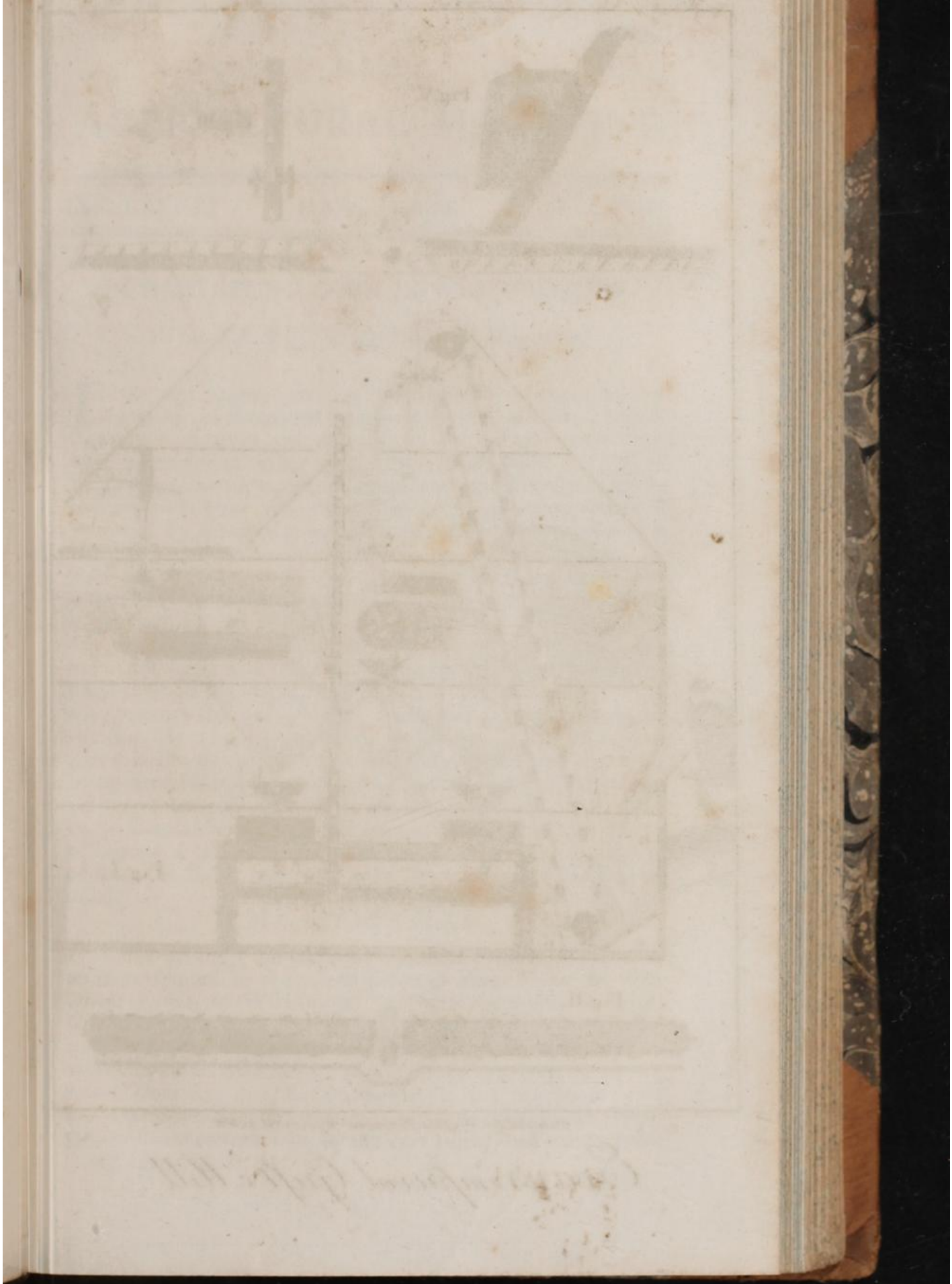

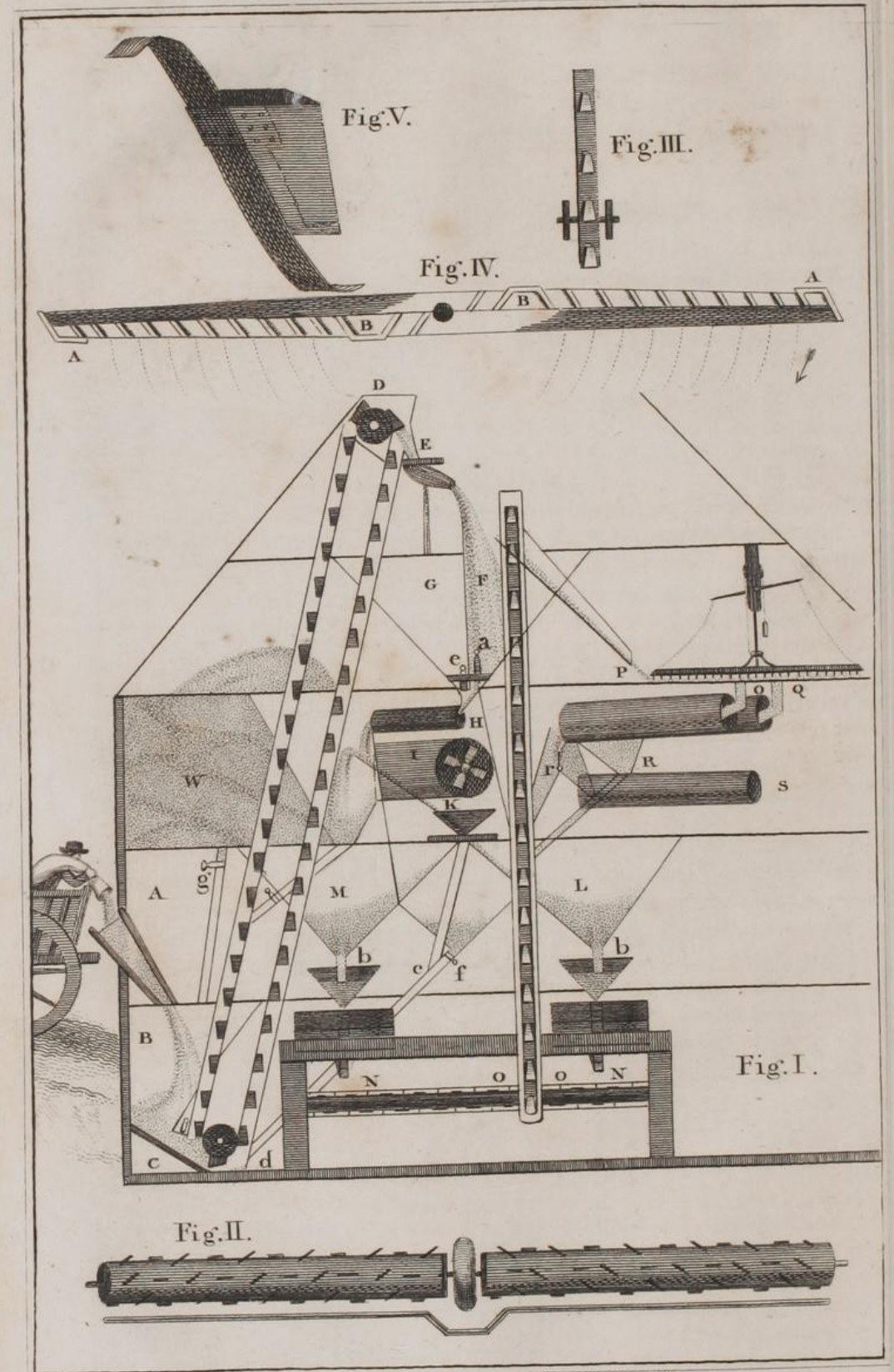

Publish'd. by V. Griffiths, Paternoster Row, April, 1.1805.

Evan's improved Grist Mill

THE

AGRICULTURAL MAGAZINE

No. LXVIII.] MARCH, 1805 [Vol. XII.

ON HARVESTING CORN IN WET WEATHER.

To the Editor of the Agricultural Magazine.

Sir,

IN the year 1790, travelling in Livonia, from that place to Lieubau, in Courland, I noticed several buildings, which from their situation and appearance, led me to suppose they were barns for securing corn, except that they had all of them large chimneys, either at one end or the middle which led me to enquire the use of the buildings, upon which I was told by my fellow traveller that they were barns, and that the chimneys which struck me as so extraordinary in barns, were those of kilns, which were used in the barns throughout Courland for drying the corn in the straw, the large ones having the kiln in the middle, and the small ones at one end, and that when the corn was cut, what was cut in the day was in the evening put into the barn, and kiln-dried through the night, and threshed out and conveyed to the granaries the next day, to make way for what might be cut that day to go through the same process, and he added that this kiln-drying in the straw, did not prevent the corn being used for sowing afterwards, as they made no difference between their seed and other corn; whether this mode is peculiar to Courland or is generally practised throughout the North of Europe, I cannot say; but all the corn I have seen imported from the Baltic seems to have been, more or less, kiln-dried.

MR. EVANS'S MILL.

Whilst writing I am led to mention what seems to me to be an improvement in the construction of Flour Mills, by Mr. Oliver Evans, of Wilmington, in Delaware county or state, North America, whose plan, sections, and description, I herewith inclose, and which, if of any use, is much at your service. It would have been transmitted for that purpose on my return from America, but on shewing it to a neighbour who has a considerable flour mill, he seemed to consider it of little use: it has therefore lain by me ever since, and would have

still done so, but from having noticed that the plan of the elevators has been mentioned in a paper of one of the volumes of the Society of Arts, as having been adapted for raising either ore or water, I forget which, I am therefore led to hope that my neighbour may have been mistaken, and that the enclosed may be useful. I was in Mr. Jonathan Ellicott's mill near Baltimore, and in that of Mr. Nathaniel Ellicott, at Petersburgh, in Virginia; the former seemed to have been an old mill, altered to Mr. Evans's plan, and the latter, a very large new one, constructed entirely upon it, and the proprietors who shewed me over their mills, assured me that they were well satisfied with the plan, and considered it a great improvement in mill machinery; and, I need not add, that the Brandywine mills which are mentioned in the enclosed, are considered as inferior to none throughout the United States. Whilst on the subject of mills, I cannot avoid mentioning something of the sort I met with at Boston, in the province of Massachusets, which was called a steam jack, and which I was induced particularly to notice, from the steam being applied to the first motion in a way different from any I had ever seen or heard of, and though apparently of a simple construction, as I am unacquainted with machinery and mechanics, and being unable to give you a drawing of it, I fear I shall be unable to give you any tolerable idea of it. The first motion, (which was the only one I particularly noticed,) was a cast iron wheel about a foot in diameter, similar in shape to the water wheel of an overshot mill, the buckets of which, forming a pretty acute angle with the wheel, and the sides of the wheel coming up somewhat higher than the upper edge of the buckets, the steam-kettle which might contain about two gallons, was placed on a chafing dish of coals near this wheel with a spout, the upper part of which was rather longer than the under, and near the width of the buckets, and the upper edge of the spout fixed as near to the upper edge of the buckets as it could be done, without touching either the edge of the buckets or sides of the wheel; by which means the steam was thrown into the buckets, and set the wheel in motion. I wished to have bought the machine, not from considering it in its then shape of much utility, but by way of conveying the principle to this country, in hopes of its being useful, but I found it was the only one the person had by him; and he said they were made up the country, and he could get me one in two or three months, but as I was leaving that country for England a few days afterwards, it of course prevented my ordering it. Should any thing I have noticed be of the smallest utility to my native country, I shall be much gratified, and should it fail of proving so, I hope

the wish to have been of use will prove my excuse to you, for troubling you on the present occasion.

And I am very respectfully,

Sir, your obedient humble servant

AMICUS.

REFERENCE TO THE ENGRAVING OF IMPROVEMENTS ON THE ART OF MANUFACTURING GRAIN INTO FLOUR OR MEAL. BY OLIVER EVANS, OF DELAWARE COUNTY, AMERICA.

[WITH A PLATE ANNEXED.]

BY these improvements, the grain and meal are carried from one story to another, or from one part of the same story to another; the meal is cooled; and the boulting-hoppers are attended by machinery, which is moved entirely by the power of the mill, and lessens the expence of attendance at least one half.

DESCRIPTION *of the* PLATE.

The grain is emptied into the spout A, by which it descends into the garner B; whence, by drawing the gate at C, it passes into the elevator C D, which raises it to D, and empties it into the crane-spout E, which is so fixed on gudgeons that it may be turned to any surrounding granaries, into the screen-hopper F, for instance, (which has two parts, F and G) out of which it is let into the rolling screen, at H, by drawing the small gate a. It passes through the fan I, and falls into the little sliding hopper K, which may be moved, so as to guide it into either of the hanging-garners, over the stones L or M; and it is let into the stone-hoppers by the little bags bb as fast as it can be ground. When ground it falls into the conveyer N N, which carries it into the elevator O O, this raises and empties it into the hopper-boy at P, which is so constructed as to carry it round in a ring, gathering it gradually towards the center, till it sweeps it into the boulting-hoppers Q Q.

The tail flour, as it falls, is guided into the elevator, to ascend with the meal, and, that a proper quantity may be elevated, there is a regulating board R, set under the superfine cloths, on a joint x, so that it will turn towards the head or tail of the reel, and send more or less into the elevator, as may be required.

There is a piece of coarse cloth or wire, put on the tails of the superfine reels, that will let all pass through except the bran, which falls out at the tail, and a part of which is guided into the elevator with the tail flour, to assist the boulting in warm weather: the quantity is regulated by a small board r, set on a joint under the ends of the reels. Beans may be used to keep the cloths open, and still be returned into the elevator

to ascend again. What passes through the coarse cloth, or wire, is guided into the cloth S, to be boulted.

To clean Wheat several times.

Suppose the grain to be in the screen-hopper F. Draw the gate a; shut the gate c; move the sliding hopper K over the spout K c d; and let it run into the elevator to be raised again. Turn the crane spout over the empty hopper G, and the wheat will be all deposited there nearly as soon as it is out of the hopper F. Then draw the gate e, shut the gate a, and turn the crane spout over F; and so on alternately, as often as necessary. When the grain is sufficiently cleaned, slide the hopper K over the holes that lead into the stones.

The screenings fall into a garner, hopperwise. To clean them draw the gate f, and let them run into the elevator, to be elevated into the screen hopper F. Then proceed with them as with the wheat, till sufficiently clean.—To clean the fannings, draw the little gate h, and let them into the elevator, &c. as before.

Description of the ELEVATOR, CONVEYER, *and* HOPPER-BOY.

The elevator is a leathern strap, revolving round two pullies, and buckets fastened thereto, which are filled at the lower, and emptied at the upper pully. See C D. in Fig. 1st. Fig. 3 exhibits a view of the pully of the meal elevator, as it is supported on each side, with the strap and buckets descending to be filled.—Fig. 5, is a perspective view of the bucket of the wheat elevator; and shows the manner in which it is fastened, by a broad piece of leather which passes under the elevator-strap, and is nailed to the sides with little tacks. It is also tacked to the under side of the strap to keep it in its place. Buckets made of sheet iron rivetted to the strap suit best for wheat.—Besides the uses of the elevator, that have already been mentioned; it may be employed to unlade ships, thus—annex a conveyer to the axis of the lower pully; let it pass through the wall of the mill, extend to the side of the ship, and convey the wheat into the elevator. When large quantities of wheat are to be received, turn the crane spout over the great wheat granary W. out of which it may be taken, as wanted, by drawing the gate g, which lets it fall into the garner B, or into the elevator at any other convenient place.

The conveyer is an eight-sided shaft, set on all sides with pins, in an oblique manner. It is put in motion in a trough; and, performing its office on the principle of a continued screw, conveys the grain, or meal, from one end of the trough to the other, whether its direction be ascending, descending, or horizontal. See N N, Fig. 1st.—Fig. 2 is a perspective view of the conveyer, as it lies in its trough, at work; and

shows the manner in which it is joined to the pullies, at each side of the elevator.

The hopper-boy is an upright shaft, set in motion and carrying round with it an horizontal piece called the arms, set with flights, in the under side, in an oblique direction; so constructed as to spread the meal thinly over the floor, to cool; and, at the same time, to gather it into the boulting-hopper. These arms are balanced by a weight, hung to a rope passing over a pully, at the head of the upright shaft; so that it plays lightly on the meal, and will rise or fall, as the heap increases or decreases. See it in fig. 1 over Q Q. Fig. 4 is a perspective view, of the under side of the arms of the *hopper-boy*, with flights complete. The dotted lines show the track of the flights of one arm; those of the other following, and tracking between them. A A are the sweepers. These carry the meal round in a ring, trailing it regularly all the way, the flights drawing it to the centre, as already mentioned. B B are the sweepers that drive it into the boulting hoppers.

Brief DIRECTIONS *for constructing the several* MACHINES.

Of the WHEAT-ELEVATOR.

Let the *pullies* be 17 inches in diameter, 4 inches in thickness, and half an inch higher in the middle than in any other part. The motion about 47 revolutions in a minute, which will move the strap 200 feet, in the same time. The *strap* is to be made of good harness, 4 inches wide; and to be furnished with a *bucket*, of the same width, 5½ inches in length, for every foot the strap is in length. This *elevator* will hoist 3,375 bushels in 12 hours.

To prevent the machine from being over loaded, the wheat must be let in at the bottom, to meet the buckets. The cases ought to be a little crooked, to suit the motion of the strap, that the buckets may not touch them in descending.

Of the MEAL-ELEVATOR.

Pullies 16 inches in diameter and 3 1-2 thick, highest in the middle. Buckets the width of the strap; their number in proportion to the work they have to do; if to hoist meal, tail-flour and bran, for two pairs of stones, put one for every foot. The motion 24 revolutions of the pully in a minute, which will move the strap about 100 feet. It will dicharge the better if made to lean a little.

Of the CONVEYER.

After the *description* that has already been given of the Conveyer, we need make but few remarks on the manner of constructing it.—The eight-sided shaft ought to be 5 inches in diameter: the flights 3 inches long, and 2 1-2 wide. Set the first flight in an oblique manner, on one side of the shaft,

at the end next the elevator; turn the shaft the way in which it is to go when at work, and at the distance of 1 1-2 inch, set a flight on the next side, in the same oblique manner as the other; and thus go on to turn the shaft, and to insert a flight at every 1 1-2 inch distance, till the spiral line be completed to the other end of the shaft. Then the spire of the screw will appear, at first view, to be turned the wrong way, the flights standing across the spiral line.

Besides the *conveying flights*, above mentioned, half their number of other flights are to be set with their broad-side foremost. These are called *lifting-flights*. Their use is, to lift the meal from one side of the shaft, and let it fall through the air to the other side. This is of great use in cooling the meal.

Of the DESCENDER.

When there is not sufficient descent from the elevator to the hopper-boy for the meal to run, the descender becomes necessary. This is a broad strap of thin canvas or linen, set to revolve round two pullies, hung on nice pivots, in a trough or case, one end of which is lower than the other; so that the weight of the metal let fall from the elevator on the upper side of the strap, near the higher pully, sets the strap in motion, by which the meal is discharged at the lower pully into the hopper-boy. Here a small bucket, extending across the strap, is used, for the purpose of bringing up the waste meal out of the case.

The *pullies* ought to be one foot in length; nine inches diameter at the ends, and ten in the middle: the *strap* twelve inches wide; and the trough fourteen inches wide, and fifteen deep. As this machine will seldom be necessary, no representation of it is given in the plate.

Of the HOPPER-BOY.

Length of the arms, 14 feet. The width to be 7 inches at the centre, and 5 at the ends; their thickness 2 inches and a half, the fore side sloping upwards. The flights are to be set four inches asunder; their inclination to be about 2 1-4 inches for five in length near the centre; 1 inch in 5 at the ends, and 2 inches in depth, that in moving round, they may collect the meal towards the centre. One sweeper must be placed at each extremity of the arm, and one over the hopper. The upright shaft to be four feet and a half, made round, that the arm may have liberty to rise about three feet. Let the pully for the balance be 8 inches in diameter. Motion, 4 revolutions in a minute.

Several uses to which the ELEVATOR *may be applied, besides those represented in the Plate, viz.*

To elevate wheat, or any other grain, from shallops into

mills, or store-houses; either by having it first brought, by a conveyer, into the elevator, or by a short elevator that may bring it in through a door or window, and discharge it into the main elevator. This short elevator may be put up, and taken down, as required.

If two pair of stones be turned by one water-wheel, at the same time, one to chop and the other to grind down, as it passes through one pair it may be elevated into the hopper of the other: by this method, much more may be done by one wheel in the same time.

If the screen and fan be on the second floor, so that a large quantity of wheat cannot be cleaned, and laid over the stones, at a time, to supply them regularly, it may be elevated from the tail of the fan to a hanging garner, or any floor over the stones, from whence it can be let in by a spout.

If there be no convenience to clean wheat over the stones, then a garner may be made hopperwise under the fan, and a small elevator set to run constantly, to elevate the wheat from said garner into a spout, that will supply two or three pair of stones regularly. This elevator must be so constructed as to hoist a little faster than to supply the stones, always keeping the spout full, the surplus will fall back.

If the clean wheat suits best to be at a distance from the stones, and near on a level with the hopper, the elevator may be set to rake it into the hopper. If it brings too much it will carry it back again.

If the wheat cannot be laid over the rolling screen, but on the same floor, or one below it, either under it, or at a distance, the elevator may be set to bring it in; the surplus it will carry back.

If the wheat passes through a rubbing or shelling mill, it may be elevated to the cleaning machines.

If the wheat be damp, lying in a garner, it may be spouted into the elevator, and elevated into another garner, this will dry it much, in a dry day.

A kiln may be contrived to dry corn with, a hopperboy to stir it, the grain let in at the centre and spread so slowly that it will be sufficiently dried before it comes to the extremes, which are to deliver it into the elevator, to be elevated into the mill and deposited over the stones.

If applied to elevate grain, or the like, from ships to store-houses, and wrought by a man who applies his weight as the power, he will be able to elevate as much as two men can carry; but it may be moved by a horse, steam, wind, or tide.

If the tail flour or bran will not run into the elevator, it may be set to rake it in, and to elevate the bran and shorts to

another story, that it may be spouted into a shallop, or to take it in any direction to a more suitable place.

If wheat or meal will not run from the elevator as discharged, to the place desired, it may be applied to rake it to the place.

If there is no room for a hopper-boy the meal may be cooled by conveyers, and let fall over the boulting-hopper.

The conveyer will answer many of the above purposes, as well as the elevator.—The hopper-boy may be varied many ways, to suit different situations, and to attend one, two, or three boulting-hoppers at once. So that it is evident, that the improvements will apply to all flour mills, however constructed.

When applied to mills that grind for toll only—the meal is elevated as it is ground, and in order that it may cool it is let run down a long broad spout into the boulting-hopper. The shoe is small that it may clean out quicker. The chest made steep and to come to a point like a funnel, under which are hung two bags, one for meal, the other for the bran; it is so contrived as to keep the fine and coarse meal separate, if desired. When the miller sees the first grist all in the elevator, he stops the other from running in, until all the first is in the cloth, he then lets the second run in, and stops the knocking of the shoe by pulling a cord that is fastened to it, and passing over a pully, hangs near the meal spout, until all the first grist is in the bags, and others put in their place, he then lets the shoe knock again.

ON THE BREED OF SHEEP, IN ANSWER TO PASTORIUS.

To the Editor of the Agricultural Magazine.

Sir,

I Was about to complain that I did not receive your Publication for January till the latter part of February; but your explanation precludes the intention;—and, at the same time that I regret the circumstances of your late indisposition, I sincerely hope they no longer, in the slightest degree, exist, and consequently that no other instance may occur of an attempt to depreciate your publication, by the intrusion of awkward and illiberal witticism.

I am to acknowledge the favour of Pastorius, inserted in that number, as it appears to have been in a peculiar manner directed to me—an honour of which I shall ever be proud.

If on some points we differ, in others we perfectly agree, and in all he seems competent to make the most of his argument, as well by appealing to popular opinion and successful agriculturists, as by applying well-chosen observation, in support of that which he conceives to be the truth.

I cannot imagine to myself an opponent more fair or liberal, if the term opposition, may be properly applied to any two persons equally ardent in the pursuit of the same objects. It cannot then be called opposition, it is only a difference in the mode: the one may happen to be of a turn of thought, to proceed straight forward the nearest way, unmindful of difficulties; whilst the other, perhaps, might prefer a smoother but somewhat more circuitous direction.

Common Farmers, with whom it is my utmost ambition to class, cannot be supposed competent to adjust the political relations of trade and commerce. Their toils are of a nature widely different—*to increase the grain, and to multiply the blades of grass*, and to apply the products to the best and most profitable purposes; and let it be their consolation to reflect that their success will be ever coincident and commensurate with the prosperity of their country. But *a common farmer* may have common sense to perceive at a glance, that it must be most preposterous policy, with infinite risque, to procure a foreign article at the cost of six or seven shillings, which he himself could easily produce on his own *homested* at one shilling or eighteen-pence, including rent, expense, and profit—and yet this might be done with full crossed Merino sheep, *i. e.* in the fourth generation, descending from fine woolled British ewes, or in the fifth and sixth from coarse woolled sheep. Will the most sanguine advocates for trade and commerce undertake to prove that their profits would compensate for the difference?

The last season I disposed of all my prime rams, *i. e.* such as carry fleeces of about ten pounds each, partly in my own flock, partly at twenty-five guineas each for the season, and partly for half the lambs produced, to be delivered me when weaned; the latter division have been running with Ryeland, Southdown, and Mendip ewes; and in two instances with ewes denominated by the owners *improved Southdown, i. e.* half Southdown and half Leicester blood: but the more true and appropriate term, I conceive, would be, *improved Leicester*, however by these means I may have opportunity of more accurately discriminating. All these rams have been placed within the distance of eighty miles from Bath, whence the improvement (having been first derived from the King) may be said to have proceeded; one of them with a select flock of ewes belonging to Mr. Billingsley.

I am at a loss to guess your Correspondent's meaning, where he seems to censure "*the mode adopted by Mr. Billingsley*," unless he advert to an experiment, conducted many years since by that Gentleman, to ascertain the comparative value of six certain descriptions of sheep, amongst which were the South-

down and Leicester; the latter, if I mistake not, were *last* in the result of the experiment—but the particular statement is gone forth to the public in one of the volumes of the Bath Agricultural Society, under whose sanction the experiment was instituted—and Mr. Billingsley, at that time well known for his zeal, integrity, and accuracy, was unanimously considered to have been the proper person for conducting it. As to *the mode*, so slightly touched on by your Correspondent, I can speak a little of my own knowledge, having been more than once on the spot during the progress, and I thought it to have been as correct as possible; for the several articles of food, hay, cabbage, turnips, &c. assigned to the separate pens, were weighed with the utmost care, and immediately registered, and Mr. B. was scarcely ever without witnesses of his mode of procedure.—But a similar experiment was afterwards conducted by another Gentleman of unexceptionable integrity and ability, and here also the results proved to have been similar.

