during all the rest of the season put together. Keeping this in view, a stallion would be better not to leave his box till the end of April. He should then remain out until the end of July.

The Hackney in England and Elsewhere.

Many are apt to confuse the two words, "Hack" and "Hackney." At the time of the Norman conquest (1066), we find the first introduction of the word "haquenee," continuing, uninterrupted, to the end of the 13th century, at which time Robert de Brunne shows in his writings the use of the word "hackneye." Piers Plowman, too, who wrote a few years later, namely, about 1350, and Chaucer, also, each made use of the word "hackeney," and each and all of these old writers invariably used the word as distinctive of a horse for riding, as separated from the war-horse and the general-utility slave. The Norman-French word, "haquenee," too, before referred to, also implies a horse for the purpose of riding. If we look further into the matter, e. g., Taplin's "Rural Repository of General Information," published about 1803, the two words in question are again clearly distinguished and distinguishable. "Hack" is there shown to signify a horse appropriated to any and every kind of purpose, and upon which no great estimation of value is placed. So much for "Hack." The same writer also defines "Hackney" thus: A horse superior to all others upon the score of utility, and it is his province to carry his master twelve or fifteen miles an hour; to encounter and overcome emergencies of every description; his constitution should be excellent and his spirit invincible, and he must be able to go five-and-twenty or thirty miles at a stage without drawing it.

Here, in England, the original purpose of the Hackney was unquestionably for saddle work, as instanced by the numerous records of our forefathers, completing lengthy journeys over bad roads by that means of progression, and it will, I think, be admitted by all, that in those days the Hackney was, without doubt, the saddle horse of this country, and recognized as one of the necessaries of life, upon which men spent a good deal of their time when going upon business journeys from place to place.

There is no doubt whatever that Hackneys generally, and Hackney breeders in particular, have been subjected, of late years, to the somewhat fierce light of criticism. It is the fact that the popularity of the Hackney, outside of his own immediate breeding districts, has been of a varied quantity, but it is a popularity that, when once thoroughly and genuinely established, is not likely to wane. If the statement had been made a few years ago to members of the hunting fraternity that an exhibition would be held in London, whereat some 500 Hackney stallions, mares, geldings and fillies would be shown, and which would, in itself, draw an attendance of some 7,000 people, and maintain an unflagging popularity over four successive days, it would have been received with derision. But it is none the less the fact, and the genuine, continuing and tried supporters of the Hackney, as distinguished from the evanescent and twenty-minutes commodity, have to-day the satisfaction of knowing that they and their representatives have gradually lived down a great deal of former public prejudice; and, notwithstanding anything detractors may advance to the contrary, from being received some sixteen or eighteen years ago, upon exhibition at any County Agricultural Show (outside the limits of his own northern breeding-grounds), with an apologetic shrug of the shoulders, this class of horse to-day, in no matter what department he may be known, is the popular attraction at the ringside of all our greatest equine exhibitions. The Hackney of to-day, however, is a vastly different type of animal to that of twenty or thirty years ago, and is judged literally from a different standpoint. The competitors under this classification in former days were legion, and comprised all sorts and conditions, whilst those adjudicating, save in special districts, seldom moved from the center of the exhibition ring, and were content to give in their awards solely from the gyrations they beheld.

The Hackney of to-day is bred upon a different mould, and upon different lines. The judges at all the best practical, as distinguished from Society Shows, are chosen from practical breeders, instead of having the sole qualification of being Squires of the county, or possessing handles to their names. Years ago, so long as an exhibit in harness could pound away, pulling a gig along, with high action in front, or at the end of a line, little else was looked for. The questions of a good lookout, wearing both ends, flexing the hocks up and down, high, true action, and absence of rocking, were points seldom or never seen or looked for; but to-day, at any of the best shows, including minor exhibitions, in the north of England, where prizes are given for Hackneys, either in hand, in saddle, or in leather, a far different state of affairs obtains. All the best and recognized characteristics of the breed must be correctly filled before there can be any expectation of obtaining the coveted red rosette.

