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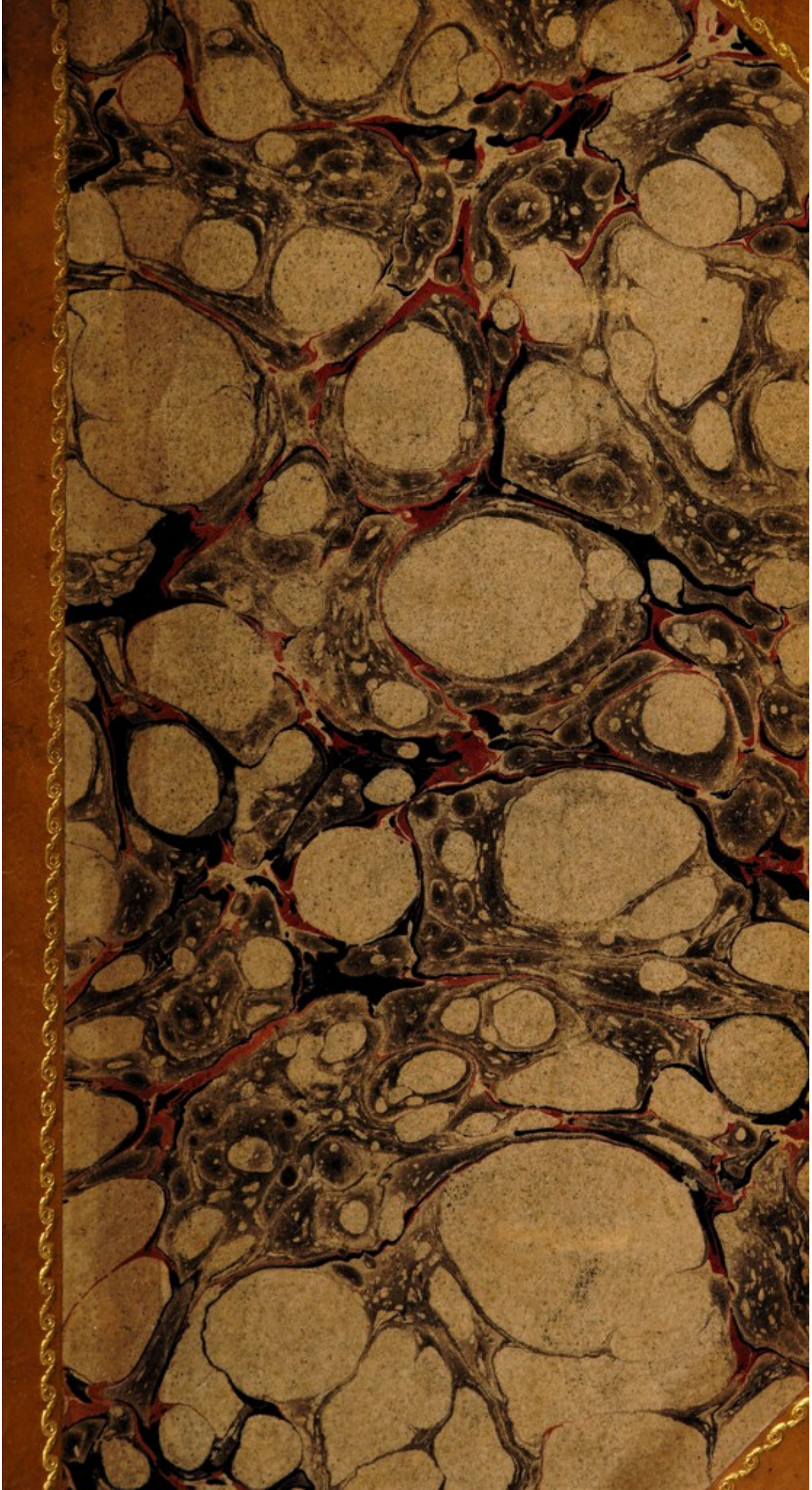

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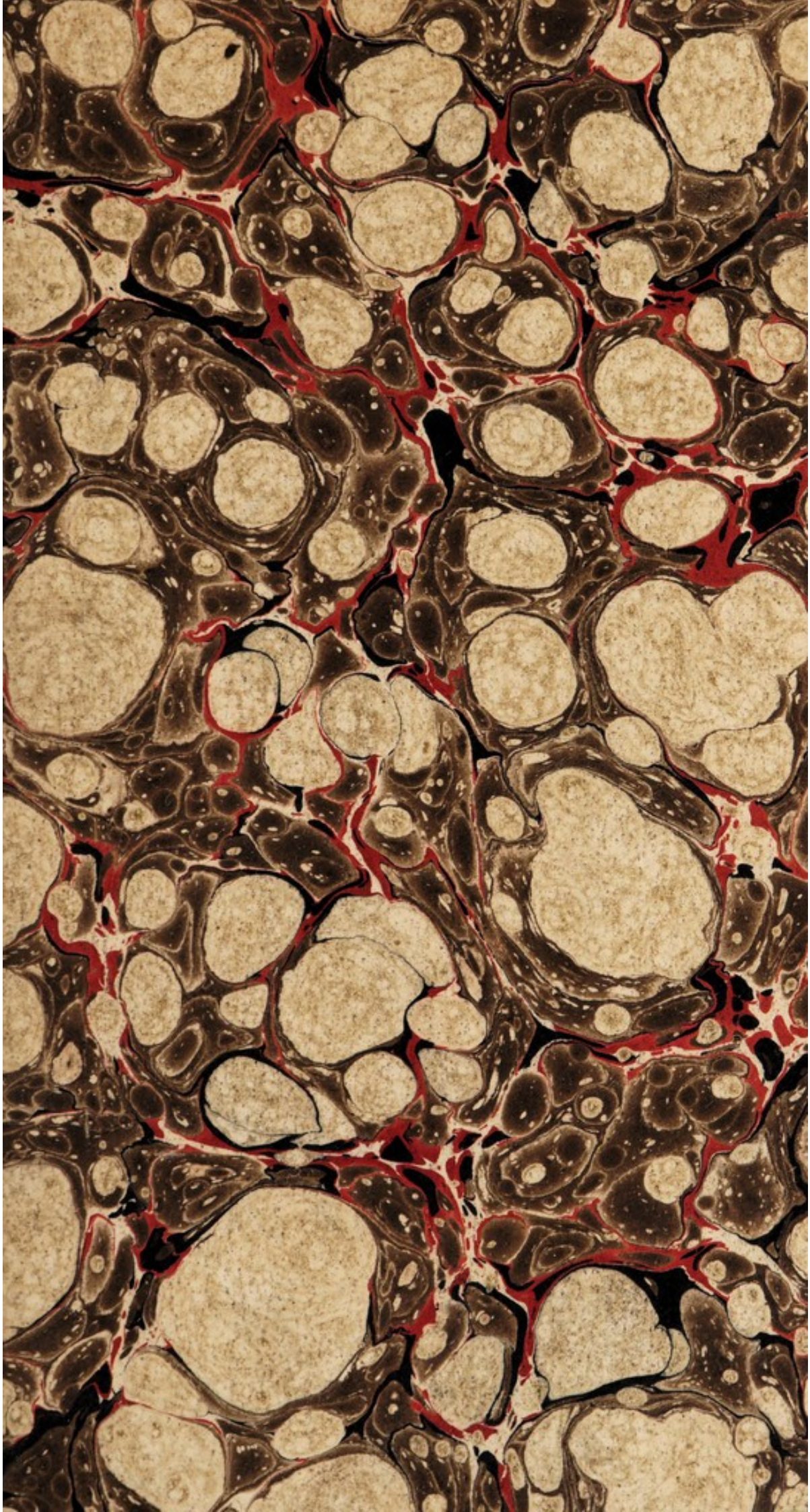

COTTAGE ECONOMY:

CONTAINING

Information relative to the brewing of BEER, making of BREAD, keeping of COWS, PIGS, BEES, EWES, GOATS, POULTRY and RABBITS, and relative to other matters deemed useful in the conducting of the Affairs of a Labourer's Family; to which are added, Instructions relative to the selecting, the cutting and the bleaching of the Plants of ENGLISH GRASS and GRAIN, for the purpose of making HATS and BONNETS; and also Instructions for erecting and using Ice-houses, after the Virginian manner.

BY WILLIAM COBBETT.

A NEW EDITION.

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9. Constructing and using Ice-Houses.

COTTAGE ECONOMY.

No. I.

INTRODUCTION.

To the Labouring Classes of this Kingdom.

1. THROUGHOUT this little work, I shall *number* the Paragraphs, in order to be able, at some stages of the work, to refer, with the more facility, to parts that have gone before. The last Number will contain an *Index*, by the means of which the several matters may be turned to without loss of time; for, when *Economy* is the subject, *time* is a thing, which ought by no means to be overlooked.

2. The word *Economy*, like a great many others, has, in its application, been very much abused. It is generally used as if it meaned parsimony, stinginess, or niggardliness; and, at best, merely the refraining from expending money. Hence misers and close-fisted men disguise their propensity and conduct under the name of *Economy*: whereas the most liberal disposition, a disposition precisely the contrary of that of the miser, is perfectly consistent with economy.

3. ECONOMY means, *management*, and nothing more; and it is generally applied to the affairs of a house and family, which affairs are an object of the greatest importance, whether as relating to individuals or to a nation. A nation is made powerful and to be honoured in the world, not so much by the number of its people as by the ability and character of that people; and the ability and character of a people depend, in a great measure, upon the *economy* of the several families, which, all taken together, make up the nation. There never yet was, and never will be, a nation *permanently great*, consisting, for the greater part, of wretched and miserable families.

4. In every view of the matter, therefore, it is desirable, that the families of which a nation consists should be happily off; and, as this depends, in a great degree, upon the *management* of their concerns, the present work is intended to convey to the families of the *Labouring Classes*, in particular, such information as I think may be useful with regard to that management.

5. I lay it down as a maxim, that for a family to be happy, they must be well supplied with *food* and *raiment*. It is a sorry effort that people make to persuade others, or to persuade themselves, that they can be happy in a state of *want* of the necessaries of life. The doctrines, which fanaticism preaches, and which teach men to be *content* with *poverty*, have a very pernicious tendency, and are calculated to favour tyrants by giving them passive slaves. To live well, to enjoy all things that make life pleasant, is the right of every man who constantly uses his strength judiciously and lawfully. It is to blaspheme God to suppose, that he created men to

be miserable, to hunger, thirst, and perish with cold, in the midst of that abundance which is the fruit of their own labour. Instead, therefore, of applauding "*happy* poverty," which applause is so much the fashion of the present day, I despise the man that is *poor* and *contented*; for, such content is a certain proof of a base disposition, a disposition which is the enemy of all industry, all exertion, all love of independance.

6. Let it be understood, however, that, by *poverty*, I mean *real want*, a real insufficiency of the food and raiment and lodging necessary to health and decency; and not that imaginary poverty, of which some persons complain. The man, who, by his own and his family's labour, can provide a sufficiency of food and raiment, and a comfortable dwelling place, is not a *poor man*. There must be different ranks and degrees in every civil society, and, indeed, so it is even amongst the savage tribes. There must be different degrees of wealth; some must have more than others; and the richest must be a great deal richer than the least rich. But, it is necessary to the very existence of a people, that nine out of ten should live wholly by the sweat of their brow; and, is it not degrading to human nature, that all the nine-tenths should be called *poor*; and what is still worse, *call themselves poor*, and be *contented* in that degraded state?

7. The laws, the economy, or management, of a state may be such as to render it impossible for the labourer, however skilful and industrious, to maintain his family in health and decency; and, such has, for many years past, been the management of the affairs of this once truly great and happy land. A system of paper-money, the effect of which was to take from the labourer the half of his

earnings, was what no industry and care could make head against. I do not pretend, that this system was adopted *by design*. But, no matter for the *cause;* such was the effect.

8. Better times, however, are approaching. The labourer now appears likely to obtain that hire of which he is worthy; and, therefore, this appears to me to be the time to press upon him the *duty* of using his best exertions for the rearing of his family in a manner that must give him the best security for happiness to himself, his wife and children, and to make him, in all respects, what his forefathers were. The people of England have been famed, in all ages, for their *good living;* for the *abundance of their food* and *goodness of their attire*. The old sayings about English roast beef and plumb-pudding, and about English hospitality, had not their foundation in *nothing*. And, in spite of all refinements of sickly minds, it is *abundant living* amongst the people at large, which is the great test of good government, and the surest basis of national greatness and security.

9. If the Labourer have his fair wages; if there be no false weights and measures, whether of money or of goods, by which he is defrauded; if the laws be equal in their effect on all men; if he be called upon for no more than his due share of the expenses necessary to support the government and defend the country, he has no reason to complain. If the largeness of his family demand extraordinary labour and care, these are due from him to it. He is the cause of the existence of that family; and, therefore, he is not, except in cases of accidental calamity, to throw upon others the burden of supporting it. Besides, "little children are as arrows in the hands

of the giant, and blessed is the man that hath his "quiver full of them." That is to say, children, if they bring their *cares*, bring also their *pleasures* and *solid advantages*. They become, very soon, so many assistants and props to the parents, who, when old age comes on, are amply repaid for all the toils and all the cares that children have occasioned in their infancy. To be without sure and safe friends in the world makes life not worth having; and whom can we be so sure of as of our children? Brothers and sisters are a mutual support. We see them, in almost every case, grow up into prosperity, when they act the part that the impulses of nature prescribe. When cordially united, a father and sons, or a family of brothers and sisters, may, in almost any state of life, set what is called misfortune at defiance.

10. These considerations are much more than enough to sweeten the toils and cares of parents, and to make them regard every additional child as an additional blessing. But, that children may be a blessing and not a curse, care must be taken of their *education*. This word has, of late years, been so perverted, so corrupted, so abused, in its application, that I am almost afraid to use it here. Yet I must not suffer it to be usurped by cant and tyranny. I must use it; but not without clearly saying what I mean.

11. *Education* means *breeding up*, *bringing up*, or *rearing up*; and nothing more. This includes every thing with regard to the *mind* as well as the *body* of a child; but, of late years, it has been so used as to have no sense applied to it but that of *book-learning*, with which, nine times out of ten, it has nothing at all to do. It is

indeed, proper, and it is the duty of all parents, to teach, or cause to be taught, their children as much as they can of books, *after*, and not before, all the measures are safely taken for enabling them to get their living by labour, or, for *providing them a living without labour*, and that, too, out of the means obtained and secured by the parents out of their own income. The taste of the times is, unhappily, to give to children something of *book-learning*, with a view of placing them to live, in some way or other, *upon the labour of other people*. Very seldom, comparatively speaking, has this succeeded, even during the wasteful public expenditure of the last thirty years; and, in the times that are approaching, it cannot, I thank God, succeed at all. When the project has failed, what disappointment, mortification and misery, to both parent and child! The latter is spoiled as a labourer; his book-learning has only made him conceited; into some course of desperation he falls; and the end is but too often not only wretched but ignominious.

12. Understand me clearly here, however; for, it is the duty of parents to give, if they be able, book-learning to their children, having *first* taken care to make them capable of earning their living by *bodily labour*. When that object has once been secured, the other may, if the ability remain, be attended to. But I am wholly against children wasting their time in the idleness of what is called *education*; and particularly in schools over which the parents have no control, and where nothing is taught but the rudiments of servility, pauperism and slavery.

13. The *education* that I have in view is, therefore, of a very different kind. You should bear constantly in

mind, that nine-tenths of us are, from the very nature and necessities of the world, born to gain our livelihood by the sweat of our brow. What reason have we, then, to presume, that our children are not to do the same? If they be, as now and then one will be, endued with extraordinary powers of mind, those powers may have an opportunity of developing themselves; and, if they never have that opportunity, the harm is not very great to us or to them. Nor does it hence follow, that the descendants of labourers are *always* to be labourers. The path upwards is steep and long, to be sure. Industry, care, skill, excellence, in the present parent, lays the foundation of *a rise*, under more favourable circumstances, for his children. The children of these take *another rise*; and, by and by, the descendants of the present labourer become gentlemen.

14. This is the natural progress. It is by attempting to reach the top at a *single leap* that so much misery is produced in the world; and the propensity to make such attempts has been cherished and encouraged by the strange projects that we have witnessed of late years for making the labourers *virtuous* and *happy* by giving them what is called *education*. The education which I speak of consists in bringing children up to labour with *steadiness*, with *care*, and with *skill*; to shew them how to do as many useful things as possible; to teach them to do them all in the best manner; to set them an example in industry, sobriety, cleanliness and neatness; to make all these *habitual* to them, so that they never shall be liable to fall into the contrary; to let them always see a *good living* proceeding from *labour*, and thus to remove from them the temptation to get at the goods of others

by violent or fraudulent means, and to keep far from their minds all the inducements to hypocrisy and deceit.

15. And, bear in mind, that if the state of the labourer has its disadvantages when compared with other callings and conditions of life, it has also its advantages. It is free from the torments of ambition, and from a great part of the causes of ill-health, for which not all the riches in the world and all the circumstances of high rank are a compensation. The able and prudent labourer is always *safe*, at the least; and that is what few men are who are lifted above him. They have losses and crosses to fear, the very thought of which never enters his mind, if he act well his part towards himself, his family and his neighbour.

16. But, the basis of good to him, is *steady and skilful labour*. To assist him in the pursuit of this labour, and in the turning of it to the best account, are the principal objects of the present little work. I propose to treat of brewing Beer, making Bread, keeping Cows and Pigs, rearing Poultry, and of other matters; and to show, that, while, from a very small piece of ground, a large part of the food of a considerable family may be raised, the very act of raising it will be the best possible foundation of *education* of the children of the labourer; that it will teach them a great number of useful things, *add greatly to their value when they go forth from* their father's home, make them start in life with all possible advantages, and give them the best chance of leading happy lives. And, is it not much more rational for parents to be employed in teaching their children how to cultivate a garden, to feed and rear animals, to make bread beer, bacon, butter, and cheese, and to be able to do

these things for themselves, or for others, than to leave them to prowl about the lanes and commons, or to mope at the heels of some crafty, sleek-headed pretended saint, who while he extracts the last penny from their pockets, bids them be contented with their misery, and promises them, in exchange for their pence, everlasting glory in the world to come? It is upon the hungry and the wretched that the fanatic works. The dejected and forlorn are his prey. As an ailing carcass engenders vermin, a pauperized community engenders teachers of fanaticism, the very foundation of whose doctrines is, that we are to care nothing about this world, and that all our labours and exertions are in vain.

17. The man, who is doing well, who is in good health, who has a blooming and dutiful and cheerful and happy family about him, and who passes his day of rest amongst them, is not to be made to believe, that he was born to be miserable, and that poverty, the natural and just reward of laziness, is to secure him a crown of glory. Far be it from me to recommend a disregard of even outward observances as to matters of religion; but, can it be *religion*, to believe, that God has made us to be wretched and dejected? Can it be *religion* to regard, as marks of his grace, the poverty and misery that almost invariably attend our neglect to use the means of obtaining a competence in worldly things? Can it be *religion* to regard as blessings those things, those very things, which God expressly numbers amongst his curses? Poverty never finds a place amongst the *blessings* promised by God. His blessings are of a directly opposite description; flocks, herds, corn, wine and oil; a smiling land; a rejoicing people; abundance for the body and

gladness of the heart: these are the blessings which God promises to the industrious, the sober, the careful, and the upright. Let no man, then, believe, that, to be poor and wretched is a mark of God's favour; and let no man remain in that state, if he, by any honest means, can rescue himself from it.

18. Poverty leads to all sorts of evil consequences. *Want*, horrid want, is the great parent of crime. To have a dutiful family, the father's principle of rule must be *love* not *fear*. His sway must be gentle, or he will have only an unwilling and short-lived obedience. But, it is given to but few men to be gentle and good humoured amidst the various torments attendant on pinching poverty. A competence is, therefore, the first thing to be thought of; it is the foundation of all good in the labourer's dwelling; without it little but misery can be expected. "*Health, peace*, and *competence*," one of the wisest of men regards as the only things needful to man: but the two former are scarcely to be had without the latter. *Competence* is the foundation of happiness and of exertion. Beset with wants, having a mind continually harrassed with fears of starvation, who can act with energy, who can calmly think? To provide a *good living*, therefore, for himself and family, is the *very first duty* of every man. "Two things," says AGUR, "have I asked; deny me them not before I die: remove "far from me vanity and lies; give me neither poverty "nor riches; feed me with food convenient for me: "lest I be full and deny thee; or lest I be poor and "steal."

19. A *good living*, therefore, a *competence*, is the first thing to be desired and to be sought after; and, if this

little work should have the effect of aiding only a small portion of the Labouring Classes in securing that competence, it will afford great gratification to their friend

WM. COBBETT.

Kensington, 19 *July*, 1821.

BREWING BEER.

20. BEFORE I proceed to give any directions about brewing, let me mention some of the inducements to do the thing. In former times, to set about to show to Englishmen that it was good for them to brew beer in their houses would have been as impertinent as gravely to insist, that they ought to endeavour not to lose their breath; for, in those times, (only forty years ago,) to have a *house* and not to brew was a rare thing indeed. Mr. ELLMAN, an old man and a large farmer, in Sussex, has recently given in Evidence, before a Committee of the House of Commons, this fact; that, *forty years ago*, there was not a labourer in his parish that did not *brew his own beer*; and that *now*, there is *not one that does it*, except by chance the malt be given him. The causes of this change have been the lowering of the wages of labour, compared with the price of provisions, by the means of the paper-money; the enormous tax upon the barley when made into *malt*; and the increased tax upon *hops*. These have quite changed the customs of the English people as to their drink. They still drink *beer*, but, in general, it is of the brewing of *common brewers*, and in public houses, of which the common brewers

have become the owners, and have thus, by the aid of paper-money, obtained a *monopoly* in the supplying of the great body of the people with one of those things, which to the hard-working man, is almost a necessary of life.

21. These things will be altered. They must be altered. The nation must be sunk into nothingness, or, a new system must be adopted; and the nation will not sink into nothingness. The malt now pays a tax of 4*s*. 6*d*. a bushel, and the barley costs only 3*s*. This brings the bushel of malt to 8*s*. including the malster's charge for malting. If the tax were taken off the malt, malt would be sold, at the present price of barley, for about 3*s*. 3*d*. a bushel; because a bushel of barley makes more than a bushel of malt, and the tax, besides its amount, causes great expenses of various sorts to the maltster. The hops pay a tax of 2*d*. a pound; and a bushel of malt requires, in general, a pound of hops; if these two taxes were taken off, therefore, the consumption of barley and of hops would be exceedingly increased; for double the present quantity would be demanded, and the land is always ready to send it forth.

22. It appears impossible that the landlords should much longer submit to these intolerable burdens on their estates. In short, they must get off the malt tax, or lose those estates. They must do a great *deal more* indeed; but that they must do at any rate. The paper-money is fast losing its destructive power; and things are, with regard to the labourers, coming back to what they were *forty years ago*, and therefore, we may prepare for the making of beer in our own houses, and take leave of the poisonous stuff served out to us by common brewers.

We may begin *immediately*; for, even at *present prices*, home-brewed beer is the *cheapest* drink that a family can use, except *milk*, and milk can be applicable only in certain cases.

23. The drink, which has come to supply the place of beer has, in general, been *tea*. It is notorious, that tea has no *useful strength* in it; that it contains nothing *nutricious*; that it, besides being *good* for nothing, has *badness* in it, because it is well known to produce want of sleep in many cases, and in all cases, to shake and weaken the nerves. It is, in fact, a weaker kind of laudanum, which enlivens for the moment and deadens afterwards. At any rate it communicates no strength to the body; it does not, in any degree, assist in affording what labour demands. It is, then, of no *use*. And, now, as to its *cost*, compared with that of *beer*. I shall make my comparison applicable to a year, or three hundred and sixty-five days. I shall suppose the tea to be only five shillings the pound; the sugar only seven-pence; the milk only twopence a quart. The prices are at the very lowest. I shall suppose a tea-pot to cost a shilling, six cups and saucers two shillings and sixpence, and six pewter spoons eighteen pence. How to estimate the firing I hardly know; but certainly there must be in the course of the year, two hundred fires made that would not be made, were it not for tea drinking. Then comes the great article of all, the *time* employed in this tea making affair. It is impossible to make a fire, boil water, make the tea, drink it, wash up the things, sweep up the fire-place, and put all to rights again in a less space of time, upon an average than *two hours*. However, let us allow *one hour*; and here we have a woman

occupied no less than three hundred and sixty-five hours in the year, or, thirty whole days, at twelve hours in the day; that is to say, one month out of the twelve in the year, besides the waste of the man's time in hanging about waiting for the tea! Needs there any thing more to make us cease to wonder at seeing labourers' children with dirty linen and holes in the heels of their stockings? Observe, too, that the time thus spent, is one half of it, the best time of the day. It is the top of the morning, which, in every calling of life, contains an hour worth two or three hours of the afternoon. By the time that the clattering tea tackle is out of the way, the morning is spoiled; its prime is gone; and any work that is to be done afterwards lags heavily along. If the mother have to go out to work, the tea affair must all first be over. She comes into the field, in Summer time, when the sun has gone a third part of his course. She has the heat of the day to encounter, instead of having her work done and being ready to return home at an early hour. Yet early she must go, too: for, there is the fire again to be made, the clattering tea tackle again to come forward; and even in the longest day she must have *candle light*, which never ought to be seen in a cottage (except in case of illness (from March to September.

24. Now, then, let us take the bare cost of the use of tea. I suppose a pound of tea to last twenty days; which is not nearly half an ounce every morning and evening. I allow for each mess half a pint of milk. And I allow three pounds of the red dirty sugar to each pound of tea. The account of expenditure would then stand very high; but to these must be added the amount

of the tea tackle, one set of which will, upon an average, be demolished every year. To these outgoings must be added the cost of beer at the public house; for, some the man will have after all, and the woman too, unless they be upon the point of actual starvation. Two pots a week is as little as will serve in this way; and here is a dead loss of ninepence a week, seeing that two pots of beer, full as strong, and a great deal better, can be brewed at home for threepence. The account of the year's tea drinking will, then, stand thus:

18lb. of Tea - - - -	£4	10	0
54lb. of Sugar - - - -	1	11	6
365 Pints of Milk - - -	1	10	0
Tea Tackle - - - -	0	5	0
200 Fires - - - -	0	16	8
30 Days' Work - - - -	0	15	0
Loss by going to public house -	1	19	0
	£11	7	2

25. I have here estimated every thing at its very lowest. The entertainment which I have here provided is as poor, as mean, as miserable as any thing short of starvation can set forth; and yet the wretched thing amounts to a good third part of a good and able labourer's wages! For this money, he and his family may drink good and wholesome beer: in a short time, out of the mere savings from this waste, may drink it out of silver cups and tankards. In a labourer's family, *wholesome* beer, that has a little life in it, is all that is wanted in *general*. Little children, that do not work, should not have beer. Broth, porridge, or something in that way is the thing for them. However, I shall suppose, in order to make my comparison as little complicated as possible, that he brews nothing but beer as strong as the generality of

beer to be had at the public house, and divested of the poisonous drugs which that beer but too often contains; and I shall further suppose that he uses in his family two quarts of this beer every day from the first of October to the last day of March inclusive; three quarts a day during the months of April and May; four quarts a day during the months of June and September; and five quarts a day during the months of July and August; and if this be not enough it must be a family of drunkards. Here are 1097 quarts, or, 274 gallons. Now, a bushel of malt will make eighteen gallons of better beer than that which is sold at the public houses. And this is precisely a gallon for the price of a quart. People should bear in mind, that the beer, bought at the public house, is loaded with a *beer tax*, with the tax on the public house keeper, in the shape of licence, with all the taxes and expenses of the brewer, with all the taxes, rent, and other expenses of the publican, and with all the *profits* of both brewer and publican; so that when a man swallows a pot of beer at a public house, he has all these expenses to help to defray, besides the mere tax on the malt and on the hops.

26. Well, then, to brew this ample supply of good beer for a labourer's family, these 274 gallons, requires *fifteen* bushels of malt and (for let us do the thing well) *fifteen pounds of hops*. The malt is now eight shillings a bushel, and very good hops may be bought for less than a shilling a pound. The *grains* and yeast will amply pay for the labour and fuel employed in the brewing; seeing that there will be pigs to eat the grains, and bread to be baked with the yeast. The account will, then, stand thus:

	£	s	d.
15 Bushels of Malt - -	6	0	0
15 pounds of Hops. - -	0	15	0
Wear of Utensils - -	0	10	0
	£7	5	0

27. Here, then, is the sum of four pounds, two shillings and twopence saved every year. The utensils for brewing are, a brass kettle, a mashing tub, coolers (for which washing tubs may serve,) a half hogshead, with one end taken out for a tun tub, about four nine gallon casks, and a couple of eighteen gallon casks. This is an ample supply of utensils, each of which will last with proper care a good long lifetime or two, and the whole of which, even if purchased new from the shop, will only exceed by a few shillings, if they exceed at all, the amount of the saving, arising *the very first year*, from quitting the troublesome and pernicious practice of drinking tea. The saving of each succeeding year would if you chose it, purchase a silver mug to hold half a pint at least. However, the saving would naturally be applied to purposes more conducive to the well-being and happiness of a family.

28. It is not however, the *mere saving* to which I look. This is, indeed, a matter of great importance, whether we look at the amount itself, or at the ultimate consequences of a judicious application of it; for *four pounds* make a great *hole* in a man's wages for the year; and when we consider all the advantages that would arise to a family of children from having these four pounds, now so miserably wasted, laid out upon their backs, in the shape of a decent dress, it is impossible to look at this waste without feelings of sorrow not wholly unmixed with those of a harsher description.

29. But, I look upon the thing in a still more serious light. I view the tea drinking as a destroyer of health, an enfeebler of the frame, an engenderer of effeminacy and laziness, a debaucher of youth, and a maker of misery for old age. In the fifteen bushels of malt, there are 570 pounds weight of *sweet*; that is to say of nutricious matter, unmixed with any thing injurious to health. In the 730 tea messes of the year there are 54 pounds of sweet in the sugar, and about 30 pounds of matter equal to sugar in the milk. Here are eighty-four pounds instead of five hundred and seventy, and even the good effect of these eighty-four pounds is more than overbalanced by the corrosive, gnawing, the poisonous powers of the tea.

30. It is impossible for any one to deny the truth of this statement. Put it to the test with a lean hog: give him the fifteen bushels of malt, and he will repay you in ten score of bacon or thereabouts. But give him the 730 tea messes, or rather begin to give them to him, and give him nothing else, and he is dead with hunger, and bequeaths you his skeleton, at the end of about seven days. It is impossible to doubt in such a case. The tea drinking has done a great deal in bringing this nation into the state of misery in which it now is; and the tea drinking, which is carried on by "dribs" and "drabs;" by pence and farthings going out at a time; this miserable practice has been gradually introduced by the growing weight of the taxes on Malt and on Hops, and by the everlasting penury amongst the labourers, occasioned by the paper-money.

31. We see better prospects however, and therefore let us now rouse ourselves, and shake from us the degrading

curse, the effects of which have been much more extensive and infinitely more mischievous than men in general seem to imagine.

