I fail to see it : I have "fussed" with bees
 Simply as recreation, now for these
 Full twenty years, and the out door pursuit
 Has yielded good and profitable fruit.
 As for the farm, bees justly rank with stock
 Such as the cattle-herd and the sheep-flock.
 If bees are kept there without any gain
 The reason is, farmers do not obtain
 The needful knowledge and the ready skill
 To make their bees obedient to their will.
 Some say that ladies ought to let alone
 This occupation, although we must own
 That many lady apiculturists
 Have won high fame upon the honor lists.
 Good Mrs. Harrison, of Illinois,
 Keeps bees, makes bread, preserves and pumpkin-
 pie.

"Cyula Linswik," whose right name few know,
 Mrs McKechnie, of Ontario,
 Mrs. Cass Robinson, of Indiana,
 Both handle bees and play on the piano.
 A lady's hand, with its soft gentle touch
 To bee-controlling is adapted much,
 Even her oft-persistent wilfulness
 Gives her a faculty to win success.
 It is objected that the slavish work
 Of lifting hives, all womankind must shirk ;
 But if they winter on the summer stands
 They need not carry hives with aching hands,
 While the new hive, of which I soon shall speak,
 Will not oppress or strain a sister weak.
 Let those who wish be specialists in bees,
 And others amateurs, if so they please.
 Pursuits, like water, do not seek a bevel,
 But find, infallibly, their proper level.
 If you propose to be a specialist
 In keeping bees, permit me to assist
 Your cogitations, by, in brief, suggesting
 A few pre-requisites before investing.
 That knowledge of the business and then **fitness**
 To follow it are needful, facts bear witness.
 But what *is* fitness ? Well, it is, in part,
 To have quick eye, soft hand, and lion-heart ;

A mind to grasp the most minute details,
 And, with it all, patience that never fails.
 Promptness to do all work in its right season,
 And clear perception from the facts to reason.
 It is to have a perfect self-control,
 And let alone the intoxicating bowl,
 If you this evil habit once begin,
 An apiary never set your foot in.
 A hopefulness that never fails nor flags,
 A diligence that neither loafs nor lags,
 High moral principle that scorns to cheat,
 And makes a point all honor's claims to meet.
 The golden rule and law of love your aim,
 And your best treasure an untarnished name.
 If you are wholly ignorant of bees,
 And yet possess such qualities as these,
 You must content yourself to be a creeper,
 Along the road that makes a good bee-keeper.
 Go slowly, do not be in foolish haste,
 Nor think that you your time and money waste
 In making full and careful preparation,
 For entering on your chosen avocation.
 If you can spend a season,—even two,—
 With some good apiculturist,—do,—
 It will be time and money wisely spent,
 And save the cost of it, to the last cent.

If you must be self-taught, better begin
 With but a single colony, and win
 Hard-earned experience by tooth and nail
 Resolved, whatever happens, not to fail.
 Adopt the kind of hive you mean to use,
 Their name is "legion," from them you must
 choose.

So take advice, I freely give it you,
 The best thing, in my judgment, you can do,
 Is to adopt the new-style Heddon hive,



THE HEDDON HIVE.

If you would at complete success arrive.
 Next to the question what hive you shall use,
 Arises this, what breed of bees to choose,

Whether the native blacks or some new race ;
 Which among all deserves the foremost place ;
 The pure Italian or the German brown,
 Or others, which are written up and down
 In various publications about bees
 Which deal so fully with their pedigrees ?
 The blacks are not to be despised, for they
 Havestored A. 1 comb honey from the day
 When Samson took it from a lion's hide,
 Down to the latest bright Midsummer tide.
 But they are fickle in their disposition
 And hard to keep in prosperous condition,
 For when grown weak, they readily succumb
 To the moth-miller, or when robbers come.
 Further, they do not cling well to the comb,
 And the shy queen, hides when you search **her**
 home.

Hybrid Italians are quite like the blacks
 For sealing nice comb honey with white wax,
 And from the Italian mix are bold and brave
 Their precious stores from thieves and moths to save,
 But they are apt to have a temper warm,
 And show a great propensity to swarm.*
 Moreover, like all crosses, they hark back,
 And soon degenerate into common black,

*See Appendix.

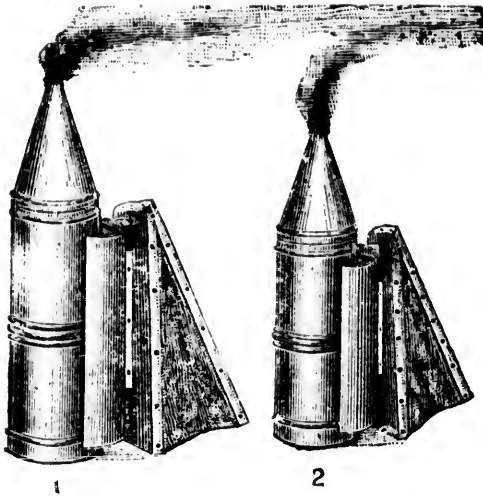
Unless the greatest vigilance is shown
In checking mixture with the common drone.
Chance hybridizing is a fatal snare
And crossing must be practised with great care.
The pure Italians are a noble breed,
And, with them, many bee-keepers succeed
In raising a large quantity of honey,
While summer days are passing, warm and sunny.
Their blemish is that they cannot so well
Round up and finish off the honey cell.



D. A. JONES.

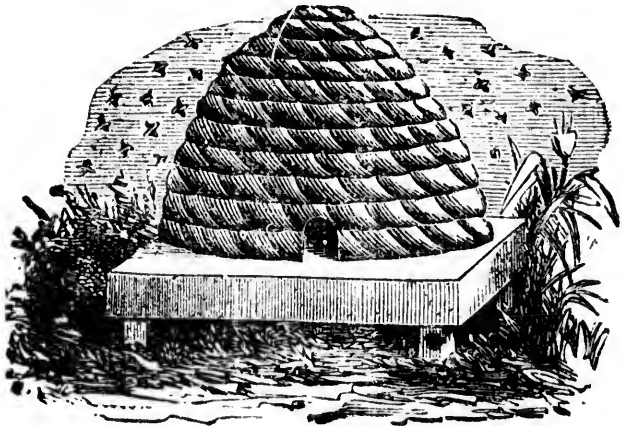
Our foremost breeders of queen bees advise
 Crossing ; but then a difficulty lies
 In doing it so wisely and so well
 That the resultant insect shall excel
 In all those qualities of best selection,
 Which, when summed up, approach to full per-
 fection.