Mr. Billingsley stands not in need of encomium from me; his ardent and unremitted exertions in every branch of our rural œconomy are sufficiently known. To him it may chiefly be attributed, that within the last twenty-five years fifty thousand acres of waste in the county of Somerset have been divided, enclosed, and brought into a high state of cultivation. To him it is that the dreary forest of Mendip is become a garden!

Nor can I discover any probable ground for the astonishment your Correspondent expresses on occasion of my having quoted an experiment conducted by the veteran agriculturist Mr. A. Young; surely an experiment made, and the results stated by any practical farmer whatever, would seem to be in some measure entitled to respect, unless any well-grounded suspicion should arise as to the veracity or partial bias of the experimenter. But, in the case stated, Mr. Young was prepossessed in favour of the Leicester, in opposition to the Merino, and his concluding expression is "upon a review of the experiment from the beginning, the superior gain of the Spaniards is remarkable; they were superior to all the first autumn, also through the first winter. In the following summer they were very inferior; but in the next winter, upon cake, they regained their former superiority, and upon the whole make a figure which I must confess I did not expect." *Annals, Vol. 31. p. 224.* Now for myself, with submission to Mr. Young, I should not be at all disappointed if Merino sheep made exactly such a figure in the result of similar experiments constantly repeated; but I certainly should be very much disappointed, if on the main of a given number of experiments,

the Leicester should prove to be superior, I mean in quantity and weight of mutton from an acre of ground.

Mr. Young's concluding paragraph is also well deserving more particular notice, as it strongly tends to prove, what has been so often advanced, that our climate is more congenial to the nature of Merino sheep than that of Spain, and that they are impatient only of an excess of heat.

On the whole of the consideration, then, as to the article of carcase, or the relative quantities of mutton supposed to be produced from equal quantities of pasture or other feed between Merino and Leicester sheep, our sentiments appear to be widely different. I am willing to contend that the Merino would be more than equal, but equal at least; whereas Pastorius, seems to think that the proportion in favour of Leicester would be as six inches to one inch.

I have frequently slaughtered Merino lambs at six to eight months old, such as have been rejected for breed, and have often found them to weigh up as high as nine pound per quarter; and after will Pastorius perform six times or even twice as much from his Leicester ewes of double that weight in carcase? I think not.

In No. 66, p. 17, the following passage is introduced, by way of note, "*With so thin a coat of fat, Spanish mutton would neither make a sufficient quantity of broth, nor glide down the throats of the labouring classes; nay it would absolutely stick in the dry and dusty throats of the pitmen and coal-heavers on the Tyne and the Wear.*" Possibly this was obtruded by the witling critic so justly condemned by your correspondents, No. 67, p. 106 and 107. If, however, it truly belong to Pastorius, it is clear that he must have been most grossly imposed on by hearsay evidence, and that he had never seen or tasted Merino mutton; for if he has seen and tasted, he would readily acknowledge (maugre his almost insurmountable prepossession) that Merino mutton is inferior to none in the kingdom, and as much superior to Leicester mutton as is the finest capon to an old superannuated hen; and this is the least praise that I, with many others who have had abundant opportunities of comparing, can bestow on it.

It is a coal country for many miles surrounding Bath, consequently we have pitmen and coal-heavers in pretty considerable number, and a useful, hardy, muscular, and laborious race they are certainly. Is it not known especially, that *this* race stands foremost in the annals of pugilism? And yet their thoats require not to be continually basted with melted grease. If on some occasions they moisten their clay with liberal potions of nut-brown ale, it is then that they are in the zenith of their glory.

We differ again respecting the relative quantity of wool to be produced, say from an acre of pasture.

I am willing to concede, that Leicester sheep produce as much wool from the acre as any other British breed, and it may be more. Should this be true in fact, it is the only circumstance of superiority that I can conceive appertaining to them; and it is coarse combing wool so desirable in the apprehension of Pastorius.

After this concession, I hold fast my opinion, that I can exhibit Merino sheep shall produce still more, not of coarse but of *fine combing wool*; the aversion of Pastorius, which aversion, however, no doubt, would be done away should my conclusion prove to be correct.

But at what period shall we meet in our conclusion, by marching, counter-marching, and skirmishing on paper?

Let us then put the question at rest by fair experiment, the only possible method.

Let two or four acres of the richest or the poorest pasture in this neighbourhood, be equally divided and securely bounded. On one division let Pastorius stock according to discretion, with his chosen Leicester of any or all description, tups, weders, and ewes, which yet may be obtained here in abundance, neither are we wanting in advocates for the breed, although they are greatly diminished. On the other division, I would propose to stock with Merino sheep in like discretion. But here I would just notice the great odds proposed to be given Pastorius, since for one full crossed Merino, he would have it in his power to select from more than one hundred Leicester sheep. Again, let the sheep be put on their assigned pasture, immediately after shear-trimmed, both divisions to be shorn on the same day, and so let them remain till the next shearing season; at which time, I hold that the Merino should produce the greatest weight in wool, both to be scoured by the same person, or I would forfeit all the rent, expense, and cost of whatever nature, attending the experiment; on the other hand, if I succeed, the cost would be to Pastorius.

On a former occasion, I stated the aggregate flocks of Great Britain *alone* to consist of about twenty million individual sheep, intending clearly not to comprehend Ireland; the omission proceeding from the circumstance of not having been in possession of any authentic estimate, applying to that important part of the empire; and not, as your Correspondent would seem to infer, from considerations of local predilection. In a general way, perhaps, considerations of that sort attach to me as slightly as to most other *labourers* in the republic of agriculture. For none do I entertain a higher esteem, than for *those* of Ireland, and North Britain. And I am proud to add, that I have the honour and the gratification to be in habits of inti-

macy with many characters in both divisions, who are the ornament and the felicity of their country, and of the human race.

But if to twenty million, estimated for Great Britain, be added ten million for Ireland, the inference I meant to draw would be proportionably strengthened; namely, that to substitute one million Merino sheep would require to displace but a very inconsiderable portion of the native breeds.

I enter on this explanation, not by way of apology or compromise, but merely in tenderness to the scruples of your Correspondent; for if, instead of one million, ten or more millions were in like manner substituted, I hesitate not to affirm, it would be a most precious acquisition to the agriculture and to the commerce of the country,

But why not double* the number of your present flocks, if need were? Is agriculture alone to be retrograded, or to remain stationary? Ought it not rather, with population and commerce to be mutually progressive?

If our increasing population and growing commerce demand increasing supplies of food and materials, are there no means untried of increasing the productiveness of the soil?

If means remain to us, it only requires adequate exertion; and what more powerful stimulus to exertion can we look for than a certain and ready demand by merchants at your own doors, for the articles to be produced?

I fully concur with your Correspondent *Mr. Mackie*, No. 66, p. 33, that the means are not wanting to us, but abundantly in our power; and that if there be any thing of impediment in adopting those means, it arises from caprice in the choice, and not in the number or efficiency of your resources. I could wish *that gentleman* to pursue the subject. It is a subject of signal importance, and appears to be in able hands.

I perfectly agree with Pastorius, that much is to be apprehended from *prejudice*, and the "*keen arrows*," of *ridicule*, in retarding the progress of Merino sheep in untried districts. The humidity of Ireland, and the cold† of Scotland, I consider to be very fantoms of the imagination! And I rejoice in the information that my Lord Somerville has forced a passage to the Highlands through a strong position on the fron-

* By substituting potatoes for turnips, this, probably, in great part, might be effected.

† I have just seen a gentleman, who is both a clothier and a stapler, and he informs me, that he has recently seen, in London, some specimens of Merino wool, imported from Saxony, much superior, in pile, to any he had ever seen, the growth of Spain—a circumstance further confirming an observation in Lettyree's Treatise on the fine-wooled sheep of Spain:—"La denomination de Merinos, vient de Marino, selon un auteur espagnol, a cause que cette race, est venue d'outre mer."

tiers, so powerfully defended by those formidable *Archers*, as to have been thought impregnable. A work of so great labour will meet its reward: he will maintain his territory!

From what I have already written, I imagined the data "*on which I would reason and calculate, in determining the comparative merits of the new Leicester and Merino sheep,*" might have been clearly deduced: however, to satisfy Pastorius by all the means in my power, I will beg leave briefly to recapitulate,

1st. That Merino sheep produce better mutton:

2d. That they produce as great a weight of mutton *at least*, from equal quantities of food.

3d. That in like manner they produce a greater weight of wool; and that the value of the wool, weight for weight, is much more than thrice the value of the Leicester. After this, is it necessary to add the consequence? *That Merino sheep produce a greater profit to the common farmer.*

I remain, Sir,

Your obedient servant,

NEHEMIAH BARTLEY.

ON HARROWING PLOUGHED LAND.

To the Editor of the Agricultural Magazine.

SIR,

THE author of the voluminous publication, alluded to in your number for January, by *A Young Farmer*, is evidently mistaken, if he has asserted that harrowing ploughed land exposes a greater surface to the frost, than continuing it in the state in which it is left by the plough.

Perhaps a mathematician could calculate the difference in the quantity of surface exposed, if he were furnished with the breadth of a ridge in each mode, the breadth and depth of the furrows, and the angle at which they are laid by the plough. Any person, however, may easily ascertain the difference, by measuring each ridge with a cord, if it be applied to every part of the cavities between the highest parts of the furrows on that which is not harrowed. A cord applied in the same way, to (ribbed) land, would likewise show that the quantity of surface exposed by that management, is considerably greater than that exposed by ploughing in the common manner.

In order to expedite my field work in autumn, I have occasionally, ploughed light dry land, that was free from root weed, in the ribbing mode, which, if I rightly understand your Correspondent, is that of ploughing only one half of the land, and raising it in a small ridge upon the other half.—

Under this management I have always observed that, in the succeeding spring, the land was in a good state, and easily pulverised. I would not, however, advise him to practice it upon strong wet ground; because on such adhesive soils, that part of the land which is not ploughed, is not so easily pulverised as in the common mode, and because it is afterwards difficult to reduce them to an even surface, the want of which renders them too retentive of moisture.

I do not know what author *A Young Farmer* alludes to; but if he intended to state what is advanced in Dr. Dickson's Agriculture upon the subject in question, he is not perfectly correct; for the Doctor does not assert that the operation of harrowing increases the quantity of surface exposed to the atmosphere. These are the words contained in page 365, vol. 1, sec. 10, of that excellent work, and it should be recollected that they are not all his (the Doctor's) own.—"It has likewise been long since judiciously recommended both in the preparation of lands by winter fallowing for barley crops, and summer fallowing for those of wheat, that when it is first ploughed up after harvest is over (which should always be done as deep as possible), no time should be lost in rendering the new turned up soil as fine as possible by harrowing; as repeated trials and attentive observations have fully shewn that such lands as are made fine before the sharp frosts and winter rains come on receive a much larger share of their influence than any other. But that if the land be left in a rough state, there is seldom time for the rains and frost to penetrate, or affect more than merely the outsides of the large clods or lumps that are present. The outsides may thus, indeed, be pulverised; but the middle of the lumps, wherever they are large, are found nearly in the same hard stiff state as when turned up by the plough. Hence it is evident that the benefit of the air, winter rains, and frosts, on lands thus left, must be only partial; and that, of course, the harrowing it in the spring, especially when the latter of these are over, is too late for its receiving the benefits which might otherwise have accrued from them, and the power of promoting vegetation will not be nearly so great. Therefore, to make winter fallows as fine as possible in autumn, and then ridge them up in that pulverised state, is acting most agreeably to nature; the general possible quantity of surface being thereby exposed to the atmosphere, and the lands left in the state wherein the rains and frosts are most easily admissible; they are consequently more capable of penetrating and enriching the whole mass to a much greater extent." In the next page are these words, "For it is always found after the breaking up of a severe frost, that all the small clods crumble easily into powder, while the large ones are only slightly reduced

by the crumbling off of a small portion of their external surfaces."

"There cannot be much doubt but that by reducing such stiff adhesive soils, as require fallowing well, or their being first ploughed up, great advantages in the way of pulverization may be accomplished as in the spring and summer months; they are apt to cake, and become so hard and lumpy as to be wrought with difficulty."

It appears, that the opinions in these quotations are agreeable to those entertained by Dr. Dickson himself. With great deference, however, I must dissent, or, at least hesitate, ere I adopt them. Almost every year the soil is sufficiently moist in autumn to prevent its ploughing up in large clods; and though the harrowing would, undoubtedly, for some time, render it loose and more easily penetrated by rains and frosts, yet, I think, their effect, on adhesive lands, would, within a few weeks, cause it to be as impervious as land *merely* ploughed. For frost enlarges the size of the clods or furrows, which, therefore, partly crumble down in a pulverized state, when a thaw comes on; and these fine particles are again compressed, or agglutinated, by the succeeding rains.

Now, when these effects of frosts and rains are considered, and that the greatest surface is exposed by ploughing *only*, I think, they are strong reasons to doubt whether the advantages which Dr. Dickson has so justly ascribed to aeration, are, *throughout the winter*, greater under the management he recommends, than under the common practice.

Besides, it well deserves consideration, that, in most seasons, the farmers from about the middle of England to the north of Scotland can scarcely get all their fallows ploughed between the harvest and setting in of frosty weather; and that harrowing would so greatly retard the more necessary operation of ploughing, as to outweigh some of those advantages which are attributed to it.

Though I am, unfortunately, obliged to argue on this subject in a more theoretical manner than I could wish, yet I am not altogether without practical knowledge of it; for, I recollect, that a few ridges of my strong fallow were harrowed in autumn by mistake, many years ago, and that I conceived I derived no advantages from that practice. But from this single experiment, which was not, perhaps, in all its parts, so accurate as it ought to have been, proper conclusions cannot be deduced; and as the practice of harrowing fallows in autumn is not pursued in this district, I confess, I am not so able to judge of its merits, as to warrant my offering advice to others; I should be glad, therefore, if some of your ex-

perienced readers would communicate their opinions for publication in your Magazine.

Comparative experiments are, unquestionably, necessary to enable us to decide this question. These are adduced by Dr. Dickson in support of his arguments; I beg leave to observe, however, that they have not been conducted with the necessary accuracy, or that some very essential particulars are withheld in stating them. I am much disposed to be guided in my practice by the results of well conducted experiments, but I repeat that when there is a want of accuracy—a want of attention to a number of minute circumstances *which are sometimes deemed of no moment*—they are as dangerous as the wildest theories.

I most heartily agree with Dr. Dickson as to the importance of complete pulverisation; and though the corn crops may, in some winters, be benefited by small clods on lands which are not very fit for the growth either of wheat or turnips, especially when they are fresh and much mixed with undecayed vegetable matter) I never saw good wheat soils too fine. By ploughing such lands in autumn, however, *and again in March or April,* I never found any difficulty in pulverising them to my wish during the remaining part of the spring and summer. But if the first ploughing be delayed till April, or the second till late in May or June, (the first having been given in autumn) such lands can rarely be well pulverised and prepared for wheat. I therefore condemn the practice which prevails in some of the southern districts, of delaying the first ploughing till June and sometimes even till July, not only because strong lands cannot afterwards be sufficiently reduced, but because the ploughing, at that season, is doubly expensive.

Although I differ a little from Dr. Dickson's mode, with respect to harrowing fallows in autumn, I think his section "on the fallowing of land," highly meritorious; Indeed as far as I have read his voluminous work, I think almost every part of it deserves equal praise. It is more comprehensive than any other. The extracts from the best agricultural publications, are copious, and the same may be said with regard to the Doctor's own observations. He frequently examines with minuteness, both sides of a question, remarking with great ability and *practical knowledge,* on the opinions and arguments of the advocates for each mode of management. The work also contains a vast number of plates with drawings of different species of cattle, and of almost all the implements used by agriculturists in the different districts of this kingdom, as well as of some which are used abroad. I intended to have sent you a long paper with a review of this valuable work, in a late number of your magazine, however,

I observe that the subject has fallen into much abler hands. And I cannot help remarking that if the author of the paper alluded to, also drew up that on Mr. Forsyth's agriculture, (the review of which, I observe with pleasure, is censured by Pastorius as well as myself), he has acted very inconsistently. At least as far as I have examined Dr. Dickson's system of practical agriculture, I can discover nothing at variance with the system of husbandry which is pursued by those farmers who principally contribute to the publication he has been pleased to say is "filled with all such *stuff* respecting husbandry as might be expected from those who have been all their lives *ploughing* a Scotch whin-rock, *milking* he-goats, or *shearing* swine, &c. Perhaps when your correspondent (I cannot call him your *friend*, for such papers must prove injurious) wrote this, and similar *stuff*, for your useful publications, he had been fatigued and irritated with his situation "*on a tub of cow dung for a chair*, and *a fresh sod with the earth side turned up for a table*—and *so scribbled, scribbled, scribbled*," giving vent to his *envy*, in a manner which would almost lead one to conclude, that that malignant passion had very injuriously affected his brain.

I am, Sir, yours, &c.

AGRICOLA NORTHUMBRIENSIS.

March 12th, 1805.

ON MAKING HAY IN WET WEATHER.

To the Editor of the Agricultural Magazine.

SIR,

IN consequence of the information I have received in perusing your Magazine, I am encouraged to notice to you an observatiou of my own.

I had two fields of grass, one rye-grass and clover, and the other clean clover; it proved an uncommon wet season for the former, the goodness was entirely washed out of it, so that it was not better than straw, though in the shape of hay. I however got it completely dry and free from all possibility of mould. After the weather settled, I cut my clover which I dried very slack, and mixed it whilst very green with my first crop, one unloading on one side of the stack and the other on the other at the same moment, having them each well mixed and shook up together; the fermentation of the green was received by the dry, it became one body, and I had an excellent stack of hay.

I also beg leave to suggest an idea respecting tare hay, which, if well made, is superior to every other kind for working horses; but from its abundant juices, the season seldom remains long enough fine to sufficiently dry it. I would,

therefore, harvest on seed a certain portion of this crop, and instead of consuming the straw with store cattle, as is the common practice, I would rather lay it by until the next year's crop is ready to cut for hay, then mix the whole together as before mentioned, by which means a stack of fine hay may be obtained before a change of weather takes place, which would entirely spoil it.

I am, Sir, your obedient servant,

Illford, March 13th, 1805. THOMAS MILLER.

ON PRESERVING SEEDS.

To the Editor of the Agricultural Magazine.

SIR,

THE preservation of seeds for a length of time fit for vegetation being important, I have been impelled to investigate the subject, being fond of gardening, and have verified the preservation of seeds of plants kept three successive years perfect for vegetation.

Therefore I state first, that in collecting my seed plants, I pay attention that the aqueous parts are sufficiently exhaled, then separating their stems and leaves, retaining only the capsula seminalis with contents, commit the leguminous to brown paper bags, but loose seeds of all kinds folded in paper inscribed and enclosed in calves bladders, all tied and labelled; and as further security from the influence of humidity in the atmospheric air, consign the whole into a sea chest, their temporary receptacle till wanted; which chest is an appropriated seat beside the kitchen fire, the range having a constant fire in it from six o'clock in the morning in summer and seven winter, until ten o'clock each night. The degree of heat thus imparted, I presume, secures the seed from imbibing humidity, and if the least is retained, exhales it; thus preserving their embryo in perfect state for vegetation. As evidence, in the spring of 1801, a schoolmaster here resident presented me with a quantity of Windsor beans, from which I have planted four successive seasons, they are now expended, but reserving the seed of this year for future planting, being a very productive sort. The same spring 1801, I was presented with some peas of a blue colour, from the commander of H. M. prison ship Sultan, at Portsmouth, they were sent from France by the friends of a prisoner on board the said ship, and given by him to the commander, as a curious sort, but could not learn their age. I planted them the same spring, they were remarkably productive, I preserved the seed of that year's peas, some of the indentical ones are now in my possession. I also planted some of the same sort in 1802 and 1803, but not having room, in the spring of his

year I omitted sowing. After reading the proposition of the Society for encouraging Arts, &c. in July, I planted some of the reserved of 1801, they are vigorous and, appear now near blossoming. The residue will afford a more extensive application. It is well known that both the colours and virtues of plants are preserved in the greatest perfection when they are dried *hastily*, by an heat of common fire, as great as that which the sun can impart. Probably the hint was taken from the Chinese method of drying their teas, as formerly herbs used to be dried in the shade in airy places. My simple method as above related, is founded on the mode of *hasty* drying, demonstrating I do not arrogate novelty.

Permit me to observe, a process was lately related in the newspapers, said to be stated in the House of Lords last Session of Parliament: viz. a foreign mode of stove drying corn, preserving it good for making bread after being kept an hundred years—should that mode be applicable to seeds of plants in general, consequently it may be adopted as the best method; thereby precluding what may be advanced on this subject.

I am, Sir, your most obedient humble servant,

Warle, near Bristol, GEO. CHAPMAN.
March 15, 1805.

BLIGHT, MILDEW, AND SMUT IN WHEAT.

To the Editor of the Agricultural Magazine.

SIR,

THIS subject has been so much bandied about, that I should not have troubled you and the publick with any remarks on it, had not Mr. Brightley, in your last number, proposed some queries on the above diseases; and hinted, that the more varied the answers, the more information might be obtained. My opinion, however, I shall endeavour to express, in as little compass as I can; both because I think the only one of the three evils that can be effectually remedied. (the smut,) has been amply discussed, and because I wish to take up but little of your very valuable magazine; leaving the more room for such able writers, and practical agriculturists, as many of your correspondents evidently are.

To Mr. B.'s first query, the difference between blight and mildew; for I do not suppose them the same, nor any thing alike; nor the same in rye, (which is very subject to blight,) as in wheat.

The blight in rye is principally, if not entirely occasioned, as we suppose, by the late spring frosts whilst in blow, which as it advances towards maturity, discovers the damage it has received, as soon as you approach the crop; the ears most hurt standing erect, some without a single kernel, others partly

filled up with corn; sometimes it is rendered so bad as not to be worth thrashing. Wheat I never saw injured, by what we call the blight, to that degree that the rye sometimes is; but even that is sometimes injured to a great degree in our light soils; before harvest, the affected ears appear brown as if ripe, which on examining are found dead, and the corn if any in those ears, shrivelled to mere skin; the cause appears to arise from injury received at the root from grubs, or other insects.

MILDEW

Is a disease that attacks the wheat, generally a month or six weeks before harvest; it is first perceived by the leaves, then the straw (especially from the upper joint to the ear) turning yellow, spotted, then black; the circulation of the sap is impeded or stopped, and the kernel instead of filling with flour, dries away to an empty husk. If this disease happens to the wheat long before harvest, the damage is the greater; if on the contrary, the ear is pretty well filled and the kernel nearly ripe, the injury is comparatively small.

I have observed the mildew make its appearance, frequently upon a glut of rain succeeding a very dry time; which makes me think the disorder is occasioned, by the straw, after being dried to a great degree by the sun, imbibing too much external moisture, a kind of corruption takes place in the straw; the nutritive juices cannot arise to the ear to fill up the kernell, which consequently is small and rindy in proportion to the time it happens; that is, the distance from harvest. The means esteemed most effectual to prevent mildew in wheat, is to sow early, and in open exposures; the latter sown wheat, and that sown in small inclosures, generally suffering most from this disease.

In the summer of 1803, the mildew was very fatal to the wheat crop, in some light soils in this neighbourhood, but last summer the complaint was general; the whole wheat crop (so far as I have heard) being more or less affected by it.

THE SMUT.

By the above account of blight and mildew, Mr. B. will perceive that they are very different, one from the other, and they are both equally different from smut; the cause of which and also its appearances, from first to last, (with its remedy) are so satisfactorily treated of in a pamphlet wrote by a Mr. Treffory, a Devonshire Farmer, from which pamphlet copious extracts were made and published in your magazine for August, 1801; that I shall only say that in addition to his method (which consists entirely in cleansing his seed by repeated washings in water). I think it very proper to add, about one pound of salt to each bushel of wheat, after it is washed and

drained, and to sift a little quick lime over it before sowing; which, if it has no other effect, will cause the moist wheat to separate, and render it more fit for sowing. Always choosing my seed-wheat as free from the infection as I can.

And so I refer Mr. B. and your other readers, to the above extract, or to Mr. T's. pamphlet; hoping, however, you will find it convenient to copy it into your next number; for it is likely, several of your readers will find difficulty in procuring Mr. T's. pamphlet, or the magazine* that contains your extract from it; at the same time, I think he has said enough on the subject of smutty wheat to satisfy any of your correspondents, and to put an end to the matter.

Your humble servant,

Whittlesford, D. MAYNARD.
March 13, 1805.

EFFECT OF THE PROPERTY TAX ON AGRICULTURE.

To the Editor of the Agricultural Magazine.

SIR,

SOON after Mr. Pitt retired from office, a few years ago, we were informed, that he had taken a farm of 300 to 400 acres in the neighbourhood of the Cinque Ports, and ardently engaged in the practice of agriculture. Whether this account was true I cannot say, but if he has actually been engaged in such employment, it appears probable, from the heavy burdens he has lately proposed to lay on his brother agriculturists, either that he has been fortunate in obtaining his farm at a low rent; or that he somewhat resembles the ancient Roman Cincinnatus, who was as able in the field of industry as in that of Mars; in other words that the minister shines as much in directing his plough, as in addressing the senate. Now, Mr. Editor, if he has been so successful in increasing the productive powers of the earth, as to warrant the heavy burdens he has lately advised for parliament to impose upon the cultivators of the ground, I entertain great hopes (for his patriotism is, undoubtedly great) that he will order his bailiff, or some of his friends, to publish an account of his agricultural *discoveries*, in your valuable magazine.—If he clearly points out modes of management which will enable us to support our enormous and increasing burdens, we will have no cause to regret that they have been imposed. On the contrary, if they operate as a stimulus to the discovery and adoption of improvements in the culture of our farms, they will be advantageous to the country; and it is well known that difficulties are sometimes necessary to stimulate men to adopt measures which are ob-

* This or any other number of the magazine, may be had separate,

viously conducive to their own interest. I entertain a very high opinion of the abilities, integrity, and patriotism of Mr. Pitt.—I think him one of the greatest of men, and the fitest person in the world to fill the office of Prime Minister of the great and worthy Sovereign of the British Empire. I am fully persuaded that he would not have advised the heavy burdens which are now laid upon the occupiers of land, if he had not been of opinion that they were neither oppressive nor unjust. And it is no trifling argument in favour of this idea, that not a single petition has yet been presented against the property tax from any part of the kingdom. This being the case, what can our rulers think, but that, even under our present circumstances, (without the advantages of the Minister's discoveries in agriculture) we are *strong* animals of burden, and well able to bear our heavy load! But it is probable that erroneous ideas have been entertained on this subject. When the property tax was first imposed, the danger of this country, from our revengeful and haughty foe, was great beyond example. The farmers of this kingdom are extremely loyal, the unequal and unjust pressure of the property tax was therefore borne without *loud* complaints, perhaps, under an idea that the exigencies of the moment, and their unfair and heavy loads would die together. Instead of this however, the spirit and power of the country have risen superior not only to the utmost exertions of France, but to those of France, Spain, Holland and Italy united. Time has been allowed to devise better modes of taxing the occupiers of land, (who I sincerely believe are as willing as any description of subjects to bear a *fair* proportion of the public burdens) yet the property tax is not only suffered to remain in force, but to become still more oppressive!

