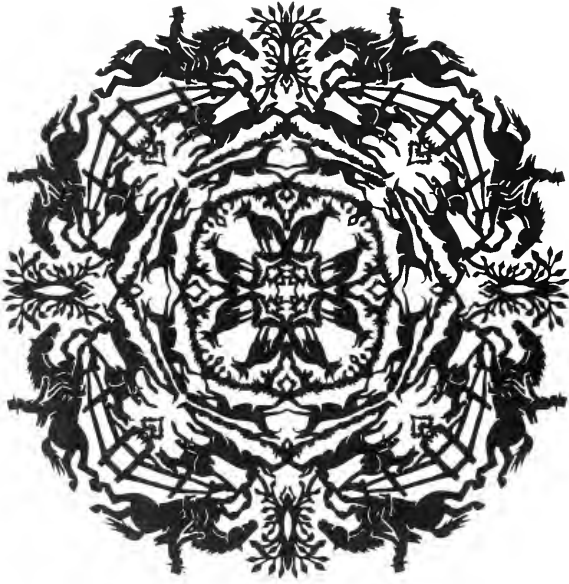


HORSE WELFARE

Giles Remedy



JOHN A. SEAVERNS



C.P. ZACHER & CO. CHICAGO

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SECOND EDITION

HORSE WELFARE

The "Giles" Method

OF

Veterinary Treatment



THE ORIGINAL METHODS EMPLOYED BY
DR. D. S. GILES IN AN EXPERIENCE
OF OVER FIFTY YEARS.



ENABLES ONE TO TREAT SUCCESSFULLY ALL AILMENTS
INCIDENT TO THE HORSE



TO EFFECT MORE CURES THAN PROFESSIONALS EMPLOY-
ING ANY OTHER TREATMENT AND PREVENT
TROUBLES THEY CANNOT AVERT

What Follows Will Make Clear to You the True Causes of Disease and the
Most Modern Methods of Prevention and Cure,



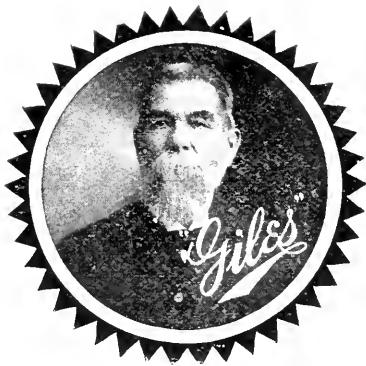
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Giles Remedy Co.
INCORPORATED


706-708 Van Buren Street,

Chicago, U. S. A.

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DR. D. S. GILFS.

XTENDED research of the latest works of leading authorities of America, England, Germany and France, together with the wide practical experience of DR. GILES, for more than fifty years, have been crystalized in this booklet, giving it an authoritative standing never before attained by a similar publication.



THAT better results than now obtain from the methods of veterinary practice universally employed, is much to be desired, is appreciated by every intelligent man who is interested in the welfare of the horse. That all methods in common use are exactly alike in principle, is well known.

That much direct or indirect loss results, is conceded.

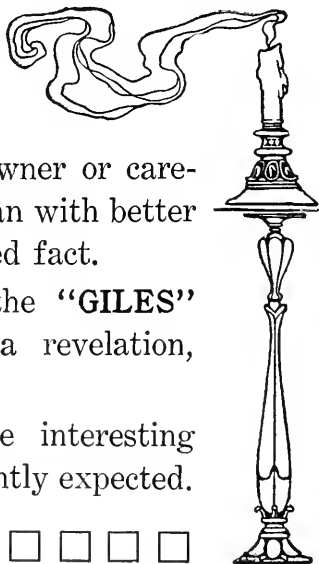
That the "GILES" method of Treatment with the "GILES" Remedy is radically different from all others is clearly apparent.

That the "GILES" way is better is abundantly proven.

That its use makes every owner or caretaker his own veterinarian with better results, is an accomplished fact.

That a demonstration of the "GILES" Treatment will prove a revelation, is certain.

That this book will prove interesting and instructive is confidently expected.



"Giles"

TO those who know, this word means the best Method of Veterinary Treatment, which is the proper application of **GILES MAGIC LOTION**, and **BLOOD PURIFIER** the **GREAT VETERINARY REMEDY**.

The **GILES REMEDY** and **GILES METHOD OF TREATMENT** are inseperable, the one makes the other possible, and neither would be successful without the other. They are the result of over fifty years of wide experience and painstaking experiment. Fifteen years of severe and conclusive tests at the hands of a conservative and discriminating horse public, has served to firmly establish an unequalled and enviable reputation for "**GILES**"

The **REMEDY** is essentially a **TRUE GERM-ICIDE**, which destroys and removes from the system the Toxins of **GERMS**, a Vitalizer which increases the blood pressure, stimulates the action of the heart and other organs, enabling them to perform their natural Functions; a powerful non-irritating Antiseptic, which purifies the blood and overcomes or neutralizes Disease Germs; an Alterative, Sedative, Febrifuge and Tonic Stimulant.

This combination of qualities exists in no other preparation. It is at once Effective, Harmless, Healing Soothing with no bad after effects.

"Giles" GERMICIDE

**THE MODERN
SCIENTIFIC
REMEDY
FOR HUMAN USE.**



EXPELS from the system the toxins of germs
—the common cause of nearly every ailment.
Removes any internal or external congestion
or inflammation. **FOR**

Prompt Relief—Speedy Cure

of Rheumatism, Asthma, Catarrh, Hay
Fever, Croup and all Throat, and Lung
Troubles, Blood and Skin Diseases, Kid-
ney and Bladder Affections, Female Dis-
eases, Diseases of the Stomach and
Bowels, Piles and all ailments of an inflam-
matory nature, either internal or external,

ABSOLUTELY HARMLESS

PUT UP IN 50c AND \$1.00 BOTTLES

MADE ONLY BY

GILES REMEDY COMPANY

INCORPORATED

706-708 Van Buren St.

CHICAGO, U. S. A.

PERFECT FUNCTIONAL ACTION, NECESSARY FOR PERFECT HEALTH.

HEALTH is a condition in which all vital organs perform their natural functions through a perfect circulation of pure blood. Whenever this condition is disturbed, the patient is slightly or seriously ill to the extent of such disturbance.

Interruption of the circulation quickly promotes congestion—the real disease—from which arise the various complications or ailments, which are but symptoms, chief of which are chill, fever and inflammation. Without some one, or a combination of these three affections, there can be no illness, nor can chill, fever or inflammation exist without the prime cause, congestion and there can be no congestion when the circulation is perfect and the blood pure.

Germs are ever present within and without. They easily gain entrance to the blood and throw off their toxins which are constantly being combatted by the healthy blood corpuscles and rendered harmless. But these micro-organisms are ever ready to attack when opportunity offers to interfere with the normal working of any function of the body. Whenever congestion appears, there the germs center their poisonous attacks and there arise the symptoms of ailments erroneously denominated diseases.

With the germ poisons eliminated the circulation returned to normal and the blood purified, congestion cannot exist and health is restored.

UBIQUITOUS POISON GERMS.

IT has been demonstrated beyond all cavil that poison germs, the smallest known plants, get into the blood through the nostrils, mouth or skin and cause congestion. There are many kinds of germs and they are found in every corner of the world. There are healthy germs which are necessary to the life of man and beast; but it is the disease breeding, poison spreading germs here alluded to. It is not the intention to go extensively into the history of the discovery of these minute organisms, as that would require a very large volume in itself, suffice to say that what in the earlier stages of investigation was called the "germ theory of disease" is now an accepted fact.

These disease germs attack the tissues of which the entire body is composed, the delicate membranes and all vital organs, through the circulation. If undisturbed in throwing off their poisonous products, they

will set up congestion and some one or more of the many ailments which are symptoms of congestion, in any part of the body where conditions become favorable. The deadly organisms are ever present in the air, water, food, clothing, in the ground, in fact in or on everything we handle or eat. They are kicked up in the dust everywhere in or out of doors. They enter nostrils, mouth and ears, cling to the hands, clothing and hair and enter our bodies. They multiply with such astonishing rapidity that a single germ, under favorable circumstances, will multiply to millions in a very few hours and this mass of busy, microscopic organisms never tire or rest from their destructive work. They destroy the healthy blood corpuscles and go bounding through the veins and arteries of the body seeking a favorable lodgement.

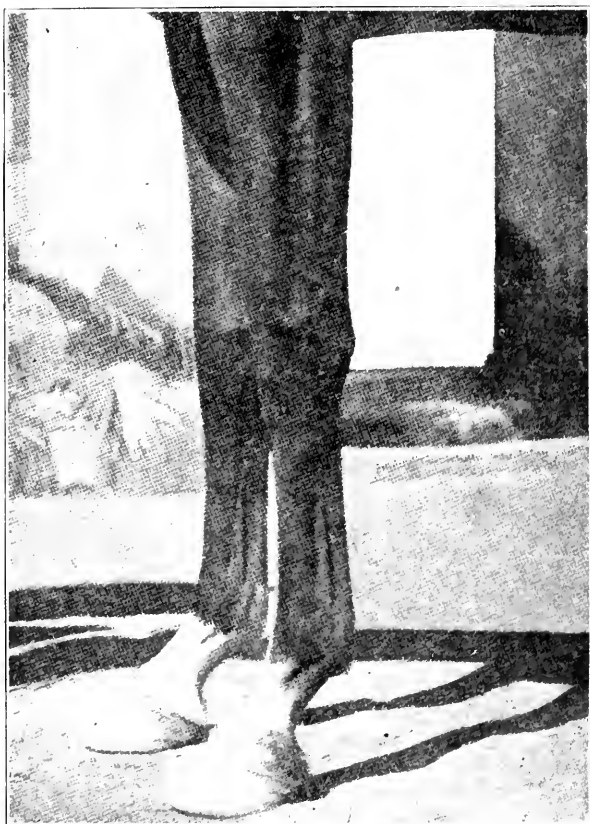
A healthy body will combat the toxic or poisonous waste thrown off by the germs, which is now held to be the cause of congestion rather than the germs themselves, the product being scientifically known as ptomaines. After the microbe has succeeded in invading the tissues, a battle immediately ensues between the living cells of the animal and the multiplying cells of the invader, the contest being decided in favor of the stronger. The researches of the great Russian scientist, Metchnikoff, show that the bacilli can be destroyed by the white corpuscles, the scavengers of the blood. Two modes of attack are open to the doctor after the organisms have entered the tissues or circulation, either by attempting to exterminate the microbe itself through such agents as he may consider to possess germicidal properties; or by an effort to antagonize the poison which the microbe is distributing through the system. It is just at this point where the difficulty arises. The cause of the trouble is known; but what means are at hand to combat it? as agents sufficiently strong and potent to effect either object are themselves more than likely to prove injurious to the affected tissues. The aim of curative remedies is the discovery of elements capable of preventing the growth of the microbe, yet innocuous to the animal. Combating the poison of the germ with a drug that will prove irritating and destructive to the tissues, even though it is successful in eradicating the organisms and their poisons, leaves the horse in such condition that the utmost care is necessary for his recovery and there is strong probability that the mischief accomplished by the drug will be so destructive either to the heart or membranes that he will never fully recover.

It was with a view to overcome this danger that Dr. Giles conducted his study and experiments, with the result that he has perfected a true germicide which will not only eliminate the germs and their poisons; but will build up and strengthen the heart and tissues. It is powerful to eradicate the germs, yet so soothing that it may come in direct contact with the most delicate membrane without harm. It assists and builds up the white corpuscles of the blood, stimulating them in their struggle against the poisonous invader. Congestion is conquered and the cause of the ailment quickly removed. The same cause producing all

the various ailments, the effect of this marvellous treatment is the same. That is why it cures so many different complaints—different in name and location, but the same as to cause.

Will the "GILES" method of treatment do the wonderful things claimed for it?

The strongest argument that can be submitted to impress you with the absolute truth of every claim made is the unrestricted offer to give you an opportunity of testing the treatment as severely as you please. In addition, there are hundreds of horsemen, some, doubtless, in your own community, who have tested it and as a result are enthusiastic advocates of the treatment. Their testimony may be had for the asking and the Giles Remedy Company will send you these testimonials with special pride for the reason that every one came as an unsolicited tribute to the worth of this treatment.



A Clean Pair of Legs.

CONGESTION THE ONE DISEASE.

ALL AILMENTS ARE BUT SYMPTOMS.

WHENEVER one or more of the natural functions of the body are disturbed, there is a state of disease, which is congestion, arising from the poisons thrown off in the blood by various kinds of germs. That those who are interested in the horse may see substantial reason for the remarkable cures effected by "GILES," though the ailments cured are so widely different in name and location, it is the purpose here to set forth undeniable facts that broadly speaking, there is but one disease—congestion, and that "GILES," in relieving congestion, therefore cures all of the many ailments which are likely to affect the horse.

CONGESTION may be of as many forms as there are functions of the body and every ailment is due to one or more of these forms; but for the sake of convenience, all forms of congestion are here covered under the general terms, active and passive.

ACTIVE CONGESTION is a state of hyperæmia in which too much blood is propelled into the affected part and it constitutes the first manifestations of inflammation. That is, the rush of blood interferes with the functional work of a part and is followed by pain and inflammation; as in an increase in the amount of blood in the liver, such as may be induced by over eating, or the germs of malaria and of typhoid fever. Pain in any part of the body, internal or external, is the danger signal of active congestion and its immediate removal prevents the complications and ailments sure to arise, whether due to the action of germs internally or their activity in external wounds or sores.

PASSIVE CONGESTION is the term applied to all forms of congestion that do not depend upon the amount of blood sent to the part from the heart, wherein circulation to the part has stopped and from which inflammation and pain have departed. That is, there is a stoppage of blood in the veins of a part and if that condition is permitted to exist, atrophy, or hardening and thickening of the part will ensue. As the pressure also renders the nerve reaching to the part inactive, there is no pain. Waste matter in the blood clogs the affected part where it remains inert, forming bunches or swellings. Cysts may form if the condition continues and in some cases, serous or watery swellings arise. Passive congestion may also appear from a blow bruising the delicate walls of the veins which are easily affected by pressure, thereby arresting circulation to the part and the tissues immediately surrounding become hardened and devoid of feeling.

The germicidal qualities of "GILES" and its powerful action on the circulation forces a renewal of blood in the affected veins by increasing the pressure from the arteries, thus removing the congestion and its complications which form the symptoms termed diseases.

The exciting cause of fever, which is a symptom of almost every ailment, produces an irregular action in the system of nutrition which is soon conveyed to the rest of the system owing to the extensive sympathy which exists between every part of the body, and local congestions and inflammations are the consequence.

Different forms of blood poisoning (septicæmia) is produced by different forms of bacteria. They are carried by the blood streams to the various internal organs, where, on becoming arrested in the capillaries, they set up congestion. On post mortem, the most important changes are found in the appearance of the blood which assumes the color of lacquer, coagulates imperfectly on account of the destruction of the white blood corpuscles and swarms with bacteria. There are cloudy swellings of the muscular tissues of the heart, liver, kidneys and muscles of the skeleton which often look like boiled meat; frequently there is swelling of the spleen and hemorrhages in the mucous membranes of the head, intestinal canal and bladder; hemorrhages in the liver, lungs, kidneys and muscles. Colonies of septic bacteria may also be observed in the kidneys and other organs. The leucocytes, or white corpuscles, frequently contain bacteria. Thus is congestion produced in the various parts attacked.

Colic is the most important of all ailments and horses are more liable to it than all other domestic animals. Being the manifestation of pain in the interior of the abdomen, it is a symptom of various ailments, such as irritation of the intestines due to indigestion, worms, enteritis, hernia, twisted bowel, calculus (stone) in the intestines, obstruction, etc. Authorities pretty generally agree that about 40 per cent of the internal troubles of horses is due to colic and death from it is about 13 per cent and about 40 per cent of the general death rate. Colic is congestion of the bowels and may show in any one of various forms, so much so that the regular practice is to treat the symptoms rather than the cause. Spasmodic colic is the name applied to spasms of the muscular coat of the intestines due to the presence of undigested food which causes the congestion which produces the painful symptoms. A chill will sometimes cause the painful complications, which is due to congestion.

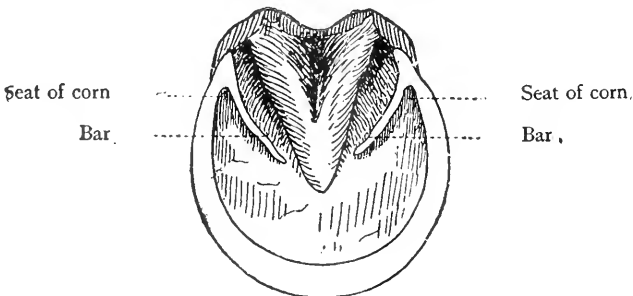
Strangles is an infective malady caused by congestion of the mucous membranes of the upper air passages especially of the nose, producing an infectious catarrh.

A few of the more important and common symptoms have been thus somewhat fully described to show ever present congestion. Numerous other symptoms could be mentioned just as fully, such as the various fevers, distemper, influenza or pink eye, contagious pleuro-pneumonia or dry influenza, glanders and farcy, inflammations, catarrh of the stomach, pharyngitis, chills, chronic coughs, colds, diarrhea, affections of the

eye, fistula, poll evil, founder, heaves, heat exhaustion, old sores, lock jaw (tetanus), rheumatism, sore necks, galls, sore throat, spinal meningitis, skin affections, thumps, thick wind, wounds and many others, all due to the same cause—congestion.

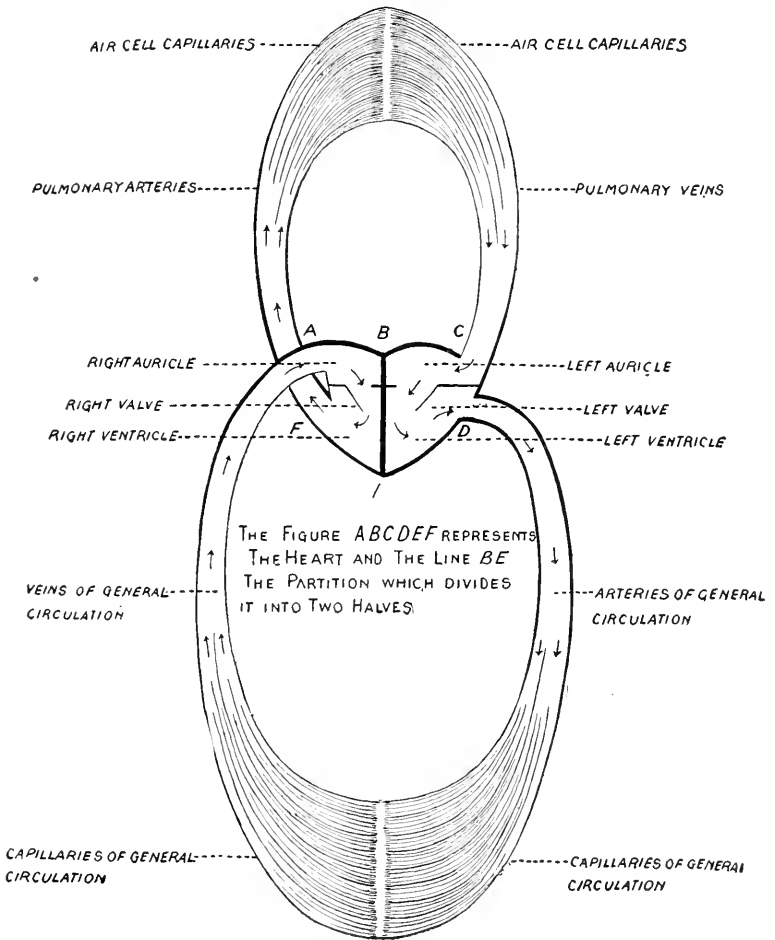
Why will "GILES" relieve congestion? Because it stimulates the action of the heart naturally, increasing the pressure, throwing oxygen through the veins and arteries of the body in which the disease germs and their poisons cannot thrive, thus ousting congestion whenever it is present no matter in what part of the body. "GILES" is composed of a purely vegetable oil which will carry more oxygen than any other element, this, in a happy combination of healing mediums, is quickly taken up by the circulatory system and sent flowing through every gate and alley of the body, sweeping out before it all the toxin and germs which have produced the congestive cause of the ailment. All this is done without harmful or reactive effect, which is the danger of drugs used in the regular practice. While eliminating the cause of disorder, "GILES" builds up every function of the body; it soothes and heals the tissues while it destroys the cause of the affection. It is strong enough to drive out the poison of any malady, yet so mild in its health-giving properties that it cannot injure the most delicate membrane. It can be placed in the eye full strength with beneficial effect. It is a happy combination and there is none other like it.

The trouble has been and is, in veterinary practice, to get an anti-septic that will eliminate germ poisons and not leave the horse in almost as bad condition from the effects of the medicine as from the malady. "GILES" is the only treatment that has no reactive effect, and that fact is the easiest thing in the world for you to test.



Ground surface of horse's foot.

HEART AND CIRCULATORY SYSTEMS



HOW THE BLOOD CIRCULATES.

LIFE STREAM OF MAN AND BEAST.

THERE are two circulatory movements of the blood, the pulmonary and the general circulation. The former taking up the oxygen from the lungs is pumped into the general circulation by the heart, carrying a purifying process. The right auricle communicates by a valve with the right ventricle of the heart, which opens into the pulmonary artery, proceeds to the lungs, is split up into branches and finally into the capillaries which spread through the air cells of the lungs. The air cell capillaries unite to form the pulmonary veins which open into the left auricle from which the blood is carried to the capillaries of the general circulation. The heart is a hollow muscle of somewhat conical shape, the small end pointing downward, divided by a partition into right and left sides, each of these sides being subdivided into an auricle and a ventricle, by a valve, which, under normal conditions, allows the blood to flow from an auricle into a ventricle of each particular side, but does not allow it to flow in the opposite direction. The auricles occupy the base and are much smaller than the ventricles which occupy the remainder of the heart. The aorta into which the left ventricle opens, the largest of all the arteries, splits up into branches shortly after leaving the heart, that distribute their still smaller ramifications to every part of the body, finally terminating in capillaries, as a rule. The aorta and the pulmonary arteries, which are its branches, the veins of the general circulation and the pulmonary veins, are shown in the accompanying illustration as consisting of a single trunk, for the sake of convenience. Throughout the entire system the capillaries are found in countless numbers. They are exceedingly small tubes with very thin walls, not greater than 1-3000 of an inch in diameter and not to exceed 1-40 of an inch in length. They open into the small veins which gradually unite with each other, entering the right auricle by two large branches and a few smaller ones.

The muscular walls of the heart act in much the same manner as a rubber bulb syringe with an intake at one end, which corresponds with the veins and the auricle and an outlet at the other end corresponding to the artery. When dilated, the bulb is filled with fluid and by squeezing, which may be likened to the muscular contractions of the heart, the fluid is ejected from the arterial tube and is prevented from returning to the auricle by means of a valve which closes during the squeezing process, but opens on release of pressure and the bulb is again filled. These muscular contractions or heart beats occur about forty times a minute in a horse.

According to reliable scientific experiment it requires about thirty-one seconds and about twenty-seven contractions of the heart for the blood of a horse to make the entire circuit of both the pulmonary and general circulation. In this great scheme of circulation, the blood starts from the left ventricle and by the contraction of that side of the heart is driven through the arteries, veins and capillaries of the general circulation into the right auricle and passing the valve of the right side enters the right ventricle. The contraction of that side of the heart then drives it through the arteries, capillaries and veins into the pulmonary circulation, around into the left auricle and past the valve on that side into the left ventricle completing the circuit, to be pumped around again the same way.

The blood is life itself in that it deposits nutrition in the form of plasma, which, in a normal condition of the system, constantly bathes all the tissues which take from it the constituents required for repair and nourishment. The pressure on the blood forces the plasma through the thin walls of the capillaries which appear to act as a filter to the plasma, keeping back a large proportion of fibrin constituents, thus preventing coagulation in the tissues. The red blood corpuscles part with more or less of their oxygen in the capillaries to the tissues. The excess of plasma and waste products given off by the tissues are removed by the lymphatics, which pour their contents into the veins. Therefore, the blood returns to the right ventricle in an impure state, which, on being again pumped into the pulmonary system, gives off into the air cells of the lungs the carbonic acid which it received from the tissues and takes up a fresh supply of oxygen from the air in the air cells, arriving in a more or less purified state in the left auricle, flowing thence into the left ventricle. In addition to the lungs, the kidneys, liver and skin also assist in removing impurities from the body.

The blood is peculiarly susceptible to the reception of disease germs and through the poisons thrown off by them, congestion is set up, which is the cause of most ailments. When the normal flow of the blood through its regular channels is interfered with inflammations, fevers and all the other symptoms of disease follow and the horse will grow worse and worse, unless the normal work of the heart and blood is restored, and death will follow. "GILES" is readily taken up by the blood and is quickly absorbed into the circulation, supplying the blood with the elements which the abnormal condition had destroyed, mainly through the action of the poisons thrown off by disease germs. The blood pressure in the arteries, capillaries and veins is increased, thereby stimulating the action of the heart. Congestion is dispelled and the normal condition restored.



WHAT THE TISSUES ARE. HOW BUILT UP AND DESTROYED.

IN telling of the effects and treatment of different ailments, frequent reference is made to the tissues, which may mean much or little to the readers according as they understand the term. The entire body is built up of tissues and no matter what the ailment or where located, tissues are affected to a greater or less extent.

A horse's body is a wonderful piece of mechanism, made up of these different kinds of materials called tissues, arranged in organs such as the muscles, nerves, heart, lungs, stomach, skin, etc., all built up to form the whole body and in the marvelous physiological arrangement, all the labor of the body is wisely apportioned among the several tissues.

The epidermic tissue is the epidermis (outer or scarf skin) and its appendages, with epithelium (protective covering) of mucons membranes.

The hair, hoofs, horns and epidermis are called corneous tissue, composed of compact masses of cells which are soft near the base where attached to the body, flat and often devoid of a nucleus near their free surface.

The simple tissues are composed of but one structural element or with but a slight admixture of others, such as the blood, lymph, epitherium and connective tissues, cartilage bone and nervous tissue.

Movement is carried out by the muscular tissue, broadly speaking, and the changes in the muscular tissues which lead to the setting free of energy in the form of movement, is directly governed by means of the nervous tissues. The whole of the rest of the body is engaged in preparing the food and carrying it to the muscular tissues and receiving the waste matter thrown off and preparing it for easy and rapid ejection from the body. This food, which is prepared and elaborated by the digestive organs, is carried to the muscular and nervous tissues in the form of blood, thrown through the circulatory system by the muscular contractions of the heart.

Tissue is destroyed and becomes waste matter according to the degree of energy expended. As long as the work of repair and the elimination of waste is equally distributed, there is no disturbance of health; but when the blood becomes impaired and is unable to perform its function, there is an accumulation of waste matter at some point which becomes a fruitful field for germ attack. Congestion and complications follow.

"GILES" restores the blood to healthy action and abnormal conditions disappear.

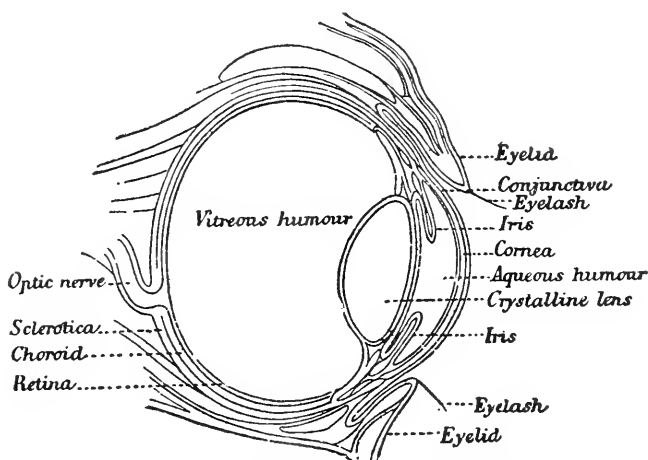
IMPORTANCE OF A SAFE ANTISEPTIC.

ANTISEPTIC surgery is comparatively of modern origin and is well known to be efficacious in checking the action of bacteria. The objection to the use of these agents, however, is, that all antiseptics known to general practice exercise injurious action on the tissues as well as on the microbes.

This fact is freely admitted by eminent authorities and great effort has been made to procure an antiseptic that would have all the power of known agents in the destruction of bacteria, without the irritating qualities, so far without avail. This is shown by the fact that carbolic acid was almost exclusively used for a long time, but has now given place to creolin and like agents that are a little less irritating, but not so potent.

The injurious effects of commonly used antiseptics on wounds and sores, while interfering with the action of bacteria, tend to increase inflammation and deaden the healthy tissue immediately surrounding the parts.

“GILES” is the only antiseptic yet discovered that has the power to accomplish the desired results without the accompanying evils. On the contrary it induces a healthy growth of tissues in place of putrefaction and no fever or inflammation can exist where it reaches.



Longitudinal and vertical section of eye.

THE STORY OF DR. GILES

AND HIS GREAT TREATMENT.

DR. D. S. GILES, the originator of the "GILES" Treatment for horses, was born in 1829 and grew to manhood in a community which was eminently "horsey." Horses were the chief interest and match races the principal amusement. In those days, as many of the old-timers will remember, horses were valued for their endurance as well as for their speed. They had to be up to going any distance from a quarter to twenty miles, and the parson as well as the deacons, were not averse to enjoying a good contest. Dr. Giles' father and elder brothers were prominent horse fanciers and it would have been a marvelous thing if he had not evinced an aptitude for horsemanship.

When he came into possession of his first horse, presented by his father when a lad of twelve or fourteen, he began his first efforts to find a way to relieve the ailments to which horses are subjected. He had an undefined, hazy sort of an impression, gained through seeing the generally unsuccessful, not to say inhumane methods used in the treatment of sick horses in his immediate neighborhood, that such treatment left much to be desired. He was a wide-awake, observing lad and saw that the medicine and decoctions used did not act promptly and, even if successful, the after effects were bad, invariably leaving the animals in a woefully weakened condition and it took a long time for them to recuperate. He began to keenly realize the need of something that would do better and not leave horses in a debilitated condition, with the result that he read all the books he could procure on the subject and never lost an opportunity to be present when the "Horse Doctor" visited a sick horse in the neighborhood, thereby gaining much practical as well as theoretical experience. This course of study and observation covered a period of several years and resulted in his building a theory that there could be but one cause of disease, and that was congestion.

Then followed some years of experiment, combined with further study, in an effort to find a way to prevent congestion or removing it after it had taken place, or to cure disease of which fever is a symptom, without leaving the horse debilitated.

The purifying, consequently curative powers of oxygen, was fairly well understood even at that day. It was known that pure air was healthy and that impure air was unhealthy. How to make use of that knowledge and utilize the health-giving properties of pure air; how to manufacture oxygen for practical use, seemed for a time an unsurmountable barrier to the goal he aimed at. One experiment followed another,

and many times when he began to think he had discovered the right thing, it was only to learn that something was lacking, and a new start would have to be made. Undaunted by repeated failures, he clung tenaciously to his ideas which his experiments and wider experience strengthened.

Yet after all the tedious and trying experiments, it was a couple of lucky accidents that finally opened the way, although the years of research and study had laid a foundation which enabled him to take quick advantage of his accidental discoveries and put them to practical use. After finding that he could manufacture oxygen and combine it with other agents that would hold it, he also discovered that oxygen alone was not potent enough for the purpose aimed at and that it must be combined with other gases. The next step was to so confine it that it could be easily controlled and when administered it would be released by the heat of the stomach and readily assimilate with the blood. Even after perfecting his discovery so far, he found that when it was potent enough to help one organ, it might be too strong for another and also that symptoms had to be cared for. This, of course, led to further experiments, which covered a period of forty years. He was not satisfied that he had the right thing until he absolutely knew that it would search out and relieve congestion, thereby removing the cause of fever and other symptoms without possible reactive effect, but carry with it vigor and blood purifying properties that would leave the patient stronger and better in every way.

Dr. Giles did not really appreciate the importance of his discovery. He knew that it cured without injury; but it was a long time before he knew why it cured. When the germ theory as the cause of disease began to be discussed and the discoveries of Koch, Pasteur and other scientists were made public, the Doctor quickly realized why his mode of treatment cured. He had discovered a perfect germicide before he knew about germs.

He continued his experiments, however, and it was about 1890 before he felt satisfied that he had his treatment perfected, until he knew that it would not benefit one organ at the expense of another, but that it actually toned and strengthened the entire system.

When discoveries in the bacteriological field first were made known, only a few ailments were considered of germ origin; but scientific research the world over has continually added to the list, until now there are few, if any, ailments which cannot justly be laid to pathological micro-organisms. While ordinary veterinary practice has not kept pace with scientific discovery, the time is coming when it must recognize and adapt itself to it. "GILES" was the first decisive step in this revolutionary direction.

It was not until 1890 that Dr. Giles put his treatment on the market. The germ idea was still comparatively new to the general public and it required no end of demonstration and serious argument to induce horse owners to credit the great efficiency of the new treatment. It

was frequently necessary for Dr. Giles himself to go into stables where there were sick horses and cure them for no compensation but the satisfaction of proving his contention as to the cause of disease and his ability to cure it. Far more was demanded of him by the public than was demanded of the old method of treatment. The latter was blindly accepted with all its imperfections and ill success, while with the new way it was necessary to do more and accomplish more than was ever required of the old. In a great majority of cases, Dr. Giles was not permitted to treat a horse until it had actually been given up as hopeless by the veterinaries. These statements are all open to the severest investigation.

In recent litigation over a trade mark which Dr. Giles was compelled to institute against imitators of his treatment, affidavits were made by some of the most prominent horsemen of Kansas City, that Dr. Giles did cure horses after they had been abandoned to their fate.

Following are copies of some of the affidavits:

SWORN STATEMENTS.

JUDSON M. BIDDLE,

Being first duly sworn, deposes and says: I am a salesman for Cottingham Brothers, horse and mule dealers at the Kansas City Stock Yards, Kansas City, Missouri. I have known Dr. Giles ever since his remedy, Giles Magic Lotion was first introduced in this market. I was both bookkeeper and salesman for Cottingham Brothers for six years, during which time we used and sold great quantities of "GILES." We were induced to first try the remedy by Dr. Giles coming to our stable and saying to Mr. John Cottingham, who is now dead, that he could save a very fine saddle horse we had, which was very sick and was given up by the veterinary physician.

He said: "I can take this horse and cure him if you will let me have him."

John had given him up and said there was no hope. John said to Dr. Giles in reply: "Men come to our barn every day and say the same thing, who have a new remedy to sell."

But after considerable talk he allowed him to treat the horse. Dr. Giles staid there nearly all the time, night and day, for ten days and cured the horse. Then we bought our first supply of the remedy * * *

A. D. COTTINGHAM,

Being first duly sworn, deposes and says: My name is Arnold D. Cottingham. I reside at 39 Warwick Boulevard, Kansas City, Missouri. I am one of the firm of Cottingham Brothers, horse and mule dealers. I am a brother of John Cottingham, now dead and an uncle of Roy L. Cottingham. I first knew Dr. Giles at Kansas City when he was introducing Giles Remedy. The first time I met him he came to our barn with this remedy. We had some horses that were sick at the time and he

treated them. There were two horses he was doctoring and he cured them with this remedy. That is, the horses got well and we never gave them anything else.. * * * * We commenced on it in a small way at first and finally got to using quite a bit of it for ailments of horses and mules, as well as distemper and barn fever.

ROY L. COTTINGHAM,

Being first duly sworn, deposes and says: I am a nephew of Cottingham Brothers, * * * * My occupation is buying and selling horses and mules. I first became acquainted with Dr. Giles in 1894. He cured a saddle horse for my uncle with his remedy "GILES," Giles Lotion. My Uncle John, now dead, continued to buy the remedy from him right along after that. My Uncle John was best acquainted with Dr. Giles and he bought most of the medicine. * * * * The horse Dr. Giles cured, which was given up by the veterinaries, was called Kentucky Blue Eyes and was very valuable. He had what is called shipping fever, or stock yards disease.

State of Missouri, County of Jackson, ss.

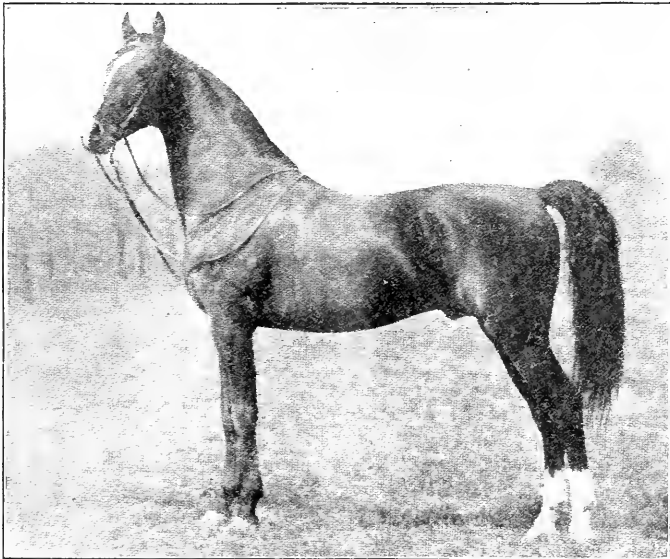
I, Arthur Fidler, Notary Public within and for Jackson County, State of Missouri, do hereby certify that the foregoing depositions of Judson M. Riddle, A. D. Cottingham and Roy L. Cottingham, are true and correct.

