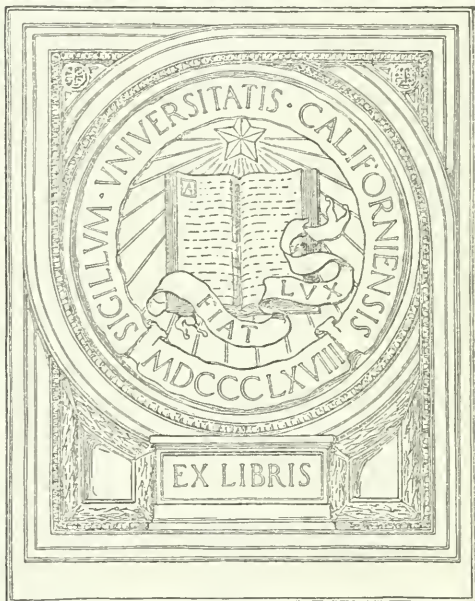




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UNIVERSITY OF CALIFORNIA
AT LOS ANGELES



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A
SIX MONTHS TOUR
THROUGH THE
NORTH of ENGLAND.

CONTAINING,

An Account of the present State of AGRICULTURE,
MANUFACTURES and POPULATION, in several
Counties of this Kingdom.

P A R T I C U L A R L Y,

- | | |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I. The Nature, Value, and Rental of the Soil. | VI. The Condition and Number of the Poor, with their Rates, Earnings, &c. |
| II. The Size of Farms, with Accounts of their Stock, Products, Population, and various Methods of Culture. | VII. The Prices of Labour and Provisions, and the Proportion between them. |
| III. The Use, Expence, and Profit of several Sorts of Manure. | VIII. The Register of many curious and useful Experiments in Agriculture, and general Practices in rural Oeconomics, communicated by several of the Nobility, Gentry, &c. &c. |
| IV. The Breed of Cattle, and the respective Profits attending them. | |
| V. The State of the Waste Lands which might and ought to be cultivated. | |

I N T E R S P E R S E D

With Descriptions of the SEATS of the NOBILITY and GENTRY; and other remarkable Objects: Illustrated with Copper Plates of such Implements of Husbandry, as deserve to be generally known; and Views of some picturesque Scenes, which occurred in the Course of the Journey.

La seule voie de se procurer un corps complet d'agriculture seroit, sans doute, de rassembler les diverses observations qu'auroient fourni dans chaque province.

ENCYCLOPÉDIE.

V O L. III.

L O N D O N;

Printed for W. STRAHAN; W. NICOLL, N^o 51. in St. Paul's Church-yard; B. COLLINS, at Salisbury; and J. BALFOUR, at Edinburgh.

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A

SIX MONTHS TOUR, &c.

L E T T E R XV.

FROM *Raby* to *Durham* the land is in general very good, letting so high as from 15*s.* to 3*l.* but the average is not above 21*s.* or 22*s.* Farms in general under an hundred a-year.

About that city there is much mustard cultivated : The farmers sow it alone, on good rich moist land ; and on that which is pared and burnt. They get from 30 to 100 bushels per acre ; and the price varies from 10*s.* to 20*s.* a bushel : Some crops worth 100*l.* an acre have been known. When once mustard has been sown on a piece of land, it can never be got out again : In tillage it rises with every crop that is sown, which obliges the farmers to lay down such lands to grass, which smothers it, but if broke up again centuries afterwards, a crop of mustard is sure to rise.

Taking the road to *Newcastle*, we stopped to view the ornamented grounds of — *Carr*, Esq; at *Cocken*, which are laid out with so much taste, that it is a great omission in any traveller to pass without seeing them; that Gentleman and his Lady, Lady Mary *Carr*, have both given much attention to the assisting nature in their very beautiful spot, by rendering her accessible.

Cocken has the advantage of a fine river, in some places very rapid, and in others calm and smooth; it takes a very fine waving course through the grounds, and has the noble advantage of a various shoar, in some places composed of noble rocks, in others of hanging woods, and also of cultivated inclosures: Art has judiciously aimed at nothing more than enabling the spectator to view these beauties to the best advantage.

The first point to which we were conducted, is a seat in a small circular plot, among the wood, north of the house, from which *Chester* steeple is caught in a very picturesque manner, between two projecting hills of wood: The spot is on the brink of a precipice, at the bottom of which the
river

river bends very finely : The country is in general wild and uncultivated, but to the left is a hill of wood, which varies the scene.

Winding a little to the left, the walk leads to the dairy, from which, though very near the seat just described, the view is at once quite different. The country is now cultivated, the river divides, and you command it both ways. To the right is a very fine scar of rock, nobly crowned with pendent wood.

You are next conducted down the hill, and pursue the walk around a fine large meadow upon the banks of the river ; it then enters a wood under a most romantic wall of rock ; the walk (a terrace on the edge of the river) is totally the work of art, being cut out of the rock with much difficulty, and at a great expence. The romantic scenery of these rocks is exceedingly fine, for oaks, elms, and other trees grow out of every cleft to a great height, and hanging over your head, almost threaten you as you move. The wild imagination of *Salvator* has scarcely pictured any thing more striking, or in a more spirited stile than this variety of wood—breaking forth

from the craggy clefts and chasms of these noble rocks: This intermixture of rock and wood is truly romantic and picturesque. The river aids the general effect, by the rapidity of its current; for raging over rocks and stones, the roar is in unison with its shoar, and all together tend strongly to impress upon the mind an idea of awe and terror.

Advancing through this noble scene, the walk leads through a grass dale, the rocks are lost, and the whole scene varied: On one side the river is a hill covered with wood; and you view the other through a tall scattered hedge in a most pleasing manner; it is a projecting rock, with a fine scattering of shrubby wood beautifully variegated. Here you should turn and view the rocks you have left; the sun shining on them gives their reflection, in the smooth parts of the river, in a stile very picturesque.

Still advancing, you catch in front among the wood a ruin on the banks of the river, half covered with ivy, and backed nobly with wood; the river rapid and romantic, under a new wall of formidable rocks. Just before you come to the abbey, you may remark an old oak, so connected with
 rock,

rock, that one may almost call it half wood and half stone.

Opposite the abbey the rocks give a fine curve, and under them the river and terrafs wind in the most beautiful manner : It is here quite an amphitheatre of wood and rock ; wild, romantic, and sublime.

Seating yourself on a bench upon the little hill under the rock with an elm in front, the view is very striking. To the right the wall of rocks presents its bold front, the river losing itself under them, and the opposite steep of wood, in the most beautiful manner. To the left a fine wave of woody hill ; the river, rapid in its course, fills your ear with the sound of its current.

Coming to the turn of the walk, the prospect back upon the rocks is prodigiously fine : They are seen as it were in perspective, and their tops, all crowned with oaks, have a noble effect.

Winding up to the alcove on the hill to the right, you see a prodigious fine range of steep woods, hanging over broken rocks, in a stile peculiarly noble : At a distance you catch a scar of rock quite embosomed in a thick wood : The river winds through the valley beneath, and breaking into several

distinct sheets of water, throw a beautiful variety over this romantic scene; it loses itself to the left under another sweep of fine hanging woods: You look down upon the ruined abbey, on the opposite banks of the river, in a hollow, beautifully picturesque. Above it, rises in front a fine waving hill cut into inclosures; and over all, an extensive distant prospect. Upon the whole, the view is truly beautiful.

From hence, crossing a few inclosures to come again into the ornamented grounds, the path you enter winds on the brink of a woody precipice, upon which you look in a very romantic pleasing manner. It leads down to the river (here a smooth and gentle current) through a wild rugged way, and there brings you to another shore of pendent, craggy, broken rock, fringed with wood, in a picturesque manner: In one place, almost under the dairy, it bulges forth in a vast projecting body, almost threatening to thunder into the river, and obstruct every drop of its stream. A noble scene.— The walk takes a winding course through a thick wood, to the terras in front of the house, from which the view is totally different from any of the preceding; it looks
down

down upon a deep winding valley, quite filled with wood: A fine bending hollow— The noise of the river at bottom raging over the rocks is heard, but no where seen; nor can any thing be more romantic than this effect: For looking down into the hollow, without perceiving the water, the imagination at once takes fire, and pictures a horrible depth of precipice, far beyond the truth; but in which it is somewhat assisted, by the thickness of the wood breaking the line of sound.

Upon the whole, *Cocken* has received noble gifts from nature, and the assistance she has had from art has been the work of an elegant fancy, conducted by as correct a taste.

In the house are several pictures, which please the lovers of that noble art.

Trevisana. *Lot* and his daughters. The colouring is strong, and the expression spirited: Nor is it wanting in the effect of the clear obscure.

Rape of *Proserpine*. The colouring not amiss.

Diana and *Endymion*. Good.

Acis and Galatea. Expressive attitudes.

Venus attiring. Happily delicate and expressive; the roundness of the limbs and the beauty of the naked are striking: The pressure of her hand on her bosom is fine; and *his* want of attention characteristic of *such* a situation. It is a copy from *Guido*.

Bacchus and Ariadne. The attitude is very well caught; the colouring, and the naked of *Ariadne's* body, are pleasing.

Jupiter; and *Juno* in the *Cestus* of *Venus*. Her attitude is elegant, and the whole beautiful.

Hercules and Omphale. The colours, naked, and attitude good.

Viviano. Architecture in perspective, two pieces. Very fine, brilliant, and spirited.

Trevisana. Portrait of the late Mr. Carr, nobly spirited.

Un-

Unknown. School-mistress in her school. Fine expression; the girls and boy are very well done; the girl reading and the other knitting very natural. The mistress the least spirited in the piece.

Ditto. An old man feeding his family with chestnuts. Very fine, spirited, and natural. The minute expression is strong: But the diffusion of light appears to be unnatural, to proceed from no visible source.

Ditto. Two fruit pieces. Very fine.

Ditto. Two pieces of dead game. Natural.

Ditto. Two heads. Fine.

Ditto. Landscape; a cavern. Fine and brilliant.

Ditto. A philosopher reproving his copyer. Very fine and natural; the airs of the heads well preserved, and the hands excellently done. A copy.

Ditto. Three small landscapes. Good.

Ditto. A large landscape; rocks and water. Very fine. The cattle
and

and figures excellent ; — minutely done.

Ditto. Ditto of rocks, with a straggling branch with the light behind it. Fine and spirited.

Ditto. Three ditto in a dark stile. The light is well done, and much spirit in the piece.

Ditto. One ditto, their companion. Exceedingly fine. The perspective and keeping striking.

Ditto. Two ditto, something in the stile of *Zuccarelli*. Brilliant and pleasing.

Ditto. A ditto, rocks, with a trunk of a tree in water. The rocks fine ; and the water excellent.

Ditto. Two ditto in round. The cattle — the attitudes of the figures — the architecture and the trees, all have merit.

Ditto. Large landscape : It is in a dark stile, but good.

Salvator Rosa. A water fall. Spirited and alive.

Another ; rocks and wood. Good ; but does not appear to me to equal the first.

Poussin.

Poussin. Large landscape. In a fine but gloomy stile.

From *Cocken* to *Newcastle* the land is in general good, and lets very high. That town is too famous in the path of trade to require from me a particular description: Many particulars, relative to its commerce, I tried to get, but in vain; such as I procured are inserted in a very few words; but I can answer for the genuineness only, in receiving my intelligence from sensible inhabitants.

This town is supposed to contain 40,000 souls, and to employ of its own, 500 sail of ships, 400 of which are colliers. The corporation have an estate of 13,500*l.* a year, and allow their mayor 1200*l.* a year*.

These particulars will by no means satisfy you—they are far from satisfying myself, but they are all I could procure.—I wanted to be informed of the tonnage of their shipping, the number of sailors employed, the nature and extent of their foreign trade, the degree of increase or de-

* Sir *Walter Blacket*, when he serves that office, takes nothing.

crease, and at what periods, with many other circumstances.—I could insert, in the common hackneyed style, *That Newcastle is a place of very considerable trade, her merchants possessing a very extensive correspondence, exporting this, that, and the other, and importing such and such commodities, &c. &c.* These are the general accounts we meet with in books of geography, copied from one to another, till a man of any reading is disgusted with the impertinence. I may be trifling and absurd, but I will never give you such *pages of inanity* as these.

The people employed in the coal-mines are prodigiously numerous, amounting to many thousands; the earnings of the men are from 1s. to 4s. a day, and their firing. The coal waggon roads, from the pits to the water, are great works, carried over all sorts of inequalities of ground, so far as the distance of 9 or 10 miles. The track of the wheels are marked with pieces of timber let into the road, for the wheels of the waggons to run on, by which means one horse is enabled to draw, and that with ease, 50 or 60 bushels of coals. There are many other branches of business that
have

have much carriage in a regular track, that greatly wants this improvement, which tends so considerably to the lowering the expences of carriage.

About five miles from *Newcastle* are the iron works, late *Crawley's*, supposed to be the greatest manufactory of the kind in *Europe*. Several hundred hands are employed in it, insomuch that 20,000*l.* a year is paid in wages. They earn from 1*s.* to 2*s.* 6*d.* a day; and some of the foremen so high as 200*l.* a year. The quantity of iron they work up is very great, employing three ships to the *Baltic*, that each make ten voyages yearly, and bring 70 tons at a time, which amounts to 2100 tons, besides 500 tons more freighted in others. They use a good deal of *American* iron, which is as good as any *Swedish*, and for some purposes much better. They would use more of it, if larger quantities were to be had, but they cannot get it. A circumstance the person did not sufficiently explain, but which, in the mere outline, is worthy of remark.

They use annually 7000 bolls of coals, at 16 bushels each.

They

They manufacture anchors as high as 70 cwt. carriages of cannon, hoes, spades, axes, hooks, chains, &c. &c.

In general their greatest work is for exportation, and are employed very considerably by the *East India* Company: They have of late had a prodigious artillery demand from that Company.

During the war their business was extremely great: It was worse upon the peace; but for anchors and mooring chains the demand these last 7 or 8 years has been very regular and spirited. Their business in general, for some time past, has not been equal to what it was in the war.

As to the machines for accelerating several operations in the manufacture, the copper rollers for squeezing bars into hoops, and the scissars for cutting bars of iron—the turning cranes for moving anchors into and out of the fire—the beating hammer, lifted by the cogs of a wheel; these are machines of manifest utility, simple in their construction, and all moved by water. But I cannot conceive the necessity of their executing so much of the remaining work by manual labour. I observed eight stout fellows hammering an anchor in spots, which

which might evidently be struck by a hammer, or hammers, moved by water upon a vast anvil, the anchor to be moved with the utmost ease and quickness, to vary the feat of the strokes. It is idle to object the difficulty of raising such a machine; there are no impossibilities in mechanics: An anchor of 20 tons may, undoubtedly, be managed with as much ease as a pin. In other works besides the anchor-making, I thought I observed a waste of strength.

In the road from *Newcastle* to the works, upon rising the first hill, there is a most noble view into an extensive vale: cultivated rising inclosures, surrounding a prodigious fine water, (the river *Tyne*) which has the appearance of a lake, several miles long, and of a noble breadth. In the middle a very fine island of an irregular oblong shape, scattered with trees: The whole water enlivened with numerous boats, sailing to and from *Newcastle*: The river loses itself at each end, under waving hills in a beautiful manner. Upon the whole it has the appearance of one of the finest lakes in the world.—At *Newcastle*,

P R O V I S I O N S.

Best Rye bread, <i>per lb.</i>	-	-	-	1 <i>d.</i>
Worst ditto, 10 <i>lb.</i> for	-	-	-	6
Butter, 20 <i>oz.</i>	-	-	-	9
Cheese,	-	-	-	1 $\frac{1}{2}$
Beef,	-	-	-	3
Mutton,	-	-	-	2 $\frac{1}{2}$
Veal,	-	-	-	2
Milk, <i>per pint,</i>	-	-	-	$\frac{1}{2}$
Potatoes, <i>per peck,</i>	-	-	-	3
Coals, <i>per chaldron,</i>	-	-	-	4 <i>s.</i>
Poor's house-rent, from 20 to 40 <i>s.</i>				
Their firing,	-	-	-	30 <i>s.</i>

Land around *Newcastle*, letts, as may be supposed, extravagantly, from 40*s.* to 5*l.* an acre.

As I enter the extensive county of *Northumberland* to-morrow, you must allow me to make the agriculture of it the subject of my next letter.

I remain, in the mean time, &c.

Newcastle.

L E T-

L E T T E R XIV.

AT *Gosworth*, in the road to *Morpeth*, the soil is chiefly loamy—part sandy, and but little clay; the average rent is about 20*s.* an acre; farms rise from 50*l.* a year to 400*l.* Their courses are,

1. Fallow
2. Wheat
3. Oats.

And,

1. Fallow
2. Maslin
3. Oats.

Another,

1. Fallow
2. Wheat
3. Beans.

Also,

1. Turneps
2. Barley
3. Oats.

For wheat they plough five times, sow 2 bushels about *Michaelmas*, and reap, upon an average, 10 or 12 thrave, each

thrive 2 stooks, or 6 pecks, that is 16 bushels and an half. For barley they plough on stubble three times, after turneps twice, and on a fallow five times; sow 2 bushels and $\frac{1}{2}$ in *April*, and reap 15 thraves, at 2 bushels, or 30 bushels. For oats they give but one ploughing, sow 2 bolls and a canning, or 4 bushels and $\frac{1}{2}$, after barley, and gain in product much the same quantity as of that grain*. They plough but once for beans, sow them broad-cast, and under furrow in *February*, never hoe; the medium crop about 25 bushels.—They are all sold for the colliery horses. For pease, but one earth, sow in *March*, and get from 16 to 20 bushels. For rye they fallow 3 or 4 times; but after barley plough but once; sow 2 bushels, and gain in return 30. For turneps they stir four times; hoeing is but coming in, for many do not practice it at all. The medium value *per* acre is, for the hoed ones, 4*l.* 4*s.* the unhoed, 3*l.* an argument so strong for hoeing, that one would imagine it sufficient to convince the blindest and most

* I have for once given the jargon of country measures; a vile abuse, that calls aloud for redress.— You shall be plagued with them no more.

prejudiced of the cultivating tribe.—They use them for both sheep and beasts.

They sow a little rape on new land : Paring and burning, and one ploughing, is the preparation — never feed it : The average crop of seed half a last.

No clover used.

They cultivate a few tares for the feeding horses. Likewise a little buckwheat, but it is not reckoned profitable.

Potatoes they plant after two or three ploughings : Slice them into setts. Twelve bushels will plant an acre, at one foot square. They hand-hoe them twice, and hand-weed them occasionally. The crops are usually worth from 7*l.* to 10*l.* at 9*d.* a bushel. Wheat or rye succeeds ; of which they have finer crops than common.

As to manuring, that of paring and burning is one important point ; the expence,

			<i>s.</i>	<i>d.</i>
The paring	-	-	9	6
Burning	-	-	2	6
			<hr/>	
			12	0
			<hr/>	

They never fold their sheep, nor chop their stubbles; but their hay they stack at home. Dung they buy at *Newcastle*, from 1 s. to 2 s. for a two-horse cart load.

Good grafs will let for 30 s. an acre. They apply it both to dairying and fattening: Three acres will keep two cows through the summer, and one acre three or four sheep. They manure it carefully. The breed of cattle short horned, which they prefer.

The product of a cow they reckon at 5 l. a good one will give five gallons of milk *per* day: — They keep but few swine, and not the more for their cows. The winter food of the latter hay and straw, of the first two ton; keep them in the house: Their calves suck five weeks for fattening, and six for rearing, and afterwards are fed with bean meal and milk. They reckon six or eight cows the proper number for a dairy-maid to manage.

Their swine they fat to 24 stone.

Their flocks of sheep rise from 40 to 80. The profit they reckon at 15 s. a head. They feed them in winter and spring on grafs—some turneps—and when pinched for feed turn them into their wheat

wheat and rye. 5 *lb.* the average of fleeces.

They reckon eight horses necessary for the cultivation of 100 acres of arable land, use three in a plough, and do an acre a day. When at work in winter they allow their horses a peck of oats *per* day; and reckon the annual expence at 7 *l.* They plough up their stubbles for a fallow at *Christmas*. The price *per* acre of ploughing 5 *s.* The depth five inches. They know nothing of chopping straw for chaff. The hire of a cart and three horses a day is 5 *s.*

In the hiring and stocking of farms, they reckon 300 *l.* requisite for one of 100 *l.* a year.

Land sells at 28 or 30 years purchase: There are some estates so low as 2 or 300 *l.* a year.

Tythes are generally compounded;

Wheat, 8 *s.* 6 *d.*

Barley, 4 *s.* 6 *d.*

Oats, 4 *s.*

Beans, 6 *s.*

Poor rates 2 *d.* in the pound. Their employment spinning wool and flax. But few drink tea.

The farmers carry their corn 3 miles.

The general œconomy will be seen from the following sketches.

300 acres in all
 100 arable
 200 grafs
 £. 300 rent
 14 horses
 12 cows
 20 beasts
 12 young cattle
 40 sheep
 1 man
 3 boys
 3 maids
 8 labourers
 3 ploughs
 6 carts
 No waggons.

Another,

450 acres
 200 arable in all
 250 grafs
 £. 420 rent
 27 horses
 30 cows
 25 beasts
 30 young cattle

90 sheep

90 sheep
 2 men
 3 boys
 10 labourers
 5 ploughs
 10 carts.

Another,

180 acres in all
 80 arable
 100 grafs
 £. 140 rent
 8 horfes
 7 cows
 7 beafts
 20 young cattle
 30 sheep
 1 man
 1 boy
 2 maids
 1 labourer
 2 ploughs
 4 carts.

Another,

100 acres in all
 60 arable
 40 grafs
 £. 90 rent
 6 horfes

4 cows
 8 young cattle
 20 sheep
 1 man
 1 maid
 1 labourer
 1 plough
 3 carts.

L A B O U R.

In harvest, 1 *s.* 6 *d.* and ale.
 In hay time, 2 *s.* and ditto.
 In winter, 1 *s.*
 Mowing grass, 2 *s.* and 4 *s.* 6 *d.*
 Hoeing turnips, 6 *s.* and 4 *s.*
 Ditching, &c. 1 *s.* 2 *d.* a rood.
 Thrashing wheat, 2 $\frac{1}{4}$ *d.* a bushel.
 ——— Barley, 1 $\frac{1}{2}$ *d.*
 ——— Oats, 1 $\frac{1}{2}$ *d.*
 Headman's wages, 12 *l.*
 Next ditto, 8 *l.* or 9 *l.*
 Boy of 10 or 12 years, 3 *l.*
 Dairy maids, 4 *l.*
 Other ditto, 3 *l.* 10 *s.*
 Women *per* day in harvest, 10 *d.* and 1 *s.*
 In hay time, 6 *d.*
 In winter, 6 *d.*

I M P L E-

I M P L E M E N T S.

A cart, 6*l.* 6*s.* or 7*l.*

A plough, 1*l.* 1*s.*

A harrow, 15*s.*

A roller 4*l.* or 5*l.* for grafs, but none for
barley.

A scythe, 3*s.*

A spade, 3*s.* 6*d.*

Laying a share and coulter, 1*s.*

Shoeing, 1*s.* 4*d.*

P R O V I S I O N S.

The same as at *Newcastle*.

About *Morpeth* the foil is a loamy clay ;
letts from 5*s.* to 20*s.* *per* acre ; average
about 12*s.* Farms rise from 30*l.* to 500*l.*
a year. Their courses,

1. Fallow
2. Wheat
3. Oats
4. Oats.

And

1. Fallow
2. Wheat
3. Beans
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Also

Also

1. Turneps
2. Barley
3. Oats
4. Oats.

For wheat they plough four times, sow $2\frac{1}{2}$ bushels between *Michaelmas* and *Martinmas*, and reap, upon an average, 14. For barley they give three stirrings, but five on a fallow, sow 2 bushels about the end of *March*, or beginning of *April*, and gain in return 20 bushels. They stir but once for oats, sow 5 bushels before barley sowing, and gain 30 in return. One ploughing is also the number for beans; of which they sow 3 bushels broad cast — never hoe — the medium crop 28: Use them chiefly for horses. For pease they likewise plough but once, sow 2 bushels, and gain about 14. They give four stirrings for rye, sow 2 bushels, and gain, upon a medium, 20.

For turneps they plough four times, all hoe twice or thrice; and the medium value *per* acre is 3 *l.* use them for cattle and sheep. Clover they sow with both barley and wheat; mow it for hay and get from $1\frac{1}{2}$ to 2 ton *per* acre, and sow oats after it.

Potatoes

Potatoes they prepare for by digging: the planters give 5*l.* *per* acre rent for the land they set them on: It is generally a stubble, dunged at the rate of 25 loads *per* acre, 32 bushels each. They dibble them in at 1 foot square; 23 bushels plant an acre; hand-hoe them three times, at the expence of 2*s.* 6*d.* a time: The crop is from 250 to 400 bushels. The digging the ground, and digging up the crop, costs 5*l.* The price commonly 1*s.* a bushel.

The account, therefore, stands thus, *per* acre—

E X P E N C E S.

Rent, - - -	£	5	0	0
Labour, manuring, cannot be less than the day's work of 4 horses, 3 men, and 2 carts, or			10	0
Setts, - - -		1	3	0
Dibbling, - - -		0	5	0
Digging and taking up, -		5	0	0
Hand-hoeing thrice, -		0	7	6
			<hr/>	
		12	5	6
			<hr/>	

P R O D U C E.

350 bushels, at 1s.	-	17	10	0
Expences,	-	12	5	6
		<hr/>		
Profit,	-	5	4	6
		<hr/>		

But the profit of such thorough tillage is, perhaps, as considerable as this balance. They sow barley afterwards, of which they get very great crops.

As to the management of manure, it may partly be judged from their stacking their hay both in the field and farm yard—and from their never chopping their stubbles.

Paring and burning was once used, but it is now done with.

They lime much, lay 70 bushels *per* acre, besides a dunging at the same time; it costs 7s. besides the leading; they reckon they could not raise corn without it.

Very good grass land will lett at 20s. an acre: They apply it mostly to fattening. An acre and a half they reckon sufficient for carrying a beast, of 100 stone, through the summer, or to maintain seven or eight sheep.—Their breed of cattle is the short horned, which they reckon much the best.

The

The product of a cow they lay at 5*l.* but on land of 20*s.* an acre, they suppose it may amount to 9 or 10*l.* A good one will give 9 gallons of milk *per* day. Ten will maintain 5 or 6 swine. Their winter food is hay and straw. The calves do not suck at all, being brought up by hand, about 6 weeks, for either killing or rearing. A dairy-maid, they reckon, can take care of 6 cows; — and a ton and a half of hay is the quantity they allow for wintering one cow. The joist, through the year, 3*l.* 10*s.* They are kept in winter in the house.

Their swine they fat up to 20 and 30 stone.

The profit on fattening an ox in grass, of 100 stone, they reckon, at a medium, 5*l.*

Their flocks of sheep rise from 30 to 100; the profit on them they reckon at 10*s.* a sheep. In winter they keep them in grass; and in very bad weather give them hay; in *April* they turn them into their young clover: The average of their fleeces, is 3*lb.*

In the tillage of their farms, they reckon that 6 horses are necessary for the culture of 100 acres of arable land. They
use

use either 3 horses in a plough, or 2 horses and 2 oxen; with the first, they do an acre and half a day, and with the second, not above half an acre; but then the last is the strongest of all their work.—Their allowance of oats to their teams, is two bushels *per* horse, *per* week. The annual expence of keeping a horse, they reckon 8*l.* They feed their working oxen on straw and hay, in winter, and work on straw alone. The common time for breaking up stubbles for a fallow, is *March*, but some do it in *November*. The price of ploughing, is 5*s.* 6*d.*—The depth 4 or 5 inches. The hire of a cart, three horses and driver, 3*s.* 6*d.*

In the hiring and stocking farms, they reckon 450*l.* necessary for one of 100*l.* a year.

Land sells at 32 years purchase. Estates rise from 100*l.* upwards.

Tythes are both gathered and compounded; when the latter, 2*s.* 6*d.* an acre for turneps, and 7*s.* for wheat, barley, and oats, are common prices.

Poor rates, 6*d.* in the pound. The employment of the poor, begging and strolling: All drink tea.

The

The farmers carry their corn six miles.

The general œconomy will be best seen,
from the following sketches :

130 acres in all
 80 arable
 50 grafs
 £. 60 rent
 7 horses
 4 oxen
 4 cows
 20 sheep
 12 young cattle
 3 men
 1 boy
 1 maid
 2 ploughs
 2 carts.

Another,

300 acres in all
 160 arable
 140 grafs
 £. 160 rent
 12 horses
 20 cows
 10 fattening beasts
 30 young cattle
 50 sheep

2 boys

2 boys
 2 maids
 2 labourers
 4 ploughs
 6 carts.

Another,

200 acres in all
 100 arable
 £.90 rent
 8 horses
 10 cows
 5 fattening beasts
 30 sheep
 10 young cattle
 1 man
 1 boy
 1 maid
 1 labourer
 2 ploughs
 4 carts.

L A B O U R.

In harvest, 1*s.* and board.

In hay time, 1*s.* 6*d.* and beer.

In winter, 10*d.*

Mowing grass, 1*s.* 6*d.*

Hoeing turneps, 2*s.* 6*d.*

Ditching, 1*s.* 2*d.* a rood.

All thrashing done for the 21st part.

Head man's wages, 11*l.*

Next ditto, 7*l.*

A boy of 12 years, 3*l.*

A dairy maid, 3*l.* 10*s.*

Other ditto, 3*l.*

Women *per* day in harvest, 9*d.* and beer.

In hay time, 6*d.*

I M P L E M E N T S.

No waggons.

A cart, 7*l.*

A plough, 20*s.*

A harrow, 15*s.*

A roller, 1*l.* 5*s.*

A scythe, 2*s.* 6*d.*

A spade, 3*s.* 6*d.*

Laying a share and coulter, 4*d.* and find
iron, 1*s.* without.

Shoeing, 1*s.* 4*d.*

P R O V I S I O N S.

Bread—rye, or wheat and pease, or barley and pease.

Cheese, 2*d.*

Butter, 8*d.* 16*oz.*

Beef, 3*d.*

Mutton, 3*d.*

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D

Veal,

Veal, 3 *d.*

Pork, 4 *d.*

Milk, 3 pints of skim for $\frac{1}{2}$ *d.*

Potatoes, 3 *d.* a peck.

Candles, 7 *d.*

Soap, 7 *d.*

Labourer's house rent, 10 *s.*

Their firing, 10 *s.*

BUILDING.

Oak timber, 2 *s.*

Ash, 1*s.* 4 *d.*

A mason *per* day, 1*s.* and board.

A carpenter, 1*s.* and ditto.

Farm houses of brick and stone.

From *Morpeth* to *Alnwick*, land lets at an average at 12 *s.* and farms are in general from 40 *l.* to 200 *l.* a year. Wheat crops 20 bushels, barley 30, and oats 36. The soil about *Alnwick* is in general either a light loam, or a gravel, and lets about 15 *s.* an acre. Farms from 100 *l.* to 800 *l.* a year. The courses most in use are,

1. Turneps
2. Barley
3. Oats
4. Oats.

And,

And,

1. Fallow
2. Wheat
3. Beans or pease
4. Oats
5. Oats.

which are both bad, but the last excrable. They plough for wheat three or four times, sow 2 bushels in *October*, and reap, on an average, 20 bushels. For barley they stir twice or thrice, sow 2 bushels in *April*, and gain, at a medium, 40 bushels. They plough but once for oats, sow 6 bushels, after barley, and reckon the middling crop at 40. For beans but once, on pared and burnt land sow 5 bushels, and get from 40 to 50. They sow but few pease; the method is, one ploughing, sow 3 bushels, and the crop 20. For rye they plough three or four times, sow 2 bushels; the crop the same as of pease. They plough as often for turneps, hoe twice, and reckon the value *per* acre from 2 *l.* 10 *s.* to 5 *l.* 10 *s.* They feed them off with beasts and sheep. They use no clover, but sow a few tares to make into hay for their horses. They cultivate potatoes both by digging, and ploughing, and dunging;

if the latter, it is three times : They slice and drop them into the furrow, so as to stand in rows 12 inches asunder ; 35 pecks will plant an acre ; the crop is generally worth 10*l.* or 12*l.* at 1*s.* 6*d.* a bushel.

For raising manure, they have no idea of chopping the stubbles, but stack their hay at home, consequently make much more than in places where it is stacked in the fields. They lime a great deal, lay 8 or 12 bolls on an acre, at 2 bushels each.

Good grass lets at 2*l.* an acre ; they use it chiefly for cows ; an acre will summer one, or three sheep. Their breed of cattle is the short horned, and will fat up to 60 or 80 stone.

Their swine fat from 12 to 20 stone.

The product of a cow they reckon at 7*l.* in good grass ; do not keep above a sow to ten. The winter food, hay, 1½ acre in quantity, and straw ; kept in house. Calves do not suck above three days.

In the tillage of their lands, they reckon 4 horses will do for 100 acres of arable land ; use 2 in a plough, and do an acre and half a day ; allow them half a peck of oats a day, and reckon the annual expence of keeping, &c. at 8*l.* per head. The
time

time of breaking up their stubbles for a fallow, is after barley sowing. The price of ploughing, 3*s.* *per* acre, and the depth 4 inches.—The hire of a cart, 3 horses and driver, 5*s.* a day.

They reckon 300*l.* necessary for the hiring and stocking a farm of 100*l.* a year.

Land sells at 30 years purchase.

Tythes are both gathered and compounded.

Poor rates 6*d.* in the pound; their employment spinning.

L A B O U R.

In harvest, 1*s.* 3*d.* and 1*s.* 6*d.* a day.

In hay-time, ditto.

In winter, 10*d.*

Mowing grass, 1*s.* 6*d.*

Hoeing turneps, 5*s.* twice.

For threshing, they have the 19th of all grain.

Head man's wages, 9*l.*

Next ditto, 6*l.*

Boy of 12 years, 3*l.*

Maids, 3*l.* to 5*l.*

Women *per* day, in harvest, 1*s.* 2*d.*

In hay-time, 6*d.*

I M P L E M E N T S.

No waggons.

A cart,	-	-	£	7	10	0
A plough,	-	-	-	1	1	0
A harrow,	-	-	-	1	1	0
A roller,	-	-	-	5	0	0
A scythe,	-	-	-	0	3	0
A spade,	-	-	-	0	3	0
Laying a share,	-	-	-	0	0	6
—————coulter	-	-	-	0	0	6

P R O V I S I O N S.

Bread—Barley and pease

Cheese, <i>per lb.</i>	-	-	2	$\frac{1}{2}$ d
Butter, 16 oz.	-	-	6	
Beef,	-	-	2	$\frac{1}{2}$
Mutton,	-	-	2	$\frac{1}{2}$
Veal,	-	-	2	
Pork,	-	-	3	
New milk, <i>per pint,</i>	-	-	$\frac{1}{2}$	
Candles,	-	-	7	
Soap,	-	-	7	
Labourer's house-rent,	-	20s.		
———— firing,	-	20s.		
———— tools,	-	9s.		

Down

Down by the sea are many rich, grazing farms for oxen and sheep, up to so high as 1000*l.* a year.

The castle of *Alnwick*, the seat of his Grace the Duke of *Northumberland*, is most of it new built by the present Duke, and not yet finished: The apartments are all fitted up in the *Gothic* taste, and ornamented in a very light and elegant stile. The principal ones are, 1. A breakfast-room, 33 by 21. 2. Dining-room, 55 by 22; it has two bow-windows, but irregular, the *Gothic* work very elegant: Over the chimney, the Duchess, by *Reynolds*. 3. A drawing-room. 4. A library, 65 by 22, and at the end, a chapel. 5. A saloon, 40 by 20, and a bow. The architecture of the new buildings is quite in the castle stile, and very light and pleasing.

From *Alnwick* to *Belford* land lets at 12*s.* an acre; and farms rise from 40*l.* to 700*l.* a year, but generally between 100*l.* to 200*l.* The wheat crops, at an average, 20 bushels *per* acre, barley 36, and oats the same.

About *Belford* there are many variations from the preceding management, which

highly deserve attention. The soil is in general a loam, inclinable to a clay; good wheat land lets, in large farms, at 11s. an acre, but in small ones, near the town, at 20s. Farms rise from 100*l.* a year, to 500*l.* many of 300*l.* 350*l.* and 400*l.* The courses,

1. Fallow
2. Wheat
3. Pease.

Also,

1. Turneps
2. Barley
3. Oats
4. Barley,

For wheat they plough four or five times, sow 3 bushels in *November*, and gain upon an average about 21. For barley they plough three times, but only twice after turneps, sow 4 bushels, about the 20th of *May*, and reckon the medium produce at 5 quarters. They stir but once for oats, sow 6 bushels, before barley seed time, and gain in return 48. For beans they plough twice, sow 6 bushels, broad cast, the beginning of *March*, never hoe, but get 60 bushels in return; sell them for exportation. They give but one stirring for pease, sow 4 bushels

bushels the beginning of *March*, and gain from none at all to 50 bushels.

For turneps they plough four times, hoe twice, setting them out ten inches or a foot asunder, and value them, at a medium, at 45 s. use them for fattening sheep and beasts, and rearing calves and young sheep. Tares they sow after wheat, on two ploughings, generally for hay, of which they get about 2 tons *per* acre.

Potatoes they plough for thrice: Slice them for setts, drop them in the furrows, so as to lay 14 inches square; hand-hoe them twice with a hoe 7 inches wide; 6 bushels plant an acre: Some years they do not get above 24 bushels, but in others 60. They sow barley after them.

In the management of the manure in the farm-yard they have merit, for they stack all their hay at home; and keep their cattle in houses, littered down clean. But they know nothing of chopping the stubbles for littering a farm-yard. Nor do they fold their sheep, although their flocks rise to 1000. — Paring and burning is known, but is going out.

Good grass land will let at 20 s. an acre. They apply it to all uses: An acre will
keep

keep a cow through the summer, or five sheep; but they never manure it.

Their breed of cattle is the short horned, but apprehend the long to be best, and are accordingly getting into them. They fat their oxen up to 150 stone weight, and reckon 4*l.* 4*s.* the profit on one of 80 stone. Their swine to 25.

Four pounds they reckon the produce of a cow, and a good one to give six gallons of milk a day: A dairy of eight, will enable the farmer to keep nine or ten swine. They give them hay in winter while milked, and straw when dry; keep them in the house, and allow each a ton and half of hay. The calves do not suck at all, but are brought up by hand; four months for rearing, and two for killing. One maid will, with help, take care of ten cows.

Their flocks of sheep rise from 100 to 600; and the profit they reckon on buying to fat as follows:

Lamb, - - - -	o	8 <i>s.</i>	o
Wool, - - - -	o	2	o
Improvement of ewe,	o	4	o
	<hr/>		
	o	14	o
	<hr/>		

On

On stock sheep they calculate it,

Lamb,	-	-	-	-	o	6s.	o	
Wool,	-	-	-	-	o	1	8	
						o	7	8

In very hard weather they give them some hay, but their general winter keeping is on the sheep walks. The fleeces are from 3 *lb.* to 5 *lb.* the first at 5 *d.* $\frac{1}{2}$, and the second at 9 *d.* $\frac{1}{2}$.

In the tillage of their lands, they reckon 8 oxen and 6 horses necessary for 100 acres of arable land; they use either 2 oxen and 2 horses in a plough, or two horses alone; with the first they do half an acre a day, and with the last an acre and half; but then the first is used in the strong work, and goes much the deeper. They allow their horses the third of a bushel of oats each in winter *per* week, but none in summer; and reckon the annual expence *per* horse to be 5*l.* 7*s.* They give them no hay, only pea straw. Their draught oxen they feed in winter on straw and coarse hay, but work them on the first alone. They reckon oxen much the best on strong lands, ploughing much steadier and deeper. They break up their stubbles for a fallow in autumn.

tumn. The price of ploughing is 6 *s.* *per* acre, and the depth 5 to 7 inches. They know nothing of chopping straw for chaff.

The hire of a cart, 3 horses, and a driver *per* day, is 5 *s.*

They reckon, that a man should have 1200 *l.* for the stocking a farm of 300 *l.* a year.

Land sells in general at 30 years purchase.

Tythes are both gathered and compounded: If the latter,

Wheat pays	-	-	6 <i>s.</i>
Barley,	-	-	5
Oats,	-	-	3 6 <i>d.</i>
Beans,	-	-	3
Pease,	-	-	3

Poor rates, 7½ *d.* in the pound. Their employment, besides idleness, is a little spinning. Very few drink tea.

There are some few estates so low as 100 *l.* a year, and to 300 *l.*

The farmers carry their corn 4 miles.

The general œconomy will be seen from the following particulars of farms:

400 acres in all
 350 arable
 50 grass

£.320 rent
 12 horses
 16 oxen
 8 cows
 20 young cattle
 300 sheep
 2 men
 4 boys
 2 maids
 6 labourers
 4 ploughs
 6 carts.

Another,

700 acres in all
 400 arable
 300 grafs
 £.300 rent
 16 horses
 20 oxen
 10 cows
 12 fatting beasts
 30 young cattle
 500 sheep
 3 men
 2 boys
 3 maids
 10 labourers
 6 ploughs
 6 carts.

Another,

Another,

200 acres, all arable

£.100 rent

6 horses

2 oxen

16 cows

16 young cattle

60 sheep

1 man

1 boy

3 maids

2 labourers

2 ploughs

2 carts.

Another,

1100 acres in all

700 arable

400 grass

£.700 rent

22 horses

30 oxen

35 cows

60 young cattle

20 fattening beasts

600 sheep

3 men

4 boys

5 maids

16 labourers

16 labourers
 10 ploughs
 10 carts.

Another,

360 acres in all
 200 arable
 160 grafs
 £.250 rent
 8 horses
 4 oxen
 10 cows
 3 fattening beasts
 16 young cattle
 50 sheep
 1 man
 2 boys
 2 maids
 3 labourers
 3 ploughs
 3 carts.

L A B O U R.

In harvest, 1 *s.*

In hay time, 1 *s.*

In winter, 10 *d.*

Mowing grafs, 2 *s.* 6 *d.*

Hoeing turneps, from 2 *s.* 6 *d.* to 4 *s.*

Thrashing, the 20th of all grain.

Head

Head man's wages 9 *l.*

Next ditto, 7 *l.* 7 *s.*

Boy of 15 years, 5 *l.*

Maids 3 *l.* 3 *s.*

Women *per* day in harvest, 1 *s.*

In hay time 6 *d.* used to be but 4 *d.*

In winter, 4 *d.*

I M P L E M E N T S.

No waggons.

A cart, 7 *l.* 10 *s.*

A wain, 7 *l.* 10 *s.*

A plough, 1 *l.* 15 *s.*

A harrow, 1 *l.* 5 *s.*

A roller, 4 *l.* of wood.

A scythe, 5 *s.*

A spade, 2 *s.* 8 *d.*

The black-smith shoes all the horses,
repairs the plough irons, and all the
cart ditto, for 1 *l.* 1 *s.* *per* horse, *per*
annum.

Shoeing, 2 *s.*

P R O V I S I O N S.

Bread — barley and pease.

Cheese, *per lb.* - - 3 *d.*

Butter, 18 *oz.* - - 6

Beef,

Beef,	- - - - -	3 <i>d.</i> $\frac{1}{2}$
Mutton,	- - - - -	2 $\frac{1}{2}$
Veal,	- - - - -	2
Milk, new, a pint,	-	$\frac{1}{2}$
——, skim, 3 pints,	-	$\frac{1}{2}$
Potatoes,	- - - - -	2 <i>s.</i> a bushel.
Candles,	- - - - -	5 <i>d.</i> $\frac{1}{2}$
Soap,	- - - - -	6 <i>d.</i>
Labourer's house rent,		20 <i>s.</i>
———— firing,	- -	24 <i>s.</i>

Their tools the farmer finds.

B U I L D I N G.

Bricks,	<i>per</i> 1000,	10 <i>s.</i>
Tiles,	- - -	40
Oak timber,	- -	2 <i>per</i> foot.
Ash,	- - -	1
Elm,	- - -	1
A mason <i>per</i> day,	-	1 6 <i>d.</i>
A carpenter,	- -	1 6
A thatcher,	- - -	1 4

Stone walling, dry, that is, without mortar, 4 *d.* a square yard cutting and laying, and 10 *d.* leading.

In mortar, 5 $\frac{1}{2}$ feet high and a yard square, cutting and laying 7 *d.* lime, sand, and leading 2 *s.*

Farm houses of stone, and slate or pantile.

In the parish of *Belford* are

10,600 acres in all

3,300 of ditto moors

400 wood

200 bogs

20 farms, and 600 acres in little
parcels

180 labourers

20 men servants

200 horses (by 20 farmers)

150 oxen

4000 sheep

40 fatting beasts

6 *d.* in the pound rates

£. 3,300 rent.

The town of *Belford*, which is a pretty, well situated place, belongs entirely to *Abraham Dickson, Esq;* That Gentleman's father procured a market and two fairs to be established at it; but the spirited conduct of the present owner is what has brought it to the condition, so flourishing to what it formerly was; thirteen years ago it did not contain above 100 souls, but they now amount to above six times that number: And this increase has been owing to the excellent means of introducing an
industry

industry unknown to former times. Mr. *Dickson* has established a woollen manufacture, which already employs 16 looms, and the spinning business goes on sufficiently to keep them at work; A noble acquisition in a place where a spinning-wheel was not to be seen a few years ago. Another establishment of very great importance, was that of a tannery. The nearest tanners were those at *Berwick* and *Alnwick*: This was an inconvenience and a disadvantage to the neighbourhood; therefore Mr. *Dickson*, at the expence of 700 *l.* fixed a tannery, which now turns out to good account, and is a peculiar benefit to the neighbourhood.

The situation of *Belford*, half way between *Alnwick* and *Berwick*, at the distance of 30 miles, was very advantageous for fixing a good inn, with post-chaises and accommodations for travellers. This, likewise, was executed, and is now found of peculiar use to all travellers, and of benefit to the town.

But as a town without good roads to and from it is of course but in a paltry condition, Mr. *Dickson* applied himself with great spirit to rendering the road to *Bel-*

ford, north and south, as good as possible; this he effected as far as his influence extended, and would not have left a mile of bad road in the whole country, had others been as solicitous as himself about so important an object.

Coals had formerly been raised around *Belford*, but the pits exhausted, and the undertaking discontinued for many years. The common report which this active Gentleman heard on all sides was, that no more coal was advantageously to be had; but common report was not sufficient for him; he tried in several places, and was fortunate enough to find a very beneficial seam, which has been since worked to noble advantage, both to the town and the proprietor.

Discovering of coal, led to the burning of lime for the purposes of agriculture, as a manure, in a much larger way than had been usual; and for this work three new lime-kilns were erected, in a most substantial manner, and at a large expence.

This spirited Gentleman meditates yet greater works: He proposes to establish such manufactures, as may employ all the poor of the country. He designs to build a coal
road

road from his pits to the town, and he conceives some hopes of making *Belford* a port, though at two or three miles distance from the sea; this will be of glorious advantage to the town, and open markets for his coals at present unthought of. In a word, this active genius is daring and comprehensive in his ideas, penetrating and spirited in the execution.

At the same time that he has effected these noble works, he has not been idle in other respects. He has built a very handsome mansion-house for his own residence, raised numerous plantations, and erected seven new farm-houses, with all the necessary offices, the whole substantially of brick and tile.

In the walk of husbandry he has tried some experiments, which deserve attention: Much of his land is so wet as to require draining; his method of doing which is as follows: While the field is in tillage, he marks out the low places, where the water lodges, with sticks, and then, with a plough, throws the land *from* the low space; by beginning at a certain distance, 5 or 6 yards for instance from the bottom of it, and continually turning the

furrows from it, until the plough finishes in the middle, and consequently leaves an open furrow there; by which means a drain is made for the water, which carries it off with a little opening by spades:— And afterwards laying the field down to grass, the land has a fall that keeps it dry.— This method he follows, let the inequality of the surface be what it may; for if in any place the land lies in a round, an oblong, or a serpentine form, the plough moves according to the wave of the land, and always leaves a furrow in the lowest part.

This method of draining must certainly be most effectual in land so retentive of water as to hold it on the side even of an open drain; and when, consequently, the surface must have a fall to carry it off.

In the laying down to grass, Mr. *Dickson* is likewise very attentive to have it done in a neat and masterly manner. Of hay seeds he sows 6 bushels *per* acre, and 8 *lb.* of *Dutch* clover, and also about a tenth of the whole of parsley, for the sake of his sheep. In 1759, four acres were ploughed and sown, half with buck wheat and half with pease, both were ploughed in when in blossom,

blossom, and winter fallowed after, and in the spring sown with grasses alone; five acres adjoining were sown also among barley, and another five, without either corn or manure: The result of this experiment, which was very well imagined, was this, that, from the first year to the present time, no kind of difference has been perceived. That, however, which was sown alone, would, without attention, have proved the worst; for the chick-weed came so strongly, that it threatened to destroy all the grasses; but a dairy of cows being turned in, they eat it up, by which means the grasses rose freely. As that part sown alone, in this experiment, was no better than the other, it is certainly so far conclusive against sowing alone, as a crop of corn is thereby lost, without gaining any thing in return.