32. It must be evident to every one, that the practice of tea drinking must render the frame feeble and unfit to encounter hard labour or severe weather, while, as I have shown, it deducts from the means of replenishing the belly and covering the back. Hence succeeds a softness, an effeminacy, a seeking for the fire-side, a lurking in the bed, and, in short, all the characteristics of idleness, for which, in this case, real want of strength furnishes an apology. The tea drinking fills the public house, makes the frequenting of it habitual, corrupts boys as soon as they are able to move from home, and does little less for the girls, to whom the gossip of the tea table is no bad preparatory school for the brothel. At the very least, it teaches them idleness. The everlasting dawdling about with the slops of the tea tackle gives them a relish for nothing that requires strength and activity. When they go from home, they know how to do nothing that is useful. To brew, to bake, to make butter, to milk, to rear poultry ; to do any earthly thing of use they are wholly unqualified. To shut poor young creatures up in Manufactories is bad enough ; but there, at any rate, they do something that is useful ; whereas the girl that has been brought up merely to boil the tea kettle, and to assist in the gossip inseparable from the practice, is a mere consumer of food, a pest to her employer, and a curse to her husband, if any man be so unfortunate as to fix his affections upon her.

33. But is it in the power of any man, any good labourer who has attained the age of fifty, to look back upon

the last thirty years of his life, without cursing the day in which tea was introduced into England ? Where is there such a man, who cannot trace to this cause a very considerable part of all the mortifications and sufferings of his life ? When was he ever *too late* at his labour; when did he ever meet with a frown, with a turning off, and pauperism on that account, without being able to trace it to the tea kettle ? When reproached with lagging in the morning, the poor wretch tells you that he will make up for it by *working during his breakfast time!* I have heard this a hundred and a hundred times over. He was up time enough ; but the tea kettle kept him lolling and lounging at home ; and now instead of sitting down to a breakfast upon bread, bacon and beer, which is to carry him on to the hour of dinner, he has to force his limbs along under the sweat of feebleness, and at dinner time to swallow his dry bread, or slake his half feverish thirst at the pump or the brook. To the wretched tea kettle he has to return at night with legs hardly sufficient to maintain him ; and thus he makes his miserable progress towards that death which he finds ten or fifteen years sooner than he would have found it had he made his wife brew beer instead of making tea. If he now and then gladdens his heart with the drugs of the public house, some quarrel, some accident, some illness is the probable consequence ; to the affray abroad succeeds an affray at home ; the mischievous example reaches the children, corrupts them or scatters them, and misery for life is the consequence.

34. I should now proceed to the *details* of brewing ; but these, though they will not occupy a large space, must be put off to the *second Number*. The custom of brewing at home has so long ceased, amongst labourers, and, in

many cases, amongst tradesmen, that it was necessary for me fully to state my reasons for wishing to see the custom revived. I shall, in my next, clearly explain how the operation is performed; and, it will be found to be so *easy a thing*, that I am not without hope, that many *tradesmen*, who now spend their evenings at the public house amidst tobacco smoke and empty *noise*, may be induced, by the finding of better drink at home, at a quarter part of the price, to perceive that home is by far the pleasantest place wherein to pass their hours of relaxation.

35. My work is intended chiefly for the benefit of *cottagers*, who must, of course, have some *land*; for, I propose to show, that a large part of the food of even a large family may be raised, without any diminution of the labourer's earnings abroad, from 40 rod or a quarter of an acre, of ground; but at the same time, what I have to say will be applicable to larger establishments, in all the branches of domestic economy; and especially to that of providing a family with *beer*.

36. The *kind of beer* for a labourer's family; that is to say, the *degree of strength*, must depend on circumstances; on the numerousness of the family; on the season of the year, and various other. But, generally speaking, beer *half* the strength of that mentioned in Paragraph 25 will be quite strong enough; for that is, at least, one-third stronger than the farm-house "*small beer*," which, however, as long experience has proved, is best suited to the purpose. A judicious labourer would probably, always have some *ale* in his house, and have small beer for the general drink. There is no reason why he should not keep *Christmas* as well as the farmer; and when he is *mowing*, *reaping*, or is at any other hard work,

a quart, or thee pints of *really good fat ale* a-day is by no means too much. However, circumstances vary so much with different labourers, that, as to the *sort* of beer, and the number of brewings, and the times of brewing, no general rule can be laid down.

37. Before I proceed to explain the uses of the several brewing utensils, I must speak of the *quality* of the materials of which beer is made; that is to say, the *malt, hops,* and *water.* Malt varies very much in quality, as, indeed, it must, with the quality of the barley. When good, it is full of flour, and in biting a grain asunder, you find it bite easily, and see the *shell thin* and filled up well with flour. If it bite *hard* and *steely,* the malt is bad. There is *pale* malt and *brown* malt; but the difference in the two arises merely from the different degrees of heat employed in the drying. The main thing to attend to is, the *quantity of flour.* If the barley was bad; *thin,* or *steely,* whether from unripeness or blight, or any other cause, it will not *malt* so well; that is to say, it will not send out its roots in due time; and a part of it will still be barley. Then, the world is wicked enough to think, and even to say, that there are maltsters, who, when they send you a bushel of malt *put a little barley amongst it,* the malt being *taxed* and the barley *not!* Let us hope, that this is seldom the case; yet, when we *do know* that this terrible system of taxation induces the beer-selling gentry to supply their customers with stuff little better than poison, it is not very uncharitable to suppose it possible for some maltsters to yield to the temptations of the Devil so far as to play the trick above mentioned. To detect this trick, and to discover what portion of the barley is in an unmalted

state, take a handful of the *unground* malt, and put it into a bowl of cold water. Mix it about with the water a little; that is, let every grain be *just wet all over*; and whatever part of them *sink* are not good. If you have your malt *ground*, there is not as I know of, any means of detection. Therefore, if your brewing be considerable in amount, *grind your own malt*, the means of doing which is very easy, and neither expensive nor troublesome, as will appear, when I come to speak of *flour*. If the barley be *well malted*, there is still a variety in the quality of the malt; that is to say, a bushel of malt from fine, plump, heavy barley, will be better than the same quantity from thin and light barley. In this case, as in the case of wheat, the *weight* is the criterion of the quality. Only, bear in mind, that as a bushel of wheat, weighing *sixty-two* pounds, is better worth *six* shillings, than a bushel weighing *fifty-two* is worth *four* shillings, so a bushel of malt weighing *forty-five* pounds is better worth *nine* shillings, than a bushel weighing *thirty-five* is worth *six* shillings. In malt, therefore, as in every thing else, the word *cheap* is a deception, unless the quality be taken into view. But, bear in mind, that in the case of *unmalted* barley mixed with the malt, the *weight* can be no rule; for barley is *heavier* than malt.

No. II.

BREWING BEER.

(*continued.*)

38. AS to using *barley* in the making of beer, I have given it a full and fair trial twice over; and, I would recommend it to neither rich nor poor. The barley produces *strength*, though nothing like the malt; but the beer is *flat*, even though you use half malt and half barley; and, flat beer lies heavy on the stomach, and of course, besides the bad taste, is unwholesome. To pay 4*s.* 6*d.* tax upon every bushel of our own barley turned into malt, when the barley itself is not worth 3*s.* a bushel, is a horrid thing; but, as long as the owners of the land shall be so dastardly as to suffer themselves to be thus deprived of the use of their estates to favour the slave-drivers and plunderers of the East and West Indies, we must submit to the thing, incomprehensible to foreigners, and even to ourselves, as the submission may be.

39. With regard to *Hops*, the quality is very various. At times when some sell for 5*s.* a pound, others sell for *sixpence*. Provided the purchaser understand the article, the quality is, of course, in proportion to the price. There are two things to be considered in hops: the *power of preserving beer*, and that of giving it a *pleasant flavour*. Hops may be *strong*, and yet not *good*. They

should be *bright*, have no *leaves* or bits of branches amongst them. The hop is the *husk* or *seed-pod*, of the hop-vine ; as the *cone*, is that of the fir tree ; and the *seeds* themselves are deposited, like those of the fir, round a little soft stalk, enveloped by the several folds of this pod, or cone. If, in the gathering, leaves of the vine o. bits of the branches, are mixed with the hops, these not only help to make up the *weight*, but they give a *bad taste* to the beer ; and indeed, if they abound much, they spoil the beer. Great attention is, therefore, necessary in this respect. There are, too, numerous *sorts* of hops, varying in size, form, and quality, quite as much as *apples*. However, when they are in a state to be used in brewing, the marks of goodness are an absence of *brown colour* (for that indicates perished hops ;) a colour *between green* and *yellow ;* a great *quantity of the yellow farina ;* seeds *not too large nor too hard ;* a *clammy feel* when rubbed between the fingers ; and a *lively*, pleasant smell. As to the *age* of hops, they retain for twenty years, probably, their *power of preserving beer ;* but not of giving it a pleasant flavour. I have used them at *ten years old*, and should have no fear of using them at twenty. They lose none of their *bitterness ;* none of their power of preserving beer ; but, they lose the other quality ; and therefore, in the making of fine ale, or beer, new hops are to be preferred. As to the *quantity* of hops, it is clear, from what has been said, that that must, in some degree depend upon their *quality ;* but, supposing them to be good in quality, a pound of hops to a bushel of malt is about the quantity. A good deal, however, depends upon the length of time that the beer is intended to be kept, and upon the season of the year in which it is brewed. Beer

intended to be kept a long while should have the full pound, also beer brewed in warmer weather, though for present use : half the quantity may do under an opposite state of circumstances.

40. The *Water* should be *soft* by all means. That of brooks, or rivers, is best. That of a *pond*, fed by a rivulet, or spring, will do very well. *Rain-water*, if just fallen, may do; but stale rain-water, or stagnant pond-water, makes the beer *flat* and difficult to keep; and *hard* water, from wells, is very bad: it does not get the sweetness out of the malt, nor the bitterness out of the hops, like soft water; and the wort of it does not ferment well, which is a certain proof of its unfitness for the purpose.

41. There are two descriptions of persons whom I am desirous to see brewing their own beer; namely, *tradesmen*, and *labourers* and *journeymen*. There must, therefore, be two *distinct scales* treated of. In the former editions of this work, I spoke of a *Machine* for brewing, and stated the advantages of using it in a family of any considerable consumption of beer; but, while, from my desire to promote *private brewing*, I strongly recommended the *machine*, I stated, that, "if any of my readers could "point out any method, by which we should be more "likely to restore the practice of private brewing, and "especially to the *Cottage*, I should be greatly obliged to "them to communicate it to me." Such communications have been made, and I am very happy to be able, in this new edition of my little work, to avail myself of them. There was, in the *Patent Machine*, always, an objection on account of the *expense*; for, even the machine for *one bushel of malt* cost, at the reduced price, *eight pounds*,

a sum far above the reach of *a cottager*, and even above that of a small tradesman. Its *convenience*, especially in *towns*, where room is so valuable, was an object of great importance; but, there were *disadvantages* attending it, which, until after some experience, I did not ascertain. It will be remembered, that the method by the Brewing Machine requires the malt to be put into *the cold water*, and for the water to make the malt *swim*, or, at least, to be in such proportion as to prevent the fire beneath from burning the malt. We found, that our beer was *flat*, and that it did *not keep*. And this arose, I have every reason to believe, from this process. The malt should be put *into hot water*, and the water, at first, should be but just sufficient in quantity to *stir the malt in*, and *separate it well*. Nevertheless, when it is merely to make *small beer*; beer *not wanted to keep*; in such cases the Brewing Machine may be of use; and, as will be seen by-and-by, a moveable *boiler* (which has nothing to do with the *patent*) may, in many cases, be of great convenience and utility.

42. The two *scales*, of which I have spoken above, are now to be spoken of; and, that I may explain my meaning the more clearly, I shall suppose, that, for the tradesman's family, it will be requisite to brew eighteen gallons of ale and thirty-six of small beer, to fill three casks of eighteen gallons each. It will be observed, of course, that, for larger quantities, larger utensils of all sorts will be wanted. I take this quantity as the one to give directions on. The utensils wanted here will be, FIRST, A *copper* that will contain *forty gallons* at least; for, though there be to be but thirty-six gallons of small beer, there must be space for the hops, and for the liquor that goes

off in steam. SECOND, A *mashing-tub* to contain sixty gallons; for the malt is to be in this along with the water. THIRD, An *underbuck*, or shallow tub to go under the mash-tub, for the wort to run into when drawn from the grains. FOURTH, A *tun-tub*, that will contain thirty gallons, to put the ale into to work, the mash-tub, as we shall see, serving as a tun-tub for the small beer. Besides these, a couple of *coolers*, shallow tubs, which may be the heads of wine buts, or some such things, about a foot deep; or, if you have *four* it may be as well, in order to effect the cooling more quickly.

43. You begin by filling the copper with water, and next by making the water *boil*. You then put into the mashing-tub water sufficient *to stir and separate the malt in*. But, now let me say more particularly what this mashing-tub is. It is, you know, to contain *sixty gallons*. It is to be a little broader at top than at bottom, and not quite so deep as it is wide across the bottom. In the middle of the bottom there is a hole about two inches over, to draw the wort off through. Into this hole goes a stick, a foot or two longer than the tub is high. This stick is to be about two inches through, and *tapered* for about eight inches upwards at the end that goes into the hole, which at last it fills up closely as a cork. Upon the hole, before any thing else be put into the tub, you lay a little bundle of *fine birch* (heath or straw *may* do) about half the bulk of a birch broom, and well tied at both ends. This being laid over the hole (to keep back the grains as the wort goes out) you put the tapered end of the stick down through into the hole, and thus *cork* the hole up. You must then have something of weight sufficient to keep the birch steady at the bottom of the

tub, with a hole through it to slip down the stick; otherwise when the stick is raised it will be apt to raise the birch with it, and when you are stirring the mash you would move it from its place. The best thing for this purpose will be a *leaden collar* for the stick, with the hole in the collar plenty large enough, and it should weigh three or four pounds. The thing they use in some farm-houses is the iron box of a wheel. Any thing will do that will slide down the stick, and lie with weight enough on the birch to keep it from moving. Now, then, you are ready to begin brewing. I allow *two bushels* of malt for the brewing I have supposed. You must now put into the mashing-tub as much boiling water as will be sufficient to *stir the malt in* and *separate it well.* But here occur some of the nicest points of all: namely, the *degree of heat* that the water is to be at, before you put in the malt. This heat is *one hundred and seventy degrees* by the thermometer. If you have a thermometer, this is ascertained easily; but, without one, take this rule, by which so much good beer has been made in England for hundreds of years: when you can, by looking down into the tub, *see your face clearly in the water,* the water is become cool enough; and you must not put the malt in before. Now put in the malt and *stir it well in the water.* To perform this stirring, which is very necessary, you have a stick, somewhat bigger than a broom-stick, with two or three smaller sticks, eight or ten inches long, put through the lower end of it at about three or four inches asunder, and sticking out on each side of the long stick. These small cross sticks serve to search the malt and separate it well in the stirring or *mashing.* Thus, then, the *malt is in;*

and, in this state it should continue for about a quarter of an hour. In the mean while you will have filled up your copper, and made it *boil*; and now (at the end of the quarter of an hour) you put in boiling water sufficient to give you your eighteen gallons of *ale*. But, perhaps, you must have thirty gallons of water in the whole; for the grains will retain at least ten gallons of water; and it is better to have rather too much wort than too little. When your proper quantity of water is in, stir the malt again well. Cover the mashing-tub over with *sacks*, or something that will answer the same purpose; and there let the mash stand for *two hours*. When it has stood the two hours, you draw off the wort. And now, mind, the mashing-tub is placed on a *couple of stools*, or on something, that will enable you to put the *underbuck* under it, so as to receive the wort as it comes out of the hole before mentioned. When you have put the underbuck in its place, you let out the wort by pulling up the stick that corks the hole. But, observe, this stick (which goes six or eight inches through the hole,) must be raised by degrees, and the wort must be let out *slowly*, in order to keep back the *sediment*. So that, it is necessary to have something to *keep the stick up* at the point where you are to raise it, and wish to fix it at for the time. To do this, the simplest, cheapest and best thing in the world is a *cleft stick*. Take a *rod* of ash, hazle, birch, or almost any wood; let it be a foot or two longer than your mashing-tub is wide over the top; *split* it, as if for making hoops; tie it round with a string at each end; lay it across your mashing-tub; pull it open in the middle and let the upper part of the wort-stick through it; and when

you raise that stick, by degrees as before directed, the cleft stick *will hold it up* at whatever height you please.

44. When you have drawn off the *ale-wort*, you proceed to put into the mashing-tub water for the *small beer*. But, I shall go on with my directions about the *Ale* till I have got into the *cask* and *cellar ;* and shall then return to the small-beer.

45. As you draw off the ale-wort into the underbuck, you must lade it out of that into the tun-tub, for which work, as well as for various other purposes in the brewing, you must have a *bowl-dish* with a handle to it. The underbuck will not hold the whole of the wort. It is, as before described, a shallow tub, to go *under* the mashing tub to draw off the wort into. Out of this underbuck you must lade the alewort into the *tun-tub ;* and there it must remain till your *copper* be emptied and ready to receive it.

46. The copper being empty, you put the wort into it, and put in after the wort, or before it, *a pound and a half of good hops,* well rubbed and separated as you put them in. You now make the copper boil, and keep it, with the lid off, at a good *brisk* boil, for a *full hour,* and if it be an hour and a half, it is none the worse.

47. When the boiling is done, put out your fire, and put the liquor into the *coolers.* But it must be put into the coolers *without the hops.* Therefore, in order to get the hops out of the liquor, you must have a *strainer.* The best for your purpose is a small *clothes-basket,* or any other wicker-basket. You set your coolers in the most convenient place. It may be in-doors or out of doors, as most convenient. You lay a couple of sticks across one of the coolers, and put the basket upon them. Put your liquor

hops and all, into the basket, which will *keep back the hops*. When you have got enough liquor in one cooler, you go to another with your sticks and bakset, till you have got all your liquor out. If you find your liquor decper in one cooler than the other, you can make an alteration in that respect, till you have the liquor so distributed as to cool equally fast in both, or all, the coolers.

48. The next stage of the liquor is in the *tun-tub*, where it is *set to work*. Now, a very great point is, the *degree of heat* that the liquor is to be at, when it is set to working. The proper heat is seventy degrees; so that a thermometer makes this matter sure. In the country they determine the degree of heat by merely putting a finger into the liquor. Seventy degrees is but *just warm*, a gentle *luke-warmth*. Nothing like *heat*. A little experience makes perfectness in such a matter. When at the proper heat, or nearly (for the liquor will cool a little in being removed), put it into the *tun-tub*. And, now, before I speak of the act of setting the beer to work, I must describe this *tun-tub*, which I first mentioned in Paragraph 42. It is to hold *thirty gallons*, as you have seen; and nothing is better than an old *cask* of that size, or somewhat larger, with the head taken out, or cut off. But, indeed, any tub of sufficient dimensions, and of about the same depth proportioned to the width as a cask or barrel has, will do for the purpose. Having put the liquor into the tun-tub, you put in the *yeast*. About *half a pint* of good yeast is sufficient. This should first be put into a thing of some sort that will hold about a gallon of your liquor; the thing should then be nearly filled with liquor, and with a stick or spoon you should mix the yeast well with the liquor in this bowl, or other thing, and stir in along with

the yeast, a handful of *wheat or rye flour*. This mixture is then to be poured out clean into the tun-tub, and the whole mass of the liquor is then to be agitated well, by lading up and pouring down again with your bowl-dish, till the yeast be well mixed with the liquor. Some people do the thing in another manner. They mix up the yeast and flour with some liquor (as just mentioned) taken out of the coolers ; and then they set the little vessel that contains this mixture down *on the bottom of the tun-tub ;* and,leaving it there, put the liquor out of the coolers into the tun-tub. Being placed at the bottom, and having the liquor poured on it, the mixture is, perhaps, more perfectly effected in this way than in any way. The *flour* may not be necessary ; but, as the country-people use it, it is, doubtless, of some use ; for, their hereditary experience has not been for nothing. When your liquor is thus properly put into the tun-tub and set a working, cover over the top of the tub by laying across it a sack or two, or something that will answer the purpose.

49. We now come to the *last stage ;* the *cask* or *barrel.* But I must first speak of the place for the tun-tub to stand in. The place should be such as to avoid too much warmth or cold. The air should, if possible, be at about 55 degrees. Any cool place in summer and any *warmish* place in winter. If the weather be *very cold*, some cloths or sacks should be put round the tun-tub while the beer is working. In about six or eight hours a *frothy* head will rise upon the liquor ; and it will keep rising, more or less slowly, for about forty-eight hours. But, the *length of time* required for the working depends on various circumstances ; so that no precise time can be fixed. The best way is, to take off the froth (which is indeed *yeast*) at the end

of about twenty-four hours, with a common skimmer, and put it into a pan or vessel of some sort ; then, in twelve hours' time, take it off again in the same way ; and so on till the liquor has *done working*, and sends up no more yeast. Then it is *beer ;* and, when it is *quite cold* (for *ale or strong beer*) put it into the *cask* by means of a *funnel.* It must be cold before you do this ; or, it will be what the country-people call *foxed;* that is to say, have a rank and disagreeable taste. Now, as to the *cask*, it must be *sound* and *sweet.* I thought, when writing the former edition of this work, that the *bell-shaped* were the best casks. I am now convinced that that was an error. The bell-shaped, by contracting the width of the top of the beer, as that top descends in consequence of the draft for use, certainly prevents the *head* (which always gathers on beer as soon as you begin to draw it off) from breaking and mixing in amongst the beer. This is an advantage in the bell-shape ; but, then the bell-shape, which places the widest end of the cask uppermost, exposes the cask to the admission of *external air* much more than the other shape. This danger approaches from the *ends* of the cask ; and, in the bell-shape, you have the *broadest* end wholly exposed the moment you have drawn out the first gallon of beer, which is not the case with the casks of the common shape. Directions are given, in the case of the bell-casks, to put *damp sand* on the top to keep out the air. But, it is very difficult to make this effectual ; and, yet, if you do not keep out the air, your beer will be *flat ;* and, when flat, it really is good for nothing but the pigs. It is very difficult to *fill* the bell-cask, which you will easily see if you consider its shape. It must be placed on the *level* with the greatest possible *truth,* or there will be a space left ;

and to place it with such truth is, perhaps, as difficult a thing as a mason, or bricklayer, ever has to perform. And yet, if this be not done, there will be an *empty space* in the cask, though it may, at the same time, run over. With the common casks, there are none of these difficulties. A common eye will see when it is well placed ; and, at any rate, any little vacant space that may be left is not at an *end* of the cask, and will without great carelessness, be so small as to be of no consequence. We now come to the act of putting in the beer. The cask should be placed on a stand with legs about a foot long. The cask, being round, must have a little wedge, or block, on each side to keep it steady. *Bricks* do very well. Bring your beer down into the cellar in buckets, and pour it in through the funnel, until the cask be full. The cask should *lean a little on one side* when you fill it ; because the beer will *work again* here, and send more yeast out of the bung-hole ; and, if the cask were not a little on one side, the yeast would flow over both sides of the cask, and would not descend in *one stream* into a pan, put underneath to receive it. Here the bell-cask is extremely inconvenient ; for the yeast works up all *over the head,* and *cannot run off,* and makes a very nasty affair. This *alone,* to say nothing of the other disadvantages, would decide the question against the bell-casks. Something will *go off in this working,* which may continue for two or three days. When you put the beer in the cask, you should have a *gallon or two left,* to keep filling up with as the working produces emptiness. At last, when the working is completely over, *right* the cask. That is to say, block it up to its level. Put in a handful of *fresh hops.* Fill the cask quite full. Put in the bung, with a bit of *coarse linen* stuff round it ; hammer

it down tight; and, if you like, fill a coarse bag with sand, and lay it, well pressed down, over the bung.

50. As to the length of time that you are to keep the beer before you begin to use it, that must, in some measure, depend on taste. *Such beer* as this *ale*, will keep almost any length of time. As to the mode of *tapping*, that is as easy almost as *drinking*. When the cask is *empty*, great care must be taken to cork it *tightly up*, so that no air get in; for, if it do, the cask is *moulded*, and when once moulded, it is *spoiled for ever*. It is never again fit to be used about beer. Before the cask be used again, the grounds must he poured out, and the cask cleaned by several times scalding; by putting in *stones* (or a *chain*,) and rolling and shaking about, till it be quite clean. Here again the round casks have the decided advantage; it being almost impossible to make the bell-casks thoroughly clean without *taking the head out*, which is both troublesome and expensive; as it cannot be well done by any one but a *cooper*, who is not always at hand, and who when he is, must be *paid*.

51. I have now done with the *ale*, and it remains for me to speak of the *small beer*. In Paragraph 47 (which now see) I left you drawing off the *ale-wort*, and with your copper full of boiling water. Thirty six gallons of that boiling water are, as soon as you have got your ale-wort out, and have put down your mash-tub stick to close up the hole at the bottom; as soon as you have done this, 36 gallons of the boiling water are to go into the mashing-tub; the grains are to be well stirred up, as before; the mashing-tub is to be covered over again, as mentioned in Paragraph 43; and the mash is to

stand in that state for *an hour ;* and not two hours, as for the ale-wort.

52. When the small beer mash has stood its hour, draw it off as in Paragraph 47, and put it into the tun-tub as you did the ale-wort.

53. By this time your copper will be *empty* again, by putting your ale-liquor to cool, as mentioned in Paragraph 47. And you now put the small beer wort *into the copper,* with the hops that you used before, and with *half a pound of fresh hops* added to them ; and this liquor you boil briskly for *an hour.*

54. By this time you will have taken the grains and the sediment clean out of the mashing-tub, and taken out the bunch of birch twigs, and made all clean. Now put in the birch twigs again, and put down your stick as before. Lay your two or three sticks across the mashing-tub, put your basket on them, and take your liquor from the copper (putting the fire out first) and pour it into the mashing-tub through the basket. Take the basket away, throw the hops to the dunghill, and leave the small beer liquor *to cool in the mashing-tub.*

55. Here it is to remain to be *set to working* as mentioned for the ale in Paragraph 48 ; only, in this case, you will want *more yeast in proportion ;* and should have for your 36 gallons of small beer, three half pints of good yeast.

56. Proceed, as to all the rest of the business, as with the ale, only, in the case of the small beer, it should be put into the cask, not *quite cold ;* but a *little warm ;* or else it will not work at all in the barrel, which it ought to do. It will not work so strongly nor so long as the

ale; and may be put in the barrel much sooner; in general the next day after it is brewed.

57. All the utensils should be well cleaned and put away as soon as they are done with; the *little* things as well as the great things; for it is *loss of time* to make new ones. And, now, let us see the *expense* of these utensils. The copper, *new*, 5*l.* the mashing-tub, *new*, 30*s.* the tun-tub, not new, 5*s.* the underbuck and three coolers, not new, 20*s.* The whole cost is, 7*l.* 10*s.* which is ten shillings less than the *one bushel Machine.* I am now in a farm-house, where the *same set* of utensils has been used for *forty years*; and the owner tells me, that, with the same use, they may last for *forty years longer.* The Machine will not, I think, last *four years*, if in any thing like regular use. It is of sheet-iron *tinned on the inside*, and this tin *rusts* exceedingly, and is not to be kept clean without such *rubbing* as must soon take off the tin. The great advantage of the Machine is, that it can be *removed.* You can brew without a *brew-house.*—You can set the boiler up against any fire place, or any window. You can brew under a cart-shed, or even out of doors. But all this may be done with *these utensils*, if your *copper* be moveable. Make the boiler of *copper*, and not of sheet-iron, and fix it on a stand with a fire-place and stove pipe; and then you have the whole to brew out of doors with as well as in-doors, which is a very great convenience.

58. Now with regard to the *other scale* of brewing, little need be said; because, all the principles being the same, the utensils only are to be proportioned to the *quantity.* If only one sort of beer be to be brewed at a time, all the difference is, that, in order to extract the whole of

the goodness of the malt, the mashing ought to be at *twice*. The two worts are then put together, and then you boil them together with the hops.

59. A Correspondent at *Morpeth* says, the whole of the utensils used by him are a twenty-gallon *pot*, a mashing-tub, that also answers for a tun-tub, and a shallow-tub for a cooler; and that these are plenty for a person who is any thing of a contriver. This is very true; and these things will cost not more, perhaps, than *forty shillings*. A nine gallon cask of beer can be brewed very well with such utensils. Indeed, it is what used to be done by almost every labouring man in the kingdom, until the high price of malt and comparatively low price of wages rendered the people too poor and miserable to be able to brew at all. A Correspondent at Bristol has obligingly sent me the model of utensils for *brewing on a small scale*; but as they consist chiefly of *brittle ware*, I am of opinion, that they would not so well answer the purpose.

60. Indeed, as to the country labourers, all they want is the ability to *get the malt*. Mr. ELLMAN, in his evidence before the Agricultural Committee, said, that, when he began farming, forty-five years ago, there was not a labourer's family in the parish that did not brew their own beer and enjoy it by their own fire-sides; and that, *now, not one single family did it, from want of ability to get the malt*. It is the *tax* that prevents their getting the malt; for, the barley is cheap enough. The tax causes a monopoly in the hands of the maltsters, who, when the tax is *two and sixpence*, make the malt, cost 7*s*. 6*d*. though the barley cost but 2*s*. 6*d*.; and though the malt, tax and all, ought to cost but about 5*s*. 6*d*. If the tax were taken off, this *pernicious monopoly* would be destroyed.

61. The reader will easily see, that, in proportion to the quantity wanted to be brewed must be the size of the utensils; but, I may observe here, that the above utensils are sufficient for three, or even four, bushels of malt, if stronger beer be wanted.

62. When it is necessary, in case of falling short in the quantity wanted to fill up the ale-cask, some may be taken from the small beer. But, upon the *whole brewing*, there ought to be no falling short; because, if the casks be not *filled up*, the beer will not be good, and certainly will not *keep*. Great care should be taken as to the *cleansing* of the *casks*. They should be made perfectly *sweet*; or it is impossible to have good beer.

63. The cellar, for beer to keep any length of time, should be cool. Under *a hill* is the best place for a cellar; but, at any rate, a cellar of a good depth, and *dry*. At certain times of the year, beer that is kept long will ferment. The vent pegs must, in such cases, be loosened a little, and afterwards fastened.

64. Small-beer may be tapped almost directly. It is a sort of joke, that it should *see a Sunday*; but, that it may do before it be two days old. In short, any beer is better than water; but it should have some strength and some *weeks* of age at any rate.

65. I cannot conclude this Essay, without expressing my ardent wish, that the Bill, which *Mr. Brougham* has promised to bring in to authorize the *general retail of Beer*, will become a law. This really seems necessary to prevent the King's subjects from being *poisoned*. The Brewers and Porter Quacks have carried their tricks to such an extent, that there is *no safety* for those who drink Brewer's beer.

66. The best and most effectual thing is however, for people to *brew their own beer*, to enable them and induce them to do which, I have done all that lies in my power. A longer Treatise on the subject would have been of no use. These few plain directions will suffice for those who have a disposition to do the thing ; and, those who have not, would remain unmoved by any thing that I could say.

67. There seems to be a *great number of things to do* in brewing; but, the greater part of them require only about a *minute* each. A brewing, such as I have given the detail of above, may be completed in *a day;* but, by the word *day*, I mean to include the *morning*, beginning at four o'clock.

68. The putting of the beer into barrel is not more than an hour's work for a servant woman, or a trademan's or farmer's wife. There is no *heavy* work, no work too heavy for a woman in any part of the business, otherwise I would not recommend it to be performed by the women, who, though so amiable in themselves, are never quite so amiable as when they are *useful;* and as to beauty, though men may fall in love with girls at *play*, there is nothing to make them stand to their love like seeing them at *work*. In conclusion of these remarks on beer brewing, I once more express my most anxious desire to see abolished for ever the accursed tax on *malt*, which, I verily believe, has done more harm to the people of England than was ever done to any people by plague, pestilence, famine, and civil war.