In testimony whereof, I have hereunto set my hand and affixed my notarial seal at Kansas City, Missouri, in said county, January, 1905.

(Seal.)

Arthur Fidler,

Notary Public, Jackson County, Mo.



Kentucky Blue Eyes.

RESPIRATION AND PULSE. BLOOD PURE IN HEALTH.

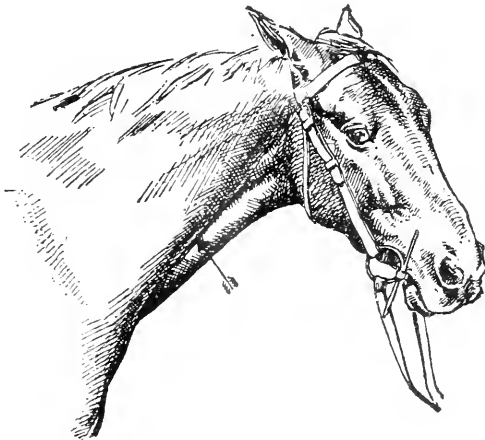
HORSES in their natural state keep themselves healthy. They roam in herds over the plains and foothills, seeking the best grazing places, eating food which they know is best for them, taking the proper amount of exercise and, except by accidental injury, are never sick. It is only when their natural way of living is interfered with through domestication, that troublous ailments develop. Even under the restrictions of his domesticated state, the horse is deemed the healthiest of all animals.

In health, the blood of a horse is pure, having a proper division of red and white blood corpuscles, the red supplying nutrition to the muscular tissues and the white attacking poison germs and acting as scavengers of the circulatory system. In a healthy horse it requires a second or two over half a minute for the blood to make a complete circuit through the arteries, capillaries and veins and about twenty-seven contractions of the heart.

The ordinary rate of respiration when at rest, is from twelve to thirteen per minute. In a horse, respiration is more regular than in other animals and an increase in the rate of breathing when the animal is at rest, is a sure indication of some disturbance in the natural working of the system, yet at the same time greater attention should be given to any peculiar action of respiration than to the frequency of the act.

Breathing from the chest can be controlled by the muscular action of the ribs, which are movable in the sense that each rib is a plane which is described as declining in two ways from the horizontal plane, may be made to approach the horizontal and may afterward return to the original position. To accomplish these movements, various muscles are provided, which, in a general way, arise from the vertebral axis or from some extra-thoracic fixed point and take hold of the movable part of the thorax in such manner that they can pull them up or pull them down. In case of pleurisy, however, when the act of breathing from the chest is painful, the muscles of the abdomen are made to perform the office at will. The inspiration of a healthy animal is longer than the expiration.

In cold-blooded, or draft horses, the pulse beats at the rate of about thirty-five pulsations to the minute. Pulsations are quickened in high-bred, or warm-blooded horses by five or six beats or from forty to forty-one per minute; in Shetland, or other small ponies, the beats rise to about forty-five per minute, and the younger the animal, the more frequent the pulse. The lower jaw is the favored place for taking the pulse, its character there being better marked. The submaxillary artery may be felt underneath the lower jaw a little in front of the fleshy part of the cheek. With the tip of the middle finger, the artery should be gently pressed against the inner surface of the bone. The easiest artery to feel is what is called the sub-zygomatic, where the pulse is taken by placing the ball of the middle finger gently on the horse's cheek a little in front of the back edge of the lower jaw bone and about an inch below its joint or about four inches below the ear. The artery of the forearm is often selected from which to take the pulse. It lies on the inner side of the forearm and is felt by placing the hand between the breast and forearm, from the front, and feeling for the somewhat prominent head of the bone just below the elbow joint. This artery is loosely attached and care should be taken not to push it out of position. The pulse can also be taken by the artery, which runs down the groove between the cannon bone below the hock, by pressing the finger gently on the upper part of the groove. It may be taken, too, from the artery found in the groove, close to the body, along the under surface of the tail.



Jugular vein.

RISING TEMPERATURE

. A PLAIN DANGER SIGNAL.

FEVER which is the forerunner or accompaniment of numerous ailments, is an abnormally high internal temperature and may be produced by any one of many micro-organisms that are not classed as specific germs, as well as by germs which produce specific ailments. They throw off poisonous products which act on the heat regulating centers of the brain or nervous system. Fever should be regarded as a symptom and not a disease. In addition to the increased internal temperature, there is frequent pulse, quickened breathing, dullness and loss of appetite. The system is rendered more susceptible to germ poisons through various constitutional disturbances acting on the more or less unhealthy condition of the blood; exposure to heat; exhaustion from prolonged or violent exertion; lack of exercise; nervous shock; the influence of insanitary surroundings, etc. The normal temperature of the body is raised from one to nine degrees, the danger point being reached around 105 to 106 degrees.

As fever may be symptomatic of one or more of many ailments, through the attack centering at the weakest or most susceptible point, thereby setting up inflammation in one or more of the vital organs, it is of the utmost importance to begin administering "GILES" at the earliest possible moment in order that the abnormal temperature may be lowered before grave complications arise. By arresting the fever, which may be done with greater ease in its early stages, danger of these complications is avoided.

Horsemen should ever keep a lookout for the three great danger signals herein explained, viz.: Congestion, chill and fever. One is the precursor or forerunner of the other. If not checked in the early stages, inflammation of membranes or one or more of the vital organs supervenes and any one or more of many serious ailments is the sure result, with chances of restoring the animal to health just that much lengthened.

It is a fact, borne out by results, that those horsemen who regularly use the "GILES" mode of treatment, never find it necessary to treat any of the many ailments known to ordinary veterinary practice under specific disease names. If congestion, the one disease, is discovered in time and dissipated by the prompt use of "GILES," chill is not likely to develop. If chill does develop and is promptly checked by "GILES," fever will not show to any great extent. If fever appears before treat-

ment can be administered, it will quickly respond to "GILES" and temperature be reduced through removal of congestion, always the prime cause.

Regular users of "GILES" rarely, if ever, permit a horse to get beyond the fever point, to where inflammation and all its attendant complications begin to show. It will therefore be seen that a knowledge of the "GILES" method of treatment makes it unnecessary to watch for the innumerable symptoms and complications which are given specific disease names in common practice; but simply have a care to congestion, chill and fever, and none of the other troubles will have a chance to develop.

AN ACTIVE ANTIDOTE.

BECAUSE of the inherent qualities of "GILES" to prevent congestion, allay inflammation, heal and soothe the nerves and tissues of the body, it is a great error to consider it weak and impotent, as is proven by the fact that its influence for good is much greater than that of any other drug for evil, and when brought in contact in sufficient quantities with even the strongest acids and poisons, it will readily nullify their bad effects. For this reason it is the most potent, quick-acting and safest antidote for poisons within or acids and blisters without the body, that can be given or applied, and possesses the unequalled merit of leaving no bad after effects of its own making. It should be liberally administered in cases of poisoning by narcotic drugs and to nullify the evil effects of purgatives and stimulants.



Starting Bandage.



Securing Loose End.



Bandage Complete.

DANGER IN NARCOTICS, OLD TIME FALLACIES.

REGULAR veterinary practice contemplates the use of almost every narcotic poison known to materia medica. Coal and wood tar products are highly favored, all of which under various modifications and names, like acetanolid creosote, etc., are cruelly injurious. Some of them are used internally, some externally and some both internally and externally. These narcotics, especially when administered regularly, require ever increasing doses to produce the desired effect and as a consequence, the victim's system shortly becomes impregnated with the poison and can never return to a normal condition, for the reason that any drug that will unnaturally stimulate an organ, will leave it in a weakened condition and this reaction is more and more pronounced as the treatment is continued.

Arsenic is given in powders and solutions, generally as a stimulant or tonic in the convalescence of fevers. Continued use renders the body immune to its toxic effects and the amount given must be continually increased in order to get the desired medicinal effect. As a consequence the stomach and especially the liver becomes loaded with it. Many horses have been sent to market excessively fat through having had arsenic regularly mixed with their feed, and they are unsound just to the extent of the poisoning they have undergone. Such horses are not capable of great exertion and are more likely to contract serious illness than other horses.

All the evil effects of these poisons are avoided by the "GILES" method of treatment. It is the only antiseptic and germicide that is at the same time an antidote, soothing, healing and carries with it no reactive effect.

EVILS OF PHYSICING.

ONE of the most potent causes in inducing serious, not to say disastrous complications in the treatment of ailments, is the almost general practice of dosing a horse with strong purgatives. In many quarters "physicing" is considered the one great cure for almost everything. If a horse suffering from a disturbance of the organs of breathing is given a strong purgative, the mucous membranes of the intestines being in close sympathy with those organs through the ramifications of the pneumogastric nerve, severe if not fatal superpurgation is likely to result or the ailment seriously aggravated. The ordinary

ball of purging aloes congests the blood vessels of the abdominal viscera, while large doses cause irritation and tenesmus, or excessive straining of the large bowel, one of the chief symptoms of inflammation of the lining membrane of the digestive tube. Long continued dosing results in habitual constipation to the ultimate ruin of the animal. It is particularly dangerous to give the popular ball of aloes to a mare under certain conditions. Therefore the best thing is to eliminate the ball entirely and adopt the "GILES" method of treatment which is soothing and healing and induces the stomach and intestines to act in the natural way.

BLISTERING IS CRUEL.

TREATING by counter-irritation, or blistering while still practiced to a considerable extent, is strongly advised against by the more advanced authorities. The beneficial effects of the structural alterations caused by blistering, is open to serious question. In many cases it is likely to cause the part to swell and the skin to slough. A blister of cantharides, commonly used, which covers a large surface of skin, will poisonously affect the kidneys, and it is also certain that a blister applied below the knee or hock will be followed by permanent thickening and consequent weakness. The pulling off of a scab by a blister has no beneficial effect as some believe. The skin that has been severely blistered becomes greatly thickened and forms a permanent bandage. The custom of placing a blister over the pleura, in inflammation of that organ, simply accentuates the dryness, intensifies the inflammation and increases pain.

The "GILES" treatment is opposed to blistering as cruel, injurious and unnecessary. When applied externally, "GILES" dissipates fever, thereby allaying inflammation and relieving pain.

EVILS OF POULTICING.

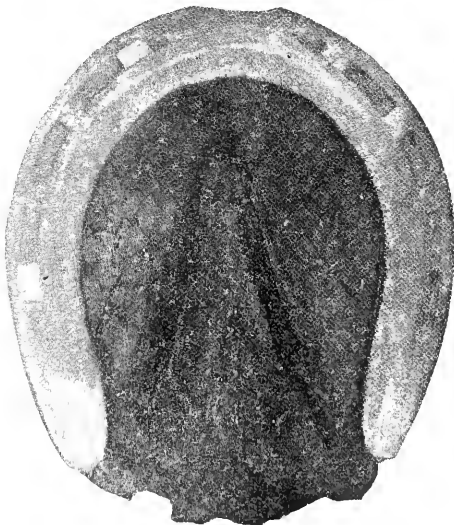
CONGESTION is caused at the point of contact of a poultice with the skin and may not only cause sloughing of the skin, but double infection when used to draw boils, felons, or other suppurating affections. Frequently when used for relief in the earlier stages of inflammation, poulticing will cause the skin to become white and wrinkled and occasionally produce mattery eruptions. Congestion and a sore may be produced by placing a poultice on a healthy patch of skin and allowing it to remain for a time. Poultices quickly become the host of germs and may truly be called bacterial incubators, as their warmth and moisture are particularly favorable to the development of putrefactive and infective germs. They are often applied to the feet, where they easily become the culture nest for the deadly tetanus germ.

"GILES" measures all that is advanced and progressive in curing horses and keeping them well. It is a true germicide, therefore antiseptic, but positively non-irritating. In which respect it stands alone. Applied

externally it induces sweating and draws out fever and inflammation which is dissipated through evaporation and absorption. Vigorously applied to hairy skin where there is high fever and inflammation, it will draw the trouble to the surface, where the action of the fever on the outer skin will start the hair. Unlike poultices, however, it causes no pain and no serous matter can halt there. It is healing, a destroyer of germ poisons and soothing.

SOAKING OR TUBBING.

THIS is one of the relics of ancient equine treatment. It is actually a crime to make horses stand in a tub of hot, cold or warm water, no matter what reason is given for it. Such treatment, regardless of the temperature of the water, is most favorable to the production of cracked heels. Not only that, but it takes the natural oil from healthy hoofs and leaves them dry and brittle, susceptible to every hoof trouble known. In fact, the soaking of any part of the body, skin or hoofs, with water has a deleterious effect. The pressure caused by the contraction of the tissues on the application of cold water, ice or any refrigerant lotion, checks the normal action of the capillaries and arrests all vital action, so that no benefit is gained in acute inflammation, for which it is generally used. The early application of hot or cold water to sprains may have some little merit; but in such slight degree, as compared to "GILES," that it might as well be thrown aside.



Healthy Foot.

MOST EFFECTIVE WAYS

OF ADMINISTERING "GILES."

THE most economical and effective means of administering "GILES," either by the mouth, nostrils, rectum, vagina or urethra, is by use of a 2-ounce syringe with a point or nozzle six inches in length. The Perfect syringe, which is a part of the "GILES" Veterinary Outfit, illustrated and described on page 137, possesses superior merits over all others. To those with a preference for a plunger syringe, the "GILES" Faultless, shown on page 132, will be found to be the best syringe of the plunger type on the market.

It is essential to best results that the dose, which averages two ounces, be so introduced that all will be retained, and that the operation be attended with as little force and excitement as possible. The syringes above described, render it comparatively easy for one person to give any needed quantity without inconvenience to either man or horse.

BY THE MOUTH—Placing the left hand on the animal's nose to steady his head, put the point of the syringe to the roof of the mouth and move it gently back to the opening of the throat. Discharge the contents of the syringe slowly. This action will result in the animal swallowing it readily with little or no loss.

BY THE NOSTRILS—Place the horse in such a position that he cannot move about—backing him into a narrow stall will serve the purpose nicely. With the halter stale or rope passed over a convenient beam or a ring placed for the purpose, elevate the horse's head to a level position. Do not tie the rope, but hold it in the hand. From a box or chair introduce the syringe to the inner side of the nostril, next to the nasal bone. Enter the nostril gently five or six inches and discharge the dose. Do not release the head until both nostrils are served. An ordinary dose is one ounce in each nostril, but two ounces will not be an overdose and is the proper amount in certain cases. As the remedy thus administered reaches directly the larynx and air passages which are always affected when cough or swelling of the throat exists or the wind is affected. This method of administration brings the remedy in direct contact with the affected part and greatly facilitates a cure. The bad after effects which have resulted from this method of administration of other medicines must not for a moment be considered possible to occur from "GILES." When the dose is given by the nostrils, it finds its way direct to the stomach and may for that time be omitted from the mouth.

BY THE RECTUM—Introduce the syringe into the rectum full length of its 6-inch point and discharge the contents.

BY THE VAGINA—(The genito-urinary organ of the female.) This administration is an important operation in the treatment of retention of the urine in any case where sufficient relaxation does not result from administration by the mouth and rectum in due time, also for the prompt relief of the inflammation and heat incidental to that organ in nymphomania (horsing). With proper and gentle care, this operation will be attended by no bad results. Introduce the syringe with the point slightly elevated, two to three inches, then raise the syringe to near a level position for the rest of the length of the point and discharge the contents.

BY THE URETHRA—(The canal by which the urine escapes from the bladder.) With the left hand grasp the point of the glans penis firmly and by a gentle pull endeavor to remove it from the sheath. Introduce the point of the syringe carefully, 4 to 6 inches, and discharge the remedy. Retain the hold on the glans penis for a minute or two, so that all possible of the remedy will be retained, after the syringe is removed. This operation will in many cases serve to aid in voiding the urine. It should be repeated, if staling does not occur in ten or fifteen minutes.

AID IN EXTREME DIFFICULTY OF VOIDING THE URINE—In severe cases of retention of the urine, when the directions given above do not afford relief, the result may be obtained by back raking (page 26) which relieves the pressure of dung in the rectum. In the operation of back raking, the hand will pass over the distended bladder and if gentle pressure on the bladder with the flat of the hand be made, the urine will most generally be voided without resorting to the use of the catheter.

PASSING THE CATHETER—In rare cases when circumstances suggest the advisability of resorting to the catheter for the removal of urine from the bladder, the operation will be greatly facilitated and irritation prevented by an injection of two ounces of the remedy by the urethra or vagina, immediately previous to its use.

PASTE FOR INFLAMMED ENLARGEMENTS OF THE LEGS OR OINTMENT FOR GALLS AND SURFACE SORES—Mixing with "GILES" a sufficient quantity of common wheat flour to a proper consistency to admit of its being spread on cloth and thereby applied to the seat of the trouble and held in place by a bandage. The paste should be kept moistened with the remedy and the supply can be renewed from the top of the bandage without removal. This is an unequalled paste or ointment for application to filled legs, filled hocks and bruises on the legs, when the skin is unbroken. This method of application, by excluding the air, results in the absorbative and sweating qualities of the remedy being fully exerted and admits of more of the remedy being confined on the surface of a harness gall or a surface sore.

USE OF OAKUM—As a means of confining the remedy to wounds,

deep sores and the feet, oakum affords the best results. The oakum should be kept well saturated with the remedy, the supply being renewed without removing the dressing.

SWABBING THE THROAT—The swab for this purpose should be made from about thirty inches taken from the flexible part of a common buggy whip. It should be limber enough to conform readily to the curves of the throat, yet rigid enough to be easily directed. To the small end, securely attach a tough, soft sponge, the size of a medium orange (a small hole in the stock and a waxed cord is best for this purpose.) See that the sponge covers the point of the stock.

After saturating the swab thoroughly with "GILES" and raising the animal's head to a level, place the hand back on the swab, measuring the proper distance to enter the throat, which should be slightly beyond the larynx. Place the sponge end of the swab in the roof of the mouth, pass it firmly but gently down the throat slightly past the larynx and withdraw it immediately. This operation may be repeated once or twice as is considered necessary. This mode of treatment will be found very effective in removing mucous and parasites from the neighborhood of the larynx and afford prompt relief when breathing is difficult and if properly and faithfully applied will in nearly every case hasten a cure and obviate the necessity of tracheotomy with its attendant dangers, annoyance and expense, and better than any other method, insure the recovery of the animal without impaired wind.

TAKING TEMPERATURE—The normal temperature of a horse varies from 99 to 101 degrees F., under different conditions. It is higher in young animals than in old and is higher in hot weather than in cold. The best test of temperature is the judgment of an experienced horseman. A horse's general condition, respiration, tint of the white of the eye, membrane lining of the nostrils, the degree of heat indicated by a touch of the tongue, roof of the mouth, exhalation of the breath against the cheek or back of the hand, or by placing the fingers between the thighs, will serve as a truer indication, than will the common practice of taking temperature by the rectum with a clinical thermometer, which is only indicative and not reliable as to the general temperature; because if the seat of inflammation is in the lungs, the thermometer will indicate two or three degrees less than actually exists; but if the inflammation is in the bowels, as in enteritis, the thermometer will register from two to four degrees higher than is actual in the general circulation. The temperature of a horse with fever is most often higher at about 5 o'clock p. m. than at any other time and should not be considered a dangerous symptom. In the "GILES" method of treatment, the thermometer can well be dispensed with, because the judgment of those with even slight experience, will tell whether the horse has little or much fever. If considerable, the remedy must be administered frequently and often until temperature is reduced and the frequency of the doses decreased as the fever abates, or increased again if the fever is intermittent, until again favorable. There being no danger of an overdose

of "GILES" it is most important to give a sufficiency to induce a satisfactory temperature as soon as possible, no matter if it requires six or sixty hours, there will be no impairment of strength of heart and the patient will be left in a sound condition with an appetite.

If it is desired to use a thermometer, the following facts as well as those above stated, should be remembered: If the temperature rises to 102.5 degrees a low fever may be said to exist. If 104 degrees is indicated, it is moderate, at 106 degrees it is high, and above this point is very high. In some affections, such as tetanus or sunstroke, the temperature goes as high as 108 or 110 degrees. In the ordinary infectious ailments it does not often exceed 106 degrees. A temperature of 107.5 degrees and above, is very dangerous and must be reduced promptly if the life of the animal is to be saved.

BACK TAPPING.—This is an important operation for the relief of the back part of the intestines in the treatment of flatulent colic and retention of urine when, owing to constipation and excessive impaction, the prescribed treatment for those ailments fails to readily induce a natural movement of the bowels and voiding of the urine and should be promptly resorted to when necessary to relieve bloating or distension of the abdomen. It is often made necessary by the administration of a physic ball which does not act promptly and would cause serious results.

Here again the superiority of the "GILES" method of treatment asserts itself as it obviates the necessity of giving physic balls.

The operation is not difficult and may be performed by anyone using proper care. The effect in nearly every case will be to relieve the pressure on the bladder of the dung in the rectum and any obstruction to a natural movement. The necessity of tapping will be almost invariably avoided. If the operation does not afford the desired relief, it is sufficient proof that the trouble is further forward and caused by impaction of the stomach, fold or calculi in the intestines for which tapping would afford no relief.

THE OPERATION.—Administer one or two rectal injections of 2-ounces each. Apply the remedy freely on the back of the hand and arm, insert it carefully into the rectum and clean it of its contents. Do this as far as the arm will reach. After which carefully inject 2-ounces of the remedy with the Perfect Syringe, which is part of the "GILES" Veterinary Outfit, (Page 132), inserting it the full length of the arm and discharging the contents.

In this operation the hand will pass over the bladder, which, if fully distended, it will be readily noted. If after the rectum has been fully relieved of its contents, there is still difficulty in voiding the urine, gentle pressure may be exerted on the distended bladder with the flat of the hand in the rectum. This will result in the urine being voided in nearly every instance.

RECTAL INJECTIONS.

THE importance of rectal injections must not be underestimated, and the remedy must be administered as directed, under all circumstances.

The rectum is a fibrous organ, the folds of which are furnished with the largest lymphatic glands of the entire body. These contain a fluid called lymph, which feed the nerve tissue. The lymphatics are very absorbant, carrying off excess of plasma and waste, as is shown by the fact that the excrement is there relieved of its moisture and dried, prior to evacuation. In a condition of ill-health, the folds of the rectum absorb deleterious matter and become the host of parasites which are not expelled by the ordinary functions of the organ.

The active properties of "GILES" are quickly absorbed by the rectum and through it the beneficial effects on certain organs are secured three times quicker than when given by the mouth because of its connection with the pneumogastric nerve which ramifies from the base of the brain to the organs of breathing, to the heart, lungs, liver, stomach, rectum. etc.

The oil which remains in the rectum after the other principles of the remedy have been absorbed, serves to lubricate, to allay irritation and expel parasites and deleterious matter.

IMPORTANT TO REMEMBER.

THAT "GILES" is non-poisonous.

THAT there is no danger from an overdose.

THAT "GILES" produces no bad after effects.

THAT in every acute attack, quickest and best results will obtain by liberal use of the remedy at the start.

THAT in stubborn cases of fever or internal inflammation, liberal administration should continue until marked improvement is noted.

THAT thorough treatment with "GILES" and careful nursing will produce quickest and best possible results.

THAT a horse cured with "GILES" is left sound in wind and constitution.

GENERAL INSTRUCTIONS FOR EXPERT HORSEMEN.

TO THE experienced horseman capable of judging a horse's condition by his action and general appearance, well versed in proper methods of care and nursing, the following brief general directions will serve to convey the necessary understanding of the distinctive qualities and correct use of "GILES" under any and all conditions that may arise.

It should be clearly understood and remembered that "GILES" is so accurately proportioned and carefully compounded that it will not work injury to one organ while benefiting another. It is a tonic and vitalizer which permanently strengthens and benefits—instead of a stimulant with reactive effect. It does not weaken, but positively strengthen the heart and entire system. It is an antiseptic which is absolutely non-irritating; an alterative which corrects the stomach and stimulates the bowels to healthy action; a sedative which is effectively anti-spasmodic, and over all possesses the qualities of subduing fever and allaying inflammation wherever located, whether internally or externally. Given internally it enters immediately into the circulation. Externally it stimulates the skin, opens the pores, induces sweating and does its work by absorption. It is the most potent factor possible for the removal of inflammation, which is the direct cause of pain. It acts to prevent the formation or retard the growth of abscesses; to remove soreness and swellings; to keep a fresh wound free from infection and to convert old sores to a healthy condition, causing them to heal rapidly. It heals without forming a scab and in nearly every instance prevents scars. "GILES" promotes a rapid growth of healthy, tough hoof and is the most potent application for the removal of fever from the feet and to keep them in healthy condition. It is the best eye lotion ever devised and will prevent, relieve and promptly cure, when a cure is possible, any affection of the eye.

There is no danger of an overdose and it may be administered as frequently as necessary without danger of bad after effects.

Size of the dose is two ounces and should be administered at the first sign of the animal's ailing from any cause and should be repeated as frequently as necessary to prevent development of serious complications, even to the extent of every 10, 15 or 20 minutes until the animal shows improvement, then less often until the condition is satisfactory. There is no danger from an overdose.

Give rectal injections of two ounces at the start and repeat in the proportion of one to every five or six by the mouth.

Administer by the nostrils one to two ounces in each nostril in such a way that it will carry over into the throat whenever the seat of the trouble is known to be in the air passages.

Note—There is positively no danger in giving "GILES" by the nostrils. Its nature is such that it is incapable of harm and can only afford prompt and permanent benefit.

Externally—It should be applied as promptly as possible to the injured part or to the immediate vicinity of internal trouble. To the chest and sides in pneumonia; to the abdomen between the legs in bowel, kidney and bladder affections; to strains and bruises liberally with considerable friction; to fresh wounds sparingly, to antiseptize; to the seat of abscesses on oakum well saturated; to the coronet in case of soreness in the feet, by means of a soaking boot and oakum; in the eye full strength, by means of a small, soft sponge (care being taken to get it well into the eye) and liberally to the throat in case of sore throat, well rubbed in. Be sure that the part is dry before applying and use no water in connection with it under any circumstances.

HOW TO TREAT A COUGH.

A SLIGHT derangement of the blood may cause the mucous membrane to be easily susceptible to irritation and a cough develop on slight provocation. It may be the forerunner of, or incident to numerous ailments and complications. Preceding other symptoms, it should be regarded as the danger signal and prompt treatment resorted to to prevent further trouble. When accompanying other ailments the cause will be removed by a proper cure.

Chronic cough may be caused by dry catarrh in the head following a badly treated case of distemper or catarrhal fever or by an accompaniment of bronchitis (broken wind) or asthma (heaves).

TREATMENT—No matter what the predisposing cause may be, best treatment will be afforded by administering one to two-ounce doses of "GILES" by the nostrils (see page 23) two or three times a day.



SOME FACTS ABOUT THE ORGANS OF BREATHING.

THE passages from the nostrils open into a cavity called the pharynx, which also communicates with the mouth through an opening termed the isthmus, over which the soft palate is suspended, like a valvular curtain, in order to keep it shut, except during the passage of food and water; hence, the horse is unable to breathe freely through the mouth. The windpipe or trachea opens into the pharynx by means of a short, cartilaginous tube, the larynx, which is the organ of voice and is situated between the angles of the branches of the lower jaw. When it is inflamed, we have laryngitis, or sore throat. The larynx is guarded from the entrance of food, water, etc., by a cartilaginous valve called the epiglottis, over which the mouthful of food, or swallow of water passes. The windpipe, or trachea, is an elastic tube formed of incomplete cartilaginous rings. It terminates at the base of the heart and splits into two tubes—the right and left bronchi—which respectively go to the right and left lung. These bronchi further subdivide into a great number of branches called the bronchia, or bronchial tubes, which finally open into the air cells of the lungs. The entire ramification, when isolated, has the appearance of a tree, the trachea being the main trunk, the bronchi and bronchial tubes the branches and the air cells the leaves. The nasal passages, the pharynx, larynx and bronchial tubes are lined with mucous membrane. Thus in sore throat and bronchitis (inflammation of the bronchial tubes), we have, at first, a dry and inflamed condition of this mucous membrane, succeeded by an increased secretion of mucus.

The mucous membrane is what we may call the internal skin which lines various hollow organs, such as the nostrils, windpipe, mouth, gullet, stomach, intestines, eyelids, interior of the ears, bladder and urethra. It secretes a slimy fluid (mucous) which is known as phlegm when it is discharged from the windpipe.

The lungs are composed of a spongy substance, which is made up of a vast number of lobules that are connected together and kept separate by cellular tissue. Each of these lobules is composed of many minute air cells and is supplied with a small bronchial tube which conveys air to these cells. The capillary blood vessels are distributed through the walls of the air cells, so that while the air in one cell acts on one side of a capillary, the air in the adjoining cells acts on the other side. The blood thus brought into close proximity with the air contained in the cells, while traversing their walls, takes up the necessary supply

of oxygen for the requirements of the system, and, on its return to the lungs, gives off the carbonic acid which it absorbed from the various tissues. The skin, to a small extent, also excretes carbonic acid.

The pleuræ are two smooth and glistening membranes which line the cavity of the chest and cover the lungs, thus forming two closed sacs; their office being to prevent friction between the lungs and the walls of the chest. They secrete serous fluid with which to lubricate their inner surface.—Strangeways' Anatomy.

IMPORTANCE OF CHILL

CHILL is congestion affecting the outer circulation and is caused by a constitutional disturbance, the reactive effect of excitement, over-exertion or exposure. An unhealthy condition of the blood and consequent impaired general circulation are conditions conducive to this effect on the system. The blood recedes from the surface of the body, which it leaves cold, while setting up internal congestion and fever. Chill affects different horses in an indefinite manner, according to their state of body or constitution, causing coughs or colds, rheumatism, fevers or inflammations of various organs.

Many authorities do not accord the importance to chill that it should have. Many a horse would be saved serious illness were proper precautions taken to treat the chill as soon as possible. A prompt use of "GILES" as soon as a horse is exposed will stop the chill and arrest the fever of which it is a precursor or accompanies it.

Treatment for chill should be prompt and vigorous, as it is the danger signal, the forerunner of many serious ailments and complications.

SYMPTOMS—Shivering, staring of the hair.

TREATMENT—Give promptly 4 to 6-ounces of "GILES" by the mouth and a rectal injection of 2-ounces, followed by 2-ounce doses by the mouth every ten minutes and an occasional rectal injection until the animal appears comfortable. Blanket warmly and give exercise by walking about the stable without exposure. Should treatment not be prompt and vigorous enough to prevent fever, continue as directed for fever.

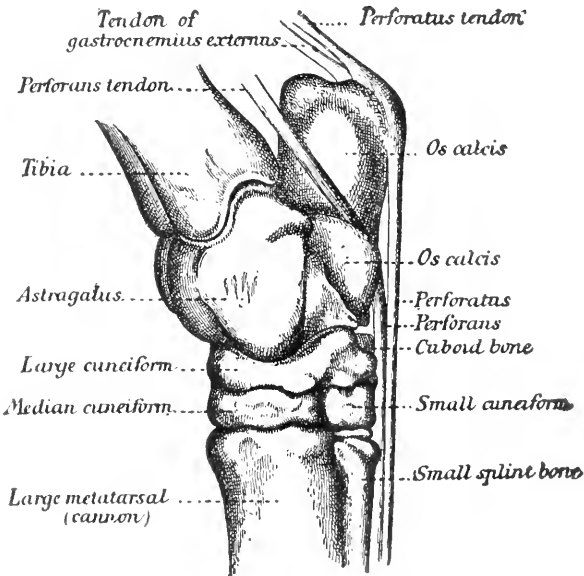
TREATMENT OF FEVER.

FEVER is an elevation of the temperature of three to seven degrees. A temperature of 106 to 107 degrees is the danger point and beyond that there may be suffocation and death. Fever is always preceded by congestion brought on by some constitutional disturbance causing chill, although the chill may be slight and unnoticed. If properly treated with "GILES" fever may be checked, the proper circulation restored and inflammation which would be certain to result in the weakest organ, prevented. Fever is sometimes classed as simple

fever, barn fever, acclimating fever and shipping fever; but there is no distinguishable difference unless accompanied by complications.

TREATMENT—This should be governed by the intensity of the fever. If slight, give two 2-ounce doses by the mouth and a rectal injection of 2-ounces at the start, followed by 2-ounce doses by the mouth every hour and an occasional rectal injection of like amount, which will serve to restore normal temperature in a few hours. If the attack is more violent, indicating a temperature of 105 or 106 degrees, 2-ounce doses should be administered every twenty or thirty minutes, with occasional rectal injections of 2-ounces until the temperature is reduced, when the doses may be given at longer intervals until the fever subsides. Temperature of the horse as in man is higher at about 5 o'clock p. m., but this natural manifestation is not a dangerous condition. Should there be symptoms of cold and sore throat the temperature will remain at about 102 degrees until these complications are relieved.

Fever may be intermittent and frequency of the doses should be increased when it recurs and decreased as it recedes.



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INFLUENZA AND AILMENTS

OF THE AIR PASSAGES.

INFLUENZA—Under this head it is proper to class all complications affecting the air passages and sympathetic organs, such as Distemper, Pink Eye, Catarrhal Fever, Laryngitis, Pharyngitis, Sore Throat, Abdominal or Enteric Influenza and Rheumatic Influenza, all of which are a more or less aggravated variety of the same general trouble. The distinguishing characteristics of influenza are the suddenness of its attack, debility, depression and rise in the internal temperature, often 104 or even 105 degrees. At the outset an attack is not unfrequently preceded by colicky pains, when the bowels are implicated. Constipation is generally present, although diarrhea or profuse staling may occur, under which conditions recovery is likely to be more rapid. Stiffness of the limbs is usually followed by swelling. The cause being congestion and the serious symptom fever, it is important to induce a satisfactory temperature as soon as possible, at the same time relieving the complications and removing the cause.

TREATMENT—Commence by giving 4 to 6 ounces of "GILES" by the mouth and a rectal injection of 2-ounces. Follow this up by 2-ounce doses by the mouth as frequently as the height of temperature suggests, as in treatment of fever. Relieve any attending aggravated symptoms or complications as follows:

DISTEMPER—This is the simplest form of influenza; it is infectious and contagious. Colts and young horses in particular are subjected to it and when it starts it usually goes through an entire stable or herd. It can be prevented, checked and promptly cured without ill after effects, which are so frequent, by the proper timely use of "GILES." Many of the treatments commonly employed, tend to dry up the discharge from the nostrils quickly, leaving the animal with dry catarrh of the head and unsound of wind.

TREATMENT—The fever symptoms being cared for as directed, injections of 1 to 2-ounces should be made in each nostril. (Page 23.) This is important, both as a preventive and a cure, and should be repeated two or three times a day as the severity of the case suggests. If running from the nostrils has not yet commenced, it may by this means be often prevented, and if the discharge has already commenced, the congestion and inflammation of the nasal cavity will be removed as quickly as consistent with safety, with a certainty of no ill after effects.

PINK EYE—By many is considered a dangerously contagious disease. Long experience proves that it is but an aggravated form of influenza in which the membranes of the eyes are involved. In serious and neglected cases, there is swelling of limbs, loss of appetite, high temperature. There is intense inflammation in the head and the brain becomes affected. Many of the symptoms are similar to La Grippe in a person, and a micro-organism akin to the bacillus which Pfeiffer found in the phlegm of a person is present, but cannot be communicated from horse to man. The fever symptoms being treated with "GILES" as directed, administer 1 to 2-ounce doses by the nostrils as directed two or three times daily. Bathe the eyes well with the remedy, taking care that a liberal amount is put well into the eye with a small, soft sponge. Bathe all affected parts where there is inflammation and pain. Treatment should be continued until satisfactory conditions are induced. Give nourishing food as in fever.

CATARRHAL FEVER—Is an aggravated form of distemper and is accompanied by higher temperature and more stubborn fever.

Treatment—Vigorous and faithful treatment as directed in distemper should be pursued.

PHARYNGITIS (Sore Throat)—This is a complication of influenza in which the pharynx is involved, rendering swallowing difficult. When the attempt is made a watery fluid runs from the nostrils, often accompanied by a severe cough.

TREATMENT—Take care of the general fever symptoms as directed. Bathe the throat well with "GILES."

LARYNGITIS—This is a complication of influenza in which the larynx is involved and may well be considered the most serious symptom of this trouble, because of the liability of strangles, permanently enlarged glands and purpura (blood poisoning). The common practice of blistering, poulticing and use of sharp, penetrating liniments is often productive of great harm. Poulticing of the part hastens the formation and increases the size of abscesses. Blistering renders the skin tough and thick and is often the cause of permanently thickened glands and consequent impaired wind. Tracheotomy (tube in the wind pipe) is frequently resorted to when the breathing becomes difficult. There is but slight excuse for this practice except in very rare cases and at that the usefulness and value of the animal is practically destroyed. The "GILES" method of treatment is vastly easier, safer and productive of better results.