Cabbages this Gentleman has also tried, and with great success. In 1766 he had an acre and half on a cold, wet, clay soil: It was well dunged, and ploughed twice: Turneps the preceding crop. The cabbage seed was sown the beginning of *August* the year before, and the plants set out of the bed directly into the field, which

operation was performed from the middle of *March* to the beginning of *April*. The rows were three feet asunder, and two feet from plant to plant, horse-hoed and hand-hoed as the weeds arose. This crop turned out but small in size, but was of excellent use for feeding the cows; they were given with some hay to the milch ones, the leaves stripped off. The butter and milk both exceedingly good, and finely flavoured.

In 1767, the same field was again planted with them; the management, in all respects, as before; the crop little better; but applied to the same use, and with equal success.

In 1768 four acres were planted, after oats; the soil, a rich loamy clay: The stubble was ploughed in, and then the field dunged; after which it was ploughed twice more, and planted, as in the other experiments. Part of the seed was sown before winter, and part in the spring: The cabbages from the former proved much the largest. Many weighed 30, 31, 32, and 33½ lb. the average about 15 lb. a cabbage.

Mr. *Dickson*, upon the whole, commends greatly the culture of this most useful

ful vegetable, for the feeding of milch cows: He is determined to continue the cultivation of them for that purpose, having found them so peculiarly convenient, that a loss of cabbages would, in a great measure, be a loss of the winter's milk.

This Gentleman is also particularly attentive to the management of his fences: His favourite hedge is the holly; he sows the seed in beds, and transplants them into rows for hedges; I measured some, that grew upon a moist soil, six feet high, in six years growth: It is indubitably the first of all fences, grows very thick, close to the ground, and is of so stubborn, prickly a nature, as to be impenetrable by man or beast.

White thorns he transplants at six feet high, and finds them to answer very well.

Upon the whole, Mr. *Dickson* has proved, by the noble and spirited manner in which he has not only increased the number of people on his estate, but advanced their interests; and by the sensible attention he has given to agriculture, that the nation at large, as well as this neighbourhood in particular, are

are greatly indebted to him for his judicious conduct in all matters of rural œconomics.

Mr. *Clarke*, of *Belford*, (one of Mr. *Dickson's* tenants,) is very famous in the North for his knowledge of mechanics. Among other instances of his skill in this branch, his invention of a draining plough, which obtained a premium of 50*l.* from the Society, is one, which has made his name publick in other parts of the kingdom, besides his own neighbourhood.

But the grand machine upon which he most builds his reputation, is that of one for the threshing of corn: How far it will answer has not been tried, because the machine will not be produced until a subscription is filled *.

* The following are his proposals to the public: They certainly merit attention.

PROPOSALS for making by subscription, complete Machines for Threshing CORN.

To the P U B L I C.

OF all the operations of the laudable profession of the husbandman, it is presumed none are performed less to his satisfaction and emolument, none more detrimental to the public, and more oppressive to the poor labourer, than that of threshing corn. The difficulty of finding people disposed to undertake this drudgery, the large expence, and unavoidable waste that attends the present method of threshing corn; and the disappointments that are met with by not having grain ready

Mr. *Clarke's* method of cultivating turneps, is peculiar: He sows them broad

in due time for seed, and other occasions, are losses and embarrassments that the most circumspect farmers hitherto have not been able to prevent; and as corn is not marketable until it is threshed, the public have undoubtedly felt some of the effects of scarcity on that account. The threshers themselves, although near a twentieth of all they thresh is allowed them for their labour, are in general so overwhelmed with poverty and distress of body, that they are of all the honest labourers in the country the most miserable: These facts, taken together, incontestibly prove, beyond the force of custom, ignorance, and malice, that the present method of doing this necessary work, is not only prejudicial to individuals, but also a very great public grievance. And that therefore any contrivance, which would render the labour tolerable, and put it in the power of all occupiers of corn farms to have their corn separated from the straw, in such quantities, and at such times as they think proper, at a moderate expence, cannot but meet with a candid reception.

Cuthbert Clarke, of *Belford*, in the county of *Northumberland*, thinking the above considerations well worthy his intention, has employed his utmost efforts to accommodate the public with machines for the above purpose; and flatters himself, that the machine he has contrived will, upon trial, meet with approbation, as it will make great dispatch, be very simple, commodious, and durable*. And in order to make it come as cheap as possible to the subscribers, he intends to furnish them on the following terms, and free of the common additional expence of a patent.

* It is impossible precisely to compute the time such a machine may last, but in all probability it will thresh annually all the corn produced upon a two hundred pound corn farm, and last thirty years for about ten shillings a year repairs. It may be conveyed any distance by two good carts, and may be placed or set up in two days time, by any country Wright who can follow directions.

east, and cuts them with a horse hoe, without a mold board, into rows, 14 inches afunder, then with hand-hoes he sets them out into squares of 14 inches, and after that, with a double mold board plough, earths them up, and finds the crop much

C O N D I T I O N S.

1. This machine shall, in ten hours, worked by one horse (with a boy to drive, and a man to feed the machine, clear off the straw, &c.) fairly thresh as much corn as what is usually estimated the work of eight men for that time, in the common way of two threshing together.

2. In order that this machine may be both lasting and generally useful, the inventor engages as follows: 1st, That all its parts shall consist of good materials, which shall be duly proportioned to their various uses. 2dly, That the whole process of separating the grain from the straw, shall be rendered so plain and easy, that a common labourer may be trusted with the full management of it. 3dly, That the construction shall be such as may be contained, and conveniently worked within a common barn, with the addition only of a small hovel against one side of it.

3. A trial of one of these machines is intended to be at *Belford* aforesaid, before all, or as many of the subscribers as can attend, within one month after fifty subscriptions are completed, of which particular notice will be given.

4. If at this trial it is fully proved, that the machine answers the conditions before mentioned, and security is given, that each subscriber shall in his turn (according to the method the subscribers appoint for distributing them) have a machine delivered to him, or order, at *Belford*, every way as good as the trial machine; each of the subscribers shall then pay the sum of 5 *l.* in part of 42 *l.* the full consideration-money for one complete

better than in the common method, and the land left in finer order.

An experiment he tried of the effect of electricity on vegetation, deserves attention; he planted two turneps in two boxes, each containing 24 *lb.* of earth: He kept

plete machine. The remainder of the said sum of 42*l.* to be paid at the delivery of each machine, by the person that receives it.

N. B. The inventor having been informed, since proposals for making the abovementioned Machines have been delivered, that many people, whose concerns in the farming-way are small, are very desirous of having machines, for the above purposes, of smaller dimensions and price: He, therefore, to suit them, and others, who rather incline to have small machines, has, upon the same principles, constructed a machine with which two men, without any other assistance, with ease, may in ten hours fairly thresh as much corn as is usually estimated the work of four men for that time, in the common way of two threshing together: And intends to make these smaller machines by subscription, exactly on the same conditions with the large machines, except that the price of them is only to be 22*l.* each, and the part of that sum, which is to be advanced at the trial of the machine (which will be at the same time the large machine is tried) is only to be 3*l.* The small machines, without disengaging any of their parts, may be transported from one place to another; and will probably last as long as the large machines, and may be kept in repair at a proportionable expence.

All Gentlemen, &c. who intend to encourage this design, by subscribing, and have not an opportunity of meeting with the inventor, are desired to acknowledge it by letter (signifying at the same time which of the machines they chuse) directed to him at *Belford*, within four months from the date hereof.

them

them in the same exposure, and all circumstances the same to each, save that one was electrified twice a day, for two months, at the end of which time it was in full growth, the skin bursting, and weighed 9 *lb.* The other, at the end of *four* months, did not quite reach that weight: A strong proof that the electric fire had a remarkable power in promoting and quickening the vegetation.

At *Waren*, near *Belford*, have been some improvements of moor land, which deserve mention. The soil is a black, rotten, boggy, peat earth, lets at 1 *s.* 6 *d.* an acre. They plough it up in *October*, and let it lie all the succeeding summer without touching, and likewise the winter, when they lime it: Of this manure they reckon too much cannot be laid on; generally 10 or 12 fother, at 24 bushels each, which costs 3 *s.* 6 *d.* a fother, besides leading, which is 6 *d.* Some few from 20 to 30. After this liming they cross plough it, and harrow it three or four times; then sow turneps, which, if well sown, want, according to their notions, no hoeing. They are worth, upon a medium, about 50 *s.* *per* acre. After these

these turneps they plough once and sow oats, 4 bushels to the acre, and gain a crop of about 28 or 30. This crop is succeeded by a second of oats, managed as before, and the produce much the same: After this comes a third, as before; but it seldom yields above 20 bushels *per* acre. After this, they fallow and lime it, and sow turneps, which are not worth above 25*s.* an acre. Next comes oats, of which they do not get above 16 bushels; they sow some ray grass, and a few other seeds, which may make the field worth 5 or 6*s.* an acre, for 5 or 6 years: They use it for cows and sheep. A worse system cannot well be conceived.

At *Hetton*, a few miles west of *Belford*, the husbandry varies much. The soils are light loams, and rotten, black, moory land; let from 1*s.* 6*d.* to 15*s.* an acre; average, about 6*s.* 6*d.* Farms rise from 100 to 700*l.* a year, but are, in general, from 2 to 300*l.* Their courses are,

1. Turneps
2. Barley
3. Clover
4. Oats.

And,

1. Fallow

2. Wheat

2. Wheat
3. Pease
4. Wheat.

They plough 6 times for wheat, sow 2 bushels in *October*, and do not reap, in return, above 10, upon an average. For barley, they plough once or twice, sow 3 bushels in *April*, and gain, in return, about 24. For oats, but one ploughing, sow 6 bushels before barley, and reckon the medium crop at 30. For beans, (of which they sow but few,) they plough but once, sow $3\frac{1}{2}$ bushels, broad cast, never hoe them, and gain about 18; use them for horses. For pease, also, one ploughing, sow 4 bushels, and gain 15. They give four earths for turneps, hoe them twice; the medium value *per acre*, 55*s*. they use them for sheep only.

Clover they sow with barley; both mow and feed it: If the former, they get about a ton and half *per acre*.

As to the management of their manure, they stack their hay in general in the farm yard, except what is used for sheep; but know nothing of chopping stubbles for littering the farm yards. They lime a great deal; lay six cart loads on an
acre,

acre, or 120 bushels, which costs 3 s. 9 d. *per* load, besides the leading. In the burning of lime, one load of coal burns two of lime. — They never fold their sheep.

Good grass land lets at 20 s. an acre. They use it chiefly for fattening beasts, 1 $\frac{1}{2}$ acre will fat one of 70 or 80 stone; and an acre feed four sheep. They very seldom manure it.

Their breed of cattle is the short horned, both for fattening and milking. The product of a cow they reckon at 4 l. 4 s. a good one will give five gallons of milk *per* day: They feed them in winter upon both hay and straw; of the first of which a cow eats from 1 $\frac{1}{2}$ to 2 tons, and always feed in a house. Of swine they generally keep one to two cows. Their calves do not suck at all, but are brought up by hand; three months for rearing, and six weeks for the butcher. A dairy maid will take care of 12 cows. The summer joist is 35 s. and the winter's the same.

The profit of fattening an ox of 70 stone they reckon 50 s.

Swine they fat from 10 to 24 stone.

Their flocks of sheep rise from 300 to 2000, and reckon the profit of all sorts,

one with another, at 5*s.* *per* sheep *per annum.* They keep them in winter and spring upon their sheep walks and turneps; of the latter they keep some to the end of *April.* The average weight of fleeces 7 *lb.* and value 7 *d.* *per lb.*

They constantly salve all sheep in *October,* with tar and butter; two gallons of tar and a firkin of butter, melted together, will do 120. They reckon this method keeps them free from the scab, warm in the bad weather, and also makes the wool grow.

In their tillage they reckon 20 horses and as many oxen necessary for the management of 500 acres of arable land; they use in a plough two horses and two oxen, but in some lands only two horses, which do an acre a day in summer, but only three roods in winter: They allow their horses two bushels of oats a week *per* horse, and reckon the annual expence *per* horse at 6 *l.* 6 *s.* The winter food of their oxen is straw and some coarse hay; and they calculate the whole annual expence at less than 50 *s.* but horses are the best, though not in proportion to the expence. The time of breaking up the stubbles for a fallow is the beginning of *March;*

March; and the price *per* acre of ploughing 5*s.* They cut from five inches deep to ten in light loams. They know nothing of cutting straw into chaff. The hire of a cart and three horses is 7*s.* a day.

In the hiring and stocking farms they reckon for the taking one of 500*l.* a year, that from 1500 to 2000*l.* is necessary.

Land sells at 30 years purchase. There are many freeholds from 50 to 300*l.* a year.

Much land in this neighbourhood tythe free.

Poor rates in general low, from nothing up to 2*s.* in the pound. The poor women and children in total idleness. They do not drink tea, but smoke tobacco unconscionably. The farmers carry their corn seven miles.

The general œconomy of the country may be seen from the following particulars of farms :

2500 acres in all
 1250 arable
 1250 grafs
 £.650 rent
 22 horses
 30 mares and foals
 24 oxen

4 cows
 40 fat beasts
 40 young cattle
 2000 sheep
 1 man
 2 maids
 35 labourers
 10 ploughs
 7 carts.

Another,

2500 acres in all
 1000 arable
 1500 grafs
 £. 700 rent
 15 horses
 16 oxen
 7 mares and foals
 12 cows
 45 young cattle
 2000 sheep
 2 men
 2 maids
 20 labourers
 5 ploughs
 6 carts.

Another,

1100 acres in all
 800 arable

300 grafs

300 grafs
 £. 300 rent
 20 horfes
 8 oxen
 5 mares and foals
 6 cows
 50 young cattle
 1000 ſheep
 4 men
 2 boys
 2 maids
 16 labourers
 6 ploughs
 6 carts.

Another,

1000 acres in all
 500 arable
 500 grafs
 £. 320 rent
 14 horfes
 12 oxen
 8 mares and foals
 5 cows
 20 young cattle
 1000 ſheep
 2 men
 2 maids

8 labourers .
 4 ploughs
 4 carts.

Another,

700 acres in all
 500 arable
 200 grafs
 £. 160 rent
 12 horfes
 12 oxen
 6 mares and foals
 6 cows
 20 young cattle
 500 ſheep
 3 men
 1 boy
 2 maids
 10 labourers
 3 ploughs
 3 carts.

Another,

700 acres in all
 100 arable
 600 grafs
 £. 200 rent
 9 horfes
 8 oxen
 3 mares and foals

6 cows

6 cows
 12 young cattle
 700 sheep
 1 man
 2 maids
 6 labourers
 2 ploughs
 2 carts.

Another,

240 acres in all
 30 arable
 210 grafs
 £.75 rent
 3 horses
 5 mares and colts
 4 cows
 6 fattening beasts
 400 sheep
 1 man
 2 maids
 3 labourers
 1 plough
 1 cart.

Their moor husbandry is as follows :
 They plough it up in *October*, four inches
 deep, and let it so remain till the *October*
 following, then they plough it again, and
 summer fallow the land, and lime it, the

quantity before mentioned, and sow turneps; the crop of which are worth, upon an average, about 50 s. to 3 l. an acre upon dry land: After these they sow oats, and get about 40 bushels *per* acre, and with them sow down with ray grass, three bushels *per* acre; after which the land would lett for 4 s. 6 d. *per* acre, and will last seven years. After this they break it up again, and take two crops of oats and turneps, but not near so good as at first; then they lay it down again. This process is upon dry soils; if they are wet, they do not think them worth meddling with.

Mr. *John Wilkie*, of *Hetton*, one of the most considerable farmers in this county, has tried carrots with success; he sows them the end of *March*, on a light loam, hoes them twice, to the distance of five inches asunder: They grow to the size of a man's wrist, and 12 inches long; all cattle are very fond of them, particularly hogs. Mr. *Wilkie* has found them extremely profitable.

L A B O U R.

In harvest, 1s. 6d.

In hay time, 1s. and ale.

In

In winter, 9*d.*
 Mowing grafs, 2*s.*
 Hoeing turneps, 4*s.* 6*d.*
 New ditching, 1*s.* 2*d.* a rood.
 Thrashing, the 25th.
 Headman's wages, 10*l.*
 Next ditto, 7*l.*
 Lad of 10 or 12 years, 5*l.*
 Maids, 50*s.*
 Women *per* day in harvest, 1*s.*
 In hay time, 6*d.*
 In winter, 4*d.*

I M P L E M E N T S.

No waggons.
 A cart, 7*l.* 7*s.*
 A plough, 1*l.* 8*s.*
 A harrow, 1*l.* 1*s.*
 A roller 5*l.*
 A scythe, 3*s.*
 A spade, 3*s.* 6*d.*
 The laying the shares and coulter, and
 keeping the ploughs, &c. in order,
 also the carts, and shoeing the horses,
 the blacksmiths do for 20*s.* a horse, and
 the iron: If iron not found, 40*s.*

P R O-

P R O V I S I O N S.

Bread—barley and pease.

Cheese, 2*d.*

Butter, 5*d.* 16 *oz.*

Beef, 3*d.*

Mutton, 2½*d.*

Veal, 2*d.*

Pork, 3*d.*

Milk, ½*d.* a quart.

Potatoes, 1*s.* 2*d.* a bushel.

Candles, 6*d.*

Soap, 6*d.*

Labourer's house rent, 10*s.*

———Firing, 15*s.*

———Tools all found.

B U I L D I N G.

Bricks, 10*s.*

Tiles, 40*s.*

Oak, 1*s.* 6*d.*

Ash, 1*s.*

Mason *per* day, 1*s.* 6*d.*

Carpenter, 1*s.* 6*d.*

Thatcher, 1*s.* 6*d.*

Farm houses of stone.

From *Belford* to *Berwick* land letts upon an average at 12s. an acre, farms from 100*l.* to 500*l.* a year. Their wheat crops amount to 24 bushels *per* acre on a medium; barley 36, and oats as much. *Berwick* has nothing more worthy notice than its bridge over the *Tweed*.

P R O V I S I O N S.

Bread, 10 oz. wheaten,	-	-	1 d.
Other ditto, 14 oz.	-	-	1
Butter, 18 oz.	-	-	6
Mutton,	-	-	2 $\frac{1}{2}$
Beef,	-	-	3 $\frac{1}{2}$
Milk, <i>per</i> pint,	-	-	$\frac{1}{2}$
Potatoes, <i>per</i> bushel,	-	-	2 s.
Candles,	-	-	5 $\frac{1}{2}$
Soap,	-	-	6
Labourer's house-rent,	-	20 s.	
———— firing,	-	25 s.	
Labour as at <i>Belford</i> .			

From *Berwick* to *Wooller* land letts upon an average at 9 s. *per* acre; farms from 200*l.* to 1000*l.* a year.

About *Fenton*, near *Woller*, the soil in the vales is a sandy loam of 2 feet depth, but upon the higher lands it is not more than

than from 3 to 6 inches deep. Letts from 2 s. 6 d. to 12 s. and some to 20 s. an acre.

Farms from 100 l. to 2000 l. a year.

Their courses are,

1. Turneps
2. Barley
3. Oats
4. Pease
5. Wheat

Also,

1. Fallow
2. Rye
3. Oats.
4. Oats.

And,

1. Turneps
2. Barley
3. Pease
4. Wheat.

This is a very good course.

They stir for wheat three or four times, sow 3 bushels in *October*, and reap upon an average 3 quarters. For barley they plough once, sow 3 bushels and $\frac{1}{2}$ about the middle of *April*; and reckon the mean produce at 3 quarters and $\frac{1}{2}$.

For

For oats they plough but once, sow six bushels before barley, and gain, in return, from four to six quarters. Beans and pease they mix, and sow of them four bushels on one ploughing, broad cast; never hoe them; the crop about 25 bushels. For pease they give but one ploughing, sow three bushels and a half, and get 20 in return. For rye, after turneps, they plough but once, after a fallow three or four times, sow two bushels, and get 30. They stir for turneps three or four times, hoe once, in common, and sometimes twice; the average value *per* acre, 50*s*. They use them chiefly for feeding sheep.

Clover they sow with barley, and mow it for hay, of which they get about two tons *per* acre; and sow oats after.

In the management of their manure in the farm-yard, they have only such as they make from feeding their hay and straw, as they stack the former not in the fields, but in the farm yards. They know nothing of chopping stubbles, Of lime they lay from three to eight loads, 30 bushels each; it costs 4*s*. a load, besides the leading. They never fold their sheep.

Good grass land lets at 20*s*. an acre;
they

they apply it chiefly to breeding. An acre and a half will feed a cow, and one acre keep four sheep: They never manure it. The breed of their cattle is the short horned, which they prefer to any other; their oxen are very large, fat to 150 stone. They reckon the product of a cow at 3*l*. They give about four gallons of milk *per* day: They keep about two pigs to a cow. The winter food of their cows, straw and hay; of the latter of which they generally eat about two tons each. The winter joist is 25*s*. and the summer, 30. They do not let their calves suck at all, but feed them by hand, from three to five weeks, for the butcher, but half a year for rearing. They keep their cows all winter in the house.

Their flocks of sheep rise from 500 to 10,000; and the profit of them they calculate at 8*s*. in the vales, and 3*s*. upon the hills. The winter and spring food are the commons; but they give some hay in very stormy weather: The weight of the fleeces from 3 to 7*lb*. in the vales, and from 2 to 4 on the hills, and from 6*d*. to 9*d*. price.

Very large stocks of ewes are milked after the lambs are weaned, for from 6 to

10 weeks : They make the milk into butter and cheefe, the amount of both which may amount to about 2 s. a head : The butter is all used in salving them; the cheefe sells so high as 4 d. a pound. The hinds wives milk them. This is but a paltry affair.

In their tillage they reckon 20 horses and 16 oxen necessary for the management of 500 acres of arable land; their draught 2 horses and 2 oxen, which does an acre a day. Their allowance of oats *per* day is $\frac{1}{2}$ a peck, and they reckon the annual expence of a horse at 5 l. The summer joist of a horse is 25 s. The winter food of the draught oxen, straw and hay, but never work on straw alone : They prefer horses so much that oxen are going out of use by degrees. The time of breaking up their stubbles is at *Candlemas*; from 4 to 7 inches deep; the price of ploughing from 3 s. 6 d. to 5 s. And that of a cart, three horses, and driver, 4 s.

They know nothing of cutting straw into chaff.

They calculate, that a man who hires a farm of 500 l. a year, should have from 2 to 3000 l.

Land sells at 30 years purchase: Very few small estates.

Tythes in general compounded.

It is not the custom for the farmers to raise any thing, by way of rate, for the maintenance of their poor, but each keeps his own share: As to the expence, it scarcely amounts to a farthing in the pound. The poor women and children have no employment. They are not tea drinkers, but smoke tobacco immoderately.

The farmers carry their corn eight miles.

The œconomy of their farms may be seen from the following sketches.

6000 acres in all
 2000 arable
 4000 grass
 £. 1050 rent
 100 horses
 80 oxen
 30 cows
 200 young cattle
 8000 sheep
 12 men
 6 boys
 6 maids
 80 labourers
 15 ploughs
 20 carts.

Another,

Another,

5000 acres in all

1500 arable

3500 grafs

£. 1500 rent

80 horfes

60 oxen

30 cows

150 young cattle

3000 ſheep

3 men

3 boys

4 maids

50 labourers

15 ploughs

20 carts.

Another,

2000 acres in all

500 arable

1500 grafs

£. 700 rent

20 horfes

20 oxen

20 cows

80 young cattle

2000 ſheep

2 men

2 boys

2 maids
 25 labourers
 8 ploughs
 10 carts.

Another,

1000 acres in all
 400 arable
 600 grafs
 £. 500 rent
 20 horses
 16 oxen
 8 cows
 60 young cattle
 800 sheep
 3 men
 3 boys
 2 maids
 16 labourers
 1 waggon
 7 carts
 8 ploughs,

L A B O U R.

In harvest, 1s. 6d.

In hay-time, 1s. 6d.

In winter, 1s.

Mowing grafs, 1s. 4d. to 1s. 6d.

Hoeing

Hoeing turneps, 3*s.* to 6*s.*

Threshing, the 25th part.

Head man's wages, 8*l.*

Next ditto, 6*l.*

Boy of 10 or 12 years, 3*l.*

Maids, 50*s.* to 3*l.*

Women *per* day, in harvest, 8*d.* to 1*s.*

In hay-time, 4*d.*

In winter, 4*d.*

But I should here remark, that some of these prices respect only the hands which do not belong to the village; for their own labourers are not paid in money, but in what is called here *boll and stent*: That is, the farmer pays as follows. He keeps the man two cows; allows him 66 bushels of grain of all sorts; one stone of wool, (24*lb.* to the stone;) leads his coals; finds him a house; half a rood of land for potatoes; keeps him a hog, and sows half a peck of flax for him: The wife has 5*s.* for her hay and harvest; and a boy, when of 12 years of age, 30 bushels of corn.

I M P L E M E N T S.

A waggon, 18*l.*

A cart, 7*l.*

A plough, 1*l.* 8*s.*

A harrow, 18 s.
 A roller, 3 l.
 A scythe, 2 s. 6 d.
 A spade, 3 s. 6 d.
 Laying a share, 4 d.
 ——— a coulter, 4 d.
 Shoeing, 1 s. 4 d.

P R O V I S I O N S.

Bread — pease and barley.
 Cheefe, 2 $\frac{1}{2}$ d.
 Butter, 5 d. 16 oz.
 Beef, 3 d.
 Mutton, 3 d.
 Veal, 2 d.
 Pork, 3 d.
 Milk, $\frac{1}{2}$ three pints.
 Potatoes, 3 d. a peck.
 Candles, 6 d. $\frac{1}{2}$ per lb.
 Soap, 6 $\frac{1}{2}$ d.
 Labourer's house-rent, 9 to 12 s.
 ——— firing, 20 s.
 ——— Tools found by the farmer.

B U I L D I N G.

Bricks, 12 s. 6 d. and vile.
 Tiles, 45 s.

Oak timber, 2 s. *per* foot.

Ash, 1 s.

Mason *per* day, 1 s. 6 d.

Carpenter, ditto.

Farm-houses of stone and tile.

In the township of *Fenton* are

1600 acres

2 farms

1000 acres sheep-walk

30 labourers

34 horses

30 oxen

46 cows

1150 sheep.

From *Wooller* I turned aside to go up *Cheviot Hill*, whose towering head invited me to the prospect, which I could not but suppose he must command. The height of this mountain is prodigiously great, and the view from it on all sides most extensive. I saw *Gateshead Fell*, near *Newcastle*, at the distance of 55 miles, and several objects in *Scotland*, beyond *Edinburgh*, as I was told.

Between *Wooller* and *Rothbury*, and also between *Alnwick* and *Rothbury*, are vast tracks of mountainous moors: indeed all the latter fifteen miles are absolutely un-

cultivated, except half a mile of inclosed valley about half way: The ling in vast tracks, high, thick, and luxuriant, and the soil a fine light loam: In some places black, but every where deep. I do not conceive that there is an acre of it, but what might be made, at a small expence, worth 8 or 10 s. for ever. What a field for improvement! What a noble source of riches and population! How much is it to be regretted that such extensive tracks of land should remain in such a desolate condition, whilst the products of the earth sell at a beneficial price; and while we hear such clamours among the people for want of a greater plenty of food.

About *Rothbury* the soil is both gravel, clay, sand, and moory; the inclosures let at 20 s. an acre; the moors at 1 s. and afterwards at 2 s. 6 d. and more.

Farms rise from 50 l. to 150 l. a year.

The courses :

1. Fallow
2. Wheat
3. Barley
4. Oats.

And,

And,

1. Turneps fed off for
2. Wheat
3. Barley
4. Oats.

Also,

1. Turneps
2. Barley
3. Oats
4. Oats.

For wheat after turneps they plough but twice ; after fallow three or four times ; sow two bushels an acre in *October* and *November*, and reap from sixteen to twenty. For barley they stir twice, sow three bushels the end of *April* or the beginning of *May*, and reckon the average produce twenty-four bushels. They plough but once for oats, sow six bushels, before barley, and gain in return from forty to sixty. For pease they give but one ploughing, sow two bushels, before barley, and get, upon an average, about ten bushels. They stir three or four times for rye, sow two bushels, and reap twenty.

For turneps they plough thrice, hoe them twice, and reckon the mean value *per acre* at 3*l.* use them for sheep and
G 4
beasts.

beasts. Potatoes they prepare for by both ploughing and digging; if the former, they stir three times, and manure the land well: They lay the slices in the furrows, and hand-hoe them as the weeds rise, once or twice: They get eighty bushels off an acre, and reckon the crop very profitable: Wheat or barley after them.

Their chief manure is liming; they lay five load *per* acre, at twenty-four bushels *per* load, and generally on the fallow for turneps or wheat. Their hay they stack at home. Though improvers of moors, yet they know little of the paring and burning husbandry.

Good grafs will let for a guinea an acre: They use it more for fattening beasts than for feeding cows: One acre of good grafs will carry a cow through the summer, or four sheep. The breed of cattle is the short horns, of which they feed oxen from 60 to 120 stone.

They reckon the product of a cow at 4*l.* 10*s.* or 5*l.* and expect two firkins and a half of butter from each upon an average. A good one will give six or seven gallons of milk *per* day: One kept by Mr. Whittam, when he lived near Rothbury,

bury, gave in common 24 gallons a-day : A fact I much doubted, until the person who gave me the intelligence called in two or three persons to vouch for the truth of it. They keep about two pigs to five or six cows. The winter food is hay and straw, of the former about half an acre. The calves never suck at all, but are brought up by hand ; for the butcher three weeks, and for rearing three months.

Their flocks of sheep rise from 40 without right of commonage, to 4000 with ; and they reckon the profit at 7*s.* a-head ; their common winter food is on the moors, but in deep snows they give them hay. Their fleeces run from 3 to 6*lb.*

In their tillage they calculate four horses and four oxen necessary for the culture of 100 acres of arable land. They use two horses and two oxen in a plough, sometimes only two horses, and do from half to three quarters of an acre a-day. They allow their horses three gallons of oats *per* week ; and reckon the annual expence *per* horse at 6*l.* Their draught oxen they feed on straw and hay in the winter. Horses they expect will do more than oxen, but the latter are much the cheapest.

They

They break up their stubbles for a fallow in *May*. The price of ploughing is 3 *s.* 6 *d.* an acre, and the depth five inches. The hire of a cart for carrying coals is 5 *s.* a day, for working in the roads 3 *s.*

In the hiring and stocking of farms, they reckon that 350 *l.* is necessary to stock one of 100 *l.* a year.

Tythes are generally compounded for in the total. Poor rates from 1 *s.* to 1 *s.* 10 *d.* in the pound. The employment of the women and children is chiefly spinning wool.

The farmers carry their corn 17 miles.

The general œconomy of the country will appear from the following particulars of farms :

450 acres in all.

250 arable.

200 grafs.

£. 180 rent.

9 horses

8 oxen

15 cows

20 young cattle

1000 sheep

1 man

3 boys

4 maids

4 maids
2 labourers.

Another,

200 acres in all
80 arable
120 grafs
£.70 rent
4 horfes
2 oxen
10 cows
8 young cattle
200 ſheep
1 man
1 boy
1 maid
1 labourer.

Another,

130 acres in all
90 grafs
40 arable
£.35 rent
5 cows
4 horfes
4 young cattle
100 ſheep
1 boy
1 maid
1 labourer.

Another,

Another,

100 acres in all

50 grafs

50 arable

£. 30 rent

4 horfes

2 oxen

4 cows

8 young cattle

50 ſheep

1 man

1 boy

1 maid.

L A B O U R.

In harveſt, 1s. 4d. and 1s. 6d. and a dinner.

In hay time, 1s. dinner and beer.

In winter, 1s.

Thraſhing, the 19th of all grain.

Head man's wages, 12l.

Next ditto, 8l.

Boy of 10 or 12 years, 3l.

Maids, 3l. and 3l. 10s.

Women *per* day in harveſt, 10d. and 1s.
and dinner.

In hay time, 6d. and dinner.

In winter, 4d.

P R O V I S I O N S, &c.

- Bread—Barley and pease
 Cheese, *per lb.* 2 $\frac{1}{2}$ *d.*
 Butter, 5 *d.* 16 *oz.*
 Beef, 4 *d.*
 Mutton, 3 *d.*
 Veal, 2 *d.* and 2 $\frac{1}{2}$ *d.*
 Pork, 3 $\frac{1}{2}$ *d.*
 Milk, a pint, $\frac{1}{2}$
 Potatoes, 1 *s.* 12 quarts.
 Candles, 7 *d.*
 Soap, 7 *d.*
 Labourer's house rent, 10 *s.* to 20 *s.*
 ——— firing, 20 *s.*

I M P L E M E N T S.

- No waggons.
 A cart, 5 *l.*
 A plough, 17 *s.*
 A harrow, 10 *s.*
 A scythe, 2 *s.* 8 *d.*
 A spade, 3 *s.* 6 *d.*
 Laying a share and coulter, 8 *d.*
 Shoeing, 1 *s.* 4 *d.*

B U I L D I N G.

- Oak timber, 1 *s.* 8 *d.* *per foot*
 Ash, 1 *s.* 6 *d.*

Elm,

Elm, 1 s. 6 d.

A mason, *per* day, 1 s. 6 d.

A carpenter, 1 s. 6 d.

Farm houses of stone.

From *Rothbury* I took the road to *Wol-
lington*; the soil various, much uncultiva-
ted, though not so desert a track as the
last. A few miles before *Cambo*, there is
a very fine new-made lake of Sir *Walter
Blackett's*, surrounded by young planta-
tions, which is a noble water; the bends
and curves of the bank are bold and natu-
ral, and when the trees get up, the whole
spot will be remarkably beautiful.

About *Cambo* the soil is chiefly clay and
moory land, lets from 10s. to 20s. an acre.
Farms from 30*l.* to 100*l.* a year. Their
courses are,

1. Fallow
2. Barley
3. Oats
4. Oats.

And,

1. Fallow
2. Wheat
3. Oats
4. Oats.

Also,

Also,

1. Fallow
2. Rye
3. Oats.

But not often three crops to a fallow, upon the whole.

They plough four times for wheat, sow three bushels in *October* and beginning of *November*, and reap about 24.

For barley, they stir four times, sow from four to five bushels in *April*, and reckon the average produce at 35.

They stir but once for oats, sow 7 bushels after barley sowing, and get upon a medium about 50 bushels.

For rye they plough four times, sow three bushels and half (a vast quantity) and reap upon a medium 18 bushels.

They give four earths for turneps, hoe them but once; and reckon the average value at 3*l.* per acre: Use them for sheep, beasts and cows.

Lime is their principal manure, lay a fother or ton per acre, that is, 24 bushels, on fallow; the cost 2*s.* 6*d.* Their hay they stack at home.

Good grass land lets at from 20*s.* to 25*s.* an acre; they apply it chiefly to the

the dairy; an acre and half they calculate as a cow's summer feed. Their breed of cattle is the middling, between the long and short horned: Their oxen they fat up from 50 to 100 stone, but generally 60.

They value the product of a cow at 4 *l.* 10*s.* or 5 *l.* feed them in winter on hay and straw; of the former of which they eat about an acre and half, and always in a house. They keep three or four swine to ten cows. Their calves suck some three weeks or a month, and some not at all.

Their swine they fat from 20 to 30 stone.

About *Cambo* they keep no sheep, upon account of the white-thorn hedges in their new inclosures; but within a mile or two from 100 to 1000; the profit they reckon at 8 *s.* *per* sheep: Keep them both winter and spring on the commons.

They calculate that six horses and six oxen are requisite for the culture of 100 acres of arable. They use three horses in a plough, or two horses and two oxen, and do three roods a day. Their allowance of oats is two bushels of oats *per* horse *per* week; and reckon the annual expence at 6 *l.* 10*s.* The time of breaking up their
their

their stubbles for a fallow is in *March* or *April*. The price of ploughing 3 *s.* an acre, and the depth five inches. The hire of a cart, three horses, and a driver, is 3 *s.* a day.

They reckon that a man should be worth 300*l.* who hires a farm of 100*l.* a year.

Tythes are taken in kind.

Poor rates 6 *d.* in the pound; their employment knitting and spinning.

Twenty-one miles is the distance the farmers carry their corn.

The following sketches of farms will shew the general œconomy of the country.

200 acres in all

150 arable

50 grass

£. 100 rent

8 horses

8 oxen

12 cows

20 young cattle

1 man

2 boys

1 maid

2 labourers.

Another,

300 acres in all

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H

150 arable

150 arable
 150 grafs
 £. 140 rent
 10 horfes
 8 oxen
 20 cows
 20 young cattle
 2 men
 2 boys
 2 maids
 3 labourers.

Another,

90 acres in all
 40 arable
 50 grafs
 £. 50 rent
 4 horfes
 2 oxen
 5 cows
 6 young cattle
 1 boy
 1 maid
 1 labourer.

L A B O U R.

In harvest, 1s. and board.

In hay time, ditto.

In winter, 8d. and 10d. and ditto.

Headman's wages, 12 l.

Next

Next ditto, 8 *l.*

Boy of ten or twelve years, 3 *l.*

Maids, 3 *l.* to 5 *l.*

Women *per* day in harvest, 1 *s.* and dinner.

In hay time, 8 *d.* and ditto.

In winter, 6 *d.*

I M P L E M E N T S.

No waggons.

A cart, 7 *l.* 10 *s.*

A plough, 20 *s.*

A harrow, 12 *s.*

A scythe, 2 *s.* 6 *d.* to 4 *s.*

A spade, 3 *s.* 6 *d.*

Laying a share and coulter, 4 *d.* and iron.

Shoeing, 6 *d.* and iron.

P R O V I S I O N S, &c.

Bread—rye, maslin, and barley.

Cheese, 2 *d.*

Butter, 6 $\frac{1}{2}$ *d.* 21 *oz.*

Beef, 3 *d.*

Mutton, 3 *d.*

Milk, $\frac{1}{2}$ *d.* three pints.

Potatoes, 1 *s.* 6 *d.* a bushel.

Labourers house rent, from 5 *s.* to 15 *s.*

~~_____~~ firing, 16 *s.*

Wallington, the seat of Sir *Walter Blac-kett*, is a large handsome house, which appears, from the disposition of the apartments, to be very convenient. We were shewn first into some common keeping ones, a library, dining parlour, &c. in which I remarked a piece of dead game, by *Hubener*, that was well done; and another of dancing dogs, grotesque enough. In the dining-room, of 40 by 21, the chimney-piece of white marble is handsome; the cieling of stucco work in scrolls, very light and pretty. Here is also another piece of dead game by *Hubener*, some of it well executed; and at the other end of the room the *portrait of a bat and ruffles*. Likewise a needlework screen of tent stitch, very elegant.

The saloon, 40 by 22, and a good height; a most elegantly proportioned room. The cieling and the whole very neatly worked in stucco: The former coved, the center an oblong of mosaics; and the cove, scrolls and festoons. The chimney-piece handsome, of statuary marble polished; in the center, boys gathering grapes, in relievo. The furniture of this room is very elegant. There are two
 slabs

slabs of very beautifully veined marble, or composition; and under them very fine china jars. In one corner of the room is a noble china cistern. The two girandoles of gilt carving, for several candles, are exceedingly light and elegant; and the china jars on the chimney-piece, very fine.

The drawing-room, 34 by 22, hung with silk and worsted crimson damask. The ceiling ornamented in stucco, with light scrolls, surrounding a center of boys emptying a *Cornucopia*. The chimney-piece of polished white marble, with festoons of grapes, &c. Over it a landscape, architecture, and trees, in a light, glowing, brilliant stile; extremely pleasing, though not perfectly natural. Slabs very elegant, the glasses large, and the frames of both very neatly carved and gilt.

A dressing-room, 21 square; and a bed-chamber, 22 by 21.

The new kitchen gardens are excellently disposed, kept in admirable garden husbandry, and the conveniency of water very great. The gardener's house is pleasantly situated on the banks of the river; and, from several very neat bow window rooms,

an agreeable view of three water-falls in the river.

It will not here be impertinent to add, that Sir *Walter Blacket's* is the only place I have viewed, as a stranger, where no fees were taken.

The roads through Sir *Walter's* estate, which is of very great extent, are excellent; a piece of magnificence which cannot be too much praised. The country is all newly inclosed, and Sir *Walter's* hedges remarkably good; he seems very attentive to raise fine fences, for the white thorns are very regular, luxuriant, and kept perfectly clean from weeds. From *Wallington* to *Choleford Bridge* land lets from 10 s. to 20 s. an acre; farms from 100 l. to 400 l. a year.

From the latter place to *Glenwelt*, the country is all moor, but of an excellent soil: And, what is astonishing, vast tracts of *level valley*, not *gills*, as they are called in the North; that is, narrow separations between the mountains, without level ground: And these breadths of flat soil are of an extraordinary depth and richness, and evidently want nothing but inclosing and draining to be made at once worth

30s. an acre; nor are these low lands of any trifling extent, but amount in quantity to some thousands of acres. It is amazing, that in a country, in which a free exportation of corn *was* allowed for so many years, such tracts of land should remain in so desert a state. What infatuation in the superior sort of cultivators, to pay so high for land, in so many parts of the kingdom, while such fertile wastes remain uncultivated. Great part of this country is a green sward, or what in *Yorkshire* is called *White Land*.

About *Glenwelt* the soil is chiefly of three sorts, sand, gravel, and clay; lets from 5*l.* to 20*l.* an acre; and farms rise from 10*l.* to 50*l.* a year. Their courses are,

1. Fallow
2. Wheat
3. Barley
4. Oats.

And,

1. Fallow
2. Barley
3. Wheat
4. Oats.

Also,

1. Turneps
2. Barley
3. Oats.

They plough four or five times for wheat, sow three bushels either in *September*, *October*, or *November*; and reap at an average thirty bushels. For barley they stir two or three times, sow three bushels about the end of *April*, or the beginning of *May*, and get at a medium four quarters. They give but one ploughing for oats, sow six bushels before barley sowing, and get ninety bushels at a medium. For beans they plough but once after barley, sow five or six bushels before oats, never hoe, and get on good land so high as seventy bushels: They use them for horses, and some the poor grind for bread. They give but one stirring for pease, sow five bushels about the time of beans; and as to crop, sometimes they get thirty bushels, and at others not the seed.

They sow but little rye—the culture is to plough four times, sow two bushels and a half, and the crop does not, upon an average, exceed 35 bushels.

Turneps

Turneps are not much cultivated; but they plough five times for them, hoe them once, the average value *per* acre 50 s. and use them for oxen and sheep.

Clover they sow with barley; generally mow it twice for hay, get two tons and a quarter, and sow wheat after it.

For potatoes they plough four times, dung the land at the rate of twelve loads of long horse dung, laying it in the furrows, and the slices on it; twenty bushels plant an acre in rows, one foot asunder every way: They hoe them twice, and reckon the crop in general from 200 to 240 bushels. They sow wheat or barley after them; but the land is in excellent order for any thing.

Lime is their principal manure; they lay about 100 bushels *per* acre upon every fallow, which cost about 20 s. They have some little paring and burning.—No folding of sheep. They stack their hay both in the field and at home.—No chopping of stubbles.

Good grass lets at 20 s. They use it both for fattening and milking, and reckon that an acre will carry a cow through summer, or five sheep; but they are tolerably careful in manuring it.

Their

Their breed of cattle is between the long and short horns; the oxen fat to 50 stone; and they reckon the product of a cow at 4*l.* they reckon that each makes three firkins of butter, and gives four gallons of milk a day; but nine gallons has been known. They keep very few swine to their cows, some none at all, others two, three, or four, to twelve cows. Their winter food hay and straw, of the first of which they generally eat a ton. The calves do not suck at all to rear, but for the butcher a month or five weeks. A dairy maid can take care of ten. The winter joist 30*s.* and the summer the same. They keep them all winter in the house.

Their flocks rise from 20 to 500, and they calculate the profit of them at 5*s.* a head. Their winter and spring food the commons alone; and the weight of their fleeces on an average not above 3*lb.*

They reckon four oxen and four horses necessary for the culture of 100 acres of arable land; use two of each in a plough, and do an acre a day: They allow each horse two bushels of oats a week; and reckon the annual expence of keeping, &c. at 10*l.* The summer joist is 3*l.* The winter food of their draught oxen is hay and straw, but they work them on straw alone:
They

They reckon oxen much the best on stoney and on unlevel ground; but on other land horses. The time of breaking up their stubbles for a fallow is at *Candlemas*: Their depth of ploughing four inches, and 6 s. the hire *per acre*. That of a cart and horses 3 s. 6 d.

They reckon 400 l. necessary for the stocking a farm of 100 l. a year.

Land sells at from 30 to 40 years purchase. Many estates from small rents to 100 l. or 200 l. a year.

Poor rates 1 s. 6 d. in the pound. The employment spinning and knitting,—Very few drink tea.

The farmers carry their corn nine miles.

The general œconomy of the country will partly appear from the following particulars,

130 acres in all
 60 arable
 £.60 rent
 3 horses
 3 oxen
 9 cows
 20 young cattle
 3 fatting beasts
 100 sheep

1 man

1 man
 1 boy
 1 maid.

Another,

200 acres in all
 80 arable
 120 grafs
 £. 80 rent
 4 horfes
 4 oxen
 10 cows
 22 young cattle
 105 fattening beafts
 300 ſheep
 2 men
 1 boy
 2 maids.

Another,

80 acres in all
 20 arable
 60 grafs
 £. 35 rent
 3 horfes
 5 cows
 2 young cattle
 20 ſheep
 1 boy
 1 maid.

L A B O U R.

In harvest, 8 *d.* and board.

In hay time, 6 *d.* ditto.

In winter, ditto.

Thrashing, the 20th.

Head-man's wages, 10 *l.*

Next ditto, 6 *l.*

Boy of ten or twelve years, 20 *s.*

A dairy maid, 5 *l.*

Other maids, 4 *l.*

Women *per* day in harvest, 8 *d.* and board.

In hay time, 6 *d.* and ditto.

In winter, 4 *d.* and ditto.

I M P L E M E N T S.

No waggons.

A one horse cart, 3 *l.* 10 *s.*

A plough, 25 *s.*

A harrow, 7 *s.* 6 *d.*

No rollers.

A scythe, 4 *s.* 6 *d.*

A spade, 3 *s.*

Laying a share and coulter, 6 *d.* and iron:

Shoeing, 2 *s.*

P R O V I S I O N S, &c.

Bread—barley and pease and beans, and
oatmeal.

Cheese, 2*d.*

Butter, 16 oz. 6*d.*

Beef, 3*d.*

Mutton, 2 $\frac{1}{2}$ *d.*

Veal, 2*d.*

Pork, 3*d.*

Milk, $\frac{1}{2}$ pint, new.

Potatoes, 6 gallons, 8*d.*

Candles, 6*d.*

Soap, 5 $\frac{1}{2}$ *d.*

Labourer's house rent, 10*s.* to 20*s.*

— firing, 10*s.*

B U I L D I N G.

Oak timber, 1*s.* to 2*s.* 6*d.* per foot.

Ash, ditto.

Elm, ditto.

A mason per day, 1*s.* 6*d.*

A carpenter, 1*s.* 6*d.*

A thatcher, 1*s.* and board.

Stone walling 4*s.* 6*d.* a rood building, and
from 1*s.* to 2*s.* 6*d.* cutting; the com-
mon height seven quarters.

Some

Some moor land is every year inclosed and improved in this neighbourhood: Their method is to plough it up in winter, to fallow it the succeeding summer, and lay 90 or 100 bushels of lime *per* acre; they sow rye upon it, and get 50 or 60 bushels *per* acre: Then a second crop of rye, of 35 or 40 bushels: Next oats, of which they have 60 or 70 bushels; with this crop some throw in a few grass seeds, but the most common method is to leave it to turf itself. They pay no rent of such land for the first seven years, but 10 s. an acre afterwards, for 21 years, or any other time.

Some pare and burn, but the number very few: They sow rye twice, and oats as in the other method: The crops of corn are better in the paring and burning, but they reckon the succeeding grass not so good. They always inclose before this improvement, as it is called.

Much of their moory soil is the black rotten mossy land; but some of it white land, which is very good. The boggy parts they cut a few open drains through, to better the herbage, by laying it a little dry, but never attempt any other improvement. In many of these moors the soil is very deep,

deep, but in some places shallow, with the rock near the surface.

From *Glenwelt* I walked about half a mile to view some of the remnants of the famous *Roman* wall: The most perfect remain of it is on the edge of a rocky precipice, a piece about five feet high, and several yards long; the facing is of regularly cut free stones, but I measured none of them above thirteen inches long and seven broad; the mortar in the facing is quite gone, but much of it remains in the middle, the filling up; very little of it is of that hard nature found in some ancient buildings, but crumbles with ease between the fingers. The stones of the facing are cut very regularly, and well laid; the workmanship undoubtedly very good. Not far from this wall the remains of an earth entrenchment, thrown up for the same purpose, are seen in a parallel line with it.

North from *Glenwelt*, about five miles on the river *Arden*, is a natural curiosity, very well worth viewing: It is a very fine rock of petrified moss. A dripping stream falls over a rock hung thick with moss, which petrifies, and is taken from the rock in that state: It is soft at first, but hardens
upon

upon being dry, and remains in stone in a most beautiful pierced form. The rock itself is extremely beautiful, and hangs over your head in a picturesque grotto stile, quite romantic.

As I enter *Cumberland* to-morrow, you must permit me to conclude this letter with a few remarks on the husbandry in general of the extensive county of *Northumberland*.