Jones, who has neither spared his time nor money
 In finding the best bee for gathering honey,
 Counsels a sort of general careful mix,
 Till we the choicest qualities can fix.
 He thinks the pure Italian is the base
 On which to build the most industrious race :—
 A dash of Holy Land or Syrian,
 And then a touch of Carniolian.
 Heddon goes warmly for the German bee,
 Crossed on the darker strains from Italy,
 Hall, of Ontario, chimes with Mr. Heddon,
 And none will wander far by these led on.
 So make a wise and well-thought-out selection
 Under this able, veteran direction.
 Buy a bee-smoker, choose one strong and large,
 That will a conquering puff of smoke discharge,
 And tame the fury of the crossiest bees
 So you can handle them just as you please.



SMOKER.

Already you have watched the busy bee
 At a respectful distance, and could see



The nimble insects passing to and fro,
 And humming gentle music as they go ;

Perhaps have noticed, on their laden thighs
Two well-heaped baskets of conspicuous size,
Filled with a yellow dust, pollen its name,
A word now quite historical in fame,
Because of its connection with a plan
Of wintering that took rise in Michigan.



JAS. HEDDON.

At a small town known as Dowagiac,
 Where lives a bee-man who has learned the knack
 Of taking out the pollen with a tooth-pick
 Lest eating it should make the bees fall sick.*
 Now we will go to interview the bee
 And all the hive's interior wonders see,
 Put on a pair of gloves and wear a veil,

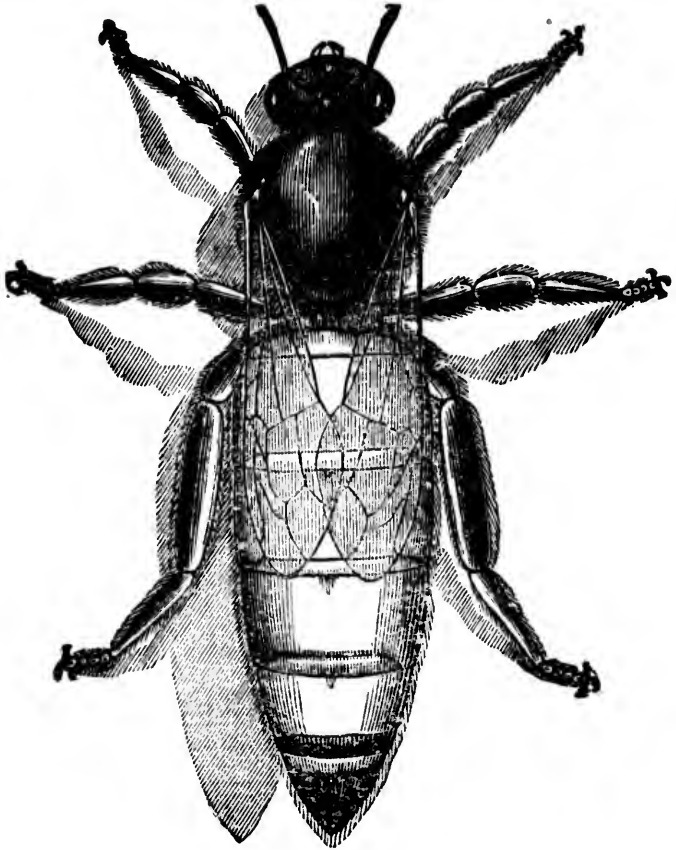


BEE VEIL.

To guard you from the bee's keen, piercing tail.
 You ask what sort of gloves to use, the mit
 For handling thistley grain is just as fit
 For handling bees, and is not half the price
 Of rubber gloves, although not quite so nice.
 Fire up the smoker, at the entrance puff,
 A single blast in front will be enough.
 Take off the cover, give a puff or two
 Across the top, until the bees in view

*See Appendix.

Run down the combs, and make a pleasant hum,
When the right time to take out frames has come.
Move quietly, avoid all sudden jars,
Rough, jerky work the whole procedure mars.



THE QUEEN.

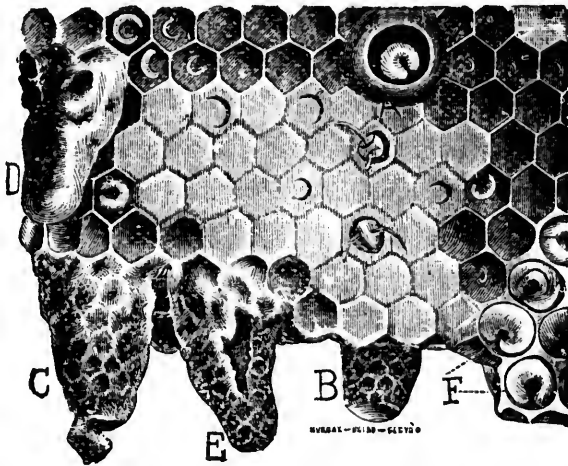
Loosen, with gentle care, the outside frame,
And to the next in order, do the same,

Also to number three and so get space
 Safely to lift the fourth frame out of place.
 Raise gently, do not rip and tear,
 Draw up the frame into the outer air,
 Don't get excited, all your courage muster,
 Behold the bees in many a group and cluster,
 And give the scene your very best attention
 While I, in brief, its leading features mention.
 Behold that long and taper-bodied bee,
 Marching around in conscious majesty !
 "She walks a queen" with dignity and grace,
 And fills, within the hive, the mother's place.
 When once this regal insect you have seen,
 Thenceforth you readily pick out the queen,
 Her slender form, her air so self-possessed
 Proclaim her widely different from the rest.
 Behold those portly, aldermanic bees,
 "*Otium cum dig*," and "go it as you please,"
 Their mottoes, while each plump, well-rounded
 rib,
 Shows that they fatten at the public crib.
 Until of late, the crude idea has been
 That drones are perfect idlers on the scene,
 But now some tell us that they do not shirk
 Like lazy fellows, every kind of work,
 But alternate their intervals of ease
 With nursing and caressing the young bees.

It is at once their function and their fate
 With newly-fledged and virgin queens to mate,
 An act performed but once in each queen's life
 While the drone meets, poor dupe! both death
 and wife.

The hive is chiefly filled with worker bees
 Who live and toil, devoid of sleep or ease.
 All through their little day of life which ends
 Within two months in summer, but extends
 In winter an indefinite duration,
 By virtue of the law of hibernation.

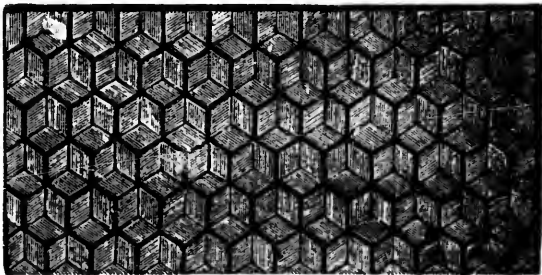
See now the cells that bright with honey glisten
 And whisper hope of gain if you but listen.
 Here too, are cells containing stores of pollen



Culled from the flowers that bees delight to roll in.