It has been admitted by the greatest financiers that it is highly impolitic and dangerous, to enforce such modes of taxation as deprive one class of men of the rights and privileges enjoyed by their fellow subjects; and certainly if one class of men are to be protected and encouraged more than any other in society, it is the class of cultivators; for on their power and exertions every thing valuable to man—nay, his very existence, depends. I intended to have discussed this part of the subject very minutely, and at length, had not another correspondent (I think A. Northumbriensis) given notice some time since, of his intention of sending you a paper on the effects of the property act on farmers. If such a paper appeared necessary then, it is certainly more so now, and as I approve of what that correspondent has advanced on a late occasion on the corn bill and the superiority of agriculture to all other employments, I should be glad to see his promised paper, *soon*. For this reason a few words shall, at

present, suffice to shew that the occupiers of land are taxed in a manner different from all other classes of subjects. The income of the farmer is estimated by his rent: by that rent he is obliged to pay the tax imposed by the property act, whether he has any income or not, and in some cases even when he is losing by his farms. All other people are taxed according to their income, and in many cases, they are almost allowed to state their income as they chuse. If this mode of taxing be just and politic, I have yet to learn the meaning of these words. But I must repeat that we should not too severely censure our rulers. *We have not petitioned for a redress of our grievances.*

It will, no doubt, be stated against the farmers that at present the prices of grain are so high, that they can well afford to pay more heavily than other classes of society. Let me ask the merchant and manufacturer, however, whether when they buy at a dear rate, and sell accordingly, their profits are, upon the whole, greater than when they deal at more moderate prices? the answer, I presume, will be in the negative. Now when they consider that the present high prices of corn are owing to a failure in the produce of the late harvest, *and to no other cause*, they will readily perceive that the high prices will scarcely compensate the deficiency of produce. In fact it is well known that in many parts of some of our best corn districts, prices one third higher than the present, would not compensate for that deficiency. With what justice then can it be asserted that farmers are better able to pay heavy taxes than other classes of the community?

I shall say nothing more on the "*hue and cry*;" the clamour which has been raised in many of our commercial manufacturing districts, against the present corn bill, than that the landed interest should keep a watchful eye upon the proceedings of these men, till all their petitions are upon the table of the House of Commons, and then prove the extensive *folly* of the promoters of these petitions; nay, that they might almost as rationally have imputed the present high prices of grain to the Emperor of Japan, as to the corn bill; which, it is clear, has not operated at all, or affected the markets in the smallest degree, except in causing an increased importation of foreign grain previous to the 15th of November. I fear there is something more dangerous than *ignorance* in some promoters of these petitions. There are amongst them, I fear, some friends to the old, destructive, commercial spirit; a spirit that would sacrifice agriculture to trade; who have unjustly taken advantage of the present high prices of corn to strike a blow of a most severe and ruinous nature, against the landed interest. That interest, therefore, should be exerted in defence of the present corn

laws, and in exposing, *with severity*, the *artifices* of the commercial part of the community.

I shall be much obliged to some of your readers, in the South East district of the kingdom, if they will have the goodness to inform me whether Mr. Pitt, is really a practical agriculturist? and in what manner he has managed his farm? For if he understands husbandry, I am inclined to request his attention to several particulars in the state and condition of farmers, which, at present, it would, perhaps, be of little or no use to mention.

As I have lately heard it asserted that the minister is a warm friend to the employment of oxen in the labours of the field, and to extending the breed of Spanish sheep, perhaps, he has reckoned on these *superior* modes of management in the *ways and means*, by which farmers are to be enabled to pay their taxes. I shall, therefore, be glad to be informed how the minister's farm, (if he has one) is stocked? what is the nature of its soil? whether he labours oxen or horses? what kind of sheep he breeds? &c. &c.

Yours, &c.

March 2, 1805. A PRACTICAL FARMER.

ON WEIGHTS AND MEASURES, A GLOSSARY, &c.

To the Editor of the Agricultural Magazine.

SIR,

I AM a constant reader of your useful magazine, and observed with much pleasure, that one of your correspondents, (Agricola Northumbriensis) a few months ago, recommended to your other friends to refer to such weights and measures in their letters to you, as would be almost universally understood. For I have frequently been at a loss to form a correct idea from certain weights and measures mentioned in several parts of your work. Permit me, therefore, to desire you to request the adherence of your friends, to the acre of 4840 square yards—the Winchester bushel of 32 quarts—a certain stone, &c. &c.

I am also glad that your intelligent correspondent, Mr. Bartley, has recommended the formation and publication in your work, of a proper Glossary. For it is certain that one term means one thing in one part of the country, and a different thing in another. Numerous instances of this may be adduced, so that, however well your magazine is calculated, in other respects, to diffuse agricultural knowledge and improvements, yet in this it is not perfect without a glossary.

Even in the diseases of corn, it appears that in different parts of the country, the same terms are used to convey different ideas. For example, in this neighbourhood, the words blight, mildew, and rust, mean the same disease in wheat; from what is stated by Agricola Northumbriensis, however, in a letter on the produce of the late harvest, it is obvious that he makes a distinction between blight, and mildew, and rust.

The diseases of cattle, sheep, &c. may also be adduced to shew the necessity of a Glossary, and I hope, as the matter has been so respectably agitated, it will not be suffered to fall to the ground.

A correspondent in your 66th number, has requested information relative to Lord Somervilles two-furrow plough. I beg leave to join him in that request, and also to state, that I should be extremely glad to see the subject in Mr. Bartley's hands, as I conceive he has had some favourable opportunities of forming a correct opinion, as to the utility of that implement.

I have not yet ventured to erect a thrashing mill, having for some time wavered between two opinions: namely, the opinion of the advocates for mills upon a small construction, (to be moved by one or two horses,) and that of those who contend for the superior utility of machines for thrashing upon a large scale; and I should be glad if any of your Readers who have enjoyed opportunities (for six years past,) of seeing machines of different sizes and constructions used, would be so obliging as to communicate their sentiments upon this subject, through the channel of your magazine; particularly if they can state the expence, per quarter, of thrashing with each kind of mill, the prime cost, and the expence of repairing, within the above number of years.

I am, sir,

A well-wisher to your magazine,

March 16, 1805. A. Z.

P. S. I understand that thrashing mills are now very general in Scotland and Northumberland. But few have yet been used in this quarter.

ON THE PRICE OF BARLEY.

To the Editor of the Agricultural Magazine.

SIR,

FROM the postcript of the letter of your intelligent correspondent, Agricola Norfolciensis, in your number for last month, it is obvious that he has mistaken my enquiry respecting barley. In the letter from me, in your magazine

for January, I did not say that grain was selling at a price at which the farmer could not afford to cultivate it, but that, notwithstanding a crop rather deficient in the quantity per acre, and that scarcely one half of the usual number of acres were last year sown, its price did not support the *proportion* which it *usually* bears to the prices of other species of grain.

When I last wrote to you, the prices of barley in this part of the country, were not only considerably lower than those mentioned by Agricola Norfolciensis, but the sale of it was exceedingly dull; indeed it has, throughout the season, been more difficult to sell, than any other kind of corn, though its quality is pretty good; and I am informed that this has also been the case in several other parts of the country. Now, when we attend to these circumstances, viz. that barley last season was not a great crop; that it was almost one half deficient in the usual number of acres; that there is as much ale and porter (or nearly as much) consumed, as for many years past; how are we to account for its price being below the usual proportion?—Under these circumstances it seemed fair to conclude, that it would have been considerably higher, and not lower, in proportion to the prices of wheat and oats.

If a greater number of acres of barley should this year be cultivated, or if the crop prove more productive, what are we to expect next winter?—Probably the prices of that grain may be still lower, compared with those of other corn; and if this conjecture prove well founded, it appears to me that the cultivation of our farms will be materially injured. For, as I remarked before, it is more favourable to sow grass seeds among barley, upon certain soils, than among any other kind of corn.

If, as I have very *lately* been informed, the price of barley has for a few years past, been depreciated, in consequence of the brewers using substitutes for malt, which were discovered during the extreme high prices of grain in 1799 and 1800; and if it be true, that some of these substitutes are very unwholesome or deleterious, (and by the bye I have *very lately* heard that the farmers of Norfolk *publicly* asserted this in very plain terms, during the extreme low prices of last season,) I think our circumstances demand the immediate interference of the legislature, on two grounds.—First, to preserve the health of the people, and next to guard our agriculture.

Your correspondent will now see, I hope, what I meant by the enquiry he has noticed, and as I now understand, that the matter has been more agitated in Norfolk than in any other county, I have to request that he will favor me with his sentiments upon it, through the channel of the Agricultural Magazine.

Considering the vast revenue raised from barley, and how necessary that grain is in the proper cultivation of our lands, the subject of this paper will not, I hope, appear altogether unimportant; more especially when your readers advert to the disgraceful, dangerous, and abominable practices I have mentioned.—Another subject seems to deserve investigation, that is—whether it would be more advantageous to tax malt only; or malt and beer according to the present mode.

Your's, &c.

March 16, 1805. A FRIEND TO AGRICULTURE.

ON THE POTATOE OAT.

To the Editor of the Agricultural Magazine.

SIR,

WHEN I took the liberty of requesting information from some of your readers, as to the best mode of preparing land for barley after turnips, and the most proper time of committing the seed to the ground, I had in view those soils only on which that grain is generally cultivated—namely, light, dry lands, and the driest and best loams.

I am much obliged to your correspondent Agricola Norfolciensis, for the information he has so ably communicated in your last number, and hope that I myself, with several other readers of your magazine, will profit by it. He has most obligingly stated, that if I wish for further information, he will readily communicate such as I may request, and it is often remarked, that nothing puts the utility of your magazine in a more striking point of view than this kind of correspondence, of which it contains much, viz. enquiries from the inexperienced, and answers from practical agriculturists of knowledge and ability. In this way the inexperienced enquirer is not only enlightened, but the advantages of the answers are reaped by the whole of your readers; so that the best modes of practice, and any improvements in the important art of husbandry, are quickly known in almost every part of the kingdom.

Without the advantages of such a vehicle, it would be long ere such improvements and practices were known by practical farmers, for it is very certain, that, till lately, any increase of knowledge in the cultivation of the soil, or the management of live stock, travelled very slowly.

Having heard that the potatoe oat is the most profitable variety for good and middling lands, I last year obtained some seed oats of that kind, at a considerable expence, and shall now venture to give my opinion of them, through your magazine.

They ripen as early as either the Dutch or Poland kinds, they tiller as much, or nearly as much, as the common small oat; and it seems to me very important, that, in such soils as the above, they produce as much straw as these common oats, while they do not deteriorate the land like the Dutch or Poland oats, which do not tiller like others. These remarks, however, are the conclusions I draw from only one year's experience, and I should be glad to know how they agree with those of your readers, who have fully tried these oats.—Over and above the other advantages, either millers or corn merchants buy them readily at about 1s. 6d. per quarter more than Dutch or Poland oats, and 3s. to 4s. per qr. higher than those of the common variety. They are as prolific, or more so, as any other kind. Unfortunately, however, a few quarters, part of the seed I purchased, were mixed with common oats, so that one half, almost, of the potatoe kind fell, or were shaken out, ere the other were ripe. In future, therefore, I shall be particular in examining my seed corn with the greatest minuteness, for it strikes me that there must be a considerable loss, not only by sowing such mixed seed as I have mentioned, but by sowing any species of grain, which may be composed of, or blended with different varieties; and from some remarks I have lately made, I fear that many farmers are not sufficiently careful in this respect. The subject seems an important one, but, as I hope some of your more experienced readers will communicate some remarks upon it, I shall desist from pursuing it farther at present.

I have heard that some farmers in Northumberland, or Roxburghshire, are yearly at considerable expence, and much pains, in hand-pricking corn for seed, with a view of keeping it pure, and profiting by selling its produce very high. I should be glad to know whether my information is correct, and am, &c.

March 19, 1805. A YOUNG FARMER.

ON SEED AND MANURE.

To the Editor of the Agricultural Magazine.

SIR,

I AM highly indebted to your correspondents in Norfolk and Northumberland, for their communications, in answer to my various enquiries through the medium of your useful and widely circulated publication; and again beg leave to return them my grateful thanks, in which I am persuaded I will meet the approbation of many of your readers, who have, doubtless, benefited by these discussions, as well as myself.—I regret, however, that Agricola Norfolciensis has not more fully answered the enquiry I particularly addressed to him, on

the subjects of the proper quantities of seed in the cultivation of the different varieties of oats, and on frequently changing all kinds of seed corn; that is, on the utility of getting it from places at a distance, and where the soil is of a different nature, &c. To so intelligent an agriculturist, practising in a county where such matters are well understood, such an enquiry might appear of no moment. I can assure him, however, that in my neighbourhood, and many other parts of the country, there is a great diversity of practice; some sowing more, and some less, per acre; some persevering in carrying seed corn, at a considerable expence, from places at a distance, while others continue to select the best of their own growth, each party strenuously maintaining the superiority of their own practice. For my part, however, I think, both parties cannot be right.

Agricola Northumbriensis has not touched the latter subject, though he has pretty copiously treated other branches of my enquiries, more especially those respecting cattle; by which, and also the letter R. W. I see I have been mistaken in my ideas of excellence. But while I acknowledge my obligations to A. N. I cannot avoid noticing, that he began his answer rather *surlily* in remarking on "the multiplicity of my enquiries, &c." I wish not to obtrude, or to give too much trouble; and though my enquiries have indeed been warm, and pretty numerous, it does not deny that they are "important;" and it is no small pleasure to me, and I hope it is equally agreeable to your other readers, to observe that they are *mostly* within the powers of your correspondents. I say *mostly*, because some of them have not been answered at all, and others have only been *glanced at* in passing. I sincerely hope, however, that they will yet advert to those which have not been answered, and thus shew, not only that they are within their reach, but that it is unnecessary for me to repeat them, or to advance them under a "new dress."

It is allowed by your correspondent Agricola Northumbriensis, that it is a most important matter to the husbandman, to increase the quantity of his manure as much as possible; and indeed I find that great stress is laid upon this increase of dung, by all those who are deemed good farmers; and therefore, *in the old dress*, I particularly request information on this branch of rustic employment, and especially on what I have stated relative to mixing it with other matter. If it be true, that "dung increases somewhat like money at compound interest," and if rich earth, peat, &c. can be advantageously mixed with that manure, that is, so as to increase its quantity, without rendering an equal bulk less enriching, the beneficial effects of such mixture would be great, beyond calculation.

I can scarcely conceive a more proper subject for discussion in an agricultural work, than that of increasing the quantity of manure; and when I compare what I have stated upon it, with what Agricola Northumbriensis has communicated as to its importance, I own I am not a little disappointed that he has not fully answered my enquiry.

With sincerity I can inform him, that I have not mentioned any subject on which I am not anxious to receive information, that I am not more desirous of receiving it on any, than on the subject just mentioned, and that if I could communicate information to others, I would do so most freely and copiously. Perhaps this willingness on my part may have led me to press some of your friends too closely, under the idea that they entertain congenial sentiments; and this I must beg of them to accept as an apology, if an apology is necessary for warmly applying for information in agriculture—an employment on which the happiness of mankind, and the strength and prosperity of nations so materially depend.

In discussing the important subject of manures, I beg leave to observe that though your chemical correspondents have left me in the dark with regard to certain substances, I have no objection to your friends indulging themselves in the use of chemical terms, &c. For though I shall not, probably, profit by a discussion of this nature, yet it may be advantageous to your better informed readers. I must particularly request, however, that a scientific investigation may be accompanied by such *practical* rules as are likely to be useful to farmers in general. And if the inferences which are drawn can be supported by the results of experiments, I conceive the discussion would be singularly beneficial to most of your readers, who are mere farmers.

From what has been stated as to dung, I would heartily vote for such an Act of Parliament as that recommended by a "*Practical Farmer*," in your 65th Number; an act to prevent the use of straw in thatching houses.

In the above number, I read with pleasure, the letter of *Agricola Curiosus*, and have looked with anxiety, in the two succeeding magazines, for the investigation of that curious and important matters advanced by that correspondent.

Some farmers, I find, practice a change of species in cropping their lands, but others do not. The general opinion seems in favor of the former; but though I have heard some good practical farmers assert its superiority, they cannot, or will not, inform me of the *cause* or *causes* of its beneficial effects.

It appears to me, that such hilly fields as your correspondent describes, contain a greater surface than those which

are flat. Now if the former will really produce more corn than the latter, when the quality of the soil is equal, it is probable, (as more acres are obtained for the rent) that it is most profitable to farm hilly grounds. On asking the opinion of a few farmers on this point, I find that some believe that the increased surface will not raise a greater number of plants than the flat land; but in this, I think, they are in error. I wish, however, that some of your experienced Correspondents would communicate their opinions, as to the comparative value of such hilly and flat grounds as those mentioned by Agricola Curiosus.

I have paid great attention to the interesting controversy between your correspondents, Mr. Bartley and Pastorius, on the different breeds of sheep. So much, however, is advanced on each side, that, in the present state of the dispute, I cannot fully decide, as to the most profitable kind. If I am not mistaken, the advantage at present, rests with the former gentleman; who seems to have the greatest number of facts in favour of his sheep. They may, however, be overbalanced by some which your Scotch friend has yet in store; but I humbly conceive he has hitherto laid too much stress on beauty.

Beauty will not do much in the payment of high rents; it is true that your correspondents who have treated the subject, are of opinion that beauty always accompanies a good feeding animal. It may be so, but still, if the least beautiful sheep produces the most valuable fleece, a fleece that will do more than compensate the deficiences of the carcase; beauty in this case would, I think, kick the beam, when laid in a farmer's scale. The high prices given for rams of the Spanish breed, at Lord Somerville's late shew, clearly prove that their merits are attracting very great notice.

Yours, &c.

March 12, 1805. A NOVICE.

ON THE SMUT IN WHEAT.

To the Editor of the Agricultural Magazine.

SIR,

HAVING been a little concerned in the discussions which have lately taken place in your Magazine, on the smut in wheat, I beg leave to make a few remarks on the letter of Mr. Brightley, in your last number.

That Correspondent has stated that Agricola Northumbriensis has been a little off his guard, when he said "the grand desideratum, upon many farms, is, not to be furnished with the means of tracing the smut to its *cause*, but with the most cheap, convenient, and effectual mode of prevention." He

has also informed us that he would have little confidence in a physician who would attempt to cure a disease without first knowing the cause of it. I must inform him, however, that it is very certain that there are many intricate, and some very plain cases, in which eminent Doctors do not agree as to the *case*, and yet are successful in effecting a cure. This I believe is by no means uncommon, both in the animal and vegetable kingdom; and perhaps, these are the most philosophical practitioners, who are not very confident as to the *cause*, in very intricate cases; cases which are covered by nature's thick veil. How many instances are there, of *confident men* being obliged to recant their errors?

But though *Agricola Northumbriensis* has combated some arguments as to the cause of the smut in wheat, and acknowledged that he is unable to assign one which is not liable to objection; he has stated "that a complete knowledge of the cause, might be considerably advantageous in the application of remedies." Now this appears agreeable to what Mr. Brightley has said with regard to the confidence he would repose in a physician; I cannot, however, see a good reason for his asserting that A. N. was off his guard, when he stated that it was of more consequence to the practical agricultor to know how to prevent, than to assign, the cause of the smut in wheat. The truth of A. N's position, is I think, undeniable.

Perhaps Mr. Dowlen and Mr. Brightley are of opinion that they can satisfactorily shew the cause of the above disease; but if they were to publish in your Magazine the clearest and most convincing statement on this subject, and at the same time withhold from your readers who do not know any mode of prevention, the remedy used by the former Gentleman, (which is, perhaps, infallible) while another Correspondent published a good remedy without pretending to know the cause of the disease, can there be the smallest doubt of the superior utility of the latter publication?

From my own practice, and what I have heard relative to that of many husbandmen, I think the preparing of proper seed wheat with chamber lye and quick lime, will prevent the smut, provided the wheat be immersed five to ten minutes in the liquid, (well stirred so as that the light grains, &c. be well skimmed off) and afterwards thoroughly mixed with the lime.

I have little doubt but there are are other effectual remedies; amongst those which are equally efficacious, certainly that which is the most "cheap and convenient" should be preferred; and though I agree with A. N. that it is more desirable to know this remedy than the cause of the disease, I

should be glad to see some further disquisitions in your work, as to the latter; and likewise on another vegetable disease, the curl in potatoes, and the best mode of prevention.

If the queries put by your correspondent, Mr. Brightley, remain unanswered by some of your more able contributors, perhaps I may, within a few months, transmit you a paper containing my opinions upon them.

Yours, &c.

March 12, 1804. ARATOR.

EFFECT OF THE INCOME AND PROPERTY ACTS, ON AGRICULTURE.

To the Editor of the Agricultural Magazine.

SIR,

THE expences of the war in which we are engaged, being very great; we cannot reasonably expect that the contest can be maintained with vigour, and brought to a favourable termination, without the payment of very heavy taxes.

But though the *principle* of taxing according to income is, indisputably, just, (if the per-centage be varied according to the source from which the income is derived) yet in such a country as this, the *policy* of a law which leads a numerous and inquisitive body of public agents, to scrutinize the private circumstances of her inhabitants, appears very questionable. Waving this part of the subject, however, I shall not enquire whether the income and property acts have been injurious to the people of this country, but whether they have pressed as severely upon other classes of the community, as upon the occupiers of land.

Although the mode pointed out by Mr. Pitt's bill, of estimating the income of farmers, was very unfair, the appeals which were then allowed against the assessments, put them upon a footing with their fellow subjects; and as they paid, in common with other classes, according to their income, they had less reason to complain, than they have under the property act, which now compels them to pay according to their rents, *and not like their fellow subjects, according to their income.*

Some strong objections may be urged against considering rent as the criterion of income; but if the Chancellor of the Exchequer, was determined to proceed upon this ground, he should have been well informed before he ventured to fix the proportion of it, which should be considered as the income of farmers. The Board of Agriculture, and a great many intelligent individuals, should have been applied to; and I am persuaded, that if this course had been pursued, your practical readers will concur, in my opinion, that the income would

not have been stated at three-fourths, nor even one-half, of the rents.

What shall we say of those *great* practical agriculturists who are in parliament, for not straining every nerve to convince the minister, that he was greatly misled with regard to the income of the occupiers of land? Why either that they have not been sufficiently attentive to the interests of a body of men on whose welfare their own and their country's prosperity materially depend; or that, owing to the want of proper and accurate debtor and creditor accounts, they have, themselves, entertained very erroneous ideas on the subject.

According to those entertained by Mr. Addington, the annual income from a farm of 400 pounds a year, will be 300 pounds. Few practical husbandmen, however, would, on an average of 3 years, reckon it greater than 120 pounds. So that instead of being taxed *like their fellow subjects, and paying six pounds a year,* the occupiers of land are obliged to pay fifteen pounds, on an income of 120l. per annum; a sum only 5l. less than that paid by the owner of the land, who enjoys an income of 400l. a year! So much for the tax as an impost on income.*

If we view it as a tax on property, it is still more partial and oppressive. The amount of the landlord's property in a farm of 400l, a year, would, at 25 years purchase, be 10,000l. That of the tenant's would, at the present prices of live stock, &c. &c. be about 1,200l. The landlord, then, pays a tax of no more than twenty pounds a year, for a property of ten thousand pounds, while the tenant pays fifteen, for a property of only twelve hundred pounds! †

I trust I have stated enough to show that the cultivators of the soil are taxed with peculiar severity; and as their interests, more than those of any other class of men, involve the happiness, prosperity, and power of the nation, it seems highly proper that they should, *without delay,* lay a state of their grievances before Parliament, and petition for redress. If measures of this nature had been adopted last year, probably our circumstances would have been meliorated; but as we have *silently* submitted to the load, a conclusion

* I might have added, that in many cases, the occupiers are obliged to pay 5 per cent on three fourths of their rent, when they are actually losing by their farms.

† I intended to have annexed some calculations to shew the foundation of my opinion with respect to this sum; and the income of farmers which, I think, will not on an average of three years, amount to more than 10 per cent per annum, on the capital employed including its interest. I am sorry, however, that I have not leisure to do so; and as such a calculation might be useful to those who have votes in the senate, I should be glad to see the deficiency supplied, by some of your other correspondents.

has been drawn, that we are not only fully able to bear it, but that we are perfectly satified. And therefore instead of a diminution of the tax, we will very soon be called upon to pay an augmentation of 25 per cent. What will it be within two or three years? probably 10 to 15 per cent.

If the circumstances of the country should require so great an increase, I am persuaded that the people would willingly pay it, or even more, rather than submit to our haughty and vindictive foe; and at this moment it should be observed, that the farmers are not murmuring, because a tax of five per cent on income is more than the country can afford to raise, but because it falls more heavily on them than on their fellow subjects;* because they conceive that property employed in raising food for the sustenance of man, should, in every enlightened and well regulated society, be as well (or better) protected than any other; and because, the distinction which has been made, in the property act, is not only impolitic, but would almost warrant the the supposition that property employed in agriculture was viewed in an insidious light.

If farmers were to pay according to their income, and not according to their rents, there would undoubtedly, be a considerable defalcation in the public revenue, which we will be told, would at this time, be very dangerous. I answer that it is highly improper, and would certainly be followed by consequences very detrimental to the *best* interests of the country, that the cultivators of the ground should pay more than a just proportion of the public burdens; and that by increasing the tax two or three per cent, and passing such regulations as would make it fall equally on the different descriptions of people who now pay a tax on income; an equal, or greater revenue would be raised. Traders, manufacturers, &c. would then pay more, and the occupier of land less than at present.

