



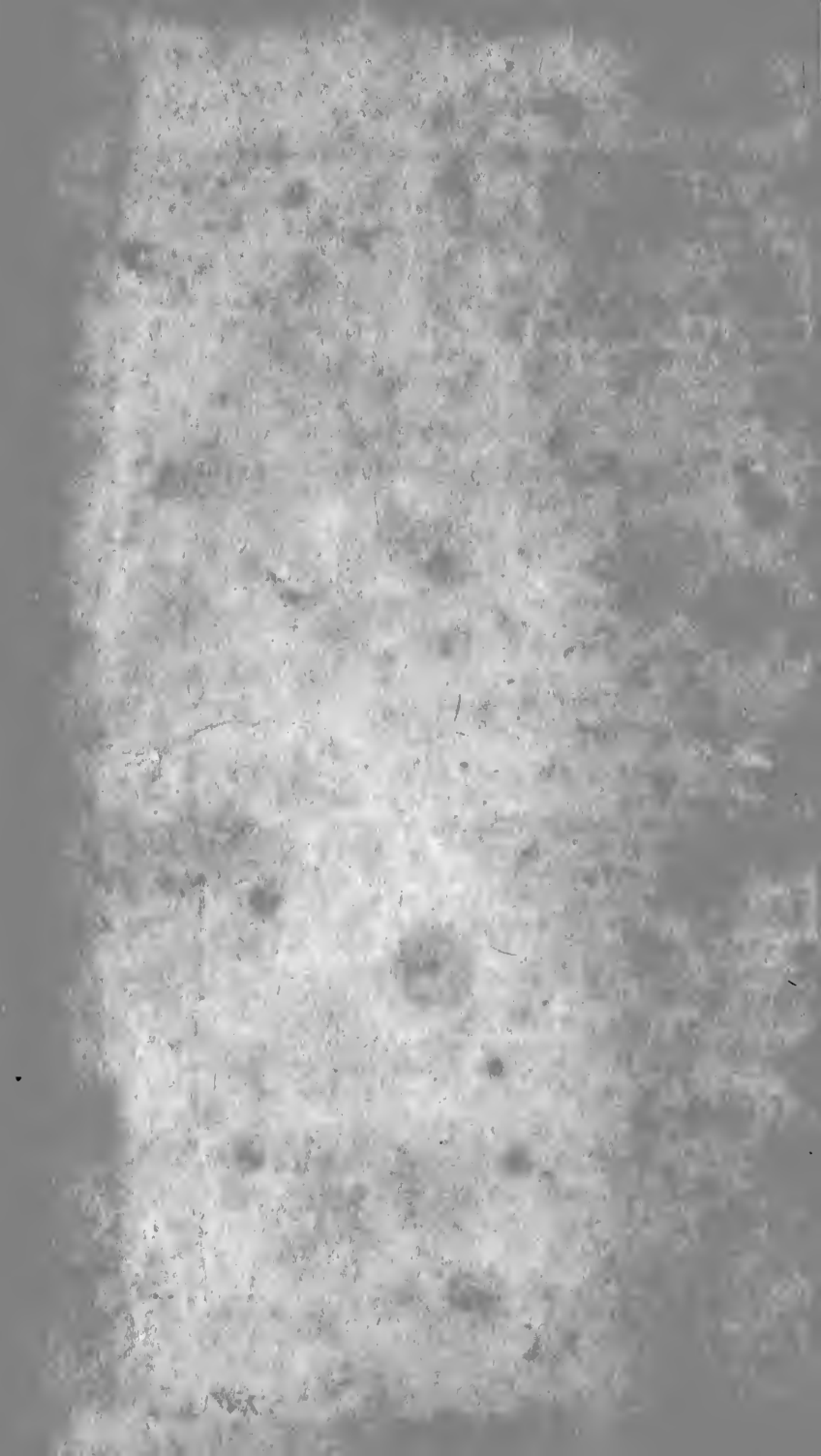
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CLASS SF 285

BOOK F7

1818





Wm. H. Carroll

THE
DOMESTIC ANIMAL'S
FRIEND,
OR
THE COMPLETE
VIRGINIA AND MARYLAND
FARRIER,

BEING

A COPIOUS SELECTION FROM THE BEST TREATISES ON
FARRIERY NOW EXTANT IN THE UNITED STATES,

IN FIVE PARTS.

I. Advice to the purchasers of Horses—observations and directions concerning Horses when travelling—ordering and keeping the Running Horse, according to the several states of his body—a description of most disorders incident to Horses, and a great number of Receipts for the cure of such complaints, in that noble animal, as are curable; including also directions for preventing many disorders that Horses are subject to, &c. &c.