Bee-cells are plainly made of varying size,
 The smaller is the kind bee-keeper's prize.
 In it the busy workers hatch and grow,
 Fed by the nurse-bees, passing to and fro.
 The large cell is the cradle of the drone,
 Many of these it is not well to own.
 But lo! a cell much bigger than the rest,
 In it the embryo queen finds a snug nest.
 It hangs dependent from the sheet of comb,
 Much like a pea-nut is this royal home.
 Some cells contain small seeds that look like rice,
 These are the eggs, and lie as still as mice
 Till hatched into the larval state, and then
 Behold the small white grubs caged in their pen!
 Where they remain, become *chrysalides*,
 And then, at last, emerge as perfect bees.
 Just one thing more we note, inside the hive,
 A sticky substance, which the bees contrive
 To plaster here and there the frames to fix;
 Propolis, or bee-glue, we call this mix.
 And now close up the hive with gentle haste,
 Nor more of the bees' precious moments waste.
 Do not repeat this process often, for
 It may provoke the bees to go to war
 With one another, and they fight and rob
 When chance is given, as if they liked the job.

Moreover, if, in curiosity,
To see "how doth the little busy bee,"
You pry too much into the snug brood-nest,
Both queen and worker-bees become distressed,
Things get demoralized, and the poor queen
Is often killed and dragged outside the scene.
Be not too anxious to display your skill
In handling the ferocious bees at will
When visitors inspect your apiary:
In this and all things else, be wise and wary.
Too many colonies, deprived of breath,
Might have this epitaph, "Disturbed to death."
Starting in Spring with a half Heddon hive
Let it till gathering time increase and thrive,
And set the other half in place below,
When the first honey yield begins to flow,



FOUNDATION.

Before this lower half is put in place
Assist your bees to fill the added space

By fixing comb foundation in each frame,
 Or worker-comb will answer just the same.
 These two half-hives make one complete brood-nest
 And must be seldom interfered with, lest
 The queen should be prevented from discharging
 Those functions that will keep the stock enlarging,
 See that the brood-chamber does not become
 Too full of honey, or the welcome hum
 Of rapidly increasing population
 Will soon be apt to suffer some cessation.
 When the top half feels heavy, it will mean
 That honey stores are crowding up the queen,
 This evil you can very quickly stop
 By raising up the bottom half on top.
 When this you do put on a surplus case
 With sections and foundation in their place.
 When partly sealed, reverse the section-case,
 That perfect comb squares may fill out all space.
 Before work in the first case is quite done
 Work in one underneath should be begun,
 And so with number three and even four,
 Until the bees no longer honey store.
 Whenever you perceive the bees hang out
 In idle clusters, mind what you're about,
 Perhaps the hive requires more air, if so,
 Give it, and they again to work will go,

But if they want to swarm you must contrive,
To stop it by reversal of the hive.

Some say that this alone will kill the cells
In which the royal progeny then dwells ;

But would you make assurance doubly sure
Cut out the queen-cells and your end secure.
This you can do when you reverse the hive,
For the comb's depth in inches is but five,
And the queen-cells are usually well down ;
Your knife will bar princesses from their crown.

It is no time for swarming when the flow
Of honey needs that every bee should go
Backward and forward to the fields and flowers ;
All through the summer day's protracted hours.

But storing over, nothing else to do
Either for your good workers or for you,
Multiplication, you will clearly see,
Next urgent order of the day to be.

The brood receptacle, as we have seen,
Is in two halves with a bee-space between,
Lift the top-half in which most brood is stored,
Shake off the bees upon the bottom board ;
The queen will doubtless be among the crowd,
And in the lower half may be allowed.

Remove the top half to another place,
And if the lower half does not give space
To house the shake-down bees, put on another,
Lest you the stock should overcrowd and smother

Let the top half be filled with frames of comb,
 Or comb foundation where the bees may roam,
 And store away the honey found below,
 Thus emptying cells into which eggs may go.
 You have a new-stock in the distant half
 And may enjoy a quiet, little laugh,
 To think how easily you've swarmed your bees,
 Without the bother of ascending trees.
 Let me explain this matter somewhat more,
 And tell you, as I should have done before,
 How queens are raised, and why it is that bees
 Incline to loaf around and take their ease,
 Just when they most need to be gathering honey,
 And, to the bee-keeper, their time is money.
 Queen bees are hatched from eggs the very same
 As those from which the crowds of workers came,
 But being in a larger cell, and fed
 With royal jelly, become fit to wed,
 And fill the gushing hive with stores of brood
 To people many a sylvan solitude.
 A first-class queen when at her best will lay
 Two to four thousand fertile eggs per day.
 As these mature, they fill and crowd the hive,
 And soon the jostled workers must contrive
 To get more elbow-room, so they betake
 Themselves to queen-cell building, and to make
 Elaborate arrangements, in due form,
 As soon as possible, to cast a swarm.

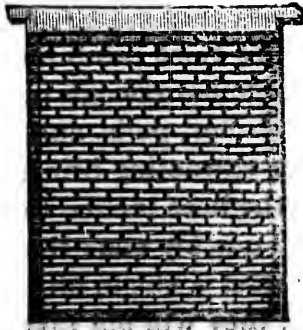
Some sixteen days are needed to mature
 A perfect queen, and to make matters sure,
 They raise a number, and when one is near
 The hatching period and will soon appear,
 The old queen plumes her wings away to fly,
 With bees enough for a new colony.
 In the old home, young bees are daily born,
 And therefore may depopulation scorn.
 It takes from eighteen days to twenty-two
 For worker bees their changes to pass through
 While drones require a period somewhat more,
 And usually mature in twenty-four.
 While these preliminaries are going on
 Most of the bees quit work, and one by one,
 Form clusters and festoons outside the hive,
 Until the swarming period arrive.
 So frustrate swarming till the very last
 Of the brief honey-storing time is past.
 Your artificially-swarmed queenless stock
 May at all danger of extinction mock,
 For having fertile eggs, it can proceed
 Queen cells to build in this its time of need,
 And singing, "What is home without a mother?"
 In place of the old queen, produce another.
 Or you can hasten things and buy a queen
 Advertisements of which are always seen

In the bee-journals, and a new beginner
 To grudge their trifling cost would be a sinner.
 In eight days after your new stock is started,
 And every chance of raising queens departed,
 Except what lies in the few queen cells made,
 Cut out each one, and having duly laid
 Your plans in readiness for introducing,
 Put in a queen ready for egg-producing.
 Do this, by placing her in a small cage,
 Lest discontented workers, in a rage,
 Should ball and sting the stranger queen to death
 And drag her forth deprived of life and breath.
 Within some four and twenty hours or so,
 It will be safe to loose and let her go,
 Smoking the hive to keep the bees diverted,
 Till tragic consequences are averted.
 This rhyme is for beginners, else the way
 To raise a store of queens against the day
 When it is proper to divide, and start
 New colonies, I would in full impart.
 But this belongs to high bee-culture, so
 In the meantime, I choose to let it go,
 Until the tyro is advanced and looks
 For further wisdom into big bee-books.
 In many apiaries, the extractor
 Is in the business an important factor.



