

APRIL 20, 1911

as the exact location of some cape, bay or inlet in some remote part of the world, or the exact number of wives some king had who died an uncertain number of years ago.

The farm is a place of business where brains pay larger dividends than any other. Instead of teaching in the schools of the country subjects of teaching in the school pupils would have no occasion to use in practice in after-life, as well, subjects pertaining to farm matters, which would give the brightest a chance to show their ability to take up and get the most out of a farm, and in this way keep on the farm those who are to-day being educated off it.

Nature study and the school garden are the first steps taken by the Ontario Department of Education in this direction. A free course in agriculture is being given at the Guelph Agricultural College to the teachers graduating from Normal Schools. Teachers who have taken this course are qualified to have at their schools a garden. The teacher receives an additional \$30 on salary, and the section, to cover expenses, \$50 from the Government. Each pupil has a small plot of ground; this answers the purpose corresponding to that which a laboratory serves in a High School—a place where experiments can be made. There are also plots in which the principles of cultivation, the conservation of moisture, effects of cultivation, and the results from good and bad seed, would be demonstrated. This will not only be teaching the boys and girls of the schools to take a greater interest in agriculture, but will be solving problems which in after life would take up valuable time and cost, possibly, a lot of money. They would have knowledge before they started farming, that is some cases—and not rare ones, either—their fathers did not have when they left off.

The Ontario Corn-growers' Association was one of the first organizations in Canada to recognize the chance there was in the public schools to further the work they had set out to accomplish—the improvement of the corn crop. In 1909, as an experiment, they held two or three rural-school corn fairs. Prizes were offered the pupils of the different schools for the most desirable type of corn to select for seed. They proved to be such a success that in 1910 the Association held a fair in each township in Kent and Essex. In a number of cases where fairs were held, a representative was sent to each school a few days before the fair, who gave the children an idea what the fair was for, what the prizes were given for, and what kind of corn would be most likely to win a prize. To-day, as a result of this, there are in the Counties of Kent and Essex hundreds of boys who can intelligently discuss the merits or demerits of an ear of corn, and who are much better qualified to make a selection for seed than hundreds of farmers who have grown corn all their lives.

Next year, the Corn-growers' Association intend to continue this work, and it will be but a few years when the whole of the corn-growing area will be covered. This will mean thousands of dollars in the pockets of those boys when they come to farm for themselves. Surely this kind of education should have at least an equal place in the schools with that which is taught now.

Kent Co., Ont.

R. H. ABRAHAM.

HORSES.

Blisters: Actions, Composition, Uses, and Application.

Blisters are local applications that cause local irritation and inflammation. They are also known as counter-irritants, from the fact that at one time it was supposed that no two inflammations could exist simultaneously. Hence, in case of inflammation of an internal organ, "counter-irritants" were applied to the skin covering the diseased organ, and the local inflammation thus caused was supposed to be the means of allaying the inflammation of the vital internal organ. Of course, the supposition was false. At the same time, the effect of counter-irritants is often beneficial in such cases, probably by establishing a reparative process, stimulating absorption of the exudate resulting from the inflammatory action existing, or by increasing the internal inflammation and hastening the termination of the processes which it is causing.