Such heavy imposts as have lately been laid upon farmers by the property act, tax on horses, &c. must operate against their entering into leases for a term of years; and whatever has this effect, undoubtedly tends to prevent the investiture of greater capital in agriculture, and the improvement of the country. I repeat, therefore, that no time should be lost, in laying their grievances before the Legislature, and most respectfully petitioning for redress. Perhaps, we never had a House of Commons so much inclined to promote the agricultural interests of the kingdom as the present. Witness, the present corn bill, and the rejection of the proposed increase of the horse tax. If the property act should countenance different sentiments, let it be remarked that the members of parlia-

* While the latter pay only 5, the cultivators of the earth, pay upwards of 12 per cent.

ment have not been correctly informed as to the income of farmers, and that no petitions have been presented against it.

Farmers associate but little with each other. They seldom engage in epistolary correspondence on the subject of their grievances. Hence it rarely happens that many of them can be drawn together to act collectively and with energy, against measures which are detrimental to their interests.

Traders and manufacturers, however, are more favourably situated. They are always on the alert against measures which affect them in the smallest degree; and their exertions either have the desired effect, or lead to some favourable change.

I observe in your Magazine, and several Newspapers, that many meetings have lately been held, in different commercial and manufacturing places to enter into resolutions against the present corn bill; and that several petitions have actually been presented against it, to the House of Commons. In this instance their alertness is of a very peculiar nature, for they have petitioned against a bill which they cannot prove to have been adverse to their interests, in the smallest degree.

The well-known failure of the last crop, in our principal corn counties, and likewise that of the crops of Spain, Austria, part of France, &c. raised the prices of grain (early in autumn) considerably above those at which foreign corn can be imported by the regulations of the new bill. The ports, therefore, have continued open for importation from all parts of the world; while exportation from this country has, by the same bill, been prohibited. From which it appears, *clearly*, that the present bill has had no effect whatever in raising the prices of grain.

Of these facts, I believe many who have promoted the petitions, are well convinced; but as the old and injurious commercial spirit *of depressing the price of provisions to too low a rate*, is not yet subdued; they have *artfully* raised a clamour against the corn bill, (by taking advantage of the present high prices of grain) under an idea that they will either obtain its repeal, or some new regulations which will prove favorable to their views. I sincerely hope, however, that their false allegations, and their interested motives, will be clearly discerned, and that the prayer of their petitions will be refused.

Under the old corn bill, foreign wheat could be imported on the low duty, when our own reached 53*s*. 4*d*. per quarter. By the present bill, importation cannot take place until British wheat sells at 64*s*. per quarter; an increase of little more than 10*s*. per quarter, or 1*s*. 3*d*. per bushel. It is probable, therefore, that the new bill will not increase the price of wheat more than from about 1*s*. to 1*s*. 3*d*. per bushel. So

that, though the rents of land are doubled, or trebled, nay, in many places, quadrupled or more, within the last 20 to 30 years; though the price of labour is doubled, and all farming expences increased in the same ratio; all that the cultivators of the ground can reasonably expect from the new corn bill, will only be an augmentation of about 5*d.* or 6*d.* of the average prices of wheat for the last 60 years! Yet this small increase in the price of grain, *which bears so small a proportion to the increased expences of the farmer,* has excited the apprehensions of our manufacturers, merchants, and tradesmen, whose concerns have, in general, yielded the greatest profit within the last eight years; a period remarkable for the high prices of grain.

An increase of 1*s.* to 1*s.* 3*d.* per bushel in the price of wheat (I mean an increase of the price under the old bill operating in favourable seasons), would augment the expences of a genteel family, but a few pounds in the year. Among the lower classes of the people, the increased expence would be very trifling. Now when we consider that their wages have been doubled, or more, within the last 20 years, and that there is no probability of corn being raised above one-fifth of the usual price, (except after adverse seasons) is there any reason to commiserate the condition of these people? In fact their situation is now much more comfortable, *even at the present high prices of grain,* than it was 20 to 30 years ago. *This cannot be denied*; but our manufacturers and merchants tell us that the increase of the price of labour which renders the condition of the lower classes so much more comfortable than formerly, is a consequence of the high price of grain; and that the additional price of labour is injurious to the commerce of the kingdom, as it enables foreigners, who obtain labour on much lower terms, to undersel British traders in most of the markets abroad. But if this be true, how has it happened that the trade of this country has so *greatly* increased within the last eight or ten years? *It cannot be denied that this increase of trade, both in our manufactured goods and colonial produce, has, within that period, been unprecedented.*

It is a generally received opinion, that the price of labour rises with that of grain, and falls when the value of the latter article is depressed, Doctor Adam Smith, and other distinguished political economists having expressed themselves to that effect. With deference to such high authority, however, I shall venture to dispute the truth of their position; and I hope toprove, by facts, that it is fallacious.

During the last 50 to 100 years, corn has, almost every year, been considerably higher in Scotland than in England. It is certain, however, that during that period, the price of

labour has been considerably lower in the former than in the latter part of this kingdom.

In North America corn is cheaper than in Great Britain, yet labour is higher in the former, than the latter country, by upwards of 50 per cent.*

In Great Britain it is frequently observed after fruitful seasons, (when the price of corn is low) that that of labour rather increases. Last year, for example, it was generally somewhat higher than it is at present. The reason seems obvious; when corn is high, necessity compels labourers to be more industrious. Instead of working four or five days, and spending the remainder of the week idly, or in the alehouse, they are obliged to work six days.

I think Dr. Smith has, himself, advanced facts which overthrow his theory.—"The real recompence of labour, (says he)— the real quantity of the necessaries and conveniences of life which it can procure to the labourer, has, during the course of the present century, increased perhaps in a still greater proportion than its money price." In another place he says, "the *money price* of labour in Great Britain has indeed risen during the present century.† This, however, seems to be the effect, not so much of any diminution in the value of silver in the European market, as of *an increase of the demand* for labour in Great Britain, arising from the great, and almost universal, prosperity of the country."

From these and many other facts which may be adduced, it follows that the price of labour depends *alone* on the proportion between the demand for it, and the quantity of it.—The truth of this position will, I think, be apparent to every *attentive* observer in almost every district of Great Britain.

When the price of wheat, in this country, is about 64 or 66 shillings per quarter, and other kinds of grain in proportion, industry will be considerably excited, though the labourer will be so far from being oppressed, that he will have it in his power to obtain, with the present wages, not only all the necessaries, but even some of the luxuries of life.—No person will doubt this, who has attended to the gaieties of the lower classes, of late, or looked into alehouses on an evening, *even since the prices of grain have been very high.* If the price of wheat was reduced to about 54 shillings per quarter, idleness and dissipation would increase, and of course there would be a diminution in the various products of the country.

* The advantages of high wages and cheap provisions, to the labourers in America, are counterbalanced, in a great degree, by the high prices of clothes, shoes, tools, &c.

† The price of corn in the preceding century, was higher than in that in which the Doctor wrote.

The Lord Provost, Magistrates, and Common Council of the city of Glasgow, say that "the operation of the present corn bill has, for some time, been perceived and felt."—Whether these gentlemen have come from the country a little to the northward of Glasgow—the Highlands of Scotland, or the Hebrides—where it has been asserted, that many of the inhabitants possess the *second sight*, I cannot determine; it is certain, however, that men of ordinary perception, cannot see that the bill has operated at all.

These gentlemen have also asserted, that at the rates fixed by the recent statute, the ports in the district in which Glasgow is situated, would have been almost uniformly shut, for eleven years past; except during the scarcity approaching to famine. And it must be admitted, that if this statute operate, so as to prevent such districts as that in which Glasgow is situated, (where the produce is far from being equal to the consumption), from getting supplies from other places where there is a surplus, its effects would be injurious indeed.—Under such circumstances, the necessary alterations would not be delayed.

But what do these gentlemen mean by the word "shut?" Not, I presume, that their ports would be shut against supplies of British corn from Norfolk, Essex, Suffolk, Cambridge, Northumberland, Berwickshire, the Carse of Gowrie, &c. &c. but merely against *foreign* grain. It is this exclusion of foreign corn, till British reaches the prices which are adequate to the encouragement of our own agriculture, that has raised the indignation of the merchants of Glasgow, and several other commercial and manufacturing places. And why are they so angry at this exclusion? Why, Sir, because foreign grain is generally purchased at so low a price in the ports of the Baltic, and those situated between the Dutch provinces and the Sound, *that it yields a much greater profit than corn of British growth.*

Profit is the object of the corn merchant; and in obtaining it, he does not deem it a part of his duty to consider whether it is more advantageous, in a national point of view, to bestow a premium on British, or on foreign agriculture. On this subject, manufacturers in general, are not more patriotic; I trust, however, that in the minds of our legislators, it is deemed of infinitely greater importance to offer encouragement for the cultivation of our own lands, and the improvement of our extensive and disgraceful wastes, than to support the old system of permitting British wealth to be employed in promoting the agriculture of foreign countries—a system, by which we would not only be dependent upon these countries for an article of the first necessity, but greatly injured with regard to population and real power.

The objection which has been urged against the present corn bill, by the Lord Provost, &c. of Glasgow, *and, doubtless, it is the greatest objection they have to its continuing in force,* namely, " that the prices at which the different kinds of grain may now be imported, on payment of the low duties, are much higher than the existing circumstances require; and by far too high for the comfortable subsistence of the lower classes of the people, or the prosperity of the manufactures;" I hope I have already proved to be ill-founded.

There is another, however, on which I beg leave to offer a few remarks, though I apprehend I have trespassed too much on your time. I allude to what they have said with regard to their being under the necessity of obtaining large supplies from other districts, even in the most plentiful years; and to the apprehensions they have expressed, " that the grain dealers, both in Great Britain and Ireland, knowing that grain must be had for the consumption of the inhabitants of their district, have it in their power to take advantage of the high price to which, according to the present act, grain must rise before importation from foreign countries is allowed, and that they can retain their grain without risk, &c. It appears evident, however, that these grain dealers cannot retain their corn without risk; and with respect to their " taking advantage of the high price, &c." the petitioners seem to have reasoned, under an idea that the surplus grain in those parts of the kingdom, where great quantities are annually shipped, can be monopolized by a few houses; and to have entirely overlooked the effects of *competition.* This part of the petition seems an insult to the understanding of the House of Commons. That enlightened body will readily perceive that our corn merchants cannot retain their corn " without risk;" and that under the new, as well as under the old corn laws, they will be desirous of sending their grain to market, while the competition is least; that is, while foreign grain cannot be admitted. For, if they " retain" it, until prices rise, so as to open the ports, great quantities of foreign corn would come into competition with that of the British and Irish growth.

The subjects of this letter are truly important, and deeply do I regret my inability to do them justice. If this attempt, however, induce more able advocates to defend the great cause of the cultivators of Great Britain and Ireland, I shall have the satisfaction of reflecting, that my exertions have not been altogether fruitless.

That that great cause may receive from our senators the attention its vast importance deserves, and that their abilities

may be successfully exerted in its defence, is the ardent wish of, Sir, your's, &c.

AGRICOLA NORTHUMBRIENSIS.

March 22, 1805.

P. S.—Although my letters are hastily written, and sometimes not so legible as I could wish, yet I think your printer might be more correct.—In the last number he has inserted *fortifying*, instead of *fertilizing*; *county* for *country*; *cultivasion* instead of *cultivators*; *zeal* instead of *real*; and in some places added, and in others omitted, several words.—These, and other mistakes, I shall rectify, that they may be noticed in the list of errata in your next volume.

The weight of the Kettow ox should have been 160, and not 180 stone.—This, however, is not imputable to your printer. A. N.

ENUMERATION OF PATENTS LATELY ENROLLED.

1804. ROBERT RAINES, the younger, of the town
Nov. 22, and port of Hull, in the county of York, Tanner and Glue-manufacturer; for a method of making and manufacturing of hard glue from tail, fins, and other parts of whale-fish.

——— 22. Henry Clayfield, of the city of Bristol, Wine Merchant; for a method of finding out certain processes for separating the alkalies of potash and of soda from their sulphates or vitriolic salts, and from their sulphates or combinations with sulphur, as in soaper's black ash and other similar compounds.

——— 24. James Sharples, of the city of Bath, in the county of Somerset, Esquire; for certain combinations and arrangements of implements and mechanical powers, and certain principles and forms of tables useful for surveying.

Dec. 4. John Edwards, of Bow-Street, in the county of Middlesex, Currier and Harness-maker; for improvements in fire-places, calculated to save fuel, give a more general heat, and prevent chimnies from smoaking.

——— 4. Matthew Gregson, of Liverpool, Upholder; for a method of cleaning feathers for beds, and hair, wool, down, and other the natural covering of birds and animals, from their animal oil, in the most perfect manner, and in such a way as to render them more heartful, sweet, and pleasant for use.

——— 19. Stephen Pasquier, of Wilderness-row, Charterhouse-square, in the county of Middlesex, Professor of Languages; for his new-invented manufacture, system, or method of writing, printing, engraving, drawing, painting,

stamping, working, and using, certain characters, figures, instruments, and machines, for facilitating correspondence and other literary operations.

Dec. 19. William Everhard, Baron Von Doornick, of Wells-street, in the county of Middlesex; for certain compositions formed by uniting an absorbent or detergent earth with other ingredients, so as to render the same more effectual in washing or scouring, and for various purposes to which soaps or detergent earths are now applied.

——— 19. Joseph William Mayer, of Soho-square, in the county of Middlesex, Esquire; for improvements upon bitts of bridles.

——— 19. Samuel Guppy, of the city of Bristol, Merchant; for additions to, and improvements on, machines for cutting, heading, and finishing nails, and the mode of working thereof.

——— 19. Solomon Hougham, of Aldersgate-street, in the city of London, Goldsmith; for his new-invented spring-clasps for buckles, lockets, and other ornaments of dress.

——— 19. Thomas Margrave, of the parish of Saint Mary, Whitechapel, in the county of Middlesex, Silk throwster; for his new-invented mills and machinery, upon a new and improved construction, for throwing spinning, doubling, and twisting silk-thread, cotton-thread, flax-thread, hemp-thread, and all such other articles as usually are or may be thrown, spun, doubled, or twisted.

——— 19. John Gover, of Rotherhithe, in the county of Surrey, Gun-carriage-maker; for improvements and additions in the construction of a certain carriage for all sorts of cannon.

——— 19. Richard Willcox, of the city of Westminster, Engineer; for his new-invented machinery for more expeditiously cutting, stripping, or plucking, the various furs of beavers, seals, wool, hair, &c. from the various skins now plucked or stripped by hand; and for sundry methods of preparing and cleansing the said skins.

——— 19. Edward Steers, of the Inner Temple, Esquire; for his new-invented engine, producing a force by the impetus which the parts of a fluid body have to an equal altitude, applicable to the working of all sorts of machinery.

——— 21. Abraham Underdown, of the parish of Eling, in the county of Southampton, Gentleman; for a method of making flour without grain.

Jan. 16, 1805. Edward Shorter, of New Crane, Wapping, in the county of Middlesex, Mechanic; for a mechanical apparatus, by which the raising of ballast is rendered more

easy, cheap, and expeditious, and which may also be applied to other useful purposes.

Jan. 16. William Lester, of Piccadilly, in the county of Middlesex, Engineer, for an improvement on an engine or machine for separating corn, seeds, and pulse, from the straw.

——— 16. Samuel Chifney, of Newmarket, in the county of Suffolk, rider; for improvements upon bitts of bridles.

——— 19. Thomas Hamilton Keddie, of Duke-street, Grosvenor-square, in the county of Middlesex, sadler; for a cartouch-box, or receptacle for cartridges of gunpowder, or gunpowder and ball, for charging musquetry or artillery, or any other description of fire-arms.

——— 23. Edward Thunder, of Brighthelmstone, in the county of Sussex, Gentleman; for an improved mode or method of keeping in tune certain musical instruments called piano-fortes, grand piano-fortes, harpsicords, spinnets, and other stringed instruments.

——— 23. John Robert Lucas, of Charlton-house, in the county of Somerset, Esquire; for an improvement in the art or method of making, spreading, or flattening sheet-glass, commonly called German sheet-glass, plate-glass, or any other spread glass requiring a polished surface.

——— 28. John Jones, of the city of Chester, Chemist; for a liquor for printing and dying of cotton, linen, and woollen.

——— 23. Frederick Mollerston, of Hackney-wick, in the county of Middlesex, Gentleman; for a chemical composition, and method of applying the same, in the preparation of hides, skins, and leather, silks, taffetas, and linen, and to all articles already made of skins and leather, thereby colouring and giving a beautiful gloss to the same, rendering them water-proof and impenetrable to hot or corroding liquids, and at the same time preserving them from decay, and keeping them soft and pliable.

——— 23. Simeon Thompson, of Redcross-wharf, Upper Thames-street, in the city of London, Coal-merchant; for a bushel or bushels, and other measures, upon a new construction, for measuring coals, grain, seed, and other dry measurable commodities.

——— 29. James Barrett, of Saffron Walden, in the county of Essex, Smith and Iron-monger; for an improvement in the construction of malt-kilns, so as to prevent damage from fire, and to save fuel in the drying of malt.

CRITICAL CATALOGUE.

I. *An Eſſay on the Improvement of Poor Soils, read in the Holderneſs Agricultural Society, June 6, 1796, in Anſwer to the following Queſtion. "What is the beſt Method of Cultivating and Improving Poor Soils, where Lime and Manure cannot be had."* By J. ALDERSON, M. D. *pp.* 34; 2*s.* Cowley, Hull.

THE preſent as well as the ſucceeding article, forms a part of the tranſactions of an infant agricultural inſtitution, which ſeems at leaſt to deſerve a reſpectable commendation;* and which if we may judge from the two ſpecimens that employ our preſent number, will not confine its ſervices to the local ſituation of its members.

The improvement of a poor ſoil, muſt always be one of the moſt important objects of huſbandry; and Dr. Alderſon's intelligent eſſay, cannot, therefore, fail to be an acceptable preſent to the farmer or the country gentleman. Nor can we help thinking, that if ſimilar treatiſes were furniſhed on many other ſubjects in the theory of agriculture, it would prove a powerful means of aiding and inducing improvements in its practice;—by familiariſing to the huſbandman the phyſical and chemical operations, ſo intimately connected with his art, and thereby removing many obſtinate prejudices that yet continue to prevail, notwithſtanding the maturity of ſcience. With ſome others, affected by this inflexibility, there are parts, even of the preſent work, which may certainly be deemed fanciful; but this opinion, we are perſuaded, will not extend to our readers, to whom we ſhall now introduce the Author in his own words:

After a pleaſing deſcription of the nature of ſoil in general, which he defines to conſiſt of certain proportions of the ſimple earths, of which Naturaliſts reckon ſix or ſeven; but of which three compoſe by far the greateſt portion, viz. chalk, flint and clay, (with the firſt and the laſt of which every perſon is acquainted) and deſcribing the common mode in which flint affects the agriculturaliſt, as in the form of ſand;" Dr. Alderſon proceeds: (p. 4.)

"All writers and experimentaliſts have agreed, that not any one of theſe earths, will ſeparately anſwer the purpoſes of agriculture, that is, ſupport the roots and add to the growth of plants; but that, when properly mixed, they certainly do: and according to the beſt information on the ſubject, if taken generally, the ſoil, when divided into eight parts, ought to conſiſt of the following proportions;—three parts clay, three chalk, and two flint in the form of ſand. This laſt article will admit of great variations with reſpect to its fineneſs or coarſeneſs, according to the nature of the climate.†

* The Holderneſs Agricultural Society, which meets quarterly, at Hedon, in Yorkſhire.

† That is, theſe proportions will differ according to the quantity of rain that commonly falls in any given place; I need not here enter upon the reaſons

"Many very plauſible reaſons have been aſſigned why this admixture of the earths is neceſſary for the purpoſe of forming a good ſoil. Firſt, a ſoil conſiſting entirely of clay would not part with its water ſufficiently; chalk would part with it too faſt, and flint would not retain it at all. Secondly, there are many of the plants we wiſh to cultivate, whoſe tender fibres are not able to penetrate clay; others that will not be ſufficiently at reſt from the looſe and changeable nature of ſand; and others that cannot act upon chalk: Such and many other reaſons may be found in Kirwan.†

"If then fertility of ſoil depend upon the due admixture of the various earths, we may ſafely infer that ſterility, or poverty of ſoil, may depend upon the want of that combination. If land be barren when formed of only one ſpecies of earth, let that ſpecies be what it will, then will poverty of ſoil be in proportion to the ſuperabundance that ſoil poſſeſſes of any one of the earths.

"If I am aſked how to improve the poor ſoil of a certain field, I ſhould immediately wiſh to aſcertain what the nature of that ſoil is; in which earth, it is deficient; and in what it ſuperabounds.

"If it be all clay, then it muſt have its proportion of chalk and ſand added, and ſo on; and where theſe cannot be had, ſubſtitutes may perhaps be found: Thus, ſtiff clay ſoil is made more open in ſome countries by burning portions of it in heaps, and then plowing the hardened earth into the land.

"If the ſoil be ſand, which is a frequent ſource of barrenneſs in different parts of Suffolk, (where I have ſeen whole acres of barley blown away,) then clay becomes uſeful, and marl the beſt poſſible ingredient."‡

An ingenious theory is then propoſed to account for the neceſſity of a mixture of earths for the purpoſes of Agriculture, from the analogy between animal and vegetable life; comparing the effect of the principle of life, upon the union of earths, to that of fire in the proceſs of fuſion. It is only when combined, that clay, chalk, and flint, will liquify in a crucible, and they will then form a mixed maſs, with properties diſtinct from the ſimple earths; "may not then," ſays the author, (p. 9) "a due mixture of theſe earths when preſented to the mouths or radicles of plants, render them equally capable of being abſorbed and converted by the action of the living principle into food."—"We ſee here, too, from this theory, the philoſophy of plowing, harrowing, hoeing, and rolling, operations, ſo indiſpenſibly neceſſary to a thorough ſyſtem of huſbandry. Whenever plants have drawn from the ſoil, in the neighbourhood in which they are placed, all the materials that happen to be duly mixed, they are no longer capable of thriving, until by a new ope-

why more rain does fall in one place more than another; the fact is indubitable, and I recommend the placing of rain-gages in different parts of the country, in order that by comparing the reſult with the experiments now carrying on in other countries, we may be enabled to ſay what is the beſt proportion for this diſtrict.

† See Kirwan on Manures.

‡ Common marl contains from 66 to 80 parts of pure chalk, the remainder is is in various proportions pure earth of alum and ſilex. Kirwan.

ration more particles are brought into contact. This has been sufficiently proved by persons who are in the practice of horse hoeing, and is in effect the very object of those repeated plowings which are performed with the view of preparing the ground for the reception of fresh seed."

The following sublime idea closes this part of the subject:

"All the products of nature seem destined to perpetual change and alteration; and the fibrous roots of plants, appear intended by Providence, to produce the first stage in the transmutation of inert matter into life. Thus, by decomposition and absorption, earth becomes vegetable; vegetable matter is no sooner decomposed in the stomach of animals, than it is capable of being converted into animal matter; and when farther eliminated and purified by the delicate organs of the human species, reaches the utmost perfection of created intelligence."‡ (p. 14.)

Having illustrated the doctrines of a mixture of earths, the author thus proceeds to shew what is necessary to be done before barren soils can be rendered productive; and to point out the evils which are to be obviated: "There are," says he, (p. 15.) "many things found adapted to particular soils, the introduction of which may reward the industry of the husbandman, through a particular culture.

"With this view particular grasses have been found to thrive on particular soils, as the saintfoin on chalk.

"Thistles are capable of deriving nourishment and growing to a large size, where no other plant can exist; and by the exuviæ or remains they leave, and the protection they afford to some plants and many animaculæ, thus tend to ameliorate such soils; but whether these should be suffered to grow to a crop and advantage taken of their product, or ploughed in, as manure, is a question which I shall not agitate at present. Spinach may also be tried with the same view, (the prickly kind being the hardiest is to be preferred,) the leaves being extremely succulent:§ all succulent plants impoverish the ground but little, because they derive a great part of their nourishment from the atmosphere, as may be easily proved from the aloe tribe, which will lie out of the ground for a great length of time without being hurt, drawing their nourishment only from the atmosphere; and certainly these fleshy succulent plants, when, ploughed in, will afford a very considerable supply of food for more useful plants.

"Buck wheat also, and fumitory, a common weed upon chalky soils, might perhaps be converted to very useful purposes as a stimulus for food; for the latter, when burnt, affords an uncommon quantity of the fixed alkali, so well known to be a most powerful

‡ "And the Lord God formed man of the dust of ground. GENESIS ii. 7."

"For thou existest on many a thousand grains."
"that issue out of dust." SHAKESPEARE.

§ "All succulent plants make ground fine and of a good quallty."
Vide Biberg's Œconomy of Nature.

ſtimulus to the growth of plants ; and as the pooreſt ſoils may, by a particular management in the uſe of ſtimuli, be made to produce a crop, ſo an alternate crop of ſuch plants with corn, ſeems to offer an eligible mode of cultivating poor ſoils, where lime and manure are not to be had.‖

" The planting of foreſt trees as tending to defend the more valuable plants from the injury they are expoſed to in a poor ſoil, is an object well worth attention; more particularly on graſs land. Some author in the Academy of ſciences, has proved, that land expoſed to a long current of wind, which blew over a large tract of barren waſte, would produce nothing but poor graſſes, ſo long as it remained thus expoſed ; but when this current was broken by a few hedges and plantations of foreſt trees, it became capable of propagating and rearing the moſt uſeful and prolific plants. Nor is the whole of this good effect abſolutely owing to the ſhelter, mechanically afforded, but a part to the chemical change produced thereby. Perhaps the atmoſphere parts with its electrical matter, which has been found highly conducive to the growth of plants. The ſhake the air gets by being driven againſt the hedges and trees, may diſpoſe it to a decompoſition highly favorable to its giving out nouriſhment ; and on this principle it is, I apprehend, that the air partially obſtructed, as by hedges and trees, always tends more to the amelioration of land, than when ſtone walls and mud fences are employed.

" Planting oziers, as a crop on wet land, is another mode of anſwering the end propoſed in the queſtion. Lands not worth half-a-crown an acre on the ſide of the Trent, have been planted with oziers, at the expence of four pounds per acre, and ſince let for four guineas an acre per annum.

" One ſource of barrenneſs in ſoils is an abundance of the calx of iron. The calx or ruſt of iron may be known by the redneſs or blueneſs it gives to moſt ſoils, with which it is incorporated. It may appear extraordinary to many, that this iron ſhould be the reſult of vegetation ; but the fact is incontrovertable. I have reaſon alſo to believe, from obſervation, that particular trees and peculiar plants, are more diſpoſed than others to produce the mineral earth ; and it behoves the improver of the ſoil to aſcertain, what theſe plants and trees are, in order to have them if poſſible removed. Of trees, the willow tribe, alders and others ; amongſt plants, the whole order of ruſhes, &c. ; and above all the reſt every ſpecies of moſs, moſt aſſuredly produce iron, and ought never to be ſuffered to exiſt on cultivated land.