TREATMENT—Administer 1 to 2-ounce doses of "GILES" by the nostrils as directed, two or three times a day (Page 23). Bathe the animal from ear to ear, under the jaws and well down the gullet, well rubbed in, being particular to use plenty of gentle friction. This bathing with "GILES" should be done every few hours. Should an abscess form it must be allowed to come to a head naturally. The administrations by

the nostrils should serve to care for any symptoms of simple strangles; but should the complication of strangles be manifest, relief should be afforded by swabbing the throat. (Page 25.)

ABDOMINAL OR ENTERIC INFLUENZA—This is a complication of influenza in which the bowels and intestines are involved. Taken at the rectum, the temperature will show very high—105°, 106° and sometimes 107° in aggravated cases. There is but slight distension of the nostrils, indicating that the bowels are the seat of the trouble. The intestines are in a much inflamed condition and any medicine given which is in the least irritating is likely to cause serious results. It is safe to believe that when this complication of influenza occurs it is occasioned by a debilitated condition of the liver, brought on by purging with Barbadoes aloes. To administer anything in the treatment of this trouble which would tend to further disturb the liver or in the least irritate the mucous membrane of the intestines which are already inflamed, is likely to prove disastrous. "GILES" being cooling, soothing and absolutely non-irritating, is the best possible treatment and if properly used as directed will prove promptly effective.

SYMPTOMS—Are so apparent they need hardly be described. There is diarrhea an offensive odor from the excrement; bilious red color of the mucous membranes of the eyes and nostrils. There is often a tinge of yellow in the mouth indicating that the liver is disturbed. The thermometer will indicate very high temperature when taken by the rectum; but as the slight distension of the nostrils will serve to prove, there is very little fever forward.

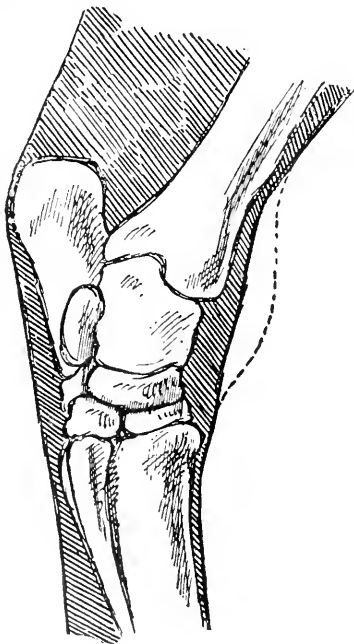
TREATMENT—The difficulty being in the rear, treatment should be principally confined to the rectum, the most direct approach to the seat of the trouble. Give 2-ounce doses of "GILES" by the mouth every two or three hours unless there be symptoms of sore throat, then give one of these doses by the nostrils. Rectal injections of 2-ounces should be administered at least every hour and continued until the offensive smell leaves the excrement and the evacuations are of a watery nature. When this condition occurs, it may be taken as a change for the better and injections, given less frequently until full recovery. Bathing the abdomen between the hind legs will be beneficial. Should rheumatic symptoms show in joints or swelling of the legs occur, the parts should be bathed with "GILES" and gentle friction applied. It will also be well to apply cotton to the limbs below the knees and hocks held in place by loose bandages. Two-ounce doses should be continued two or three times a day, with an occasional rectal injection of 2-ounces as a tonic, conditioner and vitalizer.

STRANGLES—Is a complication arising from neglected or badly treated sore throat, pharyngitis, laryngitis or catarrhal influenza. Its effects are similar to that of quinsy in a person with swelling of the lymphatic glands between the angles of the lower jaw and often extending some distance down the windpipe. There may be suppuration of the glands and blood poison in serious cases. It more commonly

occurs in horses under six years old, although those of any age may be affected. It is an infectious ailment induced by a specific germ poison. If not effectually treated complications may extend to other organs.

SYMPTOMS—The most serious symptoms which appear are swelling of the throat, coughing and difficulty of breathing. The horse being unable to breathe through the mouth, any stoppage of the air passages causes great distress and prompt relief is important. Tracheotomy is often resorted to for relief, but there is little excuse for this operation which usually results disastrously.

TREATMENT—If any of the ailments which generally accompany strangles be properly treated with "GILES," no strangles will result. In the early stages, administering 1 to 2-ounce doses properly by the nostrils will afford relief. If in advanced stages, more effective measures should be resorted to. The animal should have the throat promptly swabbed. This operation should be repeated at intervals until effectively relieved. The swelling of the throat should be freely and well rubbed in to its full extent and this treatment repeated several times a day until the swellings are completely reduced. Keep proper temperature by administering 2-ounce doses of "GILES" as directed for fever. A temperature of 101° to 102° need not be considered an alarming condition during recovery. Tonic doses of 2-ounces two or three times a day should be given during convalescence.



Position of bog spavin,
indicated by dotted line.

AFFECTIONS OF THE LUNGS AND BRONCHIAL TUBES.

THE lungs are rarely affected without the bronchial tubes and pleuræ being also affected. Complications of the organs of breathing generally follow a chill, although the chill may be so slight as to be hardly perceptible; but a condition of inflammation in one organ may extend to another in its immediate vicinity. As, for instance, if the pharynx or larynx are involved, strangles may result and the inflammation may be communicated to the bronchial tubes, lungs and pleuræ. Hence it is important that vigorous treatment be resorted to as early as possible to prevent these complications and to remove the congestion of the parts, which must be accomplished before cure can be effected. Many of the ailments affecting these organs are of the epizootic type. (The term epizootic applied to animals is the same as epidemic in the human race.) It should be considered that ill ventilated, damp and draughty stables are conducive to these troubles and in them recovery is more difficult.

Generally in these ailments, the horse refuses to lie down, the bowels are costive and there is an appearance of mucous in the excrement, which is a sure indication of inflammation of the mucous membrane of the intestines. Therefore nothing whatever of an irritating nature should be administered. It is for this very reason that "GILES" is the best possible treatment that can be employed, as it acts as a gentle alternative, allays irritation and relieves the costive condition.

The rate of breathing in a horse is more regular than in other animals the respirations being 12 to 13 per minute, which increases in these troubles, but the peculiarity of the respiratory action is more to be considered than its frequency. It is well understood that affections of the organs of breathing are of germ origin. Some are contagious, others infectious while others are caused by the peculiar conditions affecting the patient. Dr. Andrew Smith brings forward strong proof that pneumonia is a process of germ culture in the air cells.

PNEUMONIA—(Inflammation of the lungs, erroneously termed lung fever). This ailment is a condition of inflammation of the substance of the lungs following congestion. The blood pressure in severe cases may be so great as to cause hemorrhage. If allowed to run its course, there are three stages: Engorgement of the blood, consolidation of the inflammatory products of the lung tissue, softening or breaking up of these products. The accompanying fever may be fatal during the first or sec-

ond stages through suffocation and may kill in the third stage by blood poisoning owing to the absorption of diseased material thrown off by the lungs.

SYMPTOMS—Dullness, high fever, accompanied by fits of shivering, quick pulse, often over 80 per minute, respiration 45 to 50 per minute, (normal rate while at rest 12 to 13), no marked pain unless accompanied by pleurisy, temperature 105° to $106\frac{1}{2}^{\circ}$ which may continue five or six days unless relieved. Cough at first is sometimes present; membranes and eyelids red and congested and frequently tinged yellow with bile; eyes bloodshot.

Effective treatment will cause the exudation to be absorbed before consolidation, the second stage, sets in and the lungs will recover their normal condition.

TREATMENT—The beginning dose of "GILES" should be four to six ounces by the mouth and a rectal injection of two ounces, followed by two ounce doses by the mouth every twenty to thirty minutes until five or six doses are given. After which, a dose every hour may be administered provided the patient shows signs of improvement; but the frequency and amount given must be governed by the conditions. Rectal injections should be continued from one to two hours during the first days of treatment. Remember there is no danger from an overdose of "GILES."

PLEURO-PNEUMONIA—This ailment describes a condition in which the pleuræ (which lies between the walls of the chest and the lungs) becomes very much involved, causing it to become dry and hot, a friction sound resembling that of two dry pieces of bladder rubbed together may be heard, caused by contact of the dry pleuræ at every respiration from the chest. After an attack of this ailment there is always an infusion of serous fluid into the pleuræ which constitutes water on the chest (hydro-thorax) in varying quantity.

SYMPTOMS—This complication is usually observed on the right side of the chest. At first there are symptoms resembling colic, in severe cases, the pain being constant owing to the inflammatory fever. The attack is more frequently preceded by shivering. There is considerable distress and the animal is disinclined to move, and if turned quickly there is an increase of pain. The animal endeavors to breathe as much as possible with the abdominal muscles and not by movement of the ribs. Nostrils are dilated and there is often a short, dry and suppressed cough. If the ailment is allowed to proceed to the second stage, the fever abates somewhat and the pain decreases, that is, if there has been an infusion of serous fluid, causing hydro-thorax or dropsy of the chest, and breathing becomes accelerated owing to the impediment offered by the fluid to the expansion of the lungs. A dull sound will be observed on tapping the part with the tips of the fingers when there is a deposit of serous fluid.

The almost universal practice of applying blisters and sharp, penetrating liniments to the chest and sides in the treatment of this ailment,

will, upon consideration, be seen to be the utmost folly, and cannot be excused on the plea of counter-irritation, as it comes in such close contact to the pleuræ that it only aggravates the trouble. On the contrary liberal application of "GILES" to the chest and sides which opens the pores and induces sweating and aids absorption, will be recognized as the correct principle of treatment, and furthermore it causes no pain or suffering to the afflicted animal, as it is cooling and soothing.

A little thought will serve to show the fallacy of giving purgatives or any medicine of an irritating nature during the treatment of any of the ailments affecting the organs of breathing as the mucous membrane of the intestines is in close sympathy with those organs and are naturally in a more or less inflamed condition. The use of "GILES" will have a cooling and soothing effect on the bowels and will serve to keep them in a sufficiently laxative condition and aid the excretion of waste matter.

TREATMENT—As the condition of the lungs in pleuro-pneumonia is the same as in pneumonia, "GILES" should be administered as indicated in instructions for pneumonia. The remedy should also be applied to the chest and sides and well rubbed in. If the hair is long it should be removed from the part by clipping.

BRONCHITIS—(Inflammation of the bronchial tubes). Causing solidification of the lymph thrown out, which obstructs the air passages, as indicated by the animal showing difficulty in breathing.

TREATMENT—General treatment with "GILES" should be the same as in pneumonia and pleuro-pneumonia; but in addition to being administered by the mouth, it should also be given by the nostrils—one to two ounces in each nostril, two or three times a day. (When given by the nostrils, the dose by mouth may be omitted for that time.) (See directions for giving "GILES" by the nostrils on page 23.)

NURSING—In treating the above ailments the care of the animal is very important, which should, if possible, be kept in a comfortable, well ventilated box stall, free from draughts and dampness, warmly blanketed that the skin may act freely, the legs hand rubbed and "GILES" applied to aid circulation. The patient should also be kept quiet with plenty of cold water to drink. The food should consist of bran mashes with salt. If the animal shows good appetite, a small amount of steamed oats may be added.



SHIPPING AILMENTS—

HOW TO PREVENT AND CURE.

THE transportation of horses by rail or ship subjects them to severe nervous strain and is almost certain to develop any inherent constitutional weakness into a serious ailment and even those in prime condition of health are, through retention of the urine and lack of proper action of the bowels, prone to develop congestion which manifests itself in chill, followed by fever and with more or less serious complications, depending on the constitutional condition. Ailments thereby developed are commonly considered of a different nature from other ailments, when in reality they are attended by the same symptoms and no wise differ from those contracted under other conditions. Laminitis and pneumonia are ailments common to horses which are subjected to poor ventilation and long standing on ship board, while fever and the complication of influenza commonly follow chill contracted in shipping by rail. Little attention being given en route to horses shipped by rail, the ailment is often well advanced when unloaded and is manifest by thickened wind, or cough caused by a cold, or by fever of greater or less degree. Ofttimes pneumonia of so severe a nature as to cause hemorrhage, prevails

Symptoms should be noted and treated according to directions for coughs, colds, fever, pneumonia, laminitis, etc.

PREVENTION—Administrations of 4 to 6-ounces of "GILES" (according to size) by the mouth and a rectal injection of 2 to 4-ounces upon loading (either on cars or shipboard), will serve to preserve an equable circulation, prevent congestion and keep the bowels and urinary organs in normal condition. All possible attention should be given them en route, and if any signs of undue uneasiness manifests itself, efforts should be made to administer more of the remedy, and if conditions prevent regular treatment a liberal amount should be given, 4 to 6 or 8 ounces at one time. This will serve to greatly relieve the animal's condition. Upon being unloaded and before being given either feed or water, all should have administered to them 4 to 6-ounces by the mouth and a rectal injection of 2 to 4-ounces, and those in which symptoms of fever or inflammation have developed should be given prompt and thorough treatment, as directed. If a horse shows signs of impaired wind, caused by a cold, the remedy should be administered by the nostrils (page 23), which will afford quick relief. Bruises, wounds and sprains should be treated as directed for those troubles.

ACCLIMATING—Changes in surroundings, feed, water and climate act as disturbing elements to the general health of the horse, especially when moved by rail or water, with attending excitement. Nostalgia (homesickness) as a factor in the unnatural condition, is believed by many. These conditions must produce constitutional disturbance which will be manifest in more or less serious symptoms depending on the general condition of health. The reputation of "GILES" as a preventive and cure in all ailments incident to the acclimation of green horses is firmly established. If it be properly used before symptoms of ailment develop it will have the effect of keeping the animal on his feed, of allaying excitement and nervousness and make him capable of moderate exercise or work every day.

TREATMENT—Give a constitutional treatment of 2-ounce doses of "GILES" three times a day and a rectal injection of like amount once a day for several days. When there are indications that the horse has become accustomed to his new surroundings and indicates a good appetite the remedy may be given less frequently; but it is important that a 2-ounce dose be given immediately after coming in from work or exercise to prevent congestion, also that an occasional rectal injection be given. Should cough, chill or fever develop, prompt and vigorous treatment should be accorded as directed for these ailments.

ASTHMA OR HEAVES.

THIS common ailment is a chronic condition which is characterized by paroxysms of difficult breathing at more or less regular intervals. It is very similar to asthma in a person and is accompanied by a condition of weakness of the heart. It is chiefly caused by irritation of the bronchial tubes entering the lungs, which becomes chronic, leaving them thickened and reducing the capacity of the air passages. Not all difficulty in breathing is attributable to this cause however. By far the greater number of causes of difficult breathing will be found in permanently enlarged glands and dry catarrh in the head. It is characteristic of this ailment that horses suffering from it rarely contract any other ailment, such as inflammation of the lungs, pneumonia or influenza. It generally affects aged horses only.

SYMPTOMS—Asthma (heaves) is distinguished by slower expiration than inspiration, in contrast to the difficulty in breathing caused by bronchitis or pneumonia. There is usually no discharge from the nose, and a cough of more or less violence generally accompanies it.

TREATMENT—As a full condition of the stomach interferes with the action of the lungs, relief is afforded by feeding sparingly of dampened hay, keeping the manger free from dust and administering "GILES" in 1 to 2-ounce doses by the nostrils (page 23) twice a day, preferably before and after exercise. Radical cures have been accomplished by its free and long continued use; but we do not claim its

accomplishment with any degree of certainty. Usually horses affected with this trouble are of an age which does not justify the necessary time and expense. It has frequently occurred that a horse affected with a well defined case of asthma (heaves), having contracted inflammation of the lungs, pneumonia or influenza and cured with "GILES," was found to be entirely cured of this chronic ailment, also.

OZAENA OR NASAL GLEET.

NASAL GLEET is a chronic ailment which frequently follows a neglected or badly treated case of catarrhal influenza. Ulcers form on the mucous membrane in the air passages of the head, which are infested with germs. There is a constant discharge from one or both nostrils, but most frequently from the left. In the early stages the discharge may be slight and watery; but becomes thicker and has an offensive smell, if proper treatment is not afforded. In cases of long standing the bones in the vicinity of the ulcers become involved, in which case the ailment is difficult of cure. Pus settles in the cavities of the bones which become diseased and eaten away. In the advanced, chronic state this ailment is often taken for glanders; but an expert should be able to readily distinguish the difference. If the ailments which usually precede nasal gleet are properly treated this difficulty is prevented. In its early stages, before the bones become affected, it is amenable to proper treatment with "GILES." If an operation on the bones becomes necessary, "GILES" will afford the best possible means of destroying germ poisons and put the diseased parts in a healthy condition.

SYMPTOMS—If distemper and catarrhal influenza affecting the air passages of the head be neglected or treated with remedies which have a tendency to dry up the discharge rather than remove the cause, a watery, yellowish discharge, generally from the left nostril, appears after it is thought a cure has been accomplished. This discharge is from improperly cured ulcers on the mucous membrane lining of the air passages of the head, and if proper treatment is not promptly afforded will increase and assume a bad smell.

TREATMENT—Administer 1 or 2-ounce doses of "GILES" by each nostril two or three times a day (page 23) and give constitutional treatment of 2-ounce doses twice daily, with rectal injections of 2-ounces once or twice a day. If the eyes are affected, as will be indicated by a watery discharge, bathe with the remedy, using a small sponge, and see that some of it gets well into the eyes.

DRY CATARRH OF THE HEAD.

IT frequently occurs that the after effects of improperly treated distemper or nasal catarrh result in ulcers on the mucous membrane of the air passages of the head of a dry character, that is, the discharge is so slight that it does not run from the nostrils. This accumulation collects in the passages and affects the breathing of the animals, often causing them to be considered of unsound wind. When first taken out for exercise they evince considerable difficulty in breathing; but after snorting and coughing, thereby clearing the head, they breathe more freely. It is frequently the case that this difficulty in breathing is attributed to asthma (heaves). For this trouble "GILES" will afford prompt and effective relief.

TREATMENT—Administer 1 or 2-ounce doses of "GILES" by each nostril (page 23) before and after exercise, and if exercise is not given administer the remedy by the nostrils morning and evening. Keep the manger free from dust and feed dampened hay.

AFFECTIONS OF THE WIND.

THICK WIND, BROKEN WIND AND ROARING—These ailments are annoying and more or less affect the animal's value and usefulness. They may occur from various causes other than thickened glands, dry catarrh of the head or asthma, as hereinbefore described, such as emphysema of the lungs, a condition of passive congestion affecting the air cells and cellular tissues, preventing the air from being fully exhausted at each expiration, paralysis of the muscles which operate the larynx, the after affects of the operation of tracheotomy (tube in the windpipe) and the after effects of poisons, as any of these troubles may be brought about by improper treatment or neglect of ailments affecting the organs of breathing.

TREATMENT—No matter what the predisposing cause may be, best treatment will be afforded by administering 1 or 2-ounce doses of "GILES" by the nostrils (page 23) two or three times a day.

HALF THE HORSE—THE HEART.

WEAK HEART—The influence exerted by a strong or weak heart over every action of the horse, is assuredly not properly understood or considered by horsemen in general. The saying that the heart is half the horse, is true and too careful consideration cannot be given the condition of this important organ. Of what use would an athlete be with a weak heart? What is gameness and stamina but strength of heart? A horse may go a good race on three legs if he has a strong heart. Those whose strength of heart is impaired, are termed "dogs," "dubs" and are said to have a "yellow streak." The ability of man or

other animal to withstand fatigue is surely gauged by their strength of heart. The truth of this will be so clearly apparent that no argument is necessary.

Weak heart is in a great majority of cases directly responsible for the failure of speed horses, driving horses and work horses, to make good. This statement being incontrovertible, why should not more attention be given to promoting strength of heart? To dose a horse with narcotic drugs, the effects of which to a greater or less degree, is to positively paralyze and corrode the arteries and valves of the heart, cannot fail of deleterious result in exact proportion to the extent in which they are given in the treatment of fever. Nine-tenths of the defects in a horse's wind is directly traceable to a weakened heart.

The strongest argument possible in favor of "GILES" with any intelligent and thinking man, is the fact that it does not weaken, but positively strengthens the heart and at the same time will reduce temperature as quick or quicker than any other treatment on earth. Its well-known effectiveness as a speed sustainer when given to harness horses between heats and the fact positive that it will act always to revive an animal which is suffering from collapse, the result of over exertion or any other cause and the further fact that it produces no reactive effect, is proof positive of its wonderful effectiveness. If due consideration were given this subject by horse owners, little of the drugs commonly used to reduce a horse's temperature would be employed.

The late Monroe Salisbury, than whom there was no better judge of a horse's condition, the effects of treatment and his ability to do, said: "I would prefer to take chances for the cure of the most desperate case of fever with "GILES," than to have a cure guaranteed with other treatments; because, cured with "GILES," the horse will come out with a stronger heart than before and able to do all that he ever could as soon as his general condition permitted. Whereas, a horse cured otherwise is knocked out for the balance of the season, if not for all time."

It is a well-known fact that the effects of the common treatment of fever, in severe cases, is to leave the animal practically useless for any purpose except to sell.

TO PREVENT WEAK HEART—Use "GILES" faithfully as directed in the treatment of all cases in which fever is a symptom.

TREATMENT—When a horse's inability to perform a reasonable amount of work or withstand ordinary exertion indicates a constitutional weakness, it may safely be attributed to weakness of the heart. It is a well authenticated fact that constitutional treatment with "GILES" faithfully used and if long enough continued, will in most cases restore the strength of heart, and that if freely administered to an animal which is suffering from over exertion, the effect of weak heart, it will quickly revivify him. Treatment for chronic weak heart should be two to three 2-ounce doses of "GILES" daily, with a 2-ounce

rectal injection every other day. One of the doses and the rectal injection should be given when the horse comes in from work or exercise.

For an acute attack, give immediately two or three 2-ounce doses by the mouth and a rectal injection of 2-ounces. If the animal is soon to be used again, as in starting another heat of a race, he should be walked about during the cooling out process and be given a 1-ounce dose fifteen or twenty minutes before starting.

Note—"GILES" positively produces no reactive effect.

THUMPS AND WEAK HEART.

THUMPS—(Spasms of the Diaphragm.) This trouble is the effect of over exertion on a weakened heart. In nearly every case it is traceable to the use of narcotic drugs, aconite, digitalis or tar products in the treatment of fever, from the evil influences of which it requires years to recover, if ever. Many notable and well authenticated cases are on record, however, in which a thorough course of treatment with "GILES" has fully restored the strength of heart and returned the animal to an absolute condition of soundness, capable of the most severe and repeated exertion.

TREATMENT—Constitutional treatment of 2-ounces of "GILES" two or three times a day and a rectal injection of like amount once a day will prevent the spasmodic action affecting the diaphragm, known as thumps. One of the doses should be given just previous to exercise and the other directly after. The rectal injection is best given after exercise. When thumps occur 2-ounce doses should be administered every 20 to 30 minutes, until three or four doses are given or the horse greatly relieved. Then every one to two hours until fully returned to a normal condition.

WEAK HEART—When a horse's heart is found to be in a weakened condition and he is unable to "carry his speed" or sustain reasonably prolonged exertion, it will generally be found that he has been dosed with the narcotic drugs commonly used and the weak heart is due to their after effects.

TREATMENT—Regular constitutional treatment of 2-ounce doses two or three times a day by the mouth and a rectal injection of like amount once a day, with moderate exercise and good care, will in due time restore the normal strength of heart in nearly every case. Care should be taken that the horse is not worked beyond his strength and the treatment must be fully and thoroughly pursued.



PURPURA, BLOOD POISONING, SYMPTOMS AND TREATMENT.

PURPURA HÆMORRHAGICA (Petechial Fever)—Is a special form of blood poisoning which first manifests itself in the mucous membranes and may occur in any part of the body where unhealthy conditions exist. It is a result of a condition of the blood causing a constitutional taint or weakness superinduced by germ poisons. Authorities are not agreed as to the particular germ which affects the blood, causing decomposition, the red blood corpuscles to shrivel up and the watery constituents to separate themselves so that the blood will not coagulate. The breaking up of the red blood corpuscles furnishes the coloring matter which tints the membranes. The watery substance settles in the affected part which causes the swellings, poisons the tissues and may produce septicæmia or pyæmia. This watery fluid may also infiltrate to the brain, causing insensibility, or to the lungs, effecting suffocation. Long experience and careful observation justifies the belief that this particular manifestation of blood poisoning is present in the membrane lining the organs of digestion and urination in all cases of hæmoglobinuria (azoturia). The "GILES" method of treatment has proven most efficacious as a preventive in checking the trouble in its first stage and in neutralizing and removing poisons from the system before their attack on the vital organs could result disastrously.

SYMPTOMS OF PURPURA—Usually follow severe cases of laryngitis, strangles, or catarrhal fever. When proper treatment is not afforded its presence will be noted at the start by purple or dark red color of the mucous membranes of the nostrils with blood spots and blotches, followed, if not arrested, by swellings which may occur in the head, lips, breast or under the belly. These swellings affecting the head are the most dangerous. The further removed from the preceding infectious cause the better chance of successful treatment. This ailment will generally run a somewhat chronic course of from two to six weeks and relapses not unfrequently occur.

TREATMENT—Proper treatment of ailments in which purpura usually occurs will serve to prevent. Proper treatment of the predisposing cause with "GILES" will serve to check and remove the cause. Two-ounce doses should be administered with sufficient frequency to induce satisfactory temperature, keep up proper circulation and prevent the poisons from attacking a vital organ, part of which should be administered through the nostrils (page 23). Any symptoms of swelling which will be indicated by staring of the hair should be freely rubbed with the remedy, and this application to any of the swollen parts should

be frequent and continue as long as they remain, no matter where located. The skin should not be broken to remove the watery fluid, as the wound will become unhealthy and the skin and flesh will slough. As recovery proceeds the fluid will settle at some one spot which will show indications of opening itself, when the outer skin may be broken with some blunt instrument and the fluid allowed to escape. "GILES" should be syringed into the opening and the cavity well filled. As recovery proceeds the skin will dry and new grow underneath. It should be kept well anointed with the remedy and no effort made to remove any but the dead skin. From this method a smooth surface will promptly result and growth of hair return. Tonic doses of "GILES" administered three or four times a day and an occasional rectal injection should be given until fully recovered.

SPINAL MENINGITIS.

CEREBRO SPINAL FEVER (Spinal Meningitis)—This ailment spreads rapidly like influenza and is far reaching in its scope; but fortunately is not a common one. Inflammation of the brain, spinal cord and more or less complete paralysis of the hind quarters are characteristics. While classed as infective, the specific microbe has not yet been definitely determined; yet it is undoubtedly infectious, although the manner of its transmission is unknown. An attack is acute and generally fatal. Azoturia is frequently mistaken for this ailment, but there need be no trouble in distinguishing the difference, as in this ailment the muscles of the head and neck are contracted and the neck rigid. The entire spinal column is hard and tense. These conditions will also distinguish it from tetanus.

SYMPTOMS—Are partial or complete unconsciousness. Paralysis of the hind legs, a corded condition of the muscles of the back and contractions with spasms of the muscles of the neck, the animal being unable to either raise or extend the head. The temperature is high and erratic, running to 105° to $106\frac{1}{2}^{\circ}$. The more gradual the symptoms approach the less severe the case will be. Mild cases may run several days and recur. Severe attacks usually run a fatal course in five to seven days.

TREATMENT—Prompt and vigorous treatment with "GILES" has in many instances been wonderfully successful in this ailment. Commence treatment as soon as possible by administering 4 to 6-ounces by the mouth and a rectal injection of 4-ounces, to be followed by 2-ounces every 20 to 30 minutes and a rectal injection of 2-ounces every 30 minutes until the temperature is near normal. Bathe the rear of the abdomen between the hind legs. Bathe and rub the muscles of the neck, back and loins thoroughly. Relieve the contraction of the muscles by slapping with the palm of the hand, to restore circulation. This treatment should be applied to all the muscles of the back and neck until the tenseness is removed. Two-ounce doses of the remedy every one to two

hours and an occasional rectal injection of like amount, given after temperature is normal. Close attention and careful nursing is highly necessary until all danger is past. Should a rise in the temperature take place at any time the frequency of the doses should be increased until the fever conditions subside. Feed sparingly of nutritious foods for several days and supply the animal with gathered grass, if possible, until he is well able to graze. Cases in which severe attacks have been so successfully treated with 'GILES' that health was completely restored in from two to three weeks, are well known.

BACTERIAL POISONING.

S EPTICÆMIA AND PYÆMIA (Blood Poisoning)—Bacteria which produce septic infection; dissolved chemical poisons which give rise to septic poisoning, and pyæmia induced by pus forming bacteria (cocci), are the three principle causes and forms of blood poisoning, of which purpura is a form produced by the first mentioned cause, when the poison is formed by a ferment manufactured by bacteria that can increase and multiply in the blood. In the third form of blood poisoning, pyæmia, the absorbed material consists of pus forming bacteria, and poisonous matter formed by their ferments, distribute themselves through the system by means of the blood and in some cases become arrested in the small blood vessels and set up abscesses in various parts of the body. Pyæmia, however, generally occurs from the absorption of pus germs, there being several varieties, existing in a wound or abscess; but, as in strangles, similar action may take place when pus is formed by specific germs, when the abscess may be regarded as the result of a specific pyæmia.

Septicæmia is the general term used to designate both septic infection and septic poisoning, signifying a putrid condition of the blood, and pyæmia when pus exists in the blood.

SYMPTOMS—In all three forms of blood poisoning there is great depression, debility and high fever. In pyæmia the wound becomes dry and unhealthy looking, and the resulting abscesses which begin to appear about one week after infection form very rapidly. Pyæmia may run a somewhat chronic course, usually with fatal termination, from exhaustion and diseased changes.

TREATMENT—Proper treatment with "GILES" of any of the ailments of which purpura, pyæmia and septicæmia are usually the result will serve to neutralize the poisons in the blood, promote an equitable circulation and keep the toxins away from the vital organs. Thorough use of "GILES" when symptoms of blood poison is well developed is the best possible preventive against fatal results. Two-ounce doses should be administered liberally until the temperature is favorable. At the beginning these doses should be given every 30 minutes to every hour, depending on the condition of the patient. Rectal injections of 2-ounces

should be given every one to two hours. As the temperature improves the doses may be given less frequently; but not less than every two to three hours, until the animal is well on the road to recovery. The wound, if any, should be well cleansed of purulent matter by wiping it out with a clean, rough rub rag moistened with "GILES" and dressed with a wad of oakum held in place with a loose bandage and kept well saturated with the remedy. Swellings in any part of the body should be liberally bathed with "GILES" and well rubbed in. Should these bunches or swellings become soft and show a tendency to break, they should on no account be punctured with a sharp instrument as the flesh exposed will become poisoned and have a tendency to slough. Only the outer skin should be broken with some blunt instrument which is first sterilized by dipping in the remedy. After the serous fluid is allowed to escape, the remedy should be well syringed into the opening. Care should be taken not to remove dead skin too rapidly. Any hair that is lost in the treatment will quickly renew itself if the surface be kept well moistened with the remedy. Use nothing else.

ABOUT TETANUS GERMS,

THE CAUSE OF LOCKJAW.

HORSES are very susceptible to tetanus, which is induced by the presence of poisonous material produced by a ferment that is formed by a specific disease germ, known as the bacillus spilloformis of Nicolaier. Tetanus microbes are found in all parts of the world, growing especially well in marshy ground and horse dung. These microbes manufacture an extremely virulent poison. In fact tetanus is as much a case of poisoning as an overdose of strychnine would be. Authorities say that the microbes of tetanus in their natural state do not produce the poison; but introduced into animal tissue under favorable circumstances, they go through a form of development and subsequently secrete the poisons. If these spores are inoculated by themselves into healthy tissue, they are unable to produce their poisons for the time being and in all probability will be eliminated by the white corpuscles of the blood (leucocytes). They may, however, remain alive for one to three months or more and then surrounded by favorable conditions become virulent. Favorable conditions are those which diminish the resistance of the tissues by repelling the protective work of the leucocytes, and the presence of common pus microbes. Suppurating wounds or sores are favorable breeding ground for the bacilli. Wounds that have become polluted with soil and dirt are especially liable to be followed by symptoms of the trouble.

Healthy, unbroken skin and mucous membrane will bar the entrance of tetanus poison to the system, yet it will penetrate the smallest breach in these coverings. Punctured wounds are more favorable to their production than superficial ones. When the trouble follows

a surgical operation, such as castration and docking, the poison has been imparted by the instruments used, as a rule. Other wounds which are more generally followed by lockjaw are broken knees, deep wounds in a limb and especially punctures in a foot. Wounds in the intestines made by worms are the point of entrance for the microbes that have been taken in food and water.

SYMPTOMS—The muscles of the face are first affected by tetanus poison, followed by other muscles of the head and those of the neck. The mouth closes tightly, head elevated and neck arched. The muscles controlling the organs of breathing and those of the limbs become contracted, the back becoming hollowed, the tail raised and the animal stands with outstretched limbs. There is great stiffness and rigidity in attempted movement. The animal looks nervous and terrified. The nostrils are dilated, the eyes sunken, the breathing quickened, the flanks tucked up and heaving, the muscles of the chest being fixed, breathing must be accomplished almost entirely by the action of the diaphragm. Sweat is generally found on the skin and is abundantly diffused over the entire body in severe cases and approaching death.

TREATMENT — Proper administration and treatment with "GILES" will in nearly every case avert the symptoms of tetanus known as lock jaw. In fact when the "GILES" treatment is applied to wounds of the nature which usually precede tetanus, this dread ailment will be invariably prevented. Should, however, the ailment be well advanced before treatment with "GILES" is begun, 4 to 6-ounces of the remedy should be administered by the mouth or nostrils and a rectal injection of 4-ounces should be given, followed by hourly doses of 2-ounces and an occasional rectal injection of like amount. The tense muscles of the head and neck should be liberally bathed with "GILES" and plenty of friction applied. This rubbing and application should continue until relaxation of the muscles is apparent. A little of the remedy dropped in each ear will have beneficial effect. This line of treatment should be followed thoroughly until symptoms are much relieved. As there are always conditions of intense nervousness, the stable should be kept as quiet as possible and the animal treated gently. Placing the patient in a sling except in very rare cases is advised against because of the added excitement incidental to slinging and because the animal is usually well able to support his own weight for days or even weeks if the treatment affords the relief that may reasonably be expected. Convalescence will be slow, usually two to four or six weeks, sometimes longer. Improvement will be noted by ability of the animal to flex the muscles of the head and neck slightly at first, which will become more and more relaxed as recovery proceeds. As soon as the animal is able to eat, he should be provided with nourishing food and 2-ounce doses of "GILES" should be administered three to five times a day and a rectal injection of 2-ounces should be given daily.

HOW ABSCESSSES ARE FORMED.

WHEN inflammation is followed by an accumulation of leucocytes and of plasma which does not coagulate, the result is a white or creamy liquid called pus and when the surrounding tissues are involved, so that a cavity develops containing pus, we have what is called an abscess. The plasma (serum) of pus does not coagulate because it is devoid of fibrinogen. Though pus may be an innocuous fluid when produced by leucocytes, it is usually of bacterial origin in which case it contains bacteria that excrete a substance which causes the pus to have corrosive action on the tissues, hence the necessity for the destruction of these bacteria and removal of the pus.—Crookshank.

Kantack says that an ulcer may be compared to an open abscess and that the granulations formed in both cases are the result of an attempt at repair made by the attacked tissues.

The sane treatment for abscess would be an endeavor to remove the inflammation and consequent pain, at the same time destroy the pus microbes, which are the cause. This can only be accomplished by restoring tissues to a natural condition. While a blister applied to the part would be very irritating and cause increased inflammation and pain, yet that would be vastly more sensible than the application of a poultice which would have no other effect than to harbor and multiply the germs and decay the tissues, thus greatly enlarging the scope of the abscess.

With the "GILES" treatment the action of the pus microbes is nullified and healthy tissue built up, stopping at once the growth of fungus flesh.

ANATOMY OF DIGESTIVE ORGANS.

ORGANS OF DIGESTION—As in man, the digestive machinery of the horse is made up of the mouth, pharynx, gullet, stomach and large and small intestines, all being assembled under one head and called the alimentary canal. To the mouth belong the lips, cheeks, tongue, hard and soft palate and the dental arches which hold the teeth. The lips assist in taking up the solid and liquid food and to retain it and the saliva in the mouth. The cheeks and tongue place the food between the back teeth to be ground up while the tongue also aids in swallowing. The roof of the mouth is formed by the hard palate and the soft palate divides the mouth from the pharynx. The front, or incisor teeth are used to grasp and bite off food, like growing grass, and the food is ground up by the molars, or back teeth. The lower jaw being much smaller than the upper, the horse can chew on but one side at a time.