Alford, England. S. B. COMLEY.

Action in Draft Horses.

Action, says an English exchange, is of much importance in cart horses. Buyers of heavy-draft horses for town work lay a great deal of stress on it, and require that they should be good walkers, bad walking action being a serious fault in their eyes, and considerably depreciating the value. In the show-ring, also, the way in which a draft horse moves counts for much. A bad mover stands very little chance at a show in a passable class of drafters. Various things go to make up good walking action, such as is required in the heavy-draft horse. Above all, it is necessary that the animal should be a fast walker, taking nice long strides, so as to get over the ground well, and travelling at a satisfactory rate of speed. A sufficiently long stride is the foundation of good action in the cart horse. Then, springy, the horse moving with plenty of spring, and putting the feet down lightly upon the ground. When a draft horse is a clumsy mover, and lacks lightness and elasticity of action, planking down its feet in ponderous fashion, like dead weights, the feet and legs are subjected to a great amount of concussion, being severely jarred each time they come down on hard ground, and they wear out comparatively quickly as a consequence. The feet and legs of cart horses which have clumsy or stumpy action never wear well upon the hard road or on the streets, and such poor walking action is often the cause of unsoundness of foot. The action requires to be spring or elastic if the limbs of a heavy-draft horse are to wear well and last their full time. Springiness of action is, in a large measure, dependent on the way in which the shoulder-blades and pasterns are placed. In order that the action may have plenty of spring about it, it is necessary that these parts should be sufficiently oblique. When the shoulders and the pasterns—more especially the latter—are straight, there can be no spring, and the action is bound to be clumsy and heavy. The Clydesdale breed affords a striking example of the fact that sloping pasterns and shoulders in heavy-draft horses are conducive to good and light walking action. Clydesdale horses have what for cart horses are remarkably oblique pasterns and shoulders, while they are noted for their good action, and one is due, in a large measure, to the other. A further requirement of good action in cart horses is that the feet be well picked up at each stride, so as to clear the ground well. In the show-ring, especially, judges and breeders of Shires lay considerable stress upon this point. Any excessive lifting of the feet—though it certainly looks well, and makes the action appear more energetic—is not, however, desirable from a practical point of view, because it involves a useless expenditure of energy, and is needlessly tiring. All that is required for practical purposes is that the feet should be lifted sufficiently to clear the ground well, and thus to ensure safe travelling over rough ground. When one is standing behind the horse and watching it walk away, the soles of the feet should be visible at each stride. If this is not the case, the animal does not pick up its feet as well as it ought to do. The knees and hocks must be sufficiently flexed, and the feet should be swung forward in vigorous fashion, and in a straight line. "Dishing" of the fore feet is an objectionable fault. A still more objectionable fault is it when the hocks and hind feet are twisted outwards at the completion of a stride, and after the foot has been placed on the ground. This defect in the hind action is often a result of weakness of the hock, and it, in all cases, entails extra wear of the hind limbs.

The action should be very powerful in heavy-draft horses, as their powers of draft are proportionate to the propelling power of the hind limbs. A cart horse should make full use of its hocks, and the hind feet should be placed well forward under the body at every stride. Great muscularity of the quarters, thighs and gaskins, as well as broad and strong hocks, are essential to powerful hind action. Any tendency to brush either in front or behind is a very serious fault, as it may interfere with their usefulness. The fore feet and the hind feet, respectively, should be kept well clear of one another when the horse walks, this being among the most important requirements of good action. On the other hand, the action must not be unduly wide, because in that case the horse is usually apt to roll in its gait, which means a loss of power, while it looks most ungainly. Clicking or forging is also a defect of action which is objectionable in cart horses, but which is not of very frequent occurrence.

The Same Old Story."

Editor "The Farmer's Advocate":

You will please receive my thanks for the beautiful knife you sent me as a premium for one new subscriber for "The Farmer's Advocate." It is a very nice knife. Every farmer, for his own benefit, ought to take "The Farmer's Advocate." We often find advice in it which to us is worth more than a year's subscription.