EXTRACTOR.

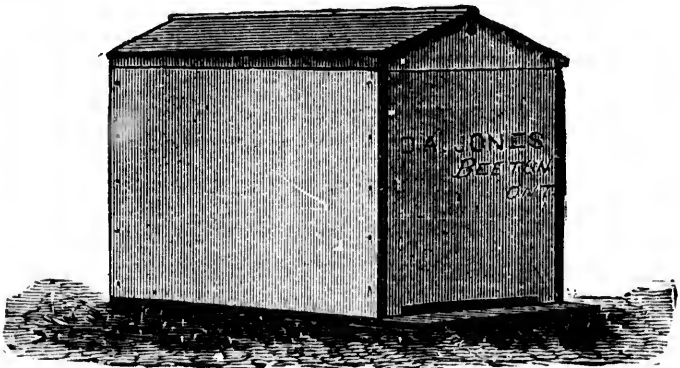
If this you use, put on a third half hive
 From which to keep the queen you must contrive,
 This may be brought about as quick as wink
 By a thin sheet of perforated zinc



Put in between halves number two and three:
The workers pass it, but not the queen-bee.
Do your extracting from the hive on top,
Once and again until the harvest stop.
Extract from frames that have the honey cells
Mostly capped over, for experience tells,
That uncapped honey formic acid lacks,
Which is supplied just when the final wax
Is spread across the open cavity,
And this gives honey its rare quality
Of keeping fresh and sweet a length of time
In all varieties of place and clime.
Do your uncapping with a keen-edged blade
Particularly for this purpose made.
Work your extractor in a bee-proof tent,
Or some secluded, and quite safe apartment.
Else the sweet nectar will from far be scented
And dire confusion cannot be prevented ;
The bees will get excited, rob, and sting
Each other, you, and every living thing.
Beginners, I advise to raise comb honey
Until they scrape together enough money
To purchase an extractor, pails, and things,
Necessity for which extracting brings.
When honey fails, the bees incline to rob,
Honey exposed will quickly start the job.
So do not leave around a single bit,
And then, perhaps, they will not take the fit.

Weak stocks are the most apt to be assailed
 By stronger ones, and when they have prevailed
 They quickly clean each cell of honey out
 And leave weak stocks to perish without doubt.
 To guard against this dire catastrophe
 Contract the entrance so a single bee
 Alone can pass, and then the weakest stock
 Will easily the narrow gangway block.
 Italian stocks, however weak, will guard
 Their honey stores, and make it very hard
 For any robber bees to gain admission,
 While they, with daggers drawn, refuse permis-
 sion.

Thus far you have been told how we contrive



JONES HIVE.

To handle bees in the new Heddon hive,
 But if with this you cannot make a start,
 I must a different management impart.

Take these directions, which will be the same
 For any hive that has a hanging frame.
 Contract the space with a division board
 Until the bees need room to store their hoard ;
 Then add, as may seem best, a frame or two,
 Filled with old comb, or with foundation new.
 Do this until the hive is nearly filled
 With brood and honey, then proceed to build
 A second story on the one below,
 In which the bees may surplus honey stow.
 If for comb honey you are working, let
 A section-case upon the top be set,
 Exactly fitted to the hive below
 That the whole force of workers there may go.
 Each section should be filled with empty comb,
 So that the bees may feel themselves at home,
 Or, little sheets of very thin foundation
 Will make them soon accept the situation.
 Do not allow your workers to relax
 In gathering honey and in moulding wax.
 But add another section-case or more,
 Until the bees no longer honey store.
 If the extractor you would rather use
 You must another line of action choose.
 Make your top hive the very counterpart
 Of the one underneath in every part

Except the bottom board ; dispense with it,
 And make both stories one another fit.
 Raise from the lower hive a frame or two,
 Half filled with honey, so that you may woo
 The busy workers to ascend up-stairs,
 Instead of starting swarming unawares.
 Fill both the hives with frames of comb-foundation
 Or empty comb, and so make preparation
 To give your busy workers every chance
 Their storings and your profits to enhance.
 Do your extracting from the hive on top,
 And before gathering ends, be sure to stop.
 When gathering wanes it will be time to try
 With prudent care your stocks to multiply.
 Be not too eager for a quick increase,
 Or it may end in ruinous decrease.
 To double up is doing very well,
 And year by year in numbers fast will tell.
 How foolish to count up a lot of hives
 So weak that hardly one of them survives.
 The hard ordeal of winter's crucial test,
 Leaving you only of dead bees possessed !
 Do not divide a solitary hive
 If there is doubt of keeping both alive,
 But if a stock is strong remove a part
 Of the filled frames another one to start.

Carry the old hive to a distant stand,
 And have, if possible, a queen at hand
 To introduce into the queenless stock
 And cage her, all hostility to block.
 As told already, it make long delay
 To bring a young queen to the light of day,
 Proceed as stated with the Heddon hive
 And to make two strong stocks you will contrive.
 The after treatment will be just the same,
 With Langstroth, Jones or any other frame.
 Your bees may steal a march, or rather flight,
 On you, and naturally swarm, in spite
 Of all precautionary things that you
 As taught in this and other books may do,
 So be prepared to hive them any day
 Lest they to parts unknown should steal away.
 Have always ready a spare hive or two,
 Filled with old comb or with foundation new,
 And when a swarm emerges watch their flight
 Until upon some object they alight
 And form their hanging cluster, then proceed
 To capture them with all convenient speed.
 Swarms usually alight upon a tree
 Not far away, and wait until they see
 If there is any home by man provided,
 When that is in the negative decided

Away they go to some big, hollow tree
And housed therein, enjoy their liberty.
But seldom for this final flight they muster
Until an hour or more they hang in cluster.
Saw off the tree-branch ; or shake down the bees
Into a swarming-box, if so you please ;
In that case let the box be covered quite
With some cloth fabric that is soft and light ;
Carry the bees to the awaiting hive,
Spread a white sheet in front, and then contrive
To shake the bees upon the sheet *en masse* ;
Soon some will into the hive's entrance pass,
And setting up a pleased, contented hum,
Allure the outside ones indoors to come.
Be sure that your new hive is clean and neat :
Smear it with beeswax and with honey sweet :
Have no foul smell about it, for the bees
Are mostly all old maids, whom you must please
By making things quite tidy and " so—so,"
Else in a fit of dudgeon, off they go !
If from the old hive you a frame remove
Of brood comb to the new one, it will prove
A guarantee that your new swarm will stay,
Instead of going to the woods away.
Shading the new swarm for a day or two,
From the sun's fiercer glare is wise, and you