II. Directions and Receipts for the cure of most distempers in Oxen, Cows and Calves; also a description of many of the complaints incident to them.

III. Observations and receipts for the cure and prevention of most distempers incident to Sheep and Lambs.

IV. Receipts and directions for the cure of most distempers in Hogs.

V. Receipts and directions to cure distempers in Dogs.

TO WHICH IS ADDED

A NUMBER OF RECEIPTS,

KNOWN TO BE EFFICACIOUS IN THE CURE OF MANY COMPLAINTS
INCIDENT TO THE DOMESTIC QUADRUPEDS OF AMERICA,
THAT HAVE NEVER YET APPEARED IN PRINT,

WINCHESTER, Va.

PRINTED AND PUBLISHED BY

J. FOSTER.

1813.

District of Virginia to wit:

Be it remembered, that on the sixteenth day of April, in the forty second year of the Independence of the United States of America, Jonathan Foster, of the said District, hath deposited in this office, the title of a book, the right whereof he claims as proprietor, in the words following to wit: "The Domestic Animal's Friend, or the Complete Virginia and Maryland Farrier, being a copious selection from the best Treatises on Farriery, now extant in the United States, in five parts.

I. Advice to the purchasers of Horses—observations and directions concerning Horses when travelling—ordering and keeping the Running Horse, according to the several states of his body—a description of most disorders incident to Horses, and a great number of receipts for the cure of such complaints in that noble animal, as are curable, including also directions for preventing many disorders that Horses are subject to, &c. &c.

II. Directions and Receipts for the cure of most distempers in Oxen, Cows and Calves; also a description of many of the complaints incident to them.


III. Observations and receipts for the cure and prevention of most distempers incident to Sheep and Lambs.

IV. Receipts and directions for the cure of most distempers in Hogs.

V. Receipts and directions to cure distempers in Dogs.

To which is added a number of Receipts, known to be efficacious in the cure of many complaints incident to the Domestic Quadrupeds of America, that have never yet appeared in print. Winchester, Va. Printed and Published by J. Foster, 1818. In conformity to the Act of Congress of the United States, entitled "An Act for the encouragement of learning, by securing the copies of Maps, Charts and Books, to the authors and proprietors of such copies, during the times therein mentioned.

RD. JOEFFRIES,
Clerk of the District of Virginia.

 The publisher requests every gentleman, into whose hands this book may fall to give it, at least, one careful perusal.

INTRODUCTORY REMARKS.

☞ *The attention of the reader is particularly invited to the following introductory remarks.*

In compiling this work the publisher has been careful to examine the most celebrated authors on the subject, both European and American that are extant. In doing of which he is sorry to say, he has found none that are not highly objectionable—some having swelled their books to an enormous size with a ridiculous redundancy of extraneous matter, evidently designed to impress on the mind of the reader that the authors were, in their own estimation at least, men of profound erudition, and eminently skilled in their profession, while they have, by their worse than useless criticisms, disgusted the honest enquirer after a knowledge of the useful science proposed to be taught by them. And in their very *learned* and *elaborate disquisitions*, have said much on some of the common complaints incident *only* to a few of our domestic animals, while they have wholly omitted offering either remedy or preventives for others of the most serious complaints that afflict many of our useful quadrupeds. Others, again, are as deficient as those are redundant—neither describing many of the complaints of our domestic animals, that, from a want of a knowledge of them, become fatal—the poor animals suffering a lingering disease and finally death, and the owner frequently a serious loss; and for fear, it would seem, of enlarging their books to a reasonable size, have omitted some of the most speedy and sovereign remedies for many dangerous disorders that the American quadrupeds are subject to. It has been the object of the compiler of this work

30 March 1950. Charles C. Tuttle. 1500.

INTRODUCTORY REMARKS.

studiously to avoid both these extremes—He has been careful not to crowd his book with extraneous or irrelevant matter, and to insert all such, so far as he has been enabled to obtain it, as he deems of any advantage either in discribing, preventing, or remedying the many diseases incident to every class of our domestic animals—And by examining the different authors to which he has had access, he flatters himself that he has been enabled to glean from among them a sufficient number and variety of cures, &c. to answer the most sanguine expectation of all those who may patronise this work.

The compiler and publisher, having thus attempted to furnish the public with a complete treatise on a subject which is universally acknowledged to be among those of the first importance to a great majority of the people of the United States, submits the same to the examination of his fellow citizens, with a confident hope that the many and salutary advantages to be derived therefrom will secure to him an adequate remuneration for the labour and expense he has unavoidably incurred in completing the work.