The farms become large almost immediately on entering it, after the small ones of *Yorkshire* and *Durham*; and rise in many parts of it to be as great as any in the kingdom, if not the greatest; but they must be divided into two classes, those which consist of cultivated lands, and others which are chiefly moor farms:

The husbandry of the first is much superior to that of the two preceding counties; and that not only in one or two trifling articles, but in many very important ones. Manuring is carried on with greater spirit; lime is used in larger quantities; and they understand better the management of the farm-yard manure.—Hoeing of turneps is a pregnant instance; I found it coming into practice at *Gosworth*, and all hoed about *Morpeth*. The potatoe culture is car-

ried on upon a much larger scale : And, in short, the whole management better, and more spirited.

With the other class, this is not the case : The grand article of their agriculture is the improvement of moors ; and a viler or more slovenly husbandry than theirs, in this branch, can no where be found. The ploughing up wastes, without a previous inclosure, and breaking up the deepest soils, without paring and burning ; — the sowing two, three, and even four crops of corn running, upon a ploughing up, and liming ; — the leaving the exhausted soil to turf itself, in some places, and only scattering a little ray grass in others ; — the keeping 8 and 10,000 sheep, and never folding : — All these are strokes of barbarism, which tend to damp and even extinguish the spirit of improvement, from the infallible want of success, and to the leaving a country, after what is here called improvement, in as miserable and waste a state as before it was begun.

The occupiers of large farms, who are consequently men of considerable substance, are, in most parts of *England*, the greatest of all improvers ; Nature takes a new face
under

under their hands ; whole counties are converted at once from deserts, into finely cultivated countries : But here we meet with no improvements that deserve the name ; nothing lasting ; three or four tolerable crops, and then the land left as desolate as ever, in the true spirit of a little louzy farmer of 20 *l.* a year. Unworthy those who occupy as many hundreds !

While moors are thus *improved*, I do not much wonder at seeing so much waste land in *Northumberland* : But surely the landlords are strangely remiss, in not introducing better customs ; letting no tracks without their being inclosed, and restraining their tenants from exhausting the soil by continued crops ; obliging them, at the same time, to lay it down to grass, in a given manner : But this must be done by practising such methods themselves, that the success may justify the proposal : If the farmers of the country are, nevertheless, backward in following such examples, men of large estates can well afford the importation of others, from counties whose cultivators are more informed.

It is very melancholy to ride through such vastly extensive tracks of uncultivated

good land, as are found in every part of this county: And it is equally unfortunate, that so many men of substance, in the farming way, should tread perpetually in the beaten route, and hire land, in so many parts of *England*, at an enormous rent, while such quantities are to be had almost for nothing. This is truly the *cultusque habitusque locorum prædiscere*.

Glenwelt.

I remain yours, &c.

LETTER

L E T T E R XVII.

FROM *Glenwelt* to *Brampton*, I passed over some moors of an excellent sandy loam, and yet quite uncultivated. The inclosed lands are good, lett from 10s. to 25s. per acre, farms from 10 l. to 100 l.

At *Carlisle* is a considerable stampery of printed cottons, established by some manufacturers from *Newcastle*; the labourers in it earn from 1s. to 3s. a day. Also a manufacture of checks, which employs many looms; the earnings from 1s. to 1s. 3d. a day.

Three miles to the south of *Carlisle*, land letts about 15s. an acre at an average. Farms from 20 l. to 200 l. a year. In as many more, they are not so large, from 30 l. to 120 l. and rents from 2s. to 20s. an acre.

About *High Ascot* the soil varies from a light loam and gravel to a clay, letts from 10s. to 20s. an acre.

Farms from 10 l. to 100 l. a year.

The courses are,

1. Fallow
2. Wheat
3. Oats
4. Pease,

And,

1. Turneps
2. Barley
3. Clover for three years.

For wheat they plough three or four times, sow three bushels and reap about twenty. For barley they plough twice, sow three bushels, and reckon the average produce the same as of wheat. They stir but once for oats, sow seven bushels and an half, and gain fifty in return. For pease they likewise plough but once, sow three bushels. and gain at a medium fifteen. They stir twice or thrice for rye, sow three bushels, generally in *February* or *March*, (a very remarkable time,) and reap twenty. They cultivate some few turneps; plough three or four times for them; a few farmers hoe them: The medium value they reckon at 50 s. an acre; and use them for cattle and sheep. Clover they sow with barley or oats, generally mow it for hay, and get about a ton at a mowing.

For

For potatoes they plough thrice, give the land a good coat of dung; chuse the dryest soils for them; and lay the slices in every other furrow, one foot from plant to plant. On coming up they plough between the rows, to destroy the weeds; a practice one would suppose sufficient to introduce a good turnep culture universally; for those who see the effects of this operation on potatoes might surely extend the idea to turneps.—They get 300 bushels *per* acre, and sow rye after them.

Good grass lets at 20 *s.* an acre; they apply it chiefly to dairying, and reckon that an acre and half will feed a cow through the summer; and an acre carry four sheep: Very few of them manure their grass. Their breed of cattle is the long horned, which they account much the best. Their beasts they fatten to about forty stone.

The product of a cow they reckon at 50 *s.* or 3 *l.* that a middling one will give from two to four gallons of milk a day, and make from four to seven pounds of butter a week. They have no notion of keeping hogs in consequence of cows; a dairy of twenty not maintaining above one or two. The winter food of their cows is

straw or hay, a ton and half of which is the quantity they commonly suppose a cow to eat in the winter; but if clover hay is used, one ton is enough.—The summer joist is 25 s. and that of winter 30 s. and 35 s. They reckon ten cows the business of a dairy maid.

Their flocks of sheep rise from 20 to 120, and the profit they reckon at 6 s. a head; lamb 5 s. and wool 1 s. They keep them the year round on the commons:—The average weight of fleeces 4 lb.

In the management of their arable lands they reckon six horses necessary for 100 acres of arable; they use two in a plough, and do an acre a day. The annual expence of keeping horses they reckon at 5 l. 10 s. or 6 l. The joist in summer 40 s. in winter 50 s. They break up their stubbles for a fallow in *February*; plough six inches deep: The price of ploughing 5 s. an acre; and of a cart and horse and driver 2 s. or 3 s. a day. They know nothing of cutting straw for chaff.

Three hundred pounds they reckon necessary for a man to stock a farm of 100 l. a year.

Tythes

Tythes are generally gathered. Poor rates 6 *d.* in the pound; the employment of the women and children spinning and knitting.

The farmers carry their corn nine miles.

The general œconomy will appear from the following sketches of farms.

100 acres in all

60 arable

40 grafs

£. 70 rent

4 horses

6 cows

1 fattening beast

10 young cattle

80 sheep

1 man

1 boy

1 maid.

Another,

140 acres in all

86 arable

54 grafs

£. 95 rent

7 horses

12 cows

2 fattening beasts

22 young cattle

30 sheep

30 sheep
 1 man
 2 boys
 1 maid
 1 labourer.

Another,

125 acres in all
 55 arable
 70 grafs
 £.70 rent
 4 horses
 9 cows
 26 young cattle
 2 fattening beasts
 50 sheep
 1 man
 1 boy
 1 maid
 1 labourer.

Another,

80 acres in all
 40 grafs
 40 arable
 £.70 rent
 5 cows
 1 fattening beast
 13 young cattle
 30 sheep

1 man

1 man

1 maid

1 boy.

Another,

50 acres in all

20 arable

30 grafs

£. 35 rent

3 cows

1 fattening beast

2 young cattle

20 sheep

1 boy.

L A B O U R.

In harvest, 4*s.* a week, and board.

In hay time, 1 *s.* a day, and board.

In winter, 8 *d.* and ditto.

Mowing grafs, 2 *s.* an acre.

Ditching, 3½ *d.* to 8 *d.* a rood.

Head man's wages, 10*l.* to 12*l.*

Next ditto, 7*l.* to 7*l.* 7 *s.*

Boy of ten or twelve years, 25 *s.*

Dairy maids, 2*l.* 10 *s.* to 3*l.*

Other ditto, 2*l.* 5 *s.* to 2*l.* 10 *s.*

Women in harvest, 4 *s.* a week, and board.

In hay time, 8 *d.* and board a day.

IMPLE-

I M P L E M E N T S, &c.

No waggons.

A cart, (one horse) 3 *l.* to 5 *l.*

A plough, 1 *l.* 11 *s.* 6*d.*

A harrow, 1 *l.* 10 *s.*

No rollers.

A scythe, 3 *s.* 6 *d.*

A spade, 2 *s.* 6 *d.*

Shoeing, 2 *s.*

P R O V I S I O N S, &c.

Bread—barley, and barley and rye, $\frac{3}{4}$ *d.*

Cheese, 2 *d.*

Butter, 6 *d.*

Beef, 3 *d.*

Mutton, 2 *d.*

Veal, 2 $\frac{1}{2}$ *d.*

Pork, 4 *d.*

Milk, $\frac{1}{2}$ *d.* per pint.

Potatoes, 4 *d.*

Candles, 7 *d.*

Soap, 7 *d.*

Labourer's house-rent, 10 *s.* to 20 *s.*

B U I L D I N G.

Oak timber, 8 *d.* to 2 *s.*

Ash, 1 *s.* 6 *d.*

Mason

Mason 1s. per day, and board.

Carpenter, ditto.

Slate at the quarry, - 0 16s. 0

Laying, - - 0 13 0

Leading eight miles, 1 4 0

Total per rood, 2 13 0

Stone walls, 6d. a yard workmanship, and 1s. 6d. every thing except lime.

About *Penrith* there are variations, which deserve noting—The soil is of divers sorts, clay, sand, gravel, loam, and black moory earth. The medium rent of that inclosed is 15s. the unincloded, 2s. 6d. and 3s. 6d.

Farms rise from 10l. a year, so high as 700l. but in general from 80l. to 150l. Their courses are,

1. Turneps
2. Barley
3. Clover
4. Wheat
5. Oats.

Another,

1. Oats on the grass broke up.
2. Barley
3. Oats
4. Oats

5. Pease

5. Pease

6. Barley.

This is capital indeed! but very common; for much land, even within two or three miles of *Penrith*, hath been sown every year with either barley, oats, or pease, for these seventy years. This information astonished me; I inquired the produce on such land, and found it reckoned as good, upon the whole, as other soils, managed upon more modern principles; five or six for one of oats, and when wheat happens to be sown, ten or eleven for one. Fallowing is a *new fashion*, and not perfectly relished by the farmers yet.

In a common way they generally plough for wheat from three to six times, sow two bushels about *Michaelmas*, and gain, upon an average, about three quarters. For barley they plough from once to thrice, sow two bushels and a half in *April* or *May*, and gain about 25. Sometimes barley is sown on new broke up land, and the produce 50 bushels. They give but one stirring for oats, sow four bushels before barley sowing, and get 28 in return. For pease they give but one earth, sow two bushels, and get in return about 16; generally use the grey

rouncivals. They give from three to five ploughings for rye, sow two bushels, the crop about 24.

For turneps they give three or four earths, never hoe, and reckon the average value *per* acre at 50 *s.* use them for sheep, and fattening of beasts. Clover they sow with either barley or oats, generally mow it once, (three times have been known,) and get two ton of hay *per* mowing.

They prepare for potatoes by ploughing twice or thrice; dung the land with long horse dung; lay the fetts in every other furrow, ten inches asunder, and hand-hoe between them if weedy; sometimes they horse-hoe them: If the land is designed for wheat, they lime it about *Midsummer*, while the potatoes are growing. The crops rise to 200 bushels *per* acre, but the average about 120; price about 2 *s.* a bushel.

Lime is their principal manure, though but of a few years standing: They lay 90 bushels *per* acre on their arable lands; costs them from 1 $\frac{1}{2}$ *d.* to 3 *d.* *per* bushel, besides leading; they lay it on every fallow: They likewise use it on their meadows, and find it to answer well. But dung they reckon much better for every thing.

They

They pare and burn a little, at the expence of 24 s. an acre. No folding sheep, nor chopping stubbles. Stack their hay in buildings.

Good grass lets from 15 s. to 20 s. an acre: They use it both for dairying and fattening beasts; reckon that an acre will summer feed a cow, or feed five sheep. Their breed of cattle the long horned, which they think much the best; their oxen they fat to about 40 stone.

The product of a cow they calculate at 4 l. 10 s. and generally have two firkins of butter from each: the medium quantity *per* week about 7 lb. but sometimes 14 lb. *per* cow. They keep but few swine in proportion to their dairies, not above two to ten cows. The winter food is straw and hay; of the latter about a ton a head. They reckon a dairy maid can manage ten cows. 25 or 30 s. the summer joist. In winter they keep them all in the house.

They reckon 3 l. the profit on summer fattening a beast of fifty stone. Swine fat from 50 s. to 4 l. 4 s. a head.

Their flocks of sheep vary greatly; from 40 to 3000: The profit they reckon 5 s. each; that is, lamb 4 s. and wool 1 s.

They

They feed them both winter and spring on the commons. The average of the fleeces 3 *lb.*

They reckon six horses necessary for the management of 100 acres of arable land; use two or four in a plough, as the soil is; and do three acres in two days. They account the expence of keeping a horse at 6 *l.* a year. The summer joist 2 *l.* 2 *s.*

They do not begin to fallow till after the barley sowing. The price *per* acre of ploughing 5 *s.* and 5 *s.* 6 *d.* and the common depth four inches.

They know nothing of cutting straw for chaff. The hire of a one horse cart 2 *s.* 6 *d.* a day.

Three hundred pounds they assert is a sum sufficient for stocking a farm of 100 *l.* a year.

Land sells in general at about thirty years purchase.

Tythes in general gathered.

Poor rates at *Penrith* 1 *s.* 3 *d.* in the pound. In the country parishes 6 *d.* and upwards, but in some nothing at all. The employment of the women and children spinning, and some knitting: All drink tea.

Many estates from 40 *l.* to 200 *l.* a year.

The corn is generally brought to *Penrith*, and sent to *Kendal* by carriers.

The following are particulars of several farms.

2000 acres, all grafs

£. 200 rent

5 horfes

20 cows

40 young cattle

2000 fheep

1 man

1 boy

2 maids

4 labourers.

Another,

100 acres in all

40 arable

60 grafs

£. 75 rent

6 horfes

10 cows

4 fattening beafts

24 young cattle

100 fheep

1 man

1 maid

1 boy

1 labourer.

Another,

Another,

240 acres in all
 120 arable
 120 grafs
 £.100 rent
 8 horfes
 12 cows
 8 fattening beafts
 30 young cattle
 200 ſheep
 1 man
 1 boy
 2 maids
 2 labourers.

Another,

80 acres in all
 60 grafs
 20 arable
 £.55 rent
 3 horfes
 4 cows
 10 young cattle
 1 boy
 1 maid:

L A B O U R.

In harveſt, 1s. 6d. and beer.

In hay-time, 1s. 3d. and ditto.

In winter, 10 *d.* and ditto.

Reaping corn, 3 *s.* to 5 *s.*

Mowing grass, 1 *s.* to 2 *s.* 6 *d.*

Ditching, 8 *d.* a rood.

Threshing wheat, 2 *d.* to 2½ *d.*

————barley, 1½ *d.*

————oats, 1½ *d.*

Head man's wages, 12 *l.* to 14 *l.*

Next ditto, 9 *l.*

Boy of ten or twelve years, 3 *l.*

Dairy maid, to 6 *l.*

Other maids, 3 *l.* to 4 *l.*

Women *per* day, in harvest, 10 *d.* and beer.

In hay-time, 8 *d.* and ditto.

In winter, 6 *d.* and ditto.

I M P L E M E N T S, &c.

No waggons.

A cart, 4 *l.*

A plough, 1 *l.* 11 *s.* 6 *d.*

A harrow, 16 *s.*

A roller, 10 *s.* 6 *d.*

A scythe, 2 *s.* 6 *d.* to 4 *s.*

A spade, 2 *s.* 6 *d.* to 3 *s.* 6 *d.*

For ploughs, the farmers find their own iron.

Shoeing: 2 *s.*

P R O V I S I O N S, &c.

Bread—oats, and barley and rye mixed;
cost $\frac{1}{2} d.$ $\frac{3}{4} d.$ and $1 d.$ *per lb.*

Cheese, $2 d.$

Butter, $6 d.$ $18 oz.$

Beef, $2\frac{1}{2} d.$

Mutton, $2\frac{1}{2} d.$

Veal, $2 d.$

Pork, $3 d.$

Milk, $1 d.$ three pints skimmed.

Potatoes, $3 d.$

Candles, $7 d.$

Soap, $7 d.$

Labourer's house rent, $20 s.$

——Firing, $30 s.$

B U I L D I N G.

Bricks, $11 s.$ *per thousand.*

Slate, $1 s. 6 d.$ *per hundred*—It is at quarry,

per rood, - - 0 12s. 0

Leading four miles, - 0 12 0

Laying on, - - 0 12 0

£. 1 16 0

Stone walls, $6 d.$ a yard work; and getting
and leading, $1 s. 8 d.$

Oak, $9 d.$ to $3 s.$

Ash, 6 *d.* to 2 *s.*

Elm, ditto.

A mason 1 *s.* 8 *d.* *per* day,

Carpenter, 1 *s.* 8 *d.*

Thatcher, 1 *s.* 6 *d.*

Keswick had too long been an object of desire with me to neglect the opportunity of seeing it: I went thither from *Penrith*: But before I attempt any thing of a description, let me mention matters of husbandry. The country between these towns is various, much of it moors, and quite uncultivated, though evidently capable of it, which is melancholy to reflect on. About *Keswick*, the husbandry is as follows:

The soil is both a hazel mould, sand, gravel, and moory; the first but shallow: The inclosed letts from 20 *s.* to 30 *s.* a right of commonage included.

Farms, from 10 *l.* to 80 *l.* a year.

Their course,

1. Oats on turf
2. Fallow
3. Barley
4. Wheat
5. Oats, and grasses.

They

They plough twice for wheat, sow two bushels and an half, about *Michaelmas*, and reap 35 to 40, upon an average. They also stir twice for barley, sow six bushels in *April* or *May*, and reap 40 in return. For oats they stir but once, sow seven bushels, and gain 50. They have no beans, very few pease, and as little rye. They stir three times for turneps, hoe them once or twice; the average value about 55 s. use them for feeding sheep and stall-fattening oxen. They know but little of clover; one or two farmers have tried it with barley, but found it good for nothing: It must have been upon strange land.

They have two ways of cultivating potatoes, by ploughing and digging: In the first, they stir three times, and dung the land well, lay the slices in every other furrow, one foot asunder, and plough between them once while growing, besides hand-weeding: They plough them up, and get 2, 3, and 400 bushels *per* acre.

Their other way is the lazy-bed method; they lay the dung on the green sward, the slices on that, then they dig trenches, and with the earth cover the

letts, but they reckon ploughing a better way.

Good grafs land letts at 30 s. an acre; use it mostly for dairying; an acre and half they reckon sufficient for a cow, and an acre for four sheep: Manuring it is common. Their breed of cattle is the long horned, and they reckon them best: Fat their oxen to fifty stone; their swine to twenty-four, or thirty.

The product of a cow they reckon at 3*l.* 13*s.* 6*d.* and six gallons *per* day a common quantity of milk *per* cow: Do not keep above one hog to ten. The winter food, straw and hay; of the latter they eat about two ton. The summer joist is 35 s. In winter they are kept in the house: Their calves suck about two months.

Their flocks rise from 100 to 1000; the profit they reckon at 4*s.* 3*d.* a head; that is, lamb 3*s.* and wool 1*s.* 3*d.* sometimes 5*s.* They keep them, in both winter and spring, on the commons. The average weight of the fleeces, 4 *lb.*

In their tillage, they reckon that twelve horses are necessary for the management of 100 acres of arable land: They use some-
times

times four, and sometimes two in a plough, and do an acre a day with them. The annual expence of keeping a horse they reckon at 6*l.* 10*s.* the summer joist 2*l.* 2*s.*

The price of ploughing, *per* acre, is from 5*s.* to 6*s.* and *March* the time of breaking up for a fallow. The hire of a cart and horse 3*s.* a day.

In the hiring and stocking of farms, they reckon 360*l.* or 400*l.* necessary for one of 80*l.* a year.

Land sells at from 35 to 40 years purchase.

Poor rates 9*d.* in the pound.—The employment of the women and children, spinning, and winding yarn.

No small estates.

The following particulars of farms will shew their general œconomy.

100 acres in all	
90 arable	
10 grass	
£. 50 rent	
8 horses	
10 cows	
4 fattening beasts	
20 young cattle	
	400 sheep

400 sheep (common right)

1 man

1 maid

1 boy

1 labourer.

Another,

220 acres in all

100 grafs

120 arable

£.80 rent

12 horfes

22 cows

30 young cattle

5 fattening beafts

400 sheep (right of common)

1 man

2 maids

2 boys

3 labourers.

Another,

130 acres in all

50 arable

80 grafs

£.95 rent

6 horfes

12 cows

18 young cattle

200 sheep (right of common)

1 man

1 man
1 maid
1 boy.

Another,

70 acres in all
20 arable
50 grafs
£. 50 rent
4 horfes
8 cows
2 fattening beafts
200 ſheep (common right)
1 boy
1 maid.

L A B O U R.

In harveſt, 1*s.* and beer.

In hay time, ditto.

In winter, 6*d.* and board.

Reaping wheat, 6*s.*

Mowing grafs, 2*s.*

Ditching, 4*d.* to 5*d.* *per* rood.

Fiſt man's wages, 10*l.* to 11*l.*

Next ditto, 6*l.*

Boy of ten or twelve years, 3*l.* to 3*l.* 10*s.*

Dairy maid, 4*l.* 14*s.* 6*d.*

Other ditto, 3*l.* 3*s.*

Women *per* day in harveſt, 1*s.* and beer.

In

In hay time, ditto.

In winter, 6 *d.* and beer.

I M P L E M E N T S.

No waggons.

A cart for two horses, 7 *l.*

A plough, 1 *l.* 5 *s.*

A harrow, 10 *s.*

A roller, 14 *s.*

A scythe, 3 *s.* to 5 *s.*

A spade, 2 *s.* 8 *d.*

Shoeing, 2 *s.*

P R O V I S I O N S, &c.

Bread—oat and barley, $\frac{3}{4}$ *d.* per *lb.*

Cheese, 2 *d.*

Butter, 6 *d.* 16 to 18 *oz.*

Beef, 2 *d.*

Mutton, 2 $\frac{1}{2}$ *d.*

Veal, 2 *d.*

Pork, 3 *d.*

Milk, $\frac{1}{2}$ pint.

Potatoes, 2 $\frac{1}{2}$ *d.* a peck.

Candles, 7 *d.*

Soap, 6 *d.*

Labourer's house rent, 20 *s.*

—— firing, 25 *s.* but many on hedge-breaking alone.

BUILD-

B U I L D I N G s.

Oak, 1 s. 8 d. to 2 s. 6 d.

Ash, 1 s. 6 d. to 2 s.

Mason *per* day, 1 s. 6 d.

Carpenter, ditto.

Slate, 28 s. a rood, getting and laying.

Now, Sir, for the glory of *Keswick*, — its Lake, so famous all over *England*. Let me first inform you, that it is by computation ten miles round, of an oblong figure, and inclosed by a prodigious range of formidable mountains, of such a height that they are cloud-topped for several months in the year. The best way of viewing it is to row round the lake, and land now and then for catching the varieties of the prospect.

You walk from the town first down to *Cockshut-hill**, a small rising ground, within the amphitheatre of mountains, and has been lately planted. The view of the lake from hence is very beautiful: You have a most elegant sheet of water at your feet, of the

* I should apologize for many barbarous, and, probably, wrong spelt names, for they are taken from the people at *Keswick*. I have no where met with them in print.

finest colour imaginable, spotted with islands; of which you see five, and are high enough to command the water around them. One is in the middle, of about five acres of grass land, with a house under a clump of trees on one side of it; the whole object beautifully picturesque: You look also upon another planted with *Scotch* firs; and also upon three others more distant. This is the view of the floor of this noble amphitheatre; the walls are in different stile—sublime. To the left you look first on a hilly rock, partly covered with shrubby wood; and further on, upon a chain of tremendous rocks, near 400 yards high; their feet are spread with hanging woods, but their heads bare, broken, and irregular. Following the line the lake seems to lose itself among a wood of rocks and mountains, the tops rising one above another in the wildest manner imaginable: The opposite shore presents you a full view of a vast range of hills; and behind, you look upon the prince of the surrounding mountains, *Skiddow*, whose tremendous head rears above the clouds.

Leaving this hill you walk down to your boat, and are struck with the limpid trans-

transparency of the water, which almost exceeds belief; the bottom is quite paved with stones, and the white ones glitter through the tremulous curl of the surface like so many diamonds. You row to the left pass, a variety of shore, here rocky and projecting, there low and retiring, coast a planted island, and coming under *Wallow Crag*, one of the immense rocks before mentioned, you have from its foot a very fine view: The surrounding rocks and mountains are truly noble; the crag above you, fringed about a third of its height with pendent woods; the lake at your feet breaks beautifully into a bay behind a promontory, called *Stable-hills*; against it is *Brampsholm Island**; and over the low part of the promontory you catch the wood on *Lord's Island*, in a very pleasing manner. The opposite shore is beautifully scattered with hanging woods, and some white houses give a liveliness to the view truly pleasing.

Taking your boat again, and rowing till you are opposite the opening between *Wallow* and *Barrow Crags*, the noise of a

* Belonging to *Greenwich Hospital*.

water-fall unseen, will induce you to land again; walking on to a little ruinous bridge, you look upon a romantic hollow of rocks and woods, with a stream pouring down the clefts in many sheets, and seen among the trees in the most picturesque manner; a romantic scene of rock, and wood and water thirty feet high.

Rowing from hence, under *Barrow Crag*, the shore is rocky, and various: Passing some low ground, and landing on a rising one, the view is exquisite. The water breaks in the most beautiful manner imaginable, into bays and sheets; stretching away from the eye most gloriously, between the *Stable Hills*, *Lord's Island*, and *Vicar's Island*: *Brampsholm* cuts in the middle; and *St. Alban's Isle* presents his broad side to your full view. At the other end of the lake, the rising hills, part of cultivated, waving inclosures, and part of hanging woods, all scattered with white houses, and the whole crowned with the lofty mountains, are beautifully picturesque, and contrast finely with the view of the south end of the lake, around which the rocks and mountains are

tremendously bold, pendent, and threatening.

Following the coast, the shore is thinly fringed with wood; then you row around a projecting land, containing several inclosures, and come under a fine, thick, hanging wood, with a raging torrent breaking through it, over rocks, just seen between the wood and *Barrow-side*, but heard in the most romantic manner. — You next anchor in a bay, the environs of which are dreadful; you are under a monstrous craggy rock, (*Throng Crag*,) scattered with shrubby wood to the very edge, and almost perpendicular; and moving the eye from the formidable object, you find this end of the lake surrounded with a chain of them, in the boldest and abruptest stile imaginable. The opposite shore of mountains very great; and noise of distant water-falls heard most gloriously.

From hence you coast a dreadful shore of fragments, which time has broken from the towering rocks, many of them of a terrible size; some stopped on the land by larger than themselves, and others rolled into the lake, through a path of desolation, sweeping trees, hillocks, and every

ning to the water; the very idea of a small shiver against the boat strikes with horror.

Advancing, you catch the view of a most beautiful water-fall, within the wave of a gentle bend of the rocks; but to enjoy the full luxuriance of this exquisite landscape, it is necessary to land and walk to an opening in the grove, from whence it is seen in surprizing beauty.

You look up a tremendous wall of rock, perpendicular to the top, scattered with wood, that seems to hang in the air; a large stream rushes out of a cliff near the top, and falls, in the most broken and romantic manner, several hundred feet: It falls in one gush for several yards; a projecting part of the rock breaks it then into three streams, which are presently quite lost behind hanging woods. Lower down, you again catch it in a single bright sheet, among the surrounding dark wood, in the most elegantly picturesque manner that fancy can conceive. Losing itself again behind the intervening trees, it breaks to the view in various scattered streams, half seen, glittering in the sun beams, among the branches of the trees, in the most bewitching



witching colours of nature's clear obscure. Lower still, you again catch it united in one bright rushing fall, in the dark bosom of a fine hollow wood, which finishes the scene. The surrounding hills, rocks, and scattered pendent woods, are all romantic and sublime, and tend nobly to set off this most exquisite touch of rural elegance. In Plate I. is the sketch I took of it.

Following the coast you sail round a sweet little island, a clump of wood growing out of the lake; but it is joined to the main land when the water is very low. From hence, pursuing the voyage, you come into the narrow part of the lake, and have a full view of most romantic terrible craggy rocks, inclosing a most grand and beautiful cascade: It is a view that must astonish the spectator. You look up to two dreadful pointed rocks, of a vast height, which almost hang over your head, partly scattered with shrubby wood, in the wildest taste of nature. Between them is a dreadful precipice of broken craggy rock, over which a raging torrent foams down in one vast sheet of water, several yards wide, just broken into ebullitions by the points of the rocks unseen. At another

time I saw it, when the craggy rock appeared, and the stream was broken by it into several gushing torrents, which seemed to issue distinctly from clefts in the rock in the most picturesque manner imaginable: The water is lost in one spot, caught again in another; foaming out of this cleft with rushing impetuosity, and trickling down that with the most pleasing elegance. Nothing can be fancied more grand, more beautiful, or romantic.

The sketch in Plate II. will give you but an imperfect idea of it.

Taking a winding walk through the wood, it leads down to a rapid stream which you cross, and presently come to a new and most delicious scene. To the right you catch a side view of the fall just described, in a new direction, most beautifully embosomed in rock and hanging wood. Full in front you look upon another cascade, which rushes out as it were from the rotten stump of an old tree, and falling down an irregular surface of rock, it breaks into larger and more sheets, some full, others thin and trickling, a most sweet variety: After this, it breaks again, and falls into
the





the stream in fresh beauty, elegantly romantic. Plate III. is the sketch I took.

Following the shore into fleet water, you come into a region of most stupendous rocks, broken, and irregularly pointed, in the most abrupt and wild manner imaginable, with monstrous fragments, large as a house, that have tumbled from their heads — Dreadful in the idea!

Pursuing the water to its point, you come into a new and most glorious amphitheatre of rocks and mountains; on one side, craggy, broken, and wildly irregular; and on the other, a vast range of mountain side. The hollow magnificently great.

Going up the river to *Grange* bridge, under *Grange Crag* the lake is lost: the prospect new and terrible; a whole sweep of rocks, crags, mountains, and dreadful chasms.

Leaving the boat, and walking up to the village, you gain a view of a cone-like rocky woody hill, rising in the midst of a hollow of mountains, most nobly romantic. From hence following the road to the lake under *Brandelow Hill*, you have the noblest view of rocks and hills in the world. *Grange Crag* and *Crown Head* appear in full view,

surrounded by an immense wall of rock and mountain. The effect astonishingly great.

Taking boat again you row round a prodigious fine promontory, beautifully wooded; and upon turning it, you tack about round a most exquisite little island in the bay; and if the water is very high, there are two more very fine woody islands, around which you may row: This little archipelago will entertain a person of the least taste. Nor is the view of the lake's environs unworthy of admiration. The crags and cliffs to the right are tremendous: *Skiddow* fronts you in the sublimest stile; *Saddle-back* on one side of him rears his head in the boldest manner: To the left you look upon an exceeding fine hanging wood, beautifully spread over a waving hill.

Advancing with the coast you next land at the lead mines, which, if you have a taste for grotto work, will entertain, as a boat may be loaded with spar of various glittering and beautiful kinds. Here also are two curiosities of an uncommon kind, *viz.* two salt springs.

Sailing along the shore it leads you under a noble hill most beautifully spread with wood; it is covered thick with young timber trees, which grow in the most picturesque manner down to the very water's edge. You next enter a little bay, and look upon a most elegant small round hill, covered with wood, inimitably beautiful. This you also coast, nor can any thing be more truly exquisite than these two slopes of wood, with beautiful inclosures between them, contrasting the sublimity of the rocks and mountains in the noblest stile. Nor should you here forget to remark three or four inclosures on the other side of the lake, down to the water's edge, under *Achness Fell*; they are exquisite.

Sailing by some very beautiful grass inclosures you catch a white house romantically situated; and then skirting more inclosures, turn round a small but most exquisite promontory, with a sweet clump of trees on it: This leads into a very fine land locked bay, which commands a beautiful sloping hanging wood; the scene enlivened by a white house quite in the spot of taste. From hence you look over the lake upon *Castle Head Crag*, a fine round

of rocky wood rising out of a vale and backed with waving inclosures.

The shore from hence is most beautifully indented and irregular, running up among little hills finely fringed with wood: From hence you wind in and out of several bays and creeks, commanding very picturesque views of the land, and around a most noble hill of shrubby wood covered to the very top. From hence around the town the shore is flat.

Your next view of *Keswick* must be from land, by walking up the vast rocks and crags first described. This is a journey which will terrify those who have been only used to flat countries. The walk to the highest rock is a mile and half up, and almost perpendicular, horribly rugged, and tremendous; it is rather a climbing crawl than a walk. The path crossed the stream, which forms the first mentioned cascade, in the midst of dreadful cliffs and romantic hollows: The torrent roars beneath you, in some places seen, in others hid by rock and wood.

From hence you climb through a slope of underwood to the edge of a precipice, from which you look down upon the lake
and

and islands in a most beautiful manner ; for coming at once upon them, after leaving a thick dark wood, the emotions of surprize and admiration are very great.

Following the path, (if it may be so called) you pass many romantic spots, and come to a projection of the hill, from which you look down, not only upon the lake as before, but also upon a semi-circular vale of inclosures, of a most beautiful verdure, which gives a fine curve into the lake : One of the fields is scattered over with trees, which from hence have the most truly picturesque effect imaginable.

Advancing further yet, you come to the head of *Crafig-fall*, which is a vast opening among these immense rocky mountains, that lets in between them a view across the lake, catching two of the islands, &c. in a most beautiful manner ; nor can any thing be more horribly romantic than the adjoining ground where you command this sweet view.

At last we gained the top of the crag, and from it the prospect is truly noble ; you look down upon the lake, spotted with its islands, so far below as to appear in another

ther region; the lower hills and rocks rise most picturesquely to the view. To the right you look down upon a beautiful vale of cultivated inclosures, whose verdure is painting itself. The town presents its scattered houses, among woods and spreading trees: Above it rises *Skiddow*, cloud-topped in the most sublime magnitude.

Descending to the town, we took our leave of this enchanting region of landscape, by scaling the formidable walls of *Skiddow* himself: It is five miles to the top, but the immensity of the view fully repays for the labour of gaining it. You look upon the lake, which here appears no more than a little basin, and its islands but as so many spots; it is surrounded by a prodigious range of rocks and mountains, wild as the waves, sublimely romantic. These dreadful sweeps, the sport of nature in the most violent of her moments, are the most striking objects seen from *Skiddow*; but in mere extent the view is prodigious. You see the hills in *Scotland* plainly; you view a fine reach of sea; command the *Isle of Man*, and see part of an object, which I take to be an highland in *Ireland*; besides prodigious tracts of adjacent country.

Keswick,

Keswick, upon the whole, contains a variety that cannot fail of astonishing the spectator: The lake, the islands, the hanging woods, the waving inclosures, and the cascades are all most superlatively elegant and beautiful; while the rocks, cliffs, crags, and mountains are equally terrifying and sublime. There cannot be a finer contrast. But it is much to be regretted that art does not yield more of her assistance, not in decoration, for the lake wants it not, but in enabling the spectator to command, with greater ease, the luxuriant beauties and striking views which to so many travellers are hitherto quite unknown: There are a vast many edges of precipices, bold projections of rock, pendent cliffs, and wild romantic spots, which command the most delicious scenes, but which cannot be reached without the most perilous difficulty: To such points of view, winding paths should be cut in the rock, and resting-places made for the weary traveller: Many of these paths must necessarily lead through the hanging woods, openings might be made to let in views of the lake, where the objects, such as islands, &c. were peculiarly beautiful. At the bottoms of the rocks
also,

also, something of the same nature should be executed for the better viewing the romantic cascades, which might be exhibited with a little art, in a variety that would astonish.

It is amusing to think of the pains and expence with which the environs of several feats have been ornamented, to produce pretty scenes it is true, but how very far short of the wonders that might here be held up to the eye in all the rich luxuriance of nature's painting. What are the effects of a *Louis's* magnificence to the sportive play of nature in the vale of *Keswick*! How trifling the labours of art to the mere pranks of nature!

Returning to *Penrith*, our next expedition was to *Hulls Water*, a very fine lake, about six miles from that town: The approach to it is very beautiful; the most advantageous way of seeing it is to take the road up *Dunmanlot Hill*, for you rise up a very beautiful planted hill, and see nothing of the water till you gain the summit, when the view is uncommonly beautiful. You look down at once upon one sheet of the lake, which appears prodigiously fine. It is an oblong water, cut by islands,
three

three miles long and a mile and half broad in some places, in others a mile. It is inclosed within an amphitheatre of hills, in front at the end of the reach, projecting down to the water edge, but retiring from it on each side, so as to leave a space of cultivated inclosures between the feet and the lake. The hedges that divide them are scattered with trees; and the fields of both grass and corn, waving in beautiful slopes from the water, intersected by hedges, in the most picturesque manner.

Upon the right, a bold swelling hill of turf rises with a fine air of grandeur. Another view from off this hill is on to a mountain's side, which presents to the eye a swelling slope of turf, and over it *Saddleback* rises in a noble stile.

Another view from this hill is down upon a beautiful vale of cultivated inclosures; Mr. *Hassel's* house at *Delmaine*, in one part, almost encompassed with a plantation: Here you likewise catch some meanders of the river, through the trees, and hear the roar of a water-fall. This hill is itself a very fine object, viewed every way, but the simplicity of its effect is destroyed, by being cut by a double stripe of
Scotch

Scotch firs across it, which varies the colour of the verdure, and consequently breaks the unity of the view.

Another point of view from which this part of the lake is seen to good advantage, is from off *Soulby Fell*: You look down upon the water, which spreads very finely to the view, bounded to the right by the hills, which rise from the very water; at the other, by *Dunmanlot Hill*; in front, by a fine range of inclosures, rising most beautifully to the view, and the water's edge skirted by trees, in a most picturesque manner.

Directing your course under the lake, and landing at *Swartb Fell*, the next business should be to mount its height. The lake winds at your feet like a noble river; the opposite banks beautiful inclosures, exquisitely fringed with trees; and some little narrow slips, like promontories, jet into it with the most picturesque effect imaginable; and at the same time hear the noise of a water-fall beneath, but unseen.

Taking boat again, and sailing with the course of the lake, you turn with its bend, and come into a very fine sheet of water, which appears like a lake of itself. It is
under

under *Howtown* and *Hawling Fell*. The environs here are very striking; cultivated inclosures on one side, crowned with the tops of hills; and on the other, a woody craggy hill down to the very water's edge. The effect fine.

Next you double *Hawling Fell*, and come again into a new sheet of water, under *Martindale Fell*, which is a prodigious fine hill, of a bold, abrupt form; and between that and *Howling Fell*, a little rising wave of cultivated inclosures, skirted with trees; the fields of the finest verdure, and the picturesque appearance of the whole most exquisitely pleasing. It is a most delicious spot, within an amphitheatre of rugged hills.

Following the bend of the water under *New Crag*, the views are more romantic than in any part hitherto seen. *New Crag*, to the right, rears a bold, abrupt head, in a stile truly sublime; and passing it a little, the opposite shore is very noble. *Martindale Fell* rises steep from the water's edge, and presents a bold wall of mountain; really glorious. In front, the hills are craggy, broken, and irregular in shape (not height) like those of *Keswick*: They project

project so boldly to the very water, that the outlet or wind of the water is shut by them from the eye. It seems inclosed by a shore of steep hills and crags. From hence to the end of the lake, which there is sprinkled by three or four small islands, the views are in the same stile, very wild and romantic. It is an exceedingly pleasing entertainment to sail about this fine lake, which is nineteen miles round, and presents to the eye several very fine sheets of water; and abounds, for another amusement, with noble fish; pike to 30 *lb.* perch to 6 *lb.* trout to 6 *lb.* besides many other sorts. The water is of a most beautiful colour, and admirably transparent.

Returning to *Penrith*, I took the road to *Shapp*, by *Lowther Hall*, the seat of Sir *James Lowther*, Bart. The house (it was burnt down not many years ago) is not so striking as the plantations, which are designed with much taste, and of very great extent. Near the road is the new town of *Lowther*, where Sir *James* is building a town to consist of 300 houses; for the use of such of his domesticks, and other people, as are married: And it is highly worthy of remark, that he not
only

only encourages all to marry, but keeps them in his service *after* they have families: Every couple finds a residence here, and an annual allowance of coals. This is a most incomparable method of advancing population, and consequently the good of the nation at large; nor can it be too much imitated. Above forty houses are already erected.

The soil about *Shapp* is generally a loam upon a lime-stone, in some places thin, but in others deep; lets from 1 s. to 20 s. an acre; but the inclosures generally 20 s.

Farms from 40 l. to 400 l. a year.

Their course,

1. Break up, and sow oats
2. Oats
3. Barley
4. Oats, and then down again.

This is execrable.

They plough but once for barley, sow two bushels, and gain about twenty. For oats they give three or four ploughings, sow seven bushels and a half, and gain thirty-five in return.

Good grass lets at 20s. and 25s. an acre; it is used both for dairying and fattening,

chiefly the latter: An acre they reckon will keep a cow through the summer, or six sheep. They manure it as much as they can, but that is no great matter. Their breed of cattle is the long-horned, and have fattened them so high as 130 stone, but very uncommon; 60 to 80 common.

The product of a cow they reckon at 5*l.* and four gallons the common quantity of milk *per* day: As to swine, they keep none, upon account of cows: A farmer without a dairy has as many as those who keep the largest, which would surprize a *Suffolk* or an *Essex* man. The winter food of the cows is hay, in general, but some straw. Their calves for the butcher suck from one to ten weeks; for rearing, not at all, but are all brought up by hand with milk, for twenty weeks. A cow, in winter, generally eats an acre and an half of hay, and they are kept in house. The summer joist from 14*s.* to 40*s.*

Their flocks of sheep rise from 5 to 1500. They sell no lambs, but rear them for weathers, at from 7*s.* to 14*s.* The profit, *per* head, of the flock, about 5*s.* Keep them, both winter and spring, on the

the commons: The weight of the fleeces 3 or 4 *lb.* at 3 *d.*

They use two or three horses in a plough, and do an acre a day. The summer joist of a horse varies from 10 *s.* to 50 *s.* The price of ploughing, from 5 *s.* to 6 *s.* an acre: They cut about five inches deep.

They know nothing of cutting straw for chaff.

They reckon 5 or 600 *l.* necessary to stock a farm of 100 *l.* a year: They are, in general, grazing ones.

Land sells from 30 to 35 years purchase: There are many freeholds of from 100 to 300 *l.* a year.

Tythes both gathered and compounded.

Poor rates from 6 *d.* to 1 *s.* in the pound.

The employment spinning wool, for *Kendal*. All drink tea.

The farmers carry their corn ten miles.

The following particulars of farms will shew the general œconomy.

200 acres of grass

£. 140 rent

2 horses

60 fatting beasts

10 cows

M 2

20 young

20 young cattle
 700 sheep (common right)
 2 men
 1 maid.

Another,

100 acres in all
 15 arable
 85 grafs
 £. 100 rent
 2 horfes
 20 cows
 15 fattig beafts
 15 young cattle
 200 sheep (common right)
 1 man
 1 maid.

Another,

120 acres in all
 20 arable
 100 grafs
 £. 75 rent
 3 horfes
 13 cows
 8 fattig beafts
 10 young cattle
 500 sheep (common right)
 1 man

1 maid

1 maid

1 boy.

Another,

70 acres in all

5 arable

65 grafs

£. 63 rent

2 horfes

10 cows

2 fattig beafts

8 young cattle

200 ſheep (common right)

1 boy

1 maid.

Another,

50 acres, all grafs

£. 40 rent

1 horſe

6 fattig beafts

8 cows

10 young cattle

80 ſheep (common right)

1 boy.

L A B O U R.

In harveſt, 8 *d.* to 10 *d.* and board.

In hay time, 1 *s.* to 1 *s.* 6 *d.* and ditto.

In winter, 6*d.* and ditto.

Mowing 3 *s.*

Head man's wages, 9 *l.*

Next ditto, 7 *l.* 10 *s.*

Boy of ten or twelve years, 50 *s.*

Maids, 4 *l.* to 5 *l.*

Women *per* day in harvest, 6 *d.* and board.

In hay time, ditto.

I M P L E M E N T S,

No waggons.

A cart, 5 *l.*

A plough, 30 *s.*

A harrow, 7 *s.* 6 *d.*

No rollers.

A scythe, 2 *s.* 6 *d.* to 4 *s.*

A spade, 2 *s.* 6 *d.*

Shoeing, 2 *s.*

P R O V I S I O N S, &c.

Bread—Oat.

Cheese, 2 $\frac{1}{2}$ *d.*

Butter, 7 $\frac{1}{2}$ *d.* 20 *oz.*

Beef, 2 *d.* to 2 $\frac{1}{2}$ *d.*

Mutton, 2 *d.* to 2 $\frac{1}{2}$ *d.*

Veal, ditto.

Pork,

Pork, 4 *d.* to 4½ *d.*

Bacon, 7 *d.*

Milk, ¼ *d.* per pint.

Potatoes, 2 *d.* a peck.

Candles, 7 *d.*

Soap, 6 *d.*

Labourer's house-rent, 20 *s.* to 40 *s.*

—————firing, 20 *s.* to 30 *s.*

BUILDING.

Oak, 1 *s.* 4 *d.*

Ash, 1 *s.* 2 *d.*

Carpenter, 1 *s.* a day, and board.

Slate, 55 *s.* a rood, brought in.

—————laying on and lime, 15 *s.*

Stone walling, 7 *d.* a yard workmanship;
and getting, 2 *d.*

I took the opportunity of being at *Shapp* to ride to *Haws Water*, a lake some miles to the westward. The road thither leads for some distance along the side of a hill, which commands an exceeding fine view of *Ponton Vale* to the left. It is several miles in length, of an oblong figure, all cut into inclosures of a charming verdure, and scattered in the most picturesque manner with

villages, clumps of wood, houses, bridges, trees, &c. A fine river takes the most beautiful serpentine course in the world through it: The opposite bank is a large ridge of mountain. It is a sweet landscape, which brings to ones imagination the idea of an *Arcadian* paradise.

The approach to the lake is very picturesque: You pass between two high ridges of mountain, the banks finely spread with inclosures; upon the right two small beautiful hills, one of them covered with wood; they are most pleasingly elegant. The lake is a small one, about three miles long, half a mile over in some places, and a quarter in others; almost divided in the middle by a promontory of inclosures, joining only by a strait; so that it consists of two sheets of water. The upper end of it is fine, quite inclosed with bold steep craggy rocks and mountains; and in the center of the end a few little inclosures at their feet, waving upwards in a very beautiful manner. The south side of the lake is a noble ridge of mountain, very bold and prominent down to the waters edge. They bulge out in the center in a fine bold pendent

dent broad head that is venerably magnificent: And the view of the first sheet of the lake losing itself into the second among hills, rocks, woods, &c. is picturesque. The opposite shore consists of inclosures, rising one above another, and crowned with craggy rocks.

Twelve of the fifteen miles from *Shapp* to *Kendal* are a continued chain of mountainous moors, totally uncultivated; one dreary prospect, that makes one melancholy to behold; for the soil itself is highly capable of cultivation and of profitable uses; much of it is of a good depth; and the spontaneous growth proves that the nature of the land is equal to many valuable uses.

After crossing this dreary track, the first appearance of good country is most exquisitely fine; about three miles from *Kendal* you at once look down from off this desolate country upon one of the finest landscapes in the world; a noble range of fertile inclosures, richly enameled with most beautiful verdure: And coming to the brow of the hill have a most elegantly picturesque view of a variegated track of wav-
ing

ing inclosures, spreading over hills, and hanging to the eye in the most picturesque and pleasing manner that fancy can conceive. Three hills in particular are overlooked, cut into inclosures in a charming stile, of themselves forming a most elegant landscape, and worthy the imitation of those who would give the embellishments of art to the simplicity of nature.

Kendal is a well built and well paved town, pleasantly situated, in the midst of the beautiful country just described. It is famous for several manufactories; the chief of which is that of knit stockings, employing near 5000 hands by computation. They reckon 120 wool-combers, each employing five spinners, and each spinner four or five knitters; if four, the amount is 2400; this is the full work, supposing them all to be industrious; but the number is probably much greater. They make 550 dozen a week the year round, or 28,600 dozen annually: The price *per* pair is from 22 *d.* to 6 *s.* but in general from 22 *d.* to 4 *s.* some boys at 10 *d.* If we suppose the average 3 *s.* or 36 *s.* a dozen, the amount is 51,480 *l.*

The

The wool they use is chiefly *Leicestershire*, *Warwickshire*, and *Durham*: They generally mix *Leicestershire* and *Durham* together. The price 8 *d.* 9 *d.* and 10 *d.* per *lb.* They send all the manufacture to *London* by land carriage, which is said to be the longest, for broad wheel waggons, of any stage in *England*. The earnings of the manufacturers in this branch are as follow:

	<i>s.</i>	<i>d.</i>
The combers, per week, -	10	6
The spinners, women, - -	3	0
Ditto, children of ten or twelve		
years, - - -	2	0
The knitters, - - -	2	6
Ditto, children of ten or twelve		
years, - - -	2	0

All the work-people may have constant employment if they please.

