

in their situation a stitch or two should be passed through the sides of the shape, by means of a packing needle threaded with common tape. The parts are to be embrocated with a decoction of bark with alum, and everything done to strengthen the general habit of the animal; for, as soon as the cow is in health and vigor, this displacement wears off. Before calving the appearance of this complaint generally alarms those who have the management of cows, and they conceive that the womb will be entirely protruded; it is only necessary here to keep the animal in a position least favorable for the descent, and to give a stitch in the manner directed, which will prevent the protrusion going farther, till the operation of calving commences, when the parts are generally retracted, or go up of themselves."

Without expressing an opinion respecting the treatment recommended by Skellett, I quote from his work in the absence of better information. The science and skill of our modern veterinary professors may materially improve on the practitioner of 25 years ago.

For balancers of this kind an inclined platform is necessary, so that the cow's hind quarters shall be raised from nine to twelve inches higher than her fore quarters. The cow should be tied up, and lie on sparrow boards well littered, under which should be stones or flint for her water to pass through, with good drainage underneath, as the confinement consequent to this state renders cleanliness very necessary to the cow. The ascent to the platform must be gradual, and the cow can be led out to exercise as circumstances permit. For the satisfaction of those breeders who have cows in this condition, I may say that one of the most valuable breeding cows in England is thus afflicted; that she is constantly kept on a raised platform; safely produced a live bull calf in the autumn of 1857, is again with calf, and looks healthy and well.

Although I do not advise the frequent use of bulling stocks, they are occasionally required, and are a necessary adjunct to a breeder's premises. A minute description of the stocks would needlessly lengthen this paper, but any one desirous of having them constructed can readily inspect them on the premises of most of our established breeders.

A cattle van will be found of essential service to remove stock in times of difficulty. Such may arise from accidental lameness, the slippery state of the roads, or the distance from a railway station, &c. The van should have a let-down flap at either end, so that the animal may walk in at one end and out at the other, on removing the horse. If a cow heavy with calf has to be "backed" out of the van, she may be much frightened, and endanger the safety of herself and calf.

In the management of a herd of short-horns much depends upon the cowman, who must be an early riser, quick, industrious, good tempered, and clean in his person and habits. He must also be able to control and direct the young men who are under him, and check the least exhibition of temper or violence towards the stock. The cowman should be accustomed to keep a bulling book, to check against the master or bullfin; and to report accidents or doubtful symptoms to his master without delay. He must be able to bleed cattle, and have the necessary instruments at hand, in case of need; to keep a reserve of drinks for cows, and diarrhoea powders for calves; and watch the progress and changes of the down-calvers with the greatest vigilance. I need scarcely say that the cowman should reside on the premises; that he should always be at his post; and that he should have a man within call at night, to assist him in taking a calf from a cow, if requisite, as favorable cases frequently need the services of two men. He should also be instructed in the use of the probang, in case a cow is choked; and of the trochar, in case she is blown; as either accident requires a prompt remedy, and the animal may be dead before other assistance can be obtained. A cowman's place is confining and anxious, though not laborious; and a good man deserves a master's encouragement.

We must now speak of bulls, the treatment best adapted to render them healthy and strong, and the condition they should be kept in for stock purposes.

I consider it very important the bull-calf should have an ample supply of new milk twice a day until he is 5 months old, and if the calf has plenty of milk he will require little other food. When a month old the calf may have some sweet hay to pull at, which will induce him to ruminate; and when four months old, in addition to hay, a small quantity of linseed-cake and a few slices of turnip may be given daily. Should the supply of milk run short, the linseed-cake can be increased, and a little oatmeal given, mixed with hay chaff. The food must all be of the best quality, and the milk pure, if the calf has less of it. Much watery drink and indifferent food have a tendency to weaken the organs of digestion, and to create a big belly, which is very objectionable in bull calves. The

