

fore we have always been led to believe that it was caused by the horse carrying his foot too close to the ground, and for this reason shod him with one of two objects in view, that is increase his action by applying a heavier shoe or shortening the toe by rasping away the hoof at that point.

When we now fail to stop him, as we usually do, we remind the owner of the old adage—"Once a stumbler, always a stumbler." But let us return and try to determine the cause of the difference in the degree of stumbling. The first thing noticeable is the difference in the marks found on the front of the hoof. Upon the hoof of the animal that made what we call a "miss step," you may not find any mark, but a little earth on the toe of the shoe. An examination of the hoof of the animal that nearly fell, will show a mark extending nearly the entire length of the toe. While the animal that fell will not only show a mark extending the entire length of the hoof, but also into the coronet above, and sometimes to the front of the ankle joint. This animal, while falling, may be seen to make one or more desperate efforts to regain his feet. His expression shows fear and excitement. The free limb, the one he was carrying forward at the time he stumbled, now seems to be fast and in a position where he cannot possibly extend it. It was fast from the beginning, otherwise his efforts to extend it would have been successful as was the case with the preceding animals. To those who have watched a stumbling horse fall, it became evident that the limb was forced into a position when the animal was powerless to release it. This could only be accomplished by the animal's weight having been thrown upon that side before the limb had reached a position to receive and support it.

As the fixed limb is extended to support all the weight of the front part of the body until the extension of the free limb is completed, its failure to do so, as shown by the animal whose free limb was forced against the ground, should influence one to look there for a cause, where we will usually find it.

If, when riding behind a frequent "stumbler" we closely watch the supporting limb, we will notice a slight flexion of the knee just as the animal stumbles. This is caused by the presence of some condition, either pathological or mechanical, that renders the limb unable to support the body weight with comfort, and as a result it yields to the pressure and permits the body to drop to the extent of allowing the toe of the opposite limb to strike the ground when being carried forward. The consequence will depend upon the position of the free limb at the time the supporting limb gave way. Should the free limb occupy a position just anterior to the supporting limb, the animal will make a quick move and get it forward in time to catch and support the weight of the body. We call this a "miss step" or slight stumble, and a little dirt may be found upon the toe of the shoe. Should the free limb occupy a position in a line with, or slightly behind the fixed limb, a portion of the front part of the hoof will be forced against the ground and the animal's efforts to regain his feet will be unsuccessful to the extent of allowing one or both knees to become injured, and we call this a "stumbler." Should the supporting limb give away at a time when the free limb was about to be extended, the position it now occupies causes that part of the limb from the ankle down to be forced against the ground, making a mark extending the entire length of the toe, also injuring the coronet and ankle joint. If we closely examine those injuries, we will often find they were caused by the foot having been forced in a backward direction or just the opposite to a condition that would be produced if caused by the animal pulling the limb forward. The animal will be seen to plunge, and while falling make several efforts to free the limb. He usually goes down by plunging forward, and if the driver pulls hard upon the "lines" in an effort to hold him up, he may prevent the animal from extending his neck, and cause him to strike upon his face or even the top of his head.

When the free limb reaches the ground and becomes the supporting limb, its direction is oblique from above to below, and from behind to before. During the extension of the free limb the body is moving forward upon the supporting limb, which moves first to a vertical, then to an oblique position from before to behind. As his change in the position of the fixed limb takes place, the work of supporting the body is transferred from one part of the limb to another, so that the part subjected to the greatest strain can be determined by the position of the free limb at the time he stumbles, and as the position occupied by the free limb can be accounted for by the degree of stumbling, we are led to believe that the supporting limb occupies a vertical position in all cases where the animal does not fall to the ground. This is usually caused by an unbalanced limb when the shape of the hoof or the position of the shoe is such as to force the ankle to either side. Of course, any condition that may render the limb unable to perform its work with comfort

will cause a horse to stumble. But in either case whether caused mechanically, or by some abnormal or diseased condition of the limb, our one object must be to change the weight to some other and stronger part. When it is caused by an unbalanced foot remember what was said upon the subject of interfering. If the ankle is inclined to the inside, increase its support in that direction by widening the shoe upon that side, when it will be found that the condition has been relieved. If not entirely corrected, and we dare not widen the shoe further to the inside, we will then fit it narrower upon the outside until the condition is entirely corrected.

When a horse loses all control of himself and falls, I do not believe that it is caused by any faulty condition of the limb, which seems to give way at the time it first comes in contact with the ground, and is probably caused by the animal stepping upon a loose stone or into a hole.

It is probable that 90 per cent. of all stumbling is caused by an unbalanced limb, for when a diseased condition is present it is likely to cause lameness and lame horses are not always "stumblers," for the animal will save the affected limb while traveling by preventing, to some extent, the weight of the body coming upon it by holding his head and shoulders up when that foot comes upon the ground, while the head and fore-

through its centre and through that part of the foot known as the quarters. It has now reached a position where the quarters must be depended upon to support it upon either side, and if for any reason insufficient support is given to the one side, the limb will suddenly be displaced in that direction, and the injury of the ligaments will often compel the animal to yield to the increased strain.

While considering the limb in a vertical position, if the distance of the two heels from the centre of the frog is not equal, the limb will drop in the direction of the narrow side. This also applies to pads, for if the centre of a pad is not under the centre of the frog, the limb will be inclined to the narrow side. It does not make the slightest difference how wide the pad is on the one side, if the other side is wider it offers more support to that side of the limb, and will cause it to lean in the direction of the opposite side, where it receives the least support.