During the late war business was exceedingly brisk, very dull after the peace, but now as good as ever known.

The making of cottons is likewise a considerable manufacture in this town. They are called *Kendal* cottons, chiefly for exportation, or sailors jackets, about 10 *d.* or

1 s. a yard, made of *Westmoreland* wool, which is very coarse, selling only at 3 d. or 4 d. per lb. This branch employs three or 400 hands, particularly shearmen, weavers, and spinners.

	s.	d.
The shearmen earn per week,	10	6
The weavers, (chiefly women,)	4	3
The spinners, - - -	3	3

All have constant employment. During the war this manufacture was more brisk than ever, very dull after the peace, and has continued but indifferent ever since.

Their third branch of manufacture is the linsley woolsey, made chiefly for home consumption, of *Westmorland*, *Lancashire*, and *Cumberland* wool; the hands are chiefly weavers and spinners. The first earn 9 s. or 10 s. a week; the second (women) 4 s. 6 d. or 5 s.

The farmers and labourers spin their own wool, and bring the yarn to market every week: There are about 500 weavers employed, and from 1000 to 1300 spinners in town and country. The business during the war was better than it has been since, but is now better than after the peace.

Their

Their fourth manufacture is the tannery, which employs near 100 hands, who earn from 7*s.* to 7*s.* 6*d.* a week. They tan many hides from *Ireland*.

They have likewise a small manufactory of cards, for carding cloth. Another also of silk: They receive the waste silk from *London*, boil it in soap, which they call scowering, then it is combed by women (there are about 30 or 40 of them) and spun, which article employs about 100 hands; after this it is doubled and dressed, and sent back again to *London*. This branch is upon the increase.

P R O V I S I O N S, &c.

Bread—oatmeal baked in thin hard cakes, called clap-bread, costs 1*d.* per *lb.*

Cheese, 3½ *d.*

Butter, 6½ *d.* 16 *oz.*

Mutton, 2 *d.* to 2½ *d.*

Beef, 2½ *d.* to 3 *d.*

Veal, 2½ *d.*

Pork, 4½ *d.*

Bacon, 6½ *d.*

Milk, ½ *d.* a pint.

Potatoes, 10 *d.* four gallons.

Poor's house rent, 30 s.

—— firing, 45 s. to 50 s.

Kendal is a very plentiful and cheap place; fat stubble geese are sold at 1 s. 4 d. each *; fat fowls at 1 s. a couple; fat ducks the same price; wild fowl and game in great plenty; woodcocks often at 2 d. a piece; partridges are sold common in the market and very cheap: Fish in great plenty; trout oftentimes at a penny a pound, besides many other sorts. It is a neat well built town.

From hence we viewed the famous lake called *Winander Meer*, ten miles west of *Kendal*; by much the longest water of the kind in *England*. It is fifteen miles long, and from two miles to half a mile broad. It gives gentle bends, so as to present to the eye several noble sheets of water; and is in many places beautifully scattered with

* This is so cheap, that a Living I heard of is not a very fat one, 4 l. a year, a pair of *wooden shoes*; and a *Goose-Gate*. Alas, poor Rector!

All the poor in this country wear wooden shoes. ^

A *Goose-Gate* is the right of keeping a goose on the common.

islands:

islands: The shores are nobly varied, consisting in some places of fine ridges of hills, in others of craggy rocks; in some of waving inclosures, and in others of the finest hanging woods; several villages and one market town are situated on its banks, and a ferry crosses it to another; there is some business carried on upon it, so that it is not uncommon to see barges with spreading sails: All these circumstances give it a very cheerful appearance, at the same time that they add to its beauty.

I would advise those who view this lake, not to take the common road down to the village of *Bonus**, where the boats are kept, but (for reasons which I shall hereafter add) to go thither round almost by the ferry. The landlord at the inn at that village keeps a boat, and can always provide rowers for any company that comes; the extreme beauty of the lake induced me to explore every part of it with attention; but as I

* I am sensible throughout this Tour of misspelt names; but many of the places I mention are not to be found in maps, I am obliged, therefore, to write from the ear.

have already troubled you with several recitals of these water expeditions, I shall only mention a few of the principal points of view, and to which I should particularly recommend any traveller to row if he had not time to view the whole lake; but no scheme of this sort can be more amusing than two or three days spent here in rowing, sailing, fishing, and wild duck shooting, all which are here to be had in great perfection; and I should add, that the end of *May*, or the beginning of *June*, is the proper time for such an expedition.

Taking boat at the village, you row first to *The Island*, so called by way of pre-eminence, being by much the largest in the lake; it contains between thirty and forty acres of land, and I cannot but think it the sweetest spot, and full of the greatest capabilities, of any forty acres in the king's dominions. The view from the south end is very fine; the lake presents a most noble sheet of water stretching away for several miles, and bounded in front by distant mountains; the shoars beautifully indented by promontories covered with wood, and
jetting

jetting into the water in the most picturesque stile imaginable, particularly the ferry points on both sides; it is broke by *Berkshire Island*, an elegant spot, finely wooded in one part, and by *Craw Island*, almost covered with wood, in another, and just hides a house on the main land.

The eastern shore is spread forth with the most beautiful variety. In some places waving inclosures of corn and grass rise one above another, and present to the eye a scenery beyond the brightest ideas of painting itself. In others shrubby spots and pendent woods hang down to the very water's edge: In some places these woods are broke by a few small grass inclosures of the sweetest verdure; and in others run around large circuits of them, and, rising to the higher grounds, lose themselves in the wilds above. Here you see slips of land running into the lake, and covered with trees which seem to rise from the water: There, a boldly indented shore, swelling into fine bays, and skirted with spreading trees, an edging as elegant as ever fancied by *Claud* himself. The village is caught among some scat-

tered trees, in a sweet situation, on the bank of a bay, formed by a promontory of wood, the back ground a sweep of inclosures, rising one above another.

Following this line of shoar towards the north, you command *Bannerig* and *Oarest Head*, two hills all cut into inclosures to the very top; to the north you look upon a noble range of irregular mountains, which contrast finely with the other more beautiful shores. The western is a fine sweep of craggy rocks, here and there fringed with wood. Advancing to the very farthest point of land, these objects are varied, and new ones appear that are truly beautiful. The *Lancashire* ferry point and the woody island join, and seem one prodigious fine promontory of wood; the ferry house seen among the trees in a picturesque manner. They form the boundary in front of a fine bay, walled in to the right by a noble rocky cliff; and in the middle of it a sweet little woody island. Over the low part of the promontory the distant hills are seen finely. The shore to the left, here, appears peculiarly beautiful, for half a dozen inclosures of the most elegant verdure rise from the water's edge among sloping woods,
and

and offer a variety of colours of the most picturesque hues. From hence likewise you look back on *Bannerig*, a fine cultivated hill, rising from the lake in a most pleasing manner.

Moving from this end of the island along the west coast of it, the view is extremely picturesque: The streight is broke by three islands, two of them thickly covered with wood, the other a long slip, scattered with tall upright trees, through the stems of which, and under the thick shade of their spreading tops, the water is seen glittering with the sun beams; a landscape truly delicious.

From the north end of this isle, so happy in the beauties of prospect, the views are various, and some of them exquisite: Looking towards the south, you command a prodigious fine view of the lake, spreading to the right and left behind promontories, one beyond another, in a gloriously irregular sheet of water, encircled by an amphitheatre of hills, in the noblest stile. To the north you look upon another sheet, different from the first: It is broke by a cluster of four small but beautiful islands.

Full in front you look upon a noble sweep of mountains, and on one, in particular, that is very curious: It is of a circular form, rising out of a vast hollow among the rest, and is overtopped by them; romantic in the highest degree. A little to the right of it, you command one of the most noble of cultivated hills. It is intersected by hedges, trees, and scattered woods, into a vast sweep of inclosures, which reach the very top: A view beautifully magnificent. More to the right, the eye is delighted with the most elegant waves of cultivated inclosures, that can be conceived, rising to the view in the most picturesque varieties of landscape, and forcing admiration from the most tasteless of mortals. To the left, a vast range of rocks and mountains form the boundary of the lake, and project into it in the boldest manner.

Sailing from this noble island to that of *Berkshire*, a little hilly wood of scattered trees: The views are various, rich, and truly picturesque: From the north side of it you look upon a fine sheet of water, to the *Great Island*, &c. and bounded by a noble variety of shore. To the left, and
in

in front, high ridges of hills and mountains: To the right, most beautiful waving hills of inclosures; some just rising enough to shew their hedges distinctly, and others hanging full to the eye; beneath, a boundary of rough hills, and wild, uncultivated ground. To the left, you see *Crow Island*, which appears fine; and the ferry-house, beneath a clump of trees, on the point of a promontory, jetting into the water, with an effect really exquisite. To the east, you look against a very fine bank of inclosures, most elegantly scattered with trees. To the south, the lake is lost between two promontories, projecting into it against each other, and leaving a fine strait between: One is high and rocky; the other, a line of waving wood and inclosures, and catch beyond it the distant hills, which complete the view. The western prospect is on to a range of craggy hills; some most beautifully fringed with hanging woods, and cut in the middle by a cultivated wave of inclosures, broken by woods, hedges, clumps, and scattered trees, and rising one above another, in the most picturesque irregularity that fancy can suppose. At the top, a farm-house, un-

der a clump of trees; the whole forming a bird's eye landscape of the most delicious kind. Nor can any thing be finer than the hanging woods on this side of the lake, broken by grass inclosures of a beautiful verdure.

Sailing across the lake from *Berkshire* to the shore under these inclosures, which are called *Round Table*, nothing in nature can be more exquisite than the view, as you move, of a fine, long, grass inclosure, at the water's edge, on the opposite shore, bounded by fine woods, except to the lake, edged with some spreading trees, through which the view of the grass is truly picturesque. Other waving slopes of inclosures, to the right, hang to the lake, under the shade of a rough, wild hill, and down to a skirting of wood, on the water's edge, in the finest manner. Behind, the rocky cliff of *Fourness Fells*, has a noble appearance, crowned with a sweep of wood.

Sailing under the western shore, you command most beautiful landscapes on the opposite one, consisting of the finest banks of cultivated inclosures, scattered with trees, clumps of wood, farm houses,
 &c.

&c. and hanging to the water's edge in the most charming variety of situation; the fields in some places dipping in the very lake, in others thick woods rising from the water; scenes which call for the pencil of a genius to catch graces from nature beyond the reach of the most elaborate art.

Coming to *Ling Holm*, a small rocky island, with a few trees on it, you have a double view of the two shores, finely contrasted, the western spread with noble hanging woods; and the eastern one cultivated hills, waving to the eye in the finest inequalities of surface. The distant hills are also seen in a bold stile over the low inclosures of *Rawlinson's Nab*, a promontory to the south.

Landing on the point of that promontory the view is very noble, it commands two glorious sheets of water, north and south, each of four or five miles in length. That to the south is bounded in general by rough woody hills, broken in a few spots by little inclosures: In front of the promontory, several very beautiful ones, cut by irregular sweeps of wood, and hanging to the water's edge in the finest manner; the whole crowned with craggy tops of hills.

But the view to the north is much the most beautiful. *Berkshire Island* breaks the sheet of water in one place, and adds to the picturesque variety of the scene without injuring its noble simplicity. *Common Nab*, a promontory from the east shore, projects into it in another place, elegantly variegated with wood and inclosures, waving over sloping hills, and crowned with rough uncultivated ground. One inclosure in particular breaks into the wood in the most picturesque manner imaginable. This end of the lake is bounded by the noble hills of cultivated inclosures, already mentioned, which are viewed from hence to much advantage; they rise from the shore with great magnificence. To the left a ridge of hanging woods, spread over wild romantic ground, that breaks into bold projections, abrupt and spirited, contrasting the elegance of the opposite beautiful shore in the finest manner.

Having thus viewed the most pleasing objects from these points, let me next conduct you to a spot, where, at one glance, you command them all, in fresh situations, and all assuming a new appearance. For this purpose you return to the village, and
 taking

taking the bye road to the turnpike, (not that by which you came) mount the hill without turning your head (if I was your guide I would conduct you behind a small hill, that you might come at once upon the view) till you almost gain the top, when you will be struck with astonishment at the prospect spread forth at your feet, which, if not the most superlative view that nature can exhibit, she is more fertile in beauties than the reach of my imagination will allow me to conceive. It would be mere vanity to attempt to describe a scene which beggars all description, but that you may have some faint idea of the outlines of this wonderful picture, I will just give the particulars of which it consists.

The point on which you stand is the side of a large ridge of hills that form the eastern boundaries of the lake, and the situation high enough to look *down* upon all the objects: A circumstance of great importance, and which painting cannot imitate: In landscapes, you are either on a level with the objects, or look *up* to them; the painter cannot give the declivity at your feet, which lessens the objects as much in the perpendicular line as in his horizontal one.

You

You look down upon a noble winding valley of about twelve miles long, every where inclosed with grounds which rise in a very bold and various manner; in some places bulging into mountains, abrupt, wild, and uncultivated; in others, breaking into rocks, craggy, pointed, and irregular: Here, rising into hills covered with the noblest woods, presenting a gloomy brownness of shade, almost from the clouds to the reflection of the trees in the limpid water they so beautifully skirt: There, waving in glorious slopes of cultivated inclosures, adorned in the sweetest manner with every object that can give variety to art, or elegance to nature; trees, woods, villages, houses, farms, scattered with picturesque confusion, and waving to the eye in the most romantic landscapes that nature can exhibit.

This valley, so beautifully inclosed, is floated by the lake, which spreads forth to the right and left in one vast but irregular expanse of transparent water. A more noble object can hardly be imagined. Its immediate shoar is traced in every variety of line that fancy can imagine, sometimes contracting the lake into the appearance of
a noble

a noble winding river; at others retiring from it, and opening large swelling bays, as if for navies to anchor in; promontories spread with woods, or scattered with trees and inclosures, projecting into the water in the most picturesque stile imaginable: rocky points breaking the shore, and rearing their bold heads above the water. In a word, a variety that amazes the beholder.

But what finishes the scene with an elegance too delicious to be imagined, is, this beautiful sheet of water being dotted with no less than ten islands, distinctly commanded by the eye; all of the most bewitching beauty. The large one presents a waving various line, which rises from the water in the most picturesque inequalities of surface: high land in one place, low in another; clumps of trees in this spot, scattered ones in that; adorned by a farmhouse on the water's edge, and backed with a little wood, vying in simple elegance with *Boromean* palaces: Some of the smaller isles rising from the lake like little hills of wood, some only scattered with trees, and others of grass of the finest verdure; a more beautiful variety no where to be seen.

Strain

Strain your imagination to command the idea of so noble an expanse of water thus gloriously environed; spotted with islands more beautiful than would have issued from the pencil of the happiest painter. Picture the mountains rearing their majestic heads with native sublimity; the vast rocks boldly projecting their terrible craggy points: And in the path of beauty, the variegated inclosures of the most charming verdure, hanging to the eye in every picturesque form that can grace a landscape, with the most exquisite touches of *la belle nature*: If you raise your fancy to something infinitely beyond this assemblage of rural elegancies, you may have a faint notion of the unexampled beauties of this ravishing landscape.

As I next resume intelligence of husbandry with the county of *Lancaster*, I shall here conclude this letter,

I am, Sir, &c.

L E T T E R XVIII.

RETURNING to *Kendal* I took the road to *Burton*, passing through a country various in respect of culture: Around that town, particularly about *Holme*, their soil is a light loam on a lime stone, with some of sand, lets from 6s. 8d. to 3l. an acre; average about a guinea.

Farms from 20l. to 80l. a year.

As to their courses they did not use to fallow at all, but now they are,

1. Fallow
2. Wheat
3. Barley
3. Oats and then let it lie to graze itself.

And,

1. Fallow
2. Wheat
3. Barley
4. Clover
5. Wheat
6. Oats
7. Barley

8. Oats,

8. Oats, and then lye as before; for this these flovens deserve to be hanged.

Of wheat they sow two bushels, about *Michaelmas*, and reap from twelve to fifteen. For barley they plough twice, sow not quite three bushels, about the end of *April* or the beginning of *May*, and reckon the average produce at twenty. They plough but once for oats, sow four bushels about the time of barley sowing; the crop twenty-four. They cultivate some beans, plough once, sow two bushels in *March* or *April*, never hoe, but gain on an average twenty-three bushels. They plough once for pease, sow a bushel and half, and gain from none at all to fifteen bushels. For rye they likewise give but one earth, sow two bushels; the crop from twelve to fifteen.

They stir twice for turneps, know nothing of hoeing; the average value *per* acre, 5 *l.* or 6 *l.* *Thomas Richardson* has had crops that he would not take 12 *l.* an acre for; but such extravagant prices are not in the least owing to good husbandry, but the scarcity of the commodity. They use them for cows, sheep, &c. &c. Clover is not very common, but they sow it with

with barley; they get 15 *Cwt.* of hay off it the first crop, and 10 or 12 *Cwt.* the second; but sometimes they feed one crop.

Their culture of potatoes is as follows: They dung the lay ground well; lay the slices (18 bushels) on the dung, and then dig trenches two spits wide, and cover the setts, which are laid seven inches square, with the turfs and moulds that rise: If weeds come they are drawn out by hand. The crop, upon an average, 180 bushels *per* acre. Barley they sow after them, and get thirty bushels an acre. This is the lazy-bed way.

As to manure, they can at present boast a little, for lime is in use among them, but it has been only for two or three years; they lay 90 or 100 bushels an acre on to fallow for wheat, costs $4\frac{1}{2}d.$ *per* bushel; they do not pare and burn; stack their hay in houses, but know nothing of chopping their stubbles.

Good grass lets from 2 *l.* to 3 *l.* They use it chiefly for the dairy: An acre and a quarter, or an acre and an half, they reckon sufficient for the summer feed of a cow; and an acre to keep four or five sheep. Their breed of cattle is the long horned.

The

The product of a cow, 6*l.* 6*s.* to 7*l.* They give four gallons of milk *per* day, on an average. To ten cows, they keep two or three swine. The winter food hay and straw; of the first, about an acre and half. The summer joist, 35*s.* A dairy-maid, they reckon, can take care of eight cows; calves suck from five to six weeks, both for rearing and butcher.

Sheep they reckon, I know not for what reason, hurtful among milch cows; their flocks are from twenty to one hundred and fifty, the profit 5*s.* or 6*s.* *per* sheep; keep them all the year in the field; the medium of their fleeces 6 or 7*lb.* from 3*d.* to 5*d.* *per lb.*

In the tillage of their lands they reckon four horses necessary for fifty acres of arable land, use three or four in a plough, and do three rood a day. The annual expence of keeping a horse they reckon 6*l.* They break up their stubbles for a fallow in *March*; plough in general about five or six inches deep; the common price 8*s.* an acre.

Two shillings a day the hire of a cart and horse.

One hundred pounds they reckon sufficient for stocking a farm of 50 *l.* a year.

Tythes are generally taken in kind.

Poor rates 3*d.* in the pound; they spin flax and wool. Most of them drink tea twice a day.

Estates are either large, or under 100 *l.* a year: Very few gentlemen of 2, 3, 4, or 500 *l.* a year.

The farmers do not carry their corn above three miles.

The following sketches of farms will give an idea of their general œconomy.

55 acres in all
 50 arable
 £. 56 rent
 4 horses
 10 cows
 4 young cattle
 2 fattening beasts
 1 boy
 1 labourer.

Another,

70 acres in all
 50 arable.
 £. 65 rent
 5 horses
 12 cows

2 fattening beasts
 6 young cattle
 30 sheep
 1 man
 1 boy
 1 maid
 1 labourer.

Another,

35 acres in all
 30 arable
 £. 35 rent
 4 horses
 4 cows
 6 young cattle
 1 boy
 1 maid.

Another,

46 acres in all
 38 arable
 £. 40 rent
 4 horses
 6 cows
 4 young cattle
 20 sheep
 1 man.

L A B O U R.

In harvest, 1 s. a day and board.

In hay time, ditto.

In

In winter, 6 *d.* and ditto.

Reaping *per* acre, 8 *s.* to 8 *s.* 6 *d.*

Ditching, 6½ *d.* a rood.

Head-man's wages, 9 *l.* to 10 *l.*

Next ditto, 6 *l.*

Boy of ten or twelve years, 3 *l.*

Dairy maid, 4 *l.* 4 *s.*

Other ditto, 50 *s.* to 3 *l.* 3 *s.*

Women *per* day in harvest, 8 *d.* and board.

In hay time, 6 *d.* and ditto.

In winter, 4 *d.* and ditto.

IMPLEMENTS, &c.

No waggons.

A cart, 4 *l.* to 6 *l.*

A plough, 15 *s.*

A harrow, 7 *s.* 6 *d.*

Few rollers.

A scythe, 2 *s.* 3 *d.*

A spade, 2 *s.* 6 *d.*

Laying a share and coulter, 2 *s.*

Shoeing, 1 *s.* 4 *d.*

PROVISIONS, &c.

Bread—Oat less than 1 *d.*

Cheese, 3 *d.*

Butter, 6½ *d.* 18 *oz.*

Beef, 2½ *d.*

O 2

Mutton,

Mutton, 2 *d.*

Veal, 2 *d.*

Pork, 4 *d.*

Milk, $\frac{1}{2}$ a quart new, three quarts skim
for 1 *d.*

Potatoes, 8 *d.* a peck.

Candles, 6 $\frac{1}{2}$ *d.*

Soap, 6 *d.*

Labourer's house rent, 15 *s.* to 30 *s.*

———— firing, 25 *s.* to 30 *s.*

Lancaster is a flourishing town, well situated for trade, of which it carries on a pretty brisk one; possessing about 100 sail of ships, some of them of a good burthen, for the *African* and *American* trades; the only manufactory in the town is that of cabinet ware; here are many cabinet-makers, who work up the mahogany brought home in their own ships, and re-export it to the *West Indies*, &c. &c. It is a town that increases in buildings; having many new piles, much superior to the old streets, and handsomely raised of white stone and slate.

At *Kabers* the soil is chiefly clay, but they have some light loam and some sand; lets at an average for 17 *s.* an acre. Farms from 10 *l.* to 70 *l.* a year.

Their

Their course,

1. Fallow
2. Barley
3. Oats
4. Fallow
5. Wheat
6. Beans
7. Oats.

About *Cockeram* they break up and sow,

1. Pease
2. Barley
3. Oats.

For wheat they plough three times, sow three bushels and a half, often in *February* and *March*, and get about twenty-six in return. For barley they stir three times, sow three bushels about *May* day, and gain thirty in return. They give but one ploughing for oats, sow six bushels, and gain forty in return. They stir but once for beans, sow four bushels, broad cast, the beginning of *March*, and reckon the average produce at thirty-six bushels. For pease they plough but once, sow three bushels, at the time with beans; the crop thirty bushels. For rye they plough thrice, sow three bushels, and gain four quarters in return.

But few turneps cultivated: The method is to plough twice for them, never hoe; the average value 8 *l.* Use them for beasts and sheep.

For potatoes they plough thrice, dung the land well, and dibble them in eight or ten inches square; they afterwards weed them by hand: The crop from 100 to 200 bushels, at from 1 *s.* to 1 *s.* 4 *d.* a bushel: They sow wheat after them, and get very fine crops, much superior to their common ones.

As to manures, marle is the grand one, which is found under all this country, and generally within sixteen or twenty inches of the surface; it lies in beds, many of them of a vast depth, the bottoms of some pits not being found: It is white, and as soft and soapy as butter. They lay about an hundred two horse cart loads to an acre, but some farmers less, on to lays and stubbles. It lasts a good improvement for twenty years; costs about 4 *l.* 10 *s.* an acre. Their hay they stack in houses.

Good grass lets for 26 *s.* an acre; is used chiefly for dairying; one acre and a quarter they reckon enough for a cow in summer, and one acre to four sheep. They
marle

marle a good deal, and find it a fine improvement, making the grafs fatten well, and excellent for milk. Their breed of cattle the long horned. They reckon the profit of a cow at 4 *l.* and a middling one to yield fix gallons of milk a day. The winter food straw and hay, of the latter an acre and quarter: Keep about a pig to two cows; and reckon a dairy maid to ten or twelve. The summer joist is 30 *s.* keep them in winter in the house.

Their swine they fat to 4 *l.* 10 *s.* or 5 *l.* value.

Their flocks of sheep rise from twenty to 400, having some commons in the neighbourhood; and reckon the profit at 7 *s.* 6 *d.* or 8 *s.* a head: Keep them all the year on the commons: Their fleeces weigh, at a medium, 3 *lb.*

In tillage they account six horses necessary for fifty acres of arable land; use six in a plough, and do an acre a day. The annual expence *per* horse 4 *l.* 15 *s.* None of them cut straw into chaff. The time of breaking up their stubbles for a fallow is *Candlemas*; plough generally four or five inches deep. The hire of a cart and three horses is 4 *s.* 6 *d.* a day.

They reckon 150 *l.* necessary for hiring and stocking a farm of 50 *l.* a year.

Tythes compounded for.

Rates 3 *d.* in the pound. The employment of the poor women and children spinning flax.

Leases are both for terms of years and for lives.

The farmers carry their corn fourteen miles.

The following are the particulars of some farms in this country.

45 acres in all

13 arable

£. 50 rent

4 horses

4 cows

6 young cattle

3 fattening beasts

12 sheep

1 man

2 maids

1 labourer.

1 plough

3 carts.

Another,

62 acres in all

16 arable

46 grafs
 £.63 rent
 5 horfes
 10 cows
 8 young cattle
 3 fattening beafts
 30 ſheep
 1 man
 1 maid
 1 boy
 2 ploughs
 2 carts.

Another,

70 acres in all
 30 arable
 40 grafs
 £.75. rent
 8 horfes
 12 cows
 10 young cattle
 5 fattening beafts
 40 ſheep
 1 man
 1 boy
 1 maid
 1 labourer
 3 ploughs
 4 carts.

LABOUR.

L A B O U R.

In harvest, 1*s.* and board.

In hay time, ditto.

In winter, 6*d.* and ditto.

Reaping wheat, 6*s.* 6*d.*

————barley, 6*s.*

————oats, 5*s.*

————beans, 6*s.*

Mowing grass, 2*s.* and ale.

Ditching, 6*d.* to 8*d.* *per* rood.

First man's wages, 9*l.*

Next ditto, 5*l.*

Boy of ten or twelve years, 40*s.*

A dairy maid, 3*l.*

Other ditto, 40*s.* to 50*s.*

Women *per* day in harvest, 8*d.* and board.

In hay time, 6*d.* and ditto.

In winter, 4*d.* and ditto.

They reckon the value of a man's board, washing, and lodging, 3*s.* 6*d.* a week.

I M P L E M E N T S, &c.

No waggons.

A cart, 8*l.* to 9*l.*

A plough, 15*s.*

A harrow, 11*s.*

A roller, 10*s.* 6*d.*

A scythe,

A scythe, 2 s. 6 d.
 A spade, 3 s.
 Laying a share, 8 d.
 ——— coulter, 8 d.

PROVISIONS, &c.

Bread—oat, 11 lb. for 1 s.
 Cheefe, 3 d.
 Butter, 8 d. 16 oz.
 Beef, 2 $\frac{1}{2}$ d.
 Mutton, 2 $\frac{1}{2}$ d.
 Pork, 4 d.
 Milk, $\frac{1}{2}$ d. a pint.
 Potatoes, 3 d. a peck.
 Turneps, 1 $\frac{1}{2}$ d. ditto.
 Candles, 7 $\frac{1}{2}$ d.
 Soap, 6 d.
 Labourer's house rent, 20 s.
 ——— Firing, 20 s.
 Tools, 10 s. 6 d.

Around *Garstang* are several variations which deserve noting. The soils are clay, black moory, on clay, and light loam; letts on an average at 17 s. an acre. Farms from 10 l. to 150 l. a year. Their course,

1. Fallow
2. Wheat

3. Beans

3. Beans

4. Barley

5 Oats, and then left to graze itself, and they assured me very gravely the grass was excellent: They plough thrice for wheat, sow three bushels a fortnight before *Michaelmas*, and reckon thirty-five bushels the average produce. For barley they stir from one to four times, sow three bushels *per* acre the end of *April*; and gain thirty bushels an acre. For oats they plough but once, sow seven bushels an acre in *March*, and gain on an average forty-five bushels. They stir but once for beans, sow four bushels and a half, broad cast, both under furrow, and above, the end of *February* or beginning of *March*; never hoe them: They gain thirty bushels. Sow neither pease nor rye, and scarce any turneps. Clover with both barley and oats; and generally mow it for hay.

For potatoes they dig all the land nine inches deep, and then dung it well; dibble in the setts nine inches asunder; reckon a peck to set a perch of twenty-one feet: They hand-weed them, and gain upon an average three bushels and a half *per* perch,

or

or 450 bushels *per* acre; after them they sow corn of all sorts, and get great crops.

Marle is their principal manure, both white, black, blue, sandy, and some shell marle. They sometimes find perfect cockle and periwinkle shells, nine yards deep, in beds of marle. The surface is from one to four feet of thickness above it: Twenty-three square yards does an acre. It is quite soft and soapy. The land will be for ever the better for it: It does best on light soils. The marle husbandry here is to plough three years, and let it lie three. They find a second, and even a third marling, to answer well: The average expence about 4*l.* *per* acre.

Lime they also use: Lay 50 windles *per* acre, at 1*s.* 4*d.* *per* windle; and sometimes up to 80 and 100; the expence to 5*l.* and 6*l.* 10*s.* *per* acre; lasts generally four or five years in great heart; but, with very good management, for twenty years.

Good grass lets from 30*s.* to 35*s.* an acre, they use it chiefly for cows, and reckon an acre and a quarter sufficient for the summer feed of a cow, and four sheep to the acre. They manure their pastures with both marle and lime. The breed of
their

their cattle long horned. And it will not here be amiss to remark, that *Lancashire* is famous for this long horned breed, so that cows, which come of thorough bred bulls (and they are very curious in their breed) will sell at very high prices, up to 20 and 30 *l.* a cow, if they promise well for producing good bulls, which sometimes sell for 100 *l.* or 200 *l.* a bull.

They fat their oxen to forty and sixty stone.

Their swine, in common, to twenty stone : One in particular, to thirty.

They reckon the product of a cow from 3 *l.* 10 *s.* to 4 *l.* Keep scarce any swine the more upon account of their dairies. Feed their cows in winter upon straw and hay ; and reckon an acre of the latter necessary. The summer joist 20 *s.* to 30 *s.* Keep them in both field and house in the winter.

Their flocks of sheep rise from twenty to two hundred, calculate the profit at 4 *s.* or 5 *s.* keep them in both winter and spring on the commons : The mean weight *per* fleece 3 *lb.*

They reckon twelve or thirteen horses necessary for the management of 100 acres
of

of arable land. Use four in a plough, and do an acre a day. The annual expence of keeping horses 5*l.* 10*s.* each. The summer joist 30*s.* to 50*s.* and 3*s.* 6*d.* a week. They break up their stubbles for a fallow in *March*; plough in general six inches deep. The price *per* acre 8*s.* Know nothing of chopping straw for chaff. Hire of a cart, three horses and a driver, 4*s.* a day.

In the stocking of farms 500*l.* is necessary to stock a grazing one of 150*l.* a year; but 200*l.* sufficient for the common ones of 100*l.* a year.

Land sells at from thirty to forty years purchase.

Tythes both gathered and compounded for.

Poor rates in *Garstang* 5*d.* in the pound; in villages 2*d.* They spin cotton and flax. All drink tea.

But few small estates.

The farmers carry their corn twelve miles.

Many leases for three lives; and some on terms of years.

The

The following particulars of farms will
shew the general œconomy of the country.

200 acres in all

70 arable

130 grafs

£. 180 rent

12 horses

10 cows

8 fattening beasts

25 young cattle

50 sheep

2 men

2 boys

2 maids

2 labourers.

Another,

160 acres in all

60 arable

100 grafs

£. 140 rent

9 horses

15 cows

18 young cattle

4 fattening beasts

200 sheep (common right)

1 man

2 maids

3 boys

3 boys
2 labourers.

Another,

110 acres in all
50 arable
60 grafs
£.85 rent
8 horfes
6 cows
15 young cattle
2 fattig beasts
26 sheep
1 man
1 maid
2 boys
1 labourer.

L A B O U R.

In harvest, 1*s.* a day and board.

In hay-time, 10*d.* and ditto.

In winter, 6*d.* and ditto.

Reaping wheat, 6*s.*

———— barley, 5*s.* 6*d.*

———— oats, 5*s.* 6*d.*

———— beans, 7*s.* to 8*s.* 6*d.*

Ditching, 3*d.* to 5*d.*

First man's wages, 10*l.*

Next ditto, 7*l.*

Boy of ten or twelve years, 38 s.

Dairy maid, 3 l. 10 s.

Other ditto, 3 l.

Women *per* day, in harvest, 6d. and board.

In hay-time, 5 d. and ditto.

In winter, 4 d. and ditto.

I M P L E M E N T S, &c.

Scarce any waggons, but coming into use slowly.

A cart, 12 l.

A plough, 20 s.

A harrow, 10 s.

No rollers.

A scythe, 3 s. 6 d.

A spade, 3 s.

Shoeing, 1 s. 4 d.

P R O V I S I O N S, &c.

Bread—Oat, $\frac{3}{4}$ and 1d. *per lb.*

Cheese, 3 d.

Butter, 7 d. 16 oz.

Beef, 3 d.

Mutton, 3 d.

Pork, 3 d.

Candles, 6 $\frac{1}{2}$ d.

Soap, 6 d.

Labourer's house-rent, 15 s. to 40 s.

—— firing, 30 s.

B U I L D I N G.

Oak timber, 1 s. 6 d. to 3 s.

Ash, 1 s. 4 d.

Elm, 1 s. 4 d.

Soft woods, 6 d.

Mason *per* day, 1 s. 6 d. and beer.

Carpenter, 1 s. and ditto.

Walling, 7 d. a yard the workmanship.

From *Garstang* to *Wigan* land lets from 15 s. to 3 l. an acre, average 25 s. and farms rise from 30 l. to 100 l. a year.

From *Wigan* to *Warrington* land from 15 s. to 3 l. 10 s. and farms 15 l. to 100 l. a year. At *Warrington* the manufactures of sail-cloth and facking are very considerable. The first is spun by women and girls, who earn about 2 d. a day. It is then bleached, which is done by men, who earn 10 s. a week; after bleaching it is wound by women, whose earnings are 2 s. 6 d. a week; next it is warped by men, who earn 7 s. a week; and then starched, the earnings 10 s. 6 d. a week. The last operation is the weaving, in which the men

earn 9s. the women 5s. and boys 3s. 6d. a week.

The spinners in the facking branch earn 6s. a week, women; then it is wound on bobbins by women and children, whose earnings are 4d. a day; then the starchers take it, they earn 6s. a week; after which it is wove by men, at 9s. a week. The fail-cloth employs about 300 weavers, and the facking 150; and they reckon twenty spinners and two or three other hands to every weaver.

During the war the fail-cloth branch was very brisk, grew a little faint upon the peace, but is now and has been for some time pretty well recovered, though not to be so good as in the war. The facking manufacture was better also in the war; but is always brisk.

The spinners never stand still for want of work; they always have it if they please; but weavers sometimes are idle for want of yarn, which, considering the number of poor within reach, (the spinners of the facking live chiefly in *Cheshire*) is melancholy to think of.

Here

Here is likewise a small pin-manufactory, which employs two or 300 children, who earn from 1 s. to 2 s. a week.

Another of shoes for exportation, that employs four or 500 hands (men,) who earn 9 s. a week.

P R O V I S I O N S, &c.

Bread—oat and barley mixed.

Butter, $7\frac{1}{2}$ d. 16 oz.

Cheese, $3\frac{1}{2}$ d.

Mutton, 3 d.

Beef, 3 d.

Veal, 3 d.

Pork, 4 d.

Bacon, 6 d.

Milk, $\frac{1}{2}$ d. a half pint.

Potatoes, $3\frac{1}{4}$ d. a peck.

Poor's house rent, 20 s. to 30 s.

—— firing, 16 s.

Upon the whole these manufactures are very advantageous, as they employ above 11,000 hands.

At *Bowls*, between *Warrington* and *Prescot*, the soils are clay and rich loam, letts from 10 s. to 25 s. an acre. Farms

P 3 from

from 20 *l.* to 80 *l.* a year. Their courses,

1. Fallow
2. Wheat
3. Oats.

Also,

1. Fallow
2. Wheat
3. Oats.
4. Clover.

Of wheat they get sixteen bushels *per* acre; oats twenty-five, and beans sixteen. Their principal manure is marle; lay on an acre two or three rood, at eight square yards each, costs 3 *l.* an acre, and lasts good seven or eight years: Use it chiefly for clay soils. Lime they lay on warm dry lands, 125 bushels *per* acre, costs 3 *l.* 10 *s.* or 4 *l.* They plough up their stubbles at *Candlemas* for a fallow. The produce of a cow they reckon at 3 *l.*

The following are the particulars of some farms in this neighbourhood.

40 acres in all
 12 arable
 28 grafs
 £.50 rent

3 horses

3 horses
 4 cows
 6 young cattle
 1 maid.

Another,

65 acres in all
 20 arable
 45 grafs
 £. 58 rent
 4 horses
 6 cows
 6 young cattle
 20 sheep
 1 man
 1 boy
 1 maid.

Another,

90 acres in all
 30 arable
 60 grafs
 £. 85 rent
 6 horses
 10 cows
 13 young cattle
 20 sheep
 1 man
 1 maid
 1 boy.

The town of *Liverpool* is too famous in the trading world to allow me to pass it without viewing: I wanted to be informed of a few particulars relative to the shipping, imports, exports, and rise and fall of their commerce, a little of which I gained, tho' by no means what I wished. I walked over the town for a view of the publick buildings, &c. the following are the minutes I took.

The exchange is a quadrangular building furrounding a court, which is inclosed by a double row of *Tuscan* pillars, and over them another of *Corinthian* ones; but the area is so small, that it has more the appearance of a well than the court of an edifice. In this building is the assembly-room, sixty-five feet by twenty-five, handsomely fitted up; but the music-gallery at one end is a mere over-grown shelf; the common blunder in nine assembly-rooms out of ten. The card room is preposterous; a narrow slip of about eleven feet wide; so that *Lilliputian* card tables must be made on purpose for the room, or no passage remain around them for spectators. From the cupola on the top of the building is a very fine view of the town.

The new church, dedicated to *St. Paul*, is a building that does credit to the town: It stands in the centre of a square, so that you may view it to much better advantage than its namesake at *London*; but though handsome in several respects, yet will it by no means stand so well the test of examination. The cupola is by no means striking; it does not rise in a bold stile; its being ribbed into an octogon is disadvantageous; nor is there simplicity enough in the lantern. There is a great heaviness in the breadth of the space between the capitals of the pillars and the cornice. Within there is a central circular area of forty feet diameter, inclosed by pillars of the *Ionic* order: There is much lightness, and a simple elegance in it that is pleasing; but all hurt by the absurdity of the square cornices above the pillars, which project so much as to be quite disgusting. This church was raised at the expence of the parish, and cost 12,000 *l*.

But the glory of *Liverpool* is the docks for the shipping, which are much superior to any mercantile ones in *Britain*: One very fine new one, of a circular form, is finished, and defended by a pier, all excellently

lently well faced with stone, and perfectly secure from storms. Out of this is an entrance into another, called the *New Dock*, now executing, of a large size, capable of containing several hundred sail, and faced in the same manner all round with large stone: Out of this is to be a passage into another very capacious one, called the *Dry Pier*, and this again leads into two others, called the *Old* and *South Docks*; and likewise has an entrance by the river from the sea: Into this likewise open three very noble docks for building large ships, admirably contrived. These three, *Dry Pier*, and *Old* and *South Docks*, are all totally surrounded by the town, so that ships of 4, 5, 600, and some of 900 tons burthen, lay their broad sides to the quays, and goods are hoisted out of them, even into many of the warehouses of the merchants.

A little out of the town is a very pretty new walk, spread on one side with small plantations, and looking on the other down upon the town and river: A coffee-house, &c. built new upon it: It is lately done, and a good improvement.

There

There is a manufacture of porcelain at this place, which employs many hands; the men earn in it from 7*s.* to 10*s.* a week. Likewise a stocking manufactory, in which they earn from 7*s.* to 9*s.* Also two glass-houses, in which the earnings are 9*s.* or 10*s.* a week.

Poor rates in *Liverpool* 1*s.* in the pound.

Land, five miles round it, letts, at an average, at 31*s.* 6*d.* per acre.

They suppose the number of inhabitants to be near 40,000.

P R O V I S I O N S, &c.

Bread, 1 $\frac{1}{2}$ *d.*

Butter, 8 *d.* 18 *oz.*

Cheese, 3 $\frac{1}{2}$ *d.*

Beef, 2 $\frac{1}{2}$ *d.*

Mutton, 3 $\frac{1}{2}$ *d.*

Veal, 4 *d.*

Pork, 4 *d.*

Bacon, 7 *d.*

Milk, $\frac{1}{2}$ *d.* a pint.

Potatoes, 3 *d.* a peck.

Candles, 7 $\frac{1}{2}$ *d.*

Soap, 7 $\frac{1}{2}$ *d.*

Poor's house rent, 20 *s.* to 30 *s.*

———— firing, 15 *s.* to 20 *s.*

The trade of *Liverpool* increased regularly during the whole course of the war, and was at its height when the new regulations of the *American* trade took place: The stopping the trade with the *Spaniards* in *America*, with some other measures at that time relative to the Colonies, gave a blow to the commerce of this town, which she has not recovered; so that they have since been, and are now, much upon the decline: A great number of ships are laid by in the harbour, and a general languor spread over their whole trade.

The husbandry around *Ormskirk*, particularly about *Halfall*, is as follows: The soil is in general a sandy loam; letts, upon an average, at 15 s. *per* acre. Farms from 5 l. to 100 l. a year, but chiefly about 40 l. Their course is,

1. Break up the ground, and sow Oats
2. Barley
3. Wheat
4. Oats
5. Vetches
6. Barley
7. Clover three or four years, and then comes to grass of itself, and very fine grass it must be.

They

They plough five times for wheat, sow a bushel and half, and reap from twenty-five to thirty-five bushels. For barley they plough thrice, sow two bushels and an half, and get about twenty in return. They stir but once for oats, sow four bushels; the crop twenty. For beans they give three earths, sow two bushels and half, broad cast, never hoe them, and get upon an average about thirty. They use very little rye or pease. Their clover they reckon more profitable than corn, get very great crops.

They used always to dig for potatoes, but have of late changed that method for ploughing: They set them upon both grass and tillage land, but always dung well. The soil they prefer is the light sandy. They lay the slices in the furrows after the plough, so as to come up about nine inches asunder every way; while growing they hand weed them. A common crop is 150 bushels; and a good acre worth 10/.

The principal manure used here is marle, which they lay upon the sandy soils; it costs about 3/ an acre, and lasts good for twenty years; improves best for wheat and
oats.

oats. They stack their hay in the farm yards, but know nothing of chopping the corn stubbles.

Good grafs letts at 30 s. an acre ; they use it both for fattening, dairying, and breeding ; two acres they reckon necessary to summer a cow ; never manure their grafs.

They reckon the product of a cow at 5 l. give upon a medium six gallons of milk a day. They keep about two or three hogs to ten. The winter food is hay and straw, of the first about 120 stone (20 lb. each) is sufficient ; and have it in the house all winter. The calves they bring up by hand, one month for the butcher, and two months for rearing. They reckon a dairymaid can take care of ten cows. The summer joist is 20 s.

The flocks of sheep rise from twenty to an hundred ; the profit *per* head 10 s. They keep them all winter and spring upon grafs. The average weight of the fleeces about 2 lb.

In their tillage they reckon six horses necessary for an hundred acres of arable land ; use two or three in a plough, and do an acre a day. The annual expence *per* horse 5 l. The summer joist 40 s. They
break

break up the stubbles for a fallow in *February* or *March*; the common price *per* acre of ploughing 4 *s.* to 5 *s.* They stir six inches deep.

They know nothing of cutting straw into chaff.

The hire of a cart, three horses, and a driver *per* day is 5 *s.*

In the hiring and stocking of farms they reckon 150*l.* sufficient for one of 50*l.* a year.

Land sells from thirty to forty years purchase. No little estates.

Tythes are taken in kind.

Poor rates 6 *d.* in the pound: The employment spinning cotton. Some of them drink tea.

The farmers carry their corn seven or eight miles.

Leases run in general on terms of years, seven, fourteen, or twenty-one; but some on three lives.

The general œconomy will be seen from the following sketches:

400 acres in all

100 arable

300 grass

£. 200 rent

20 horses

20 horses
 30 cows
 30 young cattle
 10 fattening beasts
 40 sheep
 4 men
 2 boys
 2 maids
 2 labourers
 4 ploughs
 2 carts.

Another,

60 acres in all
 20 arable
 40 grass
 £. 120 rent (it is near the town)
 3 horses
 15 cows
 10 young cattle
 1 man
 1 maid
 1 plough
 1 cart.

Another,

60 acres in all
 20 arable
 40 grass
 £. 50 rent

3 horses

3 horses
 6 cows
 10 young cattle
 3 fattening beasts
 20 sheep
 1 man
 1 maid
 1 plough
 1 cart.

Another,

135 acres in all
 70 arable
 65 grass
 £.95 rent
 8 horses
 20 cows
 6 young cattle
 40 sheep
 2 men
 2 boys
 2 maids
 2 labourers
 3 ploughs
 3 carts.

L A B O U R.

In harvest, 1 s.

In hay time, 8 d.

In winter, 10*d.* (this they say is because the work is so much harder.)

Mowing grafs, 1*s.* 3*d.*

Ditching, 8*d.* to 1*s.* a rood.

Thrashing wheat, 3*d.* a bushel.

————barley, 2*d.*

————oats, 1½*d.*

————beans, 2*d.*

Head man's wages, 7*l.*

Next ditto, 5*l.*

Boy of ten or twelve years, 30*s.*

Dairy maids, 3*l.*

Other ditto, 2*l.* 10*s.*

Women *per* day in harvest, 1*s.*

In hay time, 8*d.*

The value of a man's board, washing, and lodging, 9*l.*

I M P L E M E N T S, &c.

No waggons.

A cart, 4*l.*

A plough, 20*s.*

A harrow, 10*s.*

No rollers.

A scythe, 3*s.*

A spade, 3*s.*

Shoeing, 1*s.* 4*d.*

BUILD-

B U I L D I N G.

Bricks, *per* thousand, 10 s.

Oak, 1 s.

Mason, *per* day, 2 s.

Carpenter, 2 s.

Farm houses of brick and slate.

In the parish are,

2000 acres

100 farms

£. 2000 rent

£. 50 rates

£. 25 highways

55 labourers

20 poor

200 horses

400 cows

200 sheep

100 fatting beasts.

On the western side of *Halfell*, near the sea, lies about 1000 acres of bog, called *Halfell-Moss*, which about thirty years ago was not on an average worth 1 *d.* an acre: Turfs were dug out of part of it for burning. Mr. *Edward Segar*, of *Barton-House*, who possessed a considerable part of it, began the improvement of it, which has

since been conducted by Mr. *Parke* of *Liverpool*.

It was so very soft that no cattle could go on it during the greatest part of the year; for which reason the first business was draining. It was for that purpose divided into fields of about two acres each, by ditches five feet wide at top, three feet deep, and three feet wide at bottom; the digging these cuts cost *4d. per rood*.

In about a year the ditches were half closed up; and all cleaned out again. Then another year elapsed before any further improvement was undertaken: This time was given it for a gradual draining, that the surface might be tolerably firm for the bearing of men and horses.

At the end of the second year it was consolidated enough to bear men for paring and burning it, which was performed in winter, two or three inches deep. The paring cost *7s. per acre*, and the burning *1s. 6d.*

After this it was ploughed with one horse in boots, shod with boards of an oval shape, eighteen inches wide, which enabled the horse to move securely upon the bog. The turfs raised by this ploughing

ing were also burnt; for the first paring is often of so puffy a nature as to afford scarce any ashes; but the second, coming after a greater consolidation, and the plough cutting so much deeper than a man, the ashes are more in quantity and of a better nature. This second burning was performed the beginning of *August*.

The ashes were ploughed in immediately, quite hot, to the depth of about three or four inches, and upon that one earth, without any harrowing either before or after, rye was sown the beginning of *September*, near a bushel to the acre, which generally produced about twenty-five in return.

This rye was off the land time enough for another burning of the old furrows, which cost about 3 s. an acre; after which it was again ploughed, and sown with rye as before, and the crop nearly the same.

With this second crop of rye much natural grass came, which was left to itself for three years, but kept pastured by cattle, and turfed very well.

In the *April* after these three years, it was ploughed as at first with one horse, and the furrows burnt; then it was stirred a

second time and sown with oats, four bushels *per* acre, and the crop was near thirty. After they were cleared from the land, it was burnt again as in the former course, and after a ploughing, a second crop of oats sown, that yielded much the same as the last. The grass again coming of itself, it was left to graze for four years, and was a very good pasture.