" The action of water upon ſoils in general ought not to be overlooked. Water lying long upon the ground, certainly tends to the deſtruction of thoſe plants, we wiſh to cultivate ; and it happens with this ineſtimable fluid, as with many others, that, " too much of a good thing is good for nothing." The reeds and ruſhes and thoſe plants which tend to deſtroy ſoil by producing iron, and

‖ " In the 3d volume of the American tranſactions, there is a paper on the cultivation of the eaſtern ſhore Bean, for the expreſs purpoſe of being plowed in as a manure.

which are alone capable of living in water, render the ſoil poor, not only by their ſecretions, but by their excretions.

"Hence in all countries, contrivances ſhould be reſorted to, to carry off the water, when its continuance would produce this effect."

Notwithſtanding the neceſſity of carrying off the water to prevent its improper action, by duration on the ſoil, Dr. Alderſon recognizes all the advantages of irrigation, and offers a very favorable opinion on the flooding of land.

On the ſubject of thoſe lands which border on the Humber, he obſerves, that they may derive a further advantage from their vicinity to the ſea, than what ariſes from mere irrigation. (p, 22.)

"I have already taken ſome pains to point out the abſolute neceſſity there is for bringing the different earths into cloſe union, in order to procure that decompoſition, neceſſary to their being converted into vegetable life; the ſame doctrine is applicable to compoſts, and may now be extended to ſalt water.

"Salt water conſiſts of certain alkaline ſalts united to the marine acid, which form a neutral not eaſily decompoſable in common earth, and therefore not a very ready manure; to obtain the greateſt poſſible advantage from ſea water, it ought to be decompoſed, which may in part be effected by adding to it an earthy ſalt called gypſum, alabaſter, or plaſter of Paris; a matter compounded of lime and the vitriolic acid; when this is well ſoaked in ſea water, the vitriolic acid will in time quit the lime, ſeize the alkaline baſis of ſea ſalt, and ſet the marine acid at liberty, which being extremely volatile will eſcape; and you will then have lime and a neutral ſalt that has been found by experiment to be a moſt excellent manure;† but in all theſe operations a large quantity of earth or ſoil, ſhould be compounded with the reſult before it be applied as a manure; the ſalts being of themſelves too pungent, if applied to vegetation unmixed with earth. This method ought alſo to be purſued, when any compoſts are formed."

An appendix is added, chiefly relating to the cultivation of thiſtles on land which would otherwiſe lie fallow; and on which it contains ſome ſatisfactory proofs and ſhrewd remarks.

The whole is written in the manner, and, with very few exceptions, in the ſtyle of a gentleman, well acquainted with the ſubject on which he treats. A few ſcientific deductions will appear rather complex, and a very few technical terms not perfectly clear, to the unlettered reader; but though we make this obſervation, it is only from a wiſh that the matter contained in theſe few but well-filled pages might obtain a more general circulation, and thereby extend its utility, of which we bear our ready teſtimony. We ſhall be glad to ſee ſomething further on a ſubject of ſo much importance from the ſame reſpectable hand.

† According to Bertholet, chalk is capable of decompoſing ſea ſalt, in the courſe of four years, and that by that proceſs the natron or alkali is ſuffered to chryſtalize in the lakes in Egypt. ‡

‡ Vide Memoirs on Egypt.

Obſervations reſpecting the Grub; being a paper read to the Holderneſs Agricultural Society, by WILLIAM STICKNEY, *of Ridgemont, in Holderneſs.* Published by the Society, pp. 16. Peck, Hull.

THIS paper is a uſeful compilation of facts, relative to the pernicious inſect of which it treats; with ſome practical obſervations very judiciouſly made to aſcertain the different periods of change in the Grub, from the aurelia to the fly ſtate. The author thought "that the natural hiſtory of the grub ought to be ſtudied with diligence and accuracy, in order to diſcover, if poſſible, ſome means of preventing or leſſening its miſchievous effects: and that ſuch diſcovery might, he thought, be promoted, if it were known to intelligent farmers at what ſeaſon of the year the fly depoſits its eggs; how long it is from the time the egg is depoſited, before the production of the grub, (in which ſtate only it is prejudicial to the intereſts of agriculture); how long it remains in the grub ſtate, before it changes to the aurelia; and how long it continues the aurelia, before it compleats the routine of its various changes, and becomes a fly. Alſo, what are its particular enemies in each of the different ſtages of its exiſtence. He conceived it might alſo be of advantage, to aſcertain what kind of crops, and what ſtate of cultivation of the land, the fly prefers for depoſiting its eggs."

For this purpoſe he furniſhes the hiſtory of the grub from Chambers, (Art. *Tipula*); and ſuperadds an account of its injuries to the agriculturiſt. Graſs lands, and clover ſtubbles, and their vicinity, are deſcribed as the moſt prevalent haunts of the inſect from which lime, in the proportion uſually applied to tillage lands, will not drive them, as hath been ſuppoſed by many. Their principal injury is in eating off the young ſhoots of corn, before, or ſoon after they make their appearance above the ſurface of the earth.

The following was the reſult of the obſervations made by the Author, in the year 1794, reſpecting the different changes of the inſect. (Abridged from p. 9, et ſeq.)

"11*th Auguſt.* The time of the general change of the grub from the aurelia to the fly ſtate. Not more than one with egg, nor any coupled together; if clover ſtubbles could be ploughed ſufficiently early, the temptation for the fly to depoſit its egg there would be removed.

"22*d.* Several of the flies coupled, particularly in the morning; but in the evening ſcarcely any together; but many of the females in the act of depoſiting their eggs, in doing which, they kept continually dropping their tails to the roots of the graſs, and moving about from place to place: on inſpection, I found the eggs in thoſe places where their tails had been; I took ſome of the flies which were big with egg, into my hand, and preſſing them a little, they quitted ſeveral eggs, which they quit one by one, with a ſudden ſpring. They appeared to me to be ready to depoſit their eggs immediately after impregnation; for on putting a number of the flies into a phial, I preſently obſerved ſeveral of them in the act of copulation, and almoſt immediately afterwards, I ſaw the females drop ſeveral eggs. Each of the females contains ſome hundreds of eggs; and what is ſtill more extraordinary, the males appear to exceed the

females in number, more than in the proportion of one hundred to one; ſo that if the flies are not very numerous, it is difficult to find a female amongſt them: this accounts for the obſervation made on the 11th of this month, that I had not then obſerved more than one to be with egg; ſince that time, I have found that they are big with egg before they quit the huſk of the aurelia, and I have alſo obſerved that the female is much larger than the male, and differs much from it in its ſhape in other reſpects.

" *6th September.* Moſt of the grub flies have depoſited the principal part of their eggs. I have put ſome of the eggs into a pot, and have covered them about an inch deep with earth, in order to aſcertain what length of time they will continue, before the production of the grub.

" *5th Feb.* 1795. I have not yet found any grubs the produce of the eggs above-mentioned, and I begin to be apprehenſive that the eggs have been defective, or that I have deſtroyed them by frequently ſtirring amongſt the earth in order to ſearch for grubs. They are to be found in the fields before this time.

" *27th March.* Have been gathering ſome grubs, and found a conſiderable number amongſt the wheat, in the eaſt part of Weſt-Hill, which was clover-ſtubble: on the weſt ſide, which was bean-ſtubble, there are but few. Some of the grubs are nearly full grown, the greater number of them are about half grown, but ſome are very ſmall.

30th. Separated the grubs, and put them into four pots, numbered 1, 2, 3, 4; No. 1, which contains ſome of the largeſt and middle ſized, and No. 4, which contains ſome of the ſmalleſt, I have placed in a window into which the ſun does not ſhine. I have placed No. 2, which alſo contains ſome of the largeſt and middle ſized, and No. 3, which alſo contains ſome of the ſmalleſt, in a window expoſed to the action of the ſun: my view in placing them thus, is to obſerve whether the different degrees of heat from the different expoſures will have any effect on the grubs, ſo as to haſten or retard their change to the aurelia: I mean to feed them twice a week with freſh graſs.

" *29th April.* The grubs in the pots continue much the ſame as when put in, except that the ſmall ones have increaſed a little in ſize.

" *15th May.* Found an aurelia in No. 1, in the ſhaded ſituation, but could not find any in the other pots, but ſeveral of them appear to be about changing.

" *24th.* Found another aurelia in the ſame pot.

" *4th June.* Found in No. 1 the huſk of the aurelia mentioned in the minute of the laſt month. The fly has taken wing.

" *12th.* The large and the ſmall grubs, which I have hitherto conſidered of the ſame ſpecies, are of two different kinds, and the ſmall ones, which I apprehended were not arrived at maturity as grubs when I took them, are a diſtinct ſpecies, and are now generally changing from aurelia to flies, which are of a different kind from that which is produced from the largeſt grub, which is not yet changed to the aurelia.

" *1ſt July.* Have not found that any of the large grubs have yet changed to the aurelia.

" *15th.* Some of the large grubs, as wel in the ſhaded as in the ſunny ſituation, have changed to the aurelia; ſo that it does not appear that the different degrees of heat have occaſioned any difference as to the time of their change. Put ſome of the aurelia into a phial, in order to obſerve their progreſs.

" *29th.* More of the grubs have changed to the aurelia, but no flies.

" *31ſt.* One of the aurelia has changed to a fly, and ſeveral more grubs have become aurelia. Many of them die about this time, ſo that I apprehend the operation of changing is very painful.

" *20th Auguſt.* The grub flies are now very numerous, ſo that this appears to be about the time of the general change of the grub to the fly ſtate."

An obſervation which follows appears to be judicious:

" I conceive it to be of great importance to ſow wheat on clover ſtubbles early in the ſeaſon; for the plants of early ſown wheat generally acquire ſuch a degree of ſtrength before the grubs are in being (which I believe is about the firſt month in the year) that they will not be in danger of ſuſtaining much injury, even ſhould theſe vermin be numerous; for the plants having by this time made a good root, will be moſtly able to recover from the bite.—On the contrary, the plants of late ſown wheat having by the above mentioned period only a ſlender root, and made only one or two ſmall blades; if theſe are eaten off by the grub, they rarely recover."

The whole of the paper is ſenſibly written, and the author has beſtowed conſiderable attention on his ſubject. He has in the end become an advocate for the rooks in conſequence of their deſtruction of the grub; but we doubt that he will not obtain his end with thoſe who have been accuſtomed to conſider this executioner as bad as his victim. An equal tenderneſs would not have been ill-beſtowed on the female inſects, which Mr. Stickney more than once deſcribes to have cruſhed in the head, for the purpoſe of obſerving that they *afterwards* continued to eject their eggs. Experiments of this tendency ſhould not be repeated, for

" ——— the beetle that we tread on,
" In corp'ral ſuff'rance feels a pang as great
" As when a giant dies."

We repeat, that from the preſent ſpecimens we look forward with pleaſure to the future exertions of the Holderneſs Agricultural Society; and recommend to the notice of ſome of our able correſpondents the advantageous opportunity thus afforded for the propoſition of queſtions, to be ſo ably diſcuſſed, and ſo elegantly treated.

HISTORY,

AGRICULTURE

PROCEEDINGS OF AGRICULTURAL SOCIETIES.

HULL, 1ST MARCH, 1805.

To the Editor of the Agricultural Magazine.

SIR,

I HEREWITH tranſmit to you, purſuant to a Reſolution of the Holderneſs Agricultural Society, a copy of their Rules, and of Queſtions, which have been diſcuſſed by the Society, at their meetings; and which, with your approbation, they wiſh to be publiſhed in the Agricultural Magazine: and I am inſtructed to requeſt, that you will give an invitation to your ingenious Correſpondents, to furniſh the Society, by means of your valuable Publication, with Subjects proper for their future diſcuſſion.

You will likewiſe receive herewith two Tracts, written by members of the Holderneſs Agricultural Society, preſented by order of the Society, and with the conſent of the Authors.

I am, Sir, your moſt obedient humble Servant,
A. STOVIN.
Secretary to the Holderneſs Agricultural Society.

THE RULES OF THE HOLDERNESS AGRICULTURAL SOCIETY.

Reſolutions of the Majority binding.

I. THAT any Reſolution entered into by the majority of the ordinary members of the ſociety, be binding on the whole, and be adopted accordingly; provided that no law or reſolution of the ſociety ſhall be altered or reſcinded, but by a motion for that purpoſe being firſt made and ſeconded at a general meeting, previouſly to the meeting at which the ſenſe of the ſociety ſhall be taken, whether ſuch law or reſolution ſhall be reſcinded or not; and, if any ſuch motion be made and ſeconded, at any general meeting, that it be mentioned in the circular letters convening the next ſubſequent meeting, that it is to be determined thereat, whether ſuch law or reſolution ſhall be reſcinded or not.

Preſident and Vice-Preſident.

I. That a Preſident and alſo a Vice-preſident, be annually elected by the ſuffrages of the ordinary members.

II. That the Preſident ſhall be elected as follows:--1ſt. The ſecretary ſhall take down the names of all the members of the ſociety, and each member preſent at the time of election ſhall make a mark againſt the name of the perſon he propoſes as a candidate; 2. That the names of ſuch as are marked as candidates ſhall be read aloud by the Secretary; and if any member propoſed ſhall object to ſtand as a candidate, his name ſhall be ſtruck out of the liſt of candidates; 3. That each member preſent ſhall make a mark againſt the name of the candidate he wiſhes to be elected preſident. And 4thly. That the candidate having the greateſt number of marks againſt his name ſhall be preſident for the year enſuing; but if there ſhall be an equal number of marks againſt the names of two or more candidates propoſed as preſident, the oldeſt perſon ſhall be conſidered as duly elected.

III. That the perſon who has the ſecond largeſt number of votes, as preſident, ſhall be, *ipſo facto*, choſen the vice-preſident.

IV. That the preſident ſhall, previously to each meeting, order dinner for as many members as he thinks may attend.

V. That, in order to ſilence any diſpute, (if unfortunately any ſhould ariſe) the preſident ſhall be accommodated with a hammer, the beating of which upon the table, ſhall be equivalent to a call to order.

VI. That if, after three repeated beatings with the hammer, the perſon or perſons diſputing be not ſilenced, the preſident ſhall exert his voice to reſtore tranquillity.

VII. That if, after the preſident has exerted his voice, the perſon or perſons continue to offend, he or they ſhall be baniſhed the ſociety for that meeting.

Treaſurer and Secretary.

I. That a perſon ſhall be elected as treaſurer and ſecretary, whoſe neceſſary expenſes, in attending the meetings of the ſociety, ſhall be defrayed out of the ſociety's funds.

II. That the treaſurer do pay the landlord, at whoſe houſe dinner is provided, one ſhilling and ſixpence per head for as many under the number for which the preſident has ordered dinner, as ſhall not attend; and, that the full fine of two ſhillings and ſixpence, to be paid by abſent members, ſhall be placed to the credit of the ſociety's fund.

Committee.

I. That the preſident and vice-preſident for the time being, and *ſeven* other members, ſhall form a committee, which ſeven members ſhall be elected by ballot.

II. If two members have an equal number of votes, to be upon the committee, it ſhall be determined by lot which of them ſhall be elected.

III. That a ſimilar committe ſhall be elected annually.

IV. That the committee for the time-being, or any three of them, may act and continue to act, for one year, from the time of their election, and may meet at ſuch times and places as they ſhall think proper.

V. That the committee ſhall have power to call an extraordinary meeting of the ſociety when they ſhall think it neceſſary.

VI. That they ſhall be empowered to open a correſpondence by letter, by means of their chairman, with the Board of Agriculture, or with any other Agricultural ſociety, with which they may think it adviſable to correſpond; which correſpondence ſhall be reported to the ſociety, and the expenſes attending it defrayed out of the ſociety's funds.

VII. That the committee, on each day of general meeting, ſhall meet at *eleven* o'clock in the forenoon, and ſit till *twelve*, when the preſident ſhall take the chair and the general meeting commence.

General Meetings.

I. That the ſociety ſhall meet four times a year:—*viz.* On the *firſt Monday* in *December*; the *firſt Monday* in *March*; the *firſt Monday* in *June*; and the *firſt Monday* in *September*, reſpectively, on which the fortnight fairs ſhall be holden at *Hedon*.

II. That the preſident ſhall take the chair at *eleven* o'clock in the forenoon, and that dinner ſhall be at *two* o'clock; and a bill of expenſes called for at *four* o'clock in the afternoon.

III. That whenever the days fixed for the meetings of the ſociety ſhall be found to be improper or inconvenient, they may be changed by the committee, at a meeting to be called for that purpoſe; that if the number of members of the committee, which, in ordinary caſes, muſt aſſemble to form a meeting, do not attend the meeting ſo called, that the members who do attend, or the preſident alone, if no member ſhall attend, ſhall change the day on which the ſociety is to meet,

IV. That the meetings of the ſociety ſhall be advertiſed, previouſly to the holding of the ſame, in the *Hull Packet*.

Subſcriptions.

I. That every perſon becoming an ordinary member of the ſociety, ſhall ſubſcribe a *guinea and a half*, to be applied in the purchaſe of books on agriculture, and for ſuch other purpoſes as the ſociety ſhall appoint.

II. That an annual ſubſcription of *half-a-guinea* ſhall be paid by every ordinary member, to be applied to the ſame purpoſes as the money originally ſubſcribed.

III. That the annual ſubſcriptions of *half-a guinea* ſhall be payments in advance; and, that there ſhall not be any fractions of a year: therefore, at whatever meeting any new member is elected, whether at the *December*, *March*, *June*, or *September* meeting, he ſhall be conſidered (if he accepts his election) as a member from the time of his election; and he muſt pay a *guinea and a half* for his firſt year; then at the *December* meeting, following the day of his election, he muſt pay *half-a-guinea*, in common with the other members.

IV. That at each meeting of the ſociety, the members preſent ſhall determine at what inn at *Hedon* the next ſubſequent meeting ſhall be holden; and, in caſe different members ſhall propoſe different inns, it ſhall be determined by ballot.

Diſcuſſion of Subjects.

I. That any member whatever of the ſociety, may give in to the preſident one or more queſtions for public diſcuſſion, which the preſident ſhall communicate to the committee, who ſhall, at every meeting, ſelect out of the queſtions given in, one or more of them, to be diſcuſſed at the following meeting.

II. That each queſtion ſhall be diſcuſſed till the time of dinner, or till it appear to the preſident, that it may be advantageouſly changed for ſome other agricultural ſubject.

III. That the converſation, till the time of dinner, ſhall be general, not more than one perſon being allowed to offer his ſentiments at the ſame time, which are to be addreſſed to the preſident.

IV. That after dinner, the converſation, though not general, ſhall be confined as much as may be, to ſubjects connected with the end of the inſtitution.

Books, &c.

I. That the books and other things, purchaſed with the ſubſcription-money, ſhall be the property of the ſociety as an aggregate body.

II. That the committee ſhall hire a room, provide a caſe or ſhelves for the books, and appoint a librarian, to lend out the ſame to the ordinary members of the ſociety.

III. That any member taking a book out of the library, may keep the ſame ſuch reaſonable time as he ſhall think proper; but that all the books ſhall be brought to the library every general meeting, on forfeiture of ſuch ſum as the committee ſhall hereafter fix.

IV. That every member taking out a book, ſhall be obliged to reſtore it in good condition, or provide another in its ſtead.

Ordinary Members.

I. That all ordinary members ſhall be elected by ballot.

II. That no ordinary members ſhall be balloted for, unleſs fifteen members be preſent.

III. That all perſons, whether reſiding in *Holderneſs* or not, ſhall be eligible.

IV. That any perſon deſirous of becoming a member, ſhall be mentioned to the preſident as being ſo, by ſome member preſent at the meeting; upon

which the president shall cause a ballot to be made, and if the ballot is in his favour, shall declare him a member immediately.

N. B. At the last meeting of the society, (December 1801,) a proposition was made and seconded, That at the next meeting of the society, the members present shall determine on the propriety of making a rule, that a person who is proposed as a member, shall not be balloted for at the meeting at which he is proposed, but that his being proposed shall be mentioned in the circular letters, convening the meeting next subsequent to the one at which he is proposed; and that he shall be balloted for at such subsequent meeting.

V. That four black balls shall be considered as a rejection of any person as a member.

Honorary Members.

I. That honorary members may be elected by a majority of votes openly given.

II. That no person shall be eligible as an honorary member, who resides within twenty miles of the place of holding the meetings of the society.

III. That no person shall be eligible as an honorary member, who has not written something on Agriculture, or performed something in agricultural affairs, deemed worthy, by the majority of members attending at any meeting, (not fewer than fifteen being present) of public gratitude.

IV. That honorary members shall be exempt from all duties of attendance, and subscriptions.

Corresponding Members.

I. That corresponding members may be elected by a majority of votes, openly given.

II. That no person shall be eligible as a corresponding member, who resides within twenty miles of the place of holding the meetings of the society.

III. That corresponding members shall be exempt from all duties of attendance, and subscriptions.

Visiting Members.

I. That, in order to render the society more extensively useful, any farmer occupying a farm of less annual rent than *fifty pounds*, may be elected a visiting member of the society.

II. That visiting members shall be proposed and elected in the same way as ordinary members.

III. That they shall not pay any subscription on entering, or annual subscription.

IV. That they shall pay a forfeiture of *one shilling and sixpence*, for non-attendance, on the days of general meeting.

V. That they shall give no vote, and have no right to ballot.

VI. That they shall not be eligible into any committee.

VII. That they shall not be entitled to the use of the books.

Visitors.

I. That visitors may be introduced by ordinary members.

II. That no person residing within twenty miles of the place of meeting, shall be admitted as a visitor more than once.

III. That the dinners of the visitors shall be paid for out of the funds of the society.

Non-Attendance and Expulsion.

I. That a forfeiture of *two shillings and sixpence* shall be paid by every ordinary member, for non-attendance at each general meeting, if he shall not appear by *twelve o'clock*, by the president's watch; to be placed to the credit of the society's fund.

II. That a member refusing to pay such fine, shall be no longer considered a member of the society.

III. That medical gentlemen shall not be fined, if they attend at any time during each meeting of the society, and say that they have been detained by their professional engagements.

IV. If any member, baniſhed at any meeting for contempt of a call to order by the preſident, ſhall not at the next meeting offer an apology ſatisfactory to the majority of ordinary members attending at ſuch meeting, he ſhall be conſidered as expelled.

V. If any ordinary or viſiting members ſhall abſent himſelf for four ſucceſſive days of general meeting, aſſigning no ſatisfactory reaſon for ſo doing, the preſident ſhall write to him, requiring him to declare whether he means to continue a member or not; and if the preſident receive no anſwer before the next day of meeting, or ſuch a one as is unſatisfactory to the majority of the ordinary members then attending, ſuch perſon ſhall no longer be conſidered a member of the ſociety.

VI. That any member may be expelled the ſociety, for any cauſe, at a general meeting, at which fifteen ordinary members ſhall be preſent, on a motion being made for that purpoſe by one member, and ſeconded by another, and there being a majority of votes publicly given for his expulſion.

VII. That no member, after being expelled, ſhall, at any future time, be capable of being re-elected.

JANUARY, 1802.

ADDITIONAL RULES OF THE HOLDERNESS AGRICULTURAL SOCIETY,

Made ſince January, 1802, when a Copy of the Rules was printed.

ORDINARY MEMBERS.

I. THAT a perſon who is propoſed as a member, ſhall not be balloted for at the meeting at which he is propoſed; but that his being propoſed ſhall be mentioned in the circular letters, convening the meeting next ſubſequent to the one at which he is propoſed; and, that he ſhall be balloted for at ſuch ſubſequent meeting

Implements.

I. That the librarian ſhall make an entry, in a book to be kept by him for that purpoſe, of every implement belonging to the ſociety, which ſhall be taken by any member.

II. That there ſhall be a limited time, which each member ſhall keep an implement belonging to the ſociety; and, that ſuch time ſhall be limited by the committee of members of the ſociety for the time being; and, that there ſhall be a fine for not returning any implement within the limited time, the amount of ſuch fine to be fixed by the committee.

III. That every member who ſhall have an implement belonging to the ſociety, ſhall ſend it to the librarian, at *Hedon*, previouſly to each general meeting in *December*, ſo as that it may be at *Hedon* at the time of ſuch general meeting; and that if any member ſhall omit ſo to ſend any implement which he may have, he ſhall pay ſuch fine as ſhall have been fixed by the committee.

Purſuant to the power given to the committee, they have reſolved as follows: That the time for keeping each implement ſhall be limited to one calendar *month*, or to the day on which the ſubſcribers ſhall meet, next after the day on which the implement ſhall be taken: it being intended, That *no implement ſhall be kept by any member longer than one calendar month*; *and alſo, That all the implements ſhall be at Hedon at the time of each quarterly meeting*; that the fines to be paid for keeping implements beyond the limited time, ſhall be as follows: *viz.* For an implement which ſhall have coſt leſs than *five pounds*, a fine of *ten ſhillings*, with a further and an additional fine of *five ſhillings*, for each and every week which the ſame ſhall be kept, after the expiration of the time limited for keeping the ſame. For an implement which ſhall have coſt *five pounds*, or any larger ſum under *ten pounds*, a fine of *fifteen ſhillings*, with a further and an additional fine of *ſeven ſhillings and ſixpence* for each and every week which the ſame ſhall be kept, after the expiration of the time limited for keeping the ſame; and, for an implement which ſhall have coſt *ten pounds*, or upwards, a fine of *twenty ſhillings*, with a further and an additional fine of *ten ſhillings* for each and every week which the ſame ſhall be kept, after the

expiration of the time limited for keeping the ſame. That each member, on taking an implement from the librarian, ſhall deliver a ticket, ſigned by him, mentioning the name of the implement and the day on which he takes it; and that ſuch ticket ſhall be kept by the librarian, till the implement is returned, or till he receives a ſimilar ticket from ſome other member, to whom the implement has been delivered.

IV. That at each and every meeting of the ſociety, holden in the month of *September*, the members preſent ſhall determine, whether any, and what implements belonging to the ſociety (having been ſufficiently tried) ſhall be ſold, at each and every ſubſequent *December* meeting; and that ſuch implements as the members preſent at each *September* meeting ſhall determine to ſell, be accordingly ſold by auction to the members who ſhall be preſent at each ſubſequent *December* meeting.

JUNE, 1803.

Medical Men.