The pharynx is a cavity into which the passages from the nostrils open, and which also communicates with the mouth through an opening

called the isthmus over which the soft palate acts like a valve to keep it shut during the passage of food and water and because of which the horse is unable to breathe through the mouth.

The gullet, or œsophagus, is a tube that runs down the neck above the windpipe part of the way and then inclines to the left of it, which carries the food from the pharynx to the stomach. In a horse, the stomach is comparatively small, holding but 3 to 3½ gallons on an average.

The small intestine is the continuation of the alimentary canal from the stomach and is about 72 feet long and 1½ inches in diameter. It doubles many times on itself, opening finally into a large sac called the cæcum, the main water reservoir, and contains, on an average, about 7½ gallons of fluid. The large intestine is made up of the cæcum and the large and small colon. The large, or double colon, is a wide canal which begins at the cæcum and ends at the beginning of the small colon. It consists of a succession of dilations and contractions and lies like a loop doubled on itself. Generally it is about 12 feet long, is capable of containing about 18 gallons and communicates with the small or floating colon which is about 10 feet long, folded several times on itself, similar to the small intestine. The back end of the small colon, or rectum, lies in a straight course from the front of the pelvis to the anus.

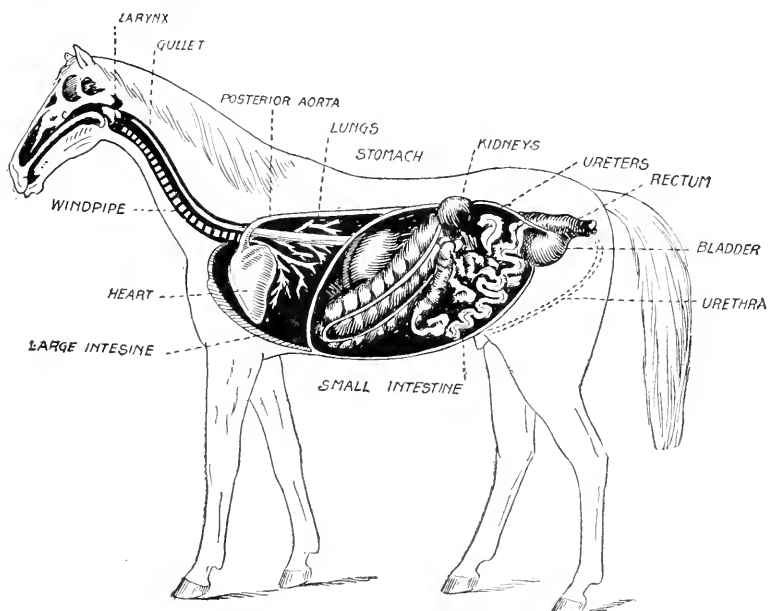
The stomach and intestines are composed of mucous membranes which line their interior, a muscular coat which covers the mucous layer and a serous coat which is a smooth, glistening membrane covering the outside of the organs.

Situated near the mouth are the salivary glands, into which they pour their secretions. The largest of these is the parotid gland, behind the lower jaw, close to the ear. The most important salivary glands lie in pairs on each side of the head. The right side of the stomach is also supplied with small glands which furnish the gastric juice to that organ. The surface of the left side of the stomach is similar to that of the gullet. A duct carries bile from the liver and empties it into the small intestine. The pancreas, or sweetbread, pours the pancreatic juice into the small intestine, principally through this duct. A great number of small glands line the large and small intestines and pour their respective secretions into them.

Digestion is the process which renders the food capable of being absorbed by the system. The alimentary canal gradually conveys the food from front to rear. While the food is being ground up by the back teeth, it becomes saturated with saliva which assists in the act of swallowing and helps to dissolve sugar and starch. When it arrives in the stomach, the gastric juice aids in dissolving the nitrogenous matter contained in it and the muscular coat of the stomach churns up the food and gradually pushes it into the small intestine, where it is met by the bile and pancreatic juice, which more or less complete the work of digestion. The wormlike action of the muscular coat of the intestines forces the food backwards, during which course its digested portions are more or less completely absorbed, the residue enters the rectum and from thence is finally expelled from the system.

COLIC A COMMON AILMENT, HOW TO TREAT AND PREVENT.

STATISTICS show that about forty per cent of the internal troubles affecting horses may be charged to colic; that the mortality is about 13 per cent. and about 40 per cent. of the general death rate. The great frequency and danger of colic in horses is due to the fact that they cannot vomit, save in very rare instances. From the fact



ANATOMY OF THE DIGESTIVE ORGANS.

that colic, being a manifestation of pain in the interior of the abdomen, it may be a symptom of various ailments, viz.: Irritation of the intestines due to indigestion; worms; enteritis, hernia, twisted bowel, obstruction and calculi. The latter causes colic more frequently from their shifting about than by their size. Symptoms of the presence of calculi are frequent attacks of colic from no other apparent cause. Therefore in treating colic, the predisposing cause should be removed.

Horses which suffer frequently from attacks of colic without ostensible cause, should be looked after with extreme care, for such at-

tacks indicate the presence of palisade worms, which may be suspected when the horse is subject to colic without errors of feeding causing it; of calculi or other serious ailment.

There are two forms of abdominal pain which custom has arbitrarily divided into spasmodic and flatulent colic, which really has no merit from the fact, as before stated, that colic may result from various causes and in many of its forms there is neither flatulence nor spasms.

SPASMODIC COLIC—Applies to spasms of the muscular coat of the intestines, caused, as a rule, by the presence of undigested food in the stomach setting up irritation. Chill may also induce it and it is usually brought on by injudicious feeding and watering, especially after long fasting or exhaustion from hard work. Some horses through natural or induced weakness of the digestive apparatus are easy victims unless very carefully handled.

SYMPTOMS—Usually the first manifestations of an attack, if the horse is at work, is a desire to stop, depression, uneasiness, pawing with the fore foot, arching back, looking around at the flanks and attempting to lie down. As the attack advances he may seek relief by rolling or cow kicking at his belly. Breathing will be labored and the pulse frequent, with patches of perspiration over the body. There are occasional intervals of relief from pain, when pulse and breathing will return to be about normal. Another attack comes on with more or less violence, to again pass off or the animal tosses about and dies from exhaustion. The intermittence of the pain is a distinguishing symptom of the ailment. A natural movement from the bowels is a good sign. Many horses have colic so frequently that it may be called chronic. Under such conditions attacks may be prevented and the cause removed by the use of "GILES."

TREATMENT—Spasmodic Colic—The more promptly treatment is given the more readily a cure will be effected, for this reason every horse owner should have a supply of "GILES" always on hand for emergencies, which should be administered at the first signs of uneasiness. Commence treatment by giving 2-ounces by the mouth and a rectal injection of 2-ounces, following immediately by 2-ounces more by the mouth. Repeat every ten or fifteen minutes until there is an appearance of relief. Should there be a recurrence after a time, administer as before. In ordinary cases when "GILES" is promptly administered, a cure will be quickly effected, the animal be made as well as ever, ready for work and little time be lost. It is entirely unnecessary to lay him up for a day or two to allow time for recovery from the bad after effects of powerful drugs. He is always left in a sound condition with a good appetite. As a preventive in cases of horses predisposed to colic, a 2-ounce dose of "GILES" should be given twice a day, morning and evening, before watering and feeding. The dose should be especially given after coming in from exercise before the horse is allowed either water or feed.

FLATULENT COLIC—Is due to the distension of the bowels by gas as a result of the decomposition of undigested food. It sometimes

follows spasmodic colic and is generally brought on by careless feeding. Flatulent distension of the stomach is usually caused by the fermentation of food, especially when imperfectly masticated. Wind sucking, stricture, or blocking of the intestine leading from the stomach by a calculus are also causes.

SYMPTOMS—Are not so violent as in spasmodic colic, which they somewhat resemble, though more continuous, with considerable distension of the abdomen. Breathing is difficult and in extreme cases there is more or less delirium. Unusual distension of the abdomen often precedes the fatal termination of various ailments, such as superpurgation. Laminitis sometimes follows it.

TREATMENT—Flatulent Colic—The beginning dose should be 4 to 6-ounces by the mouth and 4-ounce rectal injection, followed by 2-ounces by the mouth every ten to fifteen minutes and 2-ounce rectal injection every twenty or thirty minutes. If relief is not thus afforded in an hour or so, back raking should be resorted to (see directions for back raking, page 26.) Symptoms of stoppage of the urine frequently occur, but in most cases this is but a complication of the ailment and will be relieved when the main trouble is removed. Should the animal be unable to void the urine after the distension is reduced, treatment for retention of the urine should be resorted to. (Page 68.) An injection of 2 to 4-ounces of the remedy should be administered by the urethra or vagina. In most cases this will afford prompt relief, but should these injections fail, the hand should be inserted in the rectum and gentle pressure exerted on the bladder with the flat of the hand. In nearly all cases this action will result better than the use of a catheter. It is always best to avoid the use of it if possible, as it is more or less a painful operation, irritating to the organs and difficult of accomplishment by an inexperienced person.

RUPTURE AND VOMITING.

RUPTURE OF THE STOMACH is often a complication or flatulent distension, especially if the walls of the stomach be abnormally weak and severely tested by the animal throwing himself on the ground with pain. The fact that no air will escape from the stomach into the gullet, even if filled to the bursting point with air from its intestinal opening, shows how easily rupture of the stomach may occur when the intestinal canal is blocked up by undigested food or a twist of the intestine, with the contents of the stomach in a ferment.

VOMITING—Although very rare owing to the resistance offered by the narrow passage from the stomach to the gullet, vomiting may occur under certain conditions. It seldom, if ever takes place, unless the stomach is distended to nearly the bursting point, but not necessarily after a rupture of that organ, as cases have been noted of vomiting both before and after a rupture. According to Freidberger & Frohner, when

a horse does vomit, "the muscles of the abdomen and neck are the seat of muscular contractions; the bent head is kept close to the chest, at the same time a yellowish-green, frothy liquid of the odor of chyme and of the consistence somewhat similar to that of the food eaten, flows from the nose or mouth. The quantity varies from a few spoonfuls to a bucketful or more. The animal sweats abundantly, the legs are drawn up under the body and the eyes are haggard and fixed. Immediately after vomiting the patient becomes very weak, trembles and staggers and is sometimes seized with violent fits of coughing. In some cases the act of vomiting is not completed, but stops at a flow of saliva from the mouth, nausea and belching."

SYMPTOMS OF RUPTURE OF THE STOMACH—There is a more or less collapse of the vital powers and vomiting, preceded by gaseous distension and violent colic. Rupture of the intestines is also a complication of flatulency and is greatly aided by obstruction which prevents the gas from escaping by the anus.

TREATMENT—Rupture of the stomach and intestines is frequently the result of the administration of a physic ball. When the impaction is so complete as to prevent relief by the rectum, the almost universal practice in the treatment of colic of giving something to deaden pain and following with a ball, is more frequently responsible for twist and fold in the intestines and hernia than all other causes combined. Vomiting in a horse generally precedes and is nearly a certain symptom of rupture, yet the connection between the two is hard to explain, for vomiting cannot be a consequence of complete rupture, for the contents of the distended part would have a readier way of escape through the rent in that organ.

TREATMENT is of no avail in cases of rupture or vomiting. Death may be regarded as certain.

ENTERITIS—(Inflammation of the Mucous Membrane of the Intestines)—The most rapidly fatal ailment to which the horse is liable. It may easily follow a neglected or wrongly treated case of colic, the change being one from congestion to inflammation, the results of indiscreet feeding or watering, or may be caused by purgatives or irritants given in the treatment of colic. Intestinal parasites may also cause the trouble.

SYMPTOMS—Pain is continuous. Perspiration irregular and turns cold. The horse moves and gets up and down cautiously. The faeces is covered with mucus. The temperature is high and pulse wiry. There is often distension of the abdomen and pressure causes pain. In advanced stages the mucous membrane of the nostrils is abnormally red.

TREATMENT—The folly of administering anything of an irritating nature will be readily appreciated. "GILES," which is non-irritating, healing and soothing, affords the best possible treatment. Administer the remedy promptly and freely as in severe cases of colic and continue the treatment faithfully until fully relieved.

IMPACTION OF STOMACH,

DIARRHEA AND STAGGERS.

THE stomach becomes gorged in acute indigestion, with food that it is unable to get rid of, due to damp or boiled food which is rapidly swallowed without being properly masticated and mixed with saliva. It is therefore more difficult of digestion and more likely to ferment and evolve gas. The muscular walls of the stomach are weakened from being repeatedly strained by distension, become thin and incapable of churning up the food and expelling it.

SYMPTOMS—Colicky pains, pawing with the fore feet, especially the near one, belching, attempts at vomiting, trembling, partial sweats, discharge of liquid matter from the nose, frequent pulse and quickened breathing, and in some cases semi-consciousness. The patient will lean his head against any convenient support and staggers if forced to walk. The pulse is full and slow.

TREATMENT—Must be prompt and nothing should be administered which will add to the already irritated and inflamed condition of the stomach. Physic or anything of an irritating nature is strongly advised against. Give immediately 4 to 6-ounces of "GILES" by the mouth and 4-ounces by the rectum. Continue with 2-ounces by the mouth every 15 or 20 minutes until relieved, with an occasional rectal injection of 2-ounces. Administrations of 2-ounce doses should follow three or four times a day for a day or two, to thoroughly allay the irritation and remove the cause. If the horse shows any subsequent symptoms of the return of the trouble, one or two 2-ounce doses should be promptly administered.

GRASS STAGGERS—Eating over ripe grass, especially rye grass at certain times when a peculiarly poisonous narcotic principle is developed in it, which happens in certain seasons.

SYMPTOMS—It usually takes two or three days for the ailment to develop, when the animal becomes semi-conscious and more or less paralyzed, staggering if forced to walk and has great difficulty in keeping his legs, although extremely averse to going down and will lean against any convenient object for support. The patient breathes in a snorting manner and the mucous membranes are tinged with yellow. Spasms or convulsions resembling those of tetanus may develop.

TREATMENT—The condition of the stomach is the same as in stomach staggers and treatment should be the same. The horse should be kept from the pasture where he obtains the indigestible food.

SUPERPURGATION—Excessive diarrhea, brought on by strong, purgative medicines, such as aloes, especially when a second dose is given before the first begins to act. It is sometimes brought on by exercising a horse before or soon after a physic has acted; administering aloes improperly; allowing the patient to drink large quantities of water shortly after giving aloes, or giving aloes on an empty stomach and keeping the horse without food. This bad after effect of the ever-ready physic ball is an argument in favor of the "GILES" method of treatment, which should appeal to every horseman.

SYMPTOMS—Unusually frequent purging; debility; loss of appetite and weak pulse. As the case progresses the symptoms become more dangerous. There is an offensive breath, the excretion gives off a particularly bad smell, glassy eyes and distension of the belly. Purging ceases on the bowel losing power to perform its natural function. Laminitis frequently results from superpurgation.

TREATMENT—Refrain from giving anything of an irritating nature. Give 2 to 4-ounces of "GILES" by the mouth and a rectal injection of 2-ounces three times a day before watering or feeding. Be sure to give one of the doses and the injection immediately after exercise while the bowels and rectum are the most empty. The horse should not be subjected to long drives or hard work until there is a decided improvement in his condition.

DIARRHEA—Some horses purge if worked or excited, especially slight, slack loined, washy animals. They are often liable to diarrhea from changes of food or temperature, however slight. Working horses soon after they are fed or watered, especially after long abstinence, are susceptible to diarrhea for the reason that it interferes with the digestive work of the stomach and intestines by drawing the blood to the muscles of the limbs. Diarrhea should not be prematurely checked, as it may be simply an effort of nature to throw off irritating matter. It may also be due to worms. Horses are likely to be dosed with too much physic which has an irritating effect and diarrhea should never be suddenly checked with medicines. The practice of giving arsenic tends to render the animal susceptible to diarrhea.

DIARRHEA OF FOALS—Cadeac, the eminent French authority, considers that the diarrhea of foals is generally due to a specific infection by germs, favored by insanitary conditions. This form is often mistaken for dysentery and is similar to white scours in calves. It is sometimes complicated with umbilical pyæmia, acute laminitis, pneumonia, peritonitis, jaundice and inflammation of the eyes. As a rule, it affects foals about the time of weaning and runs a fatal course in from six to ten days. It may be induced by a vitiated condition of the milk from over working the dam; from giving her improper food, or from the ill health of the dam, weaning too early and bad food, chill, worms and general debility. Keeping the foal too long from the dam inclines it to take more milk than its stomach will digest, the organ being more or

less weakened from long fasting and will reduce the suitability of the milk as food, the undigested portion being more than likely to set up irritation in the stomach and intestines.

SYMPTOMS—Signs of weakness and depression will be first observed and the foal ceases to play about the dam, lying down most of the time. The coat is dry and staring and eyes sunk in their sockets. The mouth is dry and hot, tongue soft and flabby and thick saliva falling from it. There is intense thirst, and, although refusing to suck, the patient will eagerly drink any fluid given him. The abdomen is tight and painful to the touch; there are colicky pains and rumbling of the bowels. Diarrhea comes on in from six to ten hours and the evacuations are watery and give off a bad odor, are yellow in color and mixed with clotted matter. The movements quickly become involuntary, grayish-white in color, more frequent and will soil the thighs and irritate the skin, causing a rash and the hair to fall out. The mouth and expired air have a putrid smell. The pulse becomes light and wiry, with strong heart beats. The lining membrane of the eye becomes infected, sometimes showing spots of blood. Sometimes the patient dies from exhaustion in three days.

TREATMENT—Diarrhea. The condition of the stomach and intestines in diarrhea, either acute or chronic, commonly called scours, is much the same as in purging and superpurgation, and the same line of treatment should be followed.

TREATMENT—Diarrhea of foals. Commence treatment of 1 or 2-ounce doses of "GILES" by the mouth and a rectal injection of 1-ounce, followed every 30 minutes to one hour by half-ounce doses and a rectal injection of like amount every one or two hours for the first five or six hours. Afterward the remedy should be administered three or four times a day until the excrement attains a natural appearance.

CHRONIC INDIGESTION.

THIS ailment is brought on by a bad system of feeding and watering; the imperfect mastication of improper food by reason of bad teeth; the bolting of food and the injudicious use of medicines. There may be a constitutional tendency, and in young animals it is generally caused by cold milk, by too early weaning and by sucking too long at a time or when the dam is heated.

SYMPTOMS—There is loss of condition, capricious and depraved appetite; acidity of the stomach, indicated by the patient grinding his teeth and evincing an inclination to lick whitewashed walls; sour smelling mouth and sometimes coughing. The animal may wind suck and crib bite. The coat is usually light, dry, lacking the natural gloss and filled with dandruff. Very frequently the hoofs become brittle and shelly. The excretions are of imperfectly digested food and, owing to

the absence of bile, has a bad smell. Standing in the stable the animal is inclined to be costive; but will purge when taken to work or exercise. The abdomen is frequently distended by gas, and there are often colicky pains, especially soon after being fed.

TREATMENT—Tonic doses of "GILES" should be administered three times a day, preferably before watering or feeding, 2-ounces to a full grown animal and one-half to 1-ounce to colts, according to size. Rectal injections of like amount should be given daily for two or three days, then occasionally.

CONSTIPATION—This is a symptom of various ailments. It is sometimes due to natural tendencies, constitutional weakness, paralysis of the bowels, folding or twisting of the intestines, the action of drugs, the presence of calculi, obstruction of the bowel, improper feeding and watering, etc. Lack of a plentiful supply of water is often the cause, or when the patient is given food which contains an excess of indigestible matter. There is stoppage in the intestines of the waste material, mild attacks of colic, distension of the abdomen from gas, with more or less painful efforts at staling. Death is sometimes caused by rupture of the intestine.

TREATMENT—Give 4 to 6-ounces of "GILES" by the mouth and a rectal injection of 2 to 4-ounces at the start, and follow up with tonic doses of 2-ounces three times a day, before feeding. Give rectal injections of 2-ounces daily for a few days, then occasionally.

LAMPAS—This is usually met with in young horses owing to the presence of a large supply of blood for the growth of the teeth, the palate sometimes becomes swollen with it to such an extent that it projects below the level of the upper front teeth. Horses of any age may be affected with it from cold, indigestion, etc. Whether it occurs in teething youngsters or from derangement in health of older horses, it is caused by congestion of the part and may be easily relieved by the proper use of "GILES."

TREATMENT—Tonic doses of 2-ounces of "GILES" three times a day and rectal injections of 2-ounces once a day for two or three days, then occasionally, will serve to equalize the circulation and remove the congestion. The animal will derive relief from being allowed ear corn.

STOMACH STAGGERS—Is the result of the stomach being filled with indigestible food, roughness of a fibrous nature and bolting the food, causing a condition in the stomach which prevents proper assimilation and circulation of the blood, which induces an undue pressure of blood on the brain and vertigo. The animal may appear sluggish or may show symptoms of wildness. Bleeding by puncturing the second ridge in the roof of the mouth is often resorted to and generally affords temporary relief when nothing better is at hand; but it can result in no permanent good, and steps should be taken to remove the cause of the trouble.

TREATMENT—Return the horse to the stable and give 2-ounce doses of "GILES" four or five times a day and give rectal injections of

2-ounces two or three times a day for a couple of days. Follow this with tonic treatment of 2-ounce doses two or three times a day and a 2-ounce rectal injection once a day for several days. Daily exercise should be given and light work will be beneficial. Always reserve one of the doses to be given immediately after the horse comes in from exercise.

PROLAPSE OF THE RECTUM.

THIS accident may be due to the straining in colic, constipation or from foaling. It may also come from sexual excitement or paralysis. The mucous membrane protrudes from the anus, which, on becoming congested with blood and inflamed, may present a round mass about one foot in diameter with a depression in the center. In some cases the bowel itself protrudes.

TREATMENT—Clean the protruding part thoroughly with a clean cloth wet with the remedy. Syringe the remedy liberally into the rectum and use gentle pressure to return the protruding membrane to the anus. The use of "GILES" will serve to remove the inflammation and consequent swelling and the part will return to a natural condition. Administer 2-ounce tonic doses of "GILES" three times a day by the mouth and a rectal injection twice a day for two or three days, after that, occasionally.

CALCULI AND CONCRETIONS—Balls of undigested material are sometimes found in the large intestine, but rarely in the stomach of a horse. They occasionally attain a diameter of five or six inches or more, and as they grow larger and larger cause death eventually from obstruction and pain. There are three varieties. Phosphatic caculi, composed of magnesia and lime, which look like round, polished stones. Ordinarily they weigh two or three pounds, although they have been known in exceptional cases to attain a weight of 16 pounds. Oat hair calculi or dust balls are formed of closely packed undigested vegetable matter and mixed calculi are made up of earthy and vegetable material. The presence in a horse's food of indigestible particles, especially a piece of metal or particle of stone, easily become the nucleus for calculi. Food that contains hairs and husks of oats or meal dust is apt to give rise to intestinal concretions. An oat hair concretion appears to result chiefly from the mechanical adherence of undigested particles of food to the moist covering of a nucleus, the presence of which on the mucous membrane would cause a certain amount of irritation, while the formation of a mixed calculus might be effected both by chemical and mechanical agencies.

SYMPTOMS—As the balls may attain large size without causing death, or without even giving rise to any marked symptoms of ill health, there is no characteristic symptom by which the presence of calculi in

the intestine may be determined. They may remain in a pocket in the large intestine for a long time without obstructing the passage until they become greatly increased in bulk or are dislodged by a purgative, when they may set up fatal obstruction. They cause colic more often by shifting than from their size. The ordinary, though not at all characteristic symptoms, of the presence of these formations are frequent attacks of colic from no other apparent cause; pawing with the fore feet from evident abdominal pain; resting the hind quarters against some support and sitting on their haunches. In advanced stages the expression is haggard, the back up, belly distended, respiration hurried and bowels habitually costive.

TREATMENT—Tonic doses of "GILES" two or three times a day will act to dissolve and remove the accumulations and obstructions from the bowels known as calculi. Should they block the entrance to the rectum they should be removed by back raking, if possible. "GILES" perfect syringe may be carefully introduced and its contents discharged into the rectum as far as the arm will reach. This operation will aid greatly in the dissolution and removal of the obstruction.



Sound Hock.



Hock With Curb.

FACTS ABOUT AZOTURIA, RESULT OF GERM POISON.

AZOTURIA (Hæmoglobinuria)—This condition is often diagnosed by veterinarians, who should know better, as spinal meningitis; but is easily distinguishable from it by the circumstances of the case. Authorities differ widely as to the cause, but long experience and careful observance of symptoms and effects, leads to the firm belief that azoturia is the direct result of toxic poisoning of the mucous membrane linings of the intestines, kidneys and bladder, caused by food decaying rather than being digested through lack of exercise and superinduced by an unhealthy condition of the blood, the result of insanitary surroundings, and that this poisoning affects the linings of the kidneys and bladder, the same as purpura does the air passages. This condition is often found after a few days' rest and liberal feeding. It is marked by the excretion of dark colored urine, by painful spasms of the croup muscles and excitement. It is noticeable among horses in training, especially when taken out on a cold, raw morning after a rest. Fortunately, such attacks are usually light and respond quickly to prompt treatment with "GILES." In the later stages of this complaint the urine of the patient becomes albuminous from inflammation of the kidneys. The affection may be regraded as an inflammation of the muscles of the hind quarters, due to irritation caused by broken up material in the blood. The red corpuscles in the blood are greatly increased during a period of rest, and these are broken up during the progress of the ailment and partially dissolved in the plasma, carried to the kidneys, where it is excreted in the urine, which accounts for its dark color. The remainder is formed into exceedingly small granules which are arrested in the capillaries of the muscles affected, causing the pain and inflammation.

SYMPTOMS—The attack comes on suddenly; the animal becomes excited and acts as though he had injured his hind quarters or loins. One hind leg is generally advanced before the other and the hind quarters drop until the hocks almost touch the ground when he attempts to put weight on them. A fore leg is sometimes affected. There is profuse perspiration and the breathing is hurried. The pain is so intense that the patient will bite at almost anything and will not unfrequently tear at the affected side or forearm. The internal temperature seldom rises to a marked extent. The urine is usually plentiful and dark colored, though the animal may be unable to void it. There is generally constipation and retention of the urine. The symptoms may be milder or so much more severe that the animal falls in delirium and a half paralyzed state

and dies in a few hours. The ailment has been taken for cerebro spinal fever; but the difference may be observed in the nature of the urine and the known facts in the case.

TREATMENT—Azoturia may be prevented by restricting the food allowance while idle, giving only a bran mash at one feed and administering 2-ounce doses of "GILES" once or twice a day while the horse is in the stable. The sooner treatment is afforded after the attack the quicker a cure can be effected. Four to 6-ounces should be administered by the mouth at once and 4-ounces by the rectum, followed by 2-ounces every twenty or thirty minutes by the mouth and rectum. Bathe the abdomen between the hind legs, liberally with the remedy. This will often enable the animal to regain his feet when down and cause the bowels to act and urine to be voided. Should this not take place within the hour liberal injections by the urethra or vagina should be made. In the majority of cases this will afford relief; but in serious cases, when treatment has been delayed, it may be necessary to aid the animal in voiding the urine which should be done as directed. (Page 24.)

In all cases administrations of "GILES" should be frequent and liberal enough to relieve the distress of the animal and prevent injury by his struggling. Slinging which is often resorted to is inexcusable, because the animal, being unable to support his weight in the rear, is cramped by the pressure of the sling on the abdomen and action of the bowels rendered well nigh impossible. He should be provided with a soft bed in a roomy box or on the floor and turned over every six hours. After movement of the bowels and bladder and the temperature of the animal is in a fairly satisfactory condition, he may be considered as well on the road to recovery. Moderate exercise should be given as recovery proceeds and constitutional doses of 2-ounces two, three or four times a day and an occasional rectal injection of like amount should continue until fully recovered.

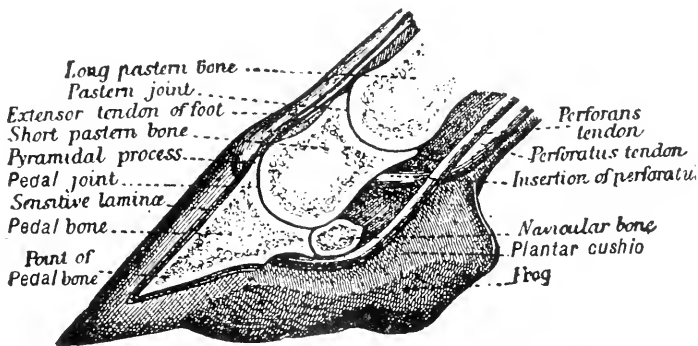
DERANGEMENT OF THE LIVER.

IN the United States the liver of a horse is rarely affected as compared to the frequency of liver troubles in man, from the fact that the horse, being a clean feeder, is not subject to many of the derangements of that organ as is man or other animals. The liver forms an important part of the system of nutrition and elimination. It forms glycogen which it throws into the general circulation in the form of grape sugar, partly for supplying the system with force, partly for the nourishment of the tissues and likely for the formation of fat. Both waste and nutritive albuminous matters as well as glycogen are converted into products that can easily be eliminated from the system, the waste material being finally thrown out by the kidneys in the form of urea. The liver also throws out carbonic acid.

In temperate climates some affections of the liver are very obscure and in many cases pass wholly unobserved until after death. There are some symptoms, however, which should induce as close an examination of the organ as possible, as any impairment is sure to manifest itself in derangement of the functions of other organs; its impairment also makes the animal peculiarly susceptible to heat prostration or chill as the climatic changes are hot or cold. A poor condition of the stomach which will affect the condition of the blood is certain to more or less affect the functions of the liver.

There are derangements of the liver, however, which may be traced to insanitary surroundings; a bad condition of the stomach caused by germ poisons in the food and mechanical poisons which are given to the horse through mistakes of judgment, such as tonics or purgatives containing arsenic, Barbadoes aloes, etc. Chill, heat prostration and general debility can often be explained by a knowledge of the treatment the horse has undergone. The ailments of the liver can rarely be distinguished as such, except when there are symptoms of jaundice, but manifest themselves by complications above mentioned. Purgatives which excite the liver and bile to unnatural action must certainly produce a reactive and weakening effect. The "GILES" method of treatment, which obviates the necessity of using any and all purgatives, removes all danger from these causes and keeps the liver in a healthy condition.

TREATMENT—The prescribed treatment with "GILES" which overcomes and removes germ poisons from the system, corrects the condition of the stomach, enabling it to supply the liver with healthy fluids and otherwise strengthening every organ of the body, is the best possible cure for ailments of the liver when given in tonic doses of 2-ounces each, two to four times daily.



Vertical and longitudinal section of horse's foot.

SUNSTROKE—HEAT SHOCK, HEAT FEVER, HEAT EXHAUSTION.

SUNSTROKE—This is a state of unconsciousness brought on by exposure to great atmospheric heat, intensified, as a rule, by muscular exertion. Three forms of sunstroke are recognized in human practice, viz: Heat exhaustion, disturbing the action of the heart; heat shock, or sunstroke proper, in which exposure to the heat, aided by the glare of the sun, appears to paralyze the nerve centers of breathing and of the circulation, so that the lungs and heart are unable to perform their proper work, and heat fever, a heat apoplexy in which prolonged exposure to the heat overstimulates the nerve centers which become exhausted. It is probably the latter cause to which most of the prostrations of horses are due. The presence of traces of aloes, arsenic, strychnine and other poisons in the liver renders the animal less able to withstand the effects of heat in a humid climate.

SYMPTOMS—A horse taken out to work that has previously been dull and breathing quickly is distressed, and, although he may do his work fairly well, an experienced observer would see that he should not be exposed. The attack comes on more or less suddenly; his legs give way under him and he falls insensible. He may struggle convulsively, get up and throw himself down in a dangerous manner, or make frantic efforts to do so, but, owing to the paralysis behind, unable to get up, but may dash his head on the ground. Others will remain quiet, as if dead, and those are the hopeful cases. The temperature is high, eyes staring, but they do not see. Some horses apparently come all right after a stroke, but begin to blow again after a few hours and generally die from congestion of the lungs.

TREATMENT—Long experience amply justifies the assertion that constitutional treatment of 2-ounce doses of "GILES" twice a day and an occasional rectal injection of like amount fortifies the constitution of the horse against the effects of heat and humidity, and that 2-ounce doses before and after work will serve to prevent prostration from the effects of excessive heat, and that "GILES" properly used affords the best possible relief for animals which have been overcome. Almost complete cessation of heart action is an important symptom. Liberal administration of 2-ounce doses of "GILES" by the mouth and rectal injections of the same amount will promptly stimulate the heart to natural action, to relieve congestion which causes the pores of the skin to close and prevents perspiration. Do not be afraid of an overdose, a pint, quart

or more may be administered in severe cases. As soon as the animal revives sufficiently water should be given him to drink; but any outward application of either water or ice to any part should positively not be made, as it can only tend to increase the congestion, chills the animal and there is danger of bringing on pneumonia and other serious ailments. It closes the pores of the skin and retards natural perspiration. The sooner perspiration is induced, the cessation of which was one of the causes of collapse, the sooner will relief be obtained.

If the "GILES" method of treatment is followed exactly as prescribed the animal will be enabled to regain his feet in an hour or two and walk to the stable, where administration of 2-ounce doses by the mouth and rectal injections of the same amount should be continued every one or two hours until the animal is in a comfortable condition. Constitutional treatment of 2-ounce doses two or three times a day and an occasional rectal injection of the same amount should be continued for some time. Moderate exercise and light work should be given until fully recovered. Should any of the symptoms of influenza or pneumonia develop, treatment should be given as prescribed for those ailments.



Clean Hock.

Slight Spavin.

Large Spavin.

ANATOMY OF THE BLADDER AND URINARY AFFECTIONS.

THE bladder is composed of a serous membrane formed by the peritoneum; of a muscular membrane; of a somewhat thick layer of areolar tissue and is lined on its inner surface by a mucous membrane, which is somewhat raised up, here and there are long prominences or columns caused by the muscular fibres beneath. Into the bas-fond, or bottom, the two ureters open and the urethra commences. In the orifice of the urethra, which is called the neck of the bladder, there is at the lower part a more or less prominent tubercle. The arteries of the bladder proceed from the hypogastric, umbilical, sciatic, middle hemorrhoidal and internal organs of generation. Its veins, which are more numerous than the arteries, open into the hypogastric venous plexus. Its nerve emanates from the sciatic and hypogastric plexus and its lymphatic vessels pass into the lymphatic ganglia.

AFFECTIONS OF THE URINARY ORGANS—It is often difficult to diagnose ailments of the urinary organs, for the reason that the urine may show unnatural qualities and symptoms of organic trouble, such, for instance as diabetes, hæmoglobinuria or constipation, when the organs are not affected. Fortunately, these ailments, aside from kidney trouble and retention of urine accompanying colic, are somewhat rare in horses. It is not necessary in "GILES" practice to be able to analyze the urine in order to determine whether any of the organs are affected or not, from the fact that no danger can result from the treatment, and it is therefore only necessary to know that an unnatural condition exists. These ailments are usually the after effects of treatments with powerful drugs which have an irritating, corroding and partially paralyzing effect. They never follow the "GILES" method of treatment.

RETENTION OF THE URINE—The principle manifestation of this ailment when it has advanced to such an extent as to be regarded as a diseased condition, are stranguary and distension of the bladder. There are frequent ineffectual attempts to void the urine, accompanied by pain. The distended condition of the bladder may be discovered by passing the hand into the rectum.

TREATMENT—Follow treatment given for colic. See page 53.

BLOODY URINE—Improper feeding, strains, kidney affections, irritation of the urinary passages and calculi are causes of the dark or

bloody urine. There is congestion or inflammation of the urethra and of the tubes leading thereto from the kidneys. If the urine is very dark in color without the presence of blood it is a pretty sure sign that too high feeding has helped to induce it.

TREATMENT—Any difficulty in voiding the urine should be relieved as per directions for retention of the urine as above. Tonic treatment of 2-ounces of "GILES" three times a day and a rectal injection of like amount once a day should be given until all signs of the trouble has been removed.

INFLAMMATION OF THE BLADDER—This is a quickly fatal affection if allowed to run its course, which is seldom beyond three days. The cause can generally be traced to the throwing off of germ poisons by the blood; traced to the effects of irritating poisons such as cantharides or croton, used either internally or externally, or injury. Fatal results have been caused by blistering. The urinary organs are more likely to be affected by blisters in hot weather than in cold, owing to the fact that the skin is more active and less urine is secreted, so that the deleterious matter being less diluted is not so quickly voided from the bladder. The active principles of blisters are also more quickly absorbed in warm weather. Owing to sexual causes mares are specially liable to this trouble at certain seasons.

SYMPTOMS—The urine is voided frequently and with pain, as it is irritating and burning; it is highly albuminous; the fæces are covered with mucous and mixed with blood.—Gamgee. There is a red and inflamed condition of the lining membrane of the mouth and entire intestinal canal, accompanied by fever and pain, with a showing of mucous with or without blood. There is more or less sexual excitement in stallions and mares.