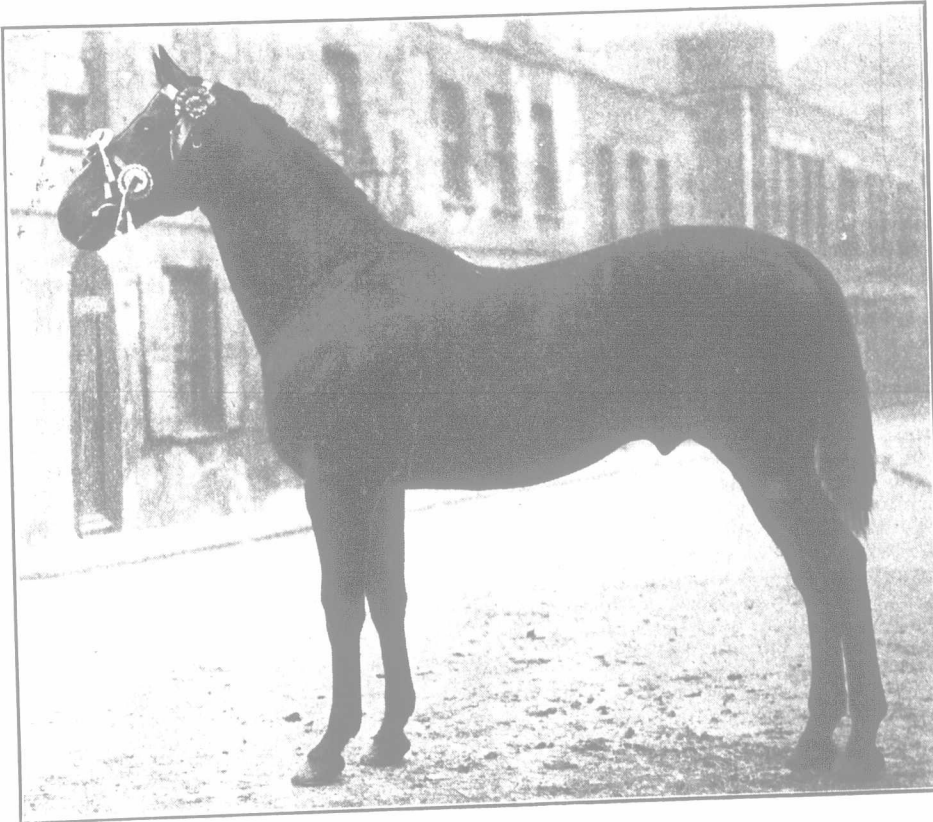
The actions of blisters vary according to existing conditions. If a blister be applied to a normal and healthy part, it produces more or less swelling, from the fact that it interferes with the circulation, causes inflammation and irritation to the part, which causes an escape of serum from the blood vessels, and it also causes pain by the consequent pressure upon the nerve supply of the part. The exudate becomes absorbed, the swelling and soreness subsides, and the part regains its normal condition. In cases where there is a chronic enlargement of an external organ, the result of injury or disease, the application of a blister often tends to reduce the enlargement. This is accomplished by the irritation produced. It causes increased activity of the absorbents. All parts of the body are supplied with little cells or

glands that are called "absorbents." From these cells extend small tubes that converge to certain points and empty the fluids they carry into receptacles, from which extend larger tubes that convey it into the general circulation, by which they are carried through the body to the different organs. Certain organs have an elective affinity for certain ingredients; and when the substances which have been absorbed reach the organ for which they have an affinity, they are abstracted and drawn from the blood through the very fine coats of the blood vessels, and by these organs are excreted or expelled from the body, or employed for useful purposes. For instance, many impurities are excreted in the urine, many in the excretions, perspiration, etc. Other substances that

article we purpose confining our remarks to blisters.