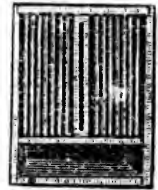
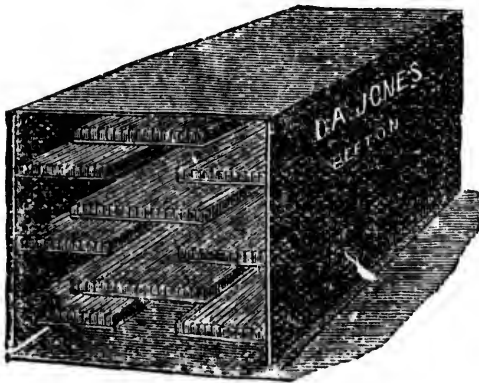
Had better leave them to their own sweet will,
 Till they the hive with honey nearly fill.
 Then as already stated, you must place
 On top a second hive, or section case.
 If the swarm come off early in the season
 And honey freely flows, there is no reason
 Why you should not be able to extract
 Or get some surplus into sections packed,
 Provided you look sharp, and see to it
 That crowding does not cause a lazy fit.
 The surplus honey you may have to sell
 To be attractive, must be packaged well ;
 For your best sections have a market case
 Neat, and with glass across the central space.



A nice pictorial label with your name
 Will help to give your apiary fame.
 Extracted honey, too, for sale prepare,
 In jars of glass, or tins, with equal care.
 A warranty of purity reads well
 And helps an A. r. article to sell.

Let it be known you have the best of honey,
 And you will quickly turn it into money ;
 A first-class product will be in demand,
 When common goods cannot a sale command.
 Watch market prices, and if they are fair,
 Sell out forthwith all that you have to spare.
 A certain risk attends undue delay,
 And prompt returns will, in the long run, pay.
 When the woods wear their autumn foliage sober,
 And it is near the first days of October,
 Begin to think of winter preparation,
 For soon the bees will dream of hibernation.
 First see that every hive has *quantum suff*,
 Of honey ; thirty pounds will be enough.
 If there is any lack, be sure and feed
 Enough to satisfy their utmost need.
 The best way to make up the winter hoard,
 Is to put in some frames with honey stored.
 If surplus honey cannot be provided,
 Your bees may over winter's dearth be tided
 By feeding sugar syrup till the hive
 Has food enough to keep the bees alive.
 Some adopt sugar stores instead of honey
 Because in this way bee-men can save money,
 But this, as it has oft been said or sung,
 "Saves at the spigot, and wastes at the bung."

Some think that sugar syrup takes the lead
 Of honey as the safest winter feed,
 But can this be a rational position?
 Bees get no sugar in their wild condition :
 Honey is nature's chosen food for bees,
 And nothing can their palates better please,
 Or be so good and wholesome for their health
 Or so increase the apiarist's wealth.
 Let sugar syrup to the bees be fed,
 As man would use a substitute for bread,
 When dire necessity that course compels,
 And he must starve or live on something else.

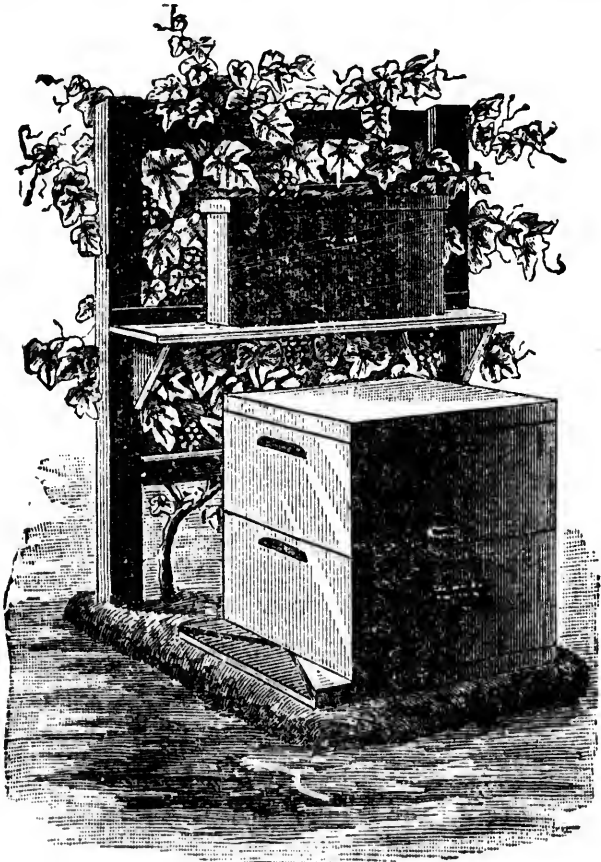


FEEDERS.

Feeders for giving sugar to the bees,
 Supply men sell, of any style you please.
 Their food provided, the next question is,
 What winter quarters for your colonies?

Some winter in a cellar, some out-doors ;
The cellar-men believe that fewer stores
Are needed by the bees in close confinement,
And hence prefer to make indoor consignment.
Others believe that hives well packed in chaff
Do better on their summer stands by half.
Experts like Barber, Hall, and Jones can tell
How bees in cellars may be wintered well :
And in repositories above ground,
Successful wintering is often found.
Such note I bee-keepers as these contrive
To treat the cellar as one mammoth hive,
Tempering the air by wise manipulation
To bring about the state of hibernation.
But I am teaching tyros, and for such,
Indoor repositories cost too much.
Bee-keeping specialists may make them pay,
But happily there is another way
Of wintering, which answers quite as well,
If it does not all indoor modes excel.
The difficulty of hitting the right time
For housing in our freaky winter clime,
And for re-placing on their summer stands,
Is an objection owned to on all hands :
And then the slavish toil of carrying hives
Has well nigh cost some bee-keepers their lives.

I go for out-door wintering, on a stand
Where you can manage them with ready hand,



Free from laborious lifting to and fro,
Which makes the luckless beeman's back ache so.
I set my hives two feet above the ground
Where ease of handling them is always found.

The man who first devised a four-inch stool
To set his hives on was an arrant fool,
And needlessly condemned himself to stoop
Till with fatigue and pain his spirits droop.
Why set your bees away down near the ground
Where damp, foul air, vermin and toads abound?
Some say because the heavy-laden bees
Can gain the entrances with greater ease,
While higher up their foothold they may miss,
And mother earth's cold bosom often kiss.
Well, I have watched the honey-laden bee
Returning home, and I could seldom see
Failure to gain the alighting-board, but in
They hasten, and home's glad enclosure win.
For one poor weary heavy-laden bee
That prostrate on the ground tired out you see,



I'll point you out a dozen with their load,
Caught by the lightning-tongue of some big toad.