TREATMENT—Four to 6-ounces of "GILES" should be administered with a rectal injection of 4-ounces at the start. Liberal injections in the urethra or vagina should be made and the vicinity of the bladder should be well bathed with the remedy, after which 2-ounce doses and a rectal injection of a like amount should be given every hour or two until a decided improvement in the condition of the patient is apparent. After which continue tonic treatment with 2-ounces of the remedy three times a day and rectal injections once a day for several days.

STONE IN THE BLADDER—So called stone (calculi) are found in the bladder, kidneys, ureters and urethra of the horse the same as in man. They are mainly composed of carbonate of lime, always present in the urine, and there is always danger of the formations if the horse is prevented from voiding the urine for long periods. Calculi vary in size from a grain of sand to that of a man's fist, sometimes larger. The presence of the stone may be discovered by examination through the rectum.

SYMPTOMS—There are recurring colicky pains; inability to retain urine or interruption with the flow of urine; repeated efforts to void the urine and straining; stiffness in hind legs; whisking of the tail and bloody condition of the urine.

TREATMENT—Employ "GILES" as in directions for retention of the urine to relieve symptoms when they appear. Give a constitutional treatment of 2-ounce doses of "GILES" three times a day and a rectal injection of like amount once a day which will serve to prevent their recurrence and remove congestion and consequent irritation from the parts. In severe cases in which the aggravated symptoms recur frequently 2-ounces of the remedy should be introduced into the bladder through the urethra by a syringe with a long nozzle. The urethra of the mare opens on the floor of the vagina about three or four inches from the outside and may easily be injected through a slightly bent nozzle. A continuance of this treatment will dissolve the formations and admit of the passage of the fragments through the urinal canal.

FACTS ABOUT THE KIDNEYS,

AILMENTS AND TREATMENT.

THE KIDNEYS are glands which take from the blood the properties from which urine is formed. As the urine is secreted it is taken by narrow tubes called ureters and conveyed to the bladder, from which it is voided from the system by the urethra, a rather large tube connecting the bladder with the penis or vagina as the case may be. Much of the waste and poisonous material is thrown from the system through the kidneys, which, under certain conditions, are peculiarly liable to the attack of disease germs. The horse is also subject to acute nephritis, generally known as Bright's disease of the kidneys, but which name is being discarded. This ailment may develop from simple hyperæmia, congestion of the kidneys, and is often produced by chill. It may also result from blows on the back, from falls, or from pulling up too suddenly when going at speed.

There is close sympathy between the kidneys and the skin, and any suppression of the activity of the skin may indirectly affect the kidneys. Nephritis may also occur during infectious complaints, as influenza, strangles, anthrax, foot and mouth troubles, distemper, bronchitis, etc., and is sometimes complicated with them.

The character of the trouble is just the same when produced, as it may be, by such irritant poisons as colchicum (meadow saffron), cantharides, which may induce the evil effect from a blister as well as when taken inwardly, oil of turpentine, croton oil, male fern, squills, carbolic acid, tar, iodoform, arsenic, phosphorus, lead, mercury, etc. Inflammation of the kidneys is also excited by the fungi of mold, blight, smut, or ergot as well as certain insects such as caterpillars and plant lice on cab-

bage. Even a too liberal feed of raw potatoes and certain kinds of cotton seed meal will do the same thing. Finally, of great importance, is the nephritis which arises in the course of hæmoglobinæmia of horses, which is caused by a hæmoglobinous congestion of the kidneys, due also to the action of germ poisons.

INFLAMMATION OF THE KIDNEYS—May be either acute or chronic, and while it may be brought on by chill or irritant poisons, the prime cause of the trouble is the poisonous product of certain bacteria. It may exist for a time without discovery being made of its presence until it has progressed to such an extent that the serious symptoms are apparent. The same causes which give rise to inflammation of the bladder will similarly affect the kidneys, as it will also of other organs, particularly the liver.

SYMPTOMS—Usually the first symptoms noticed is a diminution of the urine; a straddling gait; evidence of tenderness on pressure on the loins, and weakness. If allowed to progress there are spasms and unconsciousness, which is a fatal phase. The presence of casts in the urine is also a distinctive sign of the trouble.

TREATMENT—The application of the treatment directed for inflammation of the bladder will be found to be the best possible treatment for this serious ailment. Faithful and continued constitutional doses of 2-ounces of "GILES" three times a day and a rectal injection of 2-ounces once or twice a day will remove from the system the cause of the trouble. Bathing the rear of the abdomen with the remedy daily will be greatly beneficial.

RHEUMATISM RARE IN HORSES.

THIS ailment as it exists in man is unknown in a horse. Rheumatism in a horse is generally talked of; but what is taken as such is but a crampy condition brought about by an impoverished condition of the blood and consequent poor circulation. In this state the horse is more susceptible to colds and the rheumatic symptoms are signs of more or less congestion in the parts affected.

TREATMENT—Attention should be directed to local manifestations as they appear. This can be afforded by vigorous rubbing of the muscles of the affected part with the remedy. Constitutional treatment must be given of 2-ounce doses three times a day and a rectal injection of like amount once a day, continued for a considerable time until there is no recurrence of the trouble. It is important that the animal should be well cared for after exercise and every precaution used to prevent taking cold. To this end 2-ounce doses of "GILES" should be administered directly after exercise and the animal kept comfortably blanketed until all danger of congestion is past.

WORMS OF VARIOUS KINDS WHICH AFFECT HORSES.

INTERNAL parasites, as distinguished from micro-organisms, may as a rule be seen with the naked eye. There are worms of various sizes and varieties, including the bot (gastrophiles), tapeworm (tæniæ), ordinary worms (nematodes) round worm (ascaris megalcephala), thread or maw worm (oxyuris curoula), palisade worm (strongylus armatus or sclerostomia equinum), sclerostoma tetracanthum (strongylus tetracanthus), filariæ and spiroptera reticulata.

BOTS—The female bot fly (gadfly) lays her eggs on the parts of a horse most readily reached by the tongue, chiefly on the breast, front of the forearms and parts of the shoulders and sides. The eggs are orange colored and are stuck to the ends of the hairs by a fluid secreted by the fly. When the eggs are hatched, which is from four to twenty-five days, according to different authorities, and produce small worms, the movements of which irritate the skin and induces the animal to lick them off. In that way they gain entrance to the alimentary canal and attach themselves by hooks with which they are supplied, to the mucous membranes. The bots are about four-fifths of an inch in length, and they usually select the left compartment of the stomach for a dwelling, although they may be met with in the passage between the mouth and windpipe, as well as in the right compartment of the stomach. On becoming detached after some months, they reach the lower portion of the rectum, where they can be seen when there is a movement of the bowels.

SYMPTOMS—In small numbers, bots are productive of no ill effects, although of no possible advantage to the horse. In large numbers, however, they are irritating, are the cause of colicky pains which are at times very severe, in some instances causing death. Young horses have been known to suffer from indigestion, loss of condition and death; there have also been fatal cases from bots lodging in the larynx and stopping the breath, but such cases are extremely rare. There are several species of the bot fly, but the most common is the gadfly, and they are more troublesome in the south than in the north.

WORMS—The most common parasite found in the horse is the round worm, which in shape resembles the common earth worm. It is of a yellowish-white color, of an elastic-like texture, and when fully grown is from six to eighteen inches in length. It sometimes invades the stomach, but is generally found in the small intestine. In small numbers they give little apparent trouble; but when present in large num-

bers horses lose condition rapidly, the general health becomes affected, the appetite morbid, the hair rough and belly distended; there is slight diarrhea and liability to colic. They sometimes become so numerous as to block the small intestine, inducing colic, which sometimes terminates fatally.

THREAD OR MAW WORM—Is less than two inches in length. The tail is thin and whip-like, the front end thicker and curved somewhat like a shepherd's crook. They gather about the dock, and their eggs come away in a yellow, waxy substance. They do not affect the general health; but that their presence is irritating is made manifest by the horse rubbing his tail.

THE PALISADE WORM—Is common to most countries. It is of a brownish red color, straight and stiff, thicker at the front end than the rear and varies in length from three-quarters of an inch to two inches. It is generally found in marshy pastures. In its adult state it locates in the membrane of the cæcum and large colon and in the immature form it burrows under the mucous membrane of the same organs; it is also occasionally found in the brain, testicles and liver. In large numbers they sometimes cause death by exhaustion and diarrhea. They gain entrance to the system through water and damp grass or other forage.

TREATMENT—For Bots: Give 4 to 6-ounces by the mouth and a rectal injection of 2 to 4-ounces. Continue giving 2-ounce doses by the mouth every 15 or 20 minutes and an occasional rectal injection of like amount until there is a cessation of colicky pains, after which 2-ounce doses should be administered every two or three hours for a day or more. Bots not infrequently attack the mucous membrane lining of the air passages of the head and throat, causing irritation and sores and a slight discharge from the nose similar to a slight case of distemper. When this symptom occurs 2-ounce doses of "GILES" should be administered in each nostril until the discharge ceases. (Page 23). During treatment the animal should be kept in the stable and fed sparingly, especially of rough food.

TREATMENT FOR ALL WORMS—The too common practice of administering strong, poisonous drugs works injury to the digestive organs and in nearly every instance fails of the desired results. The parasites infesting the stomach, intestines or rectum, bury their heads in the membrane lining of these passages and are but little affected by such drugs. Much better results will obtain from the liberal administration of "GILES," which induces the parasites to loose their hold, when they are passed backward by the movement of the bowels in the process of digestion and are readily expelled with waste matter. In the treatment for any kind of worms, hay or other rough food should be denied the animal for a day or two and 4 to 6-ounces of "GILES" should be administered three or four times a day, and at the same time rectal injections of 2 to 4 ounces should be given.

AFFECTIONS OF THE EYES

AND BEST WAY OF CURING.

A **NATOMY OF THE EYE**—A delicate mucous membrane called the conjunctiva covers the surface of the eyes and the inside of the eyelids. The cornea, which is somewhat of the form of a small watch glass, consists of a strong, transparent structure in front of the eyeball, the remainder of the part consists of a strong, fibrous coat, called the sclerotica, which is lined by the choroid, a dark membrane. Behind the cornea and attached to the choroid hangs a thin contractile curtain, termed the iris, through the center of which there is an elliptical opening known as the pupil of the eye. The cornea may be regarded as a continuation of the sclerotica, and the iris as that of the choroid.

The distinctive color of the eye is derived from that of the iris, which is mostly brown in the horse with more or less of a yellow tinge; sometimes, however, it is almost white or grey, when the animal is said to be wall-eyed. Suspended from the choroid, behind the iris, is the crystalline lens, a biconvex, transparent solid body, which divides the eye into two compartments, the front, which is partially divided by the iris and filled by a watery fluid called the aqueous humor and a back portion which holds a similar but denser liquid called the vitreous humor. The covering of the crystalline lens is called the capsule.

Proceeding from the brain is the optic nerve which enters at the back of the eyeball piercing the sclerotica and choroid, and by its extension forms a membrane called the retina, which lines the choroid and terminates at the circumference of the crystalline lens. When rays of light fall on the eye they enter the pupil and, passing through the crystalline lens, form an image on the retina, which conveys the impression of the object seen to the brain through the optic nerve.

CONJUNCTIVITIS (Simple Ophthalmia)—Inflammation of the conjunctiva, the membrane which covers the surface of the eye and lines the eyelids. It may be induced by a cold or a mechanical injury. The opacity will radiate from the point struck when caused by a blow on the cornea. This appearance will serve to distinguish the affection from that due to cold. In catarrh both eyes are usually affected, but in ophthalmia from injury only one is affected, as a rule. When caused by a blow a mark is usually seen on the skin of the eyelid. In catarrh, or running of the eyes, the opacity commences at the inner corner of the eye.

SYMPTOMS—Eyelids closed and swollen, eyeball drawn back, tears flow copiously, the hawk projects and there is a desire to avoid the light. There is inflammation of the conjunctiva, and an opaque, bluish color clouds the cornea.

NOTE—In all eye troubles when the optic nerve is unaffected, the "GILES" treatment will be found over all the best and if faithfully used as directed to the exclusion of everything else, will in the majority of cases prevent permanent loss of sight.

TREATMENT—Simple ophthalmia being caused by inflammation, the proper treatment is assuredly one that will remove it and be of a nature which is not to the slightest extent irritating. Such is "GILES." It should be applied with a small, soft sponge, full strength and care be taken that it be brought well in contact with the entire surface of the eyeball and inner surface of the lid. The outer surface of the lid and vicinity of the eye should be well bathed with the remedy. This treatment should be applied two or three times daily. If used at the first sign that the eye is weak or watery, it will have the effect of checking the development of the inflammation. Constitutional doses of 2-ounces by the mouth two or three times a day will have a beneficial effect.

MOON BLINDNESS (Periodic Ophthalmia)—Appears to be an inflammation of the entire structure of the eye and as a rule confined to one eye. According to some authorities, it may be hereditary, or brought on by insanitary surroundings, or from running in wet, marshy pastures. It may also be produced by chemical or mechanical irritation. It is a constitutional weakness, and any change in the condition of the animal which affects the general health will manifest itself in apparent weakening of the eyes. These troubles recurring so frequently gives the ailment the name, moon blindness.

SYMPTOMS—The interior of the eye assumes a dim, dull, amber-colored appearance and the cornea becomes clouded with contraction of the pupil in the first stages. First attacks are usually the longest, the duration diminishing with their recurrence. When they are apparently recovering, relapses may be frequent and recovery prolonged indefinitely. The outline of the upper eyelid is usually altered and after several attacks gives a triangular outline to the opening of the eyelids. There may be recurrent attacks after the horse has become totally blind.

TREATMENT—If care be taken that the general health of the animal is kept always at the best and at the first indication of condition noted by watering of the eyes, "GILES" is applied thoroughly as directed for simple ophthalmia, these periods of eye trouble will be passed without serious consequences. If, however, the trouble is not treated properly at the start and the eyes become covered with a film of a white color, or in advanced stages a bluish or yellowish tint, more thorough and vigorous application of "GILES" must be made. In addition to applying the remedy to the eyeballs with a soft sponge, a pad of soft cloth placed over the eye and held in place by a bandage and be kept liberally saturated with the remedy. Two-ounce doses of "GILES" should be administered by the mouth every two to three hours and a daily rectal injection of like amount.

CATARACT—By an opaque condition of the crystalline lens or its

capsule, or both, the light that enters the pupil is obstructed on its way to the retina, blindness to a more or less degree being the result. It may be but a small white or bluish spot slightly obscuring the vision and causing the horse to shy, or it may entirely cover the affected structures. Under ordinary circumstances the presence of a cataract may be discovered by holding a lighted candle upright in front of the affected eye. If it be healthy, three vertical reflections of the candle will be seen, one on the cornea, the second on the front of the crystalline lens and the third upside down on the back of the lens. When the cataract is complete it will prevent the formation of the third image. Old cataracts have a pearly white appearance and newly formed ones are of a bluish color.

TREATMENT—Poor success has generally attended operations for the removal of cataracts which completely cover the eye. In this condition, however, the eye is susceptible to the effects of cold and will become inflamed and watery. This inflammation should be cared for by applying "GILES" as directed above, because if the eyeball is allowed to become greatly inflamed it may cause it to burst, suppurate and run from the socket. Cataracts while forming may be successfully treated. The use of "GILES" for the removal of inflammation under all conditions will be found most effective.

WORMS UNDER THE EYELIDS—Thread worms between the internal surface of the eyelids and the ball of the eye, cause considerable irritation, the chief symptoms being weeping, intolerance to light, opacity of the cornea and tenderness. In long-standing cases the cornea becomes rough and scaly. The worm (*filaria palpebralis*) varies from one-quarter to two-thirds of an inch in length. It is occasionally found in the lachrymal canal.

TREATMENT—Turn back the eyelid, remove the worm and apply "GILES" as above directed until all inflammation is removed.

TRoubles OF NERVOUS SYSTEM.

STRINGHALT—Among the ailments coming especially under this head are stringhalt, crib biting and wind sucking, shivering, immobility, paralysis of the face, staggers and epilepsy, although the nerves play an important part in many other ailments.

In stringhalt the hock is more energetically flexed or bent than it is extended during movement. It is sometimes intermittent, being present one day and absent probably two or three days. In the worst cases it will be seen at every step the horse takes, being usually confined to the hind legs and occasionally affecting both of them. It grows worse with age, hard work or injury. For the reason that a leg affected with stringhalt is always in an abnormally high state of sensibility, it is generally regarded as a nervous affection.

A surgical operation for stringhalt if properly done has proven quite

successful in reducing the excessive muscular contraction. This is accomplished by removing a portion of the tendon of the peroneus, one of the muscles that helps to bend the hock, which throws it out of action. The operation is made more complete by removing a piece of the tendon than by simply dividing it, as it is likely to reunite if the latter plan is adopted. The operation is performed on the outside of the leg just below the hock.

SHIVERING—Is manifested by involuntary, irregular movements usually of the hind quarters, resembling somewhat those of St. Vitus' dance (chorea) in the human family. In some cases there is a suspicious movement of the tail, in others an erratic action of the hind legs; occasionally the symptoms are intermittent. In aggravated cases symptoms are evident which are not shown in the early stage. If stopped suddenly, especially if drawing a load, there may be noticed a lack of control of the hind extremities; great difficulty is experienced in backing which sometimes is impossible, the hind feet are not raised, the back is arched and muscles of the quarters are convulsed—shivering. The hind legs move in a jerky manner and the tail is spasmodically elevated when startled or backed. Some cases show decided symptoms when offered water or taken to a watering trough. As soon as the neck is extended the hind quarters are seized with spasm, while the fore feet are planted firmly on the ground, the body is thrown backward, the back arched, the tail and quarter muscles convulsively shiver. Aggravation of symptoms may accompany an attack of strangles or influenza. In some cases the spasms appear in the fore legs. This is a grave unsoundness for which there is little or no relief.

IMMOBILITE (Dummies)—Is a more or less chronic condition brought on by various forms of brain affection, of which water on the brain is the most common. It is characterized by mental torpidity and failure to correctly understand external impressions. It is commonly called "Dummies" and is rare in this country. It has also been erroneously classed as shivering.

SYMPTOMS—There is pressure on the brain which suffers from partial absorption, with more or less loss of consciousness, feeling and power of volition. Pulse and respiration are slow with an entire absence of fever. There is a tendency to go round in a circle and to raise the feet very high. No attention is paid to sights, sounds or blows. Food is taken in an irregular manner and the patient frequently holds grass or hay in the mouth for some time without moving the jaws. The expression is stupid with no sense of surroundings. Experience does not justify hope of a satisfactory cure.

STAGGERS AND EPILEPSY—This ailment in its mode of invasion somewhat resembles apoplexy and may be caused in many ways, chief of which is pressure on the collar giving rise to congestion of the brain. The proof of this is the fact that animals, subject to the attacks when working in collars, were free from them when a breast strap was used.

In some rare instances the attack is due to brain affection and it then resembles epilepsy, which comes on at fairly regular intervals, with little or no warning, accompanied with convulsions and unconsciousness.

SYMPTOMS—The horse suddenly throws his head about, stops, staggers and even falls. There is fullness of blood in the head, quickened breathing and often convulsions and loss of consciousness.

TREATMENT—The only treatment which will prove of any avail in mitigating the nervous ailments above described, would be a constitutional one which would serve to tone up the system and for this purpose give 2-ounces of "GILES" three times a day, and an occasional rectal injection of 2-ounces once a day has been found particularly efficient in mild cases or at commencement of manifestations of any nervous troubles.

WOUNDS AND BRUISES.

BRUSHING, SPEEDY CUTTING.

INJURIES from external violence may be classed as clean cuts, punctures, lacerated wounds such as broken knees and bruises. One of the first things of importance in case of open wounds is to keep out poison germs, especially putrefactive or pus germs. The skin and mucous membrane protect the body with considerable efficiency from the action of bacteria, but when either of these coverings become injured by a wound or bruise, the underlying tissues are rendered specially open to attack, as seen by the tendency to form pus, which readily dissolves surrounding tissue. Pus may appear as a discharge from a wound or in a collection of fluid as in an abscess, the skin covering which becomes thin and weak owing to the corroding action of the pus, with the result that if in a circumscribed sac, the abscess will point, or "come to a head."

Contusions or bruises may, for convenience, be divided into two kind, those in which there is infusion beneath the skin without marked injury to the parts beneath it and those in which the tissues below the skin are severely hurt. In these injuries there will always be a rupture of at least some of the smaller blood vessels and the swelling will consist of blood as well as serum.

OVER REACHES—Wounds or bruises caused by hind shoe or hoof striking the fore leg. In a shod horse it is generally inflicted by the inner edge of the toe of the hind shoe, and the wound will usually take the form of a flap. In exceptional cases, especially when leaping, it may be made by the front part of the toe of the shoe when it will almost always occur above the fetlock. The injury is usually on the soft horn just above the heels, on the coronet a little in front of the heels, that is, on the rear part of the inside or outside quarter, or on the back tendons.

BRUSHING—Is caused by the outer edge of the inner quarter of the shoe or by the rough clinches of its nails, wounding the opposite leg,

generally on the fetlock. Sometimes the injury is inflicted higher up, or on the coronet or even on the hoof; the pastern is seldom injured in this manner.

SPEEDY CUTTING—The term interfering is sometimes used for both brushing and speedy cutting. In the latter the horse wounds the inside of one leg near the knee or hock with the other fore or hind foot. In the great majority of cases the injury is inflicted on the fore leg, although horses have been known to speedy cut on both hind legs just below the hocks, while some hit themselves on the cannon bone half way between the knee and fetlock.

SYMPTOMS—There is heat and swelling with more or less fever and pain. In two or three days an abscess may appear. Sometimes the part is wounded rather than bruised.

TREATMENT—For over reaches, brushing, speedy cutting and all open wounds: In all open wounds which do not penetrate deeply, to a slightly moist, soft sponge apply some of the remedy and with it gently absorb the blood which exudes until the hemorrhage nearly or quite ceases. Then apply oakum or a pad of cheese cloth which has been well saturated with "GILES" to the wound and hold in place by a loose bandage. Keep the dressing, which may be allowed to remain two or three days well saturated with the remedy. Upon removing the dressing the wound should be gently cleansed of all foreign matter, by the use of a clean, soft cloth wet with the remedy and the dressing renewed until the injury is nearly healed when it may be left open to the air; but the remedy should be gently applied two or three times a day to keep the edges soft and prevent the forming of a scab. This treatment will, in the case of all clean cut wounds heal them without a scar, and in the case of ragged wounds will reduce the size of the scar to a minimum.

DEEP WOUNDS—In most cases the hemorrhages can be stopped by the use of a damp sponge saturated with "GILES" as above described, after which the remedy should be syringed into the opening to the extent of the injury. If a pocket or open abscess, containing pus should form, a long, narrow strip of cheese cloth or gauze well saturated with the remedy should be introduced to the full extent of the wound and the pocket or cavity filled with it, leaving an end projecting slightly from the mouth of the wound. This packing should be allowed to remain for twelve hours when it should be removed, the cavity well syringed with the remedy and packing renewed. Any purulent matter which shows should be wiped away with a clean, rough cloth wet with the remedy. This treatment will cause a deep wound to heal from the bottom quickly and proper application of the remedy to the surface will cause it to heal and leave but little or no scar.

WOUNDS ON OR NEAR THE JOINTS—The formation of an open joint is one of the most serious accidents that can happen to a horse, as it is apt to cause constitutional disturbance and death or a permanently stiff joint. The injury usually occurs on the knee, fetlock or hock, gen-

erally caused by falls, kicks or inexperienced probing about an injured joint.

SYMPTOMS—The wound will have an ordinary appearance if the joint has not been opened or seriously injured, except that there may be a flow of oil (joint water), which may take place from wounded synovial sacs without the joint having been penetrated. The discharge becomes more and more unhealthy in case of an inflamed joint until it becomes mixed with pus and blood giving off a fetid odor. The joint swells after two or three days, with high fever and becomes painful. Death often results from exhaustion.

TREATMENT—Care should be taken in probing all wounds which are near the joints not to puncture the articular cartilage between the ends of the bones forming the joint, as a serious condition is apt to result. When the puncture of this protective cartilage is the result of an injury, it constitutes a wound which is often extremely difficult to heal. The best treatment is the liberal application of "GILES" which in its nature is healing and soothing and is most effective for the prevention or removal of inflammation. The opening of the wound should be kept covered with oakum well saturated with the remedy and held in place by a loose bandage. The supply of "GILES" on the oakum should be renewed at frequent intervals without removal. The dressing need be taken off only occasionally to note the condition of the wound and that any purulent matter may be wiped away with a clean, rough cloth which is first moistened with the remedy. This treatment applied in due time has proven to be productive of the best results.

WOUNDS OF THE ABDOMEN—These are usually caused by jabs with a stable fork, by the horns of cattle, impalement on spiked fence or sharp pointed stake in jumping, in carriage accidents and by various pointed objects. The seriousness of such a wound depends upon the entrance of the object into the abdominal cavity; of the introduction of contaminated matter from the wounded bowel or from the outside; on the extent of the protrusion of the contents of the abdomen, and on the character of the injury to the intestinal organs. The great danger is the setting up of inflammation of the peritoneum; by the escape into it of a portion of the contents of the alimentary canal, or of blood or foreign matter.

TREATMENT—The liberal application of "GILES" to the injury will act to prevent and remove inflammation and the forming of abscesses. If the intestines protrude, they should be carefully cleansed of all foreign substances by the use of a soft cloth wet with the remedy and gently returned to their proper place and held in by a pad made of gauze or cheese cloth which should be kept well soaked with the remedy.

WOUNDS IN THE CHEST—This may result in the same way as those of the abdomen with the addition of wounds by broken ribs, of the lungs and of the membranes which cover them and line the chest. The wounds to be more seriously considered are those which penetrate the

wall of the chest or injure its contents, such as the end of a broken rib might make, because exterior wounds of the chest need no special treatment beyond precautions against their extension into the chest. The usual, although not invariable sign of a lung being wounded is a frothy discharge of blood from the nose. Instead of issuing from the wound, the blood may be discharged into the cavity between the lungs and wall of the chest, which is sure to take place when there is no external outlet for the fluid. Another symptom of internal bleeding will be paleness of the mucous membranes, weakness of pulse, depression of the vital forces from loss of blood and more or less difficulty of breathing caused by the pressure of blood in the pleural sac. The presence of blood in this pleural sac is very dangerous especially in conjunction with an external wound. Emphysema, an accumulation of air in the loose connective tissue under the skin between the muscles and other structures near the surface of the body may occur; or pneumothorax, accumulation of air in the pleural sac from an external opening or wound in the lung; or pleurisy or pneumonia which will respectively follow wounds of the lungs or pleura; or empyema, pus in the pleural sac, brought on by the entrance of germ laden material.

TREATMENT—Treat as directed for punctures and deep wounds. (Pages 79-83.)

BLEEDING AFTER CASTRATION—Serious bleeding may occur after this operation, owing to the unusual size of the artery, weakness of the walls of the blood vessels, unskilful operation or other causes.

TREATMENT—The usual styptics employed are of an irritating nature and leave bad after effects. Liberal applications of "GILES" will in most cases prove effective in stopping the hemorrhages and prevent subsequent inflammation.

PERITONITIS—Inflammation of the peritoneum, which is the smooth, glistening membrane which lines the walls of the abdomen and covers the stomach, liver, spleen, intestines and other abdominal organs. It descends at each side through the inguinal canal, lines the scrotum and covers the testicles, thus forming a closed cavity or sac. Peritonitis may be confined to one spot or be diffused more or less over the entire surface. It may be acute or chronic, primitive or secondary to an injury or other affection, although it is almost always acute or secondary. The usual cause is injury to the peritoneum, as in castration, penetration of the abdomen, hernia and foaling. It may be brought on by drinking an excessive quantity of cold water or the eating of large quantities of snow or ice.

SYMPTOMS—High arterial pressure shown by frequent and wiry pulse; hurried breathing, rigidity and distension of the abdomen which is very painful to the touch; arching of the back and tucking up of the belly, great depression and distress, disinclination to move, painful attempts to void the urine and coldness of ears and legs. To the last the lungs seem to act well, but the heart appears unable to supply them with blood.

TREATMENT—Treatment as instructed for colic (page 53) and liberal external application will afford the best possible means of relief.

BRUISES—HARNESS GALLS,

POLL EVIL, PUNCTURES.

BROKEN KNEES is any wound inflicted on a horse's knees by falling or hitting them. The injury is sometimes so severe that the tendon is crushed and may slough off after four or five days and leave the joint exposed. Whether this occurs either by sloughing or laceration, there is great danger and in the event of recovery, the animal will have a stiff knee joint. This may also be complicated with a fracture of one or more of the bones of the knee.

HARNESS GALLS—The saddle pad of the harness is liable to injure the withers in the same way as a riding saddle. The shoulders, breast and neck may be galled by the collar or breast harness and the sides of the traces. See treatment under galls and surface sores.

POLL EVIL (Fistula of the poll)—This is an inflamed condition which tends to the formation of deep-seated tubular abscesses on the top of the neck immediately behind the ears, the result of injury. Among the causes of poll evil are chafing by the halter or heavy bridle, from blows on the part, or from the horse striking his head against a hay rack, low doors, beams of the ceiling, etc. Cases of it have been seen in work horses which rub the poll against hard objects when suffering from irritation caused by wearing heavy, ill fitting bridles. The parasites, *discomysis equi*, will gain entrance to the poll-evil sore.

SYMPTOMS—The existence of a fistulous ulcer of the poll may first be indicated by the opposition of the animal to the stable brush or bridle. The part is then so sore and sensitive that disagreeable stable habits may be acquired by the animal unless carefully handled. Abscesses form and break out on the surface of the skin, which are usually smaller at the opening than at the bottom, provided with a pipe or sack and pockets may also form, in which case there is danger that the internal ligaments or even some of the bones have become affected. In the early stages, a swelling about the size of a mole is observed, which is soft, feels as if full of fluid and is hot and painful. As the trouble progresses the swelling becomes hard and diffuse and the patient carries his head stiffly on account of the pain. Later the inflammation of the surrounding tissues may disappear, leaving a prominent tumor. The swelling may open and form a running ulcer, or its contents may dry up and leave a tumor which gradually develops the common characteristics of a fibrous tumor. Again, there may be only a regular abscess wall with no pockets or sinuses. Death may occur from exhaustion or from pus gaining entrance to the spinal cord, especially in cases where the abscess contains pipes or tubes, or pockets.

TREATMENT—Apply "GILES" liberally to the full extent of the

injury with as much rubbing as conditions will permit. Repeat three or four times daily and if the location of the injury makes it convenient, apply oakum saturated with the remedy and held in place by a loose bandage. Keep the oakum well soaked with the remedy. Should an abscess form and show signs of opening, it should not be operated on until there is apparent certainty that the suppuration is just beneath the skin, when it may be lanced and the opening made of sufficient size to admit of the introduction of packing to the full extent of the abscess, with cheese cloth or gauze saturated with the remedy. A long, narrow strip is best for the purpose and the probe, which is part of the GILES VETERINARY OUTFIT, is the most convenient instrument to aid in packing it. The abscess should be probed at each daily dressing to find its full extent or the existence of any branches, called pockets. The packing should be renewed at each dressing, the wound thoroughly syringed out with the remedy and as much pus and foreign matter as possible, without causing the animal too much suffering, be wiped away with a clean, rough cloth moistened with the remedy, after which the packing should be renewed. After a few days of this treatment, the pipe or sac which acts as a feeder, can easily be distinguished with the probe and can readily be extracted. The abscess will then heal from the bottom if the treatment as directed is faithfully followed.

WOUNDS OF THE MOUTH—Injuries of this character are usually made by the bit, especially with recently broken animals, the interdental spaces and corners of the mouth being the chief parts injured. The tongue is also sometimes injured by holding it when giving a ball; the tongue, bars and chin groove have been cruelly hurt by a twitch; a curb bit or even a twisted snaffle or one made of chain often bruises and lacerates the bars when sawn through the mouth. The action of a severe curb bit sometimes injures the bone of the lower jaw and even fractures it, while a sharp, tight curb chain frequently wounds the chin groove and lips.

TREATMENT—The most effective treatment after mitigating the cause, is to bathe the lacerations with a soft sponge wet with "GILES."

PUNCTURES—Such accidents are most common about the knee, fetlock and fore arm, when the latter part is so injured, the consequences are likely to be serious, owing to the tendency of the forming pus to work down toward the knee by reason of the fibrous nature of the forearm. In case a thorn penetrates the skin near a joint, the seriousness of the injury may be observed by the extent of the ensuing lameness. Capped knee and capped fetlock are sometimes caused by thorns penetrating the synovial sacs of the joints.

TREATMENT—Bathe the vicinity of the injury with "GILES" and introduce as much as possible into the opening. The opening should not be allowed to close until it is healed from the bottom, as serious abscess and blood poison may result. Unless the injury heals from first intention the cavity should be packed to the bottom with a narrow strip of cloth which has first been saturated with "GILES." It should be

packed full and the end be allowed to protrude from the opening to aid in its withdrawal. This packing should be removed every twenty-four hours, the cavity well syringed out with the remedy and the packing replaced. At each subsequent dressing the extent of the wound will appear to be less by reason of its healing from the bottom. The wound should be gently probed occasionally to ascertain if there be any branch openings or pockets and if found they should be packed and treated as herein directed.

GALLS AND SURFACE SORES—These are usually caused by an abrasion of the skin from a rough, ill-fitting saddle or collar, or contact with some other surface which removes the hair and scarf skin and injures the true skin. If these injuries are neglected, they will render the animal unfit for work; but if properly treated and the cause removed, will prove of slight consequence.

TREATMENT—Apply "GILES" liberally to the raw surface with a small wad of oakum and if the horse is continued at work, relieve the pressure from the galled place as much as possible. Apply the remedy as frequently as circumstances will permit and immediately upon removal of saddle or harness. In case of old galls and sore backs, where a hard scab is formed, the scab should be softened by frequent application of the remedy and removed. Pus will often be found beneath these scabs, which should be well wiped away with a clean, rough cloth wet with "GILES." Any slight bleeding which may occur, but improves the condition of the sore. Frequent application of "GILES" to the sore will result in the removal of inflammation and soreness and its healing without a scab. A convenient method of treatment is to mix wheat flour with "GILES" to the consistency of a paste and apply as an ointment. This paste will be found most convenient and effective as a healer without danger of drying up the sore too rapidly at the surface and leaving an unhealthy condition underneath as does many of the healing powders and so-called gall cures.

FOR BURNS AND SCALDS.

LEADING authorities divide these injuries into burns of the first degree, in which only the hair has been consumed and slight inflammation of the skin set up; burns of the second degree in which blisters and pustules have been produced, and burns of the third degree in which the skin has become charred, with or without grave results. The burn or scald injures by nervous shock.

TREATMENT—"GILES" is the most potent and quickly effective application possible for burns and scalds of every nature and wherever located. Its liberal application to the injured part will have the effect of instant relief and its continued liberal use will remove all inflammation and pain and cause the injury to heal in most instances, without a scar. A pad of gauze or cheese cloth the size of the injury and thoroughly saturated with "GILES" should be applied and held in place by a loose bandage. The dressing should be kept thoroughly wet with

the remedy without removal. The use of the paste dressing (page 24) is an effective mode of application, as thereby the air is excluded. More of the remedy may be added from time to time without removal of the dressing as with the pad. Rope burns which are ordinarily difficult of healing may be quickly cured by this treatment. In cases of severe burns and scalds, the intense pain will cause a rise in temperature and 2-ounce doses of "GILES" should be administered every one to three hours to counteract the constitutional disturbance. An occasional rectal injection of 2-ounces during the treatment is recommended.

LIGHTNING STROKE—Horses may receive an electric shock from lightning or from a live wire which may cause instant death or more or less unconsciousness and paralysis. Aside from the effect on the nerves the electricity may burn the skin, hair and underlying structures, may tear the soft parts and even break the bones.

TREATMENT—Liberal administration of "GILES" as relief from constitutional disturbance and the directions for burns and scalds (page 84) will prove the best possible treatment.

FROSTBITE—This is usually confined to the frog of the foot, giving rise to thrush, and to the skin of the pastern. Salt strewn on snow to melt it is frequently the cause of frostbite in the feet. The cause of frostbite is due to the fact that if the blood is driven out of any part for two or three minutes, inflammation will set up if the blood is allowed to return to the vessels, especially in large quantities. If the blood vessels continue to be deprived of blood for a comparatively long period, they will become incapable of receiving any blood and the part will remain dead and suppuration will be set up in healthy adjoining tissue and the dead part become separated. In cases which admit of recovery the inflammation caused by the re-entrance of the blood will not be sufficiently intense to cause destruction of the part, but the readmission of the blood should be very regular, for the greater the amount the greater the irritation.

TREATMENT—Apply "GILES" liberally to the affected part on oakum or the paste. (Page 24.)