young bull should lie loose, in a roomy and airy shed, but well littered, and at the age of four months he should be accustomed to the use of a halter or headstall, be occasionally led round a paddock, at other times tied up for an hour, and every means taken to render him docile and tractable. As the bull increases in strength he should be exercised daily, and treated with the greatest kindness and carefulness. After eight months the calf may be gradually weaned from milk, by substituting linseed-tea; and a peck of sliced turnips or wurtzel may be given it daily, with 3 lbs. linseed-cake, and a quart of oatmeal mixed with hay chaff. When between ten and twelve months old, the young bull should have a ring put in his nose. I prefer copper rings, which are made of three sizes, and are to be obtained in many parts of Yorkshire at 30s. per dozen. The nostril is usually pierced with a hot iron, or cut with a stamp nose-punch, and the ring rivetted. The nostril will require rubbing with fresh lard for several days afterwards, and the bull should not be led by the ring until the wound is completely healed. Bull calves which are not desired for getting stock, should be castrated at a month old, when the operation can be safely performed.

A young bull will serve a heifer, and get her with calf, when he is ten months old; but it is better not to work him until he is a year old, when the bull may be moderately used to small heifers, without fear of straining his loins or checking his growth. Bull calves are frequently allowed to run in the fields with a "nurse" cow, and suck her at will, gradually weaning themselves. Cases are known where such calves at eight months old, have bulled their "nurse," and got her with calf. Care must be taken that the first heifers put to the bull are not too wide across the hips, and he should be brought out on an empty stomach, and have a good sight of the heifer before he is suffered to jump her. A fair commencement with a young bull is of much importance, as subsequent trouble is thereby avoided. If a heifer will stand quietly in the yard for the bull to serve her, it is far preferable to putting her into the stocks. One thorough jump is sufficient; and if the heifer passes six weeks without coming into season, it may be presumed that the bull has "stopped her." A bull is often suffered to run with cows in the field, and is driven to and from the homestead with them. There is no better plan of keeping and using a bull than this, and he is more likely to get the cows with calf, and continue to work, than under any other treatment. A painful of boiled barley given to the bull once or twice daily, when he comes in with the cows, will be found beneficial. If the barley is well boiled, and diluted with a little water, the bull will drink it all. When a bull runs out, it is advisable to strap a board over his eyes, which will prevent him from destroying trees or fences, and render him less dangerous to human beings in the event of his turning savage. From my knowledge of the effects of peas and beans as food for young bulls, I strongly object to their use, excepting in very limited quantities, being convinced that many valuable animals are irreparably injured by the immoderate use of such food. A bull in full work should be well, but not extravagantly fed. In the winter, one bushel of swedes, given at twice, 3 or 4 lbs. of linseed-cake, with hay or cut chaff, daily, will keep a bull in good working order. If a bull is having five or six cows a week, he will neither get lazy nor fat on this food; but if he has only one or two cows a week, he will not require linseed-cake. Barley-water is strongly recommended for drink when a bull is being worked hard. A bull must, in fact, be fed according to his work, and his nature and disposition must be studied; as one will not serve cows if he is poor, another will not serve if he is fresh, and a third will cease to work if he has not a good and regular supply of cows. I have used a bull which was fed simply on barley-straw and half a bushel of cut swedes daily. On this diet he would serve a cow a day, and stop them; but double his allowance of swedes, and give him 3 or 4 lbs. of linseed-cake daily, with hay, and he would soon cease to serve. Another bull, apparently short of stamina, would not serve at all on low diet, but stopped his cows when he was allowed 4 lbs. linseed-cake daily, with swedes and hay. It sometimes happens that a bull which is ready and active at serving cows, and apparently labors under no defect, will not get the cows with calf. I have never been so unfortunate as to use a bull of this description; but I know gentlemen who have, and who could in no way account for the bull's incompetency. When breeders have only one working bull, it is extremely mortifying to find him so worthless, as a whole herd of cows may lose a season before it is clearly ascertained where the fault lies.