I. That medical men ſhall be exempt from the payment of fines, for non-attendance at meetings, provided they write a letter or note to the ſecretary, previous to each meeting next after thoſe from which they ſhall be abſent, declaring that they were prevented from attending, by reaſon of being engaged in the exerciſe of profeſſional duty.

Books.

I. That each member of the ſociety, on receiving a book from the librarian, ſhall deliver a ticket, ſigned by him, mentioning the title of the book, the volume, ſize, and number in the library,

Military Men.

I. That military men ſhall be exempt from the payment of fines for non-attendance at meetings, when with their regiments, or corps, upon duty.

Election of Officers.

I. That the preſident, the vice-preſident, and members of the committee ſhall be elected as follows: that is to ſay—That previouſly to each day of election, each member of the ſociety be furniſhed with a printed liſt, containing the names of all the members of the ſociety; that each member who ſhall vote, ſhall, at the time of election, give into the ſecretary a liſt, containing the names of *nine* membere, *one* of which he propoſes as preſident, *another* of which he propoſes as vice-preſident, and the remaining *ſeven* of which he propoſes as members of the committee; and, that in order to ſhow which of the ſaid members he propoſes as preſident, which as vice-preſident, and which as members of the committee, he do ſet the letter P. againſt the name of the perſon he propoſes as preſident, the letters V. P. againſt the name of the perſon he propoſes as vice-preſident, and the letter C, againſt the names of ſuch of the *ſeven* perſons he propoſes as a member of the committee; and, that each member reſpectively who ſhall have the largeſt number of ſuch votes, for any of the ſaid offices, ſhall be conſidered as duly elected into the ſame. Provided nevertheleſs, that if any member who ſhall be ſo elected, ſhall refuſe to take upon him the office to which he hath been elected, the perſon who ſhall have the greateſt number of votes for ſuch office ſhall be conſidered, by virtue of ſuch refuſal, as duly elected into the ſame office. That, if any member ſhall not give in ſuch liſt as aforeſaid, the omiſſion ſhall be conſidered as a drawer of the privilege of voting at the then election, for either the preſident, the vice-preſident, or a member of the committee.

Pupils in Agriculture.

At the laſt meeting of the ſociety, it was propoſed, that at the next meeting it be made a rule, that members having pupils in Agriculture, may bring them to the meeting of the ſociety, on paying the expences occaſioned by their attendance.

QUESTIONS DISCUSSED BY THE HOLDERNESS AGRICULTURAL SOCIETY.

WHETHER machinery, for expediting agricultural labour, is beneficial to community or not? Diſcuſſed 2nd *December*, 1795.

Is *Holderneſs* particularly deficient in any part of its rural economy? And is the tillage land therein capable of any, and what improvement? Diſcuſſed 7th *March*, 1796.

What are the beſt means of improving and fertilizing poor ſoils, ſituated where lime and manure cannot (but at too great an expense) be procured? Diſcuſſed 1ſt *June*, 1796.

What is the beſt rotation of crops in *Holderneſs*, in general; and how far fallowing is neceſſary there? Diſcuſſed 7th *September*, 1796.

Whether *Holderneſs*, in general, be ſufficiently drained; and if it be not, what are the beſt means of effecting a more perfect drainage? Diſcuſſed 7th *December*, 1796.

The comparative merit of the broad-caſt and drill-huſbandry. Diſcuſſed 9th *March*. 1797.

What breed of ſheep is beſt adapted to *Holderneſs*? What diſeaſes are the *Holderneſs* ſheep moſt ſubject to; and what are the proper remedies applicable to their diſeaſes? Diſcuſſed 7th *June*, 1797.

What is the cauſe of the Smut in wheat; and what is the beſt preventative thereof? Diſcuſſed 4th *October*, 1797.

What kind of fence is beſt adapted to the different ſoils and ſituations in *Holderneſs*; and what advantages or diſadvantages attach to each kind of fence? Diſcuſſed 6th *December*, 1797.

What proportion of labour in Agriculture is now performed by oxen, compared with what is performed by horſes, in *Holderneſs*? Would a more general uſe of oxen, as draught-cattle, be advantageous to the *Holderneſs* farmers; and, what is the beſt mode of training and harneſſing, &c. of oxen? Diſcuſſed 5th *March*, 1798.

What is the beſt ſeaſon for manuring graſs-land; what is the beſt manure, and what quantity is the moſt proper? Diſcuſſed 6th *June*, 1798.

What is the foundation of the opinion that has long and generally prevailed, that it is improper, in the breeding of cattle, to ſuffer the ſame lineage, or family, to produce their kind; and, is there any ſolid objection againſt breeding from cattle, however near their conſanguinity? Diſcuſſed 5th *September*, 1798.

What kind of horſe is the moſt profitable to the *Holderneſs* breeder; and what breeds are the beſt for ſaddle, coach, and cart-horſes? And, what breed of ſwine is the moſt profitable to the *Holderneſs* breeder? Diſcuſſed 5th *December*, 1798.

The diſeaſe called the Felon; or, (as it is provincially termed,) the Legging in cows. Diſcuſſed 6th *March*, 1799.

What is the beſt mode of managing meadow-ground? What is the beſt criterion for knowing when to mow graſs, for hay; and what is the beſt mode of making hay? What is the beſt criterion for knowing when to cut the different kinds of corn, growing in *Holderneſs*; and what are the earlieſt ſtages in which corn may be cut, without injury to the grain? Diſcuſſed 5th *June*, 1799.

What is the beſt kind of wheat to cultivate in *Holderneſs*? And what is the beſt kind of turnip for the feeding of cattle and ſheep in *Holderneſs*; and what is the moſt advantageous mode of giving them the turnips? Diſcuſſed 2nd *September*, 1799.

What plants are beſt adapted to form artificial paſtures on the ſeveral kinds of ſoil in *Holderneſs*? What weeds are the moſt troubleſome and noxious in the fields and paſtures therein; and what are the beſt modes of eradicating or deſtroying weeds? Diſcuſſed 9th *December*, 1799.

What is the proper time, generally ſpeaking, for putting ewes to the ram, in *Holderneſs*? What is the cauſe of the great mortality amongſt ewes, ſoon after the time of their lambing; and particularly, is it occaſioned by an infectious diſorder; and can the mortality be prevented, or leſſened, by any outward application, or medicine? What is the moſt proper age for caſtrating

lambs; and what is the beſt mode of performing the operation and of ſubſequent treatment? Diſcuſſed 3d *March*, 1800.

In the management of ſummer-paſtures, it is the practice, in ſome diſtricts, to have three diviſions—one for feeding ſtock; another for lean-ſtock; and to keep the third to freſhen for the breeding-ſtock:—would ſuch management be advantageous in *Holderneſs*; and, if any, what benefit would reſult therefrom? What is the beſt food for wintering yearling calves, and the moſt œconomical method of giving it them? And, what are the moſt effectual means of preventing the Fly-blow, or Maggots, in ſheep? Diſcuſſed 9th *June*, 1800.

To what crops, and to what extent, is the Grub injurious to the intereſt of the agriculturaliſt? Of what ſpecies of the inſect-tribe is it? Can its depredations be leſſened or prevented; and if they can, by what means? Diſcuſſed 1ſt *September*, 1800.

What kinds of natural and artificial graſſes form the beſt paſtures for ſheep, in *Holderneſs*; and by what means can the growth of ſuch graſſes be beſt promoted? And, what are the cheapeſt and beſt ſorts of winter-food for ſheep, in *Holderneſs*? Diſcuſſed 8th *December*, 1800.

What kind of grain, and what rotation of crops, are beſt adapted to poor, ſtrong clay land? Is it advantageous to uſe lime on ſuch land, and particularly before it is laid down for paſture, and if it is ſo, in what proportion, per acre, ſhould it be uſed? Diſcuſſed 2nd *March*, 1801.

What proportion of the ſeveral farms in *Holderneſs* ought to be in tillage, ſo as to enable the occupiers thereof to cultivate the ſame to the moſt profit to themſelves, and the greateſt advantage to the community? Diſcuſſed 8th *June*, 1801.

Can any method of giving ſtraw to ſtore-cattle be adopted, whereby leſs ſtraw may be uſed, and at the ſame time more manure procured, than is the caſe from the preſent methods, now practiſed in *Holderneſs*? Diſcuſſed 14th *September*, 1801.

What are the beſt means, regard being had both to the quantity and quality of converting hay, ſtraw, &c., into manure, compriſing the whole proceſs, from the conſumption of the hay, ſtraw, &c., until it is mixed (if adviſable) with other ſubſtances, and properly prepared, to be laid upon the ground? What is the beſt form of a ſtock, ſo as to obtain the two great and only eſſential objects in the art of ſtocking, *diſpatch* and *ſecurity*? Diſcuſſed 7th *December*, 1801.

No queſtion was diſcuſſed at the meeting holden 1ſt *March*, 1802.

Do crops ſown on clover-ſtubble often fail, and thereby diſappoint the farmer's expectations; and if ſo, to what cauſes are ſuch failures to be attributed? Diſcuſſed 7th *June*, 1802.

The Rev. EDMUND CARTWRIGHT, in his Eſſay on the Means of improving the Cultivation of ſtrong land, ſuggeſts, that a ſucceſſion of oatage-crops and corn-crops, are equally practicable on ſtrong as on light lands; and that ſuch is the beſt poſſible mode of cultivating ſtrong ſoils. Is ſuch a ſyſtem the beſt for ſtrong ſoils? Diſcuſſed 13th *September*, 1802.

Of what is the ſoil deprived, when it is ſaid to be exhauſted? Diſcuſſed 6th *December*, 1802.

Are dried vegetable-ſubſtances intended for the food of animals, ſuch as hay, ſtraw, clover, &c., improved by a certain degree of fermentation, or what is called Sweating, in the ſtack? What is the product of ſuch fermentation? Why is it beneficial; and why is an exceſs of it injurious? Diſcuſſed 14th *March*, 1803.

Whether it may not be more economical for farmers in *Holderneſs*, to uſe green-fodder for cattle, in winter, than hay; and if ſo, what kinds of green-fodder are beſt adapted for the purpoſe, and how can they be beſt preſerved? Diſcuſſed 6th *June*, 1803.

What are the beſt modes of preſerving, improving, and applying fold-yard manure? And, what is the cauſe of turnips growing with what are provincially termed Fingers and Toes, (that is, with roots ſomewhat reſembling

thoſe parts of the human body); and can turnips be prevented from ſo growing, by any, and what, mode of management? Diſcuſſed 12th *September*, 1803.

What kinds of wheat are the beſt adapted to the ſoils in *Holderneſs*, and which are the leaſt affected by the mildew; and to what cauſe is the mildew to be attributed? Diſcuſſed 5th *December*, 1803.

Is it moſt adviſable, in laying down land for permanent graſs, to ſow the ſeeds with a crop of corn, rape, or on a clean ſummer fallow? Diſcuſſed 12th *March*, 1804.

What kinds of turnips are the moſt proper for the different ſoils in *Holderneſs*; and what are the beſt modes of preparing the different ſoils? What is the moſt proper ſeaſon for ſowing the ſeed; and is the broad-caſt or drill-huſbandry the preferable mode; Diſcuſſed 4th *June*, 1804.

What is the beſt mode of preparing land, in *Holderneſs*, for a crop of wheat; what kind of wheat is beſt adapted to the ſoil; and what time of the year is moſt proper for ſowing the ſeed? Is it, as ſome imagine, a fact, that the plants of wheat ſown early in the ſeaſon are feeble, and turn yellow in the ſpring; and if ſo, to what cauſe is it to be attributed? Diſcuſſed 10th *September*, 180 .

Is there any good reaſon for the generally-received opinion, that a crop of rape, ſtanding for ſeed, is particularly injurious to the land? Diſcuſſed 3d *December*, 1804.

Is the preſent breed of neat-cattle, in *Holderneſs*, capable of any, and what, improvement, and by what means? And, is there any breed better-adapted to the ſoil and climate of *Holderneſs* in any other, and what part of the country? Diſcuſſed 11th *March*, 1805.

HIGHLAND SOCIETY OF SCOTLAND.

THE anniverſary General Meeting of the Society was held in the Hall at Edinburgh, in January laſt, in terms of the Charter, attended by the Rt. Hon. the Earls of Dalhouſie and Aboyne, Lord James Murray, Lord Macdonald, Sir John Dalrymple Hay, and Sir John Stuart, Bart., Lieut.-Gen. Fraſer, Major-Generals M'Kay and Forbes, Brigadier-Gen. Dirom, and other reſpectable members of the law, military, landed, and commercial intereſts, to the number of *eighty*.

The EARL OF DALHOUSIE, Vice-preſident, in the Chair, when after a ballot, as required by the rules of the Society, the following were duly admitted members, their names ordered to be recorded, and public notification of their election given, *viz.*:—

The Hon. William R. Maule, of Panmure
Sir John Stuart, of Allanbank, Bart.
Sir Andrew Cathcart, of Carlton, Bt.
Sir George Montgomery, of Macbiehill, Bart.
Lieut.-Gen. Simon Fraſer, of Breigh
Lieut.-Col. James Duff, Invernesſhire militia
Mark Pringle, Eſq. of Haining
Alexander Irvine, Eſq. of Drum, Advocate
Alex. Moir, Eſq. of Scotſtown, ſheriff of Aberdeenſhire
John Rogerſon, M.D. phyſician to the court of St. Peterſburg
John Spottiſwoode, Eſq. of Spottiſwoode
Henry Glasford, Eſq. of Dugalſtone
Phineas Hall, Eſq, late of Bombay
Col. Thomas Dallas, of Millearn
Lieut.-Col. Andrew Gillon, of Wallhouſe
Lieut.-Col. David Robertſon M'Donald, of Kinlochmoydart
Major James Fergusſon, Ayrſhire militia
Alex. Fraſer, Eſq. of Inchoulter, late of Grenada
James Drummond, Eſq. of Stragaith
Kenneth Mackay, Eſq. of Tarboil
James Forreſt, Eſq. of Commieſtone
David Ewart, Eſq. of Craiginvie
Robert R. Cunningham, Eſq. of Auchinarvie
Alex. M'Donald, Eſq. of Glenalladale
Alex. Oſborn, Eſq. Solicitor of the Cuſtoms.

J. A. Graham, Esq. merchant, Leith, Lieut.-Col. Royal Leith Volunteers
George Assiotti, Esq. Deputy Commissary-General for Scotland.
John Niven, Esq. of Thornton
Henry Niven Lumsden, Esq. of Auchindoir
William Campbell, Esq. Writer to the Signet
Thomas Hutchison, Esq. merchant, Edinburgh
James Cathcart, Esq. merchant, Leith
Capt. Hugh Stevenson, Argyleshire militia
Alex. Mundell, Esq. Solicitor-at-law, London
William Parker, Esq. | Writers to the Signet.
Robert Rattray, Esq. |
Alex. Stewart, Esq. of Darculich, late of Madras
James Law, Esq. | Edinburgh.
Daniel M'Queen, Esq. |

And on a motion, by special authority from her ladyship, the Right Hon. Flora, Countess of Loudon and Moira, was unanimously, and with much approbation, elected a member of the society, without the ordinary form of ballot, as a mark of the society's respect for her ladyship, and on her coming forward, in this manner, to contribute in support of the institution: no other lady as yet having done so, except the Countess of Sutherland, now Marchioness of Stafford.

The secretary then submitted to the meeting the proceedings of the directors, since the general meeting in June last, which were taken under consideration, and approved of; and the society were pleased to find, that much useful information had been obtained, upon the subjects for which premiums had been advertised, particularly the diseases of sheep, the native plants and grasses proper for cultivation in this country, refining of salt, and other important objects. The meeting remitted to their publication-committee, to arrange and prepare the information contained in these papers, in order to be communicated to the public.

It also gave much satisfaction to the meeting, that, from the different reports of the committees, of their resident members, appointed to superintend the different ploughing-matches, and bull-competitions, for improving the breed of black-cattle, that these premiums had excited considerable emulation in the different districts where they had been offered; and that these competitions had been properly attended by the conveners, and the other members, to whose management the society had committed them; and, that in the distribution of the society's premiums, the directors had not been inattentive to the improvement of barren lands, and the cultivation of green crops. The meeting directed a list of these premiums, and the persons to whom they were adjudged, to be published in the newspapers, in the usual manner.

Mr. Mackenzie, principal clerk of session, in name of the committee appointed for obtaining information upon the state of the herring-fishery, and the steps proper to be taken for having that important source of national wealth put upon a better footing, stated to the meeting, that in consequence of the queries circulated by the society, a great body of detailed and useful information had been obtained: but, that the time and consideration necessary to arrange and digest it, had induced the committee to defer bringing forward a detailed report upon the subject, at this meeting. Mr. Mackenzie, however, in a very neat and appropriate speech, developed to the society the principal parts of the information received; the plan the committee proposed to adopt, and the leading points to which they had it in view to direct their attention.

The society approved of the great attention paid, and the steps taken by the committee, which had only been appointed at the last general meeting: and they remitted to the directors to continue the above committee on the fisheries, with power to the directors to make such applications, in the name of the society, as they should deem proper and expedient.

The treasurer stated to the meeting the extent and nature of the society's funds, the annual income and expenditure; from a view of these, the society was gratified to find their funds daily increasing, and that the receipts of last

year conſiderably exceeded that of any former year. The meeting, therefore, were enabled to vote a conſiderable ſum, in addition to the annual grant, to be be laid out by the directors this year, in promoting the objects of the inſtitution.

Among other monies ordered to be iſſued by the ſociety, was a ſum of fifty guineas, formerly ſubſcribed as an aid for enabling the ſociety in Scotland for propagating Chriſtian knowledge, to publiſh a new edition of the Old Teſtament, in the Gaelic language, for the benefit of the poorer claſſes of the people in the Highlands; and which uſeful work is now executed, a handſome copy of which was preſented to the meeting, from the Chriſtian Knowledge Society.

The treaſurer now called the attention of the ſociety, in a particular manner, to a matter which he had formerly brought under the view of the directors, namely, an application for a new charter, in order to enable the ſociety to embrace more general objects, and more effectually encouraging Agriculture and other improvements, over all Scotland.

The ſociety approved of the ſteps taken by the directors, for having an accurate and complete report of the different ſpecies of watered meadows, practiſed by his Grace the Duke of Buccleugh, on his eſtates in Ettrick Foreſt, &c., with proper delineations, to be publiſhed for the information of the country; and, from the knowledge and abilities of the Rev. Mr. Singers, of Kirkpatrick, the gentleman employed by the ſociety, who had already inſpected theſe operations, at different ſeaſons, and who was to be aſſiſted by a practical ſurveyor, there was no doubt that the publication of the report would fully point out the extent to which floating meadow-ground was beneficial, the kind of ground beſt adapted for the purpoſe, and the proper mode of carrying on ſuch operations.

Among other matters which came before the ſociety, from the directors, was the report by Lieut.-Col. Wight, and Mr. Gordon, of Culvenan, two members of the ſociety, and ſome other gentlemen, of the inſpection of the model of a reaping machine, contrived by Mr. Gladſtones, threſhing-millwright, of Caſtle-Douglas, which was ſtated to be very ingenious; and, as it appeared, from the report, that there was a probability that the machine, when made of the proper ſize, upon the plan of the model, anſwering the purpoſe; and conſidering that ſuch a diſcovery would be highly beneficial, in ſaving labour, the meeting authoriſed the directors to afford ſuch encouragement for having a machine made of the proper ſize, for the purpoſe of trial, as to them ſhould ſeem proper.

The ſociety, after hearing Mr. M'Donald's ſtatement of the general plan, highly approved of an application for a new charter, and remitted to, and authoriſed the directors, to take the neceſſary meaſures for obtaining the ſame, upon the extended principle propoſed.

The ſociety was pleaſed to find, that government had taken up the buſineſs of having the quality and relative value of barleys and big, aſcertained by a trial of theſe different ſorts of grain, upon a large ſcale; and, that this was now carrying on by the Board of Excile, in Scotland, under the ſuperintendance of Doctors Hope, Coventry, and Thomſon, with whoſe ſcientific and chemical knowledge the ſociety, and country at large, were well acquainted; and as theſe gentlemen had taken a principal part, as members of the committee of the ſociety, on that buſineſs, they would have the benefit of the progreſs they had previouſly made, in the chemical experiments carried on by the committee. It was at the ſame time ſtated to the meeting, that, beſides the practical trial to be made of theſe kinds of grain, on the extenſive ſcale, it was propoſed, that theſe gentlemen ſhould ſtill continue under the ſanction of the ſociety, to carry on their chemical experiments, from which it was hoped uſeful reſults might be derived: the expenſe of theſe experiments to be defrayed by the monies ſubſcribed by the different counties.

The meeting having proceeded, on motion from the ſecretary, to the election of preſident, vice-preſident, and other officers, for the current year, the following noblemen and gentlemen were choſen, viz.:—

His Grace the DUKE OF ARGYLE, re-elected Preſident.

His Grace the Duke of Athoſl; Right Hon. the Earl of Dalhouſie; Right Hon. the Earl of Moira; and the Right Hon. Lord Viſcount Melville, Vice-Preſidents.

William, M'Donald, Eſq. of St. Martin's, Treaſurer; Donald M'Lachlan, of Maclachlan, Eſq. Secretary; Francis Farquharſon, Eſq. of Haughton, Accountant in Edinburgh, Auditor of Accounts; Mr. Lewis Gordon, Dep. Sec. and Collector; Mr. David Watſon, Recorder and Clerk; Rev. Mr. Donald Macintoſh, tranſlator of the Gaelic Language, and keeper of Gaelic Records; Mr. Alexander Cunningham, Jeweller and Medallift; beſides thirty ordinary directors, reſident in Edinburgh, ſeven of whom go out annually by rotation.

The ſociety alſo made choice of the following noblemen and Gentlemen to be extraordinary directors ſome of whom are only occaſionally in town, and cannot regularly attend the ſtated meetings, *viz.*:—

Right Hon. the Earl of Haddington; Right Hon. the Earl of Mansfield; Right Hon. Lord Macdonald; Right Hon. the Lord Advocate for Scotland; the Hon. Robert Dundas, of Melville, M.P.; the Hon. Baron Hepburn; Sir George Mackenzie, of Coul, Sir John Sinclair, of Ulbſter, and Sir John Mc Gregor Murray, of Lanrick, Baronets; and James Ferguſon, Eſq. of Croſhills.

Several other matters of buſineſs having been diſcuſſed and referred to the committee of directors, the thanks of the meeting were voted to the Earl of Dalhouſie, and the Vice-preſident, for his polite attention in the chair to the buſineſs of the day. In the afternoon, a large party of the members attended the anniverſary dinner, at Oman's Tavern, the Earl of Dalhouſie in the chair, when many loyal, patriotic, and appropriate toaſts were given.

RULES, ORDERS, AND PREMIUMS
OF
THE BATH AND WEST OF ENGLAND SOCIETY,

I. THAT the meetings of this ſociety ſhall be holden as follow:—On the ſecond Tueſday in the months of February, April, June, September, and November, at eleven o'clock in the forenoon, at the ſociety's rooms, in Hetling houſe, Bath; five members to conſtitute ſuch meeting. That the annual meeting ſhall be holden on the ſecond Tueſday in December, at the ſame hour, at the ſaid rooms; and, that no new laws or rules ſhall be made, or the following altered, except by the annual meeting, which ſhall conſiſt of not leſs than fifteen members.

II. That the preſident, or in his abſence, one of the vice-preſidents, ſhall preſide at and regulate the debates of all general meetings; that the vice-preſidents ſhall take the chair by rotation, and, that they ſhall be members of all committees: and, in caſe no vice-preſident ſhall be in attendance, when the hour of buſineſs ſhall have arrived, the members preſent ſhall have the authority to elect from among themſelves a chairman, for the day, and proceed to buſineſs.

III. That the preſident, vice-preſidents, and all committees for permanent objects, ſhall be choſen at the annual meeting in December? and the ſaid committees ſhall be empowered to adjourn, from time to time, as they may ſee occaſion: and, that on any vacancy or vacancies (by death, removal, or reſignation) being declared to the ſecretary, he ſhall make report thereof, if the caſe will admit, to the enſuing November meeting; and, that on the day preceding the annual meeting, it ſhall be determined by ballot, who ſhall be put in nomination as candidates for the ſaid vacancy or vacancies; the chairman chooſing for each vacancy thoſe three gentlemen who in ſuch ballot ſhall be found to have the greateſt number of votes; and the names of theſe gentlemen ſhall be delivered to the chairman of the annual meeting, who ſhall then proceed to determine the election by ballot, which ballot ſhall continue open for two hours after the chair ſhall have been taken.

IV. That each committee, when met, ſhall chooſe a chairman, and enter minutes of their proceedings, in a book for that purpoſe. That all reports to the general meeting ſhall be made in writing, and ſigned by the chairman; and that the ſecretary ſhall enter thoſe reports in the ſociety's journal of tranſactions.

V. That the general meeting in November, ſhall be for preparing the buſineſs neceſſary to come before the annual meeting; and, that the buſineſs tranſacted at ſuch annual meeting ſhall be, the appointment of officers; reviſing and confirming, or amending, the conſtitutional rules of the ſociety; the determination of premiums claimed, and of new premiums, to be offered for the year enſuing. That no alteration in the conſtitutional rules ſhall take place, unleſs propoſals for ſuch alterations be made at, and approved by, the general meeting in November.

VI. That an annual ſubſcription, of any ſum, not leſs than one guinea, ſhall entitle a perſon to be a member; and that the names of all perſons who give annual benefactions, not leſs than half-a-guinea, ſhall be publiſhed with the liſt of members; but that only members ſubſcribing at leaſt one guinea per annum, and members for life, who have paid the proper benefaction, ſhall have a right of voting in this ſociety. That a benefaction, of not leſs than twelve guineas, ſhall entitle any perſon to be a member for life? and, that every perſon who has given, or may give in his name as a member, is and ſhall be deemed ſuch, and his ſubſcription be conſidered as juſtly due to the ſociety until he give notice in writing to the ſecretary, of his intention to withdraw it.

VII. That a liſt of ſuch premiums as the ſociety may think fit to offer, ſhall be printed and publiſhed on or before the firſt of February, in every year; which premiums ſhall be claſſed under the ſeveral heads propoſed to be encouraged by this inſtitution.

VIII. That no premium ſhall be offered to the public, until it has been firſt propoſed and approved by a committee, and agreed to by the annual meeting. Nevertheleſs, the annual meeting reſerves to itſelf a diſcretionary power of giving immediately any honorary premium, though none may have been previouſly offered, for any new eſſay, model, or diſcovery, which may be thought to deſerve it.