69. In Paragraph 76, in Paragraph 108, and perhaps, in another place or two (of the last edition) I spoke of the *Machine* for brewing. The Work being *stereotyped*,

it would have been troublesome to alter those Paragraphs; but, of course, the public, in reading them, will bear in mind what has been *now* said relative to the *Machine*. The inventor of that Machine deserves great praise for his efforts to promote private brewing; and as I said before, in certain confined situations, and where the beer is to be merely *small beer*, and for *immediate* use, and where *time* and *room* are of such importance as to make the *cost* of the Machine comparatively of trifling consideration, the Machine may, possibly, be found to be an useful utensil.

70. Having stated the inducements to the brewing of beer, and given the plainest directions that I was able to give for the doing of the thing, I shall, next, proceed to the subject of *Bread*. But, this subject is too large and of too much moment to be treated with brevity, and must, therefore, be put off till my next Number. I cannot, in the mean while, dismiss the subject of *Brewing Beer* without once more adverting to its many advantages, as set forth in the foregoing Number of this Work.

71. The following instructions for the making of *Porter*, will clearly show what sort of stuff is sold at *public-houses* in London; and we may pretty fairly suppose, that the public-house beer in the country is not superior to it in quality. "A quarter of malt, with "these ingredients, will make *five barrels* of *good porter*. "Take one quarter of high-coloured malt, eight pounds "of hops, nine pounds of *treacle*, eight pounds of *colour*, "eight pounds of sliced *liquorice-root*, two drams of *salt "of tartar*, two ounces of *Spanish-liquorice*, and half an "ounce of *capsicum*." The author says, that he merely gives the ingredients, as *used by many persons*.

72. This extract is taken from a *book on brewing*, recently published in London. What a curious composition! What a mess of drugs! But, if the brewers *openly avow* this, what have we to expect from the *secret practices* of them, and the *retailers* of the article! When we know, that *Beer-doctor* and *Brewers'-druggist* are professions, practised as openly as those of *Bug-man* and *Rat-killer*, are we simple enough to suppose that the above-named are the *only* drugs that people swallow in those potions, which they call *pots of beer?* Indeed, we know the contrary; for scarcely a week passes without witnessing the detection of some greedy wretch, who has used, in making or in *doctoring* his beer, drugs, forbidden by the law. And, it is not many weeks since one of these was convicted, in the Court of Excise, for using potent and dangerous drugs, by the means of which, and a suitable quantity of water, he made *two buts of beer into three.* Upon this occasion, it appeared that no less than *ninety* of these worthies were in the habit of pursuing the same practices. The drugs are not unpleasant to the taste: they sting the palate: they give a present relish: they communicate a momentary exhilaration: but, they give no force to the body, which, on the contrary, they enfeeble, and, in many instances, with time, destroy; producing diseases from which the drinker would otherwise have been free to the end of his days.

73. But, look again at the receipt for making Porter. Here are *eight* bushels of malt to 180 gallons of beer; that is to say, 25 gallons from the bushel. Now the malt is eight shillings a bushel, and allowing eight pounds of the very *best hops,* they will cost but a shilling

a pound. The malt and hops, then, for the 180 gallons, cost but *seventy-two shillings*; that is to say, only a little more than *fourpence three farthings a gallon*, for stuff which is now retailed for *twenty pence a gallon!* If this be not an abomination, I should be glad to know what is. Even if the treacle, colour, and the drugs, be included, the cost is not *fivepence a gallon*; and, yet, not content with this enormous extortion, there are wretches, who resort to the use of other, and pernicious drugs, in order to increase their gains!

74. To provide against this dreadful evil there is, and there can be, no *law*; for, it is *created by the law*. The *law* it is, that imposes the enormous tax on the *malt* and *hops*; the *law* it is, that imposes the *licence tax*, and places the power of granting the licence at the discretion of persons appointed by the government; the *law* it is that checks, in this way, the private brewing, and that prevents *free fair and competition* in the selling of beer, and as long as the *law* does these, it will in vain endeavour to prevent the people from being destroyed by slow poison.

75. Innumerable are the benefits that would arise from a repeal of the taxes on malt and on hops. Tippling houses might then be shut up with justice and propriety. The Labourer, the Artisan, the Tradesman, the Landlord, all would instantly feel the benefit. But the *Landlord* more, perhaps, in this case, than any other member of the community. The four or five pounds a year which the day-labourer now drizzles away in tea-messes, he would divide with the farmer, if he had untaxed beer. His wages would *fall*, and fall to his *advantage* too. The fall of wages would be not less than 40*l.* upon a hun-

dred acres. Thus 40*l.* would go, in the end, a fourth, perhaps, to the farmer, and three-fourths to the Landlord. This is the kind of work to *reduce poor-rates*, and to restore *husbandry to prosperity*. Undertaken this work *must* be, and *performed too*; but whether we shall see this until the estates have passed away from the *present race* of Landlords, is a question which must be referred to *time*.

76. Surely we may hope, that, when the American farmers shall see this little Essay, they will begin seriously to think of leaving off the use of the liver-burning and palsy-producing *Spirits*. Their *climate*, indeed, is something: *extremely hot* in one part of the year, and *extremely cold* in the other part of it. Nevertheless, they may have, and do have, very good beer if they will. *Negligence* is the greatest impediment in their way. I like the Americans very much; and that, if there were no other, would be a reason for my not hiding their faults.

No. III.

MAKING BREAD.

77. LITTLE time need be spent in dwelling on the necessity of *this* article to all families; though, on account of the modern custom of using *potatoes* to supply the place of *bread*, it seems necessary to say a few words here on the subject, which, in another work, I have so amply, and, I think, so triumphantly discussed. I am the more disposed to revive the subject for a moment, in this place, from having read, in the evidence recently given before the Agricultural Committee, that many labourers, especially in the West of England, use potatoes *instead* of bread to a very great extent. And I find, from the same evidence, that it is the custom to allot to labourers "*a potatoe ground*" in part payment of their wages! This has a tendency to bring English labourers down to the state of the Irish, whose mode of living, as to food, is but one remove from that of the pig, and of the ill-fed pig too.

78. I was, in reading the above-mentioned Evidence, glad to find, that Mr. EDWARD WAKEFIELD, the best informed and most candid of all the witnesses, gave it as his opinion, that the increase which had taken place in the cultivation of potatoes was "*injurious to the country;*" an opinion, which must, I think, be adopted by every one who takes the trouble to reflect a little upon the subject. For leaving out of the question, the slovenly and beastly habits engendered amongst the labouring classes by constantly lifting their principal food at once out of the earth to their mouths, by eating without the necessity of any implements other than the hands and the teeth, and by dispensing with every thing requiring skill in the preparation of the food, and requiring cleanliness in its consump-

tion or preservation ; leaving these out of the question, though they are all matters of great moment, when we consider their effects in the rearing of a family, we shall find, that, in mere quantity of food ; that is to say, of *nourishment,* bread is the preferable diet.

79. An acre of land, that will produce 300 bushels of potatoes, will produce 32 bushels of wheat. I state this as an average fact, and am not at all afraid of being contradicted by any one well acquainted with husbandry. The potatoes are supposed to be of a *good sort,* as it is called, and the wheat may be supposed to weigh 60 pounds a bushel. It is a fact clearly established, that, after the *water,* the *stringy* substance, and the *earth,* are taken from the potatoe, there remains only one *tenth* of the rough raw weight of nutritious matter, or matter which is deemed equally nutritious with bread, and, as the raw potatoes weigh 56lb. a bushel, the acre will yield 1,830lb. of nutritious matter. Now mind, a bushel of wheat, weighing 60lb. will make of *household bread* (that is to say, taking out only the *bran*) 65lb. Thus, the acre yields 2,080 lb. of bread. As to the *expenses,* the seed and act of planting are about equal in the two cases. But, while the potatoes *must* have cultivation during their growth, the wheat needs none ; and while the wheat straw is worth from three to five pounds an acre, the haulm of the potatoes is not worth one single truss of that straw. Then, as to the expense of gathering, housing, and keeping the potatoe crop, it is enormous, besides the risk of loss by frost, which may be safely taken, on an average, at a tenth of the crop. Then comes the expense of *cooking.* The thirty-two bushels of wheat, supposing a bushel to be baked at a time (which would be the case in a large family) would demand *thirty-two heatings of the oven.* Sup-

pose a bushel of potatoes to be cooked every day in order to supply the place of this bread, then we have *nine hundred boilings of the pot,* unless *cold potatoes* be eaten at some of the meals ; and, in that case, the diet must be *cheering* indeed ! Think of the *labour ;* think of the *time ;* think of all the peelings and scrapings and washings and messings attending these *nine hundred boilings of the pot !* For it must be a considerable time before English people can be brought to eat potatoes in the Irish style ; that is to say, scratch them of the earth with their paws, toss them into a pot without washing, and when boiled, turn them out upon a dirty board, and then sit round that board, peel the skin and dirt from one at a time and eat the inside. Mr. Curwen was delighted with "*Irish hospitality,*" because the people there receive no parish relief ; upon which I can only say, that I wish him the exclusive benefit of such hospitality.

80. I have here spoken of a large quantity of each of the sorts of food. I will now come to a comparative view, more immediately applicable to a labourer's family. When wheat is *ten* shillings the bushel, potatoes, bought at best hand (I am speaking of the country generally) are about *two* shillings a bushel. Last Spring the average price of wheat might be *six and sixpence ;* and the average price of potatoes (in small quantities) was about *eighteen pence* ; though, by the wagon load, I saw potatoes bought at a *shilling* a bushel, to give to sheep ; then, observe, these were of the coarsest kind, and the farmer had to fetch them at a considerable expense. I think, therefore, that I give the advantage to the potatoes when I say that they sell, upon an average, for full a *fifth* part as much as the wheat sells for, per bushel, while they contain four

pounds less weight than the bushel of wheat; while they yield only five pounds and a half of nutritious matter equal to bread; and while the bushel of wheat will yield *sixty-five pounds of bread,* besides the ten pounds of bran. Hence it is clear, that, instead of that *saving*, which is everlastingly dinned in our ears, from the use of potatoes, there is a *waste of more than one half;* seeing that, when wheat is *ten shillings* the bushel, you can have *sixty-five pounds of bread for the ten shillings;* and can have out of potatoes only five pounds and a half of nutritious matter equal to bread for *two shillings!* This being the case, I trust, that we shall soon hear no more of those *savings*, which the labourer makes by the use of potatoes; I hope we shall, in the words of DOCTOR DRENNAN, "leave Ireland to her *lazy* root," if she choose still to adhere to it. It is the root, also, of slovenliness, filth, misery, and slavery; its cultivation has increased in England with the increase of the paupers: both, I thank God, are upon the decline. Englishmen seem to be upon the return to beer and bread, from water and potatoes: and, therefore, I shall now proceed to offer some observations to the Cottager, calculated to induce him to bake his own bread.

81. As I have before stated, sixty pounds of wheat, that is to say, where the Winchester bushel weighs sixty pounds, will make sixty-five pounds of bread, besides the leaving of about ten pounds of bran. This is household bread, made of flour from which the bran only is taken. If you make fine flour, you take out pollard, as they call it, as well as bran, and then you have a smaller quantity of bread and a greater quantity of offal; but, even of this finer bread, bread equal in fineness to the baker's bread, you get from *fifty-eight to fifty-nine* pounds out of the

bushel of wheat. Now, then, let us see how many quartern loaves you get out of the bushel of wheat, supposing it to be fine flour, in the first place. You get thirteen quartern loaves and a half; these cost you, at the present average price of wheat (seven and sixpence a bushel), in the first place 7*s.* 6*d.*; then 3*d.* for yeast; then not more than 3*d.* for grinding; because you have about thirteen pounds of offal, which is worth more than a ½*d.* a pound, while the grinding is 9*d.* a bushel. Thus, then, the bushel of bread of fifty-nine pounds cost you *eight shillings;* and it yields you the weight of thirteen and a half quartern loaves: these quartern loaves *now* (Dec. 1821.) sell at Kensington, at the baker's shop, at 1*s.* ½*d.*; that is to say, the thirteen quartern loaves, and a half cost 14*s.* 7½*d.* I omitted to mention the salt which would cost you 4*d.* more. So that, here is 6*s.* 3½*d.* saved upon the baking of a bushel of bread. The baker's quartern loaf is indeed cheaper in the country than at Kensington, by, probably, a penny in the loaf; which would still, however, leave a saving of 5*s.* upon the bushel of bread. But, besides this, pray think a little of the materials of which the baker's loaf is composed. The *alum*, the *ground potatoes*, and other materials; it being a notorious fact, that the bakers, in London at least, have *mills* wherein to grind their potatoes; so large is the scale upon which they use that material. It is probable, that, out of a bushel of wheat, they make between *sixty* and *seventy* pounds of bread, though they have no more *flour*, and, of course, no more nutritious matter, than you have in your fifty-nine pounds of bread. But, at the least, supposing their bread to be as good as yours in quality, you have, allowing a shilling for the heating of the oven, a clear 4*s.* saved upon every bushel of bread. If you

consume half a bushel a week, that is to say about a quartern loaf a day, this is a saving of 5*l.* 4*s.* a year, or full a sixth part, if not a fifth part, of the earnings of a labourer in husbandry.

82. How wasteful, then, and, indeed, how shameful, for a labourer's wife to go to the baker's shop; and how negligent, how criminally careless of the welfare of his family, must the labourer be, who permits so scandalous an use of the proceeds of his labour! But I have, hitherto, taken a view of the matter the least possibly advantageous to the home baked bread. For, ninety-nine times out of a hundred, the fuel for heating the oven costs very little. The hedgers, the copsers, the woodmen of all descriptions, have fuel for little or nothing. At any rate, to heat the oven cannot, upon an average, take the Country through, cost the labourer more than 6*d.* a bushel. Then, again, fine flour need not ever be used, and ought not to be used. This adds six pounds of bread to the bushel, or nearly another quartern loaf and a half, making nearly fifteen quartern loaves out of the bushel of wheat. The finest flour is by no means the most wholesome; and, at any rate, there is more nutricious matter in a pound of household bread, than in a pound of baker's bread. Beside this, rye, and even barley, especially when mixed with wheat, make very good bread. Few people upon the face of the earth live better than the Long Islanders. Yet nine families out of ten, seldom eat wheaten-bread. Rye is the flour that they principally make use of. Now, rye is seldom more than two-thirds the price of wheat, and barley is seldom more than half the price of wheat. Half rye and half wheat, taking out a little more of the offal, make very good

bread. Half wheat, a quarter rye and a quarter barley; nay, one-third of each, make bread that I could be very well content to live upon all my lifetime; and, even barley alone; if the barley be good, and none but the finest flour taken out of it, has in it, measure for measure, ten times the nutrition of potatoes. Indeed the fact is well known, that our forefathers used barley bread to a very great extent. Its only fault, with those who dislike it, is its sweetness, a fault which we certainly have not to find with the baker's loaf, which has in it, little more of the *sweetness* of grain than is to be found in the offal which comes from the sawings of deal boards. The nutritious nature of barley is amply proved by the effect, and very rapid effect of its meal, in the fatting of hogs and of poultry of all descriptions. They will fatten quicker upon meal of barley than upon any other thing. The flesh, too, is sweeter than that proceeding from any other food, with the exception of that which proceeds from *buck wheat*, a grain little used in England. That proceeding from Indian corn is, indeed, still sweeter and finer; but this is wholly out of the question with us.

83. I am, by and by, to speak of the *cow* to be kept by the labourer in husbandry. Then there will be *milk* to wet the bread with, an exceedingly great improvement in its taste as well as in its quality! This of all the ways of using skim milk, is the most advantageous; and, this great advantage must be wholly thrown away, if the bread of the family be bought at the shop. With milk, bread with very little wheat in it, may be made far better than baker's bread; and, leaving the milk out of the question, taking a third of each sort of grain, you would get bread weighing as much as fourteen quartern

loaves, for about 5*s.* 9*d.* at present prices of grain; that is to say, you would get it for about 5*d.* the quartern loaf, all expenses included; thus you have nine pounds and ten ounces of bread a day for about 5*s.* 9*d.* a week. Here is enough for a very large family. Very few labourers' families can want so much as this, unless indeed there be several persons in it capable of earning something by their daily labour. Here is cut and come again. Here is bread always for the table. Bread to carry a field; always a hunch of bread ready to put into the hand of a hungry child. We hear a great deal about "*children crying for bread,*" and objects of compassion they and their parents are, when the latter have not the means of obtaining a sufficiency of bread. But I should be glad to be informed, how it is possible for a labouring man, who earns, upon an average, 10*s.* a week, who has not more than four children (and if he have more, some ought to be doing something;) who has a garden of a quarter of an acre of land (for that makes part of my plan;) who has a wife as industrious as she ought to be; who does not waste his earnings at the alehouse or the tea shop: I should be glad to know how such a man, while wheat shall be at the price of about 6*s.* a bushel *can possibly have children crying for bread!*

84. Cry, indeed, they must, if he will persist in giving thirteen shillings for a bushel of bread instead of 5*s.* 9*d.* Such a man is not to say that the bread which I have described is *not good enough.* It was good enough for his forefathers, who were too proud to be paupers, that is to say, abject and willing slaves. "Hogs eat barley." And hogs will eat wheat, too, when they can get at it. Convicts in condemned cells eat wheaten bread; but we

think it no degradation to eat wheaten bread, too. I am for depriving the labourer of none of his rights; I would have him oppressed in no manner or shape; I would have him bold and free; but to have him such, he must have bread in his house, sufficient for all his family, and whether that bread be fine or coarse must depend upon the different circumstances which present themselves in the cases of different individuals.

85. The married man has no right to expect the same plenty of food and of raiment that the single man has. The time before marriage is the time to lay by, or, if the party choose, to indulge himself in the absence of labour. To marry is a voluntary act, and it is attended in the result with great pleasures and advantages. If, therefore, the laws be fair and equal; if the state of things be such, that a labouring man can, with the usual ability of labourers, and with constant industry, care and sobriety; with decency of deportment towards all his neighbours, cheerful obedience to his employer, and a due subordination to the laws; if the state of things be such, that such a man's earnings be sufficient to maintain himself and family with food, raiment, and lodging needful for them; such a man has no reason to complain; and no labouring man has reason to complain, if the numerousness of his family should call upon him for extraordinary exertion, or for frugality uncommonly rigid. The man with a large family has, if it be not in a great measure his own fault, a greater number of pleasures and of blessings than other men. If he be wise, and *just* as well as wise, he will see that it is reasonable for him to expect less delicate fare than his neighbours, who have a less number of children, or no children at all. He will see the jus-

tice as well as the necessity of his resorting to the use of coarser bread, and thus endeavour to make up that, or, at least, a part of that which he loses in comparison with his neighbours. The quality of the bread ought, in every case, to be proportioned to the number of the family and the means of the head of that family. Here is no injury to health proposed; but, on the contrary, the best security for its preservation. Without bread, all is misery. The Scripture truly calls it the staff of life; and it may be called, too, the pledge of peace and happiness in the labourer's dwelling.

86. As to the act of making bread, it would be shocking indeed, if that had to be taught by the means of books. Every woman, high or low, ought to know how to make bread. If she do not, she is unworthy of trust and confidence; and, indeed, a mere burthen upon the community. Yet, it is but too true, that many women, even amongst those who have to get their living by their labour, know nothing of the making of bread; and seem to understand little more about it than the part which belongs to its consumption. A Frenchman, a Mr. CUSAR, who had been born in the West Indies, told me, that till he came to Long Island, he never knew *how the flour came;* that he was surprised when he learnt that it was squeezed out of little grains that grew at the tops of straw; for that he had always had an idea that it was got out of some large substances, like the yams that grow in tropical climates. He was a very sincere and good man, and I am sure he told me truth. And this may be the more readily believed, when we see so many women in England, who seem to know no more of the constituent parts of a loaf than they know of

those of the Moon. Servant women in abundance appear to think that loaves are made by the baker, as knights are made by the king; things of their pure creation, a creation, too, in which no one else can participate. Now, is not this an enormous evil? And whence does it come? Servant women are the children of the labouring classes; and they would all know how to make bread, and know well how to make it too, if they had been fed on bread of their mother's and their own making.

87. How serious a matter, then, is this, even in this point of view! A servant that cannot make bread is not entitled to the same wages as one that can. If she can neither bake nor brew; if she be ignorant of the nature of flour, yeast, malt and hops, what is she good for? If she understand these matters well; if she be able to supply her employer with bread and with beer; she is really *valuable;* she is entitled to good wages, and to consideration and respect into the bargain; but if she be wholly deficient in these particulars, and can merely dawdle about with a bucket and a broom, she can be of very little consequence; to lose her is merely to lose a consumer of food, and she can expect very little indeed in the way of desire to make her life easy and pleasant. Why should any one have such desire? She is not a child of the family. She is not a relation. Any one as well as she can take in a loaf from the baker, or a barrel of beer from the brewer. She has nothing whereby to bind her employer to her. To sweep a room any thing is capable of that has got two hands. In short, she has no useful skill, no useful ability; she is an ordinary drudge, and she is treated accordingly.

88. But, if such be her state in the house of an employer,

what is her state in the house of a *husband?* The lover is blind ; but the husband has eyes to see with. He soon discovers that there is something wanted besides dimples and cherry cheeks ; and I would have fathers seriously reflect, and to be well assured, that the way to make their daughters to be long admired, beloved and respected by their husbands, is to make them skilful, able and active in the most necessary concerns of a family. Eating and drinking come three times every day ; the preparations for these, and all the ministry necessary to them, belong to the wife ; and I hold it to be impossible, that at the end of two years, a really ignorant, sluttish wife should possess any thing worthy of the name of love from her husband. This, therefore, is a matter of far greater moment to the father of a family, than, whether the Parson of the parish, or the Methodist Priest, be the most "*Evangelical*" of the two ; for it is here a question of the daughter's happiness or misery for life. And I have no hesitation to say, that if I were a labouring man, I should prefer teaching my daughters to bake, brew, milk, make butter and cheese, to teaching them to read the Bible till they had got every word of it by heart ; and I should think, too, nay I should know, that I was in the former case doing my duty towards God as well as towards my children.

89. When we see a family of dirty, ragged little creatures, let us inquire into the cause ; and ninety-nine times out of every hundred we shall find, that the parents themselves have been brought up in the same way. But a consideration which ought of itself to be sufficient, is the contempt in which a husband will naturally hold a wife that is ignorant of the matters necessary to the

conducting of a family. A woman who understands all the things above mentioned is really a skilful person; a person worthy of respect, and that will be treated with respect, too, by all but brutish employers or brutish husbands; and such, though sometimes, are not very frequently found. Besides, if natural justice and our own interests had not the weight which they have, such valuable persons will be treated with respect. They know their own worth; and, accordingly, they are more careful of their character, more careful not to lessen by misconduct the value which they possess from their skill and ability.

90. Thus, then, the interest of the labourer; his health; the health of his family; the peace and happiness of his home; the prospects of his children through life; their skill, their ability, their habits of cleanliness, and even their moral deportment; all combine to press upon him the adoption and the constant practice of this branch of domestic economy. "Can she *bake?*" is the question that I always put. If she can, she is *worth a pound or two a year more.* Is that nothing? Is it nothing for a labouring man to make his four or five daughters worth eight or ten pounds a year more; and that too, while he is by the same means providing the more plentifully for himself and the rest of his family? The reasons on the side of the thing that I contend for are endless; but if this one motive be not sufficient, I am sure all that I have said, and all that I could say, must be wholly unavailing.

91. Before, however, I dismiss this subject, let me say a word or two to those persons who do not come under the denomination of labourers. In London, or in any

very large town, where the space is so confined, and where the proper fuel is not handily to be come at and stored for use, to bake your own bread may be attended with too much difficulty ; but in all other situations there appears to me to be hardly any excuse for not baking bread at home. If the family consist of twelve or fourteen persons, the money actually saved in this way (even at present prices) would be little short of from twenty to thirty pounds a year. At the utmost here is only the time of one woman occupied one day in the week. Now mind, here are twenty-five pounds to be employed in some way different from that of giving it to the baker. If you add five of these pounds to a woman's wages, is not that full as well employed as giving it in wages to the baker's men ? Is it not better employed for you ? and is it not better employed for the community ? It is very certain, that if the practice were as prevalent as I could wish, there would be a large deduction from the regular baking population; but, would there be any harm if less alum were imported into England, and if some of those youths were left at the plough, who are now bound in apprenticeships to learn the art and mystery of doing that which every girl in the kingdom ought to be taught to do by her mother ? It ought to be a maxim with every Master and every Mistress, never to employ another to do that which can be done as well by their own servants. The more of their money that is retained in the hands of their own people, the better it is for them altogether. Besides, a man of a right mind must be pleased with the reflection, that there is a great mass of skill and ability under his own roof. He feels stronger and more independent on this account, all pecuniary ad-

vantage out of the question. It is impossible to conceive any thing more contemptible than a crowd of men and woman living together in a house, and constantly looking out of it for people to bring them food and drink, and to fetch their garments to and fro. Such a crowd resemble a nest of unfledged birds, absolutely dependent for their very existence on the activity and success of the old ones.

92. Yet, on men go, from year to year, in this state of wretched dependance, even when they have all the means of living within themselves, which is certainly the happiest state of life that any one can enjoy. It may be asked where is the mill to be found? where is the wheat to be got? The answer is, where is there not a mill? where is there not a market? They are every where, and the difficulty is to discover what can be the particular attractions contained in that long and luminous manuscript, a baker's half-yearly bill.

93. With regard to the mill, in speaking of families of any considerable number of persons, the mill has, with me, been more than once a subject of observation in print. I for a good while experienced the great inconvenience and expense of sending my wheat and other grain to be ground at a mill. This expense, in case of a considerable family, living at only a mile from a mill, is something; but the inconveniency and uncertainty are great. In my "Year's Residence in America," from paragraphs 1031 and onwards, I give an account of a horse-mill, which I had in my farm yard; and I showed, I think very clearly, that corn could be ground cheaper in this way than by wind or water, and that it would answer well to grind for sale in this way as well as for

home use. Since my return to England I have seen a mill, erected in consequence of what the owner had read in my book. This mill belongs to a small farmer, who, when he cannot work on his land with his horses, or in the season when he has little for them to do, grinds wheat, sells the flour; and he takes in grists to grind, as other millers do. This mill goes with three small horses; but, what I would recommend to gentlemen with considerable families, or to farmers, is a mill such as I myself have at present.

94. With this mill, turned by a man and a stout boy, I can grind six bushels of wheat in a day and dress the flour. The grinding of six bushels of wheat at ninepence a bushel comes to four and sixpence, which pays the man and the boy, supposing them (which is not and seldom can be the case) to be hired for the express purpose out of the street. With the same mill you grind meat for your pigs; and of this you will get eight or ten bushels ground in a day. You have no trouble about sending to the mill; you are sure to have your *own wheat*; for strange as it may seem, I used sometimes to find that I sent white Essex wheat to the mill, and that it brought me flour from very coarse red wheat. There is no accounting for this, except by supposing that wind and water power has something in it to change the very nature of the grain; as, when I came to grind by horses, such as the wheat went into the hopper, so the flour came out into the bin.

95. But mine now is only on the petty scale of providing for a dozen of persons and a small lot of pigs. For a farm-house, or a gentleman's house in the country, where there would be *room* to have a walk for a horse,

you might take the labour from the men, clap any little horse, pony, or even ass to the wheel; and he would grind you off eight or ten bushels of wheat in a day, and both he and you would have the thanks of your men into the bargain.

96. The cost of this Mill is twenty pounds. The Dresser is four more; the horse-path and wheel might, possibly, be four or five more; and I am very certain, that to any farmer living at a mile from a mill (and that is less than the average distance perhaps); having twelve persons in family, having forty pigs to feed, and twenty hogs to fatten, the savings of such a mill would pay the whole expenses of it the very first year. Such a farmer cannot send less than *fifty times* a year to the mill. Think of that, in the first place! The elements are not always propitious: sometimes the water fails, and sometimes the wind. Many a farmer's wife has been tempted to vent her spleen on both. At best, there must be horse and man, or boy, and, perhaps, cart, to go to the mill; and that, too, observe, in all weathers, and in the harvest as well as at other times of the year. The case is one of imperious necessity: neither floods nor droughts, nor storms nor calms, will allay the cravings of the kitchen, nor quiet the clamorous uproar of the stye. Go, somebody must, to some place or other, and back they must come with flour and with meal. One summer many persons came down the country more than fifty miles to a mill that I knew in Pennsylvania; and I have known farmers in England carry their grists more than fifteen miles to be ground. It is surprising, that, under these circumstances, hand-mills and horse-mills should not, long ago, have become of more general use; especially

when one considers that the labour, in this case, would cost the farmer next to nothing. To grind would be the work of a wet day. There is no farmer, who does not at least fifty days in every year, exclaim, when he gets up in the morning, "What shall I set *them* at to-day!" If he had a mill, he would make them pull off their shoes, sweep all out clean, winnow up some corn, if he had it not already done, and grind and dress, and have every thing in order. No scolding within doors about the grist; no squeaking in the stye; no boy sent off in the rain to the mill.

97. But there is one advantage which I have not yet mentioned, and which is the greatest of all; namely, that you would have the power of supplying your married labourers; your blacksmith's men sometimes; your wheelwright's men at other times; and, indeed, the greater part of the persons that you employed, with good flour, instead of their going to purchase their flour, after it had passed through the hands of a corn Merchant, a Miller, a Flour Merchant, and a Huckster, every one of whom does and must, have a profit out of the flour, arising from wheat grown upon, and sent away from, your very farm! I used to let all my people have flour at the same price that they would otherwise have been compelled to give for worse flour. *Every Farmer* will understand me when I say, that he ought to pay for nothing in *money*, which he can pay for in any thing but money. His maxim is to keep the money that he takes as long as he can. Now here is a most effectual way of putting that maxim in practice to a very great extent. Farmers know well that it is the Saturday night which empties their pockets; and here is the means of cutting off a good half of the Saturday night. The men have

better flour for the same money, and still the Farmer keeps at home those profits which would go to the maintaining of the Dealers in wheat and in flour.

98. The maker of my little mill is Mr. HILL, of Oxford-street. The expense is what I have stated it to be. I, with my small establishment, find the thing convenient and advantageous; what then must it be to a gentleman, in the country who has room and horses, and a considerable family to provide for. The Dresser is so contrived as to give you at once, meal, of four degrees of fineness; so that, for certain purposes, you may take the very finest; and, indeed, you may have your flour, and your bread of course, of what degree of fineness you please. But, there is also a *steel-mill,* much less *expensive,* requiring *less labour,* and yet quite sufficient for a *family.* Mills of this sort, very good and at a reasonable price, are to be had of Mr. PARKES, in *Fenchurch-street,* London. These are very complete things of their kind. Mr. PARKES has, also, excellent Malt-Mills.