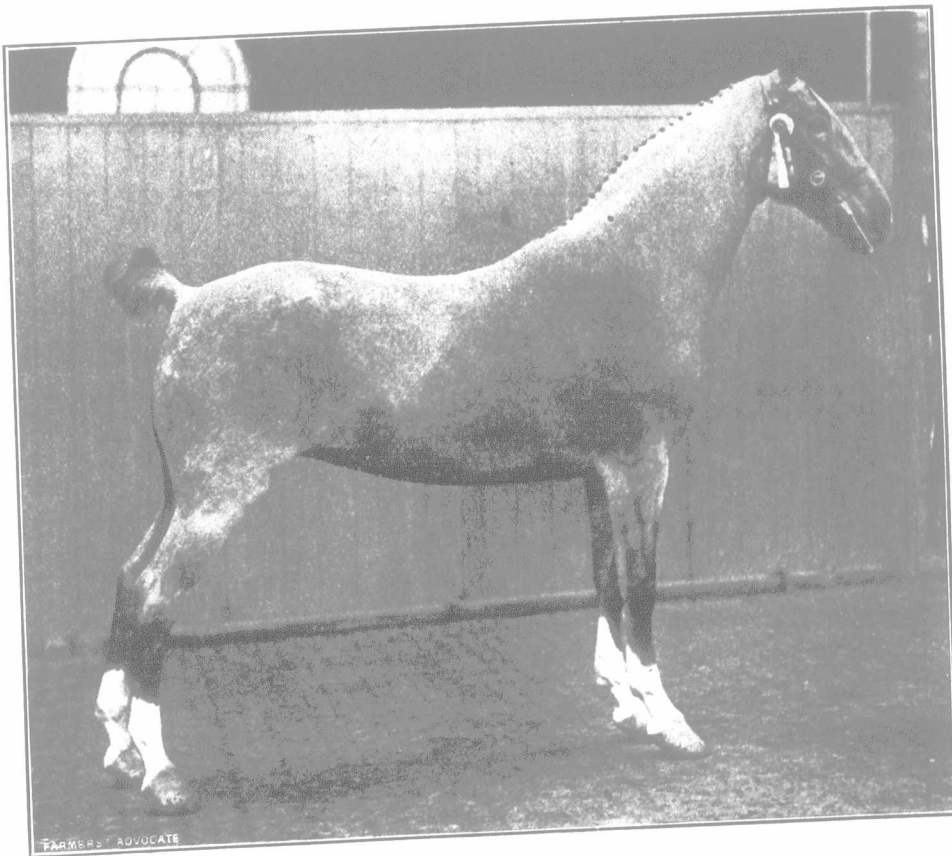
Blisters are sometimes applied to strengthen weak parts, in case of relaxation of a tendon or ligament, as in cases of dislocation of the patella (stifle bone), in cocking of the fetlock joint, stretched tendon, the result of sprain, etc. In cases of this kind, the irritation caused tends to give tone to the relaxed organ, and cause it to retract or shorten to its normal condition. Blisters are also applied in bone diseases, as in bone spavin, ringbone, etc. In these cases the cartilage covering some of the bones of the joint has become destroyed, and it is necessary that two or more of these bones become united by bony union before the inflammatory action will cease.

Blisters produce an external inflammation which increases the internal inflammation and hastens this process, which is called "anchylosis." When this process is completed, inflammation and pain cease, and in cases where the motion between the bones involved was not great, lameness ceases, and stiffness on account of the lost motion is not noticeable. In some cases blisters are applied with the object of affecting surrounding structures, rather than the part actually diseased. For instance, in a case of navicular disease, or disease of the coffin-joint, the hoof becomes contracted by virtue of the internal inflammation and heat, and thus confines the space in which the joint is situated, and causes increased pressure upon the diseased part. In such cases, if said space can be increased, it lessens the pressure, and if the disease has not reached that stage in which there is an alteration of structure, a cure may be effected. The hoof is produced by a band called the coronary band, which rests upon the top of the wall. Blistering causes an increased action of this band, hence causes an increased growth of hoof, or, rather, the wall of the hoof. When this irritation is continued, the hoof becomes larger in circumference, hence the space within the wall becomes greater, and the pressure upon its contents lessened. When



"Berrill."

Thoroughbred stallion. Winner of the King's Champion Cup, London (England) Thoroughbred Show, 1911.



Miss Nancy.

Hackney filly; roan; three years old. First and junior champion, London Hackney Show, 1911.

would prove injurious if left in the blood are secreted or extracted from the blood by the liver; but these, instead of being immediately excreted, serve useful purposes in the process of digestion. The absorbents are always active, and the irritation caused by a blister increases their activity, and has a tendency to cause them to absorb the abnormal material that causes enlargements or of external organs. In many cases it is necessary to blister repeatedly in order to continue the irritation and promote absorption; but it must be understood that we do not always get the result we look for in such cases. There are certain drugs which, when applied locally, increase the activity of the absorbents, without causing well-marked irritation or inflammation, but in this

the feet are too small, even though there is no disease, repeatedly blistering the coronet (that is, the part just above and surrounding the hoof) is often resorted to to make them grow larger. Hence it will be seen that the actions of blisters are many, and they are applied with different objects in view. As regards the composition of blisters, I may say that they are innumerable. Blisters may be either liquids or ointments. The principal point to be considered in the composition is to have ingredients that will produce sufficient irritation and inflammation, and at the same time not destroy the hair-roots. Many of the proprietary medicines on the market contain ingredients that destroy the hair follicles, hence leave a bare spot. For instance, nitric acid,