ECZEMA OF THE PASTERNS

SCRATCHES, CRACKED HEELS AND GREASE (Eczema of the pastern)—An inflamed condition of the skin at the back of the pastern, produced by irritation; mild cases being called cracked heels or scratches, bad ones, grease. The large, warty growths which sometimes accompany grease, are called grapes. The local circulation of the blood being interfered with any destruction of the tissues forming the epidermis or scarf skin, irritates the true skin and renders the animal more susceptible to these conditions. Germs easily gain entrance to cracked heels, infect the part and produce the condition of grease. Moisture and filth in a stable as well as the ammonia are largely re-

sponsible for these troubles. Dew taken up by the feet from the ground, sweat running down and drying on the pasterns, especially if a cold wind be blowing, are often the first cause of the trouble. Feeding horses on unwholesome oats is a predisposing influence. White pasterns, as a rule, especially in pleasure horses, are more liable to the affection than dark ones, because the dirt showing more prominently on the white, they are more frequently washed, therefore subject to more moisture. Cold has a marked effect in producing the trouble by drawing the blood from the pastern for a time and on its return the inflammation is set up. Want of exercise has a predisposing influence. High feeding will also predispose the animal to inflammatory attacks of the skin as well as of other parts.

SYMPTOMS—The secretion of oil is interfered with when inflammation is set up in the part and cracks usually occur in the places where the skin becomes wrinkled when the pastern joints are bent. The discharge from the pustules has an offensive odor and exerts an irritating effect on the skin, which becomes thickened according to the degree of inflammation. In the progress of the ailment the hair over the part falls out and the cracks become filled with hard, fibrous tissue, which in severe cases stands out in thick ridges. In grapes the papillæ of the skin are affected and warts, which may in extreme cases, be as large as a man's fist, appear on the surface. In case there is no discharge, the surface of the part will be covered with horny growths of a mealy appearance.

TREATMENT—In mild cases "GILES" should be applied and gently rubbed in to the cracks and openings with a small piece of soft cloth or the tips of the fingers. When previous applications of salves, ointments, etc., have been made, treatment should commence by thoroughly saturating a wad of oakum and binding it on the affected part with a loose bandage. Remove after twelve hours when much of the soreness will be gone. Cleanse the sores with a clean, rough cloth wet with the remedy, and use no water. By this means remove all foreign matter and apply a fresh wad of oakum as before. This treatment is most effective for removing soreness and sores. During treatment the condition of the blood should be looked after by administering 2-ounce doses of "GILES" three or four times a day and a rectal injection of like amount once a day for several days. After which a constitutional treatment of 2-ounce doses twice a day should be followed for a time to effectually change the condition of the blood which manifests itself in the susceptibility of the skin to irritation. When horses are worked during treatment, the bandages should be removed in the morning and replaced at night after wiping away the accumulated dirt with a clean, rough rag wet with the remedy.

Chronic cases of grease which are not amenable to the above treatment, will require more effective measures. The administration by the mouth should be increased to purify the blood and renovate the system and in serious cases if the sores refuse to heal, they may be cauterized with a hot iron, after which liberal application of the remedy will cause

them to slough and assume a healthy condition. They will then soon heal on continued application of the remedy.

AFFECTIONS OF THE SKIN, FORMS OF ECZEMA, WARTS.

IS an inflammation of the skin which is accompanied with an eruption of pimples that become filled with serum which may escape or dry up, leaving scabs or scales on the skin. When infected with putrefactive germs, pus is formed instead of serum. These eruptions may be scattered or collected in groups of various forms. This trouble may be primarily caused by anything that interferes with the healthy action of the skin, such as checked perspiration; errors in feeding; irritation from wearing woolen or dirty clothing; allowing dirt to accumulate on the skin; want of grooming; a heated state of the skin, or by infection. The root of the tail is often the chief point of attack, or the eruptions may extend over any part of the body, the neck, shoulders, flanks, insides of thighs and root of the tail being the usual spots attacked.

TREATMENT—Apply the remedy to the sore spots by means of a small wad of oakum and constitutional doses of 2-ounces two or three times a day and an occasional rectal injection of like amount is recommended as the most effective treatment for this trouble.

ECZEMA OF THE TAIL (Itchy Tail)—Is an irritable condition of the dock which induces the horse to rub it against any convenient object. This act is prompted by the skin of the part being affected, from the end of the tail being sore after docking, or by reflex action due to worms. Dirt is a frequent cause of this condition as well as itchiness of the mane.

TREATMENT—Give the tail a good brushing and apply the remedy, rubbing it in well with the points of the fingers. Then give the constitutional treatment as prescribed for simple eczema.

ECZEMA OF THE LEGS AND ABDOMEN (Mud Fever)—Is an inflammation of the skin of the legs which sometimes extends to the belly and is caused by the action of moisture and mud, and particularly from the habit of washing the legs after work through wet and dirt. There is usually present a certain amount of fever brought on by the irritation of the skin. The legs become sore. As in cracked heels the oil glands do not furnish enough oil to keep the affected skin in a soft, pliable condition. The practice of clipping horses' legs is a strong, predisposing cause of this trouble as well as of cracked heels.

TREATMENT—Liberal applications of "GILES" to the affected parts thoroughly but gently rubbed in, together with the constitutional treatment prescribed for scratches and grease will prove most effective in the treatment of this trouble.

NETTLE RASH OR URTICARIA (Surfeit)—An eruption of small, irregular lumps or boils which break out suddenly, as a rule, on the horse's body and neck and rarely on the legs. In saddle horses the favor-

its seat of the eruption is on the upper part of the back where the saddle bears. Sometimes after two or three days the lumps form scabs which usually fall off, leaving a hairless patch of skin, and these spots usually remain as permanent marks on the coat.

Surfeit is usually caused by food which disturbs the digestion and is of germ origin.

TREATMENT—Administer constitutional treatment of "GILES" 2-ounces three to four times a day and a rectal injection of 2-ounces once a day for four or five days, to be followed for some time with 2-ounces two or three times a day and an occasional rectal injection. Apply the remedy to the sore spots with a wad of oakum. This treatment has in every known case proven promptly effective where others have failed.

SCALY ECZEMA (Pityriasis or Psoriasis)—Like simple eczema is an affection of the skin which starts in the epidermis and gets into the blood through its irritation of the true skin. There is no difference between it and simple eczema, except that it is a more advanced or chronic stage. The scaly stage of eczema is often accompanied by cracks in the affected skin, the inflammation interfering with the oil glands and also causing thickening of the part. The cracks exude serum and blood in severe cases, which aid in the formation of scabs. When it is seen behind the knees it is called "mallenders," and when in front of the hocks, "sallenders." It also appears on the neck just in front of the withers and on the upper surface of the root of the tail.

TREATMENT—Rubbing the remedy well into the sore and giving constitutional treatment as recommended for grease will result favorably.

WARTS AND NÆVI—A formation of excrescences due to an impaired state of the vitality of the skin caused by uncleanness and impurity of the blood. Warts are generally found on the lower part of the belly, on the lips, nostrils and eyelids; about the sheath and penis of the horse and the udder of the mare. Nævi are tumors formed by new growths of blood vessels. They resemble warts somewhat in appearance, but have a broader base and are more inclined to bleed from injury. They indicate an unhealthy condition of the blood.

TREATMENT—In case of warts when the skin is not broken the remedy should be liberally applied and thoroughly rubbed in with the points of the fingers to produce an irritation. After soreness prevails, the remedy should be frequently applied, but with less friction. This should have the effect of creating a circulation and the removal of the bunch by absorption. Nævi being a small tumor or ulcer, sometimes termed a rose cancer, will best be treated by cauterizing slightly with a hot iron at intervals of two or three days. In the meantime frequent applications of the remedy should be made. This treatment has proven most effective in the removal and thorough healing of these sores.

WARTS ON THE PENIS—In most cases these can be readily pinched off. After which, the remedy should be liberally applied, which will result in the healing of the sore promptly. Extra large warts may be clipped off with a pair of shears, and the bleeding abated by cauter-

ization, after which the remedy should be applied daily until fully healed.

HIDEBOUND—While not in itself a distinctive ailment, is a marked symptom of ill-health and accompanies or precedes many serious ailments. The skin becomes dry and hard and is tight all over the body, so that it is difficult to pinch it up anywhere over the ribs. It is usually brought on by indigestion, derangement of the liver or worms.

TREATMENT—Constitutional treatment by the administration of 2-ounce doses three or four times a day and a rectal injection of like amount twice a day for two or three days and then less often for ten days or two weeks will induce healthy circulation, improve the appetite and put the digestive organs in proper condition. If worms are manifest, treatment should be accorded as for worms. (Page 72.)

LEUCODERMA—An abnormal white condition of the skin which occurs in patches on various parts of the body. It appears to be confined to the thin skin of the face, especially about the nostrils and around the eyes, under the surface of the tail, and parts between the hind legs, from the anus to the sheath or udder. These patches are liable to increase or decrease in size without any apparent cause. Although it is unsightly, it has no effect on the health of the parts. About all that is known of it is that there is a deficiency of pigment under the skin.

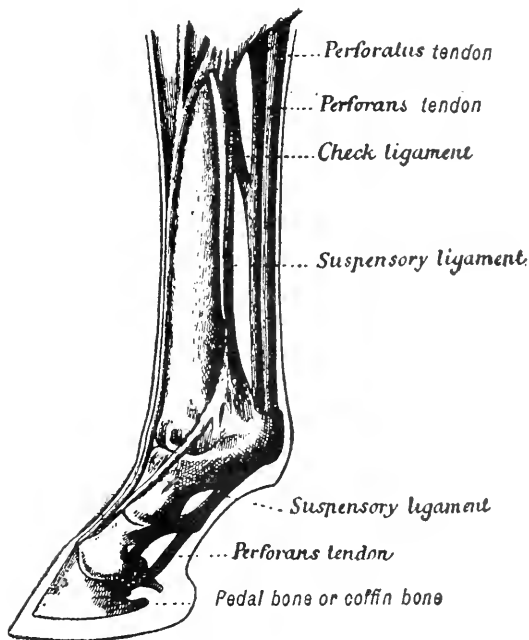


Diagram of bones, tendons, and ligaments of near fore leg.

INJURIES TO LIGAMENTS, TENDONS, JOINTS, MUSCLES.

AN injury to ligament, tendon, joint or muscle, caused by an excessive pull or twist or by the repeated application of such injurious force, with the result that the fibres of the part are more or less broken, overstretched or torn away from the bones or other structures to which they were attached, is a sprain. The ligaments are composed of strong, inelastic tissue, binding together various structures, and are especially exposed to this accident. In the knee, for instance, there are two lateral ligaments fixed on each side of the joint to the ends of the bones immediately above and below it to prevent side play. The joints are protected by capsular ligament and the suspensory ligament aids in preventing the fetlock from coming down on the ground when the horse puts his weight on the foot. The sinews, or tendons, are of the same composition as the ligaments and are strong, inelastic to connect the muscles to the bones, being spliced on to a muscle at one end and attached to a bone at the other. The muscles give rise to the movements of the body by their power of contraction.

Ligaments as well as tendons may break right across or they may tear here and there, especially small portions of them, so that the whole thickness is not broken across at any one spot, but they will not stretch. When, however, there happens to be a continuous strain for some time they may become elongated, due to the slight inflammation then present softening the fibres until they yield. Commonly the ligaments separate from the bone, although they sometimes give way in the middle or wrench from it a small, thin scale corresponding to their attachment, due in part to the arrangement of their fibres. Ligaments are woven strongly together in the center, but are spread out like a fan at their ends in order to secure wider attachment. One that will withstand a straight pull of great violence, will yield to a twisting force which pulls the fibres one by one, tearing them loose. Muscular fibres may also be more or less torn from sprain.

TREATMENT—As soon after the injury as possible the part should be liberally bathed with "GILES" and hand rubbed, gently at first, until part of the soreness is removed, then with increased friction. This hand rubbing should be continued from thirty minutes to one hour. After which the application of a paste made from mixing wheat flour with "GILES" to a proper consistency to admit of its being spread on a cloth and applied to the injured part, held firmly in place by a bandage. Care should be taken not to draw the bandage tight enough to interfere with

the circulation. More of the remedy may be applied from time to time as needed, by syringing it into the top so that the plaster may be kept well moistened. This dressing may be allowed to remain on two or three days, depending on the extent of the injury. This application of the remedy will exclude the air and give the absorbative and sweating qualities of "GILES" opportunity to do most effective work in removing fever and inflammation from the muscles and tendons, which are the prime cause of all pain and soreness.

FILLED LEGS—This term is used to designate legs in which there is more or less swelling due to passive congestion, as a rule. Sprains from work, etc., are common causes of the trouble. In severe cases there is unnatural heat and tenderness and sometimes the tendons and ligaments are affected. In aged horses slightly filled or worn legs do not affect their soundness greatly so long as there is no unnatural heat and the tendons and ligaments are normal. The case is different with young horses, however.

TREATMENT—A thorough application of "GILES" and liberal hand rubbing will act to remove soreness from muscles and tendons, after which apply a plaster of the remedy (see directions for making on page 24). The plaster should be firmly but not too tightly held in place by a bandage. It may be removed after ten or twelve hours if the horse is to be worked, or it may remain and more of the remedy added from the top to keep it well saturated. This mode of application of the remedy by exclusion of the air from the part renders more effective the absorbative and sweating qualities. This may be applied as often as is thought necessary, always with good results. During the treatment constitutional doses should be administered of 2-ounces two or three times a day and an occasional rectal injection of 2-ounces to keep the circulation in normal condition.

CURB—In a full sized horse this swelling appears at the back of the hock about six inches below its point. The enlargement displaces the tendons, at the spot, deflecting them from the naturally straight course from the point of the hock to the fetlock. In time the swelling will spread upward and downward. A prominence resembling somewhat that of curb may be observed when the external splint bone is unusually large, from the outside, but will not be apparent when the joint is seen from the other side. An examination should be made to see if the back tendons are straight.

TREATMENT—Apply "GILES" liberally to the affected part and rub in thoroughly, using the points of the fingers to create an irritation. This should be done every two or three hours the first day and the next the remedy should be liberally applied, but the rubbing less severe. Rubbing with a glass bottle or other smooth, hard surface will be beneficial. Continue this application and rubbing until it looks something like a blister, after which the remedy should be applied gently two or three times daily until the scurf and scales are removed from the part. Brushing of the part will help the removal of the scales, under which a

new crop of hair will show. If the bunch or swelling is not entirely removed by one course of treatment, as directed, the treatment should be continued as before. Daily exercise should be given the animal and light work during treatment will be beneficial if he does not show too much lameness. Benefit will accrue from constitutional doses of 2-ounces two or three times a day and an occasional rectal injection of like amount.

SFRUNG HOCK—This is a severe sprain of the joint, complicated with considerable swelling and extreme lameness. The swelling is both above and below the inner and back view of the hock. The back, or perforans tendon may also be sprained. The injury is accompanied by high fever and pain.

TREATMENT—Apply "GILES" to the affected part as directed in treatment for curb and in addition apply plaster. (See directions on page 24).

SPRAIN OF THE SHOULDER—It is often difficult to locate the point of injury in shoulder lameness on account of the shoulder being so large and its parts being concealed from sight and touch. A sprain of the pectoral muscles is generally regarded as a frequent cause of lameness, because of the fact that those muscles are then unable to keep the shoulder joint close to the body; but this inability is also seen when the first rib is fractured. There may also be a sprain of the flexor brachii, or the capsular ligament, an injury to the nerves of the part or to the joint itself.

The point of the shoulder is seen to bulge out at each step when the pectoral muscles are affected, and the foot is swung outward as it is brought to the front, as in the fracture of the first rib. When the flexor brachii, or the muscle between the shoulder joint and the elbow joint, which raises the fore leg, is hurt, there is, of course, inability to raise it and the leg naturally drags. Wherever the lameness may be the horse will take a very short step to the front, and on being reined back will be inclined to drag the foot along the ground, from inability to raise it. In all cases lifting up the leg and drawing it forward will hurt the horse, because of rendering the pectoral muscles and the flexor brachii tense and will extend the shoulder joint. In doing this, however, restlessness should not be mistaken for soreness. Both shoulders should be compared and examination made for any local heat, swelling or tenderness. If sprain of the shoulder is not relieved it will soon be followed by a wasting away of its muscles. A sprain of the flexor brachii, which is a hard, tendon-like muscle, is apt to turn it more or less into bone, if unrelieved, while a sprain of the capsular ligament may lead to stiffening of the shoulder joint. Often an injury to the foot which affects the nerves will give an appearance of shoulder lameness; but a careful examination and moving the animal backward, forward and sideways, should aid greatly in locating the seat of the trouble. There is less shoulder lameness than is generally supposed; but when taken in time and properly treated it will not materially decrease the value of the animal.

TREATMENT—In real shoulder lameness rest and a liberal rubbing

with "GILES" will be found most effective. A constitutional treatment of 2-ounce doses three times a day and an occasional rectal injection of a like amount is important.

SWEENY—This is a partial paralysis and wasting away of the muscles of the shoulder which may be caused either by a direct injury followed by swelling and inflammation or the result of disuse of the muscles of the shoulder by reason of an injury to the foot or the leg below the knee. This continued lack of action decreases the circulation of the blood and consequent deadening of the nerves. This gradual wasting away of the muscles will cause the animal to shorten his stride and carry the foot outward, and during the rest to place the foot forward and outward, and in some cases to drop at the elbow to relieve pressure on the shoulder. Sweeny most often occurs in young horses which are put to heavy work in badly fitting collars, or which work with the head constantly to one side, causing the greater draft to bear on one shoulder.

TREATMENT—The wasting away of the muscles of the shoulder will be prevented if proper treatment of the injury is afforded. Bathing the injured part with "GILES" to remove the soreness. When a shrinkage of the muscles of the shoulder is apparent liberal applications of the remedy should be made and thoroughly rubbed in, using the points of the fingers to create as much irritation as possible. This treatment should be applied three or four times a day for two or three days or until a condition is induced similar to the effects of a blister, after which the application should continue two or three times a day but with less rubbing until the scurf and scales are entirely removed and a new crop of hair shows underneath. If by one course of this treatment the muscles are not restored to their natural condition the same treatment should be repeated. When properly and faithfully applied this method has never failed of a prompt and satisfactory cure, and will afford much better results than are possible from blisters, setons or sharp, penetrating liniment, and much suffering is thereby spared the horse. Moderate exercise, when lameness will permit, is an important factor in recovery.

SPRAINS OF ELBOW AND HIP—May be determined by the presence of lameness with swelling, heat and pain, as well as from the absence of symptoms of ailment in other parts. A horse evinces great dislike to putting weight on the leg in elbow lameness. When a horse goes lame behind the hip joint is a favorite spot for locating the trouble, yet it is seldom affected. The hock is the usual seat of lameness in the hind leg.

TREATMENT—When the lameness is unmistakably located in the region of the hip, or elbow joint, the part should be liberally bathed with "GILES" and well rubbed in. This treatment should be applied two or three times a day and the horse made to walk, if only a few steps, at each treatment. This will serve to prevent withering of the muscles of

the hip. (Hip swoeny.) Constitutional treatment of 2-ounce doses two or three times a day and an occasional rectal injection of like amount should be given.

SPRAINED BACK—This accident may sprain the ligaments which connect the vertebra of the loins and back together; or the under-cut muscies; or the large muscle which runs on each side of the back bone along the loins and back. These injuries may be caused by jumping, drawing a heavy load or by violent efforts to straighten the back; by efforts to bend the back in slipping, or by the hind legs being caught in a fence when jumping, or by falling. There is more or less paralysis of the hind legs.

TREATMENT—Apply "GILES" liberally to the affected part, well rubbed in. In addition, bathe the rear of the abdomen and the inside of the hind legs where the glands will be generally found to be enlarged. Give the constitutional treatment of 2-ounce doses two or three times a day and an occasional rectal injection of like amount. Give some exercise daily by walking about the stable, if condition will permit.

SPRAIN OF THE SUSPENSORY LIGAMENT—This ligament is a strong, fibrous cord which lies at the back of and close to the cannon bone. It acts as a powerful brace for preventing the fetlock from coming too near the ground. A rupture of this ligament is termed a break down and may occur in many ways. Speed or race horses are liable to it from being ridden on hard ground and from fatigue. It may occur in any horse when getting up from a slippery floor or pavement on account of excessive extension of the fetlock joints when the fore legs are stretched out to the front, the weight being placed on the heels. In work horses the sprain usually occurs in the hind legs, due to extreme extension of the foot as in going down hill with a heavy load behind.

SPRAIN OF THE BACK TENDONS AND CHECK LIGAMENT—There is more or less swelling of the upper half of the leg between the knee and fetlock, as sprain of this ligament usually occurs at its junction with the perforans tendon. The ligament becomes hot, tender and swollen soon after the accident, as may be learned by passing the fingers over the part that lies between the back tendons and the cannon bone, extending from immediately below the knee to about one-third of the way to the fetlock. The seat of the injury may be determined by observing that the back tendons and suspensory ligament are at first unaffected. In a day or two the back tendons, looking at them sideways, will have a more or less bowed appearance on account of the exudation invading them. There will be heat and fullness in cases of mild injury to this ligament, with a little lameness; but in severe cases the lameness will be well marked. After a severe sprain of the check ligament there is often a thickening somewhat in the form of a knot at the point where the ligament joins the tendon, some three inches below the knee, usually more on the inner side of the leg than the outer, with no appearance of a knot on the back tendons.

SPRAIN OF THE BACK TENDONS—As a rule, the perforans tendon is sprained at a point where it passes over the fetlock. If the injury is severe the swelling will usually extend to the perforatus. Usually there is a great deal of swelling above the fetlock joint with lameness, heat and pain. Before the swelling takes place the seat of the sprain may be found by feeling the tendons, which will assume a bowed appearance unless the injury is very slight. The bow caused by a sprain of the check ligament is naturally further up. It is often so slight that only a practised eye can detect it.

SPRAIN OF THE FETLOCK JOINT—It is often difficult to discover the cause of injury to the fetlock joint, whether of sprain, concussion or blow, when after work it is discovered to be hot and swollen, whether accompanied by lameness or not. When concussion alone is the cause the suspensory ligament and back tendons will be in a normal condition at first and the swelling confined to the synovial bursa, which lies between the suspensory ligament and the cannon bone and can be felt in the form of a puffy swelling on each side of the fetlock. When the sprain is more serious, the vacant space between the back tendons and the suspensory ligament just above the joint may also become filled with synovial fluid and form a wind gall. If the bursa, which is between the perforans tendon and the sesamoid bones, is distended so as to form a hard swelling at the back of the fetlock, the case is very serious. This injury is known as sesamoiditis and illy responds to treatment. "Knuckling over" is usually the result of sprain and severe work, due to the relaxation of the lateral ligaments of the fetlock joint. Sometimes it is caused by weakness in young horses.

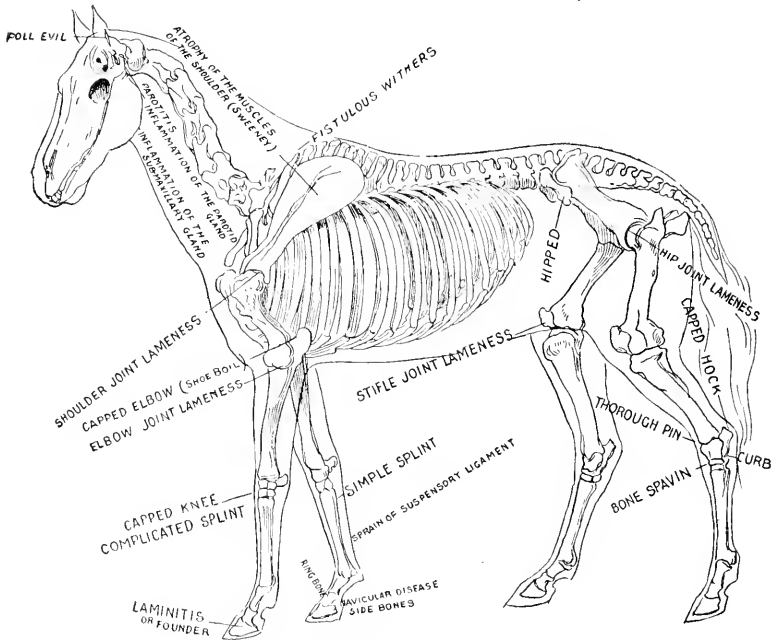
SPRAIN OF THE INFERIOR SESAMOID LIGAMENTS—There are three of these ligaments which lie at the back of the pastern and connected with the pastern bones from the base of the sesamoid bones. Their function is to prevent over-extension of the fetlock joint and to support the limb during muscular repose while the horse is standing, in connection with the perforans tendon and check ligament. The part is swollen, hot and painful to the touch, and the synovial sac, which is back of the pastern, immediately below the fetlock joint, is distended with fluid. There is considerable lameness.

Sprains of the suspensory ligament, of back tendons and check ligament, of back tendons, of fetlock joints, of the inferior sesamoid ligaments, etc., can best be treated as follows:

TREATMENT—Eathe liberally with "GILES" to the extent of the injury and hand rub the part liberally. Apply the plaster (page 24). Give moderate daily exercise and increase as lameness disappears.



LOCATION OF LAMENESS.



SYNOVIAL ENLARGEMENTS.

SYNOVIA is a fluid placed between the joints enclosed in membranous sacs, to diminish friction. Sometimes from injury or weakness, serum may gain entrance to one or more of these sacs and there is a swelling or enlargement of the part. There are three classes of synovial membranes, the functions of which are to line the capsular ligaments of joints, to allow one surface to glide over another and to line a canal or sheath through which a tendon passes. If there is an effusion into a joint causing distension of the capsular ligament there is dropsy of the joint. If one of the other synovial sacs is thus affected the condition is termed dropsy of the bursa. These enlargements, with the exception of capped knee, are signs of work in old horses, as a rule, and weakness in young ones. The overplus of fluid in a majority of cases remains unchanged and little or no inconvenience is suffered. If, however, the enlargement becomes hard and hot it may affect the sound-

ness; but as a rule it will be of little detriment as long as it remains soft and cool. Owing to the enlargement becoming converted into bone or fibrous tissue the hardness may remain after all heat has vanished, then the deposit may interfere with action of joint, tendon or ligament. These enlargements may be symptomatic of serious injury, but their presence when not complicated with other affections rarely lessens the usefulness of the animal.

WINDGALLS OF THE FETLOCK—These are soft, puffy swellings ranging in size from that of a pea to a hen's egg or larger. They become hard through inflammation and are converted into fibrous tissue or bone. Where there is tenderness or lameness the enlargement may be considered a symptom of sprain of tendon or ligament or of inflammation of bone due to concussion.

BOG SPAVIN—Is a soft swelling in front and to the inner side of the hock joint. It is a distended condition of the synovial membrane of the capsular ligament of the true hock joint. It extends up and down the inner front of the joint for about four inches or more. They are frequently found unaccompanied by symptoms of inflammation, while again there is more or less lameness, indicating sprain or other injury to underlying structures, and hard and painful to the touch. Thoroughpins usually accompany large bog spavins.

WINDGALLS BELOW THE HOCK—This is a dropsy of the bursa of the peroneus tendon. It does not appear to diminish the use of the animal.

THOROUGHPIN—The swelling shows back of the hind legs just above the point of the hock and in front of the tendons attached to that part. It is a distended condition of the synovial sheath surrounding the perforans tendon. Some horses are predisposed to thoroughpin, as also to bog spavin. When it is due to sprain of the back tendons it is a grave affection, but when small and not complicated with lameness or heat, they are not considered serious unsoundness.

WINDGALL OF THE KNEE—This is a synovial enlargement which sometimes appears on the upper part of the outer side of the knee. It sometimes attains the size of a man's fist. It usually does not appear to affect the usefulness of the animal.

CAPPED KNEE—Is usually caused by blows or a puncture of the tendon which plays over the synovial sac in the front of the knee. Inflammation is set up in the tendon. The result of the effusion sets up a dropsical condition of one or both of the synovial bursa of the tendon which passes over the front of the knee. Inflammation is set up in the tendon resulting in an effusion of serum into the bursa. When the tendon is affected there is more or less lameness and the trouble becomes serious.

SYNOVIAL CAPPED HOCK—This is due to an enlargement of the synovial bursa between the point of the hock and the tendon which is attached to that bone. The swelling is located on both sides of the point

of the hock. It may be caused by sprain of the tendon or by being struck.

TREATMENT—In the treatment of all enlargements in which the synovial fluid is present efforts should be made to increase the circulation to the part as much as possible. This will be best accomplished by a liberal application of "GILES" and thorough hand rubbing. After which a pressed bandage, that is, a pad the size of the enlargement, should be applied and held in place by a bandage, tight enough to exert some pressure on the enlargement, but not too tight to interfere with free circulation. An elastic bandage is serviceable under certain conditions; but an ordinary bandage should in all cases be under it, and extreme care should be taken that free circulation is not impeded. These bandages should never be allowed to remain longer than from eight to twelve hours, and upon removal the part should be gently hand rubbed. If the horse is in use they may be applied at night and removed in the morning. If this mode of treatment is intelligently followed it is almost certain to afford satisfactory results. While the bandage is off the enlargement will naturally return to some extent; but day by day improvement will be noted and in many instances the enlargement will be effectually removed.

CAPPED WITHERS—A swelling or enlarged condition of the synovial bursa at the top of the withers, due to inflammation as a result of injury. It is soft, movable and does not pit on pressure, in contradistinction to an abscess. It is not hot to the touch and its course is much slower than an abscess.

TREATMENT—Apply "GILES" liberally to enlargement and rub in thoroughly, using the points of the fingers to create irritation and slight inflammation. Follow this treatment two or three times daily, which will cause the part to become tender to the touch. After which liberal applications should be continued, but with less severe rubbing. After a few days the scales and scurf can be removed and a decrease in the size of the enlargement will be noted. Commence over again, rubbing in the remedy and continue this treatment until the bunch is entirely removed by absorption.

TUMORS—SCIRRHOUS CORD.

A TUMOR is a swelling the most readily observable characteristics of malignancy in which are a tendency to recur if locally removed; to extend to tissues other than that in which it originally appeared, and to invade distant parts. These properties are absent in benign swellings, such as splints, warts and capped hocks.

BOTRYOMYCOSIS—Is an abnormal state of the tissues set up by specific germs called *discomyses equi*, which are often met with in scirrhous cord, poll evil, fistulous withers and tumors which form on various parts of the surface of the body. They appear to act as an ag-

gravation of an already existing wound and not as the original cause. These parasites find favorable residence in decaying vegetable matter. The irritation caused by the presence of this fungus gives rise to a growth of fibrous tissue which has a tendency to degenerate and break up in the form of pus.

TREATMENT—The prescribed treatment for abscesses and deep wounds (page 79) will afford the best possible results.

SCIRRHOUS CORD—A hardened and swollen condition of the spermatic cord after the testicle has been removed. The germs of botryomycosis are often met with in scirrhus cord and cause the sinuses and suppuration.

SYMPTOMS—A mushroom-like swelling forms at the end of the divided cord, giving the tumor the appearance of growing from a stalk, or the swelling may extend upward in the substance of the cord in the shape of a more or less elongated cone. In the former case it may hang down outside the scrotum as low as the hocks, while in the latter it may extend to the inguinal canal or even into the abdomen. The affected part of the cord becomes hard and greatly swollen. One or more sinuses form in well developed cases, at the end of the tumor and develop a thick, curdy pus. The scrotum always becomes closely adherent to the tumor. The affected portion of the cord becomes filled with blood vessels and is more or less red. The tumor may affect one or both cords and the movement of the hind legs is more or less impeded.

TREATMENT—A liberal local application of "GILES" and the administration of 2-ounce doses and frequent rectal injections of like amount will be productive of best results.

MELANOSIS—A malignant new growth which occurs in various parts of the body. It takes the form of dark colored tumors which gradually increase in size, usually located on the lower and sometimes the upper surface of the tail, and about the anus, sheath and crest. When it affects the tail or crest the hair over the seat of the ailment falls out after a time. With but few exceptions this ailment is confined to gray horses. The tumors, especially if subjected to friction, will burst and form unhealthy sores which discharge a dark colored fluid.

TREATMENT—Applying the remedy and injecting it into the malignant tumors which have burst will render them less malignant and serve to lessen the discharge. The cause which leads up to the formation of these bunches or tumors does not respond to treatment.

ABOUT SEROUS CYSTS.

A SEROUS cyst is a cavity formed by the excessive action of the serous membranes which secrete the serous fluid, such as fluid found in a blister. There is an effusion of the fluid into connective tissue, the fibres of which form the membranous wall of the cyst which becomes thickened by a new growth of fibrous tissue. These enlargements are especially liable to occur as a result of inflammation immediately underneath such parts of the skin as cover bony prominences,

where a closely confined effusion is more likely to take place than in a part surrounded by soft structures. When the inflammation leaves the bunch or enlargement, circulation to the part ceases and leaves a condition of passive congestion, which seldom causes the horse uneasiness, though unsightly. Serous fluid often accumulates at the back of the elbow or at the point of the hock, causing those parts to become capped as the result of injury.

SHOE BOIL OR CAPPED ELBOW—Is located behind the elbow joint and is the result of a hurt by having the heels of the shoe pressing upon or striking it, or when a horse is lying down the pressure inflicted by a hard floor, lack of bedding or a short halter strap. Tying a horse short induces him to lie on his breast bone with the heels of his front feet close to his elbows. It causes lameness only when actually painful or when its size interferes with movement.

TREATMENT—The inherent qualities of "GILES" in removing congestion wherever located and to promote circulation, affords the means of restoring the veins and arteries of a part to a condition to perform their natural functions. Consequently its continued and faithful use as directed will re-establish circulation about and through a shoe boil which will result in its complete removal by absorption. Treatment should be commenced by irritating the entire surface of the enlargement with the points of the fingers or a curry comb, after which the remedy should be applied and well rubbed in. Generous application and vigorous rubbing should be repeated at frequent intervals, three or four times a day, if convenient, for several days, until the surface is sore to the touch from the irritation created, after which the remedy should be applied as frequently, but with less rubbing. Contraction of the skin and drawing in around the edges will be noted, and most often the bunch, no matter its size, will gradually disappear without opening. Should it become soft at any particular place and show signs of opening it should not be lanced until only the skin need be punctured and the remedy well syringed into the opening and the pus, if any, aided to escape. The entire outer surface of the enlargement should in the meantime be kept well bathed with the remedy. A cure without a scar may be effected and the enlargement no more liable to return than to form at the start. Any hair removed through the application of this treatment will be quickly renewed and should be promoted by light applications of the remedy.

CAPPED HOCK—Is a serous cyst located at the point of the hock between the cap of the perforatus tendon and the skin, usually the result of blows self-inflicted. Horses often injure their hocks by kicking at night, frequently caused by the presence of rats and mice.

TREATMENT—The mode of treatment as directed for capped elbow will result most favorably for the removal of this enlargement.

SEROUS CYST NEAR THE WITHERS—This cyst forms between three and four inches below the top of the withers on one side. Although fluctuating to the touch, it is much deeper seated than an abscess,

which frequently forms near the same spot, as the result of pressure against the side of the withers, from a side saddle, especially on the off side. This form of cyst may be caused by one of the points of a saddle tree pressing against the upper end of the shoulder blade.

TREATMENT—Bunches or enlargements near the withers are caused by bruising the muscles, more commonly from an ill fitting saddle or collar, can be removed by the same mode of treatment as prescribed for capped elbow, when the fluid is between the muscles and the skin; but when the serous fluid is beneath and between the muscles it should be allowed to escape by an opening made at the lower extremity of the enlargement, after which the injury should be bathed and well rubbed with the remedy until all inflammation is removed.

BEST MODE OF TREATING

ALL FOOT AFFECTIONS.

THRUSH—An inflamed condition of the membrane which secretes the horn of the frog. The membrane forms a weak and degraded horn, cheese-like in consistence and readily dissolves under the action of moisture, producing an ill smelling and characteristic discharge. The failure of the secreting membrane to produce sound horn in case of thrush, is the cause of the fissure that exists in the thick part of the frog, while the cleft in the frog of a healthy foot is simply a depression and does not penetrate to the sensitive parts. The two prime causes of thrush are lack of pressure on the frog and the decomposing effect of moist substances that are filled with fermenting organic matter. Greatly aiding the first mentioned cause is the practice of paring the frog and using high heeled shoes, while the dung and urine allowed to accumulate in the stall and failure to keep the feet clear of it is the cause of the latter. When thrush is caused by moisture the frog becomes soft and pulpy; but when induced by lack of pressure there may be little or no discharge from the cleft of the frog, which will be more or less filled with soft, degraded horn and the frog more or less shriveled. When continued pressure on the frog is permitted there is an increased growth of epithelium, and it becomes strong and well developed; otherwise it becomes contracted and diseased. Thrush is more frequently found in the hind than in the fore feet, because the hind feet are more upright and concave, their frogs are less exposed to pressure, while the offal and urine are allowed to accumulate under them in badly managed stables. The horny covering of the frog will rot off in neglected cases.