99. In concluding this part of my Treatise, I cannot help expressing my hope of being instrumental in inducing a part of the labourers, at any rate, to bake their own bread; and, above all things, to abandon the use of "Ireland's *lazy* root." Nevertheless, so extensive is the erroneous opinion relative to this villanous root, that I really began to despair of checking its cultivation and use, till I saw the declaration, which Mr. WAKEFIELD had the good sense and the spirit to make before the "AGRICULTURAL COMMITTEE." Be it observed, too, that Mr. WAKEFIELD had, himself, made a survey of the state of Ireland. What he saw there did not encourage him, doubtless, to be an advocate for the growing of this root of wretched-

ness. It is an undeniable fact, that, in the proportion that this root is in use, as a *substitute for bread,* the people are wretched; the reasons for which I have explained and enforced, a hundred times over. Mr. WILLIAM HANNING told the Committee that the labourers in his part of Somersetshire were "almost wholly supplied with potatoes, *breakfast* and *dinner,* brought them *in the fields,* and "nothing but potatoes; and that they used, in better "times, to get a certain portion of bacon and cheese, "which, on account of their poverty, they do not eat "now." It is impossible that men can be *contented* in such a state of things: it is unjust to desire them to be contented: it is a state of misery and degradation to which no part of any community can have any show of right to reduce another part: men so degraded have no protection; and it is a disgrace to form part of a community to which they belong. This degradation has been occasioned by a silent change in the value of the money of the country. This has purloined the wages of the labourer; it has reduced him by degrees to housel with the spider and the bat, and to feed with the pig. It has changed the habits and, in a great measure, the character of the people. The sins of this system are enormous and undescribable; but, thank God! they seem to be approaching to their end! Money is resuming its value, labour is recovering its price; let us hope that the wretched potatoe is disappearing, and that, we shall, once more, see the knife in the labourer's hand and the loaf upon his board.

[This was written in 1821. *Now* (1823) we have had the experience of 1822, when, for the first time, the world saw a considerable part of a people, plunged into all the horrors of *famine,* at a moment when the govern-

ment of that nation declared *food too be abundant!* Yes, the year 1822, saw Ireland in this state; saw the people of whole parishes receiving the *extreme unction* preparatory to yeilding up their breath for want of food; and this, while large exports of meat and flour were taking place in that country! But, horrible as this was, disgraceful as it was to the name of Ireland, it was attended with this good effect: it brought out, from many Members of Parliament (in their places), and from the public in general, the acknowledgment, that the *misery* and *degradation* of the Irish were chiefly owing to the *use of the potatoe as the almost sole food of the people.*]

100. In my next number I shall treat of the *keeping of cows.* I have said that I will teach the Cottager how to to keep a cow all the year round upon the produce of a quarter of an acre, or, in other words, *forty rods*, of land; and, in my next, I will make good my promise.

No. IV.

MAKING BREAD.

(*Continued.*)

101. IN the last Number, at paragraph 86, I observed that I hoped it was unnecessary for me to give any directions as to the mere *act* of making bread. But, several correspondents inform me that, without these directions, a conviction of the utility of baking bread at home is of *no use to them.* Therefore, I shall here give those

directions, receiving my instructions here from one, who, I thank God, does know how to perform this act.

102. Suppose the quantity be a bushel of flour. Put this flour into a *trough* that people have for the purpose, or it may be in a clean smooth tub of any shape, if not too deep, and if sufficiently large. Make a pretty deep hole in the middle of this heap of flour. Take (for a bushel) a pint of good fresh yeast, mix it and stir it well up in a pint of *soft* water milk warm. Pour this into the hole in the heap of flour. Then take a spoon and work it round the outside of this body of moisture so as to bring into that body, by degrees, flour enough to make it form a *thin batter,* which you must stir about well for a minute or two. Then take a handful of flour and scatter it thinly over the head of this batter, so as to *hide* it. Then cover the whole over with a cloth to keep it *warm ;* and this covering, as well as the situation of the trough, as to distance from the fire, must depend on the nature of the place and state of the weather as to heat and cold. When you perceive that the batter has risen enough to make *cracks* in the flour that you covered it over with, you begin to form the whole mass into *dough,* thus : you begin round the hole containing the batter, working the the flour into the batter, and pouring in, as it is wanted to make the flour mix with the batter, soft water milk-warm, or milk, as hereafter to be mentioned. Before you begin this, you scatter the *salt* over the heap at the rate of *half a pound* to a bushel of flour. When you have got the whole *sufficiently moist,* you *knead it well.* This is a grand part of the business ; for, unless the dough be *well worked,* there will be *little round lumps of flour in the loaves ;* and, besides, the original batter, which is to

give fermentation to the whole, will not be duly mixed. The dough must, therefore, be well worked. The *fists* must go heartily into it. It must be rolled over ; pressed out : folded up and pressed out again, until it be completely mixed, and formed into a *stiff* and *tough dough*. This is *labour*, mind. I have never quite liked baker's bread since I saw a great heavy fellow, in a bake-house in France, kneading bread with his *naked feet !* His feet looked very *white* to be sure : whether they were of that colour *before he got into the trough* I could not tell. God forbid, that I should suspect that this is ever done *in England !* It is *labour* ; but, what is *exercise* other than labour ? Let a young woman bake a bushel once a week, and she will do very well without phials and gallipots.

103. Thus, then, the dough is made. And, when made, it is to be formed into a lump in the middle of the trough, and, with a little dry flour thinly scattered over it, covered over again to be kept warm and to ferment ; and in this state, if all be done rightly, it will not have to remain more than about 15 or 20 minutes.

104. In the mean while *the oven is to be heated ;* and this is much more than half the art of the operation. When an oven is properly heated, can be known only by *actual observation.* Women who understand the matter, know when the heat is right the moment they put their faces within a yard of the oven-mouth ; and once or twice observing is enough for any person of common capacity. But this much may be said in the way of *rule :* that the fuel (I am supposing a brick oven) should be *dry* (not *rotten*) wood, and not mere *brush-wood,* but rather *fagot-sticks.* If larger wood, it ought to be split up into sticks not more than two, or two and

a half inches through. Bush-wood that is *strong*, not green and not too old, if it be hard in its nature and has some *sticks* in it, may do. The *woody* parts of furze, or ling, will heat an oven very well. But, the thing is, to have a *lively* and yet *somewhat strong* fire; so that the oven may be heated in about 15 minutes, and retain its heat sufficiently long.

105. The oven should be hot by the time that the dough, as mentioned in paragraph 103, has remained in the lump about 20 minutes. When both are ready, take out the fire, and wipe the oven out clean, and, at nearly about the same moment, take the dough out upon the lid of the baking trough, or some proper place, cut it up into pieces, and make it up into loaves, kneading it again into these seperate parcels; and, as you go on, shaking a little flour over your board, to prevent the dough from adhering to it. The loaves should be put into the oven as *quickly* as possible after they are formed; when in, the oven-lid, or door, should be fastened up *very closely*; and, if all be properly managed, loaves of about the size of quartern loaves, will be sufficiently baked in about *two hours*. But they usually take down the *lid*, and *look* at the bread, in order to see how it is going on.

106. And, what is there, worthy of the name of *plague*, or *trouble*, in all this? Here is no dirt, no filth, no rubbish, no *litter*, no *slop*. And, pray, what can be pleasanter to *behold?* Talk, indeed, of your pantomimes and gaudy shows; your processions and installations and coronations! Give me, for a beautiful sight, a neat and smart woman, heating her oven and setting in her bread! And, if the bustle does make the sign of labour glisten

on her brow, where is the man that would not kiss that off, rather than lick the plaster from the cheek of a duchess?

107. And what is the *result?* Why, good, wholesome food, sufficient for a considerable family for a week, prepared in three or four hours. To get this quantity of food, fit to be *eaten,* in the shape of potatoes, *how many fires!* what a washing, what a boiling, what a peeling, what a slopping and what a messing! The cottage everlastingly in a litter; the woman's hands everlastingly wet and dirty; the children grimed up to the eyes with dust fixed on by potatoe-starch; and ragged as colts, the poor mother's time all being devoted to the everlasting boilings of the pot! Can any man, who knows any thing of the labourer's life deny this? And will, then, any body, except the old shuffle-breeches band of the Quarterly Review, who have, all their lives been moving from garret to garret, who have seldom seen the sun, and never the dew, except in print; will any body except these men say, that the people ought to be taught to use potatoes as a *substitute for bread!*

BREWING BEER.

108. THIS matter has been fully treated of in the two last Numbers. But, several correspondents wishing to fall upon some means of rendering the practice beneficial to those who are *unable to purchase* brewing utensils, have recommended the *lending* of them, or letting out, round

a neighbourhood. Another correspondent has, therefore, pointed out to me *an act of parliament* which touches upon this subject; and, indeed, what of Excise Laws and Custom Laws, and Combination Laws, and Libel Laws, a human being in this country scarcely knows what he dares do or what he dares say. What father, for instance, would have imagined, that, having brewing utensils, which two men carry from house to house as easily as they can a basket, *he dared not lend them to his son, living in the next street, or at the next door?* Yet, such really is the law; for according to the Act, 5th of the 22 and 23 of that honest and sincere gentleman, Charles II. there is a penalty of 50*l.* for lending or letting brewing utensils. However, it has this limit; that the penalty is confined to *Cities, Corporate Towns* and *Market Towns*, WHERE THERE IS A PUBLIC BREW-HOUSE. So that, in the first place, you may let, or lend, in *any* place where there is *no public brew-house;* and, in all towns not *corporate or market*, and in all villages, hamlets and scattered places.

109. Another thing is, can a man, who has brewed beer at his own house in the country, bring that beer into town to his own house and for the use of his family there? This has been asked of me. I cannot give a positive answer without reading about *seven large volumes in quarto of taxing laws.* The best way would be to *try it;* and, if any penalty, pay it by *subscription,* if that would not come under the law of *conspiracy!* However, I *think,* there can be no danger here. So monstrous a thing as this can, surely, not exist. If there be such a law, it is daily violated; for nothing is more common than for country gentlemen, who have a dislike to die

by poison, bringing their home-brewed beer to London.

110. Another correspondent recommends *parishes to make their own malt.* But, surely the landlords mean to get rid of the *malt and salt tax !* Many dairies, I dare say, pay 50*l.* a year each in salt tax. How, then, are they to contend against Irish butter and Dutch butter and cheese? And, as to the malt tax, it is a dreadful drain from the land. I have heard of labourers, living "in *unkent places,*" making their *own malt,* even now ! Nothing is so easy as to make your own malt, if you were permitted. You soak the barley about three days (according to the state of the weather) ; and then you put it upon stones or bricks, *and keep it turned,* till the root *shoots out ;* and, then, to know when to *stop,* and to put it to dry, take up a corn (which you will find nearly transparent,) and look through the skin of it. You will see the *spear,* that is to say, the shoot that would come out of the ground, pushing on towards the *point* of the barley-corn. It starts from the bottom, where the root comes out ; and it goes on towards the other end ; and would, if *kept moist,* come out at that other end when the root was about an inch long. So that, when you have got the *root to start,* by soaking and turning in heap, the spear is *on its way.* If you look in through the skin, you will see it ; and, now observe ; when the *point of the spear* has got along as far as the *middle of the barley-corn,* you should take your barley and *dry it.* How easy would every family, and especially every farmer, do this, if it were not for the punishment attached to it ! The persons, in the "unkent places" before mentioned, dry the malt in their *oven !* But, let us hope, that the labourer will soon be able to get malt without exposing himself to punishment as a *violater of the law.*

KEEPING COWS.

111. AS to the *use* of *milk* and of that which proceeds from milk, in a family, very little need be said. At a certain age bread and milk are *all* that a child wants. At a later age they furnish one meal a day for children. Milk is, at all seasons, good to *drink*. In the making of puddings, and in the making of *bread* too, how useful is it! Let any one who has eaten none but baker's bread for a good while, taste bread home-baked, mixed with milk instead of with water; and he will find what the difference is. There is this only to be observed, that in *hot weather*, bread mixed with milk will not *keep so long* as that mixed with water. It will of course turn *sour* sooner.

112. Whether the milk of a cow, be to be consumed by a cottage family in the shape of milk, or whether it be to be made to yield butter, skim-milk, and butter-milk must depend on circumstances. A woman that has no child, or only one, would, perhaps, find it best to make *some butter* at any rate. Besides, skim-milk and bread (the milk being boiled) is quite strong food enough for any childrens' breakfast, even when they begin to go to work; a fact which I state upon the most ample and satisfactory experience, very seldom having ever had any other sort of breakfast myself till I was more than ten years old, and I was in the fields at work, full four years before that. I will here mention that it gave me singular pleasure to see a boy, just turned of *six*, helping his father to *reap*, in Sussex, this last summer. He did little, to be sure; but it was *something*. His father set him into the ridge at a great distance

before him; and when he came up to the place, he found a *sheaf* cut; and, those who know what it is to reap, know how pleasant it is to find now and then a sheaf cut ready to their hand. It was no small thing to see a boy fit to be trusted with so dangerous a thing as a reap-hook in his hands, at an age when "young masters" have nursery-maids to cut their victuals for them, and to see that they do not fall out of window, tumble down stairs, or run under carriage-wheels or horses' bellies. Was not this father discharging his duty by this boy much better than he would have been by sending him to a place called a *school?* The boy is in a school here, and an excellent school too; the school of useful labour. I must hear a great deal more than I ever have yet heard, to convince me, that teaching children to *read* tends so much to their happiness, their independence of spirit, their manliness of character as teaching them to *reap.* The creature that is in *want* must be a *slave;* and to be habituated *to labour cheerfully* is the only means of preventing nineteen-twentieths of mankind from being in want. I have digressed here; but observations of this sort can, in my opinion, never be too often repeated; especially at a time when all sorts of mad projects are on foot, for what is falsely called *educating* the people, and when some would do this by a *tax* that would compel the single man to give part of his earnings to teach the married man's children to read and write.

113. Before I quit the *uses* to which milk may be put, let me mention, that, as mere *drink,* it is, unless, perhaps, in case of heavy labour, better, in my opinion, than any beer, however good. I have drinked little else for the last five years, at any time of the day. Skim-milk I

mean. If you have not milk enough to wet up your bread with (for a bushel of flour requires about 16 to 18 pints,) you make up the quantity with water, of course; or, which is a very good way, with water that has been put, boiling hot, upon *bran*, and then drained off. This takes the goodness out of the bran to be sure; but *really good bread* is a thing of so much importance, that it always ought to be the very first object in domestic economy.

114. The cases vary so much, that it is impossible to lay down rules for the application of the produce of a cow, which rules shall fit all cases. I content myself, therefore, with what has already been said on this subject; and shall only make an observation on the *act of milking*, before I come to the chief matter; namely, the *getting of the food for the cow*. A cow should be milked *clean*. Not a drop, if it can be avoided, should be left in the udder. It has been proved that the half pint that comes out *last* has *twelve times*, I think it is, as much butter in it, as the half pint that comes out *first*. I tried the milk of ten Alderney cows, and, as nearly as I, without being very nice about the matter, could ascertain, I found the difference to be about what I have stated. The udder would seem to be a sort of milk-pan in which the cream is uppermost, and of course, comes out last, seeing that the outlet is at the bottom. But, besides this, if you do not milk clean, the cow will give less and less milk, and will become dry much sooner than she ought. The *cause* of this I do not know, but experience has long established the fact.

115. In providing food for a cow we must look, first, at the *sort of cow*; seeing that a cow of one sort will certainly require more than twice as much food as a cow

of another sort. For a cottage, a cow of the smallest sort common in England is, on every account, the best ; and such a cow will not require above 70 or 80 pounds of good moist food in the twenty-four hours.

116. Now, how to raise this food on 40 rods of ground is what we want to know. It frequently happens that a labourer has *more* than 40 rods of ground. It more frequently happens, that he has some *common*, some *lane*, some little out let or other, for a part of the year, at least. In such cases he may make a different disposition of his ground ; or may do with less than the 40 rods. I am here, for simplicity's sake, to suppose, that he have 40 rods of clear, unshaded land, besides what his house and sheds stand upon ; and that he have nothing further in the way of means to keep his cow.

117. I suppose the 40 rods to be *clean* and *unshaded* ; for, I am to suppose, that when a man thinks of 5 *quarts of milk a day*, on an average, all the year round, he will not suffer his ground to be encumbered by apple trees that give him only the means of treating his children to fits of the belly-ache, or with currant and gooseberry bushes, which, though their fruit do very well to *amuse*, really give nothing worthy of the name of *food*, except to the Blackbirds and Thrushes. The ground is to be *clear* of trees ; and, in the spring we will suppose it be *clean*. Then, dig it up, *deeply*, or, which is better, *trench* it, keeping, however, the top *spit* of the soil *at the top*. Lay it in *ridges* in April or May about two feet apart, and made high and sharp. When the weeds appear about three inches high, turn the ridges into the furrows (*never moving the ground but in dry weather*), and bury all the weeds. Do this as often as the weeds get three inches

high ; and, by the fall, you will have really clean ground, and not poor ground.

118. There is the ground then, ready. About the 26th of August, but *not earlier*, prepare a rod of your ground, and put some *manure* in it (for *some* you must have), and sow one half of it with Early York Cabbage Seed, and the other half with Sugar Loaf Cabbage Seed, both of the *true* sort, in little drills at 8 inches apart, and the seeds thin in the drill. If the plants come up at two inches apart (and they should be thinned if thicker), you will have a plenty. As soon as fairly out of ground, hoe the ground nicely, and pretty deeply, and again in a few days. When the plants have six leaves, which will be very soon, dig up, make fine, and manure another rod or two, and prick out the plants, 4000 of each in rows at eight inches apart and 3 inches in the row. Hoe the ground between them often, and they will grow fast and be *straight* and strong. I suppose that these beds for plants take 4 rods of your ground. Early in November, or, as the weather may serve, a little earlier or later, lay some manure (of which I shall say more hereafter) between the ridges, in the other 36 rods, and turn the ridges over on this manure, and then transplant your plants on the ridges at 15 inches apart. Here they will stand the winter ; and you must see that the slugs do not eat them. If any plants fail, you have plenty in the bed where you prick them out ; for your 36 rods will not require more than 4000 plants. If the winter be very hard, and bad for plants, you cannot *cover* 36 rods ; but you may the *bed* where the rest of your plants are. A little litter, or straw, or dead grass, or fern, laid along between the rows and the plants, not to cover the leaves,

will preserve them completely. When people complain of *all* their plants being "*cut off*," they have, in fact, nothing to *complain* of but their own extreme carelessness. If I had a gardener who complained of *all* his plants being cut off I should cut him off pretty quickly. If those in the 36 rods fail, or fail in part, fill up their places, later in the winter, by plants from the bed.

119. If you find the ground dry at top during the winter, hoe it, and particularly near the plants, and rout out all slugs and insects. And, when March comes, and the ground *is dry*, hoe deep and well, and earth the plants up close to the lower leaves. As soon as the plants begin to *grow*, dig the ground with a spade clean and well, and let the spade go as near to the plants as you can without actually *dicplacing the plants*. Give them another digging in a month; and, if weeds come in the mean-while, *hoe*, and let not one live a week. "Oh! what a deal of *work!*" Well! but, it is for *yourself*; and besides, it is not all to be done in a day; and we shall by-and-by see what it is altogether.

120. By the first of June; I speak of the South of England, and there is also some difference in seasons and soils; but, generally speaking, by the first of June you will have *turned-in cabbages*; and soon you will have the Early Yorks *solid*. And by the first of June you may get your cow, one that is about to calve, or that has just calved, and at this time such a cow as you will want will not, thank God, cost above five pounds.

121. I shall speak of the place to keep her in and of the manure and litter, by-and-by. At present I confine myself to her mere food. The 36 rods, if the cabbages all stood till they got *solid*, would give her food for 200

days at 80 pounds weight per day, which is more than she would eat. But, you must use some at first, that are not solid; and, then, some of them will split before you can use them. But, you will have pigs to help off with them, and to gnaw the heads of the stumps. Some of the sugar-loaves may have been planted out in the spring; and thus these 36 rods will get you along to some time in September.

122. Now, mind, in March, and again in April, sow more *Early Yorks* and get them to be fine stout plants, as you did those in the fall. Dig up the ground and manure it, and, as fast as you cut cabbages, plant cabbages; and in the same manner and with the same cultivation as before. Your last planting will be about the middle of August, with *stout plants,* and these will serve you into the month of November.

123. Now we have to provide from *December to May inclusive;* and that, too, out of this same piece of ground. In November there must be, arrived at perfection, 3000 turnip plants. These, *without the greens,* must weigh, on an average, 5 pounds, and this, at 80 pounds a day, will keep the cow 187 days; and there are but 182 days in these six months. The greens will have helped out the latest cabbages to carry you through November; and, perhaps into December. But, for these six months you must *depend* on nothing but the Swedish turnips.

124. And now how are these to be had *upon the same ground that bears* the cabbages? That we are now going to see. When you plant out your cabbages at the out-set, put first a row of Early Yorks, then a row of Sugar-loafs, and so on throughout the piece. Of course, as you are to use the Early Yorks first you will cut every

other row ; and the Early Yorks that you are to plant in summer will go into the intervals. By-and-by the Sugar-Loaves are cut away, and in their place will come Swedish turnips, you digging and manuring the ground as in the case of the cabbages ; and, at last, you will find about 16 rods where you will have found it too late, and *unnecessary* besides, to plant any second crop of cabbages. Here the Swedish Turnips will stand in rows at 2 feet apart (and always a foot apart in the row ;) and thus you will have three thousand turnips ; and, if these do not weight 5 pounds each on an average, the fault must be in the *seed* or in the management.

125. The Swedish Turnips are raised in this manner. You will bear in mind the *four rods* of ground, in which you have sowed and pricked out your cabbage plants. The plants that will be left there will, in April, serve you for *greens*, if you ever eat any, though bread and bacon are very good without greens, and rather better than with. At any rate, the pig, which has strong powers of digestion, will consume this herbage. In a part of these four rods you will, in March and April, as before directed, have sown and raised your Early Yorks for the summer planting. Now, in the *last week of May* prepare a quarter of a rod of this ground, and sow it, precisely as directed for the Cabbage-seed, with Swedish turnip-seed ; and, sow a quarter of a rod *every three days*, till you have sowed *two rods*. If the *fly appear*, cover the rows over in the *day time* with cabbage leaves, and take the leaves off at night ; hoe well between the plants ; and, when they are safe from the fly, *thin* them to four inches apart in the row. The two rods will give you nearly *five thousand plants*, which is 2,000 more than you will want.

From this bed you draw your plants to transplant iu the ground where the cabbages have stood, as before directed. You should transplant none much *before* the middle of July, and not much *later* than the middle of August. In the 2 rods, whence you take your turnip plants, you may leave plants to come to perfection, at 2 feet distances each way ; and this will give you *over and above*, 840 pounds weight of turnips. For the other two rods will be ground enough for you to sow your cabbage plants in at the end of August, as directed for last year.

126. I should now proceed to speak of the manner of harvesting, preserving, and using the crops ; of the manner of feeding the cow ; of the shed for her ; of the managing of the manure, and several other less important things ; but, these, for want of room here, must be reserved for the beginning of my next Number. After, therefore, observing that the Turnip plants must be transplanted in the same way that Cabbage plants are ; and that both ought to be transplanted in *dry* weather and in ground just *fresh digged*, I shall close this Number with the notice of two points which I am most anxious to impress upon the mind of every reader.

127. The first is, whether these crops give an *ill taste* to milk and butter. It is very certain, that the taste and smell of certain sorts of cattle-food will do this ; for, in some parts of America, where the wild *garlick*, of which the cows are very fond, and which, like other bulbous rooted plants, springs before the grass, not only the milk and butter have a strong taste of garlick, but even the *veal*, when the calves suck milk from such sources. None can be more common expressions, than, in Philadelphia market, are those of *Garlicky Butter* and *Garlicky Veal*. I have distinctly tasted the *Whiskey* in

milk of cows fed on distiller's wash. It is also certain, that, if the cow eat *putrid* leaves of cabbages and turnips, the butter will be offensive. And the white-turnip, which is, at best but a poor thing and often half putrid, makes miserable butter. The large *cattle-cabbage*, which, when loaved hard, has a strong and even an offensive smell, will give a bad taste and smell to milk and butter, whether there be putrid leaves or not. If you boil one of these rank cabbages, the water is extremely offensive to the smell. But I state upon positive and recent experience, that Early York and Sugar-loaf Cabbages will yield as sweet milk and butter *as any food that can be given to a cow*. During this last summer, I have, with the exception about to be noticed, kept, from the 1st of May to 22d October, *five cows* upon the grass *of two acres and a quarter of ground, the grass* being generally *cut up for them* and given to them in the stall. I had in the spring 5,000 cabbage plants, intended for my pigs, eleven in number. But, the pigs could not eat *half* their allowance, though they were not very small when they began upon it. We were compelled to resort to the aid of the cows; and, in order to see *the effect on the milk and butter*, we did not *mix* the food; but gave the cows two *distinct spells* at the cabbages, each spell about 10 *days in duration*. The cabbages were cut off the stump with little or no care about *dead leaves*. And sweeter, finer butter, butter of a finer colour, than these cabbages made, never was made in this world. I never had better from cows feeding in the sweetest pasture. Now, as to *Swedish turnips*, they do give a little taste, especially if boiling of the milk pans be neglected, and if the greatest care be not taken about *all* the dairy tackle. Yet, we have, for

months together, had the butter so fine from Swedish turnips, that nobody could well distinguish it from grass-butter. But, to secure this, there must be no *sluttishness*. Churn, pans, pail, shelves, wall, floor, and all about the dairy must be clean ; and, above all things, the pans must be *boiled*. However, after all, it is not here a case of delicacy of smell so refined as to faint at any thing that meets it except the stink of perfumes. If the butter do taste a little of the Swedish turnip, it will do very well where there is plenty of that sweet sauce which early rising and bodily labour are ever sure to bring.

128. The *other point* (about which I am still more anxious) is, the *seed* ; for, if the seed be not *sound*, and especially if it be not *true to its kind*, all your labour *is in vain*. It is best, if you can do it, to get your seed from some friend, or some one that you know and can trust. If you save seed, observe all the precautions mentioned in my book on *Gardening*. This very year I have some Swedish turnips, *so called*, about 7,000 in number, and should, if my seed had been *true*, have had about *twenty tons* weight ; instead of which I have about *three !* Indeed they are not *Swedish turnips*, but a sort of mixture between that plant and *rape*. I am sure the seedsman did not wilfully deceive me. He was deceived himself. The truth is, that seedsmen are compelled to *buy* their seeds of this plant. *Farmers* save it ; and, they but too often pay very little attention to the manner of doing it. The best way is to get a dozen of fine turnip plants, perfect in all respects, and plant them in a situation where the smell of the blossoms of nothing of the cabbage or rape or turnip or even *charlock* kind, can reach them. The seed will keep perfectly good for *four years*.

No. V.

KEEPING COWS.

(*Continued.*)

129. I HAVE now, in the conclusion of this article, to speak of the manner of *harvesting* and *preserving* the *Swedes ;* of the place *to keep the cow in ;* of the *manure* for the land ; and of the *quantity of labour,* that the cultivation of the land and the harvesting of the crop will require.

130. *Harvesting and preserving the Swedes.* When they are ready to take up, the tops must be cut off, if not cut off before, and also the *roots ;* but, neither tops nor roots should be cut off *very close.* You will have room for ten bushels of the *bulbs* in the house, or shed. Put the rest into ten-bushel heaps. Make the heap *upon* the ground, in a *round form,* and let it rise up to a point. Lay over it a little litter, straw, or dead grass, about three inches thick ; and then earth upon that about six inches thick. Then cut a thin round *green turf* about eighteen inches over, and put it upon the crown of the heap to prevent the earth from being washed off. Thus these heaps will remain till wanted for use. When given to the cow, it will be best to *wash* the Swedes and cut each into two or three pieces with a spade or some other tool. You can take in ten bushels at a time. If you find them *sprouting* in the Spring, open the remaining heaps, and expose them to the sun and wind ; and cover them again slightly with straw or litter of some sort.

131. *As to the place to keep the cow in,* much will depend upon *situation* and circumstances. I am always supposing that the cottage is a real *cottage,* and not a house in a town or village street; though, wherever there is the quarter of an acre of ground, the cow *may* be kept. Let me, however, suppose that which will generally happen; namely, that the cottage stands by the side of a road, or lane, and amongst fields and woods, if not on the side of a common. To pretend to tell a country labourer how to build a shed for a cow, how to stick it up against the end of his house, or to make it an independent erection; or to dwell on the materials, where poles, rods, wattles, rushes, furze, heath, and cooper-chips, are all to be gotten by him for nothing or next to nothing, would be useless; because a man, who, thus situated, can be at any loss for a shed for his cow, is not only unfit to keep a cow, but unfit to keep a cat. The warmer the shed is, the better it is. The floor should *slope,* but not too much. There are *stones,* of some sort or other, every where, and about six wheel-barrow-fulls will *pave* the shed, a thing to be by no means neglected. A broad trough, or box, fixed up at the head of the cow, is the thing to give her food in; and she should be fed three times a day, at least; always at *day-light* and at *sun-set.* It is not *absolutely necessary* that a cow ever quit her shed, except just at calving time, or when taken to the bull. In the former case the time is, nine times out of ten, known to within forty-eight hours. Any enclosed field or place, will do for her during a day or two; and, for such purpose, if there be not room at home, no man will refuse place for her in a fallow field. It will, however, be good, where there is no *common* to turn her out upon,

to have her led by a string, two or three times a week which may be done by a child only five years old, to graze, or pick, along the sides of roads and lanes. Where there is a *common,* she will, of course, be turned out in the day time, except in very wet or severe weather; and, in a case like this, a smaller quantity of ground will suffice for the keeping of her. According to the present practice, a miserable "*tallet*" of bad hay is, in such cases, the winter provision for the cow. It can scarcely be called food ; and the consequence is, the cow is both *dry* and *lousy* nearly half the year; instead of being dry only about fifteen days before calving, and being sleek and lusty at the end of the winter, to which a *warm lodging* greatly contributes. For, observe, if you keep a cow, any time between September and June, out in a field, or yard, to endure the chances of the weather, she will not, though she have food precisely the same in quantity and quality, yield above *two-thirds* as much as if she were lodged in house ; and, in *wet* weather, she will not yield *half* so much. It is not so much the *cold* as the *wet* that is injurious to all our stock in England.

132. *The Manure.* At the *beginning* this must be provided by collections made on the road ; by the results of the residence in a cottage. Let any man clean out *every place* about his dwelling ; rake and scrape and sweep all into a heap; and he will find, that he has a *great deal.* Earth of almost any sort that has long lain on the surface and has been trodden on is a species of manure. Every act that tends to neatness round a dwelling tends to the creating of a mass of manure. And I have very seldom seen a cottage, with a plat of ground of a quarter of an acre belonging to it, round about which I could not have

collected a very large heap of manure. Every thing of animal or vegetable substance, that comes into a house, must *go out of it again*, in one shape or another. The very emptying of vessels of various kinds, on a heap of common earth, makes it a heap of the best of manure. Thus goes on the work of *reproduction;* and thus is verified the words of the Scripture: "*flesh is grass* and there is *nothing new under the sun.*" Thus far as to the *out-set.* When you have *got the cow,* there is no more care about manure; for, and especially if you have a *pig* also, you must have enough annually for *an acre* of ground. And, let it be observed, that, after a time, it will be unnecessary, and would be injurious, to manure *for every crop;* for that would produce more stalk and green than substantial part; as it is well known, that wheat plants, standing in ground too full of manure, will yield very thick and long *straws,* but grains of little or no substance. You ought to depend more on the spade and the hoe than on the dung-heap. Nevertheless, the greatest care should be taken to preserve the manure; because you will want *straw,* unless you be by the side of a common which gives you rushes, grassy furze, or fern; and to get straw you must give a part of your dung from the cow-stall and pig-stye. The best way to preserve manure, is to have a pit of sufficient dimensions close behind the cow-shed and pig-stye, for the run from these to go into, and from which all runs of *rain water* should be kept. Into this pit would go the emptying of the shed and of the stye, and the produce of all sweepings and cleanings round the house; and thus a large mass of manure would soon grow together. Much too large a quantity for a quarter of an acre of ground.