Bulls cease to work at different ages. Many fail to serve at five and six years, whilst others work satisfactorily until ten or twelve years old. Mr. Bates

"Belvedere" served well and got calves until sixteen. Mr. Henry Smith, of Drax Abbey, used "Pilgrim" (4701), and "Captain Shaftoe" (9533), until each of them were thirteen years old; and I have Mr. Smith's authority for saying that the late calves by these bulls were quite equal to the early ones. Mr. Richard Booth's "Baron Warlaby," calved in May, 1845, I believe was serving cows in 1855; and in "Vanguard," calved in April, 1847, was in 1855 still on hire at a great sum, and worked well. I have proved, and my opinion is confirmed by the most experienced breeders, that a bull in full vigor and health will serve six cows a week, and is quite as likely to get all of them with calf as if he only served one cow a week.

In-and-in breeding is considered detrimental to the working of bulls, and cases are cited where bulls closely bred have proved slow and bad servers. Yet we must be cautious how we pronounce a strong condemnation against close breeding. We all know how nearly the late Mr. Bates' short-horns were allied, the daughter being sometimes bulled by her sire, the dam by her own son, and so on. Yet Mr. Bates' blood, at several subsequent sales, realized enormous prices; and the best strains of his stock are still eagerly contended for.

The herd of Mr. Booth, of Warlaby, is a remarkable example of breeding from the same stock for a long period, the bull Exquisite (5018), from the Wiceton sale in 1846, being the only animal introduced for a "cross" for many years. Yet this celebrated breeder not only exhibited the "best short-horn cow," and the "best yearling heifer," at our Chester Show of the Royal Agricultural Society, but his bulls are so eagerly sought after that he is unable to keep pace with the demand for them. The enormous sums of 100, 200, and even 250 guineas per annum are paid him for the hire of a bull; his calves are bespoken while they are yet sucking; and his income from the letting out of bulls alone (as none are sold) is equal to that of most of our country squires from their broad acres. His Imperial Majesty the Emperor of France, and his Royal Highness the Prince Consort, each patronized this remarkable herd for a bull; and some of his numerous stock have not been seen by Mr. Booth for ten years, having been moved from one herd to another without returning home.

As it is not my object to call attention to any particular herd of short-horns further than to elucidate my subject, I refrain from pursuing this inquiry, which is, however, full of interest to the breeders of short-horns.

As the temper of no animal is more uncertain than that of the bull, he should always be approached with caution, but without fear. The same man should attend to him as much as possible; and though the bull should usually lie loose, he should be tied up at certain times, and accustomed to be handled by the master or by strangers, as well as by his attendant. Where it is not convenient for bulls to run out with the cows, exercise should be given them in other ways. A strongly-fenced yard adjoining the bull's shed, into which he can be turned during the day, is very essential; besides which, the bull will be all the better if led out for an hour four or five days in the week. A bull constantly chained up, and not allowed exercise or liberty, is as likely to turn savage as a yard dog similarly treated. From the earliest ages our subject has caused anxiety and enquiry to all who are interested in the breeding of cattle; and Job, in his affliction, alludes to the peculiar prosperity of the wicked, inasmuch as "their bull gendereth, and faileth not: their cow calveth, and casteth not her calf." We may safely assume that "high feeding," to which so many of the mischances in breeding are attributed, was but little known or practised in the days of Job, so far as breeding animals were concerned; yet we find the man considered fortunate and prosperous beyond his fellows who possessed a bull which "gendereth and faileth not," or a cow which "calveth, and casteth not her calf."

I have previously spoken of the value of a good cowman, and of the qualifications he should possess, but an intelligent, vigilant, and watchful master is indispensable in the management of a herd of short-horns. He must have a quick eye, to detect the shortcomings of his men, or the failings in his stock; and he must frequently inspect personally the feeding of calves, milking of cows, management of bulls, the preparation and application of food; and note the effect of different kinds of food on the animals. It is seldom also that a master can go round his premises without seeing wastefulness to be checked, carelessness to be reformed, and temper to be subdued. Violence to bulls should be immediately repressed, as they do not soon forget an injury, and will retaliate when opportunity offers.

Few descriptions of stock require greater forethought and care than a breeding herd of short-horns. As the writer of this article, I may add that I have