TREATMENT—Probe the openings to the bottom and remove all unhealthy and foreign matter. See to it that the remedy reaches the full extent of the trouble. Stand the animal in soaking boot with oakum kept well wet with the remedy, and in the absence of a soaking boot bind a wad of oakum on the frog and keep it well saturated. This will be found to be the most quickly effective treatment possible. The com-

mon practice of applying acids and blue stone is often productive of serious effects.

PUMICED FEET—Is a flat, convexed condition of the sole, usually caused by the falling of the pedal bone as a result of laminitis and sometimes to the effect of severe work on hard ground, especially when seated shoes are used, without any apparent symptoms of laminitis. The unnatural pressure of the displaced pedal bone interferes with the secretion of the horny sole which becomes weak and thin.

TREATMENT—Little can be promised from treatment, although benefit has accrued from a liberal application of the remedy.

BRITTLE FEET—Are not infrequently caused by indigestion, owing to the sympathy which exists between the mucous membrane of the stomach and intestines and the sensitive laminae which secrete the horn of the foot. Irritation and inflammation which follows impairs the powers of the secreting structure. The custom of placing tar and oakum in the bottom of the feet is productive of a brittle and seedy condition of the soles of the feet when persisted in. The little oil in the tar soon leaves it and the effect is heating and drying. On the contrary, the application of "GILES" to the feet induces a strong growth of healthy hoof.

TREATMENT—Shoeing with oakum and leather, keeping the oakum moist with "GILES," will insure a return of the feet to a healthy condition.

INFLAMMATION OF THE CORONET (Villitis)—This trouble is rare in horses and is confined more especially to donkeys. It is a chronic inflammation of that part of the coronet which secretes the thin covering of horn that overlays the upper part of the hoof. The inflammation of this peroplic ring may extend to the remainder of the secreting portion of the coronet, so that the wall, especially at the front, becomes dry and fissured, and in time resembles the loose, rough bark of a tree. In aggravated cases the wall breaks off at its lower part and splits both vertically and horizontally. Lameness always increases with work and is marked by a shuffling gait.

TREATMENT—Bathe the coronet with the remedy, well rubbed in.

NAVICULAR TROUBLE—Inflammation of the navicular bone or the cartilage on its lower surface is the starting point of this trouble. Chronic inflammation set up in the bone produces changes in its substance, like what is termed caries. If pus is present there is ulceration of the bone. Small nodules, with or without ulceration, form on the lower surface of the navicular bone, over which the perforans tendon plays and there is destruction of the cartilage joint. Inflammation is set up in the opposing portion of the perforans tendon and the synovial bursa, which lies between the tendon and affected surface of the bone, so that in old cases the tendon becomes more or less worn through. As the trouble progresses the weakened navicular bone may become fractured by the pressure of the tendon on its lower surface. The tendon may break in two, adhere to the navicular bone, or the abraded portion

may continue to work over its rough pulley, much to the discomfort and pain of the patient.

Several causes of navicular trouble is given by as many authorities. They are: Concussion, sprain of that portion of the perforans tendon which passes over the navicular bone; the employment of high heels or calks; compression through the weight of the body on one side and the pressure of the perforans tendon on the other, rheumatism, heredity and direct injury from stones, nails, etc., picked up by the feet.

SYMPTOMS—Usually little will be discovered on actual examination of the foot to indicate the nature of the trouble, although a good guess may be made from the absence of signs of other ailments. The peculiarity of the animal's gait and the manner which he points will tend to confirm the supposition. There is often contraction of the heels of the affected foot or feet, in old cases. The patient usually points by placing his toe on the ground, raising the heel and rounding the fetlock joint. Sometimes, even in advanced cases, the patient will not point. He generally walks sound save in bad cases, but goes short and digs his toes in the ground when trotted.

TREATMENT—The splendid efficiency of "GILES," properly applied, in removing fever, inflammation and the consequent pain and soreness from the feet renders it easily possible for every horseman to keep the feet in good condition, and if used as directed at the first sign of soreness will prevent and promptly remove every ailment affecting the feet. Injuries affecting the navicular joint, if properly cared for at the start, need never result in more than temporary lameness. It is when these injuries, which may seem of but little consequence at the beginning, are neglected that the navicular bone becomes diseased, and owing to its inaccessible location it is almost impossible of successful treatment. In early stages of injuries which affect the navicular joint, fever and soreness, attended usually by inflammation, is the prevailing symptom. If immediately the inflammation is dispelled by placing the feet in soaking boots, with oakum liberally saturated with "GILES," the fever and inflammation will be promptly removed and navicular trouble averted. After all signs of fever have been removed the animal should be shod with oakum in the bottom of the foot held in place by leather between the shoe and hoof, the oakum kept well moistened with the remedy. The prescribed constitutional treatment should always be afforded the animal. Hard drives on pavements should be avoided for a long time. When the disease is firmly established and the condition of chronic lameness is the result the operation of neurotomy (page 112), if properly done, may render the horse usable for a time; but its effects seldom afford permanent relief and is almost certain to terminate disastrously. The operation is most often employed by those who desire to sell the animal to some unsuspecting person.

HORN TUMOR—This new growth of horn is found between the wall of the hoof and the pedal bone and may begin in the coronet or in the sensitive laminæ. In the course of time an excavation is made by

its interference with the nutrition of the bone of that part. As a rule, it is found at the toe and is not always accompanied by lameness. By paring the sole in a case of horn tumor that has been found by the sensitive laminae the white line which marks the union of the wall and sole on the ground surface of the foot, will be found to curve inwards at a point underneath the tumor. This white line which in health marks the surface of union between the wall and sensitive laminae, in the horn tumor is the inner boundary of this new growth. This tumor, which is usually of slow growth, may form pus, and by reaching the coronet, give rise to quittor. A tumor of this character removed not long ago was of dark colored horn resembling a horse's incisor tooth with the crown pointing downward.

SYMPTOMS—Injury is usually the cause, such as "tread," for instance, when the growth has begun at the coronet; or the hammering down of the nail clinches or clips of the shoe; a puncture of or pressure on the sensitive laminae by an ill driven nail. Lameness may come very gradually, there will be pain on tapping the part and local heat. If the tumor begins at the coronet it will usually cause the horn of the wall to bulge outward.

TREATMENT—The tumor should be removed by literally digging it out, the same as prescribed in the treatment for suppurated corn, after which the cavity should be packed with gauze or cheese cloth saturated with the remedy. Care should be taken at each dressing to remove as much as possible of any purulent matter that may be present. This treatment will cause the affection to heal from the bottom and a return of the union between the walls and the sensitive laminae. Under no circumstances should any unnecessary removal of healthy horn or sole be permitted.

WOUNDS AND BRUISES OF THE CORONET—Such injuries usually occur in the form of tread, that is, a wound upon the coronet of one foot inflicted by another. Weakness, fatigue, overwork and carelessness in turning the animal, especially heavy draft horses that are rough shod. The more forward the injury the greater the danger of hurting the extensor tendon of the foot and the joint formed by the pedal bone and the short pastern bone.

TREATMENT—Any injury to the foot should receive prompt attention. If promptly applied, "GILES" will remove the inflammation and soreness and prevent complications. In advanced stages any pus or unhealthy growth should be removed from the full extent of the injury, and if deep enough to need it the cavity should be packed with gauze or cheese cloth and kept thoroughly saturated with the remedy to insure its healing from the bottom. If too shallow to admit of packing, a pad of the same material, kept well wet with the remedy, should be applied and held in place by a loose bandage. With each dressing any purulent matter or unnatural growth should be removed. This mode of treatment, if properly applied, has never failed of satisfactory results. The employment of strong antiseptics and anything of an irritating nature causes

the healthy tissues to slough, increases the inflammation and retards a cure.

PRICKS IN SHOEING—Pain and lameness may result immediately after a nail has been driven in too close or actually penetrating the sensitive structure of the hoof, or it may not show for several days and pus will form during the interval. A nail that has been driven in the wrong direction and then drawn is naturally productive of more injury, is more difficult of detection and treatment than if left in.

TREATMENT—When a nail prick is suspected it should be quickly located and the horn or sole removed from the immediate injury to enable the introduction of "GILES" to the very bottom, where the healing must commence. The opening of the wound must not be allowed to close until the injury is healed from the bottom.

PUNCTURE OF THE FROG.

VERY severe inflammation may occur by the puncture of the deep seated, sensitive tissues of the frog, directly above which lies the navicular bone, which makes a joint with the pedal bone and short pastern bone and forms a pulley for the perforans tendon, between which and the navicular bone a synovial bursa is placed for lubricating purposes. Therefore, a puncture from nails, pieces of glass, sharp stones or splinters of wood may wound the perforans tendon, bursa, the navicular bone, the joint and may even extend further up. A wound toward the point of the frog may cause fracture or chipping of the pedal bone. Pus can hardly fail to form from the germs gaining entrance, and there is high fever and great pain. If the navicular bursa or joint is opened the discharge of synovia will be tinged with blood, which will soon become dark and foul smelling. Tetanus (lock jaw) is frequently a result of these wounds.

TREATMENT—Prompt and proper treatment will prove effective in removing the inflammation attending lameness and render the animal quickly able for work. Prompt and liberal use of "GILES" should be employed to remove the inflammation and attending pain. Details of the treatment will vary according to the nature of the injury. It is important that all foreign matter should be quickly removed, the remedy be allowed to penetrate to the full extent of the injury and that a liberal amount be at all times present, the injury being made to heal from the bottom and never allowed to close until this is accomplished. Placing the foot in a soaking boot with oakum in the bottom saturated liberally with "GILES" will afford the best possible treatment.

CORNS—The main causes of corns are weak heels and flat soles, fast work on hard ground and bad shoeing. While corns occur frequently in the fore feet, they seldom occur in the hind, because the latter are less exposed to concussion than the former. A corn is a bruise of the membrane which secretes the horny sole and which covers the ground surface of the pedal bone. While corns do not always produce lameness, still,

when lameness is produced, a horse goes more and more lame; but it will disappear for a time after a rest of a day or two. Owing to this tendency to recur, corns are a grave form of unsoundness.

TREATMENT—The sole of the hoof in the immediate vicinity of the corn should be pared away to the bottom. The cavity should be well filled with oakum saturated with the remedy. This may be held in place by a piece of hoop iron so placed between the shoe and hoof that while it will remain firmly in place it can be easily removed to admit of renewals of the treatment and the animal continued at work. In cases of suppurated corns they should be dug out to the very bottom of the suppuration and the same treatment applied. Removal of the shoe and standing the foot in a soaking boot with oakum well wet with the remedy for a few days until all soreness is removed is necessary. When the animal is made to walk sound he may be shod with oakum in the bottom of the foot held in place by leather between the shoe and the hoof. The oakum should be saturated with the remedy every day or two.

FISTULA OF THE CORONET.

QUITTOR (Fistula of the coronet)—Quittor is an abscess which forms within the foot between the pedal bone and the wall of the hoof with one or more openings and a tendency to head at the coronet. This ailment is confined principally to draft horses which work on pavements. It may be caused by an injury at the coronet, from a nail prick or puncture or suppurating corn. The hoof being a horny box, incapable of expansion, the formation of an abscess there is slower and more painful than elsewhere. The horn secreting membranes of the foot forms a pipe-like growth which takes root and acts as a feeder to the abscess. Suppuration advances slowly and there is great pain manifested during the early stages before the opening at the coronet is sufficient to allow the pus to escape. When the coronet has been the place of injury and the wound is allowed to close at the top, the pus lodges behind the wall of the hoof, corroding the tissues and forming the abscess. When the sensitive sole is injured by a puncture or a nail prick and the wound is not properly treated to the full extent of the injury, the inflammation which is set up causes suppuration and an abscess which finds less resistance in an opening at the coronet. A corn which suppurates, if prevented by the hard sole from opening at the bottom of the foot, forms an abscess which must open above. Quittors take a variety of forms and one or more branches may exist, or openings may occur at unsuspected places. The prevention of quittor is comparatively an easy matter if directions for the treatment of wounds, corns or injuries to the feet are followed. The common practice of soaking and poulticing but softens the cartilage and membranes and promotes the growth of the abscess. The operation commonly resorted to of cutting away the wall of the hoof and coronet band may fairly be termed *malpractice*.

TREATMENT—It being understood that earlier treatment was neglected and a quittor forms as a result of this neglect, treatment should commence by soaking the injury well with "GILES" for twenty-four to forty-eight hours, by binding a good sized wad of oakum on the affected part when the injury is at the coronet, keeping the oakum well saturated with the remedy, and standing the foot in a soaking boot with oakum in the bottom well saturated, when the trouble is the result of a corn or injury to the bottom of the foot. This treatment will serve greatly to relieve the inflammation and attending pain, permitting a careful probing to find the full extent of the branches of the abscess. When this is determined and all possible pus removed, the cavity or cavities syringed out with the remedy, then packed to their fullest extent with a narrow strip of gauze or cheese cloth which is first soaked in the remedy, with the end left protruding to facilitate removal. Replace the wad of oakum over the injury and keep well saturated with "GILES." Removal and renewals of the dressing should be made every twenty-four hours. Probing should be made at each dressing to discover, if possible, any new branches, and all suppuration and unhealthy matter removed. This treatment will promote a healthy growth of new tissue, will cause the feeders or pipes to wither and decay for lack of nourishment and will admit of their removal, either in parts or whole, at the time of probing and dressing the wound. After these feeders or pipes are extracted the abscesses will become healthy and heal rapidly from the bottom. Any fungus growth that may show at any stage of the treatment should be removed. An instrument for this purpose with a blunt or dull edge, which will act to tear it loose rather than to cut it clean, will give better results and cause less hemorrhage. One vigorous operation of this sort which removes all possible of the fungus growth, with little heed to the bleeding caused thereby, will be found conducive to much quicker recovery than frequent smaller operations. If this fungus growth should recur and appear of a cancerous nature, cauterizing with a hot iron will prove an efficient means of removal and prevention. Any pieces of horn or hoof which press on the wound should be removed in order to give relief. At any stage of the treatment, should the animal show any considerable signs of suffering with rise of temperature, 2-ounce doses of "GILES" should be administered by the mouth as frequently as necessary to induce a satisfactory condition, and an occasional rectal injection of 2-ounces should not be omitted. This mode of treatment for quittor, if intelligently pursued, to the exclusion of any and all so-called antiseptics, which by their nature are in the least irritating, will accomplish quicker and better results than is otherwise possible.

CONTRACTED HEELS—This may arise from the same causes which induce thrush and from the practice of the animal going on his toe because of pain or infirmity. About the only cases to be attributed to deformity are those in which the coronet at the back of the foot is not on the same level on both sides. In such feet it is more than probable that one wing of the pedal bone must have been twisted either upward and

inward or downward and inward. Slight contraction due to the natural form of the foot being narrow, is in line with health, so long as the contraction does not co-exist with any affection other than thrush, or with any infirmity which prevents the horse from placing his foot fair on the ground.

TREATMENT—Bathe the heels and the coronet thoroughly with the remedy and rub in well with the points of the fingers. All dead hoof should be removed from the sole of the foot and the animal shod with a pad of oakum held in place by a piece of leather between the shoe and the foot. Do not draw the nails too tight. In aggravated cases the animal should be stood in soaking boots with oakum well soaked with the remedy for two or three days before shoeing.

CANKER—This is a chronic and infective inflammation of the membrane which protects the sole and frog and is a continuation of the skin of the pastern, also covering the pedal bone. The ailment appears to bear the same relation to thrush that grease does to cracked heels.

SYMPTOMS—The progress of canker is usually very slow and is characterized by comparative painlessness. The affected portion of the membrane which manufactures sound horn for the sole or frog at first secretes a degenerate, cheese-like material which later becomes a thin, foul-smelling, nearly colorless discharge, while the surface becomes studded over with pale, fungoid growths. The sole is gradually undermined, in most cases commencing at the frog and extending to the front of the hoof. However, it may commence by an inflammatory condition of the skin at the back of the lower part of the pastern, that is, from grease.

TREATMENT—The only treatment productive of satisfactory results for the cure of canker has been afforded by standing the animal in soaking boots with oakum saturated with the remedy. Recovery is necessarily slow and results should not be expected under three to six weeks, sometimes longer, depending on the seriousness of the case. An examination should occasionally be made, and any fungus growth removed by the aid of a blunt instrument. After which the feet should be returned to the boots. Some little daily exercise may be given without their removal. Constitutional treatment of 2-ounce doses should be given two or three times a day to improve the circulation and general health, and an occasional rectal injection of 2-ounces should not be omitted. When recovery is sufficiently advanced the animal should be shod with a wad of oakum in the bottom of the foot, covered by leather and held in place by the shoe. The oakum should be kept well moistened with the remedy.

SAND CRACKS—A vertical crack in the wall of the hoof, first occurring close to the coronet. The deplorable habit of using seated shoes and of paring the frog, induces sand crack by the unnatural manner in which the weight of the animal is thrown on the crust of the hoof instead of being distributed, as nature intended it to be, between the wall, the frog, the outer portion of the sole and the bars. A seated shoe is one which affords pressure only to the wall of the hoof and is made concave on its upper surface so as to take all pressure off the sole. As a

rule, horses most liable to sand crack are those worked on hard ground. It is produced by concussion which affects the fore feet and in the hind feet of work horses which draw heavy loads, especially when they are shod behind with toe calks.

SYMPTOMS—A small fissure first shows close to the coronet, which extends upward, downward and inward as it is aggravated by concussion or strain. The crack at the start may be so short and narrow as to escape notice except on close examination. There is no lameness as long as it is confined to the exterior portion of the wall; but when the entire thickness of the wall is affected, the sensitive underlying tissue will protrude through the crack and will get pinched and wounded as it opens and shuts during movement with the result of making the animal lame, especially if the toe of a hind foot is the seat of the injury. In time the fissure may extend from the coronet to the ground. Owing to putrefactive contamination the sensitive tissues may discharge pus.

TREATMENT—Pare away the horn at the edge of the crack slightly to admit of the remedy being well rubbed in, also rub well into the coronet above and in the vicinity of the crack. Measures should be taken to prevent extension of the opening. Frequent application of "GILES" to the coronet, gently rubbed in, will promote a rapid growth of new hoof. In aggravated cases where a fungus growth manifests itself in the opening cauterizing with a hot iron at intervals of two or three days and keeping a wad of oakum wet with the remedy bound on the part, will prove most effective.

FALSE QUARTER—A depression of the wall of the hoof, owing to the failure of the coronet to secrete the horny crust. The loss of the secreting power is caused by an injury such as tread or quitter, which has destroyed the horn secreting cells. False quarter may commence at any part of the coronet; but is most common at that from which it takes its name.

TREATMENT—Promote a rapid, healthy growth of new hoof by daily applications to the coronet and heel of the remedy well rubbed in. This can be accelerated by the removal of dead substances from the sole, the application of a wad of oakum held in place by a leather between the hoof and shoe. This oakum should be wet with "GILES" at least every other day. With a fine rasp or file remove the accumulations of unhealthy growth, leaving the surface as smooth as possible. Apply a wad of oakum saturated with the remedy and held in place by a bandage. Remove the dressing when the horse goes out for work or exercise, but replace it when he returns to the stable and keep the oakum well saturated with the remedy.

SPLIT HOOF—The chief forms of this accident are: The result of concussion, presumably on hard ground, which commences on the ground surface of the hoof at the bottom of the groove which separates the heels at either side, from the frog and extends through the horn more or less up to the coronet at the back of the pastern. The wall of the hoof sometimes splits at the lower extremity, forming a spurious sand crack;

but rarely extends higher than a couple of inches. It may also come as a horizontal division of the horn, which generally commences a little above the heels, extends in a forward and slightly upward direction. Again, the horn of the coronet sometimes separates horizontally for a short distance and forms a cavity in which water and dust may lodge.

TREATMENT—Enlarge the opening by rasping or scraping away the edges of the horn to admit of the remedy penetrating well into the crack. A wad of oakum saturated with the remedy should be bound over the opening. Frequent applications of the remedy should be made to the coronet and heels and well rubbed in. In aggravated cases where there are signs of fungus growth or suppuration, the horn should be cut away to admit of wiping out with a clean, rough cloth all unhealthy matter. In serious cases there may be a growth of a cancerous nature, in which event, frequent but slight cauterization with a hot iron will be necessary, and in addition to the wad of oakum bound over the opening, the foot should be kept in a soaking boot with oakum well saturated with the remedy. This mode of treatment, if faithfully followed, will promote a rapid growth of sound, healthy hoof.

LAMINITIS OR FOUNDER,

CAN BE CURED IN TEN DAYS.

IS congestion followed by inflammation of the feet. There is loss of appetite, reduction in the quantity of urine and increased thirst. Symptoms may develop in from a few hours to several days. If the trouble is in the fore feet, the horse will try to relieve the pressure by stretching them forward in order to throw the weight on the heels and by bringing the hind feet as far as possible under the center of gravity of the body. If the trouble is in the hind feet, the fore feet will be drawn back under the body and the hind ones advanced to relieve the toes of pressure, bending the head and neck down to take the weight off the hind legs. There is usually a considerable amount of heat in the hoofs, the coronets are full and more or less hot, the arteries of the pasterns throb, and the affected leg is usually filled below the knee or hock, as the case may be. Even a light tap on the hoof causes pain and there is great distress, especially if the hind feet are affected. Breathing is hurried and the lining membrane of the eyelid is more or less red from congestion and sometimes tinged with yellow. The breathing is apt to give the impression that the animal is suffering from congestion of the lungs. The pulse is full and hard. There is a tendency to recurrence and also to become chronic.

NOTE—If the "GILES" mode of treatment is faithfully and thoroughly followed, a horse suffering with acute laminitis can be cured sound in from seven to ten days and made to show no indication of the trouble. Experience justifies the statement that this is possible with no other treatment.

TREATMENT—Place the feet in a tub of water as hot as the hand will comfortably bear. Soak for a period of from one to two hours, keeping the water at as even a temperature as possible, at the same time administering from four to six ounces of the remedy by the mouth and a rectal injection of 2 to 4-ounces. Follow with 2-ounce doses by the mouth at intervals of thirty minutes to one hour until a satisfactory temperature is induced. Bathe the muscles of the inside of the legs from hoof to shoulder with the remedy well rubbed in. After taking the horse from the water, remove the shoes as gently as possible and dry the feet and ankles thoroughly with a rub rag. Place the feet in soaking boots with oakum well saturated with the remedy. Bathe the inside of the legs to the shoulders frequently and continue administering 2-ounce doses every two or three hours after the temperature becomes normal. Feed sparingly for the first day or two, after which give light feeds of nutritious food to keep up the animal's strength. After the fourth or fifth day the animal may be removed from the boots and given slight exercise, but returned to the boots. On the seventh or eighth day the animal should be in condition to admit of his being shod with oakum in the bottom of the feet, held in place by a leather between the shoe and hoof. Do not draw the nails too tight and keep the oakum in the bottom of the feet well moistened with the remedy, thereby effecting a complete cure. In the absence of a soaking tub, the feet and ankles should be swathed in woolen cloths and kept saturated with the hot water for a couple of hours. Any hair removed will be quickly renewed if the surface be kept moistened with the remedy.

CHRONIC LAMINITIS—Is a condition of the foot in which the inflammation of laminitis has produced deformity of the hoof. It is safe to assume that when such deformity exists, the foot has lost a certain amount of its strength and usefulness and is abnormally liable to suffer from acute attacks of the trouble. The ailment is serious in its nature and insidious in its approach. The horse throws his weight on his heels and therefore walks with a more or less straight knee, the action being very different to that due to navicular trouble. In walking the fore feet are advanced more than in health, though the steps taken are shorter than usual. The profile of the hoof usually becomes more or less concave from coronet to toe; the sole flattened or convex; the horn weak and brittle; the thickness of the horn of the toe on the ground surface, considerably increased and the frog larger than usual as the result of increased pressure. Seedy toe often accompanies chronic laminitis.

TREATMENT—Partial relief is all that can be hoped for when laminitis reaches the chronic state. Bathing the coronet and heel thoroughly with the remedy and shoeing with a wad of oakum in the bottom of the foot, held in place by leather and the oakum kept wet with the remedy has been conducive of good results.

SEEDY TOE—Is a cavity formed within the wall of the hoof extending from the ground surface in the direction of the coronet. Gen-

erally it is best marked at the toe, but may also extend round the quarters. It may be due to laminitis or other causes, such as long-continued strain on the feet which is not sufficient to induce laminitis. It is also attributed to the habit some animals acquire of never lying down and the pressure of the clip of the shoe has been given as a cause of the trouble. Generally there is no suspicion of the existence of the cavity until discovered by the smith. It is found partly filled with a soft, dry material which crumbles away when rubbed between the fingers. The existence of the trouble may readily be seen on removal of the shoes.

TREATMENT—Clean out the cavity to its full extent, pour in the remedy and pack the opening with a small piece of gauze or cheese cloth kept saturated with the remedy. Bathe the heel and vicinity of the coronet with the remedy well rubbed in to promote a rapid growth of healthy hoof. Pressure of the shoe on the affected part should be relieved by cutting away the sole and wall of the hoof slightly in the immediate vicinity of the trouble.

NEUROTOMY OR UNNERVING.

THIS is an operation performed on horses which are lame from supposedly incurable affections, like navicular trouble, by removal of the sensory nerve or nerves above the seat of the pain. What is called the high plantar operation deprives the foot and pastern of feeling. The two nerves which are operated on pass down each side of the leg just in front of the perforans tendon immediately above the fetlock joint. They are white, tough and fibrous and about the diameter of a clay pipe stem. They each have a vein and artery, the former being in front and the latter in the middle, as a rule. The median operation takes the sense of feeling from almost the entire leg from a little below the elbow, and is especially used when the seat of pain is in the knee or fetlock. About an inch of the median nerve on the inside of the leg just below the elbow and at the near end of the radius of the forearm is removed. When these nerves are simply cut in two they are likely to reunite and the pain will return, so that in order to prevent such a result an inch or so of the nerves are removed.

Many serious consequences are likely to follow unnerving, although some horses appear to go sound for some time. In shoeing an unnerved horse there is a chance of his being pricked without discovery until serious results afterward manifest themselves. Softening of the back tendons and sloughing of the hoof are evil results which happen from the operation, especially of the high one.



AFFECTIONS OF THE BONE, JOINTS AND CARTILAGE.

SPLINTS—Allowing for the difference of structure, inflammation of bone follows the same course as inflammation of other tissues. According to the best view, it may originate from irritation due to the tearing away of the points of attachment of the bone with tendon or ligament inserted on it; from direct injury, as from blows; from indirect injury, as from concussion; from compression, from changes brought on by chill, generally ascribed to rheumatism, and from infection.

The splint bones are firmly attached to the cannon bones at the knees and hocks and are generally loose at their lower ends. Instead of occupying a more forward position, as they once did, they have taken up positions at the back of the cannon bones, the three bones forming a groove for the suspensory ligament which was once a muscle. This arrangement of the splint bones is a serious predisposing cause of lameness, because the consequent bony enlargement would be apt to give rise to painful pressure on this ligament. The distance of the lower end of a splint bone from its fetlock is variable. On rare occasions it extends down to the level of the fetlock and is furnished with pastern and hoof, which to a certain extent is harking back to the early ancestors. The average curtailment in the length of the splint bone, however, is not enough for the great amount of concussion which the horse encounters in trotting on hard roads or galloping with a rider even on soft, elastic turf. Therefore, exceptionally long splint bones, especially if their ends are unusually thick, are often predisposing causes of lameness. It is assumed that the frequency of splints is increasing and their gravity diminishing in equal ratio.

The heavier the horse's body compared with the strength of the bones of his legs the more predisposed he will be to develop splints. In young and healthy horses each of the splint bones is attached to the cannon bone by a strong interosseous ligament which tends to become converted into bone with advancing years.

Several of the most eminent authorities have divided splints into five classes, viz: The simple splint; the double or pegged splint; the splint close to the knee; two splints, one above the other, and a bony deposit involving the cannon and splint bones with those of the knee. In a majority of cases splints are of the simple form, which is away from the knee and does not interfere with the tendons and suspensory ligament, and, as it occasions but little lameness, is of little consequence so far as the usefulness of the horse is concerned.

Horses five years old or under are most liable to splints, because the ligament which connects the splint bone to the cannon bone is then in its entirety and more easily affected by sprain than when it becomes more or less converted into bone with advancing years. A splint on the leg of a heavy draft or work horse is not so grave a thing as one on a fast horse, especially a trotter, for concussion is the chief factor in aggravating pain and lameness. Hackneys or high acting carriage and coach horses also suffer more from splint lameness than flat racers, or hunters, because of their high action.

A splint on the outside of the fore leg is generally more serious than on the inside, especially if it is well forward and high up, as it will then be more likely to interfere with the extensor tendon of the long pastern bone. On the hind leg a splint may occur on the inside of the leg from the downward pressure of the small cuneiform bone at the top of the small splint bone.

Aged horses are seldom troubled with splints. Not much hope can be held out for the recovery of an aged horse which has been lame for some time, or at intervals, from a splint close to the knee, or from splints which involve the two splint bones of the foreleg and cause considerable enlargement through the entire extent of these bones.

TREATMENT—Rest and time will remove lameness and greatly reduce the size of even large splints in most instances. Applications of "GILES," well rubbed in, will aid in the removal of inflammation and soreness. Rubbing the enlargement with a glass bottle will have a beneficial effect. Much time and money have been wasted in attempts to cure lameness resulting from splints which affected the joints. Time is about the only remedy that will effect a cure.

SORE SHINS—Consist of bony formations generally confined to the front of the lower third of the cannon bone, when fully developed, although the inflammation may involve the entire front of the bone. Like splints, sore shins are more common in young horses, especially young race horses. The trouble being caused by concussion, is generally confined to the fore legs, although all four of the cannon bones have sometimes been affected. Unless taken in time, sore shins is a grave ailment and in some cases is fatal.

TREATMENT—Liberal applications of "GILES" to the bruises, well rubbed in, will prove most effective in removing the inflammation and soreness. Application of the paste (page 24) has invariably given better results than sharp, irritating liniments.

RINGBONE—This name is applied to bony deposits on the pastern bones.—False ringbone may be regarded as a bony deposit on the long pastern bone and may be on one or both sides of it, in some instances extending to the front of the bone. This form causes lameness occasionally by interfering with the action of the lower portion of the suspensory ligament. Sometimes the upper surface of the long pastern bone is affected, which many result in incurable lameness.

In high ringbone the deposit involves the joint which is between the

long and short pastern bones and the swelling may be easily seen on the front of the pastern. In severe cases of this form of ringbone there is complete bony union between the two pastern bones.

The most serious form of this trouble is low ringbone, that is, when the formation affects the joint between the pedal bone and the short pastern bone, on account of the unyielding nature of the horny wall of the hoof which surrounds the implicated joint. Both high and low ringbone may be due to inflammation which leaves the articular cartilage of the affected joint intact. Ringbones are more common on the hind than the fore feet, more weight being thrown on the toe. It will be observed that in the lameness caused by ringbone the horse lifts his foot off the ground in a stiff manner, as if making an effort to bend the pastern joints as little as possible.

TREATMENT—Liberal applications of "GILES," well rubbed in, and the use of the paste (page 24) has proven beneficial in the removal of inflammation and pain in the case of ringbone affecting the upper portion of the joint (high ringbone), especially in its early stages. But no claim is made for this remedy for the removal of enlargements of the bones.

BONE SPAVIN—As a result of inflammation there is a deposit of bone on the inner and lower part of the hock, commencing usually between the middle cuneiform and the cannon bone, or between the middle and lower cuneiform bones. The higher this bony formation extends the more serious is the trouble. When it is low down it is of much less consequence, as the bony union of the joint between the middle cuneiform and the cannon bone does not gravely affect the horse's action.

TREATMENT—At the start the application of "GILES" has afforded relief by reducing inflammation and removing soreness. But we make no claims for the remedy as a cure for bone spavin.

STIFF JOINTS AND KNUCKLING OVER (Applying to the fetlock and knee)—The pastern, especially in speed horses, has a tendency to become unduly upright from the effects of work. This is owing to inability to extend the joint to a normal extent, that is, to bring the fetlock pad sufficiently near the ground. As the action of the leg in producing locomotion is due to the difference between its length when its joints are bent and when they are straightened out; loss of play in the fetlock joint is always followed by more or less loss of power of locomotion. When inflammation from work or sprain occurs in a joint sufficiently to permanently impair its power of movement, adhesions will be found about the part and probably a shortening of the ligaments which antagonize the extension of the joint and check the descent of the fetlock pad. On the further progress of the case there will generally be a deposit of bone about the part and the gradual conversion into bone of the fibrous structures and cartilages of the joint. The only chance of a return to soundness is when the articular cartilages have remained intact and when the bony deposit is so situated as not to interfere with the movement of the joint. Sometimes inflammation of the fetlock joint has

been complicated, or caused by a fracture of one or more of the sesamoid bones which lie at the back of the fetlock. There is no hope of restoration in that case.

RHEUMATOID JOINT (Rheumatoid arthritis)—By reason of loss of smoothness in the working of a joint friction is set up, with the result that the opposing and altered cartilages are worn away and the ends of the bones are brought into contact. The exposed bone being unable to bear friction, the surfaces rub against each other and become inflamed and a deposit of very compact bone is formed in their substance. There is always a certain amount of stiffness in the joint with marked lameness at times. Sudden and most painful lameness has been known to occur in a work horse, to the extent that the animal would hold the affected leg off the ground for a time, until the muscles tired. A horse with this affection in the hock may continue capable of a fair amount of work for years, however. See treatment below.

SIDEBONES—The ossification of the lateral cartilages may be partial or complete and may affect one or both cartilages. The lateral cartilages are plates of cartilage mixed with fibrous tissue which are attached to and placed above the wings of the pedal bone on each side. Side bones are almost always confined to the fore feet, and in most cases affect only work horses, the outer cartilage being more frequently affected than the inner, more often on the near fore foot. They are rarely seen in young horses which have not been put to work. The main causes of the affection are lack of pressure on the frog and injury. The high calks worn by work horses which keep natural pressure off the frog appear to be greatly responsible.

TREATMENT (For Rheumatoid Joints and Sidebones)—The inherent qualities of "GILES" for the removal of inflammation which is always present and the direct cause of pain and soreness, will afford better relief than sharp liniments, blisters, etc., which only add to the animal's suffering.

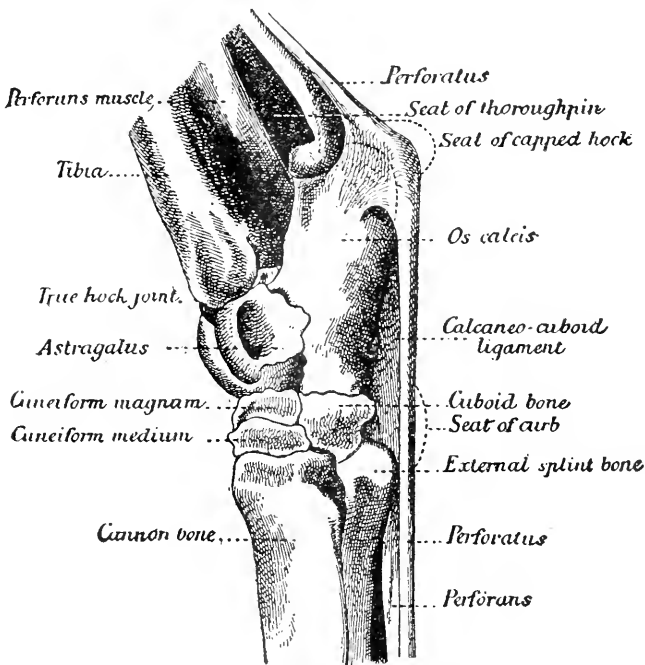
BIG HEAD (Osteoporosis)—This seems to be a constitutional affection manifesting itself by a porous condition of the bones and by more or less general paralysis. The characteristic swelling of the bones of the nose, owing to their prominence and porous nature, is most noticeable, and which gives it the name "Big Head." As a rule, it is confined to young animals; but it has been known to attack all classes and sexes. The malady usually runs a fatal course of from several months to two or three years.—The only hope of cure is treatment in the early stages.

TREATMENT—When this ailment is sufficiently advanced to be clearly defined it is too late for successful treatment of any kind.

RICKETS—This is an affection of the young during the time in which the development of bone is taking place, confined almost entirely to foals and yearlings. The principal manifestations are increased development of new bone which is abnormally soft and weak and the formation of bony tumors, especially about the joints. The existing bone remains practically unchanged, and the surface of the body is unusually

sensitive to pressure. Milk which is defective in quality and quantity, an insufficiency of salts of lime in the food, too high feeding and lack of exercise, are the chief causes of the ailment. It may be mistaken for rheumatoid joint disease, umbilical pyæmia or big head. There is not a very hopeful chance of recovery.

TREATMENT—Continued constitutional treatment of 2-ounce doses of the remedy twice a day and an occasional rectal injection of like amount, from the first manifestation that the colt is “off,” will serve to prevent the development of this ailment. Regular exercise and judicious feeding, or, if possible, a long run in pasture will prove most beneficial.