IX. That no premium will be given, when the claim is made for any object, which ſhall appear to have been within the uſual courſe of practice of the claimant, previouſly to the firſt publication of the premium by the ſociety; except in the caſes of live-ſtock and wool, or where the claim is accompanied with the diſcloſure of eſſential and important circumſtances, which would have otherwiſe been unknown to the public.

X. That, in order to excite emulation, and increaſe the number of competitors, no perſon ſhall receive a premium for a ſimilar experiment, or matter, more than once in ſeven years, unleſs it ſhall appear that he has made ſome improvement on his former production; or more than one premium in one year, with regard to the ſame ſpecies or object; but that in any caſe, a perſon diſqualified as above from receiving premiums, ſhall have liberty to ſtand in competition, and ſhall be entitled to have a report made by the examining committee, of the merit of his production, comparatively with that of the other claimants.

XI. That no member of the ſociety, who is a candidate for any premium or bounty, ſhall ſit in any committee, to which ſuch matter may be referred, or be preſent while the ſubject is under conſideration; nor ſhall ſuch candidate be preſent in the meetings of the ſociety, during the time the matter is before them, whether in debate or for determination, unleſs when called in to anſwer ſuch queſtions as it may be deemed proper to put to him; and the ſociety reſerve to themſelves the power of giving, in all caſes, ſuch part only of any premium, as the performance or exhibition ſhall be judged to deſerve, or of withholding the whole if there be no merit.

XII. That all claims for premiums or bounties, ſhall be made at leaſt two months before the annual meeting in December, except ſuch as relate to the following rule, or are otherwiſe directed in the premium-book; and, that ſuch claims be given in to the ſecretary, in writing, and be by him preſented alſo in writing to the committees to which they reſpectively relate, at their firſt following meeting.

XIII. That all exhibitions of breeding ſtock and wool, be referred to the day previous to the annual meeting; of fat ſtock, *alive*, to the day of annual meeting—and of the ſame ſtock, *dead*, to the morning following, except where otherwiſe expreſſed in the terms of the premium. The ſecretary to have one month's notice of an intention to exhibit for premiums, the objects compriſed in this rule.

XIV. In order that all rewards may be diſtributed with the utmoſt impartiality and juſtice, the general meeting, as well as the committees of the ſociety, ſhall, if they think it neceſſary, deſire the aſſiſtance of ſuch gentlemen, manufacturers, artiſts, or others, (though not members,) as ſhall be deemed beſt able to judge of and diſcover the merits of any invention or improvement for which a premium is claimed.

XV. That premiums ſhall be in plate or money, at the option of the ſucceſsful claimant; but, that no premium or bounty ſhall be given by this ſociety, to any perſon who ſhall have obtained a premium or bounty for the ſame invention, crop, or improvement, from this or any other ſociety, ſave as expreſſed in rule X.

XVI. That as the principal deſign of this inſtitution is, by exciting a ſpirit of induſtry and ingenuity, to promote the public good, the premiums offered ſhall be more immediately directed to improvements in agriculture, planting, and ſuch manufactures and arts as are beſt adapted to the weſtern counties.

XVII. That ſome premiums be annually offered for the encouragement of induſtry and good-behaviour amongſt ſervants in huſbandry, and labourers, in the ſame counties.

XVIII. That, in order to encourage the ſtudy as well as the practice of Agriculture, honorary premiums ſhall be offered for the beſt-written and moſt uſeful original eſſay, on any of the ſubjects to which the views of this ſociety may be extended; the ſociety propoſing the ſubjects in their annual liſt of premiums.

XIX. To prevent partiality it is required that objects, whether models, ſtock, eſſays, &c., for which premiums are claimed, be offered or exhibited without names, or any intimation to whom they belong That each particular article be diſtinguiſhed in what manner the claimant ſhall think fit, each claimant ſending with it a ſealed paper, having on the outſide a correſponding mark of diſtinction, and on the inſide his name and addreſs.

XX. That the ſealed-up papers belonging to the unſucceſsful candidates ſhall not be opened, and ſhall be deſtroyed, if not called for previouſly to the next general meeting; and that ſuch deſigns, models, ſpecimens, or eſſays, as are rejected, ſhall be left in the ſecretary's hands, and if not called for within twelve months after the adjudication of the premiums, ſhall be conſidered as the property of the ſociety.

XXI. That all models of machines and implements, which ſhall obtain premiums and bounties, ſhall be left with the ſociety, to be kept in their rooms for the inſpection of farmers, manufacturers, &c., previouſly to the payment of the premium or bounty.

XXII. That all claims ſhall be finally determined at the annual meeting next after which they are made, except in caſes where the premium is extended to another year.

XXIII. That a candidate for a premium, or a perſon applying for a bounty, being detected in any attempt to impoſe on the ſociety, ſhall not only forfeit ſuch premium or bounty, but ſhall be declared incapable of obtaining any for the future.

XXIV. That the want of competition does not exclude a ſingle claimant, where there is poſitive merit, and no competition ſpecifically required by the premium.

XXV. That the ſociety's caſh ſhall be accounted for at the annual meeting in each year.

XXVI. That all drafts upon the treaſurers ſhall be drawn at the general meeting, and ſigned by the chairman, and two other members preſent.

XXVII. That forty pounds be continued in the ſecretary's hands, to anſwer any demands upon the ſociety between the general meetings; and on the auditing his accounts, if he has more than forty pounds in hand, he ſhall pay the ſurplus to the treaſurers; if he has leſs than forty pounds, a draft upon the treaſurers ſhall be given him for the deficieney. The treaſurers to be the proprietors of the Old Bath Bank, in Milſom-ſtreet.

XXVIII. That the ſecretary ſhall procure all ſuch books and ſtationary-ware as are needful for the ſociety's uſe, and keep fair accounts of all monies received and diſburſed by him, the ſaid accounts to be ſettled and balanced at each meeting, in the ſociety's caſh-book, when a committee of accounts ſhall be appointed to audit them. He ſhall alſo perform the neceſſary buſineſs of his office, with diligence and integrity, viz.:—Attend all meetings and committees of the ſociety; make all minutes and reſolutions, and enter them fairly in the journal of tranſactions; read all letters and other papers ſent to the ſociety, and prepare ſuch anſwers thereto as the ſociety ſhall direct—and preſerve or record regularly in the book of correſpondence ſuch as are worthy of preſervation; ſign all publications, notices, and receipts; and to attend to the printing of whatever the ſociety may direct to be printed, and correct the preſs. He ſhall alſo collect ſubſcriptions, and viſit manufactories, or apply for particular information reſpecting them, when required by the ſociety ſo to do; and, as much as poſſible, make himſelf acquainted with the various arts, &c., to which the views of the ſociety ſhall be directed.

XXIX. That on any emergency, the ſecretary, with the concurrence of five members, ſignified in writing, and ſigned with their names, may call an extra general meeting, by advertiſements in the public papers of the reſpective counties: and, in caſe of the death or reſignation of the ſecretary, three vice-preſidents, or any five members, ſhall be authoriſed to call an extra general meeting, in like manner, which extra general meeting ſhall be competent to the appointment of a perſon to act as ſecretary till the next annual meeting.

XXX. All letters relative to the buſineſs of the ſociety, being laid by the ſecretary before the committee of correſpondence, that committee ſhall be at liberty, from time to time, to refer ſuch letters as they think proper to the other reſpective committees, without waiting to report them to a meeting of the ſociety, unleſs ſuch letters relate to the granting any new premium or bounty.

XXXI. All the books, papers, and correſpondence of the ſociety ſhall remain under the care of the ſecretary, to be inſpected by the members, at any reaſonable time.

XXXII. In caſe any perſon ſhall be diſpoſed to leave a ſum of money to this ſociety by will, the following form is offered for that purpoſe:—

ITEM, I give and bequeath to A. B. and C. D. the ſum of pounds, upon condition, and to the intent, that they pay the ſame to the treaſurer or ſecretary, for the time-being, of a ſociety inſtituted at Bath 1777, who now call themſelves "The Bath and Weſt of England Society, for the Encouragement of Agriculture, Arts, Manufactures, and Commerce;" which ſaid ſum of pounds, I will and deſire may be paid out of my perſonal eſtate, and applied towards carrying on the laudable deſigns of the ſaid ſociety.

XXXIII. Form of a letter to a gentleman whoſe ſubſcription is in arrear

"SIR—I am directed to inform you, that your annual ſubſcription of has been in arrear ſince the day of : and, as it is of conſequence for the ſociety to know what ſums of money they can beſtow

in premiums, you are reſpectfully deſired to order the payment of it to the ſecretary. By order of the ſociety.

Secretary."

N. B. To the foregoing letter ſhall be annexed the latter part of the rule No. VI.

† Every member, by applying to the ſecretary, is entitled to the collection of the ſociety's papers, from the time of his admiſſion.

NEW PREMIUMS OFFERED FOR THE YEAR 1805.

1. *For raiſing Swediſh Turnips.*—To the perſon who ſhall produce the beſt crop of the yellow or orange Swediſh turnip, exceeding 20 tons per acre, from a breadth of land not leſs than four acres; *Five Guineas.*—The relative quantity of the land to be conſidered: the period of weighing to be in the month of February; and the quantity to be weighed not leſs than a quarter of an acre.

2. *For new ſeminal Varieties in Grain.*—It being every year manifeſt to the obſerving farmer, that there are ſeminal varieties in his corn-crops, differing materially from the parent-ſeed; ſometimes in earlineſs of ripening; in others, in plumpneſs and fullneſs of grain; in others, in the number of ears proceeding from each plant—it is preſumed, that a ſelection of ſuch plants, with a view to increaſe and perpetuate the ſort, as has already been done with ſucceſs, in the hedge-wheat, and potatoe-oat, may be beneficial to the public. A premium of *Five Guineas* will be given to the perſon who ſhall ſelect any ſuch ſeminal varieties of wheat, barley, or oats, when ripe, and ſhall ſow the ſame, and ſend the produce thereof, unthreſhed, to the ſociety, at their general meeting in December, 1806 and 1807, ſufficient to produce, when threſhed, half a peck of grain, ſuch as ſhall be pronounced, by a committee to be appointed for that purpoſe, to be new and ſuperior in quality to any grain of the ſame kind now in uſe, and worthy of being introduced into Agriculture.——The premiums to be extended to each of the pulſe kinds of grain; and, if there ſhould be a competition in either of the kinds, the committee to determine the preference.

3. *Blight in Wheat.*—To the perſon who ſhall aſcertain the cauſe, and point out a preventative, of the diſorder called the Blight, Mildew, or Ruſt in wheat, which of late years, and particularly the laſt year paſt, has been ſo deſtructive to the crop; *Ten Guineas.*

4. *Female Friendly Societies.*—A premium of *Ten Guineas* ſhall be given to the moſt numerous *female* friendly ſociety, conſiſting ſolely of women, and thoſe chiefly of the labouring claſſes, which ſhall, before the firſt of January 1807, be eſtabliſhed in any town or pariſh within either of the weſtern counties, where no ſuch ſociety at preſent exiſts; ſubject alſo to the regulations ſtated in premium 5, claſs IX.

5. *Women Ploughing,*—To the woman who ſhall, between the 1ſt of January and the 1ſt of December, 1805, plough, in a workmanlike manner, the greateſt number of acres; *Five Guineas:*——The quantity ploughed to be not leſs than one hundred acres; and certificates of the quantity and quality of ſuch ploughing to be produced on or before the ſecond Monday in December, 1805.

6. *Folding the greateſt Number and moſt profitable Sort of Sheep.*—To the farmers on an open arable farm, who ſhall have bred and kept in his uſual mode, on a folding-ſyſtem, the greateſt number, and moſt profitable ſort, of ſheep, from a ſtock not leſs than two hundred breeding ewes, in proportion to the ſize of his farm; *Ten Guineas.*

7. *Breeding and keeping (generally) the greateſt Number and moſt profitable Sort of Sheep.*—To the farmer who ſhall have bred and kept on an incloſed farm, either of arable or paſture land, or both, the greateſt number, and moſt profitable ſort, of ſheep, in proportion to the ſize of his farm, which ſhall not be leſs than fifty acres? *Ten Guineas.*

LORD SOMERVILLE's SHOW OF CATTLE. &c.

FIRST DAY, MONDAY, MARCH 4.

AT an early hour this morning, Mr. Dixon's City Repoſitory, in Barbican, was crowded with Agriculturiſts, Breeders, Graziers, &c. to view the exhibition of Live-ſtock and Agricultural Implements, and, till duſk in the evening, they continued to come in great numbers. The number of nobility and diſtinguiſhed agriculturiſts who came, from one to half paſt three o'clock, was unuſually great; and they were amply gratified by a moſt ſuperior ſhow of fine oxen, ſheep, and pigs; there being this year a great number of extra cattle, beſides thoſe ſent in as candidates for the ſix prizes which Lord Somerville gives on the occaſion.

Among the company preſent, we noticed—

Prince Baratinſky.

His Grace the Duke of Bedford.

Earls—Winchelſea, Romney, Talbot, Mansfield, and Dinevor.

Lords—Sheffield (Preſident of the Board of Agriculture), Somerville, Newark, W. Ruſſel, &c.

The Hon. John Foſter, and Hon. Roſs Mahon.

The Biſhop of Kildare, the Rev. Dean Dudley, and Admiral Marſham.

Sirs—Joſeph Banks, (Preſident of the Royal Society), Watkins William Wynne, William Clayton, Charles Hill, Harry Vavaſor, &c.

J. C. Curven, C. Weſtern, J. Palmer, Hen. Hugh Hoare, C. G. Gray, T. Eaſtcourt, H. Darrel, —— Moſeley, George Gunning, H. Carr, Money Hill, William Wall, C. Tottenham, C. C. Smith, C. Morgan, and J. Parry, Eſquires.

Meſſrs.—Weſtcar, N. Buckley, J. Ellman, T. Ellman, G. Joyner, Froſt, Clayton, French, Smith, Brown, Giblet, King, King, jun. T. Boys, J. Thomas, E. Auger, Rowntreee, Collinge, Brodie, Rood, Plowman, A. Young, J. Lawrance, J. Farey, P. Stewart, J. Bellamy, G. Garrard, Gibbs, &c.

Among the cattle exhibited were—

Two very fine Hereford oxen, which had been worked, and fattened by his Majeſty, under the care of Mr. Froſt, and ſhown for the prize; they had been driven twenty-five miles to the place of exhibition.

Two Devon ſeven years-old oxen, worked by Lord Somerville, in whoſe team they had done ſeventy-two whole and eleven half-day's work; and had ſince been driven one hundred and fifty miles.

Two Devon ſix years-old oxen, worked by the Duke of Bedford.

Two Hereford oxen, grazed by John Higgins, Eſq.

Two Devon oxen, grazed by Mr. Medron.

Two Devon fat oxen, worked by Mr. James Bindon, grazed by Mr. Henry Coles, which had been driven one hundred and forty miles.

Two Hereford oxen, which had been worked and grazed by Mr. Hatch.

Two Suffolk oxen, grazed by Mr. Miller.

Two Hereford ſix-years old oxen, worked by Mr. Shyme, and grazed by Mr. Weſtcar; ſince which they had travelled fifty miles.

Two Suſſex ſeven year-old oxen, worked and grazed by Mr. Waters, which had been driven ten miles.

Two Devon oxen, worked by Mr. W. Webber, and grazed by Mr. Martin Webber, since which they have been driven one hundred and twenty-three miles.

Among the oxen and cows exhibited, without any view to the prizes, we noticed—

A ſurprising large black ox, of the Holderneſs breed, bred by Mr. G. Wheeler, fed by Mr. Tully.

A very handſome ſmall brindled five years-old Spaniſh cow, which Lord St. Vincent brought home from that country: it was grazed, till Chriſtmas laſt, by Mr. Joſeph Joyner, and ſince has had oil-cake.

Four Scotch beaſts, fed by Mr. Fakle.

A galloway Scotch beaſt, five years old, fed on graſs and hay, ſince May laſt, by Henry Hugh Hoare, Eſq.

A Holderneſs white-ſported ox, fed by Mr. Tubbs.

Two Devon oxen, fed by Mr. Coſes.

A Suſſex ox, ſeven years old, bred by Mr. Elliot, fed by Mr. T. Ellman.

A Suſſex ox, ſeven years old, bred by Mr. Cornwall, and fed by Mr. John Collman.

Two Kentiſh cows, mother and daughter, fed by Earl Darnley.

A Yorkſhire ox, three years old, fed by Mr. J. Adams.

A Yorkſhire cow, three years old, fed by Mr. Adams.

A Devon cow, six years old, bred by Lord Somerville, and fed by Mr. Henry King.

A four years old bull, of the Indian and French breeds, bred by Mr. White Parſons.

A cow, of the Devon and Indian breeds, fed by Mr. White Parſons.

A Devon bull, belonging to Lord Somerville, intended for ſale on that day.

A female Biſon, a curious animal, the ſize of a middling ox, very high in the ſtanding, with ſhort horns, full eyes, and a very rough head.

Among the ſheep ſhewn for the prizes, we noticed—

Five one year-old South Down ewe-hogs, bred by Mr. H. Darrel, which had been brought in a carriage thirty-two miles, to the exhibition.

Five one year-old South Down ewe-hogs, bred by the Duke of Bedford, brought forty-two miles.

Five eleven-months South Down ewe-hogs, bred by Mr. John Ellman, brought fifty miles.

Five one year-old Merino ewe-hogs, bred by Lord Somerville, brought one hundred miles.

Five three years old South Down wethers, bred and fed by the Duke of Bedford, brought forty miles.

Five two and three years-old South Down wethers, bred by Mr. John Ellman, brought fifty miles.

Five three year old South Down wethers, bred by Money Hill, Eſq. brought one hundred and twenty miles.

Five three year-old South Down wethers, bred by Sir Thomas Carr, brought fifty-one miles.

Among the extra ſheep, we noticed—

Two three years-old wethers, of the Spaniſh and Ryeland-breeds, bred by Mr. Ridgway, and fed by the Earl of Mansfield.

Three South Down three years-old wethers, bred and fed by Mr. Tubbs, brought twelve miles.

Four three years-old South Down wethers, bred and fed by Mr. Mills, drove twenty-two miles.

Lord Somerville ſhewed a fat two-toothed Merino wether-ſheep, of his breed, which was declared, by Sir Joſeph Banks, and others of the beſt judges, to be peculiarly fine in the wool, and very fat.

His Lordſhip alſo ſhewed three Merino rams, part of the flock which his lordſhip brought ſome time ago from Spain, with the patriotic view of improving our fine wools. One of theſe rams was let laſt year for one hundred guineas. They are much better ſhaped than the generality of the Merino ſheep.

Lord Somerville alſo exhibited the carcaſes of five fat wethers, of the Merino and South Down breeds, half blood, three years old, which had twenty-three pounds of looſe fat each. They had been driven one hundred and ſixty miles from his lordſhip's farm, where they were bred and fed. Theſe carcaſes are exceedingly fat and fine.

Five carcaſes of Cheviot wether-ſheep, two and three years old, which had been killed in Scotland, and ſent up a diſtance of three hundred and eighty-five miles, by Mr. Robinſon, were exhibited.

George Tollett, Esq. exhibited the carcases of two three year-old wether-sheep, one Merino and South Down, the other Merino and Ryland; the former had nineteen pounds and three-quarters of loose fat, and the other twenty-three pounds. They were both driven a distance of one hundred and thirty miles; these had been killed seven days; they were both got by a Merino ram of Lord Somerville's.

Two South Down rams, two and three years-old, belonging to Charles Western, Esq. were shewn.

Also, another South Down ram, and a curious rough black-spotted sheep, with four horns, said to be from the Cape of Good Hope.

Charles Western, Esq., Mr. King, of Newgate-market, and Mr. Smith, were the three judges who examined the five South Down sheep, shown by Money Hill, Esq. and Sir Thomas Carr, for a bet of fifty pounds, made at the last Smithfield Club-meeting. Their decision will be found in the subsequent day's proceedings.

Some very fine pigs were exhibited, particularly a small, but remarkably fat and handsome black and white sow, by a Leicester boar and Chinese sow, eight months old, bred by Mr. Isted, and fed by the Duke of Bedford: it measures, in height, one foot eleven inches; in length, from rump to snout, three feet nine inches, and in girth, across the shoulders, four feet nine inches!

Mr. Tubbs exhibited two fine large white pigs, of his breed. A peculiarity in these pigs is highly deserving of notice: it is Mr. Tubbs's practice to shave off, with a razor or sharp knife, the gristle on the tops of the noses of his pigs, when they are young, which soon heals over; but the pig is thereby rendered incapable of that destructive rooting or turning up of the ground, which farmers find so destructive to their sward-lands.

Charles Western, Esq. shewed two spotted Essex pigs of his breed and feeding.

The same gentleman shewed four Sussex pigs, bred and fed by him.

Mr. Wakefield shewed a white pig, of the Sussex and Essex breed, six months old, bred by him.

The Earl of Winchelsea shewed a large Leicester pig, two years old, bred and fed by him.

Also, a black and white pig of the Essex breed, bred by Charles Western, Esquire.

Mr. Pickford exhibited two large black and white pigs, bred and fed by him.

The five umpires or judges of the shew were, the Hon. Ross Mahon, Cha. Gordon Grey, Esq., Mr. Edward Auger, Mr. Thomas Boys, and Mr. John Thomas. In the forenoon of Monday they examined the several certificates of ages, breed, keep, and other circumstances, required by Lord Somerville's printed proposals; and, in the afternoon proceeded in their inspection and examination of the cattle, preparatory to their decision.

In the centre of the repository-yard, a very useful implement, called a patent Hampshire waggon, was shewn, belonging to H.R.H. the Duke of Kent. It is the invention of Mr. Rood, of Portsmouth, and is so contrived as to take readily in two, and form two carts. It was shewn lately to his Majesty: several mechanical contrivances about it are very ingenious.

Mr. Plowman exhibited part of a sheep-fold, on a new construction, moving upon wheels, which he has made for the Duke of Bedford, applicable to the penning of hogs upon clover, or other green food.

Mr. M'Dougal shewed Lord Somerville's patent-plough, with two shares; a chaff-cutter; a barrel-churn, which does not revolve, as usual, but reverberates by means of a pendulum; a hand-drill, for corn, and another with an additional part, for sowing any light manure, as rape-dust, soot, &c. with the corn, in any required proportion.

Mr. Garrard, the cattle-modeller, took several sketches from the company present, for the portraits in his intended view of the Woburn sheep-shearing.

He alſo ſketched the Duke of Bedford's handſome pig, and Mr. Joyner's beautiful Spaniſh cow.

Meſſrs. Gibbs and Co. ſeedſmen, ſhowed ſamples of great meadow-graſs ſeed, common meadow-graſs, cock'sfoot, meadow foxtail, feſcue, creſted dog's-tail, ſweet vernal, improved perennial rye-graſs, Pacey's rye-graſs, fine bent-graſs, and yarrow-ſeed.

SECOND DAY, TUESDAY, MARCH 5.

The intereſt which this exhibition excited on Tueſday, exceeded every thing of the kind which we ever witneſſed; and, during the greater part of the day, the large yard and premiſes in which the cattle are ſhewn, were literally crowded with perſons of the firſt diſtinction, and of eminence as breeders, graziers, farmers, mechanics, &c.

In the forenoon, Mr. White Parſons' bull and cow were brought out into the yard, to be examined; the bull is two years and a half old, of the Devon and French breed; and the cow is two years and three quarters old, of the Devon and Indian breed: ſhe has been fed on hay and graſs, and had her ſecond calf by her ſide.

The company inſpected the carcaſe of Lord Somerville's Merino wether, twenty-two months old, which had been ſo much admired on Monday, alive, for the unparalelled firmneſs of the wool, and the goodneſs of its ſhape. The mutton proved very fat and fine; weight ſixty-three pounds, with eight pounds and half rough fat.

The other carcaſes were weighed.

About one o'clock, Mr. Dixon put up to let by auction, for the two enſuing ſeaſons, a ſix year-old Merino ram, of Lord Somerville's.

Lot 1. After much keen bidding, was knocked down to Mr. Lawrence, at one hundred and eleven guineas.

Lot 2. Another Merino ram was let to Charles Gordon Grey, Eſq. at one hundred guineas for the two ſeaſons.

Lot 3. Was not let.

Lot 4. A Merino ram lamb was ſold to Mr. Beckingham, at thirty-two guineas.

Lot 5. Another Merino lamb was ſold to Mr. Wildman, at twenty-eight guineas.

Lot 6. Another ditto, to Mr. Blake, at thirty-one guineas.

Lot 7. A ram of the Merino and South Down breed, was ſold to the Earl of Bridgewater, for fifty-five guineas.

Lot 8. A Devon bull was ſold to Mr. Tyler, for twenty-ſix guineas.

Lot 9. The Biſon was ſold to Mr. Scott, at twenty-ſix guineas.

Lord Somerville ſtated, that he had been offered 3s. 6d. in the rough, or 5s., when ſcoured, per pound, for the wool of the ſkin, from the Merino wether, which had been killed that morning, (Tueſday).

The beautiful ſow, belonging to the Duke of Bedford; the Spaniſh cow, belonging to Mr. Joyner; the large ox, belonging to Mr. Tully; and the Devon oxen, belonging to Mr. Hudſon, particularly attracted the notice of the company.

Meſſrs. Bridge and Co. ſhewed ſome ſpring-wheat, ſo admirable, from colour, ſhape, weight, and flavour, as particularly to attract the notice of the farmers, and a great deal of it was ordered.

Meſſrs. Gibbs ſhewed ſome curious ſpecimens of purple kohl rabi, and white ditto, being two new roots likely to become uſeful in agriculture; as alſo ſeveral new and uſeful ſeeds.

LORD SOMERVILLE'S DINNER.

Between two and three hundred noblemen, gentlemen, yeomen, graziers, ſtaplers, and other perſons actively engaged in the buſineſs of breeding neat cattle, ſheep, and hogs, for the ſupply of the markets, dined with Lord So-

merville on Tuesday, at Freemasons' Tavern. There prevailed, through the whole hall, that entire fellowship which ought to subsist among men engaged in honorable emulation. Peers of the highest rank, and men of the most opulent fortune, sat promiscuously with their tenants and tradesmen, and there reigned through the whole Meeting but one sentiment—that of receiving and communicating information. From every part of the kingdom there were persons who had devoted their time, fortune, skill, and attention, to the improvement of agriculture; and by whose efforts we have risen to our present eminence in rural economy.

Dinner over, Lord Somerville, after giving his Majesty's health, with thanks for his patronage of agriculture, proceeded to the adjudication of the prizes. He read the paper of instructions given by him to the five Judges, and then opened the seal of their paper. They unanimously voted the prizes as follow:—

1. Cup, value thirty guineas, to Mr. Hudson, for the best yoke of oxen.
2. Cup, value twenty guineas, to Mr. Webber, for the second best.