Beside the hive he squats, and there prepares
 Apparently, to say his evening prayers,
 He looks so solemn, grave, demure, devout,
 But, wretched hypocrite and graceless lout,
 He knows too well the mischief he's about,
 And catches bees quicker than you can shout
 "Jack Robinson," or any other thing,
 Regardless of the poison and the sting.
 So keep your hives well up a foot or two,
 For it is good, both for your bees and you.
 This method affords chance of preparation
 To give your bees due lower ventilation.
 Construct a hopper underneath the hive,
 Remove the bottom-board, and so contrive
 A way to let dead bees and rubbish go
 Down to the bottom of the box below.
 An augur-hole somewhere about the box
 Will furnish air enough for average stocks ;
 There must be care to give enough, no more,
 While in the box's side a little door
 Enables you to see all winter through,
 How your now hibernating insects do,
 And whether the dry fœces powdery dust
 Proves that your bees well wintering you can
 trust.

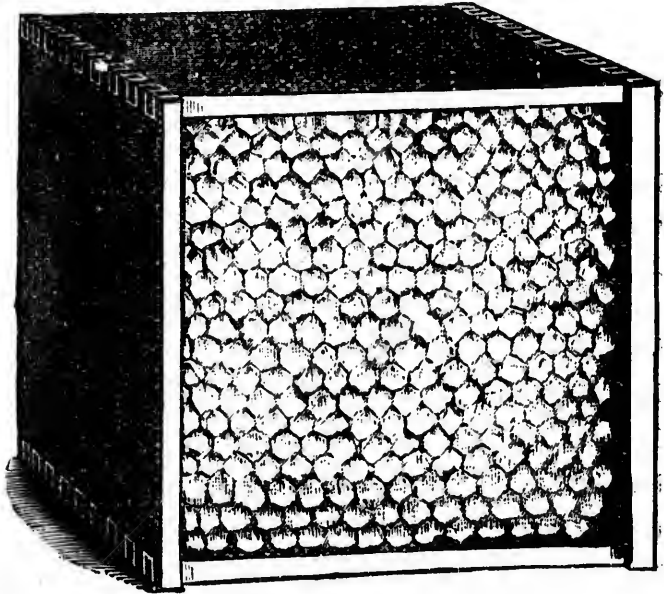
This hopper plan danger of smothering blocks
 When late fall breeding gives you crowded stocks,

But if your stocks are medium-sized or small,
Do not remove the bottom-board at all.
Bore with a two-inch auger through its middle,
And you have solved the ventilation riddle.
Surround the hive with a capacious case
And in it chaff or some light packing place.
Better than chaff on top, your bees to keep
Both dry and warm all through their winter sleep
Are wool-lined quilts, about two inches thick,
Through which all moisture passes double-quick
These act just like quilts on your own warm bed,
Retaining warmth while air is gently led
Through the interstices of thread and wool,
Keeping the hive of pure air always full.
The trouble with absorbents on the top
Is that, in them, moisture is apt to stop
Until the frost comes, when an icy mass
Forbids all air and dampness through to pass,
Then warmth below causes a leakage through,
Giving the bees more work than they can do
To keep their quarters in that nice dry state
Needful, if you would have them hibernate.
Just as a blanket on a sweaty horse
Passes all moisture through the woolen pores,
The blanket's underside quite dry and warm,
While, on the top-side, little dewdrops form,
To be exhaled by means of warmth and air,

Until you can detect no moisture there.
 Bees will not tolerate an upward draught
 But ought to have a vertical air-shaft
 Placed underneath the hive, so that foul gas
 By its own density outside may pass,
 While damp is carried up by ventilation,
 Like man's insensible skin perspiration.
 Quilts filled with cotton, sawdust, chaff on top,
 Are apt to make the gathering moisture stop
 Within the hive, whereas the wool-lined spread
 Carries each drop of moisture overhead.
 Small auger-holes bored in the gable roof
 Will make the hive against all dampness proof.
 I would not any bee-man's honors steal,
 So credit this device to S. Corneil.
 Providing thus an adequate protection
 From frost and damp, you have in full perfection
 A mode of wintering that will safely keep
 Your bees all right until the spring buds peep.
 Let it be added, that the summer door
 Into the hive is left a little more
 Than one bee-passage wide, and you must see
 After a snow-storm that the way is free.
 If you the bottom-board retain, a wire
 Bent at one end an inch you will require
 With which, occasionally, you must clear,
 Dead bees and rubbish until spring is here.

But if you use the hopper, these will fall
 And need all winter long, no care at all.
 Disturb your stocks but little in their sleep,
 But let them all in quiet torpor keep.
 Should a warm spell come any day in winter,
 Causing the icicles to melt and splin'er,
 Your bees can sally forth and take a flight,
 And then re-form their cluster, snug and tight.
 In spring, no cleaning off the bottom-boards,
 No meddling with brood-nest or honey-boards,
 No dwindling down of numbers through the change
 From cellar-prison to an outside range.
 But on they go, increasing population,
 And work without a day or hour's vacation.
 If lightness of the hive should indicate
 Stores are decreasing at too fast a rate,
 Feed them inside, on top of the brood-frame,
 Or at the entrance, you can do the same.
 If they are flying before willow buds
 Furnish the bees with ye'low catkin cuds
 To chew and masticate for larvæ food,
 Unbolted rye or wheat-meal will be good ;
 For this important purpose, let it stand
 In open pans or dishes close at hand.
 For feeding in the spring, Good's cakes of candy
 Of all things now in use are the most handy,

Unless you have in store some surplus honey
Not previously converted into money.
And now, the season's cycle is complete,
The summer hours march on, with nimble feet,
Soon once again the welcome time will come
When honey-gathering bees, with cheerful hum,
Will do the work they understand so well,
And store sweet nectar in each vacant cell,
Smoothing and polishing the surface all
With that small trowel, we a dagger call,
But which by them employed so much is
In giving honey-comb its final touches.



COMB-HONEY— ONE POUND SECTION.