Outside view of near hock, with some of the structures removed.

ABOUT GLANDERS AND FARCY.

HOW INFECTION IS CARRIED.

IN farcy, the malady is chiefly shown in the skin and the tissues immediately underneath it, although the trouble may first manifest itself by painful swellings in the flexor tendons or by rheumatic symptoms.

ACUTE FARCY—There is shivering and rise in internal temperature, accompanied by painful swellings, generally of one hind leg, although other parts may be affected. The swelling may or may not subside after a day or two, while nodules or farcy buds and enlarged lymphatic vessels appear on the surface of the skin. They are generally clustered away from the joints and are hard and painful to the touch. Usually they break out inside the thighs and forearms or on the neck; but they soften rapidly and form ulcers which have a tendency to run together similar to those in the nostrils of glandered animals. There is considerable of a discharge of a dirty yellow color which dries on their edges or may overflow on the surface of the part. The enlarged lymphatic glands have prominent swellings which mark the position of their valves that are inflamed by the virus in the circulating fluid of their vessels. These tumors also suppurate and form ulcers. Both the fever and the swelling are more or less remittent, the latter sometimes subsiding in one leg and appearing in the other.

CHRONIC FARCY—This form is much milder than the acute, there being but little constitutional disturbance, and the tumors may remain indolent for a long time.

TREATMENT—Acute and Chronic Farcy. Farcy as manifested by bunches under the skin, commonly called farcy buds and other symptoms of farcy which does not affect the membranes of the air passages, may be safely said to be amenable to successful treatment. The best results will obtain from administering 2-ounce doses of "GILES" by the mouth four or five times a day, and one or two rectal injections of 2-ounces per day; rubbing the bunches or buds with the tips of the fingers wet with the remedy, and applying it liberally on oakum saturated with the remedy when indications of the trouble appears on the legs. This treatment has in very many cases served to eradicate the poison from the system.

THE GERM OF GLANDERS.

GLANDERS is caused by a germ known as the bacillus mallei. The malady is confined principally to the lungs, bronchial tubes, windpipe and nostrils; and in well authenticated cases it is manifested by ~~marks~~ adhering tightly to the inside of the lower jawbone, the di-

charge from which is insoluble in water. In glanders there is a discharge from the nostrils, swelling of one or more of the glands between the angles of the lower jaw and ulceration of the mucous membrane of the nostrils. If the affection commences with symptoms of farcy only and allowed to run its course, the lung symptoms will become apparent. Symptoms of farcy are present in about 50 per cent. of the cases of glanders and both have the acute and chronic form.

ACUTE GLANDERS—May be the termination of chronic glanders or farcy, or the first form to attack a horse. Shivering fits of greater or less intensity are usually the first indications of an attack and a rise in the internal temperature of from 7° to 8° F., with consequently more or less fever. The breathing will be hurried and painful; the pulse rapid and weak; the coat dry and staring. The mucous membrane of the nose becomes filled with nodules and ulcers which run together and discharge pus. These nodules, about the size of small shot, are seen principally on the partition which divides the nostrils and have a white or yellowish-white center, encircled by a transparent grayish zone which is surrounded by a circle of red. They finally form abscesses, burst and leave ulcers resembling hard, syphilitic chancres with depressed edges. Acute glanders usually runs a rapid course.

CHRONIC GLANDERS—This form may be very gradual and with little sign of constitutional disturbance, there often being nothing to indicate its presence save a slight discharge from the nose, and one or both of the sub-maxillary glands swollen hard. In fact, there may not be a discharge or even a swelling of the glands at first, or such symptoms may come and go intermittently; there may also be swelling of one or both of the glands with no discharge from the nose. This condition may continue for many months and at last result in the breaking down of the general health or the setting in of acute glanders. At first the discharge of this form of glanders is similar to that of an ordinary cold; but it soon has the appearance of boiled starch or the white of an egg, being sticky and dries about the edge of the nostrils. The discharge usually issues from one nostril, indicating the affected side, generally the left, or it may come from both and become mixed with pus and blood. There will be a tumor on each side in case both nostrils are affected. In case only one is affected, the eye on that side will be weaker and smaller than the other, with frequently a flow of tears.

PULMONARY GLANDERS—Is a variety of the common form confined almost entirely to the lungs, in which there is neither discharge from the nose or swelling under the jaw. It is accompanied by a dull dry cough, the animal becomes weak and languid and the sounds of the chest are like those of pneumonia. This condition may drag along for months and the animal finally die of debility without showing any further symptoms of glanders; but yet have been capable all the time of affecting horses near him, or he may be carried off suddenly by an acute attack.

MODES OF INFECTION—Glanders is most readily communicated by contact of discharged virus from the nostrils or farcy bud with a

wound or any mucous membrane. It is generally believed that it is impossible for the bacilli of glanders to be carried directly from one horse to another, or through the air as the bacilli would only float in the air when dried and drying kills them. An animal may be inoculated by ingestion, that is, taking the virulent discharges into the mouth with food and water, or by touching objects with the mouth which have been contaminated, or by transmission to the fœtus through the blood of the dam, or by flies. Two other modes of infection are possible, through copulation or drinking the milk of an infected mare.

TREATMENT—Experience teaches that the tests applied for glanders kills a majority of the horses on which it is tried, and much doubt exists in the minds of nearly all who have carefully observed the results of such tests, as to its efficiency. Years of experience justifies the belief that a surer and better test is afforded by "GILES." If the malady is not glanders a vigorous and faithful application of the "GILES" method of treatment will produce prompt improvement in the condition of the animal. Serious cases of nasal gleet being often mistaken for glanders, and the well known ability of "GILES" to promptly relieve and quickly cure this trouble, suggests the advisability of vigorous treatment as directed for this trouble (page 42) and carefully observing results before allowing any action or treatment which is likely to result in the loss of the animal.

LYMPHANGITIS—Is an ailment due to the microbe cryptococcus farciminosus of Rivoita, and is a specific contagious form of lymphangitis. The symptoms of the affection are much like those of farcy. Abscesses accompanied by lymphangitis appear around the affected part in and just under the skin. They form nodular new growths which are later seen on the lymph glands, connective tissue of the muscles, bones and even the conjunctiva, which undergo a slow process of suppuration, and change to fungoid ulcers in the skin. The pressure of hard lymphatic vessels is a marked feature of the ailment.

TREATMENT—The first attack of this trouble will readily respond to treatment of 2-ounce doses of "GILES" administered four or five times a day and a rectal injection of like amount once or twice a day and liberal bathings of the affected leg from the hoof to the body, particularly the inside where the enlarged glands are most in evidence. Recurrence is less likely from this treatment than any other; but subsequent attacks should be vigorously treated in the same manner. The second or third attacks are almost certain to leave permanently enlarged legs.

ULCERATIVE LYMPHANGITIS—Usually shows in one of the legs, the hind being more commonly affected. The lymphatic vessels of the leg swell and form abscesses which burst into ulcers on the inside and sometimes on the outside of the leg, which may become so swollen that the animal can put no weight on it. Abscesses and ulcers may form on the lower part of the body. Sometimes the abscesses and corded lymph-

atics disappear in summer and return with cold weather. Post mortem examinations have shown that the suppuration has extended to the kidneys.

TREATMENT—The treatment should be the same as for lymphangitis and, in addition, the ulcers should be cleansed by wiping away all purulent matter possible with a clean, rough cloth wet with the remedy and the application of oakum to the ulcers held in place by a loose bandage and kept well wet with the remedy.

TREATMENT IN FOALING.

ATTENTION to the general health of the mare should be given during all the time she is carrying a foal. If at any time during the period of gestation the mare should show signs of derangement, 2-ounce doses of "GILES" should be administered and an occasional rectal injection, their frequency and continuance to be governed by the symptoms. No bad effects need be feared either to mare or foal. A fair amount of exercise should be given and precautions taken against over feeding. Any development of constitutional weakness will thus be prevented, abortions prevented and the health and strength of the foal be assured. The colt should be permitted to have the fore milk, as it acts as a natural cathartic and is a natural aid to the first evacuation of the bowels. If deprived of this, constipation or diarrhea is more likely to result. In case either develops, treat as directed. Applications of the remedy to the navel after severance of the umbilical cord, will prevent navel ill. Proper attention to foaling and foals will often serve to prevent loss of a year's care and expense.

ABORTING—The symptoms which manifest themselves are not dissimilar to colic and like treatment with "GILES" should be promptly accorded. This has rarely failed to prevent abortion and aid in the natural delivery of a healthy foal.

LEUCORRHEA—In mares is caused by a weakness of the genital organs and manifests itself by a continuous discharge of a milk-like mucous from the vagina. This ailment, while rare, occurs frequently enough to merit attention. Relief and in most case a complete cure is possible by the proper use of this remedy.

TREATMENT—Inject 2-ounces by the vagina (page 24) two or three times a day for a week or ten days. After that once or twice a day until the discharge ceases. Constitutional treatment of 2-ounce doses once or twice a day by the mouth and an occasional rectal injection of a like amount should be given.

NAVEL STRING INFECTION OF FOALS—This is a species of blood poisoning that is characterized by fever, painful swelling of certain joints and most frequently by a suppurating condition of the navel. German authorities hold that the infection is inherited from the dam and

to them the germs of the ailment is often communicated by the stud, which clearly proves that preventive measures should be taken before foaling. The proportion of colts affected seems to be greater in some localities than in others, and of those which suffer with this navel ill a majority die within the first three weeks after birth.

SYMPTOMS—The trouble usually manifests itself by suppuration, the second or third week after birth, before the natural healing of the navel opening. Foals two or three months old and in an apparently healthy condition are sometimes attacked by this ailment in the form of painful swellings of the joints. Of those which recover from a bad attack few are worth the trouble of raising, as their constitutions are generally left in a permanently impaired condition.

TREATMENT—In the localities where the ailment is common, preventive measures should be used and for this purpose a constitutional treatment of "GILES" should be given the mare at intervals during the month previous to foaling. This will act to neutralize and remove the poisons from the blood and will in a general way improve her condition, render foaling safe and easier and make the milk more healthful for the foal, thus preventing bowel troubles which often occur. During the first two or three weeks after birth "GILES" should be applied to the navel by means of a soft sponge which will in nearly all cases serve to prevent infection. Should suppuration show it should be removed as gently as possible by use of a piece of cloth saturated with the remedy. After which "GILES" should be injected into the opening. If swelling of the joints occur they should be well bathed with the remedy and one-half to 1-ounce doses should be given by the mouth two or three times daily and a rectal injection of a like amount each day for two or three days. Then occasionally as long as the treatment is needed.

NYMPHOMANIA IN MARES.

EXCESSIVE sexual impulse in mares does not constitute an independent ailment, being a symptom which may be brought about by various causes. Over feeding, lack of proper exercise and the near presence of stallions are some of the causes that will tend to induce excitation. The exciting cause in some mares may be traced to irritation of the ovaries, affections of the uterus which prevent conception by chronic vaginitis, new growths and displacements, atrophy or hypertrophy of the womb. Some mares, while not excited to the excessive extent of nymphomania, will be found in the condition termed "horsing" at frequent intervals. This is not uncommon with racing mares.

SYMPTOMS—Usually extreme or intermittent "horsing" may frequently become permanent, in which the mare, although duly served, does not conceive or regularly miscarries. She then appears restless, eyes unsteady, neighs often and evinces great desire to urinate, straining and emitting but a small quantity of urine mixed with mucous. She lashes her tail, is sensitive to the touch, lowers her hind quarters and sometimes

kicks and bites. There may be temporary loss of appetite and gradual loss of flesh. It has been known to develop into maniacal symptoms with tetanic spasms; difficulty in swallowing, palpitation and contraction of the belly muscles. Sometimes there is dullness, almost to insensibility. In some cases the symptoms will disappear for a time after the animal has been covered, but they usually return in a short time, and are very prejudicial to the animal's general health.

TREATMENT—Inject 2 to 4-ounces of "GILES" by the vagina and bathe the rear of the abdomen thoroughly in the vicinity of the udder. Any excess of the remedy should be carefully wiped away and not allowed to run down legs or belly. Two or three applications of this treatment will invariably produce desired results. The advisability of administering tonic doses of 2-ounces by the mouth two or three times a day and a rectal injection once a day will be apparent.

SATYRIASIS, or excess of sexual excitement in stallions, will be relieved by tonic doses of 2-ounces of "GILES" three times a day.

IMPOTENCY—For a clearer understanding of this trouble the terms impotence of coition and impotence of procreation are used. The most common source of the former is weakness in the genital organ due to chronic affection of the spinal cord and brain. Other causes may be such morbid conditions of the organ as kinking, phimosis, paraphimosis, new growths on it or abnormal size. There may also be motor troubles, such as painful affections of the joints, like spavin or ringbone, or weakness in the hind quarters which prevent leaping. Impotence of procreation is attributable either to a lack of semen or the absence in it of spermatozoa. Both testicles may be lacking or atrophied through inflammatory and degenerate conditions. Treatment for the latter condition is, of course, useless.

TREATMENT—The general condition of the stallion and his ability to perform a reasonable amount of service will be wonderfully improved by tonic doses of 2-ounces of "GILES" three times a day and an occasional rectal injection of like amount daily or occasionally.

FOULNESS—Proper means to prevent foulness of the sheath is rarely accorded horses ordinarily. This is important, as it is often the cause of serious derangement of the urinary organs. The common practice of washing with soap and water and clawing out the scales and other foreign matter causes irritation and leaves the part in an inflamed condition. These troubles may all be averted and the animal kept in a proper condition by syringing the remedy liberally into the sheath and wiping out with a rough rub rag or bunch of oakum. This method is by far the simplest, easiest and most effective for the proper removal and prevention of foulness. Injection of some of the remedy into the penis will serve to dissolve the accumulation of foreign matter, commonly called "bean" and admit of its easy removal or cause it to come away of itself.

CARE OF A TIRED HORSE.

WHEN a horse is tired he should be carefully attended to as if he had developed symptoms of a serious ailment, for his entire system is in a receptive state and doubly susceptible to the attacks of poison germs and to the variations of heat and cold. The tissues are relaxed and the heart, circulatory system, liver, kidneys, lungs, etc., are not as capable of performing their functions, and therefore the processes of assimilation and elimination are not so vigorous. Ignorance of these facts has often put a horse on the sick list. It is always the safest plan to regard a tired horse as a sick horse and treat him accordingly. In some instances a very little work is required to reach the point of extreme fatigue or over-exertion, while at other times a horse is able to do much more without tiring to that extent. This is especially the case with horses in training. When they are a "little off," not enough to be classed as sick, they will tire much quicker, as is shown by the fact that they will take a great amount of work one day without becoming over-tired and the next day show extreme fatigue after a little work.

It is too often the case that owners, trainers or caretakers do not realize the actual condition of a tired horse and give him little more care than to put him in his stall with an idea that a rest is all he needs, when the slightest disturbance of the internal economy may lead to severe derangement from which congestion in one or more of the parts may come, leading to inflammation, fever and one or more of the symptomatic complications attending on them.

TREATMENT—To have "GILES" always at hand and to administer 2-ounces to a horse that shows the least signs of being "off," is the most profitable investment that any horse owner can make. It is a vitalizer and tonic stimulant which produces no reactive effect and will induce a prompt return of the appetite, will improve the circulation, reinforce the strength of the heart and tone up the entire system. Two-ounce doses may be repeated as frequently as judgment dictates and an occasional rectal injection of like amount should be given. This expedient is proving so successful in very many stables that sickness and incapacity for service is a rarity.

SPEED AND SHOW HORSES.

IT is demonstrated to a certainty and attested by the most prominent and successful men in the racing game who have experimented and thoroughly tested "GILES" in the past fifteen years, that it is unequaled and not even approximated as a preventive and cure of the many troubles and ailments, slight and serious, incident to horses in training for speed or the show ring. Congestion is the forerunner of every trouble. To prevent and relieve congestion is to avert every ailment and complication that can arise. This can only be accomplished by maintaining an equitable circulation, any impairment of which will quickly manifest itself in weakness of the heart, lack of vital energy,

loss of appetite, suppression of natural perspiration, shortness of wind and soreness.

“GILES” will stop a cough quickly and keep the respiratory organs in the best possible condition; stimulate the action of the heart by increasing the pressure of the blood, thus supplying the vital energy necessary for repeated or continued exertion, induce uniform perspiration in working out; enable cooling out without the least danger of soreness; prevent the liability of staleness from long or over training; remove all soreness from the muscle and tendons; relieve the pain and soreness of a speedy cut, or quarter cut between heats; prevent and cure chapped heels; promptly and effectually prevent and remove the inflammation, pain and consequent lameness caused by a nail prick or wound; neutralize the bad effects of changes of climate and water and the troubles incident to shipping. The proper and intelligent use of “GILES” will keep a horse in the pink of condition at all times.

TREATMENT—Tonic Conditioner. Give 2-ounce doses by the mouth two or three times a day and a rectal injection of like amount once a day. One of these doses should be given after exercise and the rectal injection after the horse comes in from work.

COOLING OUT—Give 2-ounces immediately after work and before exposure to drafts; give rectal injection of 2-ounces upon return of the horse to the stable. This treatment, in connection with ordinary care, will give prompt relief from over exertion and prevent all danger of soreness.

WORKING OUT—If a horse does not perspire naturally and freely in his work it is a sure indication of impaired circulation. Give immediately 2-ounces of “GILES” by the mouth, and if convenient give a 2-ounce rectal injection. This will immediately stimulate the circulation and correct the trouble.

AS A SPEED SUSTAINER BETWEEN HEATS—Give 2-ounces of “GILES” by the mouth immediately on return of the horse to the paddock. Cool out in the regular way by blanketing and walking. Give one to two ounces more fifteen or twenty minutes before starting again. This will strengthen the heart, reinforce vital energy, prevent and relieve fatigue, greatly increase his strength and endurance and avert bad effects. “GILES” is a tonic-stimulant that produces no reactive effect. It does not weaken, but positively strengthens the heart.

For treatment of cough, cold and chill see pages 29-31; cuts, wounds and bruises, page 78; shipping troubles and climatic changes, page 41; foot troubles, page 101.

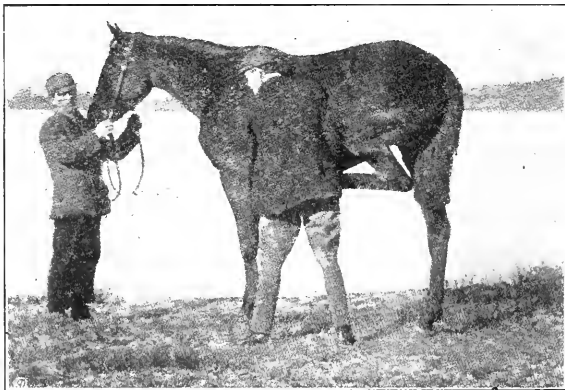
USEFUL HINTS TO “FEEDERS.”

FATTENING AND CONDITIONING—The wide range of experiments and expedients resorted to by “feeders” of draft horses to make them take on the most flesh in the least time and at the smallest expense, is usually accomplished at the expense of the usefulness and soundness of the animal. Little or no exercise is permitted and the

horses are literally stuffed. Under these conditions it is no wonder that they often "get off their feed," refuse to eat for several days and the desired results are retarded. A good circulation being indispensable to a condition of health and any impairment of the circulation is quickly manifest in a decrease or absence of appetite. A cold or chill, however slight, will affect the appetite and different expedients are resorted to to restore it as quickly as possible. Stock foods containing drugs, solutions containing arsenic, fever drops containing narcotic poisons as their active principles and similar methods, are growing in disfavor with experienced "feeders" because they only serve to excite the appetite for a time, and in the case of arsenic, where its use is long continued, it affects the liver and other organs and renders the horse unsound. The after effects of ordinary fever drops, weaken the heart and impairs the wind.

The experience of "feeders" with "GILES" has been most satisfactory. It affords the means of quickly stopping a chill or cold, abating a fever, correcting the circulation and causes the return of a natural and healthy appetite, to the end that the animal is kept on full feed all the time, and when fit and ready is in a sound condition, ready to do any work for which he is intended.

Conditioning drivers requires other methods, as, in addition to putting on flesh, their muscles must be hardened and their general health of the best. Nothing is so conducive to the healthy development of a horse of any age as a constitutional treatment of 2-ounce doses of "GILES" one to three times a day and an occasional rectal injection of like amount. It is freely said of this great remedy by those of experience that it is the best treatment ever devised for horses with any incipient ailment, which proves its superior efficiency at any stage. The horse owner who keeps it always on hand, to use both as a preventive and cure, will save time, loss and annoyance.



Test for Spavin.

DETECTION OF LAMENESS, POINTING AND ACTION.

WHEN pain or inability causes a horse in movement to alter the natural distribution of weight on one or more of the legs, or to alter the extension and flexion of any of the joints he is lame. Irregularity is commonly supposed to constitute lameness. A horse which is lame "all around" may, however, go level. Although deficiency of action is usually the cause, the lameness of stringhalt is due to its excess. In the case of a horse that is equally lame in all his legs the duration of their periods of contact with the ground and the play of one or more of their respective joints will not be normal. In a majority of cases either the toe or heel will be unduly favored in the distribution of weight. Under ordinary circumstances it is difficult to say when lameness is not caused by a complication of both mechanical inability to move naturally and from pain. If, for instance, a horse is lame from a stiff joint which exhibits no inflammatory symptoms after work, and if the nature of the lameness is unaffected by work, it may be reasonably inferred that the lameness is accompanied by little or no pain. Depriving the foot of feeling by neurotomy, or by the injection of cocaine in old cases of foot lameness, as from ringbone, is so often followed by removal of the defect in gait it is reasonable to believe that purely mechanical causes give rise to foot lameness much less frequently than might be supposed.

Lameness may be shown when the foot of the lame leg is on the ground, as when the horse is suffering from a painful corn; when the foot is raised as in case of stiffness of the knee, without pain, and when the foot is on or off the ground, as in acute pain of the fetlock joint.

EXAMINATION FOR LAMENESS—First try to find the affected leg and then endeavor to discover the seat of the trouble or inability in that leg. Cases of slight lameness behind, especially those of spavin and stringhalt, are often best seen when the horse is made to turn on his fore leg to one side and then the other of the stall or box. It may then be observed that he will shift the weight on to one hind leg quicker than he will to the other, which may be regarded as the unsound leg.

POINTING—It is first desirable to see the animal in his stall when he is standing quietly. If sound, he will often rest one hind leg by bending the fetlock while he keeps both fore legs firmly planted, and after a time will ease the other hind leg, and so on. Although under ordinary conditions one fore leg may be slightly advanced beyond the other, it will not be relieved of its fair share of weight unless when af,

fect, for a horse will naturally stand with equal bearing on the fore legs when on level ground. A tired horse, although sound, may rest a near hind and an off fore leg and vice versa. A horse that is lame in one fore leg usually stands with its pastern straighter than with that of the sound one. When a horse stands with a fore leg advanced beyond the other it is termed pointing, giving an indication of soreness or lameness. He may rest it with only the toe on the ground, with the heel only, or with the foot flat on the ground. If it is seen that a horse prefers to stand in a strained position, pointing with one foot rather than put weight on it, it may very reasonably be supposed that he is lame in that leg.

When the trouble is in the front of the foot, as a general rule, the animal is only inclined to rest the heel on the ground, but when on the back of the foot he will often raise the heel. The former position is that adopted in acute laminitis and generally that of painful ringbone; the latter by horses with confirmed navicular trouble. When the affection is not in the foot, in most case of pointing, the horse keeps the joints of the foot bent and the heel consequently raised. In very bad cases of lameness in the hind leg, the foot may be kept off the ground.

In the early stage of navicular trouble, the horse sometimes points by simply keeping the foot advanced with both heel and toe on the ground; but he soon begins to support the foot by the toe and to "round" the fetlock joint. In rare cases he will stand level. Sometimes lameness is manifested by a horse when standing, by shifting his feet frequently. Animals affected with navicular trouble often acquire the habit of lying down in their stalls a great deal.

In the pointing of elbow lameness the forearm is extended, the knee in a state of flexion and the foot on a level with or back of its fellow. In severe shoulder lameness the leg is relaxed, knee bent and the foot back of its fellow; sometimes the toe only touches the ground and the whole leg semi-pendulous owing to the inability of the muscles to elevate and bring it forward without pain.

In acute laminitis, when the trouble is in the fore feet, the horse advances them so as to relieve their toes of pressure and to throw the weight of the body on the hind legs. When the hind feet are affected the animal draws back his fore feet and advances the hind feet.

THE TROT AS A GAIT TO DETECT LAMENESS—In most cases the trot is more suitable for the detection of lameness than the walk. At the latter gait, when the lame leg comes to the ground it has the support of two other legs, but on the trot of only one other leg, its diagonal fellow. Consequently, there is more weight on the lame leg at the trot. When a horse, lame in the fore or hind leg, is trotted he will save the unsound leg at the expense of its diagonal fellow. The reverse will occur, to a less extent, when the lameness is in front. Such cases of cross lameness are more apparent when the trouble is behind, because lameness in the fore legs is more easily detected.

MOVEMENTS OF THE HEAD—If a horse is left at liberty to

move his head and neck he will use them as a sort of a balance to relieve the unsound leg as far as possible. If he is lame in front he will raise his head when the lame leg comes down, and will bring it more into its natural position when the sound fore leg touches to the ground. He will lower the head if the lameness is in the hind leg, when the opposite fore leg comes down. If a horse is lame in both fore or both hind legs he will go short and stiff and will try to take the weight off the lame pair by keeping his head high or low, as the case may be. If marked improvement is seen when the animal is moved on soft ground it serves to confirm the suspicion of lameness.

When the defective gait is characterized more by shortness of step and want of freedom in placing the feet on the ground, than by irregularity, it is safe to conclude that both fore, both hind or all four legs are unsound. Irregularity is particularly accentuated at the trot.

If the existence of spavin is suspected take up the foot and bend the hock, holding it in that position for a minute or so. After that if the animal trots sound the joint may be considered all right. Bone trouble may be suspected in severe cases of lameness, such as incipient ringbone, if the horse stands level in the stall, but trots lame on hard ground. In all cases it should be observed if the animal backs freely and with regularity. If not, it will often be indicative of shivering. Certain obscure cases of lameness can only be detected in the first few steps as the animal is being taken from the stable, for afterward he may work sound. This usually indicates the early stages of insidious and serious ailment.

PECULIARITIES OF ACTION—Some horses acquire a sort of hitch or lift in trotting from being ridden or driven badly. Some horses appear to go lame behind when trotting very fast on account of the hind legs not being able to keep time with the fore. Horses have been known to go quite lame in harness and sound under saddle, caused from having had at some time a galled shoulder. This species of lameness is sometimes seen in horses which have a sore spot on the bearing surface of the collar.

Intermittent lameness may be caused by rheumatism or cramp of the muscles, as well as by the early stages of navicular trouble. Lameness, as a rule, improves with exercise, except in cases of splints, sore shins, corns, laminitis and sprains. A horse suffering from navicular trouble will go up hill sounder than down, while the reverse is the case in laminitis.

When an animal is lame behind the trouble is generally in the hock. In the feet of work horses when in front and in the ligaments, tendons, or cannon bones of speed horses. If a horse goes lame in front without any observable cause and wears away the toe of the shoe, navicular trouble may be suspected. If he goes on the heel, however, either laminitis or ringbone is probable. When the lameness is behind and the toe becomes worn it is generally due to sprain.

Navicular trouble and occult spavin are rarely found in horses under seven years old. Side bones are confined chiefly to work horses, sore shins to race horses and navicular affection to cab and carriage horses.

NURSING AND FEEDING

SICK AND AILING HORSES.

WHEN sick the horse should be placed by himself in a box stall which is scrupulously clean, well bedded down, properly ventilated and free from draughts. As a rule, sick horses should be kept in a warm atmosphere in which the waste of tissue will be less than when the air is cold, for they are seldom able to feed heartily. Warmth is especially desirable in ailments of the chest and air passages, and the box should be heated so as to prevent the air from becoming vitiated. In the many ailments which require the skin to be kept in healthy action warmth is also essential, and it is more desirable to raise the temperature of the atmosphere than to obtain warmth by an abundance of clothing, which will only annoy and fatigue him, yet the air should not be rendered too dry. There should be perfect ventilation without draughts. An ordinary way of doing this is to raise the sash a few inches and close the opening with a board, thus the air will get in between the sashes without a draught.

The patient should be loose in the stall so that he can move about or lie down at will, unless the trouble requires him to be placed in slings or tied up. In cases of lameness, saw dust, moss or wood shavings are often better than straw bedding, as they more readily conform to the animal's movements.

CLOTHING—In case the temperature of the stall cannot be controlled clothing that is very light and warm should be employed, which should be frequently changed and thoroughly brushed, cleaned and dried. Should the patient possess an irritable skin a cotton sheet should be placed between it and the heavier blanket.

FEEDING SICK HORSES—Temptingly prepared food, judiciously varied, should be given in small quantities, and often, in order to stimulate an appetite, remnants of the food should be immediately removed and the manger cleaned. Neither food nor drink should be forced on the animal, as his appetite will indicate whether or not his system requires food.

LAXATIVE FOOD—Following is a list of foods which are good for allaying inflammatory symptoms when it is desired to keep the bowels in a lax state and in promoting the excretion of waste material from the system, as well as to keep up strength. Grass, green wheat, oats and barley; carrots, parsnips, turnips, gruel, bran mash, linseed and bran mash, boiled barley, linseed tea and hay tea.

Grass and similar food, if cut when wet, should be well dried before

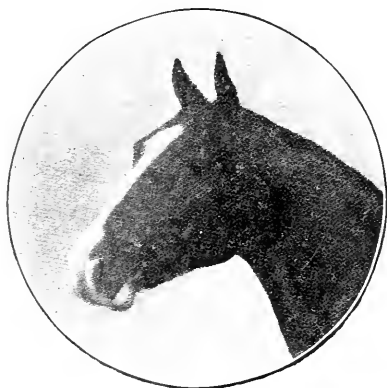
being used, and boiled grain should be cooked in as little water as possible, so that it will be comparatively dry when done, and always salted.

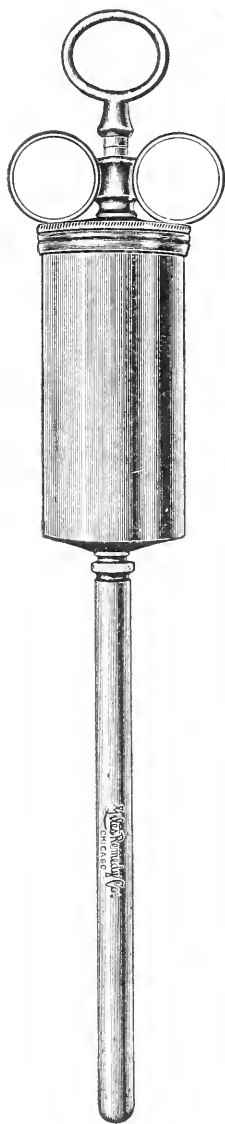
WATER—As a general thing, sick as well as healthy horses should have a constant supply of fresh drinking water. In exceptional cases the quantity can be lessened and the chill taken off, as in purging. The water should be slightly warm in many cases, but not above 80° F. In cases of inflammation of the lungs or congestion of the liver, the drinking of a quantity of cold water would tend to contract the blood vessels of the intestinal canal and increase the blood pressure on the affected organs.

SALT—At least three ounces of salt should be allowed a sick animal each day or a lump of rock salt kept constantly in the manger. It aids digestion and the building up of tissue.

GROOMING—Unnecessary grooming will worry a weak and depressed horse, although properly applied and vigorous hand rubbing or wiping has a good general effect in removing deleterious matter from the system through the skin. It is always well, however, to sponge out the eyes, nostrils and dock, smooth over the coat, hand rub the legs, strip the ears and take off the clothing worn at night, replacing it with a clean, fresh change.

EXERCISE—The too common opinion that an ailing animal in a box stall, especially if roomy, gets all needed exercise, results in the neglect of a very important factor in hastening the return to a condition of usefulness. The animal should be forced to move a little more than he is inclined to whenever his condition admits of it and the exercise should be gradually increased daily. A cure effected under these circumstances is much more likely to be permanent.





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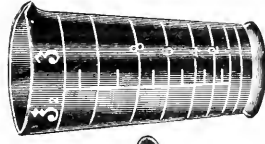
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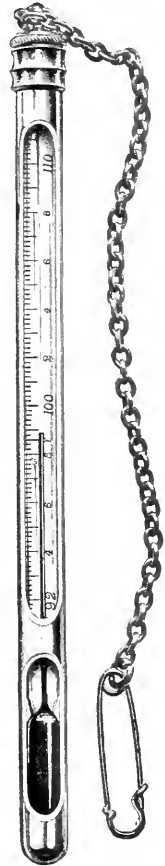
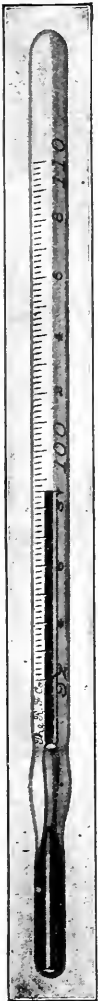
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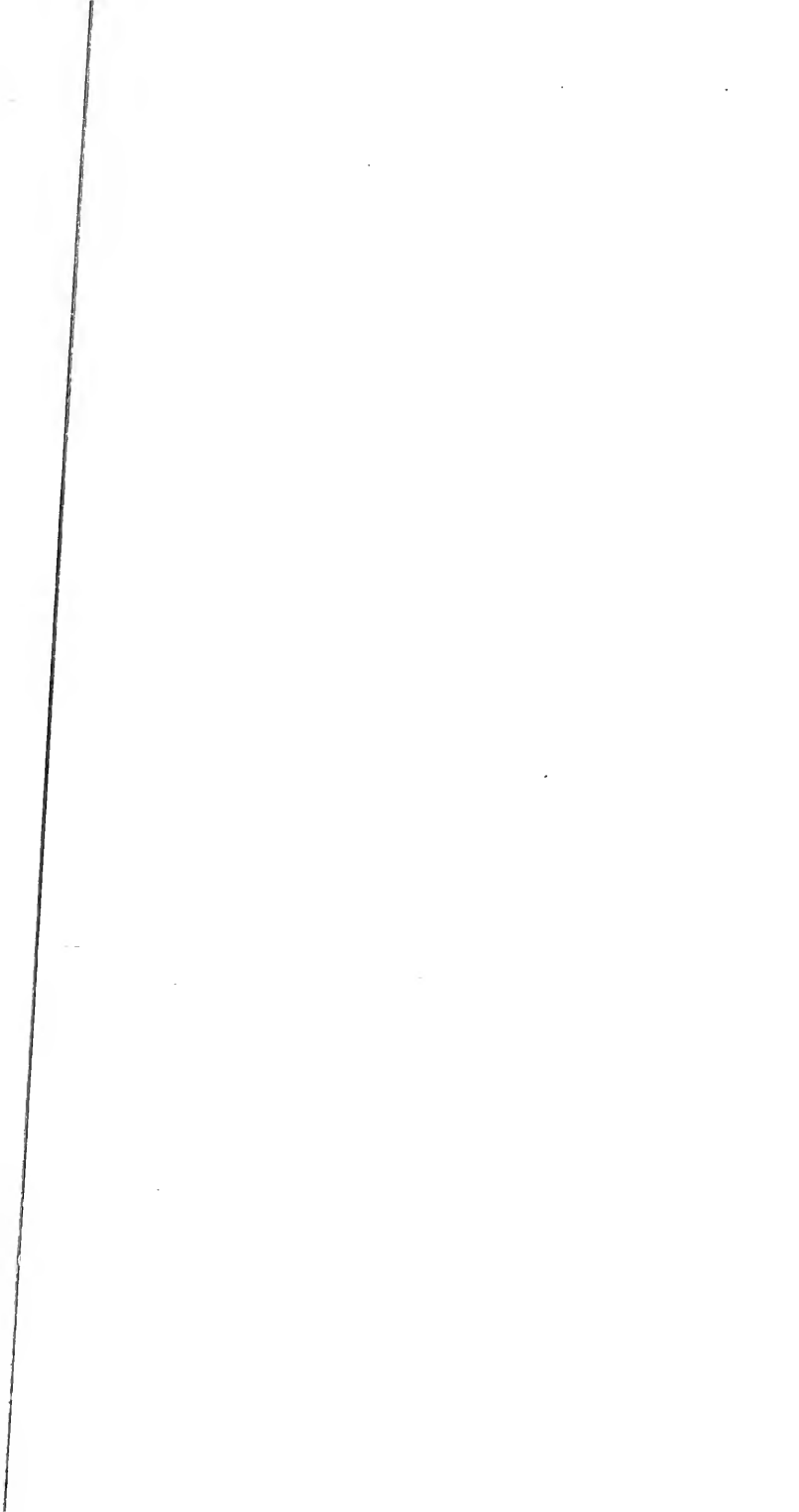
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