This was the general management: Taking two crops of rye or oats, and then letting it lye in grass for three or four years, and always breaking up with burning: And in this management several hundred acres were and are adjudged by a many farmers, to be worth from 7*s.* 6*d.* to 15*s.* *per* acre.

As the rye is sown without harrowing, it should be while corn is plentiful in the field, that vermine may have no particular temptation to attack it.

This system of management has been found, *on experience*, to be very advantageous; it would be, therefore, impertinent to prescribe, for such a peculiar soil, any improvements; but I cannot avoid remarking, that if grass seeds were sown with the second corn crop, the succeeding pasturage would

would probably be much better. The public is, however, much indebted to these gentlemen for the discovery.

Returning to *Warrington*, I took the road to *Altringham*; the country of various soils, but chiefly loam and sand; letts from 13 s. to 22 s. per acre. About that place it is chiefly sandy and some clay, and light loam; letts from 13 s. to 25 s. an acre.

Farms from 20 l. a year to 300 l. The course of crops

1. Fallow
2. Wheat
3. Oats
4. Clover for different terms.

They plough three or four times for wheat, sow two bushels a fortnight or three weeks before *Michaelmas*, and reckon the average produce at thirty bushels. For barley they plough thrice, sow four bushels the beginning of *May*, and gain in return about thirty-three at a medium. For oats they give but one ploughing, sow four bushels and a half the beginning of *March*, and get about forty-five at a medium. They give two or three earths for beans, dibble them in, three bushels per acre, at six inches asunder, and hand weed them

while growing; the crop forty bushels. They sow wheat after them, and get good crops. For pease they also plough twice or thrice, dibble them as beans, and hand weed them; the crop about three quarters.

But few turneps are cultivated; such as do sow them, plough the land three or four times; no hoeing, but the crop is thinned by hand for serving the markets. Average value from 4 *l.* to 10 *l.* an acre. Use them for all sorts of cattle. Clover they sow with barley and oats, use it chiefly for hay, of which they get two tons *per* acre at a mowing. Tares they sow for hay, and get four loads an acre, three-horse cart loads, worth 20 *s.* a load, and fallow after them for wheat. Buckwheat they have sown for a dressing for wheat, by ploughing it in, and find it does best on dry sandy land.

They dig for potatoes generally after oats, dunging the land well; they dibble the setts in, twenty-two bushels do an acre. Some hand-weed them while growing; others hand-hoe them. The crop about 320 *cwt.* *per* acre, (120 *lb.* each;) some twice as much. Mr. *Thomas Warburton*, of *Altringham*, made for some years 25 *l.* a year from one acre of land by potatoes. They
sow

sow wheat or barley after them, and are sure of a great crop.

Marle is their great manure ; they have it of all sorts, red, white, blue, black, and brown ; they reckon it does best on the ground it is under ; lay from twenty-four to forty square yards on an acre. Upon clay they lay thirty-two ; upon sand forty ; and upon bog the same. It costs about 1 s. a yard. It will be an improvement in some measure for ever, if not kept too long in tillage. They have found from experience, that it answers well to marle twice.

Lime they also use both upon clay and sand, but does best upon the former : They lay on an acre eighty or an hundred loads, at ten pecks each. Another and excellent way of using it is, to plant potatoes upon the stuff thrown out of their ditches, and afterwards mix it up with lime. It costs 1 s. a load thirteen miles off. Their boggy land they pare and burn. They buy dung at *Manchester* at from 4 d. to 7 d. a ton, but agree for it in the lump. They stack their hay at home.

Good grafs letts at 30 s. an acre ; they apply it both to fattening and dairying ; and reckon

reckon that an acre is sufficient to keep a cow through the summer ; but they both dung and marle it. Their breed of horned cattle is the long horns, fat them from thirty to fifty stone. The product of a cow they reckon at 5*l.* 10*s.* and the average quantity of milk five gallons a day. They do not keep above two or three hogs to twenty-six cows. When dry, the winter food is straw ; but near and after calving, hay and ground oats ; of the first about one half or three quarters of an acre. The calves do not suck above two or three weeks for the butcher ; but for rearing all are brought up by hand. A dairy-maid usually takes care of seven or eight cows. The summer joist is 30*s.* In the winter they are kept in the house.

Hogs they fat up to twenty-five stone.

The flocks of sheep are not many near the town, but at a small distance they rise from twenty to two hundred ; the profit they calculate at 10*s.* a head. The winter spring food is a few turneps, but in general grass alone. The average of fleeces about 4 $\frac{1}{2}$ *lb.*

In their tillage they reckon six horses necessary for one hundred acres of arable land: They use three or four in a plough, and do an acre a day. They calculate the whole annual expence *per* horse at 4*l.* 16*s.* The summer joist 40*s.* The price *per* acre of ploughing is 5*s.* 3*d.* and the time of breaking up their stubbles for a fallow, after the barley sowing. The general depth five inches.

They know nothing of cutting straw into chaff.

The hire *per* day of a cart, three horses, and a driver, 5*s.*

In the hiring and stocking of farms, they reckon that, with particular management, a man may stock one of 100*l.* a year for 200*l.* but that for 300*l.* many such are taken. That sum they divide in the following manner :

Twenty beasts,	-	-	£.120
Five horses,	-	-	40
Forty sheep,	-	-	16
Pigs,	-	-	2

Harnes,

Harnesfs,			
Chains,	-	0	7 0
Backband,	-	0	5 0
Bellyband,	-	0	1 0
Halms,	-	0	3 0
Collar,	-	0	7 0
Halter,	-	0	3 0
			<hr/>
		1	6 0
			5
			<hr/>
			6 10
Two road carts,	-	-	14
Three home ditto,	-	-	12
Sundry small implements,	-	-	4 10
Two ploughs,	-	-	2
Harrows,	-	-	4
Roller,	-	-	1
House-keeping,	-	-	30
Labour,	-	-	35
Seed,	-	-	20
			<hr/>
			£.307
			<hr/>

Land sells at thirty years purchase. Many estates of 2 or 300 *l.* a year.

Tythes are generally gathered; poor rates from 1*s.* 6*d.* to 2*s.* 6*d.* in the pound; their employment spinning flax and wool. All drink tea.

The farmers carry their corn eight miles.
Leases run from seven to fourteen years ;
some for three lives.

The general œconomy of the country
will be seen from the following sketches
of farms.

40 acres in all
10 arable
30 grafs
£. 40 rent
2 horses
7 cows
2 young cattle
1 boy
1 maid
2 carts
2 ploughs.

Another,

200 acres in all
100 arable
100 grafs
£. 300 rent
10 horses
26 cows
5 fattening beasts
20 young cattle
60 sheep
3 men

2 boys

2 boys
 2 maids
 2 labourers
 1 waggon
 4 carts
 3 ploughs.

Another,

110 acres in all
 40 arable
 70 grafs
 £.90 rent
 4 horfes
 15 cows
 2 fattening beafts
 8 young cattle
 20 ſheep
 1 man
 1 boy
 1 maid
 1 labourer
 2 carts
 2 ploughs.

Another,

87 acres in all
 40 grafs
 47 arable
 £.72 rent
 4 horfes
 6 cows

- 3 fattening beasts
 10 young cattle
 30 sheep
 1 boy
 1 maid
 1 labourer
 2 carts
 1 plough.

L A B O U R.

In harvest, 1*s.* 3*d.* or 1*s.* and beer.

In hay time, 1*s.* and beer.

In winter, 10*d.*

Reaping wheat, *per* acre, 3*s.* to 4*s.*

———— barley, 4*s.* to 5*s.*

———— oats, 3*s.* to 4*s.*

———— beans, 4*s.* 6*d.*

Mowing grass, 1*s.* 6*d.* to 2*s.* 6*d.*

Ditching, 5*d.* to 8*d.*

Thrashing wheat, 1*s.* 2*d.* *per* five bushels.

———— barley, 1½*d.* *per* bushel.

———— oats, 1*s.* 6*d.* or 2*s.* *per* 20 measures.

———— beans, 1*s.* *per* five bushels.

Digging, 8*d.* *per* rood.

Head-man's wages, 6*l.* to 10*l.*

Next ditto, 5*l.*

Boy of ten or twelve years, 40*s.*

Dairy maid, 4*l.* to 5*l.*

Other

Other ditto, 2*l.* to 3*l.*

Women *per* day in harvest, 1*s.* and beer.

———— In hay time, 8*d.* and ditto.

Value of a man's board, washing, and lodging, 3*s.* 6*d.* a week.

IMPLEMENT S, &c.

Few waggons.

A cart, 8*l.*

A plough, 20*s.*

A harrow, 25*s.*

A scythe, 2*s.* 6*d.* to 3*s.*

A spade, 4*s.*

Shoeing, 1*s.* 4*d.*

PROVISION S, &c.

Bread—wheat and barley mixed.

Cheese, 3½*d.* *per lb.*

Butter, 7*d.* 18 *oz.*

Beef, 2*d.* to 2½*d.*

Mutton, 3*d.*

Veal, 3½*d.*

Pork, 3½*d.*

Bacon, 7*d.*

Milk, new, ½*d.* *per* pint, skim, ½ *per* quart.

Potatoes, 4*s.* 6*d.* *per* 212*lb.*

Labourer's house rent, 30*s.*

————Firing, 20*s.*

BUILD-

B U I L D I N G.

Bricks, *per* thousand, from 8*s.* 6*d.* to 20*s.*

Oak timber, 8*d.* to 2*s.*

Ash ditto, 8*d.*

Mason *per* day, 1*s.* 6*d.*

Carpenter ditto, 1*s.* 6*d.*

I forgot to tell you, that one or two sensible farmers in this neighbourhood have of late come into the way of making hollow drains for the improvement of their wet lands. They dig them from two feet to three or four deep, set two bricks on edge along the bottom, and lay another over them in this manner, Pl. IV. Fig. 1. They are then filled up with the moulds. The digging, laying, and filling cost 4*d.* a rood.

From *Altringham* I took the road to *Manchester*, with design, not only to view the manufactures of that town, but to make it my head quarters from thence to go the tour of his Grace the Duke of *Bridgwater's* navigation, about which such wonders are abroad; if only half are true, I shall be not a little entertained.

The *Manchester* manufactures are divided into four branches,

The fustian

The check

The hat

The worsted small wares.

All these are subdivided into numerous branches, of distinct and separate work. In that of fustians are thirteen.

N^o. 1. Corded dimities

2. Velvets

3. Ververets

4. Thicksets

5. Pillaws

6. Quilts

7. Petticoats

8. Draw-boys

9. Diapers

10. Herringbones

11. Jeans

12. Jeanets

13. Counterpanes.

These goods are worked up of cotton alone, of flax and cotton, and of *Hamborough* yarn. All sorts of cotton are used, but chiefly the *West Indian*. These branches employ men, women, and children.

In

In the branch N^o. 1. Men earn from 3 s.
to 8 s. week.

Women the same.

No children employed in it.

2. Men from 5 s. to 10 s.

Neither women or children.

3, and 4. Men from 5 s. to 10 s. ave-
rage 5 s. 6 d.

Women as much.

Children 3 s.

5. Men from 4 s. to 5 s.

Women the same.

Children 2 s. 6 d.

6, and 7. Men from 6 s. to 12 s.

Neither women or children.

8. Men, at an average, 6 s. but a boy
paid out of it.

No women.

9. Men from 4 s. to 6 s.

Women as much.

No children.

10. All children, 1 s. 6 d.

11. Men from 4 s. to 10 s.

No women or children.

12. Women 1 s. 6 d. to 3 s. 6 d.

Children the same.

13. Men from 3 s. to 7 s.

Neither women or children.

These branches of manufacture work both for exportation and home consumption: Many low priced goods they make for *North America*, and many fine ones for the *West Indies*. The whole business was exceedingly brisk during the war, and very bad after the peace; but now are pretty good again, though not equal to what they were during the war. All the revolutions of late in the *North American* affairs are felt severely by this branch. It was never known in this branch that poor people applied for work but could not get it, except in the stagnation caused by the stamp act.

I enquired the effects of high or low prices of provisions, and found that in the former the manufacturers were industrious, and their families easy and happy; but that in times of low prices the latter starved; for half the time of the father was spent at the ale-house. That both for the good of the masters, and the working people, high prices were far more advantageous than low ones: And the highest that were ever known much better than the lowest.

All in general may constantly have work that will: And the employment is very regular: The master manufacturers not stay-
ing

ing for orders before the people are set to work, but keep, on the contrary, a great many hands in pay, in expectation of the spring orders.

The principal sub-divisions of the check branch are the following.

- N^o. 1. Handkerchiefs.
 2. Bed ticking.
 3. Cotton hollands.
 4. Gowns.
 5. Furniture checks.
 6. Silk and cotton gingham
 7. Souffees.
 8. Damascus's.
 9. *African* goods, in imitation of
 the *East Indian*.

These branches employ both men, women, and children; their earnings as follow.

- N^o. 1. Men 7*s*.
 Women 7*s*.
 Children 2*s*. to 5*s*.
 2. Men 6*s*. to 10*s*.
 Neither women or children.
 3. Men 7*s*.
 Women 7*s*.
 Children a few, 2*s*. to 5*s*.
 4. Men 8*s*.

- Neither women or children.
5. Men 7 s.
Women 7 s.
No children.
6. Men 7 s. 6 d.
Neither women or children.
7. Men 7 s. 6 d.
Neither women or children.
8. Men 7 s. 6 d.
Neither women or children.
9. Men from 6 s. to 9 s.
Women the same.
No children.

Most of these articles have many preparers; among others,

Dyers at 7 s. 6 d.
Bleachers 6 s. 6 d.
Finishers 7 s. 6 d.

The check branch, like the fustian, works both for exportation and home consumption, but vastly more for the former than the latter. During the war the demand was extremely brisk; very dull upon the peace, but lately has arisen greatly, though not equal to the war; and the interruptions caused by the convulsions in *America*, very severely felt by every workman in this branch: None ever offered for
work

work but they at once had it, except upon the regulations of the colonies cutting off their trade with the *Spaniards*, and the stamp act. The last advices received from *America* have had a similar effect, for many hands were paid off in consequence of them.

In the hat branch the principal sub-divisions are,

1. Preparers.
2. Makers.
3. Finishers.
4. Liners.
5. Trimmers.

They employ both men, women, and children, whose earnings are somewhat various.

N^o. 1. No men.

Women, 3 s. 6 d. to 7 s.

No children.

2. Men 7 s. 6 d.

No women.

Children, 2 s. 6 d. to 6 s.

3. Men, 12 s.

No women.

Children, 7 s. 6 d.

4. No men.

Women, 4 s. to 7 s. 6 d.

Children, 2 s. 6 d. to 6 s.

5. No men.

Women, 4 s. to 7 s. 6 d.

Children, 2 s. 6 d. to 6 s.

This branch works chiefly for exportation; during the war it was surprizingly brisk; after the peace quite low; lately it has been middling.

In the branch of small wares are numerous little articles, but the earnings in general run as follow:

Men from 5 s. to 12 s.

Women from 2 s. 6 d. to 7 s.

Children from 1 s. 6 d. to 6 s.

The number of spinners employed in and out of *Manchester* is immense; they reckon 30,000 souls in that town; and 50,000 manufacturers employed *out* of it.

Cotton spinners earn,

Women, 2 s. to 5 s.

Girls from six to twelve years, 1 s. to 1 s. 6 d.

In general all these branches find, that their best friend is high prices of provisions: I was particular in my enquiries on this head, and found the sentiment universal: The manufacturers themselves, as well as their families, are in such times better clothed,

cloathed, better fed, happier, and in easier circumstances than when prices are low; for at such times they never worked six days in a week; numbers not five, nor even four; the idle time spent at alehouses, or at receptacles of low diversion; the remainder of their time of little value; for it is a known fact, that a man who sticks to his loom regularly, will perform his work much better, and do more of it, than one who idles away half his time, and especially in drunkenness.

The master manufacturers of *Manchester* wish that prices might always be high enough to enforce a general industry; to keep the hands employed six days for a week's work; as they find that even one idle day, in the chance of it's being a drunken one, damages all the other five, or rather the work of them. But at the same time they are sensible, that provisions may be too high, and that the poor may suffer in spite of the utmost industry; the line of separation is too delicate to attempt the drawing: but it is well known by every master manufacturer at *Manchester*, that the workmen who are industrious, rather more so than the common run of their brethren, have

have never been in want in the highest of the late high prices. Large families in this place are no incumbrance; all are set to work.

America takes three-fourths of all the manufactures of *Manchester*.

I am obliged to Mr. *Archibald Bell*, of *St. Ann's Square*, and Mr. *Hamilton*, two of the principal manufacturers in the town, the first in the fustian branch, and the latter in the check, for the heads of the preceding intelligence. Had I been fortunate enough to meet with gentlemen equally knowing, and obliging, at many other manufacturing towns, I should have been able to give a much better account of them; but the success of such undertakings as this Tour, must depend, in a good measure, on the people one meets with.

To-morrow begins with the Duke of *Bridgwater*, I shall therefore conclude this long epistle, by assuring you, that I shall ever remain, &c. &c.

LETTER

L E T T E R X I X .

THE original design of the Duke of *Bridgwater*, was to cut a canal from *Worsley*, an estate of his Grace's, abounding with coal-mines, to *Manchester*, for the easy conveyance of his coals to so considerable a market; and, in 1758-9, an Act of Parliament for that purpose was obtained. The course of the canal prescribed by this act, was afterwards varied by the same authority, and the Duke further enabled greatly to extend his plan; for he now determined, and with uncommon spirit, to make his canal branch not only from *Worsley* to *Manchester*, but also from a part of the canal between both, to *Stockport* and *Liverpool*. The idea was a noble one, and ranks this spirited young nobleman with the most useful genius's of this or any age. But the execution of so great a plan teemed with difficulties that required a perpetual exertion of abilities fertile in resources.

The first point in viewing this navigation, is to send from *Manchester* to *Worsley*,

to speak for a boat, to carry your party the whole tour: (By the bye, it is a strange affair that the town of *Manchester* does not possess a boat for the accommodation of its own inhabitants, and strangers who come to see it: For want of one, you may very probably wait a day or two:) And in the mean time you may employ yourself in viewing the works at *Manchester*: This was my plan. And it will not be amiss if you ask for Mr. *Mac-something*,—*Maclean*, I think; the principal man that delivers the coals: He is a sensible, intelligent fellow, and will shew and explain every thing here.

The head of the navigation forms two terminations, marked A and B, in the annexed plan, Plate IV. Fig. 2. The first is, a common wharf for the landing of coals out of large barges, for the supply of carts and waggon. The second is a subterraneous canal, arched over, into which long but narrow boats enter, being of a construction fitted for a peculiar purpose elsewhere. This subterraneous passage extends from C to D.

At E, in the roof of the arch turned over this water, is a well, bricked like common ones, which is sunk from the ground above;
(*N. B.*

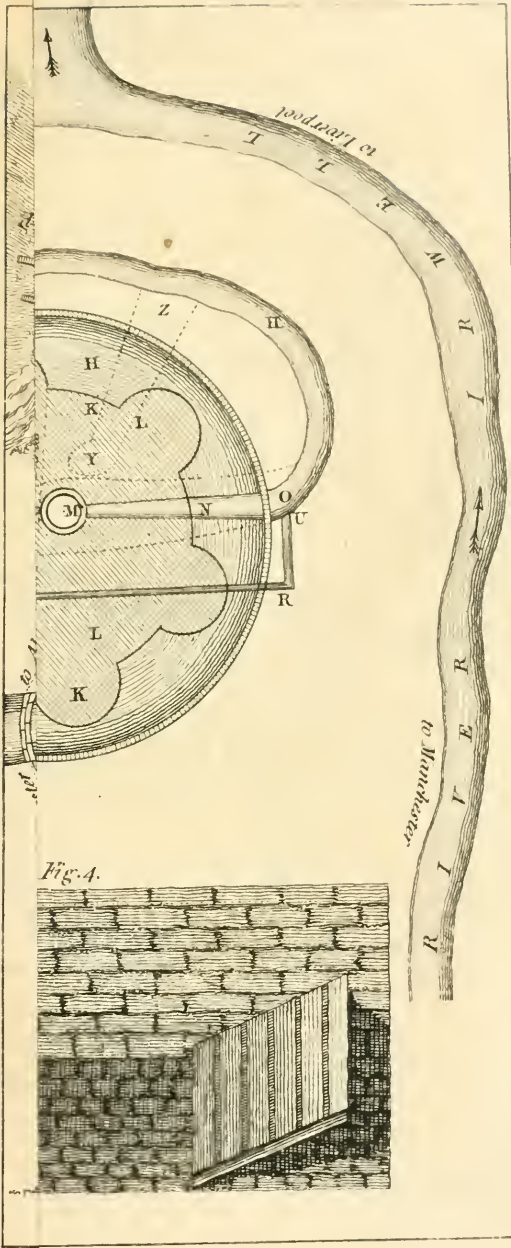
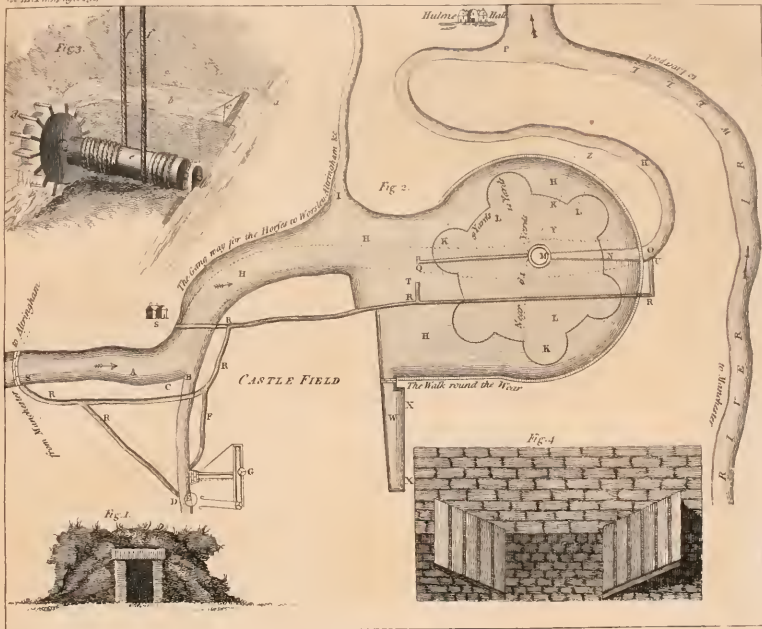


Fig. 4.



(*N. B.* It is much higher than the level of the water, being somewhat of a hill;) upon which, and near the mouth of this well, is erected a crane of a new construction, which turning upon a pivot, is brought at pleasure over the well, and draws up the coals. G.

The boats are filled with square boxes, fitted in exactly; these are filled with coals, (each contains eight hundred weight) at the mine, for the convenience of being easily landed through this well; they therefore enter the subterraneous canal, and move on, until they come under the well; there they stop, and the ropes, which are fixed to the crane above, being let down with hooks, at the end are fastened to the boxes, (which are ironed for that purpose) and then drawn up.

The power of this crane is that of a water wheel, contrived in a very simple manner—the best way of explaining it will be by a little sketch, Plate IV. Fig. 3. But remark, that I only draw this from idea, the cavern in which the wheels work being underground and below the surface of the subterraneous canal; and all the light I had was that of a farthing candle. I offer it only

only as an explanation, which may give you a better idea of the manner in which the coals are drawn, than a mere description in words.

- a.* Is the canal arched over.
- b.* A little branch of it, or rather a trough, into which the water is let at pleasure by drawing up the sliding door *c.*
- d.* A water wheel, into the cavities of which the water falls out of the trough *b.*
- e.* A wooden cylinder, to which the ropes are fastened; turned by the above water wheel, which winds the ropes round it.
- ff.* The ropes which are fastened at top to the crane.
- g.* The channel through which the water that turns the wheel, runs off, marked F in the large plan.

Each boat contains twelve boxes; two men and a boy are employed in the unloading, who are from twenty to forty-five minutes about each boat load; this variation is occasioned by causes which will be explained hereafter. When drawn up, the boxes are

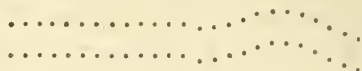
are

are emptied on a heap for sale; and then let down again into the boats. This subterraneous canal is extended further than the crane, with design to erect another upon the same principles. At the mouth of it is a door fastened on hinges at the bottom of the water, which falls or rises at pleasure, and when up stops the water from entering; a trap-door at the bottom of the subterraneous canal may then be opened, and all the water let out for repairing any of the works; it then runs into the channel, g.

I should, in the next place, remark, that the water marked H, H, H, H, is the river *Medlock*, and I, the Duke's canal; but as it is the first and grand principle of Mr. *Brindley's* plan, with all artificial navigations, never to let the water of any brook or river intermix with that of the canal, unless to supply the requisite quantity; some peculiar contrivance was necessary to prevent the canal, in this junction with the river, from being affected by its rising or falling with floods, &c. For this purpose, the *wear* was executed, which is minuted in the annexed plan, marked

marked K : It is a hexagon, of 366 yards circumference.

The old course of the *Medlock* is marked out by the lines dotted thus :



Instead of permitting it to continue in that course, it was enlarged into the size it now appears in the plan, the circular end of which is all raised on masonry. The outward line of the wear, K, K, K, regulates the height of water in the canal ; the higher that edge is, the higher is the water. The river *Medlock*, thus enlarged, falls fifteen inches over that edge of masonry, into a fresh surface of water, marked L, L, L ; this is likewise all raised of stone-work ; near the center of it is a well M of eleven yards diameter, down which the whole river falls several yards depth. It is received at bottom in a subterraneous passage, marked N, N, and flows out at O, where it appears a common river, falling into the *Irwell*, at P.

The subterraneous passage N, was made of that length, for a very material reason ; at Q, is a communication between the
end

end of the passage and the surface of the water above, in the nature of a smaller well, but the mouth plugged up; this is made with design to clear the passage of all mud or rubbish that might accumulate in time at the bottom of the well M, by drawing the plug, and letting down a heavy fall of water, to drive out such rubbish at the mouth O.

The reason why the wear was made of this form, was to command a greater line of extent, within a smaller general space than if it was a plain circle, square, or other simple form. The circumference is 366 yards, which was necessary for the quantity of water to be carried off; now a circle of that circumference could not be contained within the outward bounds of the enlarged river, and at the same time leave space enough for a body of water around it.

The lines in the plan, marked R, R, denote a subterraneous passage, to drain off all superfluous water at some houses and warehouses at S, S, and also from the above-mentioned one at F. At T is a well and plug, as before described at Q, for the same purpose of cleansing the passage from mud and rubbish. The water

thus collected flows into the river *Medlock* at U.

The general design of these works is, undoubtedly, great; the whole plan shews a capacity and extent of mind which foresees difficulties, and invents a remedy before the evil exists. The connection and dependence of the parts on each other are happily imagined, and all exerted in concert, to command, by every means, the wished for success: The genius of the engineer deserved it; but the idea is more beautiful in speculation than useful in practice; at least it appears so to me: But I should apologize for criticising works of so noble a tendency, and so excellently invented; excuse my being so free as to express the idea I have of the defects of these works; assuring you that I venerate, no less than the warmest of his admirers, the masterly genius that planned them.

The grand design of the wear was to preserve the canal free from the influence of floods, &c. It was expected, that in the most boisterous times, in common rivers, this would always be smooth, and free from every inequality. But the event has turned out otherwise. The whole
surface

surface has more than once been totally overflowed, the hexagon, well, and all, one general flood, and the outward mound rounded of earth, to confine the water, every where overflowed by it, consequently the canal received a much larger portion of water than ever Mr. *Brindley* designed it should, and the inconveniencies of an unrestrained tide either happened, or might have done. But the wear was confessedly found unequal to its purpose, which occasioned the making the bason, marked W, into which the water runs in floods, and over-flows a regular bank made for that purpose, X, X. But this resource has been since found insufficient, and not only a second one of the same kind, but also a general lowering of the mound of earth around the waters of the *Medlock*, inclosing the wear, are now in speculation. These circumstances prove sufficiently, that this elaborate and most costly work is nearly useless.

A very small addition of expence in the erection would have prevented all these inconveniencies. Had the central well been twice as large, or of a more fit proportion to the contingent body of wa-

ter, and the corresponding caverns the same, all the ensuing difficulties would have been prevented.

But when the wear was found unequal to the end proposed, the shifts made use of to remedy it, such as the bason W, and the designed lowering of the banks, &c. all appear, in my humble opinion, inadequate to the purpose, and by no means consistent with the former plan; they are little better than letting the water take its natural course; which one would apprehend the worst of all courses, from the vast expence at which an artificial one was made. I should suppose, a new cavern and well would have been more consistent with the first design, and have answered the wished for end in a more sure and regular manner: and if very great floods (such as never yet happened) are to be guarded against, the new cavern, or subterrane, might have been large enough, occasionally, to admit the water discharged by more than one well; on which plan several might be made to be kept plugged, like the forcing ones at Q and T, and to be opened only in floods. Upon this principle, such additions might be made at Y and Z; the dotted lines there,

there, mark a new channel into the *Medlock*, and a subterrane to another well.

As the depth of water upon L is only fifteen inches, it certainly would be no difficult matter to effect this addition; the water might easily be fenced out by masonry, around a space to work in, and the passage might be carried on, and arched under ground.

Another point, in which these works fell short of expectation, is the effect of the subterraneous drains; it was imagined, that the superfluous water through those drains, would, at all times, freely flow into the *Medlock* at U; but instead of that, the water of the *Medlock* as often flows into the drain, which has very bad consequences, for it totally counteracts the very principles of a drain, and likewise flows back so strongly upon the water-wheel which draws up the coals through the well E, that the power of the wheel is greatly impeded, infomuch that the work of drawing up the coals, which can, at very low water, be done at the rate of a boat load in twenty or twenty-five minutes, takes forty-five when the water is high: or, in other words, encreases the labour fifty *per cent.*

This evil appears to be caused by the subterraneous passages being sunk too deep, by which means the mouth U is too much commanded by the waters of the *Medlock*.

Having taken this view of the works in *Castle-field*, we next took possession of the pleasure boat we had before spoke for, and steered for *Worsley*. The first objects we met with, were two weirs more at *Cornbroke*, formed on the same principles as that in the *Castle-field*, swallowing up rivulets in central wells, which convey the water in subterraneous passages under the canal, and permit it to rise again on the other side, and flow on in its usual course.

Passing on, the canal runs chiefly along the sides of natural banks; which course was very judiciously chose for the convenience of possessing not only one bank perfectly firm and secure, but plenty of earth ready for making the other. Just before we came to *Throstle-nest Bridge*, I observed a projecting piece of masonry in the canal, which, on enquiry, I found to be the case of a canal door, for I know not what other name to give it: It is upon the same principle as that at the mouth of the subterranean

ranean passage, in which the boats unload in *Castle-field*. The contrivance and design of these doors are admirable, but as many of them will occur in this tour of the navigation, it will not be improper to explain the construction of them here.

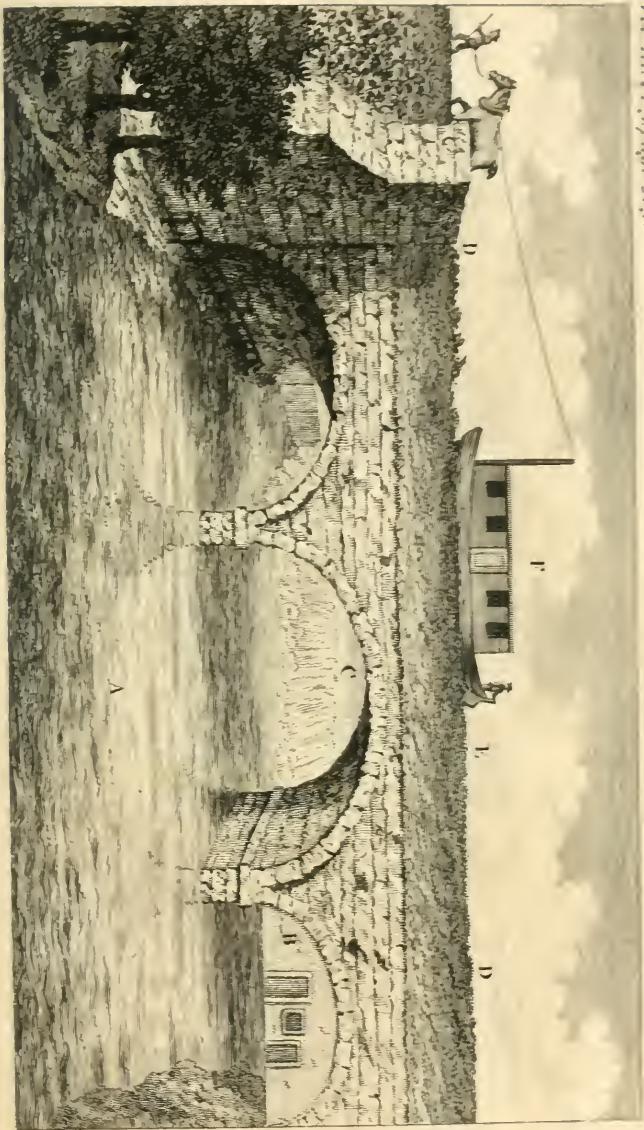
In the sketch, Plate IV, Fig. 4, A represents one side of the channel of the canal, being walled; B, is the floor of it; C, C, are two doors, fixed in the position they appear in, and turning on hinges at bottom, *d, d, d, d*. The doors have a freedom of rising, but cannot fall lower; now it is obvious from this, that in case the bank A, breaks, and the water rushes out of the breach, the decrease of pressure on the doors C, C, will raise them up at once to *e, e*, (where they will be fixed against projecting irons made for that purpose,) as the water at F, F, will then naturally force them up. The consequence of which is, the losing no more than the water contained between the doors; and if the bank should break at F, yet the quantity of water lost would be but trifling. I have thrown the doors near one another, for your fully understanding the principle upon which they are designed; but in the

canal they are at a distance from each other in divers places. The stopping the loss of water is of great consequence, not only to lessen the mischief of the mere loss, in preventing the navigation going forward, but also in lessening greatly the damage the country would suffer from being overflowed; a point of great importance.

Next we came to *Leicester Bridge*, (under it another canal door,) and passing through it I observed, on the left hand, a small water-fall, which is the mouth of a main drain made by the farmer, with smaller ones that lead into it, all covered: The excellent effect of which is here strikingly visible; for the land on that side was perfectly dry, but on the other side the canal very wet, though not much rain had fallen.

At *Weather-Meetings* we passed another canal door.

Passing the mouth of the canal that leads to *Altringham, &c.* and under *Taylor's Bridge*, you catch a view of *Mars Bridge* in a pretty situation, the surrounding country fine; you look over it, scattered with seats, houses, &c. in a pleasing manner. This part of the canal runs through *Traf-*
ford





ford Moss, which is a peat earth black moor: It is great pity that the noble advantage of a water carriage through the heart of this moor, to so fine a market as *Manchester*, does not induce the owners to cultivate this waste tract, which might, beyond all doubt, be applied to numerous uses, far more profitable than yielding peat in a country so abounding with coals.

The next object that presents itself, is the work at *Barton Bridge*, which is one of the principal undertakings in the whole navigation, and a wondrous one it certainly is. The canal is here, in its usual breadth, carried (*Roman* aqueduct like) on arches, over the large and navigable river *Irwell*.

The aqueduct is two hundred yards long, and thirty-six feet wide; it crosses the *Irwell* on three large arches, the center of which spans sixty-three feet; and is carried with amazing labour through a valley, filled up to receive it. The view, Plate V, which I took, standing on *Barton Bridge*, will better explain this surprizing work.

A. Is the river *Irwell*.

B. A

B. A lock-gate, through which the barges are let that navigate the river, on account of the obstruction of the cascade, C.

D. D. A gang-way from one side to the other.

E. The canal.

F. The pleasure-boat, drawn by one horse.

The effect of coming at once on to *Barton Bridge*, and looking *down* upon a large river, with barges of great burthen sailing on it; and *up* to another river, hung in the air, with barges towing along it, form altogether a scenery somewhat like enchantment, and exhibit at once a view that must give you an idea of prodigious labour; for the canal is here not only carried over the *Irwell*, but likewise across a large valley, being banked up on each side in a surprizing manner, to form a mound for the water, and the channel also filled up to the usual depth, that the banks, at a place where they are entirely artificial, and consequently weaker than where natural, might not be endangered by the great preffure of so large a body of
water

water as the depth here filled up would have contained: And I should remark, that it is a maxim throughout this whole navigation, to keep the canal of an equal depth every where: I believe it scarce ever varies above six inches; from four feet, to four feet six inches.

The method Mr. *Brindley* takes to fill up a channel, where too deep, is a most admirable one; He builds two very long boats, fixes them within two feet of each other, and then erects upon them a triangular trough, large enough to contain seventeen tons of earth; The bottom of this trough is a line of trap doors, which, upon drawing a pin, fly open at once, and discharge the whole burthen in an instant. These boats are filled any where from the banks where the earth is in superfluous quantities, by wheel-barrowing it on a plank, laid from the shore, on to the trough: The boat is then drawn over the spot, which is to be filled up, and the earth there dropped: It is astonishing what a vast saving is made by this invention: In common management to conduct a canal *level* across a valley, and without locks, would

would consume the revenue of a whole county; but such inventions as these ease the expence at least 5000*l.* *per cent.* The following sketch, Plate VIII. Fig. 1. will give a clearer idea of these boat-wag-gons.

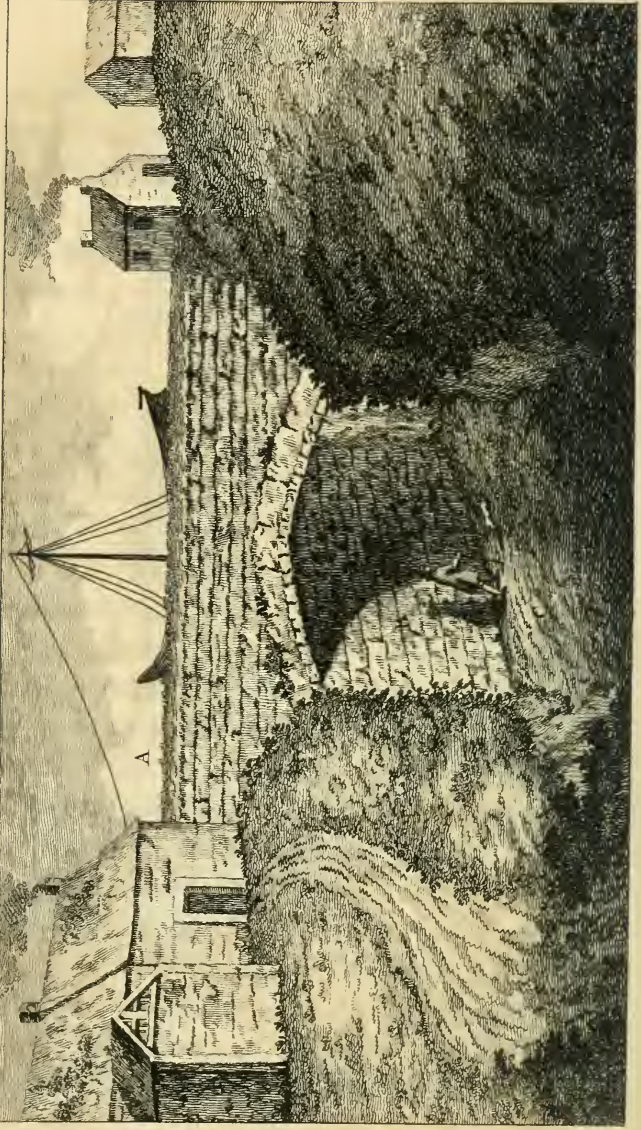
- A. The boat that appears on a side view.
- B. The trough, supported by the pieces C, C, C.
- D. The ends of the boats.
- E. That of the trough.

I should tell you, that any part of this aqueduct can be repaired without damaging the rest of the canal, or losing more water than is contained within a small space on each side the part decayed; for several doors, of the same nature as those already described, are fixed in the channel; and also trap-doors, or tubes, (if I may so call them,) at the bottom, &c. of the aqueduct, through which, by drawing a few plugs, the water would presently be discharged into the *Irwell*, and the part to be repaired, laid dry at once; a contrivance, which is undoubtedly of vast consequence.

But



Vol. III. Pl. 6. page 269.



But there are other works at *Barton* which claim our attention besides the crossing the river. Two roads here came athwart the navigation, and happening in this valley where the canal is so much higher than the level of the country, to have built bridges would have cost immense sums, as the rise would have required them half as long as that at *Westminster*. The method, therefore, taken by Mr. *Brindley* was to sink the road gradually on both sides, and turning a large arch, to carry the canal over the roads as well as the river; and this is practised with both. So that in going under it you sink gradually on one side and rise in the same manner on the other. The view, Plate VI, will explain it clearly.

A. Is the canal.

B. The wall that supports the arch.

C. The road.

Leaving this scene of wonders we passed on, and coming to *Moreton Bridge*, we presently saw a fresh instance of attention, to keep the water of the canal unmixed by that even of the smallest stream, for here an arch is turned under the canal for a little brook to run through.

From

From hence towards the brick kiln on the right, and past it, I observed some lands lying very low, beneath the level of the canal; in wet seasons they must be much damaged by the water of the navigation.

From hence you have a fine prospect of the Duke's house at *Worsley*, and the lands adjoining.

A little further another brook is carried under the canal, by means of an arch turned for that purpose.

Next we came to one of the spots where the lime was found, which proved so noble an acquisition to the Duke. In carrying on the navigation a vast quantity of masonry was necessary, in building aquæducts, bridges, warehouses, wharfs, &c. &c. and the want of lime was felt severely; the search that was made for matters to attempt to burn into lime, was a long time fruitless; at last Mr. *Brindley* met with a substance of a chalky kind, which, like the rest, he tried; but found (though it was of a limestone nature) that, for want of adhesion in the parts, it would not make lime. This most inventive genius happily fell upon an expedient to remedy this misfortune. He
thought

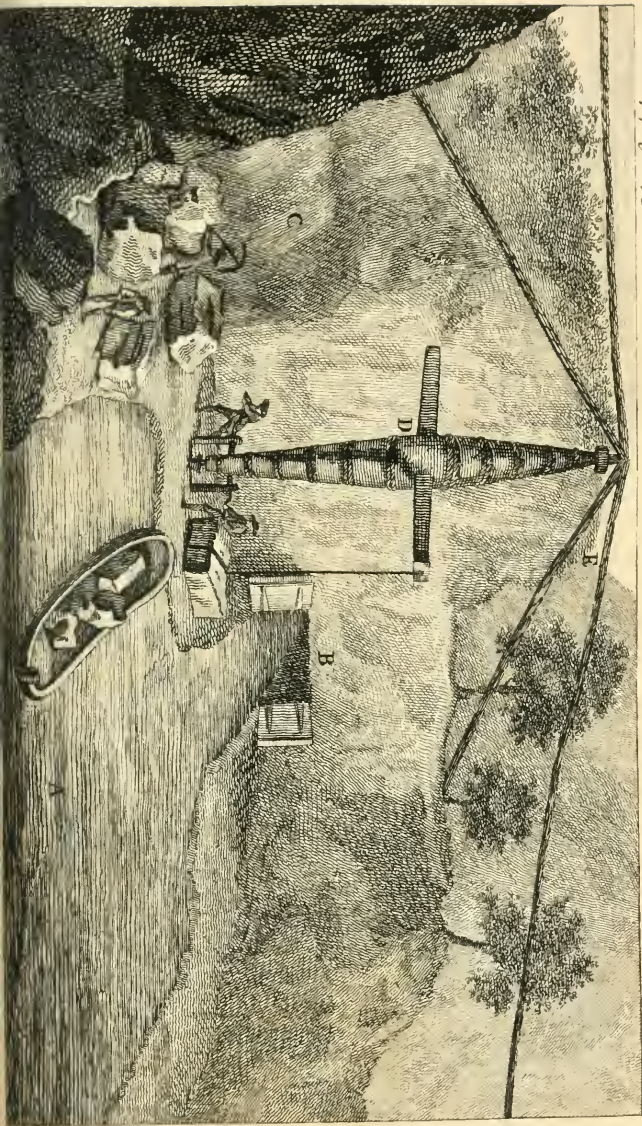
thought of tempering this earth in the nature of brick earth, casting it in moulds like bricks, and then burning it; and the success was answerable to his wishes: In that state it burnt readily into excellent lime; and this acquisition was one of the most important that could have been made. I have heard it asserted more than once, that this stroke was better than twenty thousand pounds in the Duke's pocket; but like most common assertions of the same kind, it is probably an exaggeration. However, whether the discovery was worth five, ten, or twenty thousand, it certainly was of noble use, and forwarded all the works in an extraordinary manner. The bed of this lime-marle (which I think is the properest name for it) lies on the sides of the canal, about a foot below the surface.

Advancing towards *Worsley*, I was much pleased to see many vast heaps of the mud that came out of the canal, mixed up with dung, and ready to lay on to the grounds. The Duke keeps these fields in his own hands, and manages them like an excellent husbandman.

At

At *Worsley* we passed three more canal-doors, and a large stream, which runs under the navigation.

Arriving at the head of the works, we were much struck with the excellent and spirited appearance of active business; for the little village of *Worsley* looks like a river-environ of *London*: Here is a very large timber-yard, well-stowed with all sorts of wood and timbers for framing buildings, and building boats, barges, and all kinds of floating machines. The boat-builders yard joins, and several boats, barges, &c. are always on the stocks. Next to these is the stone mason's yard, where lie vast piles of stones, ready squared, for loading barges with, to convey to any part of the navigation where they may be wanted, either for building, or repairing of bridges, aquæducts, wharfs, warehouses, &c. &c. &c. the quarry is just by the mouth of the mine, and much is brought out of the mine itself, in working for the coals. Thus every part of the whole design acts in concert, and yields mutual assistance, which is the grand art of œconomical management.





The great curiosity at *Worsley* is the tunnel, which is a subterraneous canal hewn out of the rock to a great length (near a mile,) and extends into the heart of the coal mines. The view, Plate VII. exhibits the mouth of it, and likewise the quarry works around it.

A. The navigation.

B. The mouth of the tunnel, with large doors to open and shut.

C. The quarry.

D. A crane of a very curious construction, for heaving the stones out of the quarry into the barges.

E. Ropes that keep the crane in its perpendicular position.

The water in the tunnel is upon the level of that in the canal, being the same, so that the boats loaded with coals come out of the very mine itself.

The first entrance, for 1000 yards, is six feet and an half wide, and seven feet and an half high, including the water, which is three feet four inches deep; it is already continued 750 yards further, ten feet wide, and it is said (how true I know not) that it will be carried on at least a mile and a half further. I took some time

to explore the horrid caverns of these mines, and found, on an attentive examination, that the method of conducting the business of them, was nearly as follows :

The seams (or, in these mines, rather veins) of coal branch divers ways, some are above the tunnel, and some below it ; as fast as the coal is got, the space is cleared and arched for a road, to move the coal on : This is done in little four-wheel waggons, which contain 10 *cwt.* of coals, and is pushed along by a man setting his head and hands against it (the road being laid on purpose for it.) The roads all lead to the tunnel. When the man with the waggon comes over a well (of which there are several) that is sunk from the road through the arch of the tunnel, and under which the boats are fixed, he stops on a frame work of wood, which turns on pivots, and is so contrived, that upon drawing up a part of one end of the waggon, some of the coals drop out, and then the waggon is tilted up, and all the rest follow them, falling into the boat beneath either promiscuously, or directed through a tube to fill a box at a time, at pleasure, which work is performed almost instantaneously,

neously, and the waggon sent off again for a fresh cargo.

But as the arches (roads) through the mine in many places cross each other, it would there have been impracticable for a man to push so great a weight around a turning; to remove which objection, the square of the floor in the cross of the roads is all of wood, and turns upon a central pivot of iron, so that the man stopping when the waggon comes exactly on to the square, and turning it till it faces the road he is to go, he then pushes on without the least interruption.

The coals that arise in the branches of the mine *below* the tunnel are drawn up through wells into those *above* it, and then conveyed, like the rest, in waggons to the boats.

When they are loaded they are linked together in a gang; and for the convenience of drawing them out, there is a rail on each side the tunnel, for the person who stands in the first boat to hold with his hands and draw himself along; which gives him so great a power, that a boy of seventeen has drawn out a gang of twenty-one boats loaded, which, at seven tons each,

is 147 tons. But this is only one instance, and out of the common course of business; they commonly bring out a gang at a time, which is four or six, and as soon as they are out of the tunnel, they are drawn by mules to *Manchester, &c.*

The tunnel, where it passes through earth or coal, is surrounded with brickwork, but through the rock it is only hewn out.

At the distance of about a thousand yards from the mouth, it divides into two, which branch different ways, for the convenience of loading coals in the above compendious manner in every part of the mine; and more branches are in contemplation: It has been asserted, that those who go up both passages travel therein three miles; but this is an exaggeration.

Every here and there along the tunnel are wells, bricked from it to the top of the hill, for the admission of air, the exhalation of damps, and the letting down men for reparations in case of accidents.

I have read of tin tubes for the conveyance of air into this mine, but there is no such thing; the shafts, passages, and tunnel supply it sufficiently.

As there generally is much superfluous water in coal mines, it was a very beneficial scheme to cut this tunnel for draining that water away, and, at the same time, for carrying the navigation into the heart of the colliery: Such bold and decisive strokes are the finest proofs of inventive genius, of that penetration which sees into futurity, and prevents obstructions unthought of by the vulgar mind, merely by foreseeing them: A man with such ideas moves in a sphere that is to the rest of the world imaginary, or at best a *terra incognita*.