As father and son had, the one bred and the other worked and fattened the oxen, the noble Lord presented to each a cup.

3. Cup, value thirty guineas, to Mr. Ellman, for the best five ewe-hogs.
4. Cup, value twenty guineas, to the Duke of Bedford, for the five best wethers.
5. Cup, value ten guineas, to the Duke of Bedford, for the best sow.

The noble Duke stated, that this sow was bred by Mr. Isted, a neighbour, and that he had not the merit. He had only fed the animal. He therefore, with his Lordship's leave, would transmit the cup to his neighbour.

The two prizes of six guineas and four guineas for the best shepherds, were adjudged to the shepherds of Mr. Ellman and the Duke of Bedford upon certificates, which did infinite credit to their skill and attention. The first, out of 701 lambs, lost but 19; the other, out of 471, lost but 11.

The noble Lord made appropriate speeches on presenting the cups to the several successful candidates, and he delivered several others, particularly one which he gave to Lord Minto, to be presented to Mr. Robson, of Roxburghshire, who had sent some admirable carcases of mutton, fed on his mountain farm; the only person north of the Tweed who had contributed to the show.

The Duke of Bedford, in a short elegant speech, pointedly enumerated the national obligations to Lord Somerville, for the emulation he had so nobly excited in the four years that he had held out these prizes, and invited the skilful to assemble in this manner. The exhibition of this year was a most noble and gratifying reward for his exertions; and he was sure they would all heartily concur to drink his health.

Lord Somerville returned thanks for the warm testimony of approbation with which his name was received.

The noble Lord then stated, that, for the furtherance of the objects which they all had in view, the same prizes would be offered for the ensuing year. In the printed regulations there were some alterations, as well as a new prize, to which he begged leave to draw their attention.

In the first prize for the best and second-best yoke of oxen, he proposed, that they should not be let up from work till between the 20th and 30th of May, which was several days later than heretofore, as by this means they might be usefully employed in finishing the spring work. Little grass would be lost, and they would be just nine months in finishing for the show, which would take place on the 3d and 4th of March, 1806.

He had alſo introduced a new prize for the enſuing year; viz. "A piece of plate, value 10l. to the breeder who ſhall, in the preceding year, rear the greateſt number of fine Merino lambs, not under 50. A lot of fine ewe-hogs, not exceeding thirteen months, nor leſs than ten, ſhall be exhibited, which ſhall be alſo eligible to other premiums." He ſtated the reaſons of this prize to be, that the rapid improvement which had taken place in the moſt valuable and neglected breed of fine-woolled ſheep, ſhewed what might be done with care and ſkill. The beautiful and ſurpriſing carcaſes ſent by Mr. Tollett were evidence of the perfection to which the mutton might be brought; and his own two-toothed wether ſhewed the fineneſs of the ſtaple of the wool. Prejudices were difficult to be overcome. The manufacturer was fearful of loſing the growths of Spain; but that difficulty was now conquered, for it had been ſhewn, that ſo far from degenerating, it had been improved in England. It had been proved that we can grow the fineſt wool at home, and, if the preſent ſpirit of emulation continued for fifteen or twenty years, might make us independent of foreign ſupplies. This was the motive with which he offered this new prize.

He ſtated, that one article or pen of each lot was in future to be ſent in from each candidate's ſtock. This was rendered neceſſary, from the immenſe number ſent in.

He alſo propoſed, that a lot of ſheep ſhewn dead, ſkin, rough fat, head, and legs, exhibited, will be entitled to the premiums, if brought from a diſtance of 180 miles. This, he ſaid, was fair, for ſheep could not be conveyed alive ſuch a diſtance without deterioration.

The noble Lord concluded this part of his addreſs to the company, by quoting from the Tranſactions of the Bath Agricultural Society, that it was now demonſtrated that rural labour might be more beneficially performed by oxen. Mr. Bellingham had ploughed laſt year 530 acres with ſix oxen (two to lie bye), and he had on his own farm ploughed 1000 acres with twelve oxen, of which the two oxen now exhibited were a part. If, therefore, any man complained of the tax upon working horſes, with ſuch a reſource open, he had only himſelf to blame.

The noble Lord then read the adjudiciation of a bet, which had been made between Sir Thomas Carr and Money Hill, Eſq. as follows:

March 4, 1805.

We, the underſigned, have examined five South-down wether ſheep, bred by Sir Thomas Carr, and alſo, five South-down wether ſheep, bred by Mr. Money Hill, and are unanimouſly of opinion, that, with reference to ſhape, and frame of carcaſe, and general ſymmetry, thoſe breſt by Mr. Money Hill are the beſt.

C. C. WESTERN.
HENRY KING.
EDWARD SMITH.

The bet had been for 50l. but as between gentlemen 50 pence or 50 ſhillings were as deciſive a teſt of conqueſt as 50l. he had begged to be permitted to name the ſum, to which they had handſomely agreed, and he had named 10l. But he begged from himſelf, as a mark of his reſpect for the efforts and ſkill of the victor, to preſent a ſilver cup to Mr. Money Hill.

The Duke of Bedford gave the noblemen and gentlemen preſent an invitation to the Woburn ſheep-ſhearing, on Monday, June 17, and three following days; and a card, ſtating the arrangements for each day, was handed about. At the ſame time, his Grace ſaid, a challenge, given by Mr. Coke to the whole world, to produce a plough for general purpoſes, equal to the Norfolk, would be decided—a manufacturer from Leith, near Edinburgh, having given notice, that he ſhould produce a plough againſt it, at the Woburn meeting.

Lord Somerville ſtated, by the deſire of the Earl of Bridgewater, that he offered a premium of fifty guineas to any perſon who ſhould produce a plough for flinty ſoils, ſuperior to the Hartford plough; and twenty guineas more if it ſhould be found ſuperior for general purpoſes.

Various other propoſitions for the advancement of rural economy were made, and the meeting ſeparated, after a moſt feſtive day, with the higheſt ſentiments of approbation and reſpect for the noble inſtitutor of this anniverſary competition.

In the courſe of the day the following toaſts were given:

1. The King, with grateful thanks for his patronage.
2. The Plough, worked by good Oxen when the ground is capable of carrying them.
3. The illuſtrious ſtrangers, Prince Beratinſky, &c.
4. The Fleece, covering plenty of good fleſh, and a QUANTUM SUFFICIT of fat.
5. Good graziers in mountain diſtricts, Mr. Robſon, of Roxburghſhire, and all good farmers on both ſides the Tweed.
6. Sir Joſeph Banks, thanks to his minute inveſtigation, and able Treatiſe on ruſt or mildew in wheat.
7. The Farming Society in Ireland, Mr. Foſter, Lord Sligo, and all its members preſent. May we imitate its ſpirit and arrangement.
8. Mr. Arthur Young, may we profit by his admirable Treatiſe on Chemiſtry.
9. Huſbandry and Commerce, may their intereſts ever be inſeparable.
10. Mr. Coke.
11. Mr. Tollett, whoſe ſheep have cauſed ſo much ſurprize and admiration.
12. Mr. Boys, whoſe Eſſay on paring and burning no farmers ſhould be without.

Among the company at dinner, were—

Duke of Bedford, Earl Talbot, Earl of Winchelſea, Lord Dynevor, Sir James Montgomery, Sir George Hill, Mr. Gordon Gray, Sir Henry Vavaſour, Col. Vavaſeur, Mr. T. Sitwell, M. P. Sir Joſeph Banks, Lord Newark, the Prince of Baritinſki, Sir George Douglas, Lord Sheffield, Earl of Mansfield, Rev. Dean Dudley, Sir John Sebright, Lord Bulkeley, Lord William Ruſſell.

COMPLETION OF THE GRAND JUNCTION CANAL.

That grand line of communication, between the metropolis and the moſt diſtant parts of the kingdom, which the Grand Junction Canal was to effect, was incomplete till the 1ſt of April, owing to a range of high land, between Stoke Bineu, and Bliſworth, in Northamptonſhire, not being penetrated by a tunnel or arch, as intended; but all goods coming paſt that place, have been obliged to be unloaded, and placed on waggons, and conveyed on a rail-way over the hill, to be embarked again in other boats. On onday morning, the weather proving very fine, an amazingly large concourſe of people were aſſembled, ſome of them from conſiderable diſtances, to view the ſtupenduos works at Bliſworth tunnel, and to ſee the grand proceſſion in honour of the opening of this internal communication by water, between the moſt diſtant places. One of the Paddington packet-boats, called the Marquis of Buckingham, was the firſt boat which went through the tunnel—this was early in the morning, in order to join the other boats aſſembled at the North end of the tunne , at Bliſworth, to form the grand proceſſion.

About eleven o'clock, the Committee of the Canal Company, attended by Meſſrs. Telford, Bevan, and other of the Engineers employed on the Canal, and by the band of the Northamptonſhire militia, proceeded into the tunnel, amidſt the loudest acclamations of the ſpectators; the pitchy darkneſs of the tunnel was ſhortly relieved by a number of flambeaux and lights; but the company in general ſeemed loſt in contemplating the ſtupendous efforts by which this amazing arch of brick-work, about eighteen inches thick, in general; fifteen feet wide, and nineteen in height, withinſide, being of an elliptical form, 3080 yards in length, had been completed, between the 10th of Auguſt, 1792, and the 26th of February, 1805. The height of the hill, above the tunnel, being, for a conſiderable way, full 60 feet; for drawing up the clay and ſoil which was excavated, and letting down the materials to different parts of the works, nineteen ſhafts or wells were ſunk on diffetent parts of the line, and a heading, or ſmall arch, was run or formed the whole length, below the preſent tunnel, with numerous croſs-branches to draw off the ſprings of water, which would otherwiſe have impeded the work.

Prices of Raw Hides, Hay and Straw, &c for March, 1805.

	First Week	2d Week	3d Week.	4th Week.
Raw Hides.	*s.d. s.d.*	*s.d. s.d.*	*s.d. s.d.*	*s.d. s.d.*
Beſt Heifers & Steers, pr ſt.	3 8 to 4 4			
Middling — —	3 4 to 3 6			
Ordinary — —	3 0 to 3 2			
Market Calf — —	12 0			
Eng. Horſe — —	15s to 19s			
— — —				
Sheep Skins — —	3 6 to 6 0			
Prices of Hay and Straw.	*l. s. d.*	*l. s. d.*	*l. s. d.*	*l. s. d.*
St. James's—Hay —	3 17 6	3 11 9	4 9 6	3 17 6
Straw —	2 15 6	2 15 6	2 14 0	2 11 6
Whitech.—Hay —	4 4 0	4 2 0	4 6 6	4 7 0
New —	0 — 0	0 — 0	0 — 0	0 — 0
Clover —	5 — 0	5 2 6	5 1 6	4 16 0
Straw —	2 13 0	2 13 0	2 13 0	2 13 0
Newbury.				
Wheat — — —	68s to 115s	63s to 121s	66s to 121s	66s to 113s
Barley — — —	43s to 51s 6d	44s to 53s 0d	43s to 52s 0d	44s 0d to 49s
Oats — — —	20s 0d to 27s	23s 0d to 28s	20s to 31s	24s to 28s
Beans — — —	—s to —s	—s to —s	—s to —s	—s to —s
New ditto — — —	—s to —s	—s to —s	—s to —s	—s to —s
Peas — — — —	—s to —s	—s to —s	—s to —s	—s to —s
Saliſbury.				
Wheat — — —	84s to 100s	84s to 100s	84s to 100s	84s to 102s
New ditto — — —	—s to —s	—s to —s	—s to —s	—s to —s
Barley — — —	44s 0d to 50s	44s to 48s	42s to 48s	44s to 50s 0d
Beans — — —	—s to —s	—s to —s	—s to —s	—s to —s
Oats — — — —	26s to 32s	26s to 32s	25s to 32s	26s to 32s
Peas — — — —	—s to —s	—s to —s	—s to —s	—s to —s

AVERAGE PRICES OF CORN, by the quarter of eight Winchester bushels; and of OATMEAL, per boll, of 140 pounds Avoirdupoise:

From the Returns received in the Week, ended March 16, 1805.

INLAND COUNTIES.

COUNTIES.	Wheat.		Rye.		Barley.		Oats.		Beans.		Peas.		Oatmeal.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Middlesex	98	5	60	0	48	0	30	3	47	7	50	2	21	5
Surrey	112	8	54	0	46	4	32	0	50	6	54	6		
Hertford	92	4	40	6	50	0	29	8	36	3	45	9		
Bedford	97	5	80	0	50	4	2	11	41	11	50	7		
Huntingdon	93	6			49	8	24	10	41	2	43	1		
Northampton	91	0	67	0	48	4	24	10	43	4	46	0		
Rutland	95	0			54	0	27	6	45	0			62	0
Leiceſter	90	5			51	10	26	4	45	2	52	8	41	8
Nottingham	103	7	70	0	6	7	30	4	47	8	48	0		
Derby	92	0			54	10	32	0	49	9	51	0	38	2
Stafford	92	8			55	9	31	4	53	8			44	3
Salop	91	10	64	0	53	4	27	4			50	9	63	8
Hereford	85	0	51	2	50	4	27	1	52	3	49	3	62	8
Worceſter	91	6			53	1	31	7	51	6	52	8		
Warwick	96	10			56	11	31	9	54	10	54	8	45	0
Wilts	91	4			49	4	28	6	55	8	54	0		
Berks	100	10			47	0	28	0	51	0	54	4		
Oxford	96	1			48	8	29	5	47	1	50	4		
Bucks	102	2			48	7	30	2	46	5	49	0		
Brecon	84	9	51	2	46	4	24	0			48	0	43	1
Montgomery	87	3			43	2	21	4			48	0	50	10
Radnor	89	4			48	11	24	10			44	9		

Maritime Counties.

Eſſex	105	0	57	0	47	8	33	10	46	3	45	0		
Kent	109	8			47	4	34	6	48	6	52	6		
Suſſex	109	0			49	0	36	10						
Suffolk	98	3	60	0	45	10	28	3	41	9	46	4	50	7
Cambridge	92	6			44	5	22	4	40	6				
Norfolk	101	9			44	9	25	0	41	11	46	6		
Lincoln	90	3	65	6	50	11	25	3	45	2				
York	84	9	72	3	48	4	26	8	42	9	80	0	51	7
Durham	90	11			43	0	25	8			41	0		
Northumberland	91	7	64	0	41	10	26	5	36	0			18	0
Cumberland	91	5	58	9	41	10	29	0					20	9
Weſtmoreland	94	10	55	2	36	4	28	1					19	1
Lancaſter	95	11			48	2	28	9	45	10	71	0	24	0
Cheſter	89	0			52	10	31	1	54	0			24	4
Flint	75	6												
Denbigh	98	8			48	7	28	0	54	3	51	2	28	4
Angieſea	80	0			44	0	21	0						
Carnarvon	86	8			42	8	22	0					32	5
Merioneth	87	9			47	0	24	0			78	0	42	5
Cardigan	75	4			42	0	20	0						
Pembroke	76	7			43	8	20	8						
Carmarthen	83	4			52	0	29	10						
Glamorgan	86	7			52	0	23	7						
Glouceſter	91	8			52	11	29	10	50	7	53	4		
Somerſet	98	3			51	2	25	3	50	4				
Monmouth	90	1			51	2	24	2						
Devon	97	9			46	3	26	2						
Cornwall	96	3			45	8	26	1						
Dorſet	101	6			49	6	35	4	60	0				
Hants	105	6			48	10	31	9	54	6	56	0		

LONDON PRICES OF GRAIN for *March*, 1805.

MARK LANE, *Monday, March* 4, 1805.

We had not a very full market of Wheat to-day, and our buyers being numerous, fine ſamples were briſk in ſale at early part of the morning, and at an advance of 2s. and 3s. per quarter, but towards the cloſe they fell back a little, and left off heavily. Fine malting barley was named at 1s. and 2s. per quarter dearer. Malt has varied but little in price. Peaſe, both White and Grey, are very heavy ſale, and lower. Beans remain with no material alteration,—Oats are getting up, and may be ſtated as advanced 1s. 6d. per quarter.—Rye is dearer.

Price of Grain, on board Ship, as under.

Wheat	76s 88s 105s	Malt	74s to 82s od	Fine old	50s
Fine	108s to 110s	White Peas	32s to 44s od	Tick Beans	34s to 40s
Superfine	112s	Boilers	46s to 48s	Fine old	44s
Fine Old	115s	Suffolks	—s to 51s od	Oats	28s 30s to 32s
Rye	52s to 60s	Grey Pease	40s to 43s od	Polands	—s to 36s od
Barley	44s to 50s od	Beans, new	40s to 48s od	Rape ſeed	441 to 481 pr laſt

Monday, March 11

Although our ſupply of wheat to-day was rather ſhort, yet from a diſinclination in the buyers to purchaſe, we had not many ſales, nor were prices, even for fine ſamples, higher than laſt Monday. The ordinary ſorts were heavier and cheaper. Barley and Malt are nearly upon a par with our laſt currency: the ſupply middling. There is a prevalent heavineſs in the ſale of Peaſe of the different kinds, but Beans, from the proſpect of a large demand for the uſe of the cavalry upon the intended expedition, are dearer. Oats, on the contrary, are in plenty, and cheaper, though but few arrivals this morning. We have a good ſtock of Flour on hand, and prices remain at near about laſt week's ſtatement.

Wheat	78s 90s to 106s	Malt	76s to 82s od	Fine old	51s
Fine	110s to 113s	White Peas	38s to 43s od	Tick Beans new	40s to 45s
Superfine	114	Boilers	44s. to 49s	Fine old	48s
Dantzic	116s	Suffolks	—s to 50s od	Oats	27s to 29s
Rye	58s to 63s	Grey Pease	38s to 43s o	Polands	32s to 33s 6d
Barley	44s to 49s od	Beans, new	43s to 48s od	Rape ſeed	431 to 471 pr laſt

Monday, March 18.

Our ſupply of Wheat, this morning, was a pretty good one, and chiefly from Kent and Eſſex; but ſo little diſpoſed were our Millers to purchaſe, that we had not only a dull and declining Market, but ſo few ſales as hardly to furniſh us with a current average price.

Barley and Malt were likewiſe dull, but with no great alteration in price; Peaſe the ſame. Beans maintain laſt currency. Oats are cheaper; the ſupply conſiderable, having ſome foreign cargoes in. The large ſtock of Flour on hand adds to the heavineſs in Wheat—the former article bears a variety of prices.

Wheat	72s 90s to 104s	Malt	76s to 82s od	Fine old	50s
Fine	105s to 108s	White Peas	36s to 42s od	Tick Beans new	40s to 45s
Superfine	—s to 109s	Boilers	44s to 48s	Fine old	47s 6d
Dantzic	111s	Suffolks	—s to 50s od	Oats	26s 28s to 30
Rye	56s to 62s	Grey Peas	40s to 43s od	Polands	31s to 32s op
Barley	42s to 48s od	Beans, new	42s to 47s od	Rape ſeed	431 to 471 pr laſt

Monday, March 25.

Since our laſt, we have had conſiderable arrivals of Wheat, and although not many this morning, yet the left-over of Wedneſday and Friday conſtituted upon the whole an ample ſupply; upon this article we have again to note an evident conſiderable decline in price, as may be obſerved in our quotation at foot. The Barley Counties have ſupplied the market with plenty of that grain, and which, with Malt is cheaper. White Peas are likewiſe lower, and Beans, though pretty much in raqueſt, have given way 1s. and 2s. per quarter. We have very conſiderable arrivals of Oats, both Foreign and Engliſh, and theſe, like Flour, and moſt other articles, bear a lower price than laſt Monday.

Wheat	66s 78 to 94s	Malt	74s to 80s od	Fine old	48s
Fine	95s to 98s	White Peas	34s to 40s od	Tick beans new	38s to 44s
Superfine	100s	Boilers	42s to 47s	Fine old	48s od
Dantzic	102s	Suffolks	—s to 48s od	Oats	21 24s to 27s
Rye	35s to 60s	Grey Peas	35s to 40s od	Polands	28s to 29s od
Barley	42s to 46s od	Beans, new	38s to 44s od	Rape ſeed	441 to 471 pr laſt

Prices of Hops, Meat, Seed, Leather, Tallow, &c. for March, 1805.

Price of Hops.	1st Week	2d Week	3d Week	4th Week
Bags.	s. s.	s. s.	s. s.	s. s.
Kent — —		90 to 110	86 to 105	88 to 105
Suffex — —		90 to 110	80 to 98	86 to 96
Eſſex — —		86 to 100	80 to 98	86 to 100
Pockets.				
Kent — —		80 to 100	90 to 120	88 to 115
Suſſex — —		80 to 100	86 to 112	88 to 100
Farnham — —		140 to 160	140 to 160	100 to 150
Seeds.				
Broad Beans, (per quarter)	32 to 56			
Long Pods	35 to 50			
Tares — —	40 to 46	38 to 43	38 to 45	38 to 44
Rye-Graſs — —	12 to 35	14 to 37	14 to 37	14 to 36
Carraway, (pr cwt.) —	96 to 130	96 to 130	96 to 130	96 to 130
Coriander —	10 to 13	8 to 12 6d	8 to 12 6d	8 to 12
Trefoil —	14 to 36	16 to 38	16 to 38	16 to 40
Red Clover — —	48 to 100	50 to 98	48 to 96	50 to 96
White, ditto —	52 to 116	56 to 114	52 to 110	56 to 116
White Muſtard Seed, pr bu.	6 to 11	6 to 11	6 to 11	6 to 11
Brown ditto — —	10 to 18	10 to 18	10 to 18	10 to 18
Canary Seed	7 to 8	7 to 8	7 to 8	7 to 8
Turnip, —	18 to 24	18 to 24	18 to 24	18 to 24
Rape Seed, (per laſt) —				
Meat at Smithfield,				
To ſink the offal, p. ſt. 8lb.	s. d. s. d.	s. d. s. d.	s. s.	s. s.
Beef — —	4 0 to 5 6	4 4 to 5 4	4 0 to 5 0	4 4 to 5 4
Mutton — —	4 6 to 5 6	4 8 to 5 8	4 4 to 5 4	4 6 to 5 6
Veal — —	5 0 to 6 6	5 0 to 6 4	5 0 to 6 6	5 0 to 6 6
Pork — —	4 0 to 5 0	4 8 to 5 4	3 8 to 4 8	4 0 to 5 4
Lamb — —				
Head of Cattle—Beaſts about	2,000	2,000	2,000	2,000
——— Sheep	9,500	11,000	12,000	11,500
Price of Leather.	d. d.	d. d.	d. d.	d. d.
Butts, 50lb. to 56lb. each	23 to 25	23 to 25	22½ to 24	22½ to 23½
Ditto, 60lb. to 65lb each	25 to 26	25 to 26	25 to 26	25 to 26
Merchants Backs —	23 to 23½	23 to 23½	22½ to 23	— to 23
Dreſſing Hides —	22½ to 24	22½ to 24	22 to 23	22 to 23½
Fine Coach Hides —	23½ to 26	24 to 26	23 to 27½	24 to 26
Crop Hides for cutting	24 to 25	23 to 24	22½ to 24	22 to 23½
Flat Ordinary —	23 to 24	22½ to 23	21 to 22½	21 to 22
Calf Skins, 30 to 40lb. *p.* doz.	36 to 39	34 to 39	34 to 39	35 to 39
Ditto, 50lb. to 70lb. do.	36 to 39	35 to 39	35 to 39	34 to 38
Ditto, 70lb. to 80lb. do.	34 to 38	34 to 38	34 to 38	34 to 38
Sm. Seals (Greenland)	42 to 45	42 to 48	42 to 48	42 to 45
Large do. (per dozen)	61 to 81 10s	51 10s to 91	51 10s to 91	51 10s. to 91
Goat Skins *per* doz.	— to —			
Tanned Horſe Hides pr hide	30s to 42s	28s to 42s	25s to 42s.	25s to 42s
Price of Tallow.	s. d.	s. d.	s. d.	s. d.
St. James's Market —	4 1½	4 1	4 1	4 1
Clare Market — —	4 1½	4 1	4 1	4 1
Whitechapel Market —	4 6	4 0	4 0	4 0
Per ſtone of 8lb. Average	4 1	4 0½	4 1½	4 ½
Town Tallow — —	62 6	69 6	69 0	68 0
Ruſſia (Candles) —	67 70	68 6	68 6	66 to 68s
Ruſſia ditto (Soap) —	67 0	66 6	66 to 67s	66 to 67s
Melting Stuff — —	58 0	58 0	58 0	58 0
Ditto rough — —	38 0	38 0	38 0	38 0
Graves — — —	2 0	12 0	12 0	12 0
Good Dregs — —	11 0	11 0	11 0	11 0
Yellow Soap — —	78 0	78 0	78 0	78 0
Mottled ditto — —	88 0	88 0	88 0	88 0
Curd ditto — —	92 0	92 0	92 0	92 0
Candles, per dozen, —	11 6	11 0	11 6	11 6
Mottles — — —	12 6	12 6	12 6	12 6

TO OUR CORRESPONDENTS.

THE presage of a delay in the appearance of periodical publications, communicated in our last number, has, unfortunately, been confirmed; and, notwithstanding its readiness in every respect, the present work, in common with every other monthly magazine, is published only on the *ninth* instead of the first instant. Of this circumstance sufficient intelligence will have been already received through the Public Journals, and that there is every reason to hope it will not again occur.

We have felt ourselves compelled to admit in the present number, a paper more political in its tendency than ought to have place in a work *exclusively* devoted to rural affairs. From so valuable a correspondent, it was impossible that any thing after having occupied his attention should be rejected. We trust, however, he will not again so compel us, nor any other correspondent, in consequence, desire us to deviate from a rule which must be inviolably preserved in the AGRICULTURAL Magazine: that NO POLITICAL SUBJECTS, *although connected with Agrarian interests* CAN EVER BE DISCUSSED. It is to the silent operations of nature in the bosom of the earth, and not the distractions of human policy upon its surface, that we wish to direct the peaceful attention of our readers; and we are sure that the goodness of our excellent correspondent, on the effect of the income tax, &c. on farmers, will be extended to the consideration of our present necessary prohibition.

The subject of a GLOSSARY of *provincial terms*, &c. in Agriculture, has long been a desideratum, and it affords us much pleasure to see that it now occupies the attention of two of our most able contributers. We shall most gladly receive from them as early as possible, any assistance to meet a necessary purpose, and will be equally grateful to all our readers, for that local aid which can only be obtained from a variety of inhabitants in different provinces, through such a medium as that which we have the satisfaction to offer them. It will receive our immediate and prompt attention.