One good load of wheat or rye straw is all that you would want for the winter, and half of one for the summer; and you would have more than enough dung to exchange against this straw.

133. Now, as to *the quantity of labour* that the cultivation of the land will demand *in a year*. We will suppose the whole to have *five complete diggings*, and say nothing about the little matters of sowing and planting and hoeing and harvesting, all which are a mere trifle. We are supposing the owner to be *an able labouring man*; and such a man will dig 12 rods of ground in a day. Here are 200 rods to be digged, and here are little less than 17 days of work at 12 hours in the day; or 200 *hours* work, to be done in the course of the long days of spring and summer, while it is light long before *six* in the morning, and long after six at night. What *is it*, then! Is it not better than time spent in the ale-house, or in creeping about after a miserable hare? Frequently and most frequently, there will be a *boy*, if not two, big enough to help. And (I only give this as a *hint*) I saw, on the 7th of November last (1822) a *very pretty woman*, in the village of *Hannington in Wiltshire*, *digging* a piece of ground and planting it with Early Cabbages, which she did as handily and as neatly as any gardener that ever I saw. The ground was *wet*, and, therefore, *to avoid treading the digged ground in that state*, she had her line extended, and put in the rows as she advanced in her digging, standing *in the trench* while she performed the act of planting, which she did with great nimbleness and precision. Nothing could be more skilfully or beautifully done. Her clothes were neat, clean, and tight about her. She had turned her hankerchief down from her neck,

which, with the glow that the work had brought into her cheeks, formed an object which I do not say would have made me *actually stop my chaise*, had it not been for the occupation in which she was engaged ; but, all taken together, the temptation was too strong to be resisted. But, there is the *Sunday* ; and I know of no law, human or divine, that forbids a labouring man to dig or plant his garden on Sunday, if the good of his family demand it ; and if he cannot, without injury to that family, find other time to do it in. Shepherds, carters, pigfeeders, drovers, coachmen, cooks, footmen, printers, and numerous others, work on the Sundays. Theirs are deemed by the law *works of necessity*. Harvesting and haymaking are allowed to be carried on on the Sunday, in certain cases ; when they always are carried on by *provident farmers*. And, I should be glad to know the case which is more a *case of necessity*, than that now under our view. In fact, the labouring people *do work on the Sunday* morning in particular, all over the country, at something or other, or they are engaged in pursuits a good deal less religious than that of digging and planting. So that, as to *the* 200 *hours*, they are easily found, without the loss of any of the time required for constant daily labour.

134. And, what a *produce* is that of a cow ! I suppose only an average of 5 *quarts of milk a day*. If made into butter, it will be *equal every week to two days of the man's wages*, besides the value of the skim milk : and this can hardly be of less value than another day's wages. What a thing, then, is this cow, if she earn half a much as the man ! I am greatly under-rating her produce ; but I wish to put all the advantages at the lowest. To be sure, there is work for the wife, or daughter, to milk and make

make butter. But, the former is done at the two ends of the day, and the latter only about once in the week. And, whatever these may subtract from the *labours of the field*, which all country women ought to be engaged in whenever they conveniently can; whatever the cares created by the cow may subtract from these, is amply compensated for by the *education* that these cares will give to the children. They will *all* learn to milk,* and the girls to make butter. And, which is a thing of the very first importance, they will all learn, from their infancy, to *set a just value upon dumb animals*, and will grow up in the *habit* of treating them with gentleness and feeding them with care. To those who have not been brought up in the midst of rural affairs, it is hardly possible to give an adequate idea of the importance of this part of *education*. I should be very loath to entrust the care of my horses, cattle, sheep or pigs, to any one whose father never had cow or pig of his *own*. It is a general complaint, that servants, and especially farm-servants, are not *so good as they used to be*. How should they? They were formerly the sons and daughters of *small farmers*; they are now

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* To me the following has happened within the last year. A young man, in the country, had agreed to be my servant; but it was found *that he could not milk*; and the bargain was set aside. About a month afterwards a young man, who said he was a *farmer's son*, and who came from Herefordshire, offered himself to me at Kensington. "Can you *milk?*" He could not; but *would learn!* Aye, but in the learning, he might *dry up my cows!* What a shame to the *parents* of these young men! Both of them were *in want of employment*. The latter had come more than a hundred miles in *search of work*; and here he was left to hunger still, and to be exposed to all sorts of ills, because he *could not milk*.

the progeny of miserable property-less labourers. They have never seen an animal in which they had any interest. They are careless by habit. This monstrous evil has arisen from causes which I have a thousand times described; and which causes must now be speedily removed; or, they will produce a dissolution of society, and give us a *beginning afresh*.

135. The circumstances vary so much, that it is impossible to lay down precise rules suited to all cases. The cottage may be on the side of a forest or common; it may be on the side of a lane or of a great road, distant from town or village; it may be on the skirts of one of these latter; and, then, again, the family may be few or great in number, the children small or big: according to all which circumstances, the extent and application of the cow-food, and also the application of the produce, will naturally be regulated. Under some circumstances, half the above crop may be enough; especially where good commons are at hand. Sometimes it may be the best way to sell the calf as soon as calved; at others, to fat it; and, at others, if you cannot sell it, which sometimes happens, to knock it on the head as soon as calved; for, where there is a family of small children, the price of a calf at two months old cannot be equal to the half of the value of the two months' milk. It is pure weakness to call it "*a pity*." It is a much greater pity to see hungry children crying for the milk that a calf is sucking to no useful purpose; and as to the cow and the calf, the one must lose her young, and the other its life, after all; and the respite only makes an addition to the sufferings of both.

136. As to the pretended *unwholesomeness* of milk in

certain cases; as to its not being adapted to *some constitutions*, I do not believe one word of the matter. When we talk of the *fruits*, indeed, which were formerly the chief food of a great part of mankind, we should recollect, that those fruits grew in countries that had a *sun to ripen* the fruits, and to put nutritious matter into them. But, as to *milk*, England yields to no country upon the face of the earth. Neat cattle will touch nothing that is not wholesome in its nature; nothing that is not wholly innoxious. Out of a pail that has ever had grease in it they will not drink a drop, though they be raging with thirst. Their very breath is fragrance. And how, then, is it possible, that unwholesomeness should distil from the udder of a cow! The milk varies, indeed, in its quality and taste according to the variations in the nature of the food; but, no food will a cow touch that is any way hostile to health. Feed young puppies upon *milk from the cow*, and they will never die with that ravaging disease called "*the distemper*." In short, to suppose that milk contains any thing essentially unwholesome is monstrous. When, indeed, the appetite becomes vitiated: when the organs have been long accustomed to food of a more stimulating nature; when it has been resolved to eat ragouts at dinner, and drink wine, and to swallow "a devil," and a glass of strong grog at night; then milk for breakfast may be "*heavy*" and disgusting, and the feeder may stand in need of tea or laudanum, which differ only as to degrees of strength. But, and I speak from the most ample experience, milk is not "*heavy*," and much less is it *unwholesome*, when he who uses it rises early, never swallows strong drink, and never *stuffs* himself with flesh of any kind. Many and

many a day I scarcely taste of meat, and then chiefly at *breakfast*, and that, too, at an early hour. Milk is the natural food of *young people*; if it be too rich, *skim* it again and again till it be not too rich. This is an evil easily cured. If you have now to *begin* with a family of children, they may not like it at first. But, *persevere*; and the parent who does not do this, having the means in his hands, shamefully neglects his duty. A son who prefers a "devil" and a glass of grog to a hunch of bread and a bowl of cold milk, I regard as a pest; and for this pest the father has to thank himself.

137. Before I dismiss this article, let me offer an observation or two to those persons who live in the vicinity of towns, or in towns, and who, though they have *large gardens*, have "*no land to keep a cow*," a circumstance which they "*exceedingly regret.*" I have, I dare say, witnessed this case at least a thousand times. Now, how much garden ground does it require to supply even a large family with *garden vegetables?* The market gardeners round the metropolis of this wen-headed country; round this wen of all wens; round this prodigious and monstrous collection of human beings; these market gardeners have about *three hundred thousand families to supply with vegetables*, and these they supply well too, and with summer-fruits into the bargain. Now, if it demanded *ten rods to a family*, the whole would demand, all but a fraction, *nineteen thousand acres of garden ground.* We have only to cast our eyes over what there is, to know that there is not a *fourth* of that quantity. A *square mile* contains, leaving out parts of a hundred, 700 acres of land; and 19,000 acres occupy more than *twenty-two square miles.* Are there twenty-two square

miles covered with the Wen's market gardens? The very question is absurd. The whole of the market gardens from Brompton to Hammersmith, extending to Battersea Rise on the one side, and to the Bayswater road on the other side, and leaving out roads, lanes, nurseries, pastures, corn-fields, and pleasure-grounds, do not, in my opinion, cover *one square mile*. To the north and south of the Wen there is very little in the way of market garden; and if, on both sides of the Thames, to the eastward of the Wen, there be *three square miles* actually covered with market gardens, that is the full extent. How, then, could the Wen be supplied, if it required *ten rods* to each family? To be sure, potatoes, carrots and turnips, and especially the first of these, are brought, for the use of the Wen, from a great distance, in many cases. But, so they are for the use of the persons I am speaking of; for a gentleman thinks no more of raising a large quantity of these things in his *garden* than he thinks of *raising wheat there*. How is it, then, that it requires half an acre, or eighty rods, in a *private* garden to supply a family, while these market-gardeners supply all these families (and so amply too) from ten, or more likely, five rods of ground to a family? I have shown, in the last Number, that nearly fifteen tons of vegetables can be raised in a year upon forty rods of ground; that is to say, *ten loads* for a *wagon and four good horses*. And is not a fourth, or even an eighth, part of this weight, sufficient to go down the throats of a family in a year? Nay, allow that only *a ton* goes to a family in a year, it is more than *six pounds weight a day*; and what sort of a family must that be that really *swallows* six pounds weight a day; and this a market-gardener

will raise for them upon less than *three rods* of ground; for he will raise, in the course of the year, even more than fifteen tons upon forty rods of ground. What is it, then, that they *do* with the eighty rods of ground in a private garden? Why, in the first place, they have *one crop* where they ought to have *three*. Then they do not half *till* the ground. Then they grow things that are *not wanted*. Plant cabbages and other things, let them stand till they be good for nothing, and then wheel them to the rubbish heap. Raise as many radishes, lettuces, and as much endive, and as many kidney-beans as would serve for ten families; and finally throw nine-tenths of them away. I once saw not less than three rods of ground, in a garden of this sort, with lettuces all bearing *seed*. Seed enough for half a county. They cut a cabbage *here* and a cabbage *there*, and so let the whole of the piece of ground remain undug, till the *last* cabbage be cut. But, after all, the produce, even in this way, is so great, that it never could be gotten rid of, if the main part were not *thrown away*. The rubbish heap always receives four-fifths even of the *eatable* part of the produce.

138. It is not thus that the market-gardeners proceed. Their rubbish heap consists of little besides mere cabbage-stumps. No sooner is one crop *on* the ground than they settle in their minds what is to follow it. They *clear as they go* in taking off a crop, and, as they clear they dig and plant. The ground is never without seed in it, or plants on it. And thus, in the course of the year, they raise a prodigious bulk of vegetables from eighty rods of ground. Such vigilance and industry are not to be expected in a *servant*; for it is foolish to expect that a man

will exert himself for another as much as he will for himself. But, if I was situated as one of the persons is that I have spoken of in paragraph 137; that is to say, if I had a garden of eighty rods, or even of sixty rods of ground, I would, out of that garden, draw a sufficiency of vegetables for my family, and would make it yield enough for a *cow* besides. I should go a short way to work with my gardener. I should put *Cottage Economy* into his hands, and tell him, that, if he could furnish me with vegetables, and my cow with food, he was my man; and that if he could not, I must get one that could and would. I am not for making a man toil like a slave; but what would become of the world, if a well-fed healthy man could exhaust himself in tilling and cropping and clearing half an acre of ground! I have known many men *dig* thirty rods of garden ground in a day; I have, before I was fourteen, digged twenty rods in a day, for more than ten days successively; and I have heard, and believe the fact, of a man at Portsea, who digged forty rods in one single day, between daylight and dark. So that it is no slavish toil that I am here recommending.

KEEPING PIGS.

139. NEXT after the *Cow* comes the *Pig*; and, in many cases, where a cow cannot be kept, a pig or pigs may be kept. But these are animals not to be ventured on without due consideration as to the means of *feeding*

them ; for a starved pig is a great deal worse than none at all. You cannot make bacon as you can milk, merely out of the garden. There must be *something more.* A couple of flitches of bacon are worth fifty thousand methodist sermons and religious tracts. The sight of them upon the rack tends more to keep a man from poaching and stealing than whole volumes of penal statutes, though assisted by the terrors of the hulks and the gibbet. They are great softeners of the temper, and promoters of domestic harmony. They are a great blessing ; but they are not to be had from *herbage* or *roots* of any kind ; and, therefore, before a *pig* be attempted, the means ought to be considered.

140. *Breeding sows* are great favourites with Cottagers in general; but I have seldom known them to answer their purpose. Where there is an outlet, the sow will, indeed, keep herself by grazing in summer, with a little *wash* to help her out ; and, when her pigs come, they are many in number ; but they are a heavy expense. The sow must live as well as a *fatting hog,* or the pigs will be good for little. It is a great mistake, too, to suppose, that the condition of the sow *previous to pigging* is of no consequence ; and, indeed, some suppose, that she ought to be rather *bare of flesh* at the pigging time. Never was a greater mistake ; for if she be in this state, she presently becomes a mere rack of bones ; and then, do what you will, the pigs will be poor things. However fat she may be before she farrow, the pigs will make her lean in a week. All her fat goes away in her milk, and, unless the pigs have a *store* to draw upon, they pull her down directly ; and, by the time they are three weeks old, they are starving for want ; and then they never come to good.

141. Now, a cottager's sow cannot, without great expense, be kept in a way to enable her to meet the demands of her farrow. She may *look* pretty well; but the flesh she has upon her is not of the same nature as that which the *farm-yard* sow carries about her. It is the result of grass, and of poor grass, too, or other weak food; and not made partly out of corn and whey and strong wash, as in the case of the farmer's sow. No food short of that of a fatting hog will enable her to keep her pigs *alive*; and, this she must have for *ten weeks*, and that at a great expense. Then comes the operation, upon the principle of *Parson Malthus*, in order to *check population*; and there is some risk here, though not very great. But, there is the *weaning*; and who, that knows any thing about the matter, will think lightly of the weaning of a farrow of pigs! By having nice food given them, they seem, for a few days, not to miss their mother. But, their appearance soon shews the want of her. Nothing but the very best food, and that given in the most judicious manner, will keep them up to any thing like good condition; and, indeed, there is nothing short of *milk* that will effect the thing well. How should it be otherwise? The very richest cow's milk is poor, compared with that of the sow; and, to be taken from this and put upon food, one ingredient of which is *water*, is quite sufficient to reduce the poor little things to bare bones and staring hair, a state to which cottagers' pigs very soon come in general; and, at last, he frequently drives them to market, and sells them for less than the cost of the food which they and the sow have devoured since they were farrowed. It was, doubtless, pigs of

this description that were sold the other day at Newbury Market, for *fifteen pence a piece*, and which were, I dare say, dear even as a gift. To get such a pig to *begin* to grow will require *three months*, and with good feeding too in winter time. To be sure it does come to be a hog at last; but, do what you can, it is a dear hog.

142. The *Cottager*, then, can hold no competition with the *Farmer* in the *breeding* of pigs, to do which, with advantage, there must be *milk*, and milk, too, that can be advantageously applied to no other use. The cottager's pig must be bought ready weaned to his hand, and, indeed, at *four months old*, at which age, if he be in good condition, he will eat any thing that an old hog will eat. He will graze, eat cabbage leaves, and almost the stumps. Swedish turnip tops or roots, and such things, with a little wash, will keep him along in very good growing order. I have now to speak of the time of purchasing, the manner of keeping, of fatting, killing and curing; but these I must reserve till my next Number.

No. VI.

KEEPING PIGS.

(Continued.)

143. AS in the case of cows so in that of pigs, much must depend upon the situation of the cottage; because all pigs will *graze;* and therefore, on the skirts of forests or commons, a couple or three pigs may be kept, if the

family be considerable; and especially if the cottager brew his own beer, which will give him grains to assist the wash. Even in *lanes*, or on the sides of great roads, a pig will find a good part of his food from May to November; and, if he be *yoked*, the occupiers of the neighbourhood must be churlish and brutish indeed, if they give the owner any annoyance.

144. Let me break off here for a moment to point out to my readers the truly excellent conduct of Lord WINCHELSEA and Lord STANHOPE, who, as I read, have taken great pains to make the labourers on their estates comfortable, by allotting to each a piece of ground sufficient for the keeping of a cow. I once, when I lived at Botley, proposed to the copy-holders and other farmers in my neighbourhood, that we should petition the Bishop of Winchester, who was lord of the manors thereabouts, to grant titles to all the numerous persons called *trespassers on the wastes*; and also to give titles to others of the poor parishioners, who were willing to make, on the skirts of the wastes, enclosures not exceeding an acre each. This I am convinced, would have done a great deal towards relieving the parishes, then greatly burdened by men out of work. This would have been better than digging holes one day to fill them up the next. Not a single man would agree to my proposal! One, a bull-frog farmer (now, I hear, pretty well sweated down), said it would only make them *saucy!* And one, a true disciple of *Malthus*, said, that to facilitate their rearing of children *was a harm!* This man had, at the time, in his own occupation, land that had formerly been *six farms*, and he had, too, ten or a dozen children. I will not mention names; but this farmer will *now*, perhaps, have occasion

to call to mind what I told him on that day, when his opposition, and particularly the ground of it, gave me the more pain, as he was a very industrious, civil and honest man. Never was there a greater mistake than to suppose that men are made saucy and idle by just and kind treatment. *Slaves* are always lazy and saucy; nothing but the lash will extort from them either labour or respectful deportment. I never met with a *saucy* Yankee (New Englander) in my life. Never servile; always civil. This must necessarily be the character of *freemen living in a state of competence.* They have nobody to envy; nobody to complain of; they are in good humour with mankind. It must, however, be confessed, that very little, comparatively speaking, is to be accomplished by the individual efforts, even of benevolent men like the two noblemen before mentioned. They have a strife to maintain against the *general tendency of the national state of things.* It is by general and indirect means, and not by partial and direct and positive regulations, that so great a good as that which they generously aim at can be accomplished. When we are to see such means adopted, God only knows; but, if much longer delayed, I am of opinion, that they will come too late to prevent something very much resembling a dissolution of society.

145. The cottager's pig should be bought in the spring, or late in winter; and being then four months old, he will be a year old before killing time; for, it should always be borne in mind, that this age is required in order to insure the greatest quantity of meat from a given quantity of food. If a hog be more than a year old, he is the better for it. The flesh is more solid and

more nutritious than that of a young hog, much in the same degree that the mutton of a full-mouthed wether is better than that of a younger whether. The pork or bacon of young hogs even if fatted on corn, is very apt to *boil out*, as they call it; that is to say come out of the pot smaller in bulk than it goes in. When you begin to fat, do it by degrees, especially in the case of hogs under a year old. If you feed *high* all at once, the hog is apt to *surfeit*, and then a great loss of food takes place. Peas, or barley-meal is the food; the latter rather the best, and does the work quicker. Make him *quite fat* by all means. The last bushel, even if he sit as he eat, is the most profitable. If he can walk two hundred yards at a time, he is not well fatted. Lean bacon is the most wasteful thing that any family can use. In short, it is uneatable, except by drunkards, who want something to stimulate their sickly appetite. The man who cannot live on *solid fat* bacon, well fed and well cured, wants the sweet sauce of labour, or is fit for the hospital. But, then, it must be *bacon*, the effect of barley or peas (not beans), and not of whey, potatoes, or *messes* of any kind. It is frequently said, and I know that even farmers say it, that bacon, made from corn, *costs more than it is worth!* Why do they take care to have it, then? They know better. They know well, that it is the very *cheapest* they can have; and they, who look at both ends and both sides of every cost, would as soon think of shooting their hogs as of fatting them on *messes*; that is to say, for *their own use*, however willing they might now-and-then be to regale the Londoners with a bit of potatoe-pork.

146. About *Christmas*, if the weather be coldish, is a good time to kill. If the weather be very mild, you may

wait a little longer; for the hog cannot be too fat. The day before killing, he should have no food. To kill a hog nicely is so much of a profession, that it is better to pay a shilling for having it done, than to stab and hack and tear the carcass about. I shall not speak of *pork*; for I would by no means recommend it. There are two ways of going to work to make bacon; in the one you take off the hair by *scalding*. This is the practice in most parts of England, and all over America. But, the *Hampshire* way, and best way, is to *burn the hair aff*. There is a great deal of difference in the consequences. The first method slackens the skin, opens all the pores of it, makes it loose and flabby by drawing out the roots of the hair. The second tightens the skin in every part, contracts all the sinews and veins in the skin, makes the flitch a solider thing, and the skin a better protection to the meat. The taste of the meat is very different from that of a scalded hog; and to this chiefly it was that Hampshire bacon owed its reputation for excellence. As the hair is to be *burnt* off, it must be *dry*, and care must be taken, that the hog be kept on dry litter of some sort the day previous to killing. When killed he is laid upon a narrow bed of straw, not wider than his carcass, and only two or three inches thick. He is then covered all over thinly with straw, to which according as the wind may be, the fire is put at one end. As the straw burns, it burns the hair. It requires two or three coverings and burnings, and care is taken, that the skin be not in any part burnt, or parched. When the hair is all burnt off close, the hog is *scraped* clean, but never touched with *water*. The upper side being finished, the hog is turned over, and the other side is treated in like manner. This

work should always be done *before day-light*; for, in the day-light, you cannot so nicely discover whether the hair be sufficiently burnt off. The light of the fire is weakened by that of the day. Besides, it makes the boys get up very early for once at any rate, and that is something; for boys always like a bonfire.

147. The *inwards* are next taken out, and if the wife be not a slattern, here, in the mere offal, in the mere garbage, there is food, and delicate food too, for a large family for a week; and hogs' puddings for the children, and some for neighbours' children, who come to play with them; for these things are by no means to be overlooked, seeing that they tend to the keeping alive of that affection in children for their parents, which, later in life, will be found absolutely necessary to give effect to wholesome precept, especially when opposed to the boisterous passions of youth.

148. The butcher, the next day, cuts the hog up; and then the house is *filled with meat* Souse, griskins blade-bones, thigh-bones, spare-ribs, chines, belly-pieces, cheeks, all coming into use one after the other, and the last of the latter not before the end of about four or five weeks. But about this time, it is more than possible, that the Methodist parson will pay you a visit. It is remarked in America, that these gentry are attracted by the squeaking of the pigs, as the fox is by the cackling of the hen. This may be called slander; but I will tell you what I did know to happen. A good honest careful fellow had a spare-rib, on which he intended to sup with his family after a long a nd hard day's work at coppice-cutting. Home he came at dark with his two little boys, each with a nitch of wood that they had carried four

miles, cheered with the thought of the repast that awaited them. In he went, found his wife, the Methodist parson, and a whole troop of the sisterhood, engaged in prayer, and on the table lay scattered the clean-polished bones of the spare-rib! Can any reasonable creature believe, that, to save the soul, God requires us to give up the food necessary to sustain the body? Did Saint Paul preach this? He, who, while he spread the Gospel abroad, *worked himself*, in order to have it to give to those who were unable to work? Upon, what, then, do these modern Saints, these Evangelical gentlemen, found their claim to live on the labour of others?

149. All the other parts taken away, the two sides that remain, and that are called *flitches*, are to be cured for *bacon*. They are first rubbed with salt on their insides, or flesh sides, then placed, one on the other, the flesh sides uppermost, in a salting trough which has a gutter round its edges to drain away the *brine*; for, to have sweet and fine bacon, the flitches must not lie sopping in brine, which gives it that sort of taste which barrel-pork and sea-jonck have, and than which nothing is more villainous. Every one knows how different is the taste of fresh dry salt, from that of salt in a dissolved state. The one is savoury, the other nauseous. Therefore, *change the salt often*. Once in four or five days. Let it melt, and sink in; but, let it not lie too long. Change the flitches. Put that at bottom which was first put on the top. Do this a couple of times. This mode will cost you a great deal more in salt, or rather in *taxes*, than the *sopping mode*; but without it, your bacon will not be sweet and fine, and *will not keep so well*. As to the *time* required for making the flitches sufficiently salt, it de-

pends on circumstances; the thickness of the flitch, the state of the weather, the place wherein the salting is going on. It takes a longer time for a thick than for a thin flitch; it takes longer in dry, than in damp weather; it takes longer in a dry than in a damp place. But for the flitches of a hog of twelve score, in weather not very dry or very damp, about six weeks may do; and as yours is to be *fat*, which receives little injury from over-salting, give time enough; for, you are to have bacon till Christmas comes again. The place for salting should, like a dairy, always be cool, but always admit a *free circulation of air: confined* air, though *cool*, will taint meat sooner than the mid-day sun accompanied with a breeze. Ice will not melt in the hottest sun so soon as in a close and damp cellar. Put a lump of ice in *cold water*, and one of the same size before a *hot fire*, and the former will dissolve in half the time that the latter will. Let me take this occasion of observing, that an ice-house should never be *under ground*, nor *under the shade of trees*. That the bed of it ought to be three feet above the level of the ground; that this bed ought to consist of something that will admit the drippings to go instantly off; and that the house should stand in a place *open to the sun and air*. This is the way that they have ice-houses under the burning sun of Virginia; and here they keep their fish and meat as fresh and sweet as in winter, when at the same time neither will keep for twelve hours, though let down to the depth of a hundred feet in a well. A Virginian, with some poles and straw, will stick up an ice-house for ten dollars, worth a dozen of those ice-houses, each of which costs our men of taste as many scores of pounds. It is very hard to imagine, indeed,

what any one should want ice *for*, in a country like this, except for clodpole boys to slide upon, and to drown cockneys in skating-time ; but if people must have ice in summer, they may as well go a right way as a wrong way to get it.

150. However, the patient that I have at this time, under my hands, wants nothing to cool his blood, but something to warm it, and, therefore, I will get back to the flitches of bacon, which are now to be *smoked;* for, smoking is a great deal better than merely *drying*, as is the fashion in the dairy-countries in the West of England. When there were plenty of *farm*-houses, there were plenty of places to smoke bacon in ; since farmers have lived in gentlemen's houses and the main part of the farm-houses have been knocked down, these places are not so plenty. However, there is scarcely any neighbourhood without a chimney left to hang bacon up in. Two precautions are necessary : first, to hang the flitches where no *rain* comes down upon them : second, not to let them be so near the fire as to *melt*. These precautions taken, the next is, that the smoke must proceed from *wood*, not turf, peat, or coal. Stubble or litter might do ; but the trouble would be great. *Fir, or deal*, smoke is not fit for the purpose. I take it, that the absence of wood, as fuel, in the dairy countries, and in the North, has led to the making of pork and dried bacon. As to the *time* that it requires to smoke a flitch, it must depend a good deal upon whether there be a *constant fire* beneath, and whether the fire be large or small. A month may do, if the fire be pretty constant and such as a farm-house fire usually is. But, over-smoking, or rather, too long hanging in the air, makes the bacon *rust*. Great attention should,

therefore, be paid to this matter. The flitch ought not be dried up to the hardness of a board, and yet it ought to be perfectly dry. Before you hang it up, lay it on the floor, scatter the flesh-side pretty thickly over with bran, or with some fine saw-dust other than that of deal or fir. Rub it on the flesh, or pat it well down upon it. This keeps the smoke from getting into the little openings, and makes a sort of crust to be dried on; and, in short, keeps the flesh cleaner than it would otherwise be.

151. To keep the bacon sweet and good, and free from nasty things that they call *hoppers;* that is to say, a sort of skipping maggots, engendered by a fly which has a great relish for bacon: to provide against this mischief, and also to keep the bacon from becoming rusty, the Americans, whose country is so hot in summer, have two methods. They smoke no part of the hog except the hams, or gammons. They cover these with coarse linen cloth such as the finest hop-bags are made of, which they sew neatly on. They then *white-wash* the cloth all over with *lime* white-wash, such as we put on walls, their lime being excellent stone-lime. They give the ham four or five washings, the one succeeding as the former gets dry; and in the sun, all these washings are put on in a few hours. The flies cannot get through this; and thus the meat is preserved from them. The *other* mode, and that is the mode for you, is, to sift *fine* some clean and dry *wood-ashes*. Put some at the bottom of a box, or chest, which is long enough to hold a flitch of bacon. Lay in one flitch. Then put in more ashes. Then the *other flitch;* and then cover this with six or eight inches of the ashes. This will effectually keep away all flies; and will keep the bacon as fresh and good as when it

came out of the chimney, which it will not be for any great length of time, if put on a rack, or kept hung up in the open air. *Dust,* or even *sand,* very, very *dry,* would, perhaps, do as well. The object is not only to keep out the flies, but the *air.* The place where the chest, or box, is kept, ought to be *dry;* and, if the ashes should get damp (as they are apt to do from the salts they contain) they should be put in the fire-place to dry, and then be put back again. Peat-ashes, or turf-ashes, might do very well for this purpose. With these precautions, the bacon will be as good at the end of the year as on the first day; and it will keep two, and even three years, perfectly good, for which, however, there can be no necessity.

152. Now, then, this hog is altogether a capital thing. The other parts will be meat for about four or five weeks. The *lard,* nicely put down, will last a long while for all the purposes for which it is wanted. To make it keep well there should be some salt put into it. Country children are badly brought up if they do not like sweet lard spread upon bread, as we spread butter. Many a score hunches of this sort have I eaten, and I never knew what poverty was. I have eaten it for luncheon at the houses of good substantial farmers in France and Flanders. I am not now frequently so hungry as I ought to be; but, I should think it no hardship to eat *sweet* lard instead of butter. But, now-a-days, the labourers, and especially the female part of them, have fallen into the taste of *niceness* in food and *finery in dress;* a quarter of a bellyful and rags are the consequence. The food of their choice is high-priced, so that, for the greater part of their time, they are half-starved. The

dress of their choice is *showy* and *flimsy*, so that, to-day, they are *ladies*, and to-morrow ragged as sheep with the scab. But has not Nature made the country girls as pretty as ladies? Oh, yes! (bless their rosy cheeks and white teeth!) and a great deal prettier too! But, are they *less* pretty, when their dress is plain and substantial, and when the natural presumption is, that they have smocks as well as gowns, than they are when drawn off in the frail fabric of Sir Robert Peel, "where tawdry colours strive with dirty white," exciting violent suspicions that all is not as it ought to be nearer the skin, and calling up a train of ideas extremely hostile to that sort of feeling which every lass innocently and commendably wishes to awaken in her male beholders! Are they prettiest when they come through the wet and dirt safe and neat; or when their draggled dress is plastered to their backs by a shower of rain? However, the fault has not been theirs, nor that of their parents. It is *the system* of managing the affairs of the nation. This system has made all *flashy* and *false*, and has put all things out of their place. Pomposity, bombast, hyperbole, redundancy, and obscurity both in speaking and in writing; mock delicacy in manners; mock-liberality, mock-humanity, and mock-religion. Pitt's false money, Peel's flimsy dresses, Wilberforce's potatoe diet, Castlereagh's and Mackintosh's oratory, Walter Scott's poems, Walter's and Stoddart's paragraphs, with all the bad taste and baseness and hypocrisy which they spread over this country; all have arisen, grown, branched out, bloomed, and borne together; and we are now beginning to taste of their fruit. But, as the fat of the adder is, as is said, the antidote to its sting; so in the Son of the great worker of Spinning-

Jennies, we have, thanks to the Proctors and Doctors of Oxford, the author of that *Bill*, before which this false, this flashy, this flimsy, this rotten system will dissolve as one of his father's pasted calicoes does at the sight of the washing-tub!