Ere I conclude, some cautionary things
 To my remembrance faithful memory brings.
 Think not that every hovering bee you see,
 Is on the watch to sting you stealthily,
 Or, like a roaring lion, every hour
 Goes prowling round some victim to devour.
 Bees have an honest calling to pursue,
 And better business than to fly at you.
 If interfered with, or enraged, they show
 A bold, undaunted courage, and will go
 Into the thick of conflict with a raid
 Resistless, like the famous "light brigade."
 Bees never from a battle-field retreat,
 Or yield to fear, or own to a defeat.
 If you are menaced by an angry bee,
 Hang down your head, and do not let it see
 Your eyes, or it will make an instant dash
 And you with pain your teeth will quickly gnash.
 A bee has many thousand eyes, while you
 Unfortunately can but boast of two.
 So "mind your eye" and take away the target
 Which, when exasperate, they try to hit.
 Keep quiet, do not strike a single blow,
 And usually, away the bee will go.
 But if, like Mary's little lamb so white,
 It seems reluctant to go out of sight,

Move quickly into some dense shade near by
For there a bee will hardly ever fly.
Never attempt to fight an angry bee,
But be content to win by strategy.
Do not suppose a tyro can contrive
A better than the best-built modern hive.
Of all the follies novices commit,
Inventing hives is the most silly fit.
Be not misled by gimcracks or moth-traps,
Or you will have no end of sad mishaps.
Be guided by the long experience wise
Of those who studied the hive's mysteries.
Long ere you thought of being a bee-keeper,
Else you, o'er "blasted hopes" will be a weeper.
Do not expect a pile of wealth to make
At keeping bees, but be content to take
A modest livelihood, and save a trifle
Out of the stores that of the bees you rifle.
Do not suppose that you have learned it all,
Or old bee-keepers aged fogies call ;
The longest day you there will be more live,
For you to learn and study in bee-lore.
Attend conventions, and when there you go,
Be willing to tell others what you know.
Don't sit a silent bump upon a log,
Or speechify so as to throw dense fog

Around a subject, but "let there be light,"
And willingly contribute your small mite



HOUSE APIARY.

To meet expenses, or to give a lift
If others need, or well deserve a gitt.
Write for bee-journals, and if you can say
A word to help another on his way,

By tongue or pen, be " ready aye " to do it,
 And, rest assured, that you will never rue it.
 Make channels for the streams of useful thought,
 Wisdom, though it be often dearly bought,
 Should freely flow o'er all the desert ground,
 Until the wilderness with fruit abound.
 It is not well hot, hasty feuds to rush on,
 But do not be afraid of free discussion.
 Be courteous always, chicken-hearted never,
 And learn the truth from passion far to sever.
 Further, I warn you to be very chary
 About commencing a new apiary
 In a location that is filled already
 With bees enough to get employment steady.
 A honey-range extends about six miles
 From side to side, and does not yield its piles
 Of precious nectar inexhaustibly,
 It easily may over-crowded be.
 The land is full of tempting, vacant places,
 And should be parcelled out into bee-spaces
 Of out-door flight, and each new selection
 Should be in some not over-crowded section.
 Right of pre-emption ought to be respected
 Or else success can hardly be expected.
 How many hives will occupy a field,
 And gather all the honey it can yield,

Is among bee-keepers a question moot ;
 At Mohawk, in the range of L. C. Root,
 A thousand colonies of bees are kept,
 And the earth's carpet must be cleanly swept.
 Heddon, as good a judge as I can mention,
 Has given this question long and close attention,
 His recently-announced conclusion is,
 That just about a hundred colonies
 An ordinary area will work,
 And cull the sweets that in the blossoms lurk.
 Do not assist in making a great noise,
 Or throw your hat up with a " Hurrah boys,"
 " The more the merrier " that go into bees,
 And any man's preferred location seize,
 Or soon the honey-crop will grow so thin
 That he a livelihood will scarcely win.
 " The world is all before you where to choose,"
 Therefore, all selfish rivalry refuse.
 Live peaceably beneath the heaven's high dome,
 And trench not on another's " home, sweet home."'
 Learn industry from your untiring bees,
 And, like them, every golden moment seize
 In storing up, against the days to come,
 Of worldly substance, a sufficient sum
 To keep yourself and those on you depending,
 When life's brief sun is in the west descending.

Act so that when, like bees, you pass away
From earth's alternate scenes of night and day,
It shall be owned that you have done your part
Of life's hard toil, with faithful hand and heart,
And left to those who come upon the stage,
A good, praiseworthy, biographic page.
Farewell ! and in a brighter world than this,
May you enjoy a life of perfect bliss ;
Where thrilling music through the weklin rings,
And nectar sweet is gathered without stings !

AUTHOR'S NOTES.

Page 6.

“ To meet this want is what I now propose
And take to poetry instead of prose.”

I have long felt the need of some brief, elementary manual of bee-keeping which would give advice to persons who propose to make a start in this line of things, or have already done so, and which, while giving the outlines of the art, would be so condensed as to cost but little. I have also wanted something in printed form that would answer the thousand and one questions of correspondents and visitors, without compelling me incessantly to use tongue or pen. I like to have a good bee-talk, but I prefer to have it with some one who is “up” in the science and art. To be constantly going over the first principles is as wearisome as teaching a school in which all the scholars are learning their alphabet. I hope while thus providing a convenience for myself, to have also rendered a service to advanced bee-keepers who are too busy to be constantly instructing enquirers and beginners, but yet do not like to decline furnishing desired information. As to the poetic form, it is like the boy who was called up by his teacher to answer for whistling

during school hours. All he could say was, "it whistled itself." So far as I have used choice in the matter, two considerations have more particularly influenced me. 1st. That of novelty, which might be a feature of interest; and 2nd., the thought that in this form, I should not encroach on the ground of any other author, but have a field all to myself.

Page 15.

"And show a great propensity to swarm."

Not more, however, than the common blacks, from whom they inherit this trait, along with the faculty of expert comb-building.

Page 18.

"Lest eating it should make the bees fall sick."

My esteemed friend, Mr. Haddon, who has kindly read my book both in mss. and in proof, and to whom I am indebted for several valuable criticisms and corrections, writes me that he thinks most people will fail to take this passage as a bit of pleasantry. So, in imitation of the great Artemus Ward's example, I beg to say, "This is a *goak*."

Page 22.

"And fills within the hive the mother's place."

The functions of the "queen" as she is called, are far more maternal than regal. "Mother-bee," would be a better name for her.

Page 29.

"So frustrate swarming till the very last
Of the brief honey-gathering time is past."

The criticism of every experienced bee-keeper on this will be, "easier said than done," and I bow to it in advance. But we are all working in this line, and when we discover

how to winter successfully every time, the prevention of swarming will be an absolute necessity. The only approximations we have yet,—young, vigorous queens, and giving the bees room before they feel cramped,—are not compatible with the production of surplus comb honey to any great extent, for you must crowd the bees below to force them upstairs. I frankly own that in this as in some other particulars, my preaching is better than my practice.

Page 30.

“But this belongs to high bee-culture,” etc.

What to admit and what to exclude has been the great difficulty in preparing this elementary treatise. The line must be drawn somewhere. Critics, who are invited to pitch in freely, are at the same time, respectfully requested to make allowance for this obvious difficulty.

Page 35.

“When gathering wanes it will be time to try,
With prudent care your stocks to multiply.”

• Very likely your bees will take matters into their own hands, and multiply before this quite as much as it is desirable they should.

Page 39.

“For soon the bees will dream of hibernation.”