The best way of viewing the extent of the mines, is by going down the shaft and coming out by the tunnel: And sometimes you must either take this method, (which was my own case,) or not see it at all; for boats are not always going in, nor to be had for that purpose, but you will seldom fail of an empty boat within, by which your guide (the hostler, I think, of the inn) will convey you out.

Near the head of the canal is another curiosity, very well worth viewing. It is a mill of a new construction, with many powers. The first motion is the turning a wheel, twenty-four feet diameter, by a

small overshot stream. This wheel works three pair of grinding stones for corn, a boulting mill, which discharges the meal divided into three sorts of flour, besides the separation of the pollard and bran; and these works are effected with hogs bristles, fixed within the wire sieves. It likewise turns a machine for making mortar, which is done by being laid upon a horizontal stone, worked by a cogged wheel beneath it; and the horizontal stone turns two others that are fixed obliquely, and work by their friction the mortar under them, which is taken off as made, by a man who is ready for the purpose.

This little stream further turns another machine, of excellent use: It is for sifting the sand used in the buildings, and washing out the little stones that are in it; which it performs very effectually and expeditiously. The sketch, Plate VIII. Fig. 2. will explain the mechanism.

- a.* Is the tube from which the water issues.
- b.* The hopper, in which the sand is thrown out of wheel-barrows.
- c.* Is a wier cylindrical sieve, into which the sand falls from the hopper, and which, being turned by the large wheel,

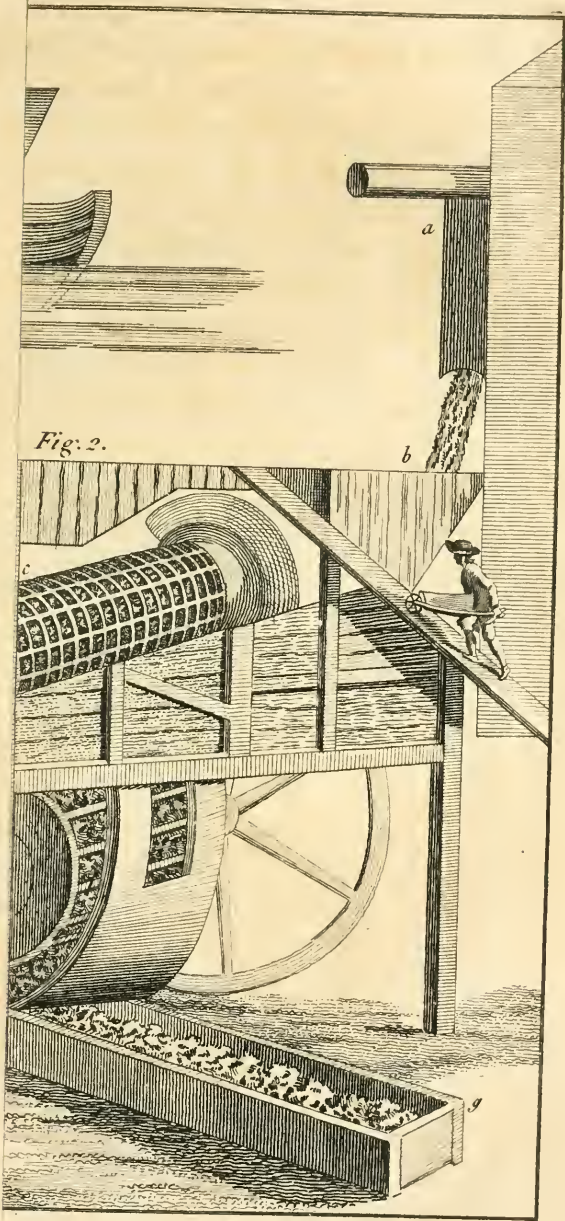


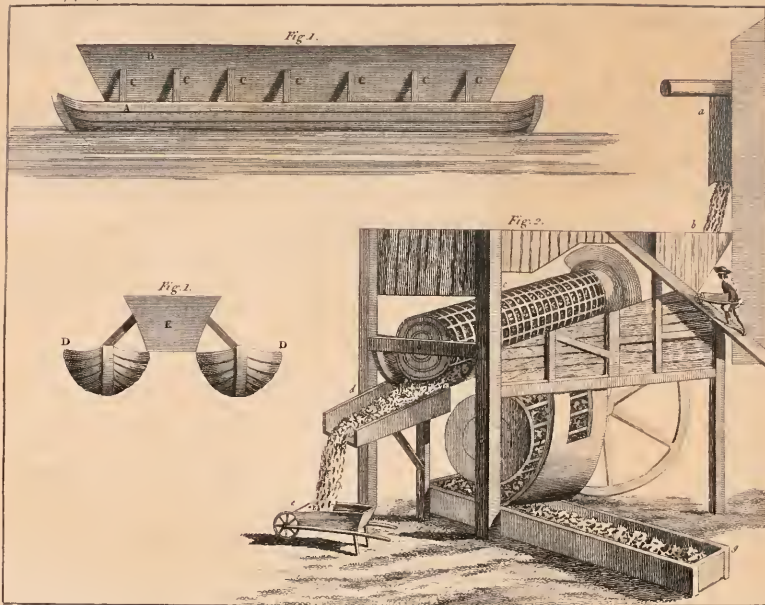
Fig. 2.

a

b

c

g



wheel, sifts the sand, which drops through the wiers into the wheel *f*, and out of that, after a fresh operation, into the trough *g*, from whence it is taken in shovels.

- d.* Is a trough for conducting the stones driven by the water out of the end of the cylinder, into a wheel-barrow *e*, placed to receive them.
- b.* Is a board, leaned asslant upon the frame work of the machine, for the men to drive up the wheel-barrow on.

The navigation is carried a mile and half beyond *Worsley*, into the middle of a large bog, called here a moss, belonging to the Duke, and merely for the use of draining it, and conveying manures to improve it: It is greatly to that nobleman's honour to find him attending, and at a considerable expence, to matters of husbandry, in the midst of undertakings that would alone convey his name with peculiar brilliancy to the latest posterity.

This bog is of large extent, extremely wet, and so rotten, that, before it is improved, it will not bear even a man. The Duke begins by cutting small drains, very

near each other, which soon render the surface pretty firm. Then his barges bring the chippings of stone, and other rubbish, which arise in digging the coals, and which are brought out of the mine exactly in the same manner, only instead of going to market, to be sold, they are converted into money, in another way, by being brought hither. This rubbish is wheel-barrowed out of the barges on boards, on to the land, which is greatly improved by it; the surface soon becomes sound, the aquatic spontaneous growth disappears by degrees, better herbage comes, and thus it is converted into profitable pasture, without any paring, burning, or ploughing. Some of the longer shivers of the stone will not crumble with the frosts; such are picked up, laid in heaps, and carried back to the stone yard, where they are squared for buildings, or converted to other uses.

As fast as the bog becomes improved, the canal is extended, for the sake of going on with the work; and almost at the end of it his Grace is building a small house, for an overseer, situated upon land which once would not have borne even the men employed now in building on it.

This

This improvement is of a new kind, and peculiarly useful in the neighbourhood of quarries, stone masons yards, mines in rocks, &c. &c. In this instance it is of noble advantage; for the rubbish would be troublesome at *Worsley*, and expensive to carry out of the way; so that this improvement must be considered as another *part* of this grand *WHOLE*, which is so admirably connected, and, by itself, so astonishingly supported.

At *Worsley* land lets from 20s. to 3l. *per* acre. Farms rise from 20l. to 100l. a year.

The next business is to view the other branch of the canal, which extends to *Altringham*, &c. and for this purpose you return to *Manchester* to lie, and keep the pleasure-beat, to be ready at *Castle-field* the next morning.

After arriving in the old course at the branching off, you first come to *Longford-bridge*, under which is a canal-door. And just by a small circular wear, for the conveyance of a stream under the canal, the brook falls into the well, in the nave of the circle, down to an arched passage, which conveys it under, and lets it rise again in its old course on the other side.

At

At *Waterford* the canal extends across a long valley, the level being preserved without locks: The work is here very noble: The banks of earth of a vast height and thickness, beautifully sloped, and the whole appearance strikingly great. It here crosses at the same time a large brook much subject to floods and a road: Two arches carry it over the stream, and a third over the road. The view, Plate IX. will better explain it.

A. The stream.

B. The wall of the aquæduct.

C. The road.

D. The sloped green bank of the canal.

E. A meadow.

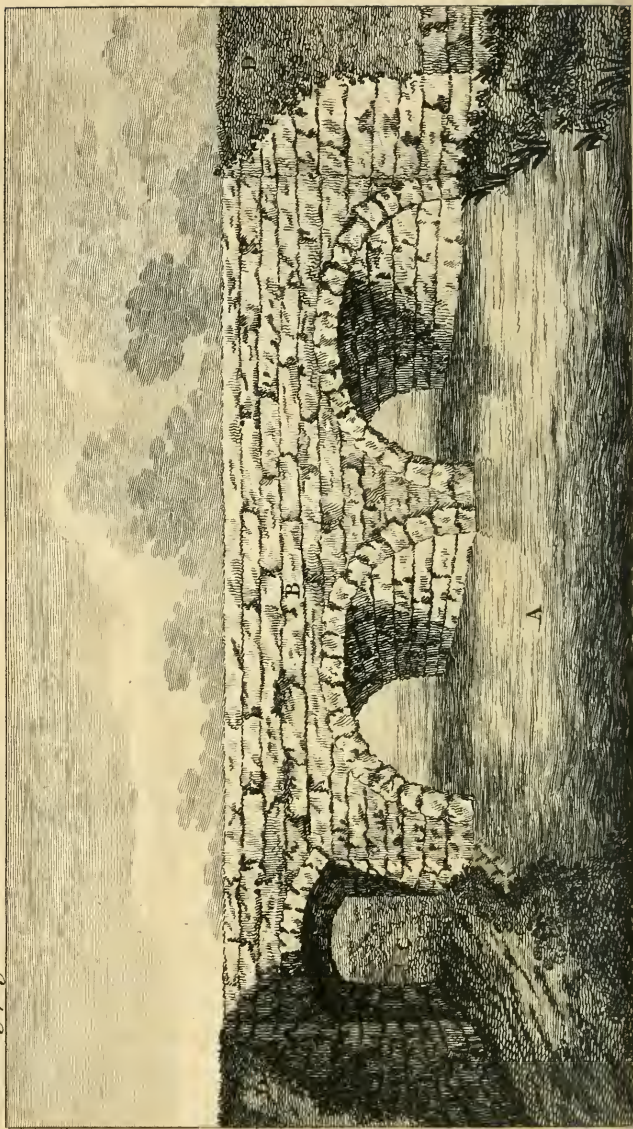
The three arches extend 80 feet. Here are trap-doors, &c. as at *Barton Bridge*, for securing the water of the canal in case of a breach, or for repairing the aquæduct.

Further in the same valley the navigation is carried across the river *Mersey*, on one arch of seventy feet span.

I should remark, that the canal across this whole valley is of a vast breadth, and has rather the appearance of a great navigable river than an artificial canal cut at the expence of a single person.

Next





Next it is carried across *Sale Moor*; under the first bridge you catch a pleasing view, through the arches of other bridges, in a line, and at the end a church and steeple. This part of the navigation, from the lowness of the *Moor* below the level of the canal, was pronounced by many to be impracticable, and Mr. *Brindley's ne plus ultra*; but this difficulty was removed by perseverance and spirit; a complete bed was made for the canal, raised at bottom as well as the sides, sufficient for conducting the water on a level. This was effected by making a vast case of timber for the whole work: Great piles of deal were fixed as a mound to keep the earth in a proper position to form the banks; and when they were raised, the piles removed on for answering the same work again, and the water brought forwards by degrees, to the astonishment of those who pronounced the work impracticable. It is carried over two brooks here, for which arches are turned.

At *Altringham Bridge*, the Duke has a large warehouse on the side of the canal, several stories high, for the convenience of stowing and lodging goods, in the trade
that

that is carried on, on this part of the navigation: Also a wharf for selling coals, with cranes erected for loading and unloading boats: Here, likewise, his Grace's people burn charcoal.

Advancing with the canal, we come to *Dunham*, passing through a lock constructed upon the same principle as the canal-doors, so often mentioned. *Dunham* school is seen upon the left; a plain and unornamented, but elegant front; as pleasing, of the kind, as any one I remember to have seen. A little further, we came to the works then executing, which are of the nature of all in this great undertaking: The canal is here carried over two roads, and the river *Bollam*; and a great inequality in the surface of the country remedied by a system of locks, of which there are eight, within a vast frame-work of timbers, in the distance of about thirty yards. When finished, and the water navigated, all these locks will be passed by a gang of barges, in less than twenty minutes. The canal crosses the roads and the river, on vast arches, in the same manner as already described and represented. The activity and spirit with which the workmen carry on
their

their business, is very pleasing; carpenters, smiths, masons, labourers, boatmen, &c. &c. are all employed in great numbers, so that the works advance with great celerity. Here I observed two very large barges, with a house built in each, and a chimney in one: This is a floating blacksmith's forge and shop, with all sorts of tools, &c. The other is a carpenter's shop; these are of excellent use in following the works as they advance; saving all the trouble and expence of repeated erections and removals.

The works are also carrying on by near three hundred men, about two miles further; barges have been carried thither by land, and floated for the use of the workmen; but both parts of the canal will soon join, as the business goes on with so much spirit.

Another part of his Grace's design, and which he has an act to enable him to execute, is to extend a branch of his canal from *Sale Moor* to *Stockport*, but not yet begun: That place being a town of considerable manufacture and trade, further very considerable benefits may reasonably be expected to accrue from the encrease of traffic

on

on the canal thereby occasioned. This intended branch is, like the rest, marked in the annexed map, Plate X. which delineates the whole country through which the navigation extends.

A, A, A. Is the Duke's navigation finished.

B, B, B. Ditto unfinished.

C, C, C. Course of the old navigation.

[] across the canal — The canal-doors.

But here I should add, that a scheme, much greater than any thing yet executed, is in contemplation, though not yet come before Parliament. His Grace was first enabled to extend his canal to the *Hempstones*, (see the Map;) but my Lord *Gower*, and many other persons, obtaining an act for a canal from the *Trent* to the *Mersey*, to communicate between the towns of *Hull* and *Liverpool*, the Duke of *Bridgewater* agreed with them (under authority of Parliament) to vary the course of his intended canal, and meet theirs half way, between *Preston-brook* and *Runcorn*, and then the two canals, united, to be carried to the *Mersey* at *Runcorn*.

Since that Mr. *Brindley* has viewed the river at *Runcorn*, and is of opinion, that the



Duke of
NIV

Salford



C

Manchester



A

Cornbrook

K

Langford Bridge



ton

Masey R.

Mill House Moor

hall

haw

Northenden



Cheadle Br.

Mill Brook

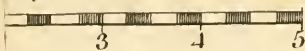


Cheadle

Stockport

B

E of MILES.



A PLAN of the Duke of Bridgewater's NAVIGABLE CANAL.



the navigation might be carried *over* it in an aquæduct, and then forwarded directly to *Liverpool*. And we may expect, in a few years, to hear that his Grace has completed his navigation this way, by reaching the *Mersey* at *Runcorn Gap*; after which, this canal will undoubtedly be the easiest, cheapest, and best way of sending goods of all kinds from and to *Liverpool* and *Manchester*.

It is to that period his Grace looks for a reimbursement of the immense sums this navigation has and will cost him: The benefit of water carriage for his coals at *Worsley* to *Manchester*, *Altringham*, &c. is certainly a great advantage; but not near sufficient to repay the expence of such vast undertakings; but when two such considerable trading and manufacturing towns as *Manchester* and *Liverpool* communicate, by means of this navigation, at a cheaper and easier rate than by the old one, there is no doubt but his Grace will meet with that profitable return his noble spirit so truly deserves.

This scheme is a vast one, and worthy so bold and daring a genius. The river *Mersey*, at that place, is five hundred and
 sixty

sixty yards wide ; and, at spring tides the water flows near eighteen feet perpendicular. The masts of vessels, which navigate the river itself, are said to be seventy feet high ; add to all this, that the river is sometimes rough and boisterous : It is planned, notwithstanding these tremendous difficulties, to carry the canal across the river. The greatest undertaking (if executed) that ever yet was thought of, and will exceed the noblest works of the *Romans*, when masters of the world ; or the legendary tales even of *Semiramis* herself.

The excellency and utility of the plan are, however, indisputable : If the canal was carried directly to the town of *Liverpool*, there would at once be a complete, easy, safe, and cheap navigation from that great sea-port directly to *Manchester*, and all the other towns and places near which the canal goes. The present navigation is that of the river *Mersey*, or, in other words, an arm of the sea for several miles, which is at best but an insecure navigation for inland boats, not to say a dangerous one, and occasions such precautions of the expensive kind, that the carriage of goods can never
be

be half so cheap or regular as upon a canal. This river partakes, with others, of disadvantages, to which canals are not subject, such as tides, floods, working one way against a stream, &c. &c. from all which the new navigations are perfectly free; add to this, the old navigation here is cramped with ten times the number of locks, that the canal would be.

But something sure is due to the execution and possession of works, which command the attention and admiration of all *Europe*: The number of foreigners who have viewed the Duke of *Bridgewater's* present navigation, is surprizing; what would it be if his Grace was to extend it over a boisterous arm of the sea:—To exhibit a navigation afloat in the air, with ships of an hundred tons sailing full masted beneath it. What a splendid idea!*

* In some of the controversial writings, published on the proposition of a navigation from *Hull* to *Liverpool*, the prejudiced, or rather interested people, who were staunch friends to the *old* navigations, and by the by, ridiculed *canals*, in a manner which must now, while such great success attends them, turn, I think, to their shame, among other arguments asserted the sufficiency of the navigation to *Liverpool* already existing, a stroke in one of their answerers is excellent:—

“The delays and inconveniences render this (the old)

Upon the whole, the uncommon spirit which actuated his Grace the Duke of *Bridgewater* in designing and executing such noble works, can never be sufficiently admired: At an age when most men aim only at pleasure and dissipation, to see him engaged in undertakings, that give employment and bread to thousands; that tend so greatly to advance the agriculture, manufactures, and commerce, of an extensive neighbourhood; in a word, that improve and adorn his country, is a sight so very uncommon, and so great, that it must command our admiration. Nor was it less to his Grace's honour, that, in the execution of these spirited schemes, he had the penetration to discern the characters

“ navigation ineffectual for the conveyance of the produce *even* of the county of *Chester*; as far the most considerable part of the *cheese* produced in that county is now carried *by land parallel* with the *whole length* of this EXCELLENT navigation, to *Frodsham-bridge* and *Bank-quay*; from which places it is conveyed by flats to *Liverpool*, there to be re-shipped for *London*, and other markets; and SALT, the other staple article of this county, is sent in *great quantities*, all *by land carriage*, from *Northwich* to *Manchester*, for the supply of that town, and a very extensive and populous neighbourhood, notwithstanding the present *navigable communication* between those places.”

of mankind so much, as to fix on those people who were formed by nature for the business; to draw forth latent merit; to bring from obscurity one of the most useful genius's that any age can boast; to throw that genius at once into employment; to give a free scope to his bold ideas; to be unsparing of money in supporting them; and to keep him constantly in a situation of rendering his talents useful to his country; all prove that his Grace has a mind superior to common prejudice; that he is one of those truly great men, who have the soul to execute what they have the genius to plan.

I remain, dear Sir,

yours, very sincerely.

L E T T E R XX.

I Took the road from *Dunham* to *Knutsford*: In that tract, land lets from 20*s.* to 35*s.* *per* acre. Farms rise from 40*l.* to 200*l.* a year. They reckon the product of a cow at 5*l.*

About *Knutsford* there are chiefly two soils, clay and sand. The average rent is about 16*s.* an acre. Farms are, in general, about 20*l.* or 30*l.* but some of 150*l.* and 200*l.* a year.

Their courses,

1. Fallow
2. Wheat
3. Barley
4. Oats.

And,

1. Fallow
2. Wheat
3. Barley
4. Clover for two or three years
5. Wheat.

The *quantity* of wheat sown is but trifling. For barley they plough three or four times, sow three bushels, and gain, at an

an average, five quarters. For oats they plough once, sow five bushels, and gain from forty to fifty. Very few turneps are sown by farmers, but some by gentlemen.

The farmers are getting more into tillage than formerly, and to their prejudice, for barley will only grow with much manure. The town of *Manchester* setting up malt-kilns in opposition to those of *Yorkshire*, is what encourages the farmers to extend their tillage.

Clover they sow with barley, mow it twice, and gain two ton and a half the first time, and about a ton the second.

Potatoes they prepare for by digging, generally grass land for the first crop; they slice and dibble them in one foot asunder every way, twenty bushels to the acre: Hand-hoe and hand-weed. The produce generally from three to four bushels from a perch, or about 500 *per* acre:—Wheat after them. The expences are,

Digging, 2*l*.

Weeding, &c. 15*s*.

Taking up, 1 $\frac{1}{2}$ *d*. *per* bushel.

Marle is their chief manure; they have it brown, red, blue, and also shell marle. They lay two square roods and an half *per* acre,

acre, which cost them from 3 *l.* to 4 *l.* lay it chiefly upon grafs. Shell marle is of fo excellent a nature, that it lafts very good for ten years, and the land constantly cropped—a huſbandry not much to the credit of the *Cheſhire* farmers. They know nothing of chopping ſtubble, but ſtack their hay at home.

Good grafs land lets at about 25 *s.* *per* acre; they apply it chiefly to dairying, and reckon that an acre and half is ſufficient for the ſummer feeding a cow. Their breed of horned cattle is a mongrel, between the long and ſhort. The product of a cow they reckon at from 5 *l.* to 8 *l.* Many give in cheeſe alone to the amount of 6 *l.* 10 *s.* others as follows :

Cheeſe,	-	-	-	6 <i>l.</i> 0 <i>s.</i>
Butter,	-	-	-	1 0
Calf,	-	-	-	0 10
				7 10
				7 10

The average quantity of milk *per* day about four gallons. They do not keep above three ſwine to twenty cows. Their winter food is hay and ſtraw; of the firſt they eat about two ton. A dairy maid
can

can take care of fifteen. The summer joist is 25s. In the winter they are always kept in the house tied up.

It is supposed in general, that the famous *Cheshire* cheese depends more on the quality of the land, than on any particular receipt.

It has been found, that liming and enriching the land has made it the worse for cheese.

Cold clays are beneficial soils for cheese; in general, the worst land makes the best cheese.

Many of the great dairy farmers keep their cows like running horses, littered down as well; kept perfectly clean, and fed constantly with ground oats; straw only till *Christmas*. Some of these make 8*l.* 9*l.* and 10*l.* profit *per* cow.

The breed even of these is in general small; will not fat to above thirty-two stone. None of the *Lancashire* long horns will equal them in milking. Some farmers have got a cross breed by *Lancashire* bulls, but it has been found prejudicial to the dairy.

In the management of their milk, the last night's is set for cream, and the milk, with

the new of this morn, mixed for the cheefe; likewise most of the cream of last night's milk, warmed to the warmth of the new milk. They use nothing but rennet for coagulation.—The cheefes weigh from 15 *lb.* to 120 *lb.*

Their tillage is too trifling to admit a general description; but they reckon the annual expence of a horse at 6*l.* They break up their stubbles for a fallow in *May* or *June*, stir three inches deep. The price of ploughing *per* acre, 4*s.* 6*d.* and 5*s.* Know nothing of cutting straw into chaff.

In the hiring and stocking of farms they reckon 200 *l.* sufficient for one of 50 *l.* a year.

Land sells at thirty and thirty-two years purchase.

Tythes both gathered and compounded.

Poor rates 3 *s.* in the pound. The employment chiefly spinning of flax. All drink tea.

The farmers carry their corn seven miles; that is, to the Duke of *Bridgewater's* navigation.

Leases run chiefly for three lives.

The

The general œconomy of their farms will be seen from the following sketches.

200 acres in all

30 arable

170 grafs

£. 150 rent

6 horfes

50 cows

6 young cattle

5 fatting beasts

20 ſheep

3 men

2 boys

3 maids.

Another,

150 acres in all

40 arable

110 grafs

£. 120 rent

35 cows

5 fatting beasts

1 man

2 boys

2 maids.

Another,

130 acres in all

20 arable

110 grafs

£. 100

£. 100 rent
 4 horses
 40 cows
 10 sheep
 1 man
 2 boys
 3 maids.

Another,

50 acres in all
 5 arable
 45 grafs
 £. 45 rent
 2 horses
 12 cows
 1 boy
 1 maid.

Another,

38 acres all grafs
 £. 30 rent
 1 horse
 9 cows
 1 boy.

The little farmers in this country are reckoned more wretched than even day-labourers.

L A B O U R.

In harvest, 1s. 6d. and beer.

In hay-time, 1s. 6d. and ditto.

In

In winter, 1*s*.

Mowing grass, 1*s*. 6*d*. to 2*s*.

Ditching, 4*d*. to 7*d*.

I M P L E M E N T S.

A waggon, 15*l*.

A cart, 9*l*.

A plough, 15*s*.

A roller, 4*l*. 10*s*.

A scythe, 2*s*. 6*d*. to 5*s*.

A spade, 4*s*. 6*d*.

Laying a share and coulter, 6*d*. and iron.

Shoeing, 1*s*. 4*d*.

P R O V I S I O N S, &c.

Bread — barley.

Cheese, 2*d*.

Butter, 7*d*. 18 oz.

Beef, 2½*d*.

Mutton, 3½*d*.

Veal, 4*d*.

Pork, 4*d*.

Milk, ½*d*. per quart, skim.

Potatoes, 1*s*. 2*d*. per bushel.

Candles, 7*d*.

Soap, 6*d*.

Labourer's house rent, 30*s*. to 3*l*.

—— firing, 20*s*.

At *Knutsford* is a pretty brisk manufacture, particularly a silk mill that employs eighty women and children; the first earn from 4 s. to 5 s. a week, and children from 8 d. to 2 s.

Also a thread manufacture, in which men earn from 6 s. to 8 s. a week; but few women; but children earn from 1 s. to 2 s.

Likewise a worsted manufacture; the drawing it from the wool; the earnings,

Men 12 s. to 14 s.

Women (spinners) 2 s. 6 d. to 3 s.

Children (ditto) 2 s.

I advanced southward by *Holm's Chapel*, the soil about that place is chiefly of sand and clay; lets about 20 s. at an average. Farms from 20 l. to 300 l. a year. Their course generally

1. Fallow

2. Wheat

3. Oats

4. Clover.

And,

1. Fallow

2. Barley

3. Wheat.

Of wheat the average crop is about twenty bushels, of barley thirty, and of oats as much.

Marle is here the grand manure; they lay about a rood and half on an acre, which costs from 1*l.* 10*s.* to 2*l.* and lasts from twenty to forty years; it is of a brown colour mixed with blue. They also lime their land, generally mix it with dung for wheat; it costs them 10*d.* the *cwt.*

Their grass land lets from 20*s.* to 40*s.* *per* acre, it is all used in dairying. Of meadow land they reckon an acre and half will summer feed a cow, but in the uplands it takes three acres. They are pretty careful in manuring the grass with lime and earth mixed together.

Their cows are of an ordinary breed, loose boned; some farmers have aimed at an improvement by *Lancashire* bulls, but it does not answer, except in beauty. The average quantity of milk is about five gallons; but some of Mr. *Vernon's* near this place have given ten gallons *per* day. The product of a good cow they calculate as follows:

Four

Four <i>cwt.</i> of cheese, at 32 s.	£.6	8
Butter	-	1 0
Calf	-	1 1
Swine	-	0 10
		<hr/>
		8 19

But the average is not above two *cwt.* and a half of cheese; and the whole amount about 6 *l.* or 6 *l.* 10 s.

They reckon that ten or twelve cows will fat three or four pigs. The calves suck a month. They calculate seven cows the proper number for a dairy maid. They are kept in the house in winter, and fed with hay or straw as the farmer manages: One ton of hay will winter a cow with straw; but if without two tons.

In the hiring and stocking farms, they reckon the following sums necessary for one of 100 *l.* a year.

Twenty cows,	-	-	£.140
Implements,	-	-	40
Three horses and gears,	-	-	30
Seed,	-	-	10
Rent,	-	-	50
Housekeeping,	-	-	40
Labour,	-	-	50
Swine,	-	-	2
			<hr/>

The general œconomy will be seen from the following sketches.

400 acres in all
 40 arable
 360 grafs
 £. 250 rent
 6 horfes
 50 cows
 12 young cattle
 2 men
 2 boys
 4 maids
 6 labourers.

Another,

200 acres in all
 30 arable
 170 grafs
 £. 200 rent
 3 horfes
 30 cows
 20 ſheep
 2 men
 2 boys
 3 maids
 2 labourers.

Another,

50 acres all grafs
 £. 40 rent

1 horſe

1 horse
 10 cows
 4 young cattle
 1 boy
 1 maid.

L A B O U R.

In harvest, 1*s.* 6*d.* and board.
 In hay time, 1*s.* 6*d.* and ditto.
 In winter, 10*d.* to 1*s.* small beer and broth.
 Reaping wheat, *per* acre, 3*s.* to 4*s.*
 ——— barley, 3*s.* 6*d.*
 ——— oats, 2*s.* 6*d.*
 Mowing of grass, 1*s.* 3*d.* to 2*s.* 6*d.*
 Thrashing wheat, 2*d.* *per* bushel.
 ——— barley, 1*d.* ditto.
 ——— oats, 1*d.* ditto.
 Head-man's wages, 10*l.* and 10*s.* for
 washing.
 Next ditto, 7*l.* 10*s.*
 Boy of ten or twelve years, 20*s.*
 Dairy maids, 40*s.* to 5*l.*
 Other ditto, 30*s.* to 45*s.*
 Women *per* day in harvest, 1*s.* and beer.
 In hay time, 7*d.*
 Value of a man's board, washing, and
 lodging, 4*s.* a week.

I M P L E M E N T S, &c.

- A waggon, 20 *l.*
 A cart, 10 *l.*
 A plough, 27 *s.*
 A harrow, 16 *s.*
 No rollers.
 A scythe, 2 *s.* 6 *d.* to 5 *s.*
 A spade, 4 *s.*
 Shoeing, 1 *s.* 4 *d.*

P R O V I S I O N S, &c.

- Bread — barley.
 Cheefe, 3 $\frac{1}{2}$ *d.*
 Butter, 8 *d.* 18 to 24 *oz.*
 Beef, 2 $\frac{1}{2}$ *d.*
 Mutton, 3 $\frac{1}{2}$ *d.*
 Veal, 3 $\frac{1}{2}$ *d.*
 Pork, 3 $\frac{1}{2}$ *d.*
 Bacon, 6 *d.*
 Potatoes, 4 $\frac{1}{2}$ *d.* *per* peck.
 Candles, 7 *d.*
 Soap, 6 *d.*
 Labourer's house rent, 20 *s.* to 35 *s.*
 ———Firing, 21 *s.*

B U I L D I N G.

- Bricks, 12 *s.* *per* thousand.
 Oak timber, 2 *s.*

Ash ditto, 9d. to 1s. 2d.

Mason *per* day, 1s. 6d.

Carpenter ditto, 1s. 6d.

I forgot to remark, that all the horses I have seen in *Cheshire* are of a very bad breed, and worth but little for real use.

From *Newcastle-under-line* I had the pleasure of viewing the *Staffordshire* potteries at *Burslem*, and the neighbouring villages, which have of late been carried on with such amazing success. There are 300 houses, which are calculated to employ, upon an average, twenty hands each, or 6000 in the whole; but if all the variety of people that work in what may be called the preparation for the employment of the immediate manufacturers, the total number cannot be much short of 10,000, and it is increasing every day.

It dates its great demand from Mr. *Wedgwood* (the principal manufacturer) introducing, about four years ago, the cream-coloured ware, and since that the increase has been very rapid. Large quantities are exported to *Germany*, *Ireland*, *Holland*, *Russia*, *Spain*, the *East Indies*, and much to *America*: Some of the finest sorts to *France*. A considerable shopkeeper
from

from the *Pont-neuf* at *Paris*, was lately at *Burslem*, and bought a large quantity: It is possible, indeed, he came for more purposes than to buy; the *French* of that rank seldom travel for business, which might be as well transacted by a single letter.

The common clay of the country is used for the ordinary sorts; the finer kinds are made of clay from *Devonshire* and *Dorsetshire*; chiefly from *Biddeford*; but the flints from the *Thames* are all brought rough by sea, either to *Liverpool* or *Hull*, and so by *Burton*. There is no conjecture formed of the original reason of fixing the manufacture in this spot, except for the convenience of plenty of coals, which abound under all the country.

The flints are first ground in mills, and the clay prepared by breaking, washing, and sifting, and then they are mixed in the requisite proportions. The flints are bought first by the people about the country; and by them burnt and ground, and sold to the manufacturers by the peck.

It is then laid in large quantities, on kilns, to evaporate the moisture; but this is a nice work, as it must not be too dry: Next it is beat with large wooden hammers,

mers, and then is in order for throwing, and is moulded into the forms in which it is to remain: This is the most difficult work in the whole manufacture. A boy turns a perpendicular wheel, which, by means of thongs, turns a small horizontal one, just before the thrower, with such velocity, that it twirls round the lump of clay he lays on it, into any form he directs it with his fingers.

The earnings of the people are various.

Grinders, 7 s. *per* week.

Washers and breakers, 8 s.

Throwers, 9 s. to 12 s.

Engine lath mén, 10 s. to 12 s*.

Handlers, who fix hands, and other kinds of finishers, for adding sprigs, horns, &c. 9 s. to 12 s.

Gilders,

Men, 12 s.

Women, 7 s. 6 d.

Modellers, apprentices, one of 100 l. a year.

Pressers, 8 s. to 9 s.

Painters, 10 s. to 12 s.

Moulders in plaister of *Paris*, 8 s.

* Mr. *Wedgwood* was the first person who introduced this machine into a porcelaine manufacture.

In general the men earn from 7 s. to 12 s. Women 5 s. to 8 s. Boys, chiefly apprentices, but 2 s. a week the first year, and a rise of 3 d. *per annum* afterwards. Before they are apprentices 2 s. 9 d. *per* week, as they then learn nothing. But few girls.

In general we owe the possession of this most flourishing manufacture to the inventive genius of Mr. *Wedgwood*; who not only originally introduced the present cream coloured ware, but has since been the inventor of every improvement, the other manufacturers being little better than mere imitators; which is not a fortunate circumstance, as it is unlucky to have the fate of so important a manufacture depend upon the thread of one man's life: However, he has lately entered into a partnership with a man of sense and spirit, who will have taste enough to continue in the inventing plan, and not suffer, in case of accidents, the manufacture to decline.

I took the opportunity of being at *Burslem*, to view the amazing works carrying on at *Harecastle*. The navigation I mentioned in describing that of the Duke of

Bridgewater, promoted by my Lord *Gower*, and carried on by subscription, to join the ports of *Hull* and *Liverpool*, is carried across the kingdom, without any very material interruption, except at *Harecastle*; but there it follows a valley, which, contrary to most, terminates against hills, without any winding around them; so that the navigation must either be here stopped, and a land carriage, like the *American* ones, at the falls in their rivers, be the consequence, or the range of hills which faced them pierced through: The attempt was an immense one; but it is made, and will undoubtedly succeed.

The tunnel, in the Duke of *Bridgewater's* navigation, is of a small breadth, as it is the termination of the canal, and boats made on purpose for entering it; but *Harecastle* being almost in the center of a navigation of an hundred miles, a subterrane must of necessity be spacious enough to admit all the traffic of the canal, passing and repassing, or it would be useless. The canal is therefore carried under-ground in its common breadth and depth; it is twelve feet wide, and nine high; and will extend under an high range of country above a
mile

mile and half. The first estimate, or rather supposition of the expence, was 10,000*l.* but it is now said that that sum will prove very insufficient; the immensity of the undertaking not having (relative to the estimate) been duly considered.

It is certainly an amazing work; about four hundred yards of it are finished. The method of working, is sinking shafts like those of coal pits, in a line over the course of the canal; engines are then erected, and the earth, rock, coal, and all the substances that rise, drawn up by a horse, which is kept regularly employed in drawing up the stuff, as fast as the workmen dig it below, in hollowing out the cavern: It is walled, paved, and arched, as they finish. Other machines, worked by wind and water, are erected also to draw up the water: The whole work is carried on regularly, and all obstructions removed as fast as they are discovered. In a word, the success of the work is not doubted; but as to the extent of the expence, it cannot admit of calculation, as it is impossible to conjecture the nature of the strata they will have to cut through, the hardness of the rock, or the quantities of water with which they

will be troubled. I was told that the navigation will be in some places near two hundred feet below the surface.

By such noble undertakings is the present age peculiarly distinguished. When agriculture, manufactures, and commerce flourish, a nation grows rich and great, and riches cannot abound, without exciting that general industry, and spirit for improvement, which at last leads to performing works, which, in poorer times, would be thought wonders.

At *Newcastle* is a considerable manufacture of shoes and hats; the first employs above an hundred hands, who earn from 10*d.* to 2*s.* a day. Of the latter there are three or four hundred; the men earn from 7*s.* to 10*s.* a week.

Women, 3*s.* to 6*s.*

Children, 1*s.*

P R O V I S I O N S, &c.

Bread — maflin, 1*d.*

Cheefe, 3*d.*

Butter, 8*d.*

Beef, 3*d.*

Mutton, 3*d.*

Veal, 3*d.*

Milk,

Milk, $\frac{1}{2}d.$ per pint.

Potatoes, $4d.$ per peck.

Poor's house rent, $40s.$ to $3l. 10s.$

— firing, $20s.$ to $25s.$

From *Newcastle* southwards the country improves greatly in beauty: The soil towards *Stone* is generally a sandy loam. About that place it is also sandy, on a bed of marle; lets from *Newcastle* to *Stone*, and also around that place, from $12s.$ to $20s.$ per acre. Farms are various, rising from $30l.$ to $500l.$ a year. Their courses are chiefly,

1. Fallow
2. Wheat
3. Oats
4. Barley
5. Clover two or three years
6. Oats
7. Beans.

A vile, as well as strange course.

Another is,

1. Fallow
2. Wheat
3. Oats
4. Barley
5. Turneps
6. Barley
7. Clover.

Which

Which is almost as odd as the other.

The average products of corn are,

Of Wheat,	22 bushels
Barley,	30
Oats,	40
Beans,	30
Pease,	25

For turneps they plough three times: Good farmers hoe them twice: The average value from 50 s. to 3 l. 10 s. They use them both for sheep and beasts. Clover they sow with spring corn, mow it the first year, and get about a ton and half of hay at a mowing.

Their method of cultivating potatoes, is to dung grass land well, and dig it in, which costs 7 d. a perch; then dibble in the slices (tho' some farmers plant them whole.) While they are growing they are hand-hoed and kept clean. The produce 450 bushels at an average.

The chief manure in this country is marle, which is generally laid on the arable lands at the rate of 120 loads *per* acre, each twenty-five hundred weight; if the marle pit is at any distance, the expence will be 10 l. or 12 l. *per* acre; but if it is on the same piece, it will be done for

3 *l.* 10 *s.* or 4 *l.* They likewise use a little lime; find it answers best on cold springy land; they lay it on the fallows twenty bushels *per* acre; the price 7½ *d.* *per* bushel. They know nothing of chopping the stubbles, but stack their hay at home.

Good grafs letts at 30 *s.* *per* acre; it is chiefly used for dairying: One acre they reckon sufficient for the summer feed of a cow. Some few farmers marle it.

The breed of cattle is the long horned: The oxen fat from forty-eight to eighty score. The product of a cow they reckon,

Three hundred weight of	<i>l.</i>	<i>s.</i>	
cheese, at 27 <i>s.</i>	4	1	
Butter, - - - -	0	10	
Calf, - - - -	0	10	
	5		1
	5		1

The average quantity of milk five gallons a day. They keep about four hogs to ten cows, which is also the number they reckon proper for a dairy maid to look after. The winter food is hay and straw; the quantity of the first is various; but many farmers give their cows very little hay, so that the quantity rises from five hundred

hundred weight to a ton. Keep them in a house.

They fat their hogs from fifteen to thirty-five score.

No account could be taken of their flocks of sheep, as they in general only winter them.

In their tillage they reckon eight horses necessary for the management of an hundred acres of arable: They use three or four in a plough, and do an acre and a quarter, and an acre and a half in a day. The annual expence of a horse they reckon 7*l.*

They do not break up their stubbles for a fallow till after barley sowing. The price of ploughing *per* acre is 5 *s.* and the common depth four inches. They know nothing of cutting straw into chaff.

The hire of a cart, three horses, and driver, *per* day, is 5 *s.*

In the hiring and stocking of farms, they reckon 350 *l.* a sufficient sum to take one of 100 *l.* a year.

Land sells from thirty to forty-five years purchase.

Tythes are both gathered and compounded; if the latter,

Wheat

Wheat from 3 *s.* to 5 *s.*

Barley, 3 *s.*

Oats, 2 *s.*

Hay, 1*s.* 6 *d.*

Poor rates 1*s.* 6 *d.* in the pound. Idleness the chief employment of the women and children: All drink tea, and fly to the parishes for relief, at the very time that even a woman for washing is not to be had. By many accounts I received of the poor in this neighbourhood, I apprehend the rates are burthened for the spreading laziness, drunkenness, tea-drinking, and debauchery:—The general effect of them, indeed, all over the kingdom.

Leases are various, both for terms from seven to twenty-one years, and for two and three lives.

The general œconomy will be seen from the following particulars of farms.

400 acres in all

150 arable

250 grass

£. 300 rent

12 horses

36 cows

12 fattening beasts

30 young cattle

50 sheep

50 sheep
 3 men
 1 boy
 2 maids
 6 labourers
 2 waggons
 3 carts
 3 ploughs.

Another,

200 acres in all
 90 arable
 110 grafs
 £. 150 rent
 9 horses
 20 cows
 3 fattening beasts
 20 young cattle
 20 sheep
 2 men
 1 boy
 2 maids
 3 labourers
 1 waggon
 3 carts
 3 ploughs.

Another,

90 acres in all
 30 arable

60 grafs
 £. 60 rent
 4 horfes
 6 cows
 8 young cattle
 1 man
 1 boy
 1 maid
 1 labourer
 3 carts
 2 ploughs.

Another,

140 acres in all
 70 grafs
 70 arable
 £. 115 rent
 8 horfes
 14 cows
 6 fattening beafts
 12 young cattle
 10 ſheep
 2 men
 1 boy
 1 maid
 2 labourers
 1 waggon
 2 carts
 3 ploughs.

Another,

Another,

125 acres in all

80 arable

45 grafs

£. 100 rent

8 horfes

15 cows

2 men

1 boy

2 maids

3 labourers

1 waggon

3 carts

3 ploughs.

Another,

50 acres in all

35 arable

15 grafs

£. 45 rent

4 horfes

4 cows

3 young cattle

1 man

2 carts

1 plough.

LABOUR.

L A B O U R.

In harvest, 1 s. 6 d. and beer.

In hay time, 1 s. 2 d. and ditto.

In winter, 1 s. and ditto.

Reaping *per* acre, 4 s. 6 d.

Mowing barley, 1 s. 6 d.

———— oats, 1 s. 4 d.

———— grafs, 1 s. 4 d.

Hoeing turneps, 4 s. 6 d.

———— beans, 2 s. 6 d.

Ditching, 4 d. — eight yards.

Threshing wheat, 4 s. 6 d. twenty bushels.

———— barley, 3 s. 4 d.

———— oats, 22 d. to 2 s. 6 d.

———— beans, 4 s. 6 d.

Filling marle cart 5 s. *per* 120 loads, and board.

First man's wages, 8 l.

Next ditto, 6 l.

Boy of ten or twelve years, 3 l.

Dairy maids, 3 l. 10 s.

Other ditto, 3 l. 10 s.

Women *per* day in harvest, 7 d. and beer.

———— In hay time ditto.

Value of a man's board, washing, and lodging, 6 l. 10 s.

I M P L E M E N T S, &c.

- A waggon, 20 *l.*
 A cart, 12 *l.*
 A plough, 14 *s.*
 A harrow, 18 *s.*
 A roller, 9 *l.* to 10 *l.* for corn.
 A scythe, 3 *s.* 6 *d.*
 A spade, 3 *s.* 6 *d.*
 Shoeing, 1 *s.* 4 *d.*

P R O V I S I O N S, &c.

- Bread — Wheat, 1 $\frac{1}{2}$ *d.*
 Cheefe, 3 $\frac{1}{4}$ *d.*
 Butter, 7 $\frac{1}{2}$ *d.*
 Beef, 2 $\frac{1}{2}$ *d.*
 Mutton, 3 $\frac{1}{2}$ *d.*
 Pork, 3 $\frac{1}{2}$ *d.*
 Bacon, 5 *d.*
 Milk, $\frac{1}{2}$ *d.* per pint.
 Potatoes, 4 $\frac{1}{2}$ *d.* per peck.
 Candles, 7 *d.* per *lb.*
 Soap, 6 *d.*
 House-rent, 2 *s.* 6 *d.* to 20 *s.*

B U I L D -

B U I L D I N G.

Bricks, *per* thousand, 11 s. 6 d.

Tiles, 17 s.

Oak timber, 1 s. 2 d. to 2 s.

Ash, 11 d. to 1 s. 3 d.

Elm, 9 d. to 1 s. 3 d.

Carpenter *per* day, 1 s. 6 d.

Mason, 1 s. 0 d.

Thatcher, 1 s. and board.

The country continues to improve towards *Rudgeley Bridge*: About that place the soil is various; clay, sandy gravel, and loams. The average rent of the arable is 14 s. and the grass 20 s.

Farms rise from 20 l. to 100 l. a year.

The courses,

1. Fallow
2. Wheat
3. Barley
4. Barley.

And,

1. Fallow
2. Wheat
3. Oats
4. Clover, three years.

Also,

1. Fallow
2. Barley
3. Turneps
4. Barley.

From *Rudgeley Bridge* to *Lichfield* land lets from 20 s. to 3 l. an acre; average about 25 s. Farms from 20 l. to 200 l. a year.

About *Shenstone* the soil is light, sandy, and gravelly; lets at 15 s. an acre upon a medium. Farms from 20 l. to 400 l.

The course,

1. Turneps
2. Barley
3. Barley
4. Clover, two or three years :

Some farmers continue this course as follows ;

5. Wheat
6. Oats.

They plough thrice for wheat, sow two bushels, and reap on an average twenty-five. For barley they stir twice, sow three and an half or four bushels, and gain upon a medium forty. Oats they generally sow on turf, plough it once, sow four bushels, and reckon the mean crop at forty-five.

They

They sow a few pease; and upon turnep land sow four bushels *per* acre, and gain about thirty in return.

For rye they stir twice; sometimes sow it on turf on one earth: two bushels of seed: the crop thirty. For turneps they plough thrice: hoeing is coming into fashion pretty fast; about half the crops in the country being now hoed: but they do it only once: the value of the hoed crop 35 *s.* *per* acre, but the unhoed ones only 20 *s.* which one would apprehend a sufficient argument even to convince farmers themselves. They use them chiefly for sheep.

Clover they sow with spring corn, mow it but once, and gain about two ton of hay *per* acre. Their culture of potatoes consists in dunging grass land, and digging it in; they then dibble in the potatoe slices ten inches from each; and while growing hand hoe them well. The average produce *per* acre is about four hundred bushels: — They sow wheat after them, and get fine crops.

They have some marle, but not in large quantities; being uncertain where to find it: it is an excellent manure: the colour

is red: they lay sixty three-horse cart loads on an acre. Lime is the principal manure; they lay eight quarters *per* acre; it lasts good two years, and costs 4 s. 6 d. a quarter, with carriage. They neither fold their sheep, nor chop their stubbles. They find the best method of using their dung is to make composts of it with ditch-stuff and earth.

They drain many of their wet lands, dig them from two to three feet and a half deep, four in width at bottom, and fourteen at top, fill up with stones a foot deep, then lay in the sods and earth.

Good grass land lets from 20 s. to 25 s. *per* acre. It is mostly used for dairying: an acre they reckon sufficient to summer feed a cow: the best farmers manure it with composts of dung and earth.

The breed of cattle is the long horns; oxen fat from sixty to eighty stone: they reckon the annual product at 5 l. 10 s. or 6 l. The average quantity of milk *per* day six gallons. To twenty cows they keep about six hogs. The winter food is straw; and at, and after calving, hay. The calves for killing, suck three or four weeks; but for rearing, not at all. Ten cows is the
number

number a dairy maid generally takes care of. The summer joist is 30*s.* and in winter they reckon a cow to eat 15 *cwt.* of hay on an average; they then keep them in the farm yard

Upon fattening a beast of forty score they reckon 40*s.* profit.

Their hogs fat up to twenty score.

Their flocks of sheep rise from ten to two hundred, the profit varies from 8*s.* to 20*s.* The winter and spring food is turneps; the joist upon which 4*d.* *per* week. The average fleece 8 *lb.*

In their tillage they reckon six horses necessary for the management of an hundred acres of arable land, use three or four in a plough, and do an acre a day.