153. "What," says the Cottager, "has all this to do with hogs and bacon?" Not directly with hogs and bacon, indeed; but, it has a great deal to do, my good fellow, with your affairs, as I shall, probably, hereafter more fully show, though I shall now leave you to the enjoyment of your flitches of bacon, which, as I before observed, will do ten thousand times more than any Methodist parson, or any other parson (except, of course, those of *our* church) to make you happy, not only in this world, but in the world to come. *Meat in the house* is a great source of *harmony*, a great preventer of the temptation to commit those things, which, from small beginnings, lead, finally, to the most fatal and atrocious results; and, I hold that doctrine to be *truly damnable*, which teaches that God has made any selection, any condition relative to belief, which is to save from punishment those who violate the principles of *natural justice*.

154. *Some* other meat you may have; but, bacon is the great thing. It is always ready; as good cold as hot; goes to the field or the coppice conveniently; in harvest, and other busy times, demands the pot to be boiled only on a Sunday; has twice as much strength in it as any other thing of the same weight; and, in short, has in it every quality that tends to make a labourer's family able to work and well off. One pound of bacon, such as that which I have described, is, in a labourer's family, worth four or five of ordinary mutton or beef, which are

great part *bone*, and which, in short, are gone in a moment. But always observe, it is *fat bacon* that I am talking about. There will, in spite of all that can be done, be some *some* lean in the gammons, though comparatively very little; and, therefore, you ought to begin at that end of the flitches; for, *old lean bacon* is not good.

155. Now, as to the *cost*. A pig (a *spayed sow* is best) bought in March, four months old, can be had now for fifteen shillings. The cost till fatting time is next to nothing to a Cottager; and then the cost, at the present price of corn, would, for a hog of twelve score, not exceed *three pounds*; in the whole *four pounds five*; a pot of poison a week bought at the public house comes to *twenty-six shillings* of the money; and more than *three times the remainder* is generally flung away upon the miserable *tea*, as I have clearly shown in the First Number, at paragraph 24. I have, indeed, there shown, that if the tea were laid aside, the labourer might supply his family well with beer all the year round, and have a fat hog of even *fifteen score* for the *cost of the tea*, which does h m and can do him, *no good at all*.

156. The feet, the cheeks, and other bone being considered, the *bacon and lard*, taken together, would not exceed *sixpence a pound*. Irish bacon is "*cheaper*." Yes, *lower-priced*. But, I will engage that a pound of mine, when it comes *out* of the pot (to say nothing of the *taste*), shall weigh as much as a *pound and a half* of Irish, or any dairy or slop-fed bacon, when that comes out of the pot. No, no: the farmers joke when they say, that their bacon *costs them more than* they could buy bacon for. They know well what it is they are doing; and besides, they always forget, or, rather, remember not to

say, that the fatting of a large hog yields them three or four load of dung, really worth more than ten or fifteen of common yard dung. In short, without hogs, farming *could not go on*; and it never has gone on in any country in the world. The hogs are the great *stay* of the whole concern. They are *much in small space*; they make no *show*, as flocks and herds do; but, without them, the cultivation of the land would be a poor, a miserably barren concern.

SALTING MUTTON AND BEEF.

157. *VERY FAT* Mutton may be salted to great advantage, and also smoked, and may be kept thus a long while. Not the shoulders and legs, but the *back* of the sheep. I have never made any flitch of *sheep-bacon*; but, I will; for, there is nothing like having a *store* of meat in a house. The running to the butcher's daily is a ridiculous thing. The very idea of being fed, of a *family* being fed, by daily supplies, has something in it perfectly *tormenting*. One half of the time of a mistress of a house, the affairs of which are carried on in this way, is taken up in talking about what is to be got for dinner, and in negociations with the butcher. One single moment spent at table beyond what is absolutely necessary, is a moment very shamefully spent; but, to suffer a system of domestic economy, which unnecessarily wastes daily an hour or two of the mistress's time in hunting for the provision for the repast, is a shame

indeed; and when we consider how much time is generally spent in this and in equally absurd ways, it is no wonder that we see so little performed by numerous individuals as they do perform during the course of their lives.

158. *Very fat parts of Beef* may be salted and smoked in a like manner. Not the *lean*; for that is a great waste, and is, in short, good for nothing. Poor fellows on board of ships are compelled to eat it, but it is a very bad thing.

No. VII.

BEES, FOWLS, &c. &c.

159. I NOW proceed to treat of objects of less importance than the foregoing, but still such as may be worthy of great attention. If all of them cannot be expected to come within the scope of a labourer's family, some of them must, and others may: and, it is always of great consequence, that children be brought up to set a just value upon all useful things, and especially upon all *living things*; to know the *utility* of them: for, without this, they never, when grown up, are worthy of being entrusted with the *care* of them. One of the greatest, and, perhaps, the very commonest, fault of servants, is, their inadequate care of animals committed to their charge. It is a well-known saying, that "the *master's eye* makes the horse fat;" and the remissness to which

this alludes, is generally owing to the servant not having been brought up to feel *an interest* in the well-being of animals.

BEES.

160. IT is not my intention to enter into a history of this insect, about which so much has been written, especially by the French naturalists. It is the *useful* that I shall treat of and that is done in not many words. The best *hives* are those made of clean, unblighted *rye-straw*. Boards are too cold in England. A swarm should always be put into a *new* hive, and the sticks should be *new* that are put into the hive for the bees to work on; for, if the hive be old, it is not so *wholesome*, and a thousand to one but it contain the embryos of *moths* and other insects injurious to bees. Over the hive itself there should be a cap of thatch, made also of clean rye straw; and it should not only be *new* when first put on the hive; but, a new one should be made to supply the place of the former one every three or four months; for when the straw begins to get rotten, as it soon does, insects breed in it, its smell is bad, and its effect on the bees is dangerous.

161. The hives should be placed on a bench, the legs of which mice and rats cannot creep up. Tin round the legs is best. But, even this will not keep down *ants*, which are mortal enemies of bees. To keep these away, if you find them infest the hive, take a green stick and

twist it round in the shape of a ring to lay on the ground round the leg of the bench, and at a few inches from it; and cover this stick with *tar*. This will keep away the ants. If the ants come from one home, you may easily *trace them to it;* and when you have found it, pour *boiling water* on it in the night, when all the family are at home.

This is the only effectual way of destroying ants, which are frequently so troublesome. It would be cruel to cause this destruction, if it were not necessary to do it, in order to preserve the honey, and indeed the bees too.

162. Besides the hive and its cap, there should be a sort of shed, with top, back, and ends, to give additional protection in winter; though in summer, hives may be kept *too hot*, and, in that case, the bees become sickly and the produce becomes light. The *situation* of the hive is to face the South-east; or, at any rate, to be sheltered from the *North* and the *West*. From the North always, and from the West in winter. If it be a very dry season in summer, it contributes greatly to the success of the bees, to place clear water near their home, in a thing that they can conveniently drink out off; for, if they have to go a great way for drink, they have not much time for work.

163. It is supposed, that bees live only a year; at any rate, it is best never to keep the same stall, or family, over two years, except you want to increase your number of hives. The swarm of *this summer* should always be taken in the autumn of next year. It is whimsical to *save* the bees when you take the honey. You must *feed* them; and, if saved, they will die of old age before the next fall; and though young ones will supply the place

of the dead, this is nothing like a good swarm put up during the summer.

164. As to the things that bees make their collections from, we do not, perhaps, know a thousandth part of them; but of all the blossoms that they seek eagerly, that of the *Buck-wheat* stands foremost. Go round a piece of this grain just towards sunset, when the Buck-wheat is in bloom, and you will see the air filled with bees, going home from it in all directions. The Buck-wheat, too, continues in bloom a long while; for, the grain is dead ripe on one part of the plant, while there are fresh blossoms coming out on the other part.

165. A good stall of bees, that is to say, the produce of one, is always worth about *two bushels of good wheat.* The *cost* is nothing to the labourer. He must be a stupid countryman indeed who cannot make a bee-hive; and a lazy one indeed if he *will* not, if he can. In short, there is nothing but *care* demanded; and there are very few situations in the country, especially in the south of England, where a labouring man may not have half a dozen stalls of bees to take every year. The main things are to keep away insects, mice, and birds, and especially a little bird, called the bee-bird; and to keep all clean and fresh as to the hives and coverings. Never put a swarm into an *old hive.* If wasps, or hornets, annoy you, watch them home in the day-time; and in the night kill them by fire, or by boiling water. Fowls should not go where bees are, for they eat them.

166. Suppose a man get three stalls of bees in a year. Six bushels of wheat give him bread for an *eighth part of the year.* Scarcely any thing is a greater misfortune than *shiftlessness.* It is an evil little short of the loss of eyes, or of limbs.

GEESE.

167. THEY can be kept to advantage only where there are *green commons*, and there they are easily kept; live to a very great age; and are amongst the hardiest animals in the world. If *well kept*, a goose will lay an hundred eggs in a year. The French put their eggs under large hens of common fowls, to each of which they give four or five eggs; or under turkeys, to which they give nine or ten goose-eggs. If the goose herself sit, she must be well and *regularly fed*, at, or near to, her nest. When the young ones are hatched, they should be kept in a warm place for about four days, and fed on barley-meal, mixed, if possible, with milk; and then they will begin to *graze*. Water for them, or for the old ones, to *swim* in, is by no means *necessary*, nor, perhaps, ever even *useful*. Or, how is it, that you see such fine flocks of fine geese all over long Island (in America) where there is scarcely such a thing as a pond or a run of water!

168. Geese are raised by *grazing*; but, to *fat* them something more is required. Corn of some sort, or boiled Swedish turnips. Some corn and some raw Swedish turnips, or carrots, or white cabbages, or lettuces, make the best fatting. The modes that are resorted to by the French for fatting geese, *nailing* them down by their webs, and other acts of cruelty, are, I hope, such as Englishmen will never think of. They will get fat enough without the use of any of these unfeeling means being employed. He who can deliberately inflict *torture* upon an animal, in order to highten the pleasure his palate is to receive in eating it, is an abuser of the authority which God has given him, and is, indeed, a tyrant in his heart.

Who would think himself safe, if at the *mercy* of such a man? Since the first edition of this work was published, I have had a good deal of experience with regard to Geese. It is a very great error to suppose, that what is called a Michaelmas Goose is *the thing*. Geese are in general, eaten at the age when they are called green geese; or after they have got their full and entire growth, which is not until the latter part of October. Green geese are tasteless squabs; loose flabby things; no rich taste in them; and, in short, a very indifferent sort of dish. The full-grown goose has solidity in it; but it is *hard*, as well as solid; and in place of being *rich*, it is strong. Now, there is a middle course to take; and if you take this course you produce the finest birds of which we can know any thing in England. For three years, including the present year, I have had the finest geese that I ever saw, or ever heard of. I have bought from twenty to thirty every one of these years. I buy them off the Common late in June, or very early in July. They have cost me from two shillings to three shillings each, first purchase. I bring the flock home, and put them in a pen, about twenty feet square, where I keep them well littered with straw so as for them not to get filthy. They have one trough in which I give them dry oats, and they have another trough, where they have constantly plenty of clean water. Besides these, we give them, two or three times a day, a parcel of lettuces, out of the garden. We give them such as are going to seed generally, but the better the lettuces are, the better the geese. If we have not lettuces to spare, we give them cabbages, either loaved or not loaved; though, observe, the white cabbage as well as

the white lettuce, that is to say, the loaved cabbage and lettuce, are a great deal better than those that are not loaved. This is the food of my geese. They thrive exceedingly upon this food. After we have had the flock about ten days, we begin to kill, and we proceed once or twice a week till about the middle of October, sometimes later. A great number of persons who have eaten of these geese, have all declared that they did not imagine that a goose could be brought to be so good a bird. These geese are altogether different from the hard, strong things that come out of the stubble fields, and equally different from the flabby things called a Green Goose. I should think that the cabbages or lettuces perform half the work of keeping and fatting my geese ; and these are things that really cost nothing. I should think that the geese, upon an average, do not consume more than a shilling's worth of oats each. So that, we have these beautiful geese for about four shillings each. No money will buy me such a goose in London ; but, the thing that I can get nearest to it, will cost me *seven* shillings. Every gentleman has a garden. That garden has, in the month of July, a wagon-load, at least, of lettuces and cabbages to throw away. Nothing is attended with so little trouble as these geese. There is hardly any body near London that has not room for the purposes here mentioned. The reader will be apt to exclaim, as my friends very often do : " Cobbett's Geese are all *Swans*." Well, better that way, than not to be pleased with what one has. However, let gentlemen try this method of fatting geese. It saves money, mind, at the same time. Let them try it ; and if any one, who shall try it, shall find the effect not to be that which I say it is, let him re-

proach me publicly with being a deceiver. The thing is no *invention* of mine. While I could buy a goose off the common for half a crown, I did not like to give seven shillings for one in London, and yet I wished that geese should not be excluded from my house. Therefore I bought a flock of geese, and brought them home to Kensington. They could not be eaten all at once. It was necessary, therefore, to fix upon a mode of feeding them. The above mode was adopted by my servant, as far as I know, without any knowledge of mine; but, the very agreeable result made me look into the matter; and my opinion, that the information will be useful to many persons, at any rate, is sufficient to induce me to communicate it to my readers.

DUCKS.

169. NO water, to *swim* in, is necessary to the old, and is *injurious* to the very young. They never should be suffered to swim (if water be near) till *more than a month old.* The old duck will lay, in the year, if *well kept,* ten dozen of eggs; and that is her best employment; for common hens are the best mothers. It is not good to let young ducks out in the morning to eat *slugs* and *worms;* for, though they like them, these things kill them if they eat a great quantity. Grass, corn, white cabbages, and lettuces, and especially buck-wheat, cut, when half ripe, and flung down in the haulm. This makes fine ducks. Ducks will feed on garbage and all sorts of filthy

things; but, their flesh is *strong* and bad in proportion. They are, in Long Island, fatted upon a coarse sort of *crab*, called a horse-foot fish, prodigious quantities of which are cast on the shores. The young ducks grow very fast upon this, and very fat; but, woe unto him that has to *smell* them when they come from the spit; and, as for *eating* them, a man must have a stomach indeed to do that!

170. When young, they should be fed upon barleymeal, or *curds*, and kept in a warm place in the night time, and not let out *early* in the morning. They should, if possible, be kept from water to *swim* in. It always does them harm; and, if intended to be sold to be killed *young*, they should never go near ponds, ditches, or streams. When you come to fat ducks, you must take care that they get at *no filth* whatever. They will eat garbage of all sorts; they will suck down the most nauseous particles of all those substances which go for manure. A dead rat three parts rotten is a feast to them. For these reasons I should never eat any ducks, unless there were some mode of keeping them from this horrible food. I treat them precisely as I do my geese. I buy a troop when they are young, and put them in a pen and feed them upon oats, cabbages, lettuces and water, and have the place kept very clean. My ducks are, in consequence of this, a great deal more fine and delicate than any others that I know any thing of.

TURKEYS.

171. THESE are *flying* things, and so are *common fowls.* But, it may happen, that a few hints respecting them may be of use. To raise turkeys in this chilly climate is a matter of much greater difficulty than in the climates that give great warmth. But, the great enemy to young turkeys (for old ones are hardy enough) *is the wet.* This they will endure in *no climate;* and so true is this that, in America, where there is always "*a wet spell*" in April, the farmers' wives take care never to have a brood come out, until that spell is passed. In England, where the wet spells come at haphazard, the first thing is, to take care that young turkeys never go out, on any account, even in dry weather, till the *dew be quite off the ground;* and this should be adhered to, till they get to be of the size of an old partridge, and have their backs well covered with feathers. And, in wet weather, they should be kept under cover all day long.

172. As to the *feeding* of them, when young, various nice things are recommended. Hard eggs, chopped fine, with crumbs of bread, and a great many other things; but, that which I have seen used, and always with success, and for all sorts of young poultry, is, milk *turned into curds.* This is the food for young poultry of all sorts. Some should be made *fresh every* day; and if this be done, and the young turkeys kept warm, and especially *from wet,* not one out of a score will die. When they get to be strong, they may have meal and grain, but still they always love the curds.

173. When they get their *head feathers* they are hardy

enough; and what they then want, is *room,* to prowl about. It is best to breed them under a *common hen;* because she does not *ramble* like a hen-turkey; and, it is a very curious thing, that the turkeys, bred up by a hen of the common fowl *do not themselves ramble much when they get old;* and for this reason, when they buy turkeys for *stock,* in America (where there are such large woods, and where the distant rambling of turkeys is inconvenient,) they always buy such as have been bred under hens of the common fowl; than which a more complete proof of the great powers of *habit* is, perhaps, not to be found. And ought not this to be a lesson to fathers and mothers of families? Ought not they to consider, that the habits which they give their children, are to stick by those children during their whole lives?

174. The *hen* should be fed *exceedingly well* too, while she is *sitting* and *after* she has hatched; for though she does not give *milk,* she gives *heat;* and, let it be observed, that, as no man ever yet saw healthy pigs with a poor sow; so no man ever saw healthy chickens with a poor hen. This is a matter much too little thought of in the rearing of poultry; but it is a matter of the greatest consequence. Never let a poor hen sit; feed the hen well while she is sitting, and feed her most abundantly when she has young ones; for then her *labour* is very great; she is making exertions of some sort or other during the whole twenty-four hours; she has no rest; is constantly doing something or other to provide food or safety for her young ones.

175. As to *fatting* turkeys, the best way is, never to let them be poor. *Cramming* is a nasty thing, and quite unnecessary. Barley-meal, mixed with skim-milk, given

to them, fresh and fresh, will make them fat in a short time, either in a coop, in a house, or running about. Boiled carrots and Swedish turnips will help, and it is a change of sweet food. In France they sometimes *pick turkeys alive* to make them *tender;* of which I shall only say, that the man that can do this, or order it to be done, ought to be skinned alive himself.

FOWLS.

176. THESE are kept for two objects; their *flesh* and their *eggs*. As to *rearing them*, every thing said about rearing turkeys is applicable here. They are best *fatted* too, in the same manner. But, as to *laying hens*, there are some means to be used to secure the use of them in *winter*. They ought not to be *old hens*. Pullets, that is, birds hatched in the foregoing spring, are, perhaps, the best. At any rate, let them not be more than *two years old*. They should be kept in a *warm* place, and not let out, even in the day-time, in *wet* weather; for one good sound wetting will keep them back for a fortnight. The dry cold, even the severest cold, if *dry*, is less injurious than even a little *wet* in winter-time. If the feathers get wet, in our climate, in winter, or in short days, they do not get dry for a long time; and this it is that spoils and kills many of our fowls.

177. The French, who are great egg-eaters, take singular pains as to the *food* of laying hens, in winter. They let them out very little, even in their fine climate,

and give them very stimulating food; barley boiled, and given them warm; curds, *buck-wheat* (which, I believe, is the best thing of all except curds); parsley and other herbs chopped fine; leeks chopped in the same way; also apples and pears chopped very fine; oats and wheat cribbled; and sometimes they give them hemp-seed, and the seed of nettles; or dried nettles, harvested in summer, and boiled in the winter. Some give them ordinary food, and, once a day, toasted bread sopped in wine. White cabbages chopped up are very good, in winter, for all sorts of poultry.

178. This is taking a great deal of pains; but, the produce is also great and very valuable in winter; for, as to *preserved* eggs, they are things to run *from* and not after. All this supposes, however, a proper *hen-house*, about which we, in England, take very little pains. The *vermin*, that is to say, the *lice*, that poultry breed, are the greatest annoyance. And, as our wet climate furnishes them, for a great part of the year, with no *dust* by which to get rid of these vermin, we should be very careful about *cleanliness* in the hen-houses. Many a hen, when sitting, is compelled to quit her nest to get rid of the lice. They torment the young chickens. And, in short, are a great injury. The fowl-house, should, therefore, be very often cleaned out; and sand, or fresh earth, should be thrown on the floor. The nest should not be on *shelves*, or on any thing fixed; but little flat baskets, something like those that the gardeners have in the markets in London, and which they call *sieves*, should be placed against the sides of the house upon pieces of wood nailed up for the purpose. By this means the nests are kept perfectly clean, because the baskets are, when

necessary, taken down, the hay thrown out, and the baskets washed; which cannot be done, if the nest be made in any thing forming a part of the building. Besides this, the roosts ought to be cleaned every week, and the hay changed in the nests of laying hens. It is good to *fumigate* the house frequently by burning dry herbs, juniper wood, cedar wood, or with brimstone; for nothing stands so much in need of cleanliness as a fowl-house, in order to have fine fowls and plenty of eggs.

179. The *ailments* of fowls are numerous, but they would seldom be seen, if the proper care were taken. It is useless to talk of *remedies* in a case where you have complete power to prevent the evil. If well fed, and kept perfectly clean, fowls will seldom be sick; and, as to old age, they never ought to be kept more than a couple or three years; for they get to be good for little as layers, and no *teeth* can face them as food.

180. It is, perhaps, seldom that fowls can be kept conveniently about a cottage; but, when they can, three, four, or half a dozen hens, to lay in *winter*, when the wife is at *home* the greater part of the time, are worth attention. They would require but little room, might be bought in November and sold in April, and six of them, with proper care, might be made to clear every week the price of a gallon of flour. If the labour were great I should not think of it; but, it is *none*; and I am for neglecting nothing in the way of pains in order to ensure a hot dinner, every day in winter, when the man comes home from work. As to the *fatting* of fowls, information can be of no use to those who live in a cottage all their lives; but it may be of some use to

those who are born in cottages and go to have the care of poultry at richer persons' houses. Fowls should be put to fat about a fortnight before they are wanted to be killed. The best food is barley meal wetted with milk, but not wetted too much. They should have clear water to drink, and it should be frequently changed. Crammed fowls are very nasty things; but "*barn's door*" fowls, as they are called, are sometimes, a great deal more nasty. *Barn's* door would, indeed, do exceedingly well; but it unfortunately happens that the *stable* is generally pretty near to the barn. And, now, let any gentleman who talks about sweet barn's door fowls, have one caught in the yard, where the stable is also. Let him have it brought in, killed, and the craw taken out and cut open. Then let him take a ball of horse dung from the stable door; and let his nose tell him how very small is the difference between the smell of the horse dung, and the smell of the craw of his fowl. In short, roast the fowl, and then pull aside the skin at the neck, put your nose to the place, and you will almost think that you are at the stable door. Hence the necessity of taking them away from the barn's door, a fortnight, at least, before they are killed. We know very well that ducks that have been fed upon fish, either wild ducks or tame ducks, will scent a whole room, and drive out of it all those who have not pretty good constitutions. It must be so. Solomon says that all flesh is grass; and those who know any thing about beef, know the difference between the effect of the grass in Herefordshire and Lincolnshire, and the effect of turnips and oil cake. In America they always take the fowls from the farm yard, and shut them up a fortnight or three weeks before they be killed. One thing, however,

about fowls ought always to be borne in mind. They are never good for any thing when they have attained their full growth, unless they be *capons* or *poullards*. If the poulets be old enough to have little eggs in them, they are not worth one farthing; and as to the cocks of the same age, they are fit for nothing, but to make soup for soldiers on their march, and they ought to be taken for that purpose.

PIGEONS.

181. A FEW of these may be kept about any cottage, for they are kept even in towns by labourers and artisans. They cause but little trouble. They take care of their own young ones; and they do not scratch, or do any other mischief in gardens. They want feeding with tares, peas, or small beans; and buck-wheat is very good for them. To *begin* keeping them, they must not have *flown at large* before you get them. You must keep them for two or three days, shut into the place which is to be their home; and then they may be let out, and will never leave you, as long as they can get proper food, and are undisturbed by vermin, or unannoyed exceedingly by lice.

182. The common dove-house pigeons are the best to keep. They breed oftenest, and feed their young ones best. They begin to breed at about *nine months old*, and if well kept, they will give you eight or nine pair in the year. Any little place, a shelf in the cow shed; a board or two under the eaves of the house; or, in short, any place under cover even on the ground floor, they will sit and hatch and breed up their young ones in.

183. It is not supposed, that there could be much *profit*

attached to them; but, they are of this use; they are very pretty creatures; very interesting in their manners; they are an object to delight *children* and to give them the *early habit* of fondness for animals and of *setting a value* on them, which, as I have often had to observe, is a very great thing. A considerable part of all the *property* of a nation consists of animals. Of course a proportionate part of the cares and labours of a people appertain to the breeding and bringing to perfection those animals; and, if you consult your experience, you will find, that a labourer is, generally speaking, of value in proportion as he is worthy of being intrusted with the care of animals. The most careless fellow cannot *hurt* a hedge or ditch; but to trust him with the *team*, or the *flock*, is another matter. And, mind, for the *man* to be trust-worthy in this respect, the *boy* must have been in the *habit* of being kind and considerate towards animals; and nothing is so likely to give him that excellent habit as his seeing, from his very birth, animals taken great care of, and treated with great kindness by his parents, and now-and-then having a little thing to *call his own*.

RABBITS.

184. IN this case, too, the chief use, perhaps, is to give children those habits of which I have been just speaking. Nevertheless, Rabbits are really profitable. Three does and a buck will give you a rabbit to eat for *every three days in the year*, which is a much larger quantity of food than any man will get by spending half his

time in the pursuit of *wild* animals, to say nothing of the toil, the tearing of clothes, and the danger of pursuing the latter.

185. Every body knows how to knock up a rabbit hutch. The does should not be allowed to have more than *seven litters* in a year. Six young ones to a doe is all that ought to be kept; and then they will be fine. *Abundant food* is the main thing; and what is there that a rabbit will *not eat?* I know of nothing *green* that they will not eat; and if hard pushed, they will eat *bark* and even wood. The best thing to feed the young ones on when taken from the mother, is the *carrot*, wild or garden. Parsnips, Swedish turnips, roots of dandelion; for, too much green or *watery* stuff is not good for *weaning* rabbits. They should remain as long as possible with the mother. They should have oats once a-day; and, after a time, they may eat any thing with safety. But, if you give them too much *green* at first when they are weaned, they *rot* as sheep do. A *variety* of food is a great thing; and, surely, the fields and gardens and hedges furnish this variety! All sorts of grasses, strawberry-leaves, ivy, dandelions, the *hog-weed* or *wild parsnip*, in root, stem, and leaves. I have fed working horses, six or eight in number, upon this plant for weeks together. It is a tall bold plant that grows in prodigious quantities in the hedges and coppices in some parts of England. It is the *perennial parsnip*. It has flower and seed precisely like those of the parsnip; and hogs, cows, and horses are equally fond of it. Many a half-starved pig have I seen within a few yards of cart-loads of this pig-meat! This arises from want of the early habit of attention to such matters. I, who used to get hog-weed for pigs and for

rabbits when a little chap, have never forgotten that the wild parsnip is good food for pigs and rabbits.

186. When the doe has young ones, feed her most abundantly with all sorts of greens and herbage and with carrots and the other things mentioned before, besides giving her a few oats once a-day. That is the way to have fine healthy young ones, which, if they come from the mother in good case, will very seldom die. But, do not think, that because she is a small animal, a little feeding is sufficient! Rabbits eat a great deal more than cows or sheep in proportion to their bulk.

187. Of all animals rabbits are those that *boys* are most fond of. They are extremely pretty, nimble in their movements, engaging in their attitudes, and always completely under immediate control. The produce has not long to be waited for. In short, they keep an interest constantly alive in a little chap's mind; and, they really *cost nothing*; for as to the *oats*, where is the boy that cannot, in harvest time, pick up enough along the *lanes* to serve his rabbits for a year? The *care* is all; and the habit of taking care of things is, of itself, a most valuable possession.

188. To those gentlemen who keep rabbits for the use of their family (and a very useful and convenient article they are) I would observe, that, when they find their rabbits die, they may depend on it, that ninety-nine times out of the hundred *starvation* is the malady. And particulaly short feeding of the doe, while, and before she has young ones; that is to say, short feeding of her *at all times*; for, if she be poor, the young ones will be good for nothing. She will *live* being poor, but she will not, and cannot breed up fine young ones.

GOATS AND EWES.

189. IN some places, where a cow cannot be kept a Goat may. A correspondent points out to me, that a Dorset Ewe or two might be kept on a common near a cottage to give milk; and certainly this might be done very well; but, I should prefer a goat, which is hardier and much more domestic. When I was in the army, in New Brunswick, where, be it observed, the snow lies on the ground seven months in the year, there were many goats that *belonged to the regiment*, and that went about with it on shipboard and every where else. Some of them had gone through nearly the whole of the *American War*. We *never fed* them. In summer they picked about wherever they could find grass; and in winter they lived on cabbage-leaves, turnip-peelings, potatoe-peelings, and other things flung out of the soldiers' rooms and huts. One of these goats belonged to me, and, on an average throughout the year, she gave me more than three half pints of milk a day. I used to have the kid killed when a few days old; and, for some time, the goat would give nearly, or quite, two quarts of milk a day. She was seldom dry more than three weeks in the year.

190. There is one great inconvenience belonging to goats; that is, they bark all young trees that they come near; so that, if they get into a *garden*, they destroy every thing. But there are seldom trees on commons except such as are too large to be injured by goats; and I can see no reason against keeping a goat, where a cow cannot be kept. Nothing is so hardy; nothing is so

little nice as to its food. Goats will pick peelings out of the kennel and eat them. They will eat mouldy bread or biscuit; fusty hay, and almost rotten straw; furze-bushes, heath thistles; and, indeed, what will they not eat, when they will make a hearty meal on *paper*, brown or white, printed on or not printed on, and give milk all the while! They will lie in any dog-hole. They do very well clogged, or stumped out. And, then, they are very *healthy* things into the bargain, however closely they may be confined. When sea voyages are so stormy as to kill geese, ducks, fowls, and almost pigs, the goats are well and lively; and when a dog of no kind can keep the deck for a minute, a goat will skip about upon it as bold as brass.

191. Goats do not *ramble* from home. They come in regularly in the evening, and if called, they come like dogs. Now, though ewes, when taken great care of, will be very gentle, and though their milk may be rather more delicate than that of the goat, the ewes must be fed with nice and clean food, and they will not do much in the milk-giving way upon a common; and, as to *feeding them*, provision must be made pretty nearly as for a cow. They will not endure *confinement* like goats; and they are subject to numerous ailments that goats know nothing of. Then the ewes are done by the time they are about six years old; for they then lose their teeth; whereas a goat will continue to breed and to give milk in abundance for a great many years. The sheep is *frightened* at every thing, and especially at the least sound of a dog. A goat, on the contrary will *face a dog*, and, if he be not a big and courageous one, beat him off.

192. I have often wondered how it happened that none of our labourers kept goats; and I really should be glad to see the thing tried. They are pretty creatures, domestic as a dog, will stand and watch, as a dog does, for a crumb of bread, as you are eating; give you no trouble in the milking; and I cannot help being of opinion, that it might be of great use to introduce them amongst our labourers.

CANDLES AND RUSHES.

193. WE are not permitted to make Candles ourselves, and if we were, they ought seldom to be used in a labourer's family. I was bred and brought up mostly by *Rush-light*, and I do not find that I see less clearly than other people. Candles certainly were not much used in English labourers' dwellings in the days when they had meat dinners and Sunday coats. Potatoes and taxed candles seem to have grown into fashion together; and, perhaps, for this reason: that, when the pot ceased to afford *grease* for the rushes, the potatoe-gorger was compelled to go to the chandler's shop for light to swallow the potatoes by, else he might have devoured peeling and all!