So far as I know one has to depend entirely upon his eye when balancing a limb. The custom is to measure the foot at several places, but as the position of every part is dependent upon its shape, it leaves us without any fixed point from which we can take measurements. The better way is to pick up the opposite foot, thereby throwing all of the weight upon the limb to be

corrected, and if the ergot found back of the ankle occupies a position directly over the depression, between the bulbs of the heels, we can feel that the work of the limb is properly distributed.

Stumbling behind (breaking over) is usually caused by some condition existing on the inside of the hock joint that renders it unable to perform its work with comfort, and can often be accepted as an early symptom of an approaching spavin.

In most cases, the foot will be inclined to the outside, thereby increasing the work on the inside of the hock joint.

I have tried different methods of shoeing to overcome stumbling behind, and

have had the most success with a long shoe provided with low heels and toe, with a calk situated at either side under the quarters. When fitted, if the foot is inclined to the outside, it might be well to fit the shoe full on that side, or narrow on the inside.

LIVE STOCK.

Steers which make the best gains almost invariably have soft, pliable skins.

Shoot the dog if he worries the flock. A good sheep-dog never does this.

The young ram with the flock should get a ration strong in protein.

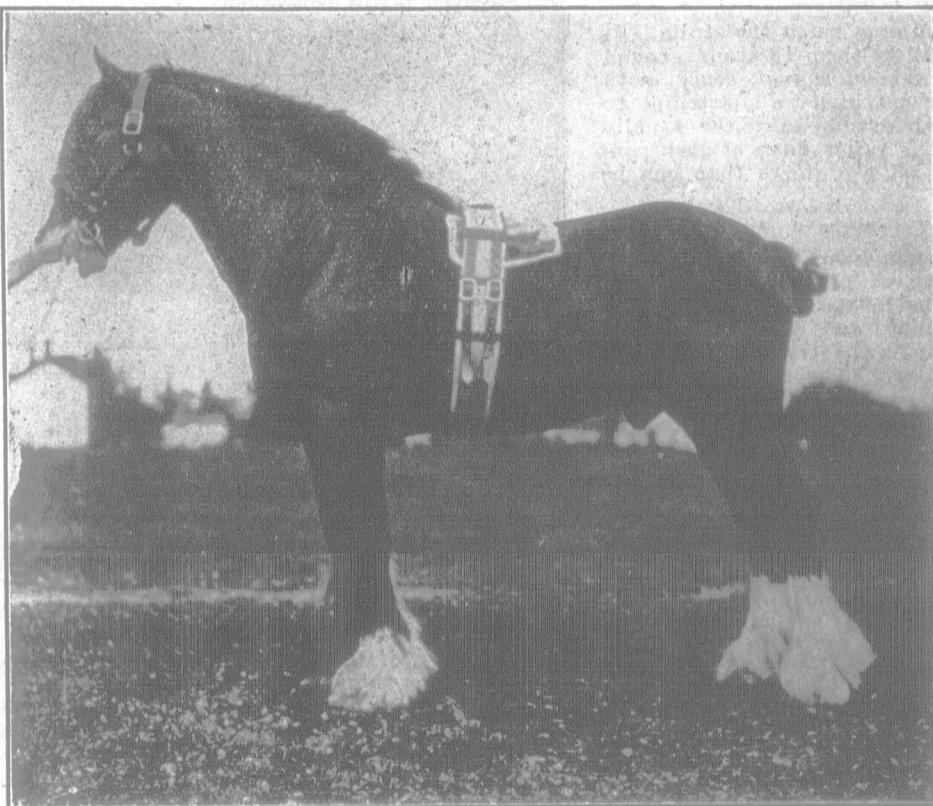
For the first two months of a suckling pig's life, it is possible for it to gain one pound daily.

Nervous cattle accustomed to roaming over large areas, seem to be handicapped in making gains under confinement.

All kinds of stock breeding may be made successful by the man who feels his way, makes haste slowly, and grows as his business grows.

Tying calves while they feed is a practice worthy of being followed. It at least ensures that each calf gets his allotted amount.

Arrange to feed the ewes a little grain through the winter. A small quantity fed regularly over a long period is better than large quantities fed after yearning.



Baron's Best.

Clydesdale stallion, three times winner of first prize at the H. & A. S. Show in Scotland. Recently imported by Hon. Robert Beith, Bowmanville, Ont.

parts will be allowed to drop when the weight comes upon the good limb.

As many methods are employed by different people to balance the limb a few words upon this subject may be excusable. At every step when the weight of the body is transferred from one front limb to the other, the body is falling and nothing but the timely arrival of the opposite limb to a position where it can catch and support it, will prevent its falling to the ground.

The limb was intended to perform this work, and nature provided it with the necessary strength, not alone while in a given position, but so arranged and adjusted its many parts as to permit of a change in its position without detracting from its strength or comfort.

Inasmuch as we are now trying to adjust the parts in a way that will stop stumbling and not for the purpose of relieving lameness, there are some things that I wish to make plain. First, that the ligaments play a very important part in preventing, or, at least limiting motion of the joints to either side, while permitting in many cases extreme flexion and extension, while the muscles and tendons have full control over flexion and extension. Second, that the ligaments are non-, or very slightly, elastic and unable to adjust themselves to an abnormal position, while the tendons which are a continuation of the muscles possess the advantage oftentimes of being able, through the medium of the muscles, to adjust their length to the extent of escaping injury.

When the extended limb first receives the weight of the body, the direction of the weight is from above to below, and from before to behind with a tendency to force the limb backward and downward, and in the direction of the very strong and more or less elastic organs found there. The foot being fixed upon the ground, as the body moves forward, the direction of the limb approaches a vertical position, and the weight now passes