I intended to make considerable flourish of trumpets over the hibernation of bees, and do my best to immortalize myself as the father of this theory, but while my book was in course of preparation, I made a (to me) most astounding discovery, which I now and herewith disclose to the bee keeping public. *I am not the father of the hibernation theory*, though I can honestly say I thought it out originally, and really supposed I was the first to propound it. Marvellous

to tell, the paternity of this theory belongs to Prof. A. J. Cook, the very man who has told us over and over again that bees do not hibernate, and treated the whole thing with the utmost disdain! The proof of this assertion will be found in the *American Bee Journal*, Vol. XI., page 83. In an essay by the Professor on "Insect Life and Respiration" read at the North Eastern B. K. Association, Feb. 3, 1875, we are told most positively that bees *do* hibernate, and that "the best conditions for wintering" are "those which will ensure persistent hibernation." The essay concludes by asking, "What more important problem awaits solution than a method of wintering which insures the most perfect hibernation?" If I had been making this explanation in the body of the work, I should probably have said something like this:—

I would not any bee-man's honors hook,
So yield priority to A. J. Cook.

Page 40.

"Honey is nature's chosen food for bees."

Mr. Heddon sent me a critique on this which I insert here:—"I should not like to have it go to record that I looked up to nature as a guide of success. We have excelled her in many things." That may be, but I doubt if we have ever even equalled nature in providing food for living beings. We have found nothing to beat or equal "milk for babes" and young animals generally; nothing to beat or equal grass for stock; and I believe nothing to beat or equal honey for bees.

Page 46.

"I would not any bee-man's honors steal
So credit this device to S. Corneil."

Mr. Heddon having expressed a doubt whether Mr. Corneil was "prior" in this plan, I wrote Mr. Corneil on the subject. Here is his reply :—"The idea of using a quilt of wool over bees in winter did not originate with me. I am not sure where I first got it, but I became interested in the matter on reading Guenther's account on page 411 of the *A. B. J.* for 1880. He says, a colony protected with a quilt made of one-half a pound of wool will consume four pounds less honey than one with one-quarter pound of wool. Mr. Heddon is right. I am not "prior" in this. You had better leave out that couplet." I was not willing to leave out the couplet, because I wished to acknowledge my indebtedness to Mr. Corneil for calling my attention to this excellent device, as I deem it. When he kindly sent me a pair of quilts and asked me to try them on "an average stock to bees," I just thought I was going to sacrifice a good stock to courtesy! *They wintered the best of any stock I had.* I made the big mistake of supposing all upward ventilation useless. It proved "big" as to costliness, but resulted in my coming to the views expressed in the body of the book, and which I feel satisfied are sound and safe.

Page 46.

"If you the bottom-board retain, a wire," etc.

I insert this on account of the remarkable success of the Misses Wilkins, Farwell, Mich., in wintering bees. It is, I believe, their practice to clear the entrance of the hive from snow and dead bees, with a wire, occasionally, or semi-occasionally, I do not know how often. But I do not much fancy disturbing bees at all in winter. I prefer to give them "a good letting alone" until spring arrives.

Page 48.

“ With that small trowel we a dagger call.”

I do not know whether I am entitled to claim priority in regard to the discovery that the most important function of the bees' sting is not stinging, but I became satisfied of this as the result of observations made last summer. It had often seemed to me that for such an elaborate and exquisite piece of machinery to be provided simply for the purpose of inflicting a wound was hardly in harmony with the usual economy of nature. But there is something well worthy of admiration in the fact that the most important functions of the bee-sting are those performed in doing the artistic cell-work, and infusing the formic acid by means of which honey receives its keeping qualities. The sting is really an exquisitely-contrived little trowel with which the bee finishes off and seals the cells, when they are filled brimful of honey. While doing this, the formic acid passes from the poison-bag, exudes drop by drop from the point of the sting, and the beautiful work is finished. A wonderful provision of nature truly !



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 - Honey Tins,
 - Honey Glasses,
 - Wire Nails,
 - Hive Nails,
 - Spraying Pumps.
- Wire Cloth,
 - Honey Labels,
 - Honey Boxes,
 - Foundation,
 - Bee Veils,
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 - Etc., etc., etc.

We keep in stock all first-class works on bee-culture.

We sell Bees and Queens, etc.

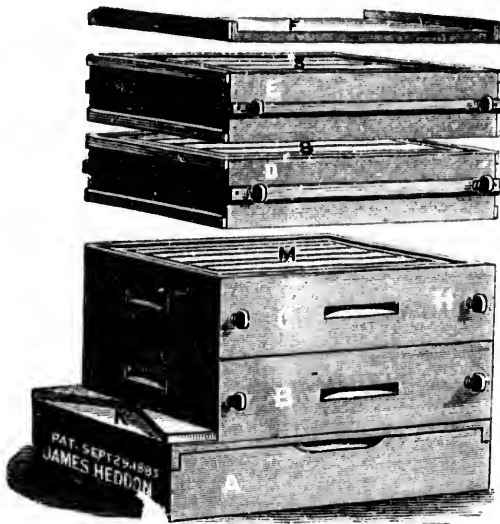
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N. B.—SEE FOLLOWING PAGES FOR SPECIALTIES.

THE HEDDON HIVE.



The engraving gives a good idea of the hive. The brood-chamber is in two sections; also the surplus arrangement may be interchanged or inverted at will. The cover, bottom-board, and top and bottom of each sectional case has one-half of a regular bee-space, so that the surplus cases with the sections may be placed between the two brood

chambers, or the latter may be transposed or inverted—in fact, all parts of the hive are perfectly interchangeable. The brood-frames will ALL be bored for wires.

A SAMPLE HIVE—includes the bottom board and stand; a slatted honey-board; a cover; two 6-inch brood chambers, each containing 8 frames, wired; two surplus arrangements, each containing 28 one-pound sections, both with wide frames and separators, both of which can be interchanged or reversed at will. Price, nailed \$2.90; nailed and painted \$3.25. It is absolutely essential to order one nailed hive as a pattern for putting those in the flat together correctly.

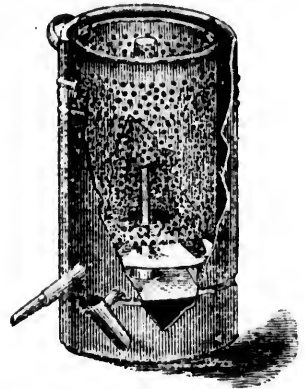
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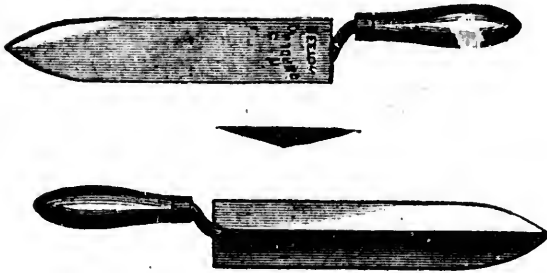
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