194. My grandmother, who lived to be pretty nearly ninety, never, I believe, burnt a candle in her house in her life. I know that I never saw one there, and she, in a great measure, brought me up. She used to get the meadow-rushes, such as they tie the hop-shoots to

the poles with. She cut them when they had attained their full substance, but were still *green*. The rush at this age, consists of a body of *pith* with a green *skin* on it. You cut off both ends of the rush, and leave the prime part, which, on an average, may be about a foot and a half long. Then you take off all the green skin, except for about a fifth part of the way round the pith. Thus it is a piece of pith all but a little strip of skin in one part all the way up, which, observe, is necessary to hold the pith together all the way along.

195. The rushes being thus prepared, the *grease* is melted, and put in a melted state, into something that is as *long* as the rushes are. The rushes are put into the grease; soaked in it sufficiently; then taken out and laid in a bit of bark, taken from a young tree, so as not to be too large. This bark is fixed up against the wall by a couple of straps put round it; and there it hangs for the purpose of holding the rushes.

196. The rushes are carried about *in the hand;* but, to sit by, to work by, or to go to bed by, they are fixed in *stands* made for the purpose, some of which are high, to stand on the ground, and some low, to stand on a table. These stands have an iron part something like a pair of *pliers* to hold the rush in, and the rush is shifted forward from time to time, as it burns down to the thing that holds it.

197. Now these rushes give a *better light* than a common small dip-candle; and they cost next to nothing, though the labourer may, with them have as much light as he pleases, and though, without them, he must sit the far greater part of the winter evenings *in the dark*, even if he expend *fifteen shillings* a year in candles. You may

do any sort of work by this light; and, if reading be your taste, you may read the foul libels, the lies and abuse, which are circulated gratis about *me* by the "Society for promoting *Christian Knowledge*," as well by rush-light as you can by the light of taxed candles; and, at any rate, you would have one evil less; for to be deceived and to pay a tax for the deception are a little too much for even modern loyalty openly to demand.

MUSTARD.

198. WHY *buy* this, when you can *grow* it in your garden? The stuff you buy is half *drugs*, and is injurious to health. A *yard square* of ground, sown with common Mustard, the crop of which you would grind for use, in a little mustard-mill, as you wanted it, would save you *some money*, and probably save your *life*. Your mustard would look *brown* instead of *yellow*; but the former colour is as good as the latter: and, as to the *taste*, the *real* mustard has certainly a much better than that of the *drugs* and flour, which go under the name of mustard. Let any one *try* it, and I am sure he will never use the drugs again. The drugs, if you take them freely, leave *a burning at the pit of your stomach*, which the real mustard does not.

DRESS, HOUSEHOLD GOODS, AND FUEL.

199. IN paragraph 152, I said, I think, enough to caution you, the English labourer, against the taste, now too prevalent, for *fine* and *flimsy* dress. It was, for hundreds of years, amongst the characteristics of the English people, that their taste was, in all matters, for things solid, sound, and good; for the *useful*, and *decent*, the *cleanly* in dress, and not for the *showy*. Let us hope, that this may be the taste again; and let us, my friends, fear no troubles, no perils, that may be necessary to produce a return of that taste, accompanied with full bellies and warm backs to the labouring classes.

200. In *household goods*, the *warm*, the *strong*, the *durable*, ought always to be kept in view. Oak tables, bedsteads and stools, chairs of oak or of yew tree, and never a bit of miserable deal board. Things of this sort ought to last several lifetimes. A labourer ought to inherit from his great grandfather something besides his toil. As to bedding, and other things of that sort, all ought to be good in their nature, of a durable quality, and plain in their colour and form. The plates, dishes, mugs, and things of that kind, should be of *pewter*, or even of wood. Any thing is better than crockery-ware. Bottles to carry a-field should be of wood. Formerly, nobody but the gipsies and mumpers, that went a hop-picking in the season, carried glass or earthern bottles. As to *glass* of any sort, I do not know what business it has in any man's house, unless he be rich enough to live on his means. It pays a tax, in many cases, to the amount of two-thirds of its

cost. In short, when a house is once furnished with sufficient goods, there ought to be no renewal of hardly any part of them wanted for half an age, except in case of destruction by fire. Good management in this way leaves the man's wages to provide an *abundance of good food and good raiment*; and these are the things that make happy families; these are the things that make a good, kind, sincere and brave people; not little pamphlets about "loyalty" and "content." A good man will be contented, fast enough, if he be fed and clad sufficiently; but, if a man be not well fed and clad, he is a base wretch to be contented.

201. *Fuel* should be, if possible, provided in summer, or at least some of it. Turf and peat must be got in summer, and some *wood* may. In the woodland countries, the next winter ought to be thought of in *June*, when people hardly know what to do with the fuelwood; and something should, if possible, be saved in the bark-harvest to get a part of the fuel for the next winter. Fire is a capital article. To have no fire, or a bad fire, to sit by, is a most dismal thing. In such a state man and wife must be something out of the common way to be in good humour with each other, to say nothing of colds and other ailments which are the natural consequence of such misery. If we suppose the great Creator to condescend to survey his works in detail, what object can be so pleasing to him as that of the labourer, after his return from the toils of a cold winter day, sitting with his wife and children round a cheerful fire, while the wind whistles in the chimney and the rain pelts the roof? But, of all God's creation, what is so miserable to behold or to think of as a wretched, half-starved family creeping

to their nest of flocks or straw, there to lie shivering, till sent forth by the fear of absolutely expiring from want?

HOPS.

202. I TREATED of them before; but, before I conclude this little Work, it is necessary to speak of them again. I made a mistake as to the *tax* on the Hops. The positive tax is 2*d.* a pound, and I (in former editions) stated it at 4*d.* However in all such cases, there falls upon the *consumer* the *expenses* attending the paying of the tax. That is to say, the cost of interest of capital in the grower who pays the tax, and who must pay it, whether his hops be cheap or dear. Then the *trouble* it gives him, and the rules he is compelled to obey in the drying and bagging, and which cause him great *expense.* So that the tax on hops of our own English growth, may *now be reckoned* to cost the *consumer* about 3¼*d.* a pound.

YEAST.

203. YEAST is a great thing in domestic management. I have once before published a receipt for making *yeast-cakes,* I will do it again here.

204. In Long Island they make *yeast-cakes.* A parcel of these cakes is made *once a year.* That is often enough,

And, when you bake, you take one of these cakes (or more according to the bulk of the batch) and with them raise your bread. The very best bread I ever ate in my life was lighened with these caskes.

205. The materials for a good batch of cakes are as follows :—3 ounces of good fresh Hops ; 3½ pounds of Rye Flour ; 7 pounds of Indian Corn Meal ; and one Gallon of Water.—Rub the hops, so as to separate them. Put them into the water, which is to be boiling at the time. Let them boil half an hour. Then strain the liquor through a fine sieve into an earthen vessel. While the liquor is hot, put in the Rye-Flour ; stirring the liquor well, and quickly, as the Rye-Flour goes into it. The day after, when it is working, put in the Indian Meal, stirring it well as it goes in. Before the Indian Meal be all in, the mess will be very stiff; and it will, in fact, be *dough*, very much of the consistence of the dough that bread is made of.—Take this dough ; knead it well, as you would for *pie-crust*. Roll it out with a rolling pin, as you roll out pie-crust, to the thickness of about a third of an inch. When you have it (or a part of it at a time) rolled out, cut it up into cakes with a tumbler glass turned upside down, or with something else that will answer the same purpose. Take a clean board (a *tin* may be better) and put the cakes *to dry in the sun*. Turn them every day ; let them receive *no wet* ; and they will become as hard as ship biscuit. Put them into a bag, or box, and keep them in a place *perfectly free from damp*. When you bake, take two cakes, of the thickness above mentioned, and about 3 inches in diameter ; put them into hot water, *over-night*, having cracked them first. Let the vessel containing them stand near the fire-place all night. They will dis-

solve by the morning, and then you use them in setting your sponge (as it is called) precisely as you would use the yeast of beer.

206. There are *two things* which may be considered by the reader as obstacles. First, where are *we* to get the *Indian Meal?* Indian Meal is used merely because it is of a *less adhesive* nature than that of wheat. White pea-meal, or even barley-meal, would do just as well. But Second, to *dry* the cakes, to make them (and *quickly* too, mind) as *hard as ship biscuit* (which is much harder than the timber of Scotch firs or Canada firs;) and to do this *in the sun* (for it must not be *fire*), where are we, in this climate, to *get the sun?* In 1816 we could not; for, that year, melons rotted in the *glazed frames* and never ripened. But, in every nine summers out of ten, we have in June, in July, or in August, a *fortnight of hot sun*, and that is enough. Nature has not given us a *peach-climate;* but we *get peaches.* The cakes, when put in the sun, may have a *glass sash*, or a *hand light*, put over them. This would make their birth *hotter* than that of the hottest open-air situation in America. In short, to a farmer's wife, or any good housewife, all the little difficulties to the attainment of such an object would appear as nothing. The *will* only is required; and, if there be not that, it is useless to think of the attempt.

SOWING SWEDISH TURNEP SEED.

207. IT is necessary to be a little more full than I have been before as to the *manner of sowing* this seed; and, I shall make my directions such as to be applied on a small or a large scale.—Those that want to transplant on a large

scale will of course, as to the other parts of the business refer to my larger work.—It is to get plants for *transplanting* that I mean to sow the Swedish Turnep Seed. The *time* for sowing must depend a little upon the nature of the situation and soil. In the north of England, perhaps early in April may be best; but, in any of these southern counties, any time after the *middle of April and before the 10th of May*, is quite early enough. The ground which is to receive the seed, should be made very *fine*, and manured with wood-ashes, or with good compost well mixed with the earth. Dung is not so good; for it breeds the fly more; or, at least, I think so. The seed should be sown in drills *an inch deep*, made as pointed out under the head of *Sowing* in my book on *Gardening*. When deposited in the drills, *evenly* but *not thickly*, the ground should be raked across the drills, so as to fill them up; and then the whole of the ground should be *trod hard*, with shoes not nailed, and not very thick in the sole. The ground should be laid out in four-feet *beds* for the reasons mentioned in the "*Gardener*." When the seed come up, thin the plants to two inches apart as soon as you think them clear from the fly; for, if left thicker, they injure each other even in this infant state. Hoe frequently between the rows even before thinning the plants; and, when they are thinned, hoe well and frequently between them; for, this has a tendency to make them strong; and the hoeing *before thinning* helps to keep off the fly. A rod of ground, the rows being eight inches apart, and plants two inches apart in the row, will contain about *two thousand two hundred* plants. An acre in rows four feet apart, and the plants a foot apart in the row, will take about ten thousand four hundred and

sixty plants. So that to transplant an acre, you must sow about *five rod of ground.* The plants should be kept very clean; and, by the last week in June, or first in July you put them out. I have put them out (in England) at all times between 7th of June, and middle of August. The first is certainly earlier than I like; and the very finest I ever grew in England, and the finest I ever saw for a large piece, were transplanted on the 14th of July. But, one year with another, the last week in June is the best time.—For size of plants, manner of transplanting, intercultivation, preparing the land, and the rest, see "*Year's Residence in America.*"

No. VIII.

On the converting of English Grass, and Grain Plants cut green, into Straw, for the Purpose of making Plat for Hats and Bonnets.

Kensington, May 30, 1823.

208. THE foregoing Numbers have treated, chiefly, of the management of the affairs of a labourer's family, and more particularly of the mode of disposing of the money, earned by the labour of the family. The present Number will point out what I hope may become *an advantageous kind of labour.* All along I have proceeded

upon the supposition, that the wife and children of the labourer be, as constantly as possible, employed *in work of some sort or other.* The cutting, the bleaching, the sorting and the platting of straw, seem to be, of all employments, the best suited to the wives and children of country labourers; and the discovery which I have made, as to the means of obtaining the necessary materials, will enable them to enter at once upon that employment.

209. Before I proceed to give my directions relative to the performance of this sort of labour, I shall give a sort of history of the discovery to which I have just alluded.

210. The practice of making Hats, Bonnets, and other things, of *straw,* is perhaps of very ancient date; but, not to waste time in fruitless inquiries, it is very well known, that, for many years past, straw coverings for the head have been greatly in use in England, in America, and indeed in almost all the countries that we know much of. In this country the manufacture was, only a few years ago, *very flourishing;* but it has now greatly declined, and has left in poverty and misery those whom it once well fed and clothed.

211. The cause of this change has been, the importation of the straw hats and bonnets from *Italy,* greatly superior, in durability and beauty, to those made in England. The plat made in England was made of the straw of *ripened grain.* It was, in general, *split;* but, the main circumstance was, that it was made of the straw of *ripened grain;* while the Italian plat was made of the straw of grain, or grass, *cut green.* Now, the straw of ripened grain or grass is brittle; or, rather, rotten. It *dies* while standing, and, in point of toughness, the

difference between it and straw from plants cut green is much about the same as the difference between a stick that has *died on the tree*, and one that has been *cut from the tree*. But besides the difference in point of toughness, strength, and durability, there was the difference in beauty. The colour of the Italian plat was better; the plat was brighter; and the Italian straws being *small whole* straws, instead of small straws made by the splitting of large ones, here was a *roundness* in them, that gave *light and shade* to the plat, which could not be given by our flat bits of straw.

212. It seems odd, that nobody should have set to work to find out how the Italians *came* by this fine straw. The importation of these Italian articles was chiefly from the port of LEGHORN; and, therefore, the bonnets imported were called, *Leghorn Bonnets*. The straw manufacturers in this country seem to have made no effort to resist this invasion from Leghorn. And which is very curious, the Leghorn *straw* has now begun to be imported, and to be *platted in this country*. So that we had *hands* to plat as well as the Italians. All that we wanted was the *same kind of straw*, that the Italians had: and it is truly wonderful, that these importations from Leghorn should have gone on increasing, year after year, and our domestic manufacture dwindling away at a like pace, without there having been any inquiry relative to the way in which the Italians *got their straw!* Strange, that we should have imported even *straw* from Italy, without inquiring whether similar straw could not be got in England! There really seems to have been an opinion, that England could no more produce this straw than it could produce the sugar-cane.

213. Things were in this state, when, in 1821, a Miss WOODHOUSE, a farmer's daughter in CONNECTICUT, sent a straw-bonnet of her own making to the *Society of Arts* in London. This bonnet, superior in fineness and beauty to any thing of the kind that had come from Leghorn, the maker stated to consist of the straw of a sort of grass, of which she sent, along with the bonnet, some of the *seeds*. The question was, then, would these precious seeds *grow and produce plants in perfection in England?* A large quantity of the seed had not been sent; and it was therefore, by a Member of the Society, thought desirable to get, with as little delay as possible, a considerable quantity of the seed.

214. It was in this stage of the affair that my attention was called to it. The Member, just alluded to, applied to me to get the seed from America. I was of opinion that there could be no sort of grass in Connecticut, that would not, and that *did not* grow and flourish in England. My son JAMES, who was then at New York, had instructions from me, in June 1821, to go to Miss WOODHOUSE, and to send me home an account of the matter. In September, the same year, I heard from him, who sent me an account of the cutting and bleaching, and also a specimen of the Plat and of the Grass of Connecticut. Miss WOODHOUSE had told the Society of Arts, that the grass she used was the *Poa Pratensis*. This is the *smooth-stalked meadow-grass*. So that it was quite useless to send for *seed*. It was clear, that we had *grass enough* in England, if we could but make it into straw as handsome as that of Italy.

215. Upon my publishing an account of what had taken place with regard to the American Bonnet, *an im-*

porter of Italian straw applied to me to know whether I would *undertake to import American straw.* He was in the habit of importing Italian straw, and of having it platted in this country; but, having seen the bonnet of Miss WOODHOUSE, he was anxious to get the American straw. This gentleman showed me some Italian straw, which he had imported, and, as the seed heads were on, I could see what plant it was. The gentleman who showed the straw to me, told me (and, doubtless, he believed) that the plant was one that *would not grow in England.* I, however, who looked at the straw with the eyes of a farmer, perceived that it consisted of dry *oat, wheat,* and *rye* plants, and of *Bennet* and other *common grass* plants.

216. This quite settled the point of *growth in England.* It was now certain that we had the plants in abundance; and the only question that remained to be determined was, Had we SUN to give to those plants the beautiful colour which the American and Italian straw had? If that colour were to be obtained by *art,* by any chemical applications, we could obtain it as easily as the Americans or the Italians; but, if it were the gift of the SUN solely, here might be a difficulty impossible for us to overcome. My experiments have proved that the fear of such difficulty was wholly groundless.

217. It was late in September 1821 that I obtained this knowledge, as to the kind of plants that produced the foreign straw. I could, at that time of the year, do nothing in the way of removing my doubts as to the *powers of our Sun* in the bleaching of grass; but, I resolved to do this when the proper season for bleaching hould return. Accordingly, when the next month of

June came, I went into the country for the purpose. I made my experiments, and, in short, I proved to demonstration, that we had not only the *Plants*, but the *Sun* also, necessary for the making of straw, yielding in no respect to that of America or of Italy. I think that, upon the whole, we have greatly the advantage of those countries; for, grass is more abundant in this country than in any other. It flourishes here more than in any other country. It is here in a greater variety of sorts; and for *fineness* in point of size, there is no part of the world which can equal what might be obtained from some of our *downs*, merely by keeping the land ungrazed till the month of July.

218. When I had obtained the straw, I got some of it made into plat. One peice of this plat was equal in point of colour, and superior in point of fineness, even to the plat of the bonnet of Miss WOODHOUSE. It seemed, therefore, now to be necessary to do nothing more than to *make all this well known to the country*. As the SOCIETY OF ARTS had interested itself in the matter, and as I heard that, through its laudable zeal, several *sowings of the foreign grass-seed* had been made in England, I communicated an account of my experiments to that Society. The first communication was made by me on the 19th of February last, when I sent to the Society, specimens of my straw and also of the plat. Sometime after this I attended a Committee of the Society on the subject, and gave them a verbal account of the way in which I had gone to work.

219. The Committee had, before this, given some of my straw to certain *manufacturers* of plat, in order to see what it would produce. These manufacturers, with

the exception of one, brought *such* specimens of plat as to induce, at first sight, any one to believe that it was nonsense to think of bringing the thing to any degree of perfection! But, was it *possible* to believe this? Was it possible to believe that it could *answer* to import straw from Italy, to pay a twenty per cent. duty on that straw, and to have it platted here; and, that it would *not answer* to turn into plat straw of just the same sort grown in England? It was impossible to believe *this;* but possible enough to believe, that persons now making profit by Italian straw, or plat, or bonnets, would rather that English straw should not come, to shut out the Italian, and to put an end to the Leghorn trade.

220. In order to show the character of the reports of those manufacturers, I sent some parcels of straw into Hertfordshire, and got back, in the course of five days, *fifteen specimens of plat.* These I sent to the Society o. Arts on the 3d of April; and I here insert a copy of the the Letter which accompanied them.

TO THE SECRETARY OF THE SOCIETY OF ARTS.

Kensington, April 3, 1823.

Sir,—With this letter I send you sixteen specimens of Plat, and also eight parcels of straw, in order to show the sorts that the plat is made out of. The numbers of the plat correspond with those of the straw; but, each parcel of straw has two numbers attached to it, except in the case of the first number, which is the

wheat straw. Of each kind of straw a parcel of the *stoutest* and a parcel of the *smallest* were sent to be platted; so that each parcel of the straw now sent, except that of the wheat, refers to *two of the pieces of plat*. For instance, 2 and 3 of the plat is of the sort of straw marked 2 and 3; 4 and 12 of the plat is of the sort of straw marked 4 and 12; and so on. These parcels of straw are sent, in order that you may know the *kind* of straw, or, rather, of grass, from which the several pieces of plat have been made. This is very *material*; because, it is by those parcels of straw that the *kinds of grass* are to be known.

The piece of plat, No. 16, is *American*; all the rest are from my straw. You will see, that 15 is the *finest plat of all*. No. 7 is from the *stout* straws of the same *kind* as No. 15. By looking at the parcel of straw, Nos. 7 and 15, you will see what sort of grass this is. The next, in point of beauty and fineness combined, are the pieces Nos. 13 and 8; and, by looking at the parcel of straw, Nos. 13 and 8, you will see what sort of grass that is. Next comes 10 and 5, which are very beautiful too; and the sort of grass, you will see, is the *common Bennet*. The wheat, you see, is too coarse; and, the rest of the sorts are either *too hard*, or *too brittle*. I beg you to look at Nos. 10 and 5. Those appear to me to be the thing to supplant the Leghorn. The colour is good, the straws *work well*, they afford a great *variety of sizes*, and they come from the common *Bennet grass*, which grows all over the kingdom, which is cultivated in all our fields, which is in bloom in the fair month of June, which may be grown as fine or as coarse as we please, and ten acres of which would, I dare say, make ten thousand bonnets. However, 7 and

15, and 8 and 13, are very good; and they are to be got in every part of the kingdom.

As to *platters*, it is to be too childish to believe that they are not to be got, when I could send off these straws, and get back the plat, in the course of five days. Far *better work* than this would have been obtained, if I could have gone on the errand myself. What, then, will people not do, who regularly undertake the business for their livelihood?

I will, as soon as possible send you an account of the manner in which I went to work with the grass. The card of plat, which I sent you some time ago, you will be so good as to give me back again sometime; because I have now not a bit of the American plat left.

I am, Sir,

Your most humble and

Most obedient Servant,

WM. COBBETT.

221. I should observe, that these written communications of mine to the Society, *belong*, in fact, to it, and will be published in its PROCEEDINGS, a volume of which comes out every year; but, in this case, there would have been a *year lost* to those who may act in consequence of these communications being made public. The grass is to be got, in great quantities and of the best sorts, only in *June* and *July*; and the Society's volume does not come out till *December*. The Society has, therefore, given its consent to the making of the communications public through the means of this little work of mine.

222. Having shown what sort of plat could be produced from English grass-straw, I next communicated to the Society an account of the method which I pursued in

the cutting and bleaching of the grass. The Letter in which I did this I shall here insert a copy of, before I proceed further. In the original the paragraphs were *numbered* from *one* to *seventeen :* they are here marked by *letters,* in order to avoid confusion, the paragraphs of the work itself being marked by *numbers.*

TO THE SECRETARY OF THE SOCIETY OF ARTS.

Kensington, April 14, 1823.

A.—Sir,—Agreeably to your request, I now communicate to you a statement of those particulars, which you wished to possess, relative to the specimens of Straw and of Plat, which I have, at different times, sent to you for the inspection of the Society.

B.—That my statement may not come too abruptly upon those Members of the Society, who have not had an opportunity of witnessing the progress of this interesting inquiry, I will take a short review of the circumstances which led to the making of my experiments.

C.—In the month of June 1821, a gentleman, a Member of the Society, informed me, by letter, that a Miss Woodhouse, a farmer's daughter of Weathersfield in Connecticut, had transmitted to the Society a straw-bonnet of very fine materials and manufacture ; that this bonnet (according to her account) was made from the straw of a sort of grass called *poa pratensis ;* that it seemed to be unknown, whether the same grass would grow in England ; that it was desirable to ascertain whether this grass would

grow in England; that at all events it was desirable to get from America some of the seed of this grass; and that, for this purpose, my informant, knowing that I had a son in America, addressed himself to me, it being his opinion, that, if materials, similar to those used by Miss WOODHOUSE, could by any means be *grown in England*, the benefit to the nation must be considerable.

D.—In consequence of this application, I wrote to my son James (then at New York), directing him to do what he was able in order to cause success to the undertaking. On the receipt of my letter, in July, he went from New York to Weathersfield, (about a hundred and twenty miles); saw Miss WOODHOUSE, made the necessary inquiries; obtained a specimen of the grass and also of the plat, which other persons at Weathersfield, as well as Miss WOODHOUSE, were in the habit of making; and, having acquired the necessary information as to cutting the grass and bleaching the straw, he transmitted to me an account of the matter; which account, together with his specimens of grass and plat, I received in the month of September.

E.—I was now, when I came to see the specimen of grass, convinced that Miss WOODHOUSE'S materials could be *grown in England;* a conviction which, if it had not been complete at once, would have been made complete immediately afterwards by the sight of a bunch of bonnet-straw *imported from Leghorn*, which straw was shown to me by the importer, and which I found to be that of two or three sorts of our common grass, and of oats, wheat and rye.

F.—That the grass, or plants, could be *grown in England* was, therefore, now certain, and indeed that they were in

point of commonness next to the earth itself. But, before the grass could, with propriety, be called materials for bonnet-making, there was the *bleaching* to be performed; and it was by no means certain that this could be accomplished by means of an *English sun*, the difference between which and that of Italy or Connecticut was well known to be very great.

G.—My experiments have, I presume, completely removed this doubt. I think that the straw produced by me to the Society, and also some of the pieces of plat, are of a colour which no straw or plat can surpass. All that remains, therefore, is for me to give an account of the manner in which I cut and bleached the grass which I have submitted to the Society in the state of straw.

H.—First, as to the *season* of the year, all the straw, except that of one sort of couch-grass, and the long coppice-grass, which two were got in Sussex, were got from grass cut in Hertfordshire on the 21st of June. A grass headland, in a wheat field, had been mowed during the forepart of the day; and, in the afternoon, I went and took a handful here and a handful there out of the swaths. When I had collected as much as I could well carry, I took it to my friend's house, and proceeded to prepare it for bleaching according to the information sent me from America by my son; that is to say, I put my grass into a shallow tub, put boiling water upon it until it was covered by the water, let it remain in that state for ten minutes, then took it out, and laid it very thinly on a closely mowed lawn in a garden. But, I should observe, that, before I put the grass into the tub, I tied it up in small bundles, or sheaves, each bundle

being about six inches through at the butt-end. This was necessary, in order to be able to take the grass, at the end of ten minutes, out of the water, without throwing it into a confused mixture as to tops and tails. Being tied up in little bundles, I could easily, with a prong, take it out of the hot water. The bundles were put into a large wicker basket, carried to the lawn in the garden, and there taken out, one by one, and laid in swaths as before mentioned.

I.—It was laid *very thinly*; almost might I say, that no stalk of grass covered another. The swaths were *turned* once a day. The bleaching was completed at the end of *seven days* from the time of scalding and laying out. June is a fine month. The grass was, as it happened cut on the *longest day in the year*; and, the weather was remakably fine and clear. But, the grass which I afterwards cut in Sussex, was cut in the first week in August; and, as to the weather, my journal speaks thus:

August 1822.

2d.—Thunder and rain.—*Began cutting Grass.*
3d.—Beautiful day.
4th.—Fine day.
5th.—Cloudy day.—*Began scalding Grass, and laying it out.*
6th —Cloudy greater part of the day.
7th.—Same weather.
8th.—Cloudy, and rather misty.—*Finished cutting Grass.*
9th.—Dry, but cloudy.
10th.—Very close and hot.—*Packed up part of the Grass.*
11th.—Same weather.
12th.
13th. } Same weather.
14th.
15th.—Hot and clear.—*Finished packing up Gras*

K. The grass cut in Sussex was as *well bleached* as that cut in Hertforshire; so that it is evident that we never can have a summer that will not afford Sun sufficient for this business.

L.—The part of the straw used for platting is that part of the stalk which is *above the upper joint;* that part which is between the *upper joint,* and the seed-branches. This part is taken out, and the rest of the straw thrown away. But, the *whole plant must be cut and bleached;* because, if you were to take off, *when green,* the part above described, that part would wither up next to nothing. This part must die in company with the whole plants, and be separated from the other parts after the bleaching has been performed.

M.—The time of cutting must vary with the seasons, the situation, and the sort of grass. The grass which I got in Hertfordshire, than which nothing can, I think, be more beautiful, was, when cut, generally in *bloom;* just in bloom. The *wheat* was in full bloom; so that a good time for getting grass may be considered to be that when the *wheat is in bloom.* When I cut the grass in Sussex, the *wheat was ripe,* for reaping had begun; but that grass is of a very backward sort, and, besides, grew in the *shade* amongst coppice wood and under trees, which stood pretty thick.

N.—As to the sorts of grass, I have to observe generally, that in proportion as the colour of the grass is *deep;* that is to say, getting further from the *yellow,* and nearer to the *blue,* it is of a deep and *dead yellow* when it becomes straw. Those kinds of grass are best, which are, in point of colour, nearest to that of wheat, which is a fresh pale green. Another thing is, the quality of

the straw as to *pliancy* and *toughness*. Experience must be our guide here. I had not time to make a large collection of sorts; but, those which I have sent to you contain three sorts which are proved to be good. In my letter of the 3d instant I sent you *sixteen* pieces of plat and *eight* bunches of straw, having the seed heads on, in order to show the sorts of grass. The sixteenth piece of plat was American. The first piece was from *wheat* cut and bleached by me; the rest from *grass* cut and bleached by me. I will here, for fear of mistake, give a list of the names of the several sorts of grass, the straw of which was sent with my letter of the 3d instant, referring to the numbers, as placed on the plat and on the bunches of straw.

Pieces of Plat.	Bunches of Straw.	Sorts of Grass
No 1.—	No. 1.	—Wheat.
2. 3.	2 and 3.	Melica Cærulea; or, Purple Melica Grass.
4. 12	4 and 12.	Agrostis Stolonifera; or Fiorin Grass; that is to say, one sort of Couch-grass.
5. 10.	5 and 10.	Lolium Perenne; or Ray-grass.
6. 11.	6 and 11.	Avena Flavescens; or, Yellow Oat grass.
7. 15.	7 and 15.	Cynosurus Cristatus; or, Crested Dog's-tail grass.
8. 13.	8 and 13.	Anthoxanthum Oderatum; or Sweet-scented Vernal grass.
9. 14.	9 and 14.	Agrostis Canina; or, Brown Bent grass.

O.—These names are those given at the Botanical Garden *at Kew*. But, the same English names are not in the country, given to these sorts of grass. The *Fiorin grass*, the *Yellow Oat-grass;* and the *Brown-Bent*, are all called *couch-grass;* except that the latter is, in Sussex, called *Red Robin*. It is the native grass of the

plains of Long Island; and they call it *Red Top.* The *Ray-grass* is the common field grass, which is, all-over the kingdom, sown with clover. The farmers, in a great part of the kingdom, call it *Bent,* or *Bennet,* grass; and, sometimes it is called *Darnel-grass.* The *Crested Dog's-tail* goes, in Sussex, by the name of *Hendon-bent;* for what reason I know not. The *sweet-scented Vernal-grass* I have never, amongst the farmers, heard any name for. Miss WOODHOUSE's grass appears, from the *plants* that I saw in the Adelphi, to be one of the sorts of Couch-grass. Indeed, I am sure that it is a Couch-grass, if the plants I there saw came from her seed. My Son who went into Connecticut, who saw the grass growing, and who sent me home a specimen of it, is now in England: he was with me when I cut the grass in Sussex; and he says, that Miss WOODHOUSE's was a Couch-grass. However, it is impossible to look at the specimens of straw and of plat, which I have sent you, without being convinced that there is no want of the raw material in England. I was, after my first hearing of the subject, very soon convinced, that the grass grew in England; but, I had great doubts as to the capacity of our *sun.* Those doubts my own experiments have completely removed; but, then, I was not aware of the great effect of the *scalding,* of which, by the way, Miss WOODHOUSE had said nothing, and the knowledge of which we owe entirely to my son James's journey into Connecticut.