The annual expence of a horse they reckon at 10*l.* The summer joist is 50*s.* There are a few ox teams, but horses are supposed to be much the best, so that the number decreases. They do not break up their stubbles for a fallow till the spring. The price of ploughing 5*s.* *per* acre; the depth from two to four inches. Many farmers cut straw into chaff; which is the

first time I have met with the practice this age.

The hire of a cart, three horses and a driver a day, is 7*s*.

In stocking farms they reckon 250*l*. sufficient for one of 100*l*. a year.

Lands sell at from thirty to thirty-five years purchase. There are many small estates of 100, 200, and 300*l*. a year.

Tythes are both gathered and compounded, if the latter

Wheat 4*s*.

Barley 3*s*.

Oats 2*s*. 6*d*.

Pease 2*s*. 6*d*.

Poor rates 6*d*. in the pound; the women and children are in idleness; but tea-drinkers.

The farmers carry their corn ten miles.

Leases are generally for terms of seven or fourteen years; but some for two and three lives.

The following particulars of farms will shew the general œconomy of the country.

700 acres in all

300 arable

400 grafs

£.400 rent

10 horfes

12 draft oxen

26 cows

30 fattig beafts

200 ſheep (and more in winter)

4 men

2 boys

4 maids

10 labourers.

Another,

250 acres in all

130 arable

120 grafs

£.210 rent

8 horfes

8 oxen

15 cows

40 ſheep

2 men

1 boy

3 labourers.

Another,

100 acres in all

60 arable

40 grafs

40 grafs
 £. 70 rent
 6 horfes
 10 cows
 2 fattig beafts
 20 fheep
 2 men
 1 boy
 2 maids
 2 labourers.

Another,

85 acres in all
 50 arable
 35 grafs
 £. 70 rent
 4 horfes
 6 cows
 5 fattig beafts
 1 man
 1 boy
 1 maid
 1 labourer.

Another,

60 acres in all
 40 arable
 20 grafs
 £. 40 rent
 4 horfes

5 cows

5 cows
 10 sheep
 1 boy
 1 maid.

Another,

30 acres in all
 10 arable
 20 grafs
 £.25 rent
 3 horses
 4 cows.

L A B O U R.

In harvest, 1*s.* and beer.

In hay-time, ditto.

In winter, 1*od.* and ditto.

Reaping wheat, 7*s.* to 10*s.* *per* acre.

Mowing corn, 2*s.* to 2*s.* 6*d.*

———— grafs, 2*s.* to 3*s.*

Hoeing turneps, 5*s.*

Ditching, 6*d.* *per* eight yards.

Threshing wheat, 4*d.* *per* bushel.

———— barley, 2*d.*

———— oats, 1½*d.* to 2*d.*

———— beans, 1*d.* to 2*d.*

Digging, 6*d.* *per* eight yards square.

Amount of a year's earnings of a labourer, 15*l.*

First

First man's wages, 10*l.* to 12*l.*

Next ditto, 6*l.* to 7*l.*

Boy of ten or twelve years, 50*s.*

Dairy maids, 3*l.* to 5*l.*

Other ditto, 50*s.*

Women *per* day in harvest, 6*d.* and board.

In hay time, ditto.

In winter, 5*d.* and beer.

Value of a man's board, washing, and lodging, 9*l.*

I M P L E M E N T S.

A waggon, 20*l.*

A cart, 7*l.* to 9*l.*

A plough, 21*s.*

A harrow, 21*s.*

A scythe, 4*s.* 6*d.*

A spade, 3*s.* 6*d.*

Laying a share and coulter, 8*d.* to 1*s.* 4*d.*

Shoeing, 1*s.* 4*d.*

Harnes, 25*s.* *per* horse; use the same both for carting and ploughing.

P R O V I S I O N S, &c.

Maſlin bread, 1*d.*

Cheefe, 2½*d.*

Butter, 8*d.* 16 to 19 *oz.*

Beef, 2½*d.*

Mutton,

Mutton, $2\frac{1}{2}d.$

Pork, $3d.$

Milk, $\frac{1}{2}d.$ per pint.

Potatoes, $4d.$ per peck.

Candles, $7d.$

Soap, $6d.$

Labourer's house rent, $20s.$ to $50s.$

—— firing, $30s.$ Much hedge breaking.

Coals, $4d.$ per hundred weight.

Faggots, $6s.$ to $9s.$ per 120.

B U I L D I N G.

Bricks, $11s. 6d.$ per thousand.

Oak timber, $1s. 4d.$ to $2s.$

Elm, $20d.$

Carpenter, $1s. 6d.$ a day.

Farm houses of brick and tile.

The preceding husbandry continued for some distance towards *Birmingham*. At *Aston* I made particular enquiries, and found several variations.

The soil is all sandy; lets from $15s.$ to $20s.$ an acre. Farms mostly small, but from twenty to two hundred.

The courses,

1. Turneps

2. Barley

3. Oats

3. Oats
4. Clover two years, some few add
5. Wheat;

And,

1. Turneps
2. Barley
3. Oats
4. Clover
5. Oats.

For wheat they plough four times, sow two bushels and a half, and reap from twenty-three to twenty-five. They give three stirrings for barley, sow from three to four bushels, and reckon twenty-five the average produce. For oats they give but one earth, sow five bushels, and gain upon a medium four quarters. They plough but once for pease, sow three bushels, and sometimes hand-hoe them; the crop twenty bushels. Turneps they prepare for by three stirrings; hoeing is now common; generally once, and sometimes twice: The average value 40*s.* *per* acre. They reckon the hoed crops better than the unhoed by 20*s.* an acre; they are used for sheep and beasts. Clover they sow with spring corn, mow it once, and gain about a ton
and

and a half of hay *per* acre. A little buck wheat is cultivated for swine.

For potatoes they dig up grafs land, and dibble in the fetts; get fine crops of five or six hundred bushels *per* acre; and very good wheat after them.

Lime is their principal manure; they lay nine quarters *per* acre, at 2 *s.* a quarter, besides leading; they mix it with dung, earth, &c.

Hollow draining is not uncommon in this country; they dig them from two to four feet deep, generally until they come to a bed of gravel: They fill them up a foot deep with furnace, cinders, heath, ling, &c. &c. They are from four to eight inches wide at bottom, and twenty inches, or two feet, at top.

Good grafs land lets from 20 *s.* to 40 *s.* an acre. Most of it is applied to feeding cows, for supplying *Birmingham* with milk. Many farmers manure it. The product of cows in that way amounts from 6 *l.* to 10 *l.* a cow; a middling one will give six or seven gallons a day. The winter food is hay alone, of which they eat in general three hundred weight a week. The calves do not suck above two weeks: The summer

mer joist *per* cow is 1*s.* 6*d.* a week : In the winter, after calving, they are kept in the house.

Sheep are kept only by farmers that have a right of commonage; the profit they calculate at 8*s.* a head. The average fleece, two pounds and a half to three pounds.

In their tillage they reckon six horses necessary for the management of an hundred acres of arable land : They use two or three in a plough, and do an acre a day. The annual expence *per* horse they calculate at 5*l.* The summer joist 2*s.* a week.

They break up their fallows for turneps at *Christmas*; the depth of stirring in general from three to six inches : Much straw is here cut into chaff.

The hire of a cart, three horses, and driver, 5*s.* to 5*s.* 6*d.*

Many farmers hire farms of 100*l.* a year, with 350*l.* but it was the opinion of several sensible husbandmen I conversed with, that upwards of 500*l.* is necessary to do it completely. That sum they divided as follows :

30 cows,

30 cows,	-	-	£. 210
6 horses,	-	-	60
2 waggons,	-	-	35
2 carts,	-	-	10
Harnesfs,	-	-	6
Sundry small articles,	-	-	6
Rent,	-	-	50
Rates,	-	-	10
Housekeeping, two men, two maids, two boys, and the farmer and wife,	-	-	60
Seed,	-	-	15
Hogs,	-	-	4
Wages,	-	-	28
Labourers,	-	-	25
			<hr/>
			519

Land sells at thirty years purchase.

Tythes are in general compounded, *per*
acre,

Wheat, 5 s.

Barley, 2 s. 6 d.

Oats, 2 s. 6 d.

Pease, 2 s. 6 d.

Poor rates, 1s. to 1s. 6 d.

The employment of the women and
children spinning : All drink tea.

Leases are various, both lives and terms.

The following sketches of farms will
shew the general œconomy :

86 acres in all

26 arable

60 grafs

£.75 rent

3 horses

15 cows

1 man

2 maids

2 carts

1 plough.

Another,

70 acres in all

20 arable

50 grafs

£.55 rent

3 horses

12 cows

1 boy

1 maid

2 carts

1 plough.

Another,

40 acres all grafs

£.40 rent

12 cows

1 horse

1 boy.

1 boy.

Another,

35 acres all grafs

£.30 rent

11 cows

1 horfe

1 boy.

1 maid.

L A B O U R.

In harvest, 1*s.* and board.

In hay time, ditto.

In winter, 8*d.* and ditto.

Reaping, 4*s.* 6*d.* to 5*s.* *per* acre.

Mowing corn, 1*s.* 6*d.*

—————grafs, 2*s.*

Hoeing turneps, 5*s.*

Ditching, 4*d.* to 8*d.*

Threshing wheat, 4*d.* *per* bushel.

—————barley, 3*d.*

—————oats, 2*d.*

Digging, 6*d.* a rood.

First man's wages, 7*l.* to 8*l.*

Next ditto, 4*l.* 10*s.* to 5*l.* 10*s.*

Boy of ten or twelve years, 40*s.*

Dairy maids, 3*l.* to 3*l.* 10*s.*

Other ditto, ditto.

Women *per* day in harvest, 6*d.* and beer.
In hay time, ditto.

I M P L E M E N T S.

A waggon, 20*l.*
A cart, 6*l.*
A plough, 21*s.*
A harrow, 15*s.*
A barley roller, 15*s.*
A scythe, 2*s.* 6*d.* to 3*s.* 6*d.*
A spade, 3*s.* 6*d.*
Shoeing, 1*s.* 6*d.*

P R O V I S I O N S, &c.

Wheat bread, 11*lb.* for 1*s.*
Cheese, 2½*d.*
Butter, 8*d.*
Beef, 2¼*d.*
Mutton, 2*d.*
Pork, 3½*d.* to 4*d.*
Milk, ½*d.* *per* pint
Potatoes, 4*d.* *per* peck.
Candles, 7*d.*
Soap, 6½*d.*
Labourer's house rent, 30*s.* to 50*s.*
—— firing, 20*s.* to 30*s.*
—— tools, 7*s.* 6*d.*

Coals,

Coals, 12s. a ton.

Faggots, 16s. 120.

B U I L D I N G.

Bricks, 11s. *per* thousand.

Tiles, 12s.

Oak timber, 1s. to 2s. 6d.

Ash ditto, 1s. to 2s.

Elm, 1s. to 1s. 6d.

Carpenter a day, 1s. 8d.

Mason ditto, 1s. 8d.

Their labourers, 1s. 4d.

Having finished so long an epistle, you must allow me to conclude, that I am, &c.

L E T T E R XXI.

I WAS no where more disappointed than at *Birmingham*; where I could not gain any intelligence even of the most common nature, through the excessive jealousy of the manufacturers. It seems the *French* have carried off several of their fabricks, and thereby injured the town not a little: this makes them so cautious, that they will shew strangers scarce any thing; it was even with some difficulty that I gained the following slight intelligence.

Manufacturers of all sorts,

Men earn 7*s.* to 3*l.* per week.

Women, 2*s.* 6*d.* to 7*s.*

Children, 1*s.* 6*d.* to 4*s.* 6*d.*

About 28,000 souls calculated in the town.

The manufacture more flourishing than ever in the war; fell upon the peace, and has of late arose again, but not near equal to its former height.

From this town I pointed my way to the *Lcasfowes*, the seat of the late Mr. *Sbenstone*,
now

now of Capt. *Turnpenny*. In that line of country land lets at an average at 12*s.* per acre. Farms from 20*l.* to 200*l.* a year.

In this country is dug the famous blazing cannel coal.

Arriving at *Hales Owen*, we walked up to the *Leafowes*; but here I should intimate, that as the late Mr. *Dodsley* gave a particular account of these grounds in so popular a book as *Shenstone's Works*, I shall only minute a few circumstances, either omitted in that account, or finished since it was wrote: And take the liberty of remarking wherein Mr. *Dodsley* fell short of, or exaggerated, the beauty of his original.

The cascade, viewed from the root house inscribed to the Earl of *Stamford*, is astonishingly romantic; a large space of ground at your feet, for above an hundred and fifty yards, is thickly covered with the stems of fine oaks &c. a fall of water at the farther end of this ground first breaks to your view, and then forms twenty more before it reaches you, all broke into distinct sheets, wildly irregular, by the intervening and crossing stems of the trees above; their branches and leaves form a fine thick canopy of shade, which setts off most gloriously the sheets

of water, which here and there meet the sun beams and sparkle in the eye. This intermixture of wood and water is amazingly fine.

From the bench inscribed

To all friends round the Wrekin,

You look down upon a very beautiful variety of unequal ground; all waving cultivated inclosures, finely scattered with houses, villages, &c. the pools appearing in broken sheets among the wood in the valley: At the bottom of the slope is a kind of river, but the end is badly hid with a little trifling *Chinese* bridge: however, from the spot, which Mr. *Dodfley* calls a cavity in a small thicket filled with trees, the serpentine stream has a better effect.

After this, we next meet with a green bench with this inscription :

—— “ While Nature here

“ Wantons as in her prime, and plays at will

“ Her virgin fancies.”

It is well placed, commanding a sweet variety of wood, water, and waves of cultivated inclosures.

The walk and feat marked

Divini Gloria Ruris!

in Mr. *Doddsley*, is no where to be found.

The view from *Thomson's* feat is exquisite and inimitable; sweetly varied; the water admirably managed: In a word, it is a little scene of enchantment. I took a sketch of the cascade upon the left, which will give a faint idea of one beauty out of many.

From *Hales Owen* we took the road to *Hagley*, the feat of Lord *Littleton*. The house is an excellent living one; a well-designed mean between the vast piles raised for magnificence, and those smaller ones, in which convenience is alone considered.

The Hall is thirty feet square: It is ornamented with Statues of *Venus de Medicis*, *Bacchus*, &c. &c. and various busts: The *Hercules's* which support the cornice of the chimney piece are heavy: Here are likewise bas-reliefs, &c.

The Library, thirty three by twenty five, is a good room; the ceiling ornamented with scrolls of stucco work. Here are pictures:

Richardson.

- Richardson.* Pope, and his dog *Bounce*.
Aickman. *Thompson*.
Gilbert West.

The Dressing-room is twenty-one feet square.

- Van Capen.* Poultry.
Wotton. Landscape. Fine; but there is a light on the goats in the corner, which does not seem in unison with the rest.
Jonson. Lady *Littleton*, wife of Sir *Thomas*.
Zuccharo. Sir *John Littleton*.
Van Somer. Sir *Thomas Littleton*.
Jonson. Sir *Alexander Temple*.
Mirevelt. Prince of Orange.
Greenbill. Mr. *Henry Littleton*.
Corn. Jonson. Lady *Crompton*. Very fine.
Ditto. Queen of *Bohemia*.
Ditto. A Lady unknown.
Dobson. Prince *Maurice*.
Hontbrust. Sir *R. Stainmore*.

In the Crimson Bed-chamber,

- Le Fevre.* Dutchess of *Portsmouth*.
Reynolds. Lord *Littleton*.
Williams. Miss *Fortescue*, his first Lady.

In

In the Best Dressing room, twenty square, an elegant chimney piece of white marble, the cornice supported by ionic pillars. The ceiling white ornaments in stucco on a lead coloured ground. Here are

Vandyke. The three *Maries* and a dead *Christ*. Exceedingly fine; admirably grouped; the colours most expressive.

Storck. A sea piece.

Lely. A lady unknown.

Brughel. A landscape; most minutely expressive.

Unknown. A sea piece. Also Views of *Persfield*.

Houseman. *Charles II*, and *Queen*.

Wotton. A Landscape. Very fine.

Glow. Horses.

Cypriani. *Arcadian* shepherds. The attitudes and groupes exceedingly pleasing. Colours brilliant.

Viviano. An *Alto relievo*. Fine and spirited.

Lely. *L. Cary*.

Wyck. A battle piece: In the stile of *Borgognone*.

Cypriani. The triumph of *Bacchus*; a drawing. Fine.

The

The Saloon, thirty-six by thirty. The chimney-piece very beautiful, of *Siena* and white marble; the cornice supported by ionic pillars. In the centre of the frieze three boys in white marble polished, and on each side a scroll of white on a *Siena* ground. Here are

Rubens. The marriage of *Neptune* and *Cybele*. The lady is a *Rubens* figure with a vengeance, and her attitude disgusting.

Vandyke. Earl and Countess of *Carlisle*. Very fine.

Titian. *Venus* reconciling herself to *Psyche*. Her figure clumsy but somewhat more delicate than *Rubens's*: His attitude very expressive, but not of the subject. Colours fine, but their brilliancy gone off.

Bassan. *Jacob* and his family. Prodigious fine. The minute strength of expression in the figures to the left great.

Vandyke. The royal family.

Jervois. *Charles I.* and his Queen.

The Drawing-room, thirty-four by twenty-two. The chimney-piece scrolls of white marble trailed on *Siena*; elegant. Lord *Bath*, by *Ramsay*, over it, inclosed in ornaments, elegantly carved and gilt. The cieling an oval, in the centre, *Flora*, by *Cypriani*; and in the corners the Seasons: Her attitude elegant, and the colours pleasing. The glass frames in this room are elegantly carved and gilt. Slabs of *Siena* marble.

Ramsay. Earl of *Hardwicke*.

Vanloo. Earl of *Chesterfield*.

Ditto. Lord *Cobham*.

Unknown. Mr. *Pelham*.

The Gallery, eighty-five by twenty-two, in three divisions, formed by double corinthian pillars. The chimney-piece, glass, table frames, and the girandoles carved in black and white.

Vandyke. Virgin and child. Very noble: Her attitude incomparably fine: The air of her head great: The child noble.

Ditto. Countess of *Bedford*.

Lely. Miss *Brown*.

Ditto. Lord *Brouncker*.

The

The Dining-room, thirty-three by twenty-six. Here are,

Zuccharelli. Landscape; a waterfall, and bridge; pleasing.

Ditto. Another; water, and a boat.

Ditto.

Wilson. Landscape; ditto.

But what at *Hagley* is most worthy of notice, is the grounds, which Lord *Littleton* has disposed with the utmost taste.

The walk from the house leads through a wood, by the side of a purling stream, which meanders over grass from out a dark hollow; you pass a gush of water, which falls into it, and winding higher up the hill, turn by the side of another brook, which gurgles through a rocky hollow; another gushing fall, over bits of rock, attracts your notice; which passing, you come to the Prince of *Wales's* statue. This spot commands a fine view of the distant country over the house.

Winding from hence through the wood, you look to the left upon distant grounds, until you come to a seat, inscribed to *Thomson*, in these lines:

Ingenio

Ingenio immortalis
 JACOBI THOMSON,
 Poetæ Sublimis.

Viri boni

Ædiculam hanc in secessu quem vivus dilexit,
 Post mortem ejus constructam,
 Dicat dedicatque,

GEORGIUS LITTLETON.

From hence you look down on a fine lawn, and, in front, upon a noble bank of hanging wood, in which appears a temple. To the left a distant view of *Malvern* hills.

From hence passing a well, called after the patriarch, from which you have a distant view of a hill over the wood, you enter a grove of oaks, in which you catch a glance at the castle, through the trees, on the top of the hill, beautifully rising out of a bank of wood.

Next we came to an ionic rotunda, inclosed in a beautiful amphitheatre of wood; it looks down upon a piece of water in the hollow of a grove, at the end of which is a palladian bridge. The scene is pleasing. From hence the path winds through a fine wood of oaks, in which is a bench,
 by

by the side of a trickling rill, with this inscription :

Inter cuncta leges, et per cunctabere doctos,
 Quâ ratione queas traducere leniter œvum,
 Quid minuat curas, quid te tibi reddat amicum,
 Quid purè tranquillet, honos an dulce lucellum,
 An secretum iter, et fallentis semita vitæ.

Which lines are well suited to the sequestred retired spot in which they are placed. The path then leads, by the stream, and under the trees, to a fine open lawn inclosed by wood; at one end an urn inscribed to *Pope* :

ALEXANDRO POPE,
 Postarum Anglicanorum elegantissimo, dulcissimâque.

Vitiorum Castigatori acerrimo,
 Sapientiæ doctori suavissimo.

Sacra esto.

1744.

Passing two benches, and a slight gush of water, you rise to the ruined castle; from the top of which is a very beautiful view, down upon the woods, lawns, slopes, &c. and prodigiously extensive prospect over the country. *Worcester, Dudley, the Glee*

Clee Hills, are a part of the scene; the *Wrekin*, at forty miles, and, it is said, *Radnor-tump*, at eighty miles distance.

Following the path, you pass a triangular water, the meaning of which I do not understand, and walk down under the shade of oaks, by the side of a winding woody hollow, to the seat of contemplation,

*Sedes Contemplationis,
Omnia Vanitas.*

The view is only down into the hollow among the trees. Next we came to the hermitage, which looks down on a piece of water, in the hollow, thickly shaded with tall trees, over which is a fine view of distant country. This water is somewhat too regular. In the hermitage this inscription:

“ And may, at last, my weary age
 “ Find out the peaceful hermitage,
 “ The hairy gown, and mossy cell,
 “ Where I may sit, and rightly spell
 “ Of every star that heaven doth shew,
 “ And every herb that sips the dew,
 “ Till old experience do attain,
 “ To something like prophetic strain,

“ These pleasures, Melancholy, give,
 “ And I with thee will chuse to live.”

Il Penseroso.

Winding down, you come to a root cave by the water's edge; a retired spot; and at the other end of the *pond* a cave of grotto work.

Coming out of the grove, and rising the hill, you command to the left, as you move, a most beautiful view of the country, a noble sweep of inclosures of a charming verdure, to a bench, from which you look into the vale on the house at your feet, with a sweet little stream serpentine by it. Next you come to another bench inscribed from *Milton* :

“ These are thy glorious works, Parent of Good !

“ Almighty ! thine this everlasting frame,

“ Thus wondrous fair ! Thyself how wondrous then,

“ Unspeakable ! who sits above these heavens

“ To us invisible, or dimly seen

“ In these thy lowest works ; yet these declare

“ Thy goodness beyond thought, and power divine.”

You

You look down on an exquisite lawn thinly scattered with trees, on one side of which is the house; around the whole a vast range of inclosures: to the right you catch a most beautiful small green hill, with a clump of trees upon it. This view is noble indeed!

From hence you turn to the right into a grove, and presently come to a view most delicious! At your feet is spread forth a lawn of the finest verdure; a cool sequestred hollow, surrounded with thick wood; above which, in front, you catch *Thomson's Seat*, in the very spot of elegance itself; on a sweet little green hill, the top of which just shews itself above the trees, and half discloses the temple almost embosom'd in wood. A little to the left of it, and higher, is the *Grecian portico*, finely back'd with a spreading grove. Over that, on a noble sweep of irregular hill, rises the obelisk, back'd with a vast range of wood, in the noblest stile: The variety of ground fine, and the whole of it ornamented with surprizing taste as well as magnificence. A better assemblage of unconnected objects managed most skillfully

to form one whole, can scarcely be imagined: Yet have I read a description of *Hagley*, in which it is *thus* mentioned:—
 “ You turn into a thicket, and HAVE A
 “ LOOK at the Doric Pavilion, Thomson’s
 “ Seat, and the Obelisk.”

Leaving this noble scene, the path brings you to a bench under a very fine oak, which looks down, as before, on the hollow lawn; in front you view the green hill, with the clump of trees on it, which here appears most exquisitely beautiful: on one side of it distant water peeps most picturesquely among the trees, and over all the *Wrekin* rears his venerable head.

Pursuing the walk through the grove, you come to the seat inscribed

Quieti & Musis,

which commands most elegant scenes: You look down on a green hollow, surrounded by fine oaks; to the right you see some water through the trees: rising above this lower scene, you look to the left upon *Thomson’s Seat*, thickly backed and surrounded with wood; above it the obelisk appears nobly. To the right a *gothic* house (the parsonage) seen obliquely

ly

ly among the trees; likewise inclosures broke by wood rising most elegantly one above the other.

Next you come to a bench under a stately oak commanding a lawn; to the right *Pope's* urn, and a rising hill crowned with a clump of trees; and following the path, it brings you to a very fine dell arched with wood, and a great variety of water in a hollow at your feet. To the right, close to you, a spring gushes out of the ground on rock work, and falls into a stream in the hollow. Further on another rill murmurs over broken rocks, and uniting with the same stream, it falls again, and winds away most beautifully among the wood. Upon the seat is this inscription;

“ Hic gelidi fontes, hic mollia prata, Lycori;

“ Hic nemus: hic ipso tecum consumere ævo.”

Crossing the dell, you rise to another seat, the stream winding in the hollow beneath; and the whole under the shade of large oaks: To the right you catch an urn, and look back upon the ionic rotunda,

A a 3 which

which is seen very beautifully. Turning to the left, and coming to the urn, you find it inscribed as follows :

To the Memory of
 WILLIAM SHENSTONE, Esq;
 In whose Verses
 Were all the natural Graces,
 And in whose Manners
 Was all the amiable Simplicity
 Of pastoral Poetry,
 With the sweet tenderness
 Of the Elegiac.

Passing on you come to a bench by the side of the winding stream, thickly covered with wood ; and entering a grove almost impervious to the sun, meet with a bench around a vast oak, that commands a fine variety of scenery. To the right you look upon the river, and rising among the wood the rotunda strikes your eye ; the situation admirable ; to the left you command the Palladian bridge, having a fresh view of the water, in a hollow all overhung with wood : Behind you, on a fine hill, is the seat *Quieti & Musis*.

Returning

Returning through the grove, you pass several benches, and arrive at one surrounded by the most bewitching scenes: It is a moss seat, with this inscription:

“ Ego lauda ruris amœni

“ Rivos & musco circumlita saxa nemusque.”

The spot is totally sequestered, and might almost be called the paradise for contemplation to indulge in: the whole is overarched with the shade of tall spreading trees; it is surrounded with banks of shrubby wood, of moss, and ivy; the eye cannot wander from the beautiful, in search of the sublime; nor will one sigh ever be heard on this bench, for distant prospect. In front you look upon a cascade, breaking from out a perpendicular bank of ivy; and presenting to the eye a beautiful fall of transparent water, that glitters in this dark grove; the effect amazingly fine. It takes a natural course, and breaking over a ground of rock moss and ivy, loses itself among the shrubs at your feet. To the right is a sweet little watery cave of rock moss, &c. in which is a small statue of *Venus*; the rest of the scene is a fine dark shade of wood.

Winding up the side of the hill, you look down on a romantic irriguous woody valley; hearing the noise of falling water, but seeing none. Coming to a bench, you just look down to the right on a gushing stream half covered with trees; in front, *Venus* embosom'd in a sweet hollow of wood.

Winding round the sides of the river, you come to the Palladian bridge; a portico'd temple of the ionic order; the view admirably fine. You look full upon a beautiful cascade, broke into two sheets by a rock, which falls into the water over which the bridge is thrown. A little above this a piece of wild ground is half seen, and further on a beautiful lawn, at the end of which a fine green swelling hill, upon which stands the rotunda: the line of view to these objects is through a thick tall wood, which gives a solemn brownness to the whole scene, very noble. The inscription:

“ Viridantia Tempe,
 “ Tempe quæ sylvæ cingunt super impen-
 dentes.”

Leaving this exquisite spot, you turn through a grove by several slight waterfalls, and come out not far from the house.

These

These grounds, upon the whole, cannot be sufficiently praised: the natural variety is great, and the advantage of being so nobly cloathed with venerable oaks, peculiarly fortunate; but art has added fresh lustre to every feature of nature, and created others which display a pregnant invention, and a pure and correct taste. Waters that are trifling in themselves, are thrown into appearances that strike and delight the mind, and exhibited in such an amazing variety, that one would be tempted at first to think the source vastly more considerable than it in reality is. Let me further add, that the buildings have an equal variety, are all in a most just taste, and placed with the utmost judgment, both for commanding the most beautiful scenes, and also for assisting in forming them, themselves.

To-morrow I return to Husbandry; allow me therefore here to conclude myself,
&c.

L E T T E R XXII.

THE soil about *Hagley* is various; light loams, sand, and cold stiff spungy clays. The average rent is about 20s. an acre: There is some arable that lets at 30s. and some meadows so high as 3*l.* Farms from 50*l.* to 200*l.* a year.

The courses,

1. Turneps
2. Barley
3. Pease
4. Wheat
5. Barley
6. Clover two or three years, and then some add
7. Wheat on one earth.

Also,

1. Fallow
2. Wheat
3. Oats
4. Clover and ray grass.

They plough four times for wheat, sow two bushels on cold lands before *Michaelmas*; and gain, upon an average, twenty-eight

eight bushels. For barley they stir three times, sow three bushels and a half in *March* or *April*, and gain upon an average thirty-five; sixty have been gotten. They stir but once for oats, sow four bushels before barley seed time; the mean crop thirty-six. They likewise give but one ploughing for pease, sow three bushels and a half, or four; never hoe them; and get thirty in return. For rye they plough twice, sow two bushels and a half; the crop twenty.

For turneps they give three ploughings; do not hoe them: The average value 30 s. *per* acre; use them chiefly for sheep. Clover they sow with barley or oats; mow the first crop, of which they get three ton of hay *per* acre, and graze it afterwards. Many farmers mix trefoile with it.

Some few tares sown, for feeding horses with, green. Very few potatoes.

Lime is the principal manure; they lay one waggon load *per* acre; formerly they had as much as they could carry for 9 s. or 10 s. but now only sixty bushels for 13 s. or 14 s. they use it for turneps, and find it
answers

answers best on light land: Some few farmers mix earth with it.

Draining is pretty well understood here, and that chiefly owing to the excellent example of Lord *Littleton*, who ordered many drains to be dug of various depths, and three or four inches wide at bottom; the method used in filling them on grass land (where they were chiefly made) was to take the first spit of turfs, and wedge them into the drains, and then throw in the moulds, without stone, wood, or any thing; and the drains thus made have stood exceedingly well, and never yet failed. It is an excellent contrivance, and highly worthy of imitation, and especially in countries where stones and wood are scarce.

The common farmers also drain their morassy lands in a very effectual manner, by cuts a yard wide at top, sixteen inches at bottom, and four feet deep; they fill up eighteen inches deep, with logs of wood and faggots, and then the moulds. The cost of these drains is 1 s. the perch of eight yards. The improvement is extremely great; they make land of 5 s. an acre worth 30 s. at once.

They

They stack their hay at home; and some few have got into the way of chopping their stubbles; convinced not only of the importance of littering cattle well, but also of raising large quantities of manure.

Good grass land lets in general from 2*l.* to 3*l.* an acre, and is used mostly for dairying; but the country, however, is chiefly in tillage. An acre will summer feed a cow; or keep seven sheep. They universally water their grass fields whenever it can be done, which they find the greatest improvement of all. Their breed of cattle is the long horns. The product of a cow they reckon 6*l.* or 6*l.* 10*s.* They used to be lett at 3*l.* rent; but now it is much higher. The average quantity of milk, four or five gallons. To three cows they generally keep two pigs: And seven they reckon the proper number for a dairy maid. Barley straw is the winter food till *Candlemas*, then some hay, of the latter about a ton to a cow. They are kept all winter in the farm yard, the summer joist is 2*s.* a week. The calves suck in general four or five weeks.

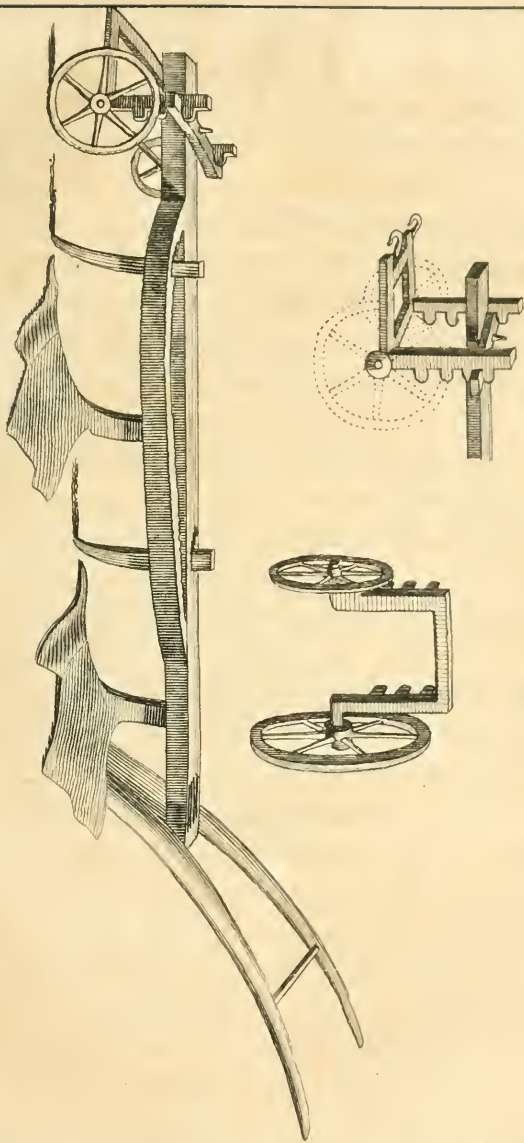
The flocks of sheep rise from forty to four, five hundred, and a thousand, on commons. The profit in inclosures, they reckon doubling their money, or about 10*s.* or 12*s.* a head, and on the commons about 2*s.* or 2*s.* 6*d.* There is no folding. The average fleece about 1 *lb.* $\frac{1}{2}$, or 2 *lb.* sells at 1*s.* a pound.

In their tillage they reckon seven horses necessary for a hundred acres of arable land. They use three at length in a plough with a driver, and do an acre a day.

But a new invention is coming in very fast, which is the use of double ploughs; which with only the addition of one horse, does double the work, by turning two furrows at once: It is no gimcrackery business, but so solid and strong a machine that the *common* farmers approve it, and accordingly some hundreds of them are made. In Plate X. fig. 1. is a sketch I took of one of them.

The annual expence of a horse, they reckon at 6*l.* or 6*l.* 10*s.* The summer joist is 2*s.* 6*d.* and 3*s.* a week. The time of breaking up the stubbles for a fallow is about *May-day*. The price of ploughing, *per* acre 6*s.* the depth three to five inches.

The



The hire *per* day of a cart, three horses, and driver, 5 s. of four horses and two carts, 7 s.

Great quantities of straw cut into chaff.

In the hiring of farms they reckon 550 l. necessary for one of 100 l. a year; but many are taken for a less sum.

Land sells at thirty and thirty-three years purchase.

Tythes are generally taken in kind.

Poor rates 3 s. to 4 s. in the pound; the employment of the women and children spinning; all drink tea.

The farmers carry their corn three or four miles.

Leases are in general upon terms, from seven to twenty-one years.

The following are particulars of several farms in this neighbourhood.

100 acres in all
 10 grass
 90 arable
 £. 120 rent
 7 horses
 6 cows
 5 young cattle
 150 sheep
 1 man

2 maids

2 maids
 1 boy
 1 labourer
 3 waggons
 2 carts
 3 ploughs.

Another,

150 acres in all
 30 grafs
 120 arable
 £. 110 rent
 8 horses
 12 cows
 2 fattening beasts
 4 young cattle
 200 sheep
 2 men
 1 boy
 2 maids
 3 labourers
 3 waggons
 2 carts
 3 ploughs.

Another,

135 acres in all
 100 arable
 35 grafs
 £. 90 rent

6 horses

6 horses

7 cows

1 fattening beast

5 young cattle

130 sheep

1 man

2 boys

4 labourers

3 waggons

3 carts

2 ploughs.

Another,

80 acres in all

12 grass

68 arable

£. 50 rent

4 horses

6 cows

4 young cattle

10 sheep

1 man

1 boy

1 maid

1 labourer

1 waggon

2 carts

2 ploughs.

Another,

45 acres in all
 10 grafs
 35 arable
 £. 25 rent
 3 horfes
 6 cows
 5 young cattle
 1 boy
 1 maid
 1 labourer
 2 carts
 1 plough.

L A B O U R.

In harvest, 1*s.* and board.

In hay-time, ditto.

In winter, 1*s.* and beer.

Reaping, 5*s.* 6*d.* to 6*s.*

Mowing corn, 1*s.* 6*d.*

———— grafs, 2*s.* to 2*s.* 6*d.*

Ditching, 4½*d.* to 6*d.* eight yards.

Threshing wheat, 3½*d.* per bushel.

———— barley, 2*d.*

———— oats, 1½*d.*

———— peafe, 2*d.*

Amount of a year's earnings, 15*l.* to 16*l.*

Head man's wages, 10*l.*

Next

- Next ditto, 6 *l.* 10 *s.* to 7 *l.*
 Boy of ten or twelve, 2 *l.* 15 *s.*
 Dairy maids, 3 *l.* 10 *s.*
 Other ditto, 2 *l.* 15 *s.*
 Women *per* day in harvest, 6 *d.* and board.
 ——— in hay time, 6 *d.* and beer.
 ——— in winter, 5 *d.*
 Value of a man's board, washing, and
 lodging, 10 *l.*

I M P L E M E N T S, &c.

- A waggon, 18 *l.*
 A cart, 8 *l.* to 9 *l.*
 A plough, 1 *l.* 15 *s.*
 A double ditto, 3 *l.* 10 *s.*
 A harrow, 1 *l.* to 1 *l.* 5 *s.*
 A scythe, 3 *s.* 6 *d.* to 4 *s.*
 A spade, 4 *s.*
 Pointing a coulter and share, 4 *d.*
 Shoeing, 1 *s.* 4 *d.*
 Cart harness, 1 *l.* 5 *s.* *per* horse.

P R O V I S I O N S, &c.

- Bread — Wheat, 3 $\frac{1}{2}$ *lb.* for 6 *d.*
 Cheese, 4 *d.*
 Butter, 7 *d.* 18 *oz.*
 Beef, 3 *d.*

Mutton, $3 \frac{1}{4} d.$

Veal, $3 d.$

Pork, $3 \frac{1}{2} d.$

Milk, $\frac{1}{2} d.$ per pint.

Potatoes, $4d.$ to $6d.$ per peck.

Candles, $7 \frac{1}{2} d.$ per lb.

Soap, $7 d.$

Labourer's house-rent, $2 l.$ $10 s.$ to $3 l.$

—— firing, $30 s.$

—— tools, $5 s.$

B U I L D I N G.

Bricks, $12 s.$ per thousand.

Tiles, $14 s.$

Mason per day, $1 s.$ $4 d.$

Carpenter, $1 s.$ $4 d.$

Thatcher, $1 s.$ and board.

In the parish of *Hagley* are the following farms, besides small spots, and Lord *Littleton's* park.

N ^o . 1	200 acres	£.140 rent
2	80	50
3	68	40
4	45	25
5	70	30
6	150	85
7	80	80

N ^o . 8	200	130
9	160	120
10	135	90
11	30	15
12	140	70
13	25	48
	<hr/>	<hr/>
	1383	£.923
	<hr/>	<hr/>

In the whole about 2000 acres.

The cattle upon these farms are as follow :

N ^o . 1	7 horses	10 cows	30 sheep
2	4	6	10
3	5	4	10
4	3	6	0
5	8	10	30
6	7	4	150
7	6	14	200
8	7	7	200
9	7	8	150
10	5	5	120
11	3	1	40
12	7	8	160
13	5	0	0
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My next stage was to *Broomsgrove*, where the husbandry is as follows :

The soil is of two sorts, sand and clay ; rents high, from 20 s. to 40 s. an acre. Farms from 40 l. to 200 l. a year.

The course,

1. Fallow
2. Wheat
3. Barley
4. Clover, two or three years
5. Wheat
6. Turneps
7. Barley
8. Pease
9. Oats
10. Clover.

Which would be, upon the whole, excellent, did not the barley and wheat come together at first.

The average crops are,

Of Wheat 35 to 40 bushels.

Of Barley 40 to 45.

Of Oats 50.

Of Beans 40, set and hoed.

Of Pease 30.

For turneps they plough three or four times ; no hoeing, which is very extraordinary among farmers that hoe their beans.

The

The average value is 30 *s.* *per* acre; they use them for sheep and beasts.

For potatoes they generally plough up the turf, and dibble the slices in one foot from each other. While growing they hand hoe and hand weed well. They get large crops in this manner, and very fine wheat or barley after them.

They have plenty of marle in this country, chiefly red and blue; they lay thirty three-horse cart loads on an acre; and reckon that it lasts very good five or six years; costs 3 *l.* an acre; it is reckoned a vast improvement. Of lime they lay a waggon-load *per* acre of sixty bushels; it costs 1 *l.* carriage included.

The product of a cow they reckon at 3 *l.* to 4 *l.* the quantity of milk from two to six gallons a day.

Very few sheep kept.

In their tillage they reckon eight horses necessary for the management of one hundred acres of arable land; use four in a plough, and do an acre a day. Some farmers have the double ploughs, which they work also with four horses. They calculate the annual expence of a horse at 8 *l.* *May* is the time of breaking up the stub-

bles for a fallow; and the price of ploughing 4*s.* to 5*s.* *per* acre; the depth four to six inches.

The hire of a cart, three horses, and a driver, 8*s.* a day.

They practice the cutting of straw into chaff in common.

Four hundred pounds they reckon necessary for a man who hires a farm of 100*l.* a year.

Tythes both gathered and compounded; if the latter,

Wheat pays 5*s.*

Barley 4*s.*

Oats 2*s.* 6*d.*

Pease 4*s.*

Poor rates, 1*s.* to 2*s.*

The following particulars of farms will shew the general œconomy.

60 acres in all

40 arable

20 grass

£. 100 rent

6 horses

15 cows

5 young cattle

2 men

1 boy

1 maid

1 maid
 1 labourer
 2 waggons
 2 carts
 2 ploughs.

Another,

200 acres in all
 40 grafs
 160 arable
 £. 180 rent
 10 horfes
 20 cows
 6 fattening beafts
 20 young cattle
 20 ſheep
 3 men
 2 boys
 3 maids
 4 labourers.

Another,

40 acres in all
 10 grafs
 30 arable
 £. 53 rent
 4 horfes
 5 cows
 8 young cattle
 1 boy

1 maid.

1 maid.
 Another,
 55 acres in all
 15 grafs
 40 arable
 £.69 rent
 5 horses
 8 cows
 10 young cattle
 1 man
 1 boy
 1 maid.

L A B O U R.

In harvest, 1 *s.* and board.
 In hay time, ditto.
 In winter, 9 *d.* 10 *d.* and beer, and a dinner
 now and then.
 Reaping 4 *s.* 6 *d.* to 5 *s.* *per* acre.
 Mowing corn, 1 *s.*
 ——— grafs, 2 *s.*
 Threshing wheat, 3 *d.* a bushel.
 ——— barley, 1½ *d.*
 ——— oats, 1 *d.*
 ——— peafe, 1 *d.*
 Amount of a labourer's year's earnings, 20 *l.*
 First man's wages, 8 *l.*
 Next ditto, 6 *l.*
 Boy of ten or twelve years, 50 *s.*
 Dairy maids, 3 *l.*

Other

Other ditto, 50 s.

Women *per* day in harvest, 6 d. and board.

In hay time, ditto.

In winter, 6 d. and beer.

Value of a man's board, washing, and lodging, 6 l.

I M P L E M E N T S, &c.

A waggon, 20 l.

A cart, 8 l.

A plough, 1 l. 1 s.

A harrow, 15 s.

A roller, 10 s. 6 d.

A ſcythe, 3 s.

A ſpade, 4 s.

Laying a ſhare and coulter, 1 s.

Shoeing, 2 s.

Cart-harneſs, 30 s. *per* horſe.

P R O V I S I O N S, &c.

Bread—wheaten, 1½ d.

Cheefe, 3½ d.

Butter, 7 d. 17 oz.

Beef, 3 d.

Mutton, 3½ d.

Veal, 2½ d.

Pork, 4 d.

Milk, ½ d. *per* pint.

Potatoes

Potatoes, 4 *d.*

Candles, 7 *d.*

Soap, 7 *d.*

Labourer's house rent, 30 *s.* to 50 *s.*

———— firing, 30 *s.*

At *Broomsgrove* I first remarked the abominable custom of stripping up the timber trees, to make them look like Maypoles, to the utter destruction of the timber, and distorting the face of the whole country.

Four miles on this side of *Worcester* land lets from 15 *s.* to 40 *s.* an acre; farms from 20 *l.* to 200 *l.* a year.

Worcester is a very well built, and handsome city: the great street is remarkably fine. It is supposed to contain about twenty-five thousand souls; but this I take to be an exaggeration. There are several manufactures carried on here, of which the Glovers is the most considerable, employing several thousands of hands.

Men earn from 7 *s.* to 9 *s.* *per* week.

Women 4 *s.* to 5 *s.*

Children 1 *s.* 6 *d.* to 3 *s.* 6 *d.*

Burying crapes are also made here; the men in which branch earn from 5 *s.* to 9 *s.* a week.

The

The Porcelane works are very famous : but not carried to that degree of perfection which some have asserted : the clearness of the ground, and the beauty of the paintings, are neither of them equal to the *Dresden*, which it is pity they do not aim, with more spirit, to equal, and then excel. It is well known that all the porcelane in *Europe* may be melted in a *Dresden* cup, unhurt ; and that the *Dresden* cup will itself melt in an old *China* one, unhurt ; which shews the amazing perfection that empire had long ago attained in every part of the curious arts that do not depend on design. The earnings of the people employed at *Worcester* are various,

Men from 12 s. to 3 l. 15 s. a week

The Labourers 6 s. and 7 s.

Children 1 s. to 3 s.

From *Worcester* I took the road to *Oxford*, through a country whose agriculture is extremely various. At *Perthore* I made enquiries, and found that the soil is all of the heavy kind, either clay or loam : Inclosed lands lett from 15 s. to 20 s. per acre. The open at 10 s. Farms from 60 l. to 150 l.

Their

Their courses,

1. Fallow
2. Barley
3. Beans
4. Wheat.

A most excellent course for heavy land.

1. Fallow
2. Barley
3. Pease
4. Wheat.

Also,

1. Turneps
2. Barley
3. Clover, one year
4. Wheat.

This likewise excellent. The average crops as follow :

Of wheat twenty-five bushels.

Of barley twenty-four.

Of beans twenty-five.

Of pease twenty-five.

They plough three times for turneps ; never hoe, 1*l.* 10*s.* the average value.

They use a little lime, twenty bushels *per* acre, 3½*d.* each, they reckon it good only for light land.

The product of a cow they value at 3*l.* The flocks of sheep eighty to two hundred ;
the

the profit 10 s. a head. To one hundred acres of arable they allot six horses, use them five at length, do an acre a day; the depth they stir four or five inches; four shillings an acre the price of ploughing.

The following are the particulars of some farms in this neighbourhood :

260 acres in all

100 gras

160 arable

£. 300 rent

15 horses

24 cows

14 young cattle

100 sheep

4 men

3 boys

2 maids

3 labourers

4 waggons

4 carts

6 ploughs.

Another,

100 acres in all

60 gras

90 arable

£. 100 rent

9 horses

14 cows
 10 young cattle
 50 sheep
 1 man
 2 boys
 2 maids
 2 labourers
 2 waggons
 3 carts
 2 ploughs.

Another,

90 acres in all
 10 grafs
 80 arable
 £.70 rent
 5 horses
 5 cows
 10 young cattle
 1 man
 1 boy
 1 labourer.

L A B O U R.

In harvest, 30 *s.* and board for the harvest.
 In hay time, 1*s.* and board.
 In winter, 10 *d.* and beer.
 Reaping, 2*s.* 6*d.* and board.

Mowing

Mowing corn, 8 *d.* and board.

—————grafs, 1 *s.*

Ditching, 6 *d.* to 8 *d.* eight yards.

Threshing wheat, 3 *d.* to 4 *d.*

—————barley, 2 *d.*

—————oats, 1½ *d.*

—————pease, 2 *d.*

—————beans, 1½ *d.*

First man's wages, 9 *l.* to 10 *l.*

Next ditto, 8 *l.*

Boy of ten or twelve years, 3 *l.*

Maids, 3 *l.*

Women *per* day in harvest, 6 *d.* and board.

In hay time, 6 *d.* and beer.

In winter, 5 *d.*

PROVISIONS, &c.

Wheaten bread, 1½ *d.*

Cheese, 3 *d.*

Butter, 7 *d.*

Beef, 3 *d.*

Mutton, 3 *d.*

Veal, 2 *d.*

Pork, 4 *d.*

Candles, 7 *d.*

Soap, 7 *d.*

Labourer's house rent, 20 *s.* to 30 *s.*

Labourer's firing, 30 s.

—— tools, 10 s.

Amount of a year's earnings, 15 l.

IMPLEMENT S, &c.

A waggon, 15 l. to 20 l.

A cart, 5 l. to 7 l.

A plough, 10 s.

A harrow, 20 s.

A scythe, 3 s. 6 d.

A spade, 3 s. 6 d. to 4 s.

Shoeing, 1 s. 4 d.

In the neighbourhood of *Bendsworth* the husbandry improves greatly, being carried on with more spirit than common. This is the agriculture of the *Vale of Evesham*.