Northumberland Co. J. B. STONE.

Start the Teams Easy.

Editor "The Farmer's Advocate":

Perhaps it will not yet be too late to remind your readers to start their teams easy at the work. Give them all the exercise they can, such as going to town, to mill, scraping the lane—in fact, anything but idleness. Toughen them in this way, but not enough to fatigue them. Keep them in good heart, with good feed and light work, and be careful not to take the tuck out of them on some over-load or big job; then when work on the fields starts, spare them the first two or three days, even more than they appear to need. Bring them to it by degrees, and what you lose the first days will be gained many times over afterwards. Carry a woollen cloth, and rub their shoulders off, also the collars, and rest often. Instead of giving them a good rest every two hours, try giving them a little rest every ten minutes. R. O.

LIVE STOCK.

Infectious Abortion.

Abortion of a contagious or infectious character offers such a menace to profitable dairy and beef cattle breeding that stockmen generally are studying the matter diligently, and seeking far and near for a remedy. Thus far it must be confessed that but little progress has been made towards eradicating the disease or actually curing a cow infected by it, but much has been learned relative to the course taken by the malady, and one measure, at least, has been devised whereby affected cattle may in time become immune to the effects of the germ.

Cause.—Difference of opinion exists in this country and Europe regarding the exact identity of the microbe causing infectious abortion, and little is known as to the exact manner in which it produces the abortive act. Evidence leads to the supposition that the European disease is even more virulent than that experienced with us, but so far as America is concerned, scientists have about decided that the germ is a bacillus akin to bacillus coli, that its habitat is the womb, and that it doubtless invades, also, the horns of the womb, the Fallopian tubes and the ovaries themselves. The bacillus (germ) may be found in the discharges of a cow that has aborted, upon the lining membrane of her vagina and womb, and, in some instances, at least, between the cotyledons of the womb and the membranes containing the unborn calf. In Europe it has been found in the alimentary canal of the calf, but our scientists have not made a similar discovery.

Spread.—The disease gains access to a herd in one of several ways. The commonest manner of introduction is through an affected cow or bull. From these disease is spread to sound cattle, until, from one to another, it may affect the entire herd. The cow discharges from her vagina matter in which germs abound. This falls upon the ground, dries, and may be conveyed to the vagina of a healthy cow. Where cows stand in a stable, the gutter catches the impregnated matter, which is moved back of sound cows as the manure is shovelled out daily. Thereupon cows switch their tails into the gutter, wet them with tainted material, contaminate their vaginas, and so contract the disease. The germs are living organisms, and when introduced into the vagina multiply rapidly and find their way into the inner parts of the generative organs. The bull, by serving a cow infected with the disease, contaminates his penis, and by this means inoculates cows subsequently served. The germ may also be contracted from the clothes of an attendant, tainted hands or instruments, and is doubtless frequently contracted in shipping chutes, cars, and similar places in transit, as fairs, sales, etc.

Effects Produced by Germ.—Soon after the introduction of the germ small blisters may be seen upon the lining membrane of the vagina, and a discharge of varying appearance follows. As the blisters (vesicles) burst, ulcers form and gradually heal, while fresh clusters of vesicles appear, or may be found further in. According to the severity of the condition created by the germs, and the irritation consequent upon inflammation, abortion then takes place early or late in the period of gestation.

Gradual Immunity of Cow.—Having become infected, and having aborted once, the cow continues affected, but aborts later during next gestation, and even later the following one, until, after several abortions she may carry the calf the full period, but is still infested by the germ of the disease. Experience goes to show that affected cows in time become immune to the irritating effects of the germ, and are then able to successfully withstand its presence, and consequently become regular breeders. There is an exception to this rule, and that is where the Fallopian tubes become invaded by the disease, and are so altered in function—which may include the ovaries—or obliterated or blocked up by the products of the inflammation that they cause barrenness. Such cases are seen in most outbreaks of the disease. During the time that a cow is becoming immune she continues to discharge germ-laden material from her vagina, and this discharge contaminates