P.—Having thus given you an account of the time and manner of cutting the grass, of the mode of cutting and bleaching; having given you the best account I am able as to the sorts of grass to be employed in this busi-

ness; and having, in my former communications, given you specimens of the Plat wrought from the several sorts of straw, I might here close my letter; but, as it may be useful to speak of *the expense* of cutting and bleaching, I shall trouble you with a few words relating to it. If there were a field of *Ray-grass,* or of *Crested Dog's-tail,* or any other good sort, and nothing else growing with it, the expense of *cutting* would be very little indeed, seeing that the *scythe* or *reap-hook* would do the business at a great rate. Doubtless there *will be* such fields; but, even if the grass have to be cut by the handful, my opinion is, that the expense of cutting and bleaching would not exceed *fourpence* for straw enough to make a large bonnet. I should be willing to contract to supply straw, at this rate, for half a million of bonnets. The *scalding* must constitute a considerable part of the expense; because there must be *fresh water* for every parcel of grass that you put in the tub. When water has scalded one parcel of cold grass, it will not scald another parcel. Besides, the scalding draws out the *sweet matter* of the grass, and makes the water the colour of that horrible stuff, called London porter. It would be very good, by-the-by, to give to pigs. Many people give *hay-tea* to pigs and calves; and this is *grass-tea.* To scald a large quantity, therefore, would require means not usually at hand, and the scalding is an essential part of the business. Perhaps, in a large and convenient farm-house, with a good brewing copper, good fuel and water handy, four or five women might scald a wagon-load in a day; and a wagon would, I think, carry straw enough (in the rough) to furnish the means of making a thousand bonnets. However, the scalding

might take place *in the field itself*, by means of a portable boiler, especially if water were at hand; and perhaps, it would be better to carry the water to the field than to carry the grass to the farm-house, for, there must be *ground to lay it out upon the moment it has been scalded*, and no ground can be so proper as the newly mowed ground where the grass has stood. The *space*, too, must be *large* for any considerable quantity of grass. As to all these things, however, the best and cheapest methods will soon be discovered when people set about the work with a view to profit.

Q.—The Society will want nothing from me, nor from any body else, to convince it of the importance of this matter; but I cannot, in concluding these communications to you, Sir, refrain from making an observation or two on the consequences likely to arise out of these inquiries. The manufacture is alone of considerable magnitude. Not less than about *five millions* of persons in this kingdom have a dress which consists partly of manufactured straw; and a large part, and all the most expensive part, of the articles thus used, now come from abroad. In cases where you can get from abroad any article at *less expense than you can get it at home*, the wisdom of fabricating that article at home may be doubted. But, in this case, you get the raw material by labour performed at home, and the cost of that labour is not nearly so great as would be the cost of the mere carriage of the straw from a foreign country to this. If our own people had all plenty of employment, and that, too, more profitable to them and to the country, than the turning of a part of our own grass into articles of dress; then, it would be advisable still to import Leghorn bonnets; but, the facts being the reverse, it is

clear, that whatever money, or money's worth things, be spent out of the country, in exchange for Leghorn bonnets, is, while we have the raw material here for next to nothing, just so much thrown away. The Italians, it may be said, take some of our manufactures in exchange: and let us suppose for the purpose of illustration that they take cloth from Yorkshire. Stop the exchange between Leghorn and Yorkshire, and, does Yorkshire *lose part of its custom?* No: for, though those who make the bonnets out of English grass, prevent the Leghorners from buying Yorkshire cloth, they, with the money which they now get, instead of its being got by the Leghorners, buy the Yorkshire cloth themselves; and they wear this cloth too, instead of its being worn by the people of Italy: aye, Sir, and many, now in rags, will be well clad, if the laudable object of the Society be effected. Besides this, however, why should we not *export* the articles of this manufacture? To America we certainly should; and I should not be at all surprised if we were to export them to Leghorn itself.

R.—Notwithstanding all this, however, if the manufacture were of a description to require, in order to give it success, the *collecting of the manufacturers together in great numbers*, I should, however great the wealth that it might promise, never have done any thing to promote its establishment. The contrary is, happily, the case: here all is not only performed *by hand*, but by hand *singly*, without any combination of hands. Here there is no power of machinery or of chemistry wanted. All is performed out in the open fields, or sitting in the cottage. There wants no coal mines and no rivers to assist; no water-powers nor powers of fire. No part of the king-

dom is unfit for the business. Every where there are grass, water, sun, and women and children's fingers; and these are all that are wanted. But, the great thing of all is this: that, to obtain the materials for the making of this article of dress, at once so gay, so useful, and, in in some cases, so expensive, there requires not *a penny of capital.* Many of the labourers now make their own straw hats to wear in summer. Poor rotten things, made out of the straw of ripened grain. With what satisfaction will they learn that straw, twenty times as durable, to say nothing of the beauty, is to be got from every hedge! In short, when the people are well and clearly informed of the facts, which I have through you, Sir, had the honour to lay before the Society, it is next to impossible that the manufacture should not become general throughout the country. In every labourer's house a pot of water can be boiled. What labourer's wife cannot, in the summer months, find time to cut and bleach grass enough to give her and her children work for a part of the winter! There is no necessity for all to be *platters.* Some may cut and bleach only. Others may prepare the straw, as mentioned in paragraph L. of this letter. And, doubtless, as the farmers in Hertfordshire now sell their straw to the platters, grass collectors and bleachers and preparers would do the same. So that there is scarcely any country labourer's family that might not derive some advantage from this discovery; and, while I am convinced that this consideration has been by no means overlooked by the Society, it has been, I assure you, the great consideration of all with,

Sir, Your most obedient and
Most humble Servant,
WM. COBBETT.

223. In the last edition, this closing part of the work, relative to the straw plat, was not presented to the public as a thing which admitted of no alteration; but, on the contrary, it was presented to the public with the following concluding remark: "In conclusion, I have to "observe, that I, by no means, send forth this essay as "containing opinions and instructions that are to undergo "no alteration. I am, indeed, endeavouring to teach "others; but I am myself only a learner. Experience "will, doubtless, make me much more perfect in a "knowledge of the several parts of the subject; and "the fruit of this experience I shall be careful to commu-"nicate to the public." I now proceed to make good this promise: Experience has proved that very beautiful and very fine plat can be made of the straw of divers kinds of *grass*. But the most ample experience has also proved to us that it is to the straw of *wheat*, that we are to look for a manufacture to supplant the Leghorn. This was mentioned as a strong suspicion in my former edition of this work. And I urged my readers to sow wheat for the purpose. The fact is now proved beyond all contradiction, that the straw of wheat or rye, but particularly of wheat, is the straw for this purpose. *Finer* plat may be made from the straw of grass, than can possibly be made from the straw of wheat or rye: but the grass plat, is, all of it, more or less *brittle*; and none of it has the beautiful and uniform colour of the straw of wheat. Since the last edition of this work, I have received packets of the straw *from Tuscany*: all of *wheat*; and, indeed, I am *convinced* that no other straw is any thing like so well calculated for the purpose. Wheat straw bleaches better than any

other. It has that fine, pale, golden colour which no other straw has ; it is much more simple, more pliant than any other straw ; and, in short, this is the material. I did not urge in vain. A good quantity of wheat was sowed for this purpose. A great deal of it has been well harvested ; and, I have the pleasure to know that several hundreds of persons are now employed in the platting of straw. One more year ; one more crop of wheat ; and another Leghorn bonnet will never be imported in England. Some great errors have been committed in the sowing of the wheat, and in the cutting of it. I shall now, therefore, availing myself of the experience which I have gained, offer to the public some observations on the *sort of wheat* to be sowed for this purpose ; on the *season* for sowing ; on the *land* to be used for the purpose ; on the *quantity of seed*, and the *manner* of sowing ; on the *season* for cutting ; on the manner of *cutting*, *bleaching*, and, *housing* ; on the *platting* ; on the *knitting* ; and on the *pressing*.

224. The SORT OF WHEAT. The Leghorn plat is all made of the straw of the spring wheat. This spring wheat is so called by us, because it is sowed in the spring, at the same time that barley is sowed. The botanical name of it is, TRITICUM ÆSTIVUM. It is a small-grained, bearded wheat. It has very fine straw ; but experience has convinced me, that the little brown-grained winter wheat is just as good for the purpose. In short, any wheat will do. I have now in my possession specimens of plat made of both winter and spring wheat, and I see no difference at all. I am decidedly of opinion that the winter wheat is as good as the spring wheat for the purpose. I have plat, and I have straw both now before me, and the above is the result of my experience.

225. THE LAND PROPER FOR THE GROWING OF WHEAT. The object is to have the straw as small as we can get it. The land must not, therefore, be too rich; yet it ought not to be *very poor*. If it be, you get the straw of no length. I saw an acre this year, as beautiful as possible, sowed upon a light loam, which bore last year a fine crop of potatoes. The land ought to be perfectly clean, at any rate; so that, when the crop is taken off, the wheat straw may not be mixed with weeds and grass.

226. SEASON FOR SOWING. This will be more conveniently stated in paragraph 228.

227. QUANTITY OF SEED AND MANNER OF SOWING. When first this subject was started in 1821, I said, in the Register, that I would engage to grow as fine straw in England, as the Italians could grow. I recommended then, as a first guess, *fifteen* bushels of wheat to the acre. Since that, reflection told me that that was not quite enough. I therefore, recommended *twenty* bushels to the acre. Upon the beautiful acre which I have mentioned above, eighteen bushels, I am told, were sowed; fine and beautiful as it was, I think it would have been better if it had had twenty bushels; twenty bushels therefore, is what I recommend. You must sow broad cast, of course, and you must take great pains to cover the seed well. It must be a good even-handed seedsman, and there must be very nice covering.

228. SEASON FOR CUTTING. Now, mind, it is fit to cut in just about one week *after the bloom has dropped*. If you examine the ear at that time, you will find the grain just beginning to be formed, and that is precisely the time to cut the wheat. The straw has then got its full substance in it. But, I must now point out a very

material thing. It is by no means desirable to have *all* your wheat *fit to cut at the same time.* It is a great misfortune, indeed, so to have it. If fit to cut altogether, it ought to be cut all at the same time; for supposing you to have an acre, it will require a fortnight or three weeks to cut it and bleach it, unless you have a very great number of hands, and very great vessels to prepare water in. Therefore, if I were to have an acre of wheat for this purpose, and were to sow all spring wheat, I would sow a twelfth part of the acre every week from the first week in March, to the last week in May. If I relied partly upon winter wheat, I would sow some every month, from the latter end of September to March. If I employed the two sorts of wheat; or, indeed, if I employed only the spring wheat, the TRITICUM ÆSTIVUM, I should have some wheat fit to cut in June, and some not fit to cut till Septembe. I should be sure to have a fair chance as to the weather. And, in short it would be next to impossible for me to fail of securing a considerable part of my crop. I beg the reader's particular attention to the contents of this paragraph.

229. MANNER OF CUTTING THE WHEAT. It is cut by a little reap-hook, close to the ground as possible, It is then tied in little sheaves, with two pieces of string, one near the butt, and the other about half way up. This little bundle or sheaf ought to be six inches through at the butt, and no more. It ought not to be tied too tightly, lest the scalding should not be perfect.

230. MANNER OF BLEACHING. The little sheaves mentioned in the last paragraph, are carried to a brewing mash, vat, or other tub. You must not put them into the tub in too large a quantity, lest the water get chilled

before it get to the bottom. Pour on scalding water till you cover the whole of the little sheaves, and let the water be a foot above the top sheaves. When the sheaves have remained thus a full quarter of an hour, take them out with a prong, lay them in a clothes-basket, or upon a hurdle, and carry them to the ground where the bleaching is to be finished. This should be, if possible, a piece of grass land, where the grass is very short. Take the sheaves, and lay some of them along in a row. Untie them, and lay the straw along in that row as thin as it can possibly be laid. If it were possible, no one straw ought to have another lying upon it, or across it. If the sun be clear, it will require to lie twenty-four hours thus then to be turned, and lie twenty-four hours on the other side. If the sun be not very clear, it must lie longer. But, the numerous sowings which I have mentioned, will afford you so many chances, so many opportunities of having fine weather, that the risk about weather would necessarily be very small. If wet weather should come, and if your straw remain out in it any length of time, it will be spoiled; but, according to the mode of sowing above pointed out, you really could stand very little chance of losing straw by bad weather. If you had some straw out bleaching, and the weather were to appear suddenly to be about to change, the quantity that you would have out would not be large enough to prevent you from putting it under cover, and keeping it there till the weather changed.

231. HOUSING THE STRAW. When your straw is nicely bleached, gather it up, and, with the same strings that you used to tie it when green, tie it up again into little sheaves. Put it by in some room where there is no

damp, and where mice and rats are not suffered to inhabit. Here it is always ready for use, and it will keep, I dare say, four or five years very well.

232. THE PLATTING. This is now so well understood, that nothing need be said about the manner of doing the work. But much might be said about the measures to be pursued by land-owners, by parish officers, by farmers, and more especially, by gentlemen and ladies of sense, public spirit, and benevolence of disposition. The thing will be done; the manufacture will spread itself all over this kingdom; but, the exertions of those whom I have here pointed out, might hasten the period of its being brought to perfection. And I beg such gentlemen and ladies to reflect on the vast importance of such manufactory, which it is impossible to cause to produce any thing but good. One of the great misfortunes of England at this day is, that the land has had *taken away from it, those employments for its women and children, which were so necessary to the well-being of the agricultural labourer.* The spinning, the carding, the reeling, the knitting: these have been all taken away from the land, and given to the Lords of the Loom, the haughty lords of bands of abject slaves. But let the landholder mark how the change has operated to produce his ruin. He must have the labouring MAN and the labouring BOY; but, alas! he cannot have these, without having the man's wife, and the boy's mother, and little sisters and brothers. Even nature herself says, that he shall have the wife and little children, or that he shall not have the man and the boy. But the Lords of the Loom, the crabbed-voiced, hard-favoured, hard-hearted, puffed-up, insolent, savage and bloody wretches of the North have, assisted by a

blind and greedy Government, taken all the employment away from the agricultural women and children. This manufactory of Straw will form one little article of employment for these persons. It sets at defiance all the hatching and scheming of all the tyrannical wretches who cause the poor little creatures to die in their factories, heated to eighty-four degrees. There will need no inventions of WATT; none of your horse powers, nor water powers; no murdering of one set of wretches in the coal mines, to bring up the means of murdering another set of wretches in the factories, by the heat produced from those coals; none of these are wanted to carry on this manufactory. It wants no *combination* laws: none of the inventions of the hard-hearted wretches of the North.

233. THE KNITTING. Upon this subject, I have only to congratulate my readers, that there are great numbers of English women who can now knit, plat together, better than those famous Jewesses, of whom we were told.

234. The PRESSING. Bonnets and hats are pressed after they are made. I am told that a proper press costs pretty nearly a hundred pounds; but, then, that it will do a prodigious deal of business. I would recommend to our friends in the country to teach as many children as they can to make the plat. The plat will be knitted in London, and in other considerable towns, by persons to whom it will be sold. It appears to me, at least, that this will be the course that the thing will take. However, we must leave this to time: and here I conclude my observations upon a subject which is deeply interesting to myself, and which the public, in general, deem to be of great importance.

235. POSTSCRIPT on *Brewing*.—I think it right to say here, that, ever since I published the instructions for brewing by copper and by wooden utensils, the beer at *my own house* has always been brewed precisely agreeably to the instructions contained in this book; and I have to add, that I never have had such good beer in my house in all my life-time, as since I have followed that mode of brewing. My table-beer, as well as my ale, is always as clear as wine. I have had hundreds and hundreds of quarters of malt brewed into beer in my house. My people could always make it strong enough and sweet enough; but never, except by accident, could they make it CLEAR. Now I never have any that is not clear. And yet, my utensils are all very small; and my brewers are sometimes one labouring man, and sometimes another. A man wants showing how to brew the first time. I should suppose that we use, in my house, about seven hundred gallons of beer every year, taking both sorts together; and I can positively assert, that there has not been one drop of bad beer, and, indeed, none which has not been most excellent, in my house, during the last two years, I think it is, since I began using the utensils, and in the manner named in this book.

ICE-HOUSES.

236. First begging the reader to read again paragraph 149, I proceed here, in compliance with numerous requests to that effect, to describe, as clearly as I can, the manner of constructing the sort of Ice-houses therein mentioned. In England, these receptacles of frozen

water are, generally, *under ground*, and always, if possible, under the *shade of trees*, the opinion being, that the *main* thing, if not the *only* thing, is to keep away *the heat*. The heat is to be kept away certainly ; but *moisture* is the great enemy of *Ice ;* and, how is this to be kept away either *under ground*, or under the shade of trees ? Abundant experience has proved, that no thickness of *wall*, that no cement of any kind, will effectually resist *moisture*. Drops will, at times, be seen hanging on the under side of an arch of any thickness, and made of any materials, if it have earth over it, and even when it has the floor of a house over it ; and, wherever the moisture enters, the ice will quickly melt.

237. Ice-houses should, therefore, be, in all their parts, *as dry* as possible : and, they should be so constructed, and the ice so deposited in them, as to insure *the running away of the meltings* as quickly as possible, whenever such meltings come. Any thing in way of drains or gutters, is too slow in its effect ; and, therefore, there must be something that will not suffer the water, proceeding from any melting, to remain an instant.

238. In the first place, then, the ice-house should stand in a place quite open to the *sun and air ;* for whoever has travelled even but a few miles (having eyes in his head,) need not be told how long that part of a road from which the sun and wind are excluded by trees, or hedges, or by any thing else, will remain wet, or at least damp, after the rest of the road is even in a state to send up dust.

239. The next thing is to protect the ice against wet, or damp, from *beneath*. It should, therefore, stand on some spot *from which water would run in every direction ;*

and, if the natural ground presents no such spot, it is no very great job to *make it*.

240. Then comes the *materials* of which the house is to consist. These, for the reasons before-mentioned, must not be bricks, stones, mortar, nor earth; for these are all affected by the atmosphere; they will become *damp* at certain times, and *dampness* is the great destroyer of ice. The materials are *wood* and *straw*. Wood alone will not do; for, though not liable to become damp, it imbibes *heat* fast enough; and, besides, it cannot be so put together as to shut out air sufficiently. Straw is wholly free from the quality of becoming damp, except from water actually put upon it; and it can, at the same time, be placed on a roof, and on sides, to such a degree of thickness as to exclude the air in a manner the most perfect. The ice-house ought, therefore, to be made of *posts, plates, rafters, laths, and straw*. The best form is *the circular;* and the house, when made, appears as I have endeavoured to describe it in *Fig.* 3. of the plate.

241. Fig. 1. *a* is the centre of a circle, the diameter of which is ten feet, and, at this centre, you put up a post to stand fifteen feet above the level of the ground, which post ought to be about nine inches through at the bottom, and not a great deal smaller at the top. Great care must be taken that this post be *perfectly perpendicular*; for, if it be not, the whole building will be awry.

242. *b b b* are fifteen posts, nine feet high, and six inches through at the bottom, without much tapering towards the top. These posts stand about two feet apart, reckoning from centre of post to centre of post, which leaves between each two a space of eighteen inches. *c c c c* are fifty-four posts, five feet high, and

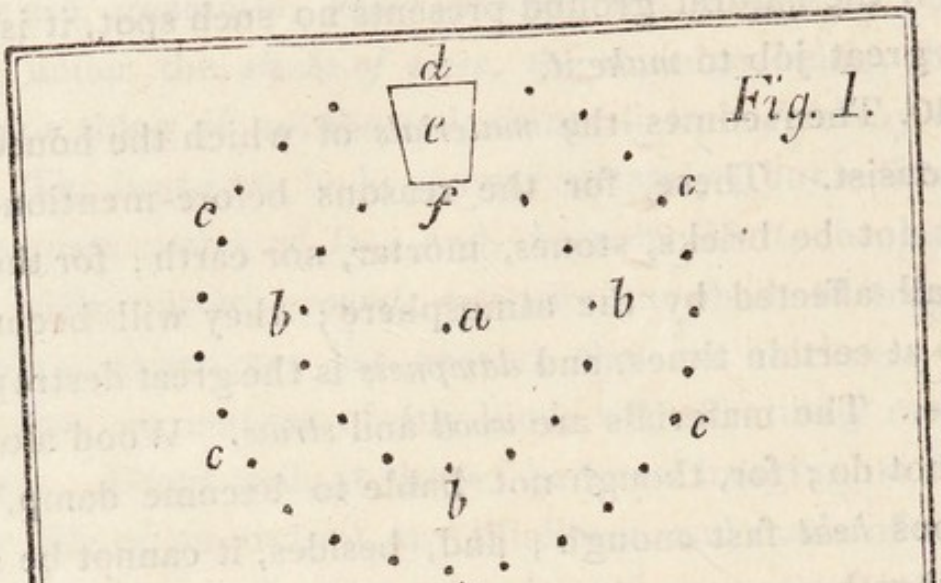

Fig. 1.

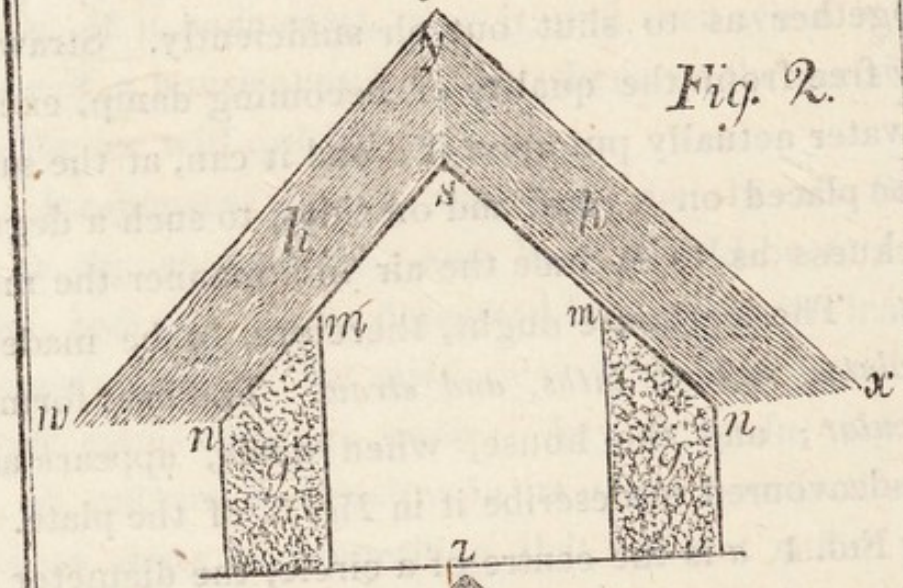

Fig. 2.

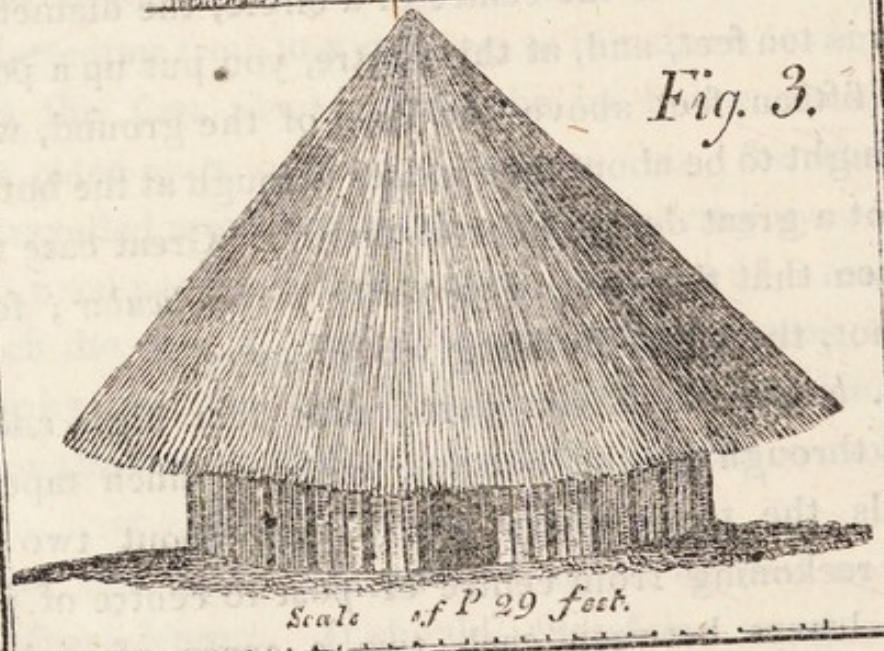

Fig. 3.

Scale of P 29 feet.

five inches through at the bottom, without much tapering towards the top. These posts stand about two feet apart, from centre of post to centre of post, which leaves between each two a space of nineteen inches. The space between these two rows of posts is four feet in width, and, as will be presently seen, is to contain *a wall of straw*.

243. *e* is a passage through this wall; *d* is the outside door of the passage; *f* is the inside door; and the inner circle, of which *a* is the centre, is the place in which the ice is to be deposited.

244. Well, then, we have now got *the posts* up; and, before we talk of the *roof* of the house, or of the *bed* for the ice, it will be best to speak about the making of *the wall*. It is to be made of *straw*, wheat straw, or rye-straw, with no rubbish in it, and made very smooth by the hand as it is put in. You lay it *in very closely* and very smoothly, so that if the wall were cut across, as at *g g*, in FIG. 2. (which FIG. 2. represents *the whole building cut down through the middle*, omitting the centre post,) the ends of the straws would present a compact face as they do after a cut of a chaff-cutter. But, there requires something *to keep the straw from bulging out between the posts*. Little stakes as big as your *wrist* will answer this purpose. Drive them into the ground, and fasten, at top, to the *plates*, of which I am now to speak. The plates are pieces of wood which go all round both the circles, and are *nailed on upon the tops of the posts*. Their main business is to receive and sustain the *lower ends of the rafters*, as at *m m* and *n n*, in FIG. 2. But to the plates also the *stakes* just mentioned must be fastened at top. Thus, then, there will be this space of four feet wide,

having, on each side of it, a row of posts and stakes, not more than about six inches from each other, to hold up, and to keep in its place, this wall of straw.

245. Next come the *rafters,* as from *s* to *n,* FIG. 2. Carpenters best know what is the *number* and what the *size* of the rafters; but, from *s* to *m* there need be only about half as many as from *m* to *n*. However, carpenters know all about this. It is their every-day work. The roof is forty-five *degrees pitch,* as the carpenters call it. If it were even *sharper,* it would be none the worse. There will be about *thirty* ends of rafters to lodge on the plate, as at *m;* and these cannot *all* be fastened to the top of the centre-post rising up from *a;* but carpenters know how to manage this matter, so as to make all strong and safe. The *plate* which goes along on the tops of the row of posts, *b b b,* must, of course, be put on in a somewhat sloping form; otherwise there would be a sort of *hip* formed by the rafters. However, the thatch is to be so deep, that this may not be of much consequence. Before the thatching begins, there are *laths* to put upon the rafters. Thatchers know all about this, and all that you have to do, is, to take care that the thatcher *tie the straw on well.* The best way, in a case of such deep thatch, is to have *a strong man to tie for the thatcher.*

246. The roof is now *raftered,* and it is to receive a thatch of *clean, sound,* and well prepared wheat, or rye, straw, four *feet thick,* as at *h h* in FIG. 2.

247. The house having now got *walls* and *roof,* the next thing is to make the *bed* to receive the ice. This bed is the area of the circle of which *a* is the centre. You begin by laying on the ground *round logs,* eight inches through, or thereabouts, and placing them across

the area, leaving spaces between them of about a foot. Then, *crossways on them,* poles about four inches through, placed at six inches apart. Then, *crossways on them,* other poles about two inches through, placed at three inches apart. Then, *crossways on them,* rods as thick as your finger, placed at an inch apart. Then upon these, small, clean, dry, last winter cut *twigs,* to the thickness of about two inches; or, instead of these twigs, good, clean, strong *heath,* free from grass and moss, and from rubbish of all sorts.

248. This is the *bed* for the ice to lie on; and as you see, the top of the bed will be seventeen inches from the ground. The pressure of the ice may, perhaps, bring it to fourteen, or to thirteen. Upon this bed the ice is put, broken and pummelled, and beaten down together in the usual manner.

249. Having got the bed filled with ice, we have next to *shut it safely up.* As we have seen, there is a passage (*e*). Two feet wide is enough for this passage, and, being as long as the wall is thick, it is, of course, four feet long. The use of the passage is this: that you may have *two doors,* so that you may, in hot, or damp weather, shut the outer door, while you have the inner door open. This inner door may be of hurdle-work, and straw, and covered, on one of the sides, with sheep-skins with the *wool on,* so as to keep out the external air. The outer door, which must lock, must be of wood, made to shut very closely, and, besides, covered with skins like the other. At times of great danger from heat, or from wet, the whole of the passage may be filled with straw. The door (*p.* Fig. 3.) should face the North, or between North and East.

250. As to the *size* of the ice-house, that must, of course, depend upon the *quantity* of ice that you may choose to have. A house on the above scale, is from *w* to *x* (FIG. 2.) twenty-nine feet; from *y* to *z* (FIG. 2.) nineteen feet. The area of the circle, of which *a* is the centre, is ten feet in diameter, and, as this area contains seventy-five superficial feet, you will, if you put ice on the bed to the height of only five feet, (and you *may* put it on to the height of seven feet from the top of the bed), you will have *three hundred and seventy-five cubic feet of ice;* and, observe, a cubic foot of ice will, when broken up, fill much more than a *Winchester Bushel:* what it may do as to an "IMPERIAL BUSHEL," engendered like Greek Loan Commissioners, by the unnatural heat of "PROSPERITY," God only knows! However, I do suppose, that, without making any allowance for the "*cold* fit," as Dr. Baring calls it, into which "*late* panic" has brought us; I do suppose, that even the scorching, the burning dog-star of "IMPERIAL PROSPERITY;" nay, that even DIVES himself, would hardly call for more than two bushels of ice in a day; for, more than two bushels a day it would be, unless it were used in cold as well as in hot weather.

251. As to the *expense* of such a house, it could, in the country, not be much. None of the posts, except the main, or centre-post, need be *very straight.* The other posts might be easily culled from tree lops, destined for fire-wood. The straw would *make all straight.* The *plates* must of necessity be short pieces of wood; and, as to the *stakes,* the *laths,* and the *logs, poles, rods, twigs,* and *heath,* they would not all cost *twenty shillings.* The straw is the principal article; and, in most places, even that would not cost more than two or three pounds. If

it last many years, the price could not be an object; and, if but a little while, it would still be nearly as good for litter as it was before it was applied to this purpose. How often the *bottom of the straw walls* might want renewing, I cannot say; but, I know that the roof would, with few and small repairs, last well for ten years.

252. I have said, that the interior row of posts are to be nine feet high, and the exterior row, five feet high. I, in each case, mean, *with the plate inclusive.* I have only to add, that, by way of superabundant precaution against bottom wet, it will be well to make a sort of *gutter*, to receive the drip from the roof, and to carry it away as soon as it falls.

253. Now, after expressing a hope that I shall have made myself clearly understood by every reader, it is necessary that I remind him, that I do not pretend to pledge myself for the complete success, nor for any success at all, of this mode of making ice-houses. But, at the same time, I express my firm belief, that complete success would attend it; because it not only corresponds with what I have seen of such matters; but, I had the details from a gentleman who had had ample experience to guide him, and who was a man on whose word and judgment I placed perfect reliance. He advised me to erect an ice-house; but not caring enough about *fresh meat* and *fish* in summer; or, at least, not setting them enough above "*prime pork,*" to induce me to take any trouble to secure the former, I never built an ice-house. Thus, then, I only communicate that in which I believe: there is, however, in all cases, this comfort, that if the thing fail as an ice-house, it will serve all generations to come as a model for a pig-bed.

THE END.

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