The soil is chiefly clay, but much loam, and some that is light. Rents from 15 s. to 30 s. average 21 s. Farms rise from 40 l. to 1000 l. a year; but are in general large.

The principal courses are,

1. Fallow
2. Barley
3. Beans
4. Wheat.

And,

And,

1. Turneps
2. Barley
3. Wheat
4. Oats ; very bad.

And,

1. Turneps
2. Barley
3. Pease
4. Wheat.

Also,

1. Fallow
2. Barley
3. Clover, two years
4. Wheat
5. Oats.

The average crops are very great.

Of wheat four quarters.

Of rye four, but little sown.

Of barley six.

Of oats eight.

Of pease twenty-five bushels.

For beans they plough once, and dung well, and set them in rows from fifteen to eighteen inches asunder, hand-hoe them twice, which costs 4 s. an acre each time ; the average crop five quarters : The wheat

after them is generally superior to that after a fallow.

For turneps they stir but twice, hoe them once; the value *per* acre from 30 s. to 3 l. Use them for sheep. Clover they use for feeding their horses in the inclosures; and also for the spring feed of lambs.

For potatoes they manure well with long dung, plough but once, dibble them in, in rows, one foot asunder; get three or four hundred bushels *per* acre; sow wheat after them.

They have neither marle or lime, nor do they want them, for the natural richness of their clays is very great, being of that sort that falls like lime with the winter's frosts. They constantly fold their sheep; stack their hay at home; and many of them chop their stubbles.

Good grass lets from 30 s. to 40 s. it is used both for fattening and dairying: One acre will carry a cow through the summer, or eight sheep. The breed of cattle is between the long and short horns; their oxen fat to about sixty score. The product of a cow they calculate at 5 l. five gallons of milk about the average quantity *per* cow. To ten cows they keep about

two sows; and eight the proper number for a dairy maid. The winter food is straw and hay, of the latter from fifteen hundred weight to a ton each. The calves suck six weeks. The summer joist 1 s. 6 d. a week. In winter they are kept in open farms in the farm yard, but in inclosed ones, in the fields.

Their hogs they fat so very high as to forty score, but twenty common.

The flocks of sheep rise from sixty to twelve hundred, the profit they reckon at 8 s. or 9 s. a head. The average fleece, in the inclosures 9 lb. in the open fields 3 or 4 lb.

In their tillage they reckon twelve horses necessary for 100 acres of arable land; use five or six at length, and do an acre a day. The annual expence of a horse they calculate at 7 l. The summer joist 1 s. 6 d. a week. They break up their stubbles for a fallow in *March*. The price of ploughing *per* acre is 6 s. and the depth two and a half or three inches; it is astonishing they can get such noble crops with *such* ploughing; but this seems to prove, that fertility of soil is the grand point, and that the authors, who have so generally pre-

scribed very deep ploughing as *absolutely* necessary in *all* soils, are strangely mistaken. It is much to be questioned whether one acre of wheat with two inches of ploughing in this country, does not yield four times as much as such writers have gained with their more *philosophical* conduct:—not, however, that I plead for shallow ploughing.

The hire of a cart, three horses, and a driver, 5 s. a day.

In the hiring and stocking of farms, their ideas speak a much more spirited husbandry than I have commonly met with. For the stocking a farm of 500 l. a year, consisting of 500 acres, half grass and half arable, they calculate the following articles necessary.

Twenty-six horses, at 15 l.	£ 390
Twelve hundred sheep, -	1200
Thirty cows, - - - -	240
Swine, - - - - -	10
Harness - - - - -	35
Four waggons, one a broad wheel one, - - - -	100
Two broad wheel carts, - -	24
	<hr/>
	1999
	Two

	£ 1999
Two narrow ditto, - - -	12
All other implements, - -	80
Rent, - - - - -	500
Town charges, - - - -	40
House - keeping, besides what comes from the farm, - -	100
Furniture, - - - - -	200
Five men, - - - - -	40
Four boys, - - - - -	12
Four labourers, - - - -	80
Three maids, - - - - -	10
Seed,	
Seventy acres of wheat, - -	100
Seventy ——— barley, - -	45
Thirty-five — beans, - -	28
Thirty-five — oats, - -	17
Twenty ——— clover, - -	8
	327 ^I

Land sells at twenty-eight and thirty years purchase.

Poor rates very high, higher than the land tax, to 4s. in the pound; in the villages no where lower than 2s.

The employment of the poor women and children is chiefly with the gar-

deners, of whom (as at *Sandy*, in *Bedfordshire*,) there are great numbers: between three and four hundred acres of land in this neighbourhood are so employed, that let for 50 s. and 3 l. an acre: They carry their products around the country, to *Birmingham*, *Worcester*, *Tewksbury*, *Gloucester*, *Warwick*, *Coventry*, *Stow*, &c. and feeds to *Stafford*, *Litchfield*, *Leicester*, *Nottingham*, &c. asparagus to *Bath* and *Bristol*. Besides this employ, the poor knit caps and stockings, 2 d. to 6 d. a day. All drink tea.

Farmers have no distance to carry their corn; all is used at home.

Leases from fourteen to twenty-one years.

The following are particulars of farms in this neighbourhood:

200 acres all arable

£. 170 rent

12 horses

16 cows

5 young cattle

170 sheep

1 man

2 boys

2 maids

8 labourers

8 labourers
 4 waggons
 3 carts
 4 ploughs.

Another,

850 acres in all
 450 grafs
 400 arable
 £.800 rent
 30 horses
 40 cows
 40 fatting beasts
 20 young cattle
 1000 sheep
 8 men
 4 boys
 5 maids
 10 labourers
 6 waggons
 8 carts
 10 ploughs.

Another,

70 acres in all
 50 arable
 20 grafs
 £.70 rent
 7 horses
 180 sheep

1 maid

1 maid
 4 labourers
 3 waggons
 2 carts
 2 ploughs.

Another,

90 acres all arable
 £. 50 rent
 8 horses
 10 cows
 2 young cattle
 100 sheep
 1 man
 1 maid
 1 boy
 2 labourers
 3 waggons
 2 carts
 2 ploughs.

L A B O U R.

In harvest, 30s. and board for the harvest.

In hay time, 1s. 6d. and beer.

In winter, 1s. and beer.

Reaping, 5s. to 6s.

Mowing corn, 1s. 6d.

——— grafs, 2s.

Hoeing turneps, 5s. 6d. to 7s.

Hoeing

- Hoeing beans, 6 *s.* to 8 *s.*
 Ditching, 6 *d.* to 9 *d.*
 Threshing wheat 4 *d.* *per* bushel.
 ——— barley, 2 *d.*
 ——— oats, 1½ *d.*
 ——— beans, 1½ *d.*
 Digging, 2 *l.* 10 *s.* or 3 *l.*
 Amount of a year's earnings, 18 *l.*
 First man's wages, 10 *l.*
 Next ditto, 7 *l.* to 9 *l.*
 Boy of ten or twelve years, 2 *s.* 6 *d.* a week.
 Dairy maids, 4 *l.*
 Other ditto, 2 *l.* 10 *s.* to 3 *l.*
 Women in harvest, 14 *s.* and board.
 In hay time, 7 *d.*
 Value of a man's board, washing, and lodging,
 12 *l.*

I M P L E M E N T S, &c.

- A waggon, 18 *l.*
 A cart, 6 *l.*
 A plough, 20 *s.*
 A harrow, 20 *s.* to 4 *l.*
 A roller, 20 *s.* to 40 *s.*
 A scythe, 4 *s.* 6 *d.*
 A spade, 3 *s.* 6 *d.*
 Shoeing, 1 *s.* 8 *d.*
 Cart-harness, *per* horse, 1 *l.* 6 *s.*

P R O V I S I O N S, &c.

- Bread — wheaten, $1\frac{1}{2}d.$
 Cheefe, $3\frac{1}{2}d.$
 Butter, $8d.$
 Beef, $2\frac{1}{2}d.$
 Mutton, $3d.$
 Veal, $3d.$
 Pork, $3\frac{1}{2}d.$
 Milk, $\frac{1}{2}d.$ *per* pint.
 Potatoes, $8d.$
 Candles, $6d.$
 Soap, $6d.$
 Labourer's house rent, $10s.$ to $15s.$
 ——— firing, $25s.$
 ——— tools, $2s. 6d.$
 Coals, $15s.$ a ton, laid in.

B U I L D I N G.

- Tiles, $18s.$ *per* thousand.
 Oak timber, $1s. 4d.$ to $2s.$
 Ash ditto, $1s.$ to $1s. 4d.$
 Elm, $1s.$
 Mason *per* day, $1s. 6d.$ and beer.
 Carpenter, $1s. 6d.$ and ditto.
 Thatcher, $1s. 4d.$ and beer.
 Farm-houses, plaister and thatch ; a few
 brick and tile.

In the parish of *Bendsworth* are,

1500 acres

14 farms

80 horses

120 cows

1000 sheep

£.1000 rent, (besides that of houses)

£.200 rates

600 labourers.

The following experiments and remarks of Mr. *William Penny*, who keeps the Inn at *Bendsworth*, are much worthy of notice. He is very sensible and intelligent.

In the *planting* of wheat he made this trial: Upon a loamy soil, a mixture of clay and sand, he set a peck of wheat on the third of an acre, in rows, nine inches asunder, and six inches from grain to grain: The land had been well fallowed: The crop was neither hand hoed nor hand weeded: Produce thirty-four pecks; but there being a path across the field, wasted a fifth: Total, therefore forty pecks, or, *per* acre, thirty bushels. This is a very great produce from so small a quantity of seed, and proves much in favour of the advocates for thinner seeding than common.

The

The expence of planting was 3*s.* or 9*s.* *per* acre.

Mr. *Penny* makes it a rule in the feeding his ground, always to change the soil, but not the seed: That is, upon clay to sow wheat that was raised upon sand, gravel, or light loam; and the contrary. Distance he reckons nothing; but his experiments on this point are not decisive, as *all* his own wheat seed comes from the *Vale of White Horse, Berkshire*.

His preparation of the seed is, to steep it in a brine first made strong enough to bear an egg, and then with half as much more salt added: In this he steeps it two hours. He finds it a remedy for the smut; as the strength of the brine throws up the unsound corn, such being always the lightest. He distinguishes the burnt grain and the smutty by this; the burnt is as long as the common grain, and black; the smut is black also, but perfectly globular, and puffs like a puff ball. After the steeping he dries it with lime.

He has more than once sown the skimings of the steeping quite smutty, and had perfectly sound grain in return: This he attributes to the strength of the brine.

His

His barley seed he shifts from soil to soil, in the same manner as wheat.

The culture of barley here is excellent. They plough the land in *March*, (but this should be in *October*,) in *May* dung it, twenty load to an acre, twenty-eight bushels *per* load. In *June* plough it in. The land then lies till *September*, when it is ploughed again, and arched up, and so lays for the winter. In *March* it is ploughed down, one half, or two bushels *per* acre of seed being then turned in, and the other half, or two bushels more, harrowed in at top: This management yields seven quarters *per* acre on an average. It certainly is most excellent husbandry; and the circumstance of spreading the dung on the fallow, and mixing it well with the soil by the succeeding ploughings, preferable, I apprehend, to laying it on in the winter before sowing, which also depends on the coming of sharp frosts.

Lucerne, Mr. *Penny* has cultivated, and with good success. He sowed two acres in drills in 1761, twelve inches asunder; the soil a sandy loam. It was hand hoed well for three or four years, and afterwards breast ploughed twice a year. The hand
hocing

hoeing cost 40 s. an acre; but the ploughing only 5 s.

These two acres have kept twelve horses constantly in the stable from the beginning of *April* to the end of *September*, with only a seventh part of the hay they otherwise would have had: The keeping in this manner, Mr. *Penny*, (and his neighbours also,) value at 2 s. a week; or 24 s. a week for the two acres.

Twenty-six weeks at 24 s.	l. s. 3 ¹ 4
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Besides this, his ewes and lambs have been kept on it a month every spring, twenty at 6 d. a week. (*N. B.* It is worth more than this at so critical a season, but our cultivator exaggerates nothing.)

	2 0

£.	33 4

Or, *per* acre, 16 l. 12 s.

It is now in very good heart, and having answered so greatly, Mr. *Penny* designs sowing a larger quantity. The profit is very noble, and proves sufficiently, that *Lucerne* is a most capital article in *British* agriculture, and greatly deserves to be brought

brought into universal use. Nor is the public under a slight obligation to this useful husbandman, for attending so much to this and other matters of the same kind.

Pursuing the road to *Oxford*, I found, at *Moreton*, some variations that deserve mentioning. The soil is chiefly a gravel; lets at an average at 20*s.* an acre. Farms rise from 50*l.* to 500*l.* a year, but in general are 2 or 300*l.*

Their courses in the common fields :

1. Fallow
2. Pease
3. Wheat
4. Barley.

And,

1. Fallow
2. Beans
3. Wheat
4. Barley.

In the inclosures,

1. Break up, Oats
2. Wheat
3. Pease
4. Wheat
5. Oats
6. Turneps
7. Oats and Grasses.

The average crops are,

Of wheat, three quarters and a half.

Of barley, five.

Of oats, five.

Of pease, two and a half.

Of beans, three.

They plough three times for turneps, hand hoe twice, and are worth, upon a medium, 30*s.* an acre.

Their flocks of sheep rise from 100 to 1400; the profit they reckon at 7 or 8*s.*

In their tillage they use four horses at length, and do an acre a day; eight or nine necessary for one hundred acres of arable land. Some farmers break up their stubbles for a fallow before winter, but mostly in spring. The price of ploughing is 7*s.* 6*d.* an acre, and the depth four or five inches.

The following particulars of farms will shew the general œconomy of this country.

200 acres in all

140 arable

60 grass

£. 200 rent

12 horses

16 cows

400 sheep

20 young cattle

3 men

3 men
 2 maids
 2 boys
 3 labourers.

Another,

570 acres in all
 450 arable
 120 grafs
 £. 530 rent
 40 horses
 30 cows
 10 fattening beasts
 20 young cattle
 1100 sheep
 5 men
 3 boys
 4 maids
 11 labourers.

Another,

460 acres in all
 410 arable
 50 grafs
 £. 400 rent
 30 horses,
 10 cows
 8 fattening beasts
 900 sheep
 3 men

3 boys
 3 maids
 10 labourers.

Another,

310 acres in all
 210 arable
 100 grafs
 £. 320 rent
 17 horses
 30 cows
 10 fattening beasts
 800 sheep
 3 men
 2 boys
 3 maids
 5 labourers.

L A B O U R.

In harvest, 8 s. and board.

In hay time, 1s. 6d. and beer.

In winter, 1s.

Reaping, 5 s. to 6 s.

Hoeing turneps, 5 s.

Threshing wheat, 4 d.

—————barley 2 d.

—————oats, 1 ½ d.

First man's wages, 7 l. 10 s.

Next ditto, 5 l.

Boy of ten or twelve years, 2*l.* to 2*l.* 10*s.*

Dairy maids, 4*l.*

Other ditto, 3*l.*

Women *per* day in harvest, 1*s.*

In hay time 6*d.*

P R O V I S I O N S, &c.

Bread, 1 $\frac{1}{2}$ *d.*

Cheese, 3 $\frac{1}{2}$ *d.*

Butter, 7*d.*

Beef, 3 $\frac{1}{2}$ *d.*

Mutton, 3 $\frac{1}{2}$ *d.*

Veal, 2 $\frac{1}{2}$ *d.*

Pork, 4*d.*

Bacon, 8*d.*

Milk, $\frac{1}{2}$. *per* pint.

Potatoes, 3 $\frac{1}{2}$ *d.*

Candles, 6*d.*

Soap, 6*d.*

Labourer's house rent, 30*s.* to 40*s.*

———— firing, turf, none bought.

To *Chipping Norton* and its neighbourhood the land declines much: It is chiefly open fields, and does not lett more than from 5*s.* to 8*s.* an acre. Farms in general from 30*l.* to 100*l.* a year.

About *Enstone* land lets from 7*s.* to 15*s.* Farms chiefly from 50*l.* to 200*l.* a year.

Ditchley, the seat of the Earl of *Litchfield*, is about a mile and half out of the road, and three miles from *Blenheim*; it is very well worth viewing. The front is handsome, and the disposition of the apartments renders them very convenient.

The hall is a handsome room, thirty-six feet square, the cieling is painted by *Kent*, inclosed in an oval of fret work; the walls cream coloured stucco, with lead coloured and gilt ornaments. The door cases finely carved. In the pannels are busts of

Milton,

Socrates,

Livy,

Homer,

Virgil,

Cicero,

Sappho,

Shakespear, and

Dryden.

basso relievos, scrolls, festoons, &c. surround them.

The Music-room is twenty-four by twenty-two. Here are, among some portaits, *Venetian School*. Two courtezans. Great spirit and expression. (N.B. The same as at *Kiplin*, Mr. *Crowe's*.

Rubens.

Rubens. His family. Very fine. The colours and spirit of the horse are great; but the expression of the wife and son nothing.

Wotton. Landscape. Not disagreeable, but this is not the *green* of nature.

The Dining-room, thirty-seven by twenty-two. Here we find

Holbein. *Henry VIII.* Exceedingly fine colouring and spirit; an attitude blustering as the monarch.

Vandyke. *Charles I.* and family. *Charles II.* on his knee. Nobly free, elegant, and spirited.

Unknown. Duke of *Monmouth* and his mother. A sweet attitude.

Jonson. *Philip* the II^d. The countenance expressive of a soul dark as *Philip's*.

Ditto. Sir *Henry Lee*.

Corn. Ketel. Sir *Christopher Hatton*.

In this room is a black marble slab of one piece, nine feet by four and a half.

The Damask Bed-chamber twenty-two by twenty-one.

Vandyke. Admiral *Lee*.

Jonson. The Queen of *Bohemia*.

In the Drawing-room, twenty-four by twenty-one, the chimney-piece is of black and white marble, handsome, the cornice supported by ionic pillars. Here are

Lely. The Countesses of *Rochester* and *Lindesay*.

Ditto. Sir *Francis Harry Lee*.

Jonson. Sir *Harry Lee*.

The Saloon, thirty-three by twenty-four. The most striking article in this room is an antique statue of the Goddess of Health, about two feet and a half high; nothing can be more sweetly elegant than the drapery, the attitude, and the purity of the head. The whole figure is in the chastest stile of the antique; the body finely seen through the drapery.

The Green Damask Bed-chamber, twenty-four by twenty-two. The chimney piece of white marble, polished; the frieze *cornucopia's* of fruit, &c. The ornaments above two corinthian pillars gilt, inclosing a landscape by *Wotton*, which is somewhat unnatural.

Unknown. Two pieces of ruins and rocks. Bright and glowing. The cascade fine.

The

The White Dining-room, thirty-seven by twenty-two, highly ornamented. The cieling is in compartments of white and gold; the cornice and frieze richly executed in the same; the pannels, window frames, and picture ones of the same: The glasses very elegant, and fine slabs of *Siena* marble. Here are

Lely. Charles II. Dutchess of *Cleveland*.

Kneller. The present Duke of *Grafton's* great grand-father, and Lady *Charlotte Fitzroy*.

From this room there is a passage to a small neat Chapel, in which is an altar-piece, a dead *Christ*, a copy from *Poussin*.

The Velvet Bed-chamber, twenty-four by twenty-two. The bed and hangings of figured *Genoa* velvet. The chimney piece of white marble highly polished; over it a ruin, very pleasing, by *Panini*.

The *Chinese* Dressing-room, twenty-four by twenty-two. It is completely fitted up, and furnished in the taste of that country; richly ornamented with carving gilt; *Chinese* figures; picture and glass frames the same. The chimney-piece of white marble, polished. A slab of agate marble.

marble. The tapestry is fine. Two landscapes, but rather brilliant than natural.

The gardens are disposed with taste; the sloping banks scattered with wood, and hanging to the serpentine lake, with the rotunda, finely placed on a rising ground among the trees, is a very beautiful landscape.

From hence to *Oxford* the country continues much the same, chiefly open; and a quarry of stone near the surface of the whole. As I shall not fly through that city quite so quick as I did on another occasion, but stop to view what is best worth notice; I shall here put a period to this long letter.

I am, &c. .

L E T-

L E T T E R XXIII.

THE first entertainment we reaped at *Oxford* was the viewing the collection of pictures left by the late *Gene-Guise* to the University; but as they are not yet placed where they are to remain, I could not get a sight of all; most of them, however, I had the pleasure of seeing. Here follows a catalogue.

Viviano and Ricci. A piece of architecture rather large, adorned with many small figures. By no means pleasing.

Spagnoletto. Two heads (caricaturas) in one piece, smaller than life. Very striking and horrible.

Moriglio. A portrait of a *Spanijh* nobleman, half length, after the life. Dark.

Unknown. Virgin and Child. Admirable drawing. A fine group, and excellent attitude.

Titian. Three ladies. Three antidotes to

Han. Carrache. A buffoon.

Unknown. St. Sebastian.

Nicolo dell' Abate. A picture in light and shadow, representing *Diana* and nymphs in the bath, changing *Acteon* into a stag. Very fine and correct drawing.

L. Carrache. The legs of a dead *Christ*. What a subject! But admirably foreshortened.

Guerchino. The prodigal son. Something in the stile of *Bassan*; but of most unmeaning expression.

Guido. Holy love conquering prophane love. An unmeaning subject, and an unpleasing picture.

Unknown. A woman turning her head and pointing to an open book. Fine.

Titian. A head with part of the shoulders. Unpleasing.

Pasqualini Romano. A picture with many figures, two feet high, representing *Solomon's Judgment*.

Andrea Mantegna. Our Saviour on his way to *Calvary*. Ridiculous expression. The figure behind our Saviour that of a grinning fool.

Unknown.

- Unknown.* The rape of the *Sabines*. A strange confusion of figures.
- Dominichino.* St. *Jerome* praying. A fine figure; colours strong.
- Vandyke.* A small sketch in light and shade, with many figures, representing a faint ready to suffer martyrdom. A nothing.
- Annib. Carrache.* A small octagonal picture on a black stone, representing our Saviour carried to the sepulchre. A strange group. Nothing pleasing.
- Tintoret.* St. *Laurence's* martyrdom. Strongly grouped, but in a dark stile.
- Ang. and Gobbo Carrache.* Martyrdom of St. *Peter*. Very unpleasing.
- Poussin.* A large piece of architecture, with figures. Faded and unpleasing.
- Bourgognone.* A battle. Dark and very indistinct, but spirited.
- Ricci.* *Apollo* and *Marsyas*. Very unpleasing: The colours dark, but expression strong.
- L. Carrache.* Our Saviour known by the two disciples in breaking the bread. Mere poverty of expression;

pression; and a formal group, but the colours strong.

Dominichino. *Sophonisba* dying of grief. No brilliancy, but the attitude and expression good.

Guido. Flight into *Ægypt*. Very fine: The attitudes and expression good; but no brilliancy.

Andrea Sacchi. The heads of *St. Andrew* and *St. Paul*. Strong expression.

Leonardo da Vinci. *St. Elizabeth* with *St. John* when a babe, musing on a cross made of reeds. Exceeding natural and fine: The boy incomparable.

Salviati. *Judith* holding *Holofernes'* head. Very fine: Strong colours and expression.

D. da Volterra. The descent from the cross. Great variety and strength of expression; but the colours gone.

Rubens. *Medusa's* head. Very spirited and striking expression.

Ani. Carrache. A holy family; the figures one foot high. Very fine; the attitudes and colours spirited.

- Correggio.* Our Saviour crowned with thorns. The figures a foot and an half high. Very fine. Colouring of a lively brilliancy: The lights strong but unnaturally diffused.
- Imola.* The last supper. Well grouped, but nothing in it striking.
- Anib. Carrache.* A boy's head, as large as life. Lively.
- G. de Carrache.* A landscape; a hare hunting. A nothing.
- B. da Garofola.* St. Catharine, a foot and a half high. A formal figure in the stile of *Albert Durer*.
- Guiseppe d' Arpino.* Adam and Eve driven out of *Paradise*. Prodigious fine attitudes. Eve's naked body very beautiful. The colouring good.
- Leonardo da Vinci.* The head of a woman smiling. Lively.
- Bartolomeo.* A child's head, smaller than the life. Ditto.
- Correggio.* The pale of an altar, with figures larger than the life. Vast expression in the old man; the plaits of the flesh fine, and the colours

colours noble; but the general brilliancy gone. The figure of a woman to the right most unmeaning.

Ann. Carrache. The family of the *Carrach's* represented in a butcher's shop, and those celebrated painters in butchers dresses. *Anni-bal* is weighing some meat to a *Swiss* of the Cardinal of *Eologna's* guard. *Augustine* is shaking a nail, and trying if it holds fast, that he may hang on it a leg of mutton, which he holds in his left hand. *Gobbo* is lifting up a calf to hang it on a beam, and *Ludovico* stoops down killing a sheep. The mother of them is represented as a servant maid that comes to buy some meat. The likenesses are traditionally said to be wonderful.—This, surely, is the most striking instance of an odd and grotesque taste; to transmit ones self to posterity in the most odious of common characters. *Alexander* was solicitous to have the beauty of his person

person transmitted to future times, in the works of the best artists; what would he have thought of a painter that threw him into the attitude of killing a sheep? Here is, however, great strength and variety of expression in this phantastic picture.

Dominichino. A landscape. Dark and unpleasing, but the attitudes of the figures are very spirited.

Furino. A woman representing Simplicity, with a dove in her hand. Dark; nothing pleasing.

Badalocchi. The Good Samaritan. Very strong and spirited drawing, well fore-shortened; colours gone.

Ricci. Our Lady with her Babe; the figures about two feet high. A very fine attitude; the child as spirited as the subject will admit. The colouring was good, but almost gone.

Raphael. A youth's head smaller than the life. Very formal.

Titian. The Nativity. The colouring of this picture is exceedingly fine. The posture of the virgin incom-

parable, and the expression of the other figures great. The grouping excellent, and the light strongly and spiritedly diffused from the child.

Ditto. Another Nativity. Unpleasing colours. A strange group; and the expression of the old fellow over the child quite vulgar.

Anni. Carrache. Our Lady with her Babe in her arms, near as large as life, standing on clouds. The attitude of the virgin very fine; and the expression of her countenance sweetly amiable; the child fine, and the whole group picturesque.

Aug. Carrache. *Susannah* and the Elders. Not pleasing; her naked body is, however, thrown into a striking light, and very well drawn. The attitude of the old fellow very spirited, the drapery good, and the lights strong.

Cavedone. The Nativity. This picture is also attributed to *Zuccarelli*. The brilliancy is in his stile, and pleasing. The attitude of the shepherd kneeling, with the staff
in

in his hand, is good; also that of the old man in the fore-ground. The little angels are executed in a lively manner. But there is a dimness of shade over the whole piece, as if unfinished or damaged.

Aug. Carrache. Head of our Saviour. Strong expression.

Schidone. Our Lady and her Babe. A sweet little group, in a good taste and spirit.

Bassan. *Christ* laid in the Sepulchre. Very capital expression of the exact kind; it is almost as minute as *Albert Durer*, especially that of the dead body.

Barocci. *Christ* shewn to the people by *Pilate*. Very fine. The group, attitudes, and colours pleasing.

Perugino. *Christ* appearing to *Mary Magdalen*. *Christ's* expression that of a clown, and her's no better. The drapery, landscape, and colours, equally bad.

Raphael. The infant *Jesus* and *St. John* embracing. Spirited. The countenance of him to the left good.

- Ditto.* Three heads in water colours. In a strong expressive stile of drawing; but unpleasing.
- Carpacio.* *St. Catharine.* The attitude natural; but the drapery in a bad taste, and the colours faint.
- Andrea del Sarto.* Our Lady with her Babe, and *St. John*: Her attitude fine, and her countenance exquisite: The boy spirited.
- Holbein.* A father and his two children praying. A nothing.
- Raphael.* The Nativity, containing eighteen figures, two feet high. Her posture neither natural or graceful; and the colours are disagreeable: The group is pretty good, and the figure of the old man sitting a fine one. It is the mere rubbish of *names* to call this an "astonishing performance."
- Paul Veronese.* Our Lady with her Babe, *St. Catharine*, and *St. Francis*. Very fine and spirited attitudes; a pleasing group, but the colours nothing. The attention of the old man good.

Andrea

Andrea del Sarto. Christ coming out of the Temple.

“ Group nods at group, each figure has its brother,
“ And half the picture just reflects the other.”

Dominichino. A Mistress and her Maid.
A nothing. But it is *called* one of the best works of this great master.

Parmegiano. Our Lady with her Babe. Exceedingly fine, graceful, and pleasing; the colours brilliant, and the head of the old man in a great stile.

Dominichino. Cupid drawn by two doves; spirited, and somewhat pleasing.

Carlo Cignani. A copy of *Correggio's* Night. The lights strong and spirited. The figure in obscura, leaning on a spear, forms a fine attitude. The group good.

Tintoret. *Diana* in the bath, changing *Acteon* into a stag. Very fine drawing of the naked. Several of the figures are beautiful, and the attitudes spirited.

Tintoret. The communion of the Apostles. Very dark, and the lights strongly

ly and partially thrown, but the attitudes have spirit.

Gob. Carrache. St. *John* preaching in the desert. The landscape rich and fine, and the attitudes of the figures nobly spirited.

Salvator Rosa. *Eriethonius* delivered to the Nymphs for education. Great spirit in the attitudes; but it hangs in so bad a light that one can see but little of it.

Dominichino. *Moses* delivering the daughters from the snares of the shepherds. The postures and attention of the figures fine. The landscape good.

Ditto. A landscape. Some fishermen; and women washing linnen. Very dark; the lights partially and strangely thrown.

Fernandos. A youth playing on the guitar. Great expression of attention.

Titian. *Christ* tempted in the Desert. An insipid figure, and the colours quite gone.

Dominichico. Two Cherubs. Nothing.

Guer-

- Guerchino.* A St. *John's* head, with a lamb. Very dark, but has some spirit.
- Schiavone.* *Marsyas* and *Apollo*, with *Midas*. Very unpleasing.
- Unknown.* *Cleopatra*. Fine and spirited.
- Anni. Carrache.* Copy of *Corregio's Cupid*. The drawing, spirit, and relief of the figure fine.
- Ditto.* The laying in the Sepulchre; an octogon picture; strongly expressive.
- Ditto.* St. *Francis* in a vision. Wonderfully fine; exceedingly spirited, lively, and brilliant. The attitudes are surprizingly great; and the life in every figure striking. The relief of the right hand very strong.
- Gab. de Carrache.* A landscape; the waterfalls good; and the trees natural.
- Titian.* A *Venus* and *Cupid*, as large as life. Astonishingly fine. The whole body most exquisitely painted:—The attitude easy, graceful, and amazingly pleasing,

ing. The roundness and turn of the limbs in the relief of life itself; the turn of the head and neck elegantly graceful. The face wonderfully beautiful; the colouring very fine; and, in a word, the whole figure exquisitely beautiful and enticing.

Ditto. Portrait of the woman that was his model for the famous *Venus* at *Florence*. Very beautiful.

Guido. A choir of Angels. A nothing.

P. da Cortona. Sketch of a cieling.

A ditto.

Lud. Carrache. A half length as large as life. Very fine, lively, and spirited.

Giorgione. Half length of a woman as large as life. Very disagreeable.

Titian. Our Lady with her Babe and St. *John*. Very fine attitude and drapery.

Guido. Dying *Magdalen* and Cherubs. Incomparably fine in expression and colouring.

Julio Romano. An Emperor on horseback. Very strong and spirited.

Vandyke.

Vandyke. King *Charles* the First's white horse. Very lively.

Borgognone. The Slaughter of the Innocents. Wild, but spirited; the colours gone.

Florentine School. Constantine. There are many figures in this piece, and spirited.

Unknown. A small piece containing several figures, a group among rocks. Most spiritedly touched. The lights, drapery, and attitudes, great; something like *Salvator*.

Ditto. Two figures, one of them fishing. Spirited.

Ditto. A Master and his Scholar. Exceeding fine. The airs of the heads great, and the colouring fine. A little in the stile of *Rembrandt*.

Ditto. *Diana.* An unfinished sketch; the drawing of the naked figures fine.

Ditto. *Susannah* and the Elders; small. Her figure good, but the expression of her countenance foolish.

Ditto.

Ditto. A woman bathing, and a man stealing her cloaths. Her figure well done.

Ditto. A holy Family; a small drawing. Exceeding fine attitudes and expression.

Ditto. The Adoration of the Shepherds; a drawing. Exceedingly fine.

Ditto. A Nativity; the Deity in the clouds. The light on the Virgin's countenance good.

Ditto. A Virgin and Child; small. Good colouring and attitude.

Corregio. *Christ* crowned with thorns. Very fine.

Michael Angello delle Battaglie. Two small pieces, the one representing a mountebank drawing a tooth; the other many people playing at bowls. Good. The mountebank one, well coloured.

* * * * *

In the Hall of *Christ's-church*, among many others, the following portraits will strike you most.

Morley, Bishop of *Winchester* Good.

Trevor, Bishop of *Durham*. By *Hudson*.

Very fine drapery.

Robinson,

Robinson, Primate of *Ireland*. Very spirited.

In an old Chapter-house, two portraits, very expressive and spirited. They are thought to be *Frederick*, Duke of *Saxony*, and *Philip*, Archduke of *Austria*.

The *Radcliff* Library is a beautiful building: The rustics, the double corinthian pillars, the cornice, and ballustrade; all unite to form one complete whole, admirably proportioned, and of the happiest unity of effect; and this without any termination: The conclusion in the ballustrade would have been one of a most elegant simplicity;—but the dome rather hurts the general effect: besides, it is not equally beautiful with the rest of the building; its being ribbed too much divides the attention of the spectator, and the pediments around, which support the urns, are heavy.

The inside is a circular domed room, of forty-eight feet diameter, and sixty high. The dome, the upper and lower cornices, and the surrounding arches, are light and elegant, but the cross work of compartments somewhat break the effect; nor are the ionic pillars at bottom well proportioned

tioned to the room ; they are too small, and without effect.

* * * * *

In the Picture-Gallery are many pieces that are very capital. Those which pleased me most are the following.

Holbein. Sir *Thomas Bodley.* Very fine.

Unknown. King *Alfred.* Good.

William of Wickham. Very spirited.

William Wainfleet, Bishop of *Winchester.* Good.

Holbein. Sir *Thomas Pope.* A most noble portrait ; the face and hands admirable, and the drapery good.

Unknown. *Henry IV.* of *France* on horseback. Lively and spirited.

Richard Wightwick. Fine.

A statue of *William,* Earl of *Pembroke.*

A very noble and spirited attitude.

Ditto of the *Venus de Medicis.* Pleasing.

Apollo.

Duke of Marlborough.

Busts.

Tully.

Aristides.

Zeno.

Phocion.

Vandyke.

- Vandyke.* *Franciscus Junius* ; a sketch :
Exceedingly fine, free, and spir-
ited.
- Kneller.* Lord *Crew*, Bishop of *Durham*.
Good.
- Unknown.* *Martin Luther*. A true pole-
mical countenance.
- Lely.* Sir *Joseph*. Free and easy.
- Williams.* Dr. *King*. Spirited.
- Richardson.* *Prior*. Exceeding good.
- Gibson.* *Locke*. Good.
- Spagnoletti.* *Duns Scotus*. Wonderfully
spirited.
- Unknown.* Sir *Richard Tomlins*. Very good.
Tycho Brahe. Ditto.
- Gibson.* Dr. *Flamsteed*. Spirited.
- Sebastian Bourdon.* God's covenant with
Noah. Disagreeable colouring,
and a strange group.
- Schalcken.* The seven Vices on copper ;
Pride, Lust, Sloth, Drunkenness,
Revenge, Avarice, and Envy.
Exceedingly strong and spirited.
- Jordaens.* *Christ's* appearance to his Disci-
ples after his resurrection. Very
fine.
- Ramsay.*

Ramsay. His present Majesty. Excellent drapery, and a very pleasing attitude.

Unknown. Fruit piece. Good.

A mathematical piece. Fine.

Frank Hall. A *Dutch* gardener. Very spirited.

Willarts. A storm. Strong and minute expression. Very fine.

Jordaens. *Moses* striking the Rock. Wonderfully fine. The back of the figure to the left noble.—The child with it's finger in the mouth great; but the grouping strange; and *Moses* totally devoid of expression.

Willarts. A *Dutch* fish-market. Amazingly fine. The figures are numerous, and the finishing very high.

Unknown. *St. Paul.* Good.

Bardwell. *Thomas Fermor*, Earl of *Pomfret*, and his wife: A capital piece of vulgarity.

Kneller. *Addison.* Good.

Unknown. *Chaucer.* Good. Minute finishing.

Vandyke.

- Vandyke.* The great Earl of *Strafford*. Middling; but the expression is not weak.
- Schroder.* *Charles XII.* A noble picture. Great strength and spirit.
- Unknown.* The late King of *Prussia*. The figure of a vulgar clown.
- Sir Henry Saville.* The hands and face exceedingly fine; and the minute imitation of the mat astonishing.
- Van Trump.* Very good and spirited; the attitude excellent.
- Kneller.* *Dr. Wallis.* The hands and face incomparably fine.
- Vandyke.* *Sir Kenelm Digby.* Exceeding fine.
- Unknown.* The Earl of *Kildare.* Good. The Earl of *Pembroke.* Very fine.
- Archbishop Cranmer.* Good.
- Sir Thomas Sackville,* Earl of *Dorset.* Very fine.
- Lady Betty Paulett.* Great finishing.

* * * * *

Among the *Pomfret* Statues, the following I remarked particularly:

Statue

- Statue of a *Grecian Lady*. A hugeous piece of immensity.
- Ditto of *Archimedes*. Fine.
- Ditto of *Minerva*. The left thigh and leg seen finely through the drapery.
- Ditto of *Cicero*. Drapery very fine; the head spirited, but the attitude of the right arm mean.
- Statue of a *Grecian Lady*. Very fine.
- Ditto of *Sabina*. Attitude and fold of the right arm fine; but the drapery somewhat stiff.
- A *Venus de Medicis*. The neck and right arm admirable; also the antique part of the left. All that is antique of this statue is fine.
- Statue of *Minerva*. Drapery good; finely tucked under the left arm.
- A *Venus* cloathed. Exquisite; the wet drapery displays the naked thro' it in a very fine stile. The form of her body admirable.
- Statue of *Clio* sitting. Turn of the head and neck fine; and the attitude good.
- Statue of a young *Dacian*: Perhaps *Paris*. It is of great antiquity. Drapery good.

Statue of *Antinoüs*. Disproportion itself, but owing, I suppose, to the joinings, or designed for an elevated situation.

A *Grecian Lady*. The display of the left thigh and leg through the drapery fine.

Statue of *Jupiter* and *Leda*. Much defaced; but the left leg is well seen through the drapery, and the turn of her right thigh is good; likewise the remains of a fine attitude.

Statue of *Scipio Africanus*. Drapery bold, and the posture of the hand and arm fine.

A trunk of a woman. Good.

A boy with his finger in his mouth.

A nothing.

Statue of *Jupiter* sitting. Heavy.

Ditto of a woman. Her form seen through the drapery is good.

The trunk of a woman. The right thigh and leg is pretty well seen through the drapery.

Germanicus's tomb. Spirited reliefs.

Statue of a *Roman Consul*. The posture of the right arm unnatural.

Ditto of a woman. Good.

Ditto of *Flora*. A beautiful figure and drapery.

Ditto of *Hercules*. Indifferent.

Hymen. The attitude fine.

Statue of *Venus* half naked. Her body very fine; the drapery slipping off it, and the turn of her left thigh and leg striking.

Statue of *Melpomene* sitting. A very expressive attitude, fine arm, and noble drapery.

A *Grecian* Lady. Bad drapery.

Statue of *Camilla*. Light drapery.

Ditto of a *Grecian* Philosopher. Middling.

Statue of *Caius Marius*. Very fine expression; and the posture of the right hand and arm very natural.

Ditto of *Bacchus* naked. The turn of the body incomparable; the attitude and spirit of the figure noble; alive.

Statue of *Julia*. Disgusting.

The trunk of a woman sitting. Remains of a good statue, but sadly defaced.

A naked trunk of a man. Very good;
the back excellent.

A trunk of a woman. Middling.

Statue of *Hercules* choking a lion. Very
great expression; the posture of
the thigh against the rock great;
the whole fine.

Trunk of a woman sitting. Good,

Boys embracing. Ditto.

Bust of a young man. Ditto.

Ditto of a *Diana*. Ditto.

Ditto of a Philosopher. Ditto.

Ditto of *Niobe*. Turn of the head good.

Ditto of *Venus de Medicis*. Good.

In the Repository of the *Academy*
Marbles, is at present a small collection of
Bronzes, &c. lately left to the University;
the following are the principal:

Marcus Aurelius. Good.

Mercury.

Bacchus.

Noah.

Moses.

Socrates.

Aaron.

King *David*. Good drapery.

Apollo.

Ditto.

A boar.

Plato.

David and Goliath.

Duke of *Marlborough.*

Hercules and Antæus.

Hercules and Hydra.

Venus. Good.

The torturing of a Bishop in the In-
quisition. A curious stroke.

Venus in drapery. Fine haunches.

Apollo.

A Sibyl.

Cupid on a dolphin.

Hercules and Centaur.

A dragon.

A *Cæsar's* head in clay. Good.

Sir *Isaac Newton.*

Miltiades. A relief in stone: Very
antique.

You will observe, that I have given them as they stand, but in strange confusion, of *Moses* and *Socrates*, King *David* and *Plato*, &c. I should not have inserted this last, had any other been extant for the use of spectators; for the collection is but so, so.

In the *Bodleian* Library, among many other pictures, I remarked these:

Mr,

Mr. *Bowles*. The best among the librarians.

Sir *Kenelm Digby*. Good.

Sir *Thomas More*; by his niece. Very good.

Erasmus, by *Holbein*. Exceeding fine.

The Queen of *Bohemia*. Very lively and spirited.

Before I return again to Agriculture, you will allow me to conclude, by assuring you
&c.

APPENDIX to VOL. III.

DESCRIPTION of a MACHINE
to Slice TURNEPS, for feeding Neat
Cattle, &c.

Invented by CUTHEERT CLARKE, of
Belford, Northumberland.

P L A T E XII.

FIGURE 1. is the perspective of the whole machine, which is about four feet six inches high, two feet six inches long, and two feet wide outside measure; it is made of common deal, three quarters of an inch thick, and its four posts are of oak, about four inches square; the feet, handles, sliding frame, cross bars, &c. are also of oak: The whole machine can be afforded complete for 2*l.* 2*s.* which will, with two men, slice three tons of turneps, into slices of three quarters of an inch thick, in one hour: It is also portable, and may, by the two men who work it, be moved from one house or field to another, borne by two handles like a sedan chair. A. A. the hopper, or trunk of the machine, which is angular within, suited to the angle the knife, when placed in it's frame, fig. 2. d. A. d. makes with the sides thereof. B. B. B. B. the frame which slides to and fro upon two rollers, D. D. which greatly abate the friction. E. E. two strong leather strops, which stop the slider at each end alternately; one end of each of those strops is fastened to the cross bars, F. F. and the other ends to the rounds, B. B. B. B. Fig. 2. in the notches, C. C. with a buckle, and may be taken up or let out occasionally. C. C. in fig. 1. are the two handles for carrying it by from place to place. G. G. Feet morticed upon the four posts, which secure

cure it from falling. H. H. Two cross bars between those feet. Fig. 3. the knife, with two edges, which being turned with its claws, b. b. &c. at right angles to its own plane, is put into the mortices, d. d. In fig. 2. the screw-pins, with the hand nuts, C. C. tighten it in the frame; and fig. 4. which represents a collar of iron, about a quarter of an inch thick, of which there are about eight in number for the two claws; their uses are to put between the shoulders of the knife, and the upper sides of the frame, and are put in number, as the edge of the knife is required to be raised above the floor of the slider, in order to size the slice, *i. e.* they are put on the upper side of the frame to make the slice thick, and removed from that side, and put between the hand-nuts and undersides of the frame, when the slice is to be thinner, in proportion thereto. The slice is cut exactly as a carpenter's instrument, called a spook-shave, &c. takes its shaving, only the turnep-knife cuts both backwards and forwards. There is also a contrivance for cleaning the eye of the frame, A. fig. 2. when the knife is placed upon it, *viz.* when the slider is pulled, &c. as much to one end as the stop will admit, there is a piece of hard wood, nailed upon a cross bar, at I. fig. 1. which projects about an inch towards the inside of the machine, and is so thin as to ram in below the edge of the knife, whatever slice it is set to form, *for it is not so thick as the least slice the instrument can make, viz. half an inch*, and thereby clears the eye; at each end there is the same contrivance, which effectually prevents any interruption in the cutting. The way to use the machine is very easy and natural; for as soon as the hopper is filled at random, by throwing up a basket full at a time, two men set themselves down on stools, &c. placed conveniently, and put out their feet against the posts of the machine, then take the rounds in their hands, about the places marked B. B. B. B. in fig. 2. and so pull the frame backwards and forwards as abovesaid; and, from their position of body, they have great power, the extensors of the legs, thighs, back, and arms, being mutually employed in the same advantageous manner as in rowing a boat, &c. The knife,

knife, at every push, &c. passes quite thro' the hopper into a cavity in the end, where no turneps can enter, because it is not above two inches high, and exactly as wide as the knife is broad; indeed, if the turnep is so small as to go into these dimensions, it will be driven in undoubtedly, but will be sliced by the knife as nicely as if four times as large. The intention of these cavities, of which there are one at each end of the hopper, are to let the knife pass into them, as above-said, in order to let the turneps, which are in the hopper, fall flat upon the floor of the slider, and then the edge of the knife, which is next to them, as soon as it emerges out of the cavity, bites the turneps, and takes a slice of any thickness, from half an inch to one inch three quarters at pleasure, the whole width and length of the hopper at one stroke, and the same in its return. In short, this machine makes great dispatch, does the business very neatly, and with an inconceivable degree of ease; is very simple, and not at all liable to be out of order, otherwise than what the grinding-stone can readily rectify. And although some people have undertaken to shew, that turneps need no slicing, it must be acknowledged, that, where so great dispatch can be made, this, or any other instrument which does the business as well, and comes at so low a price, will make a profitable return to the occupier, in as much as, by its means, the risque of choaking is entirely superseded, waste prevented, and cattle, which have not been accustomed to eat turneps, entered immediately to feed upon that valuable esculent; and also makes the feeding of those cattle, which even take to eating turneps unsliced, less difficult, and they feed with greater expedition, because when the turneps are properly sliced, an ox, &c. will fill himself in half the time it will take him to do it when he has the turneps to break with his mouth, which is so painful an operation, as often to make the mouth bleed, swell, &c. which deters them from eating until they are near starving.

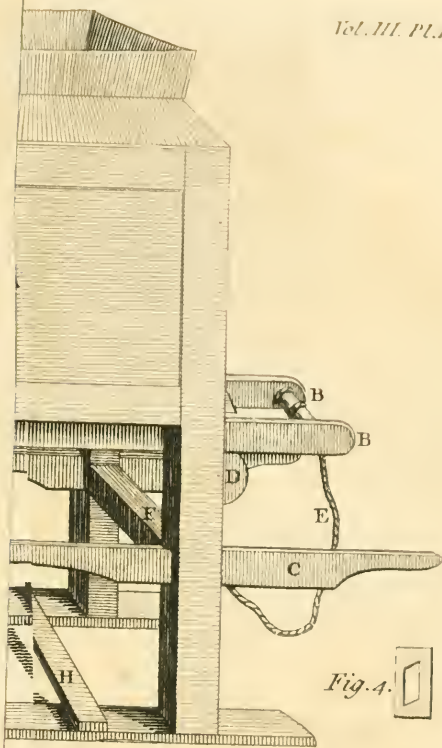


Fig. 4.



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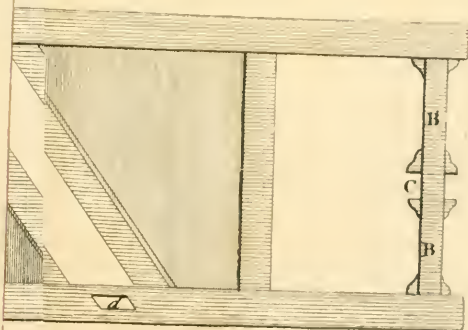


Fig. 1.

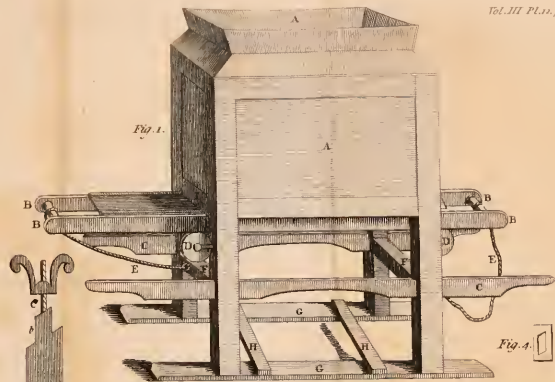


Fig. 4.

Fig. 2.

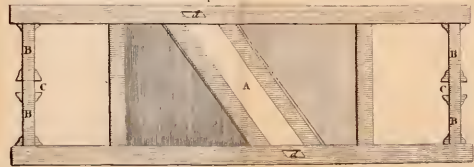


Fig. 3.



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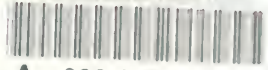
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