Note. It will no doubt be acceptable to subscribers, to inform them that there is considerably more in the above work than was promised in the prospectus—namely—an alphabetical list of all, or most of the Medicines directed to be used in the book, also upwards of thirty six pages more than was promised, and four plates which were not mentioned in the Proposals.

THE
EDITOR AND PUBLISHER'S
PREFACE.

TO test the utility of this Treatise, we would only request the reader to visit, weekly for one year, any Farm, Wagon-Yard, Stable or Barn-Yard, which is a resting place or home for the Quadrupeds of our country; and if, in that time, he does not discover sufficient cause to induce him to acknowledge the almost universal necessity of such a work; and that a book, containing a description of most of the complaints and disorders incident to the domestic animals of America, with a great variety of sovereign remedies for those complaints and disorders, and preventives against them, is worthy of, and ought to be patronised by the citizens of Virginia and Maryland—yea, and by the people of the United States generally, the Editor and Publisher pledges himself to make the author of such a happy discovery a compliment of a copy of the work.

In selecting, compiling and arranging the matter of the following pages, no pains, care nor expense has been spared to render the book as useful as it is possible such a publication can be. How far the end in view has been accomplished, must remain for a judicious and enlightened public to determine—To whose judgment and decision the publisher, with pleasure, submits the work.

The selections have been carefully made from the best Authors—perhaps from all the good Authors on Farriery in America ; and the medicines to be used, both as cures and antidotes, are to be had either from our gardens, fields or woods, or from almost any Apothecary in the United States.

To conclude, the publisher does not fear to hazard the opinion that no gentleman, who becomes the owner of this work, will consider the price of the book as an equivalent by any means to its value.

☞ A proper attention to the following directions and advice on the subject of the Form, Nature, Constitution, Age and Management of Horses, &c. will afford such information as to enable any gentleman always to be master of a good Horse, and to obtain, from that noble animal, the utmost service which he is capable of performing in the highest state of perfection.

EXTRACT

FROM CLARK'S INTRODUCTION TO HIS TREATISE ON THE
PREVENTION OF DISEASES INCIDENTAL TO HORSES.

“——To observe the golden mean,
To keep the end in view and follow nature.”

THE propriety of this excellent maxim is, perhaps, in few cases more applicable than in the following subject, relating to the Management of Horses. Every judicious observer must have had an opportunity of seeing the many absurdities daily committed in the treatment and management of this animal, in a great variety of cases, and, at the same time, of observing the bad consequences that follow from it; and perhaps there is no subject of equal importance, in which people are more apt to be led by prejudice in favour of certain established modes and customs. But a prejudice in favour of popular customs, however plausible they may appear, when adopted without any inquiry into their propriety and usefulness, farther than the sanction of the vulgar, can seldom stand the test of philosophical research.

It is to be regretted with what obstinacy many ridiculous absurdities are persevered in, relating to horses, in opposition to experience, and to common sense, which

nothing can ever banish from stables, but the interposition of those whose real interest it will be, and who should assume the right they have to think for themselves, without being dictated to by those they should command.

The many advantages we derive from horses, their real and solid services, render them valuable; and every thing which tends to improvement in the management of them, or in preventing those diseases they are subject to, (by error in management,) are objects worthy of attention.

Horses, in their natural state, or running at grass in the fields, do not require much attention from man. If they have sufficient pasture and water, they eat, drink, and run about at pleasure. Their wants are few, and easily supplied; and they enjoy a perfect state of health. But, in a domesticated state, from a variety of circumstances, their constitutions undergo a considerable change—They require then particular care and attention in the management of them. To be sheltered from the weather, and to be fed with rich food, to enable them to perform with vigour the various labours imposed on them, and which too frequently are exacted with rigour and severity beyond what they are well able to bear. Hence the unnatural restraint, the confinement in too close foul-aired stables, together with the violent exercises they are exposed to, and the injudicious management of them in a variety of respects, render them liable to a long train of diseases, which sooner or later either proves fatal to them, or lays the foundation of some chronic disorder, which art can neither palliate nor remove.

The British horses are justly esteemed the finest in the world; and, what is very remarkable, it is the finest and

best of these horses that too frequently are most exposed to be hurt, from an injudicious method of treating them: whilst those of an inferior degree, being left more to themselves, or, in other words, are allowed to live more agreeable to their nature, and free from those established practices observed in the more elegant stables, perform the task required of them to a good old age in health and soundness: a mode of refinement, if it may be so called, prevails in the stables where fine horses are kept; every thing respecting the management of them is carried almost to an extreme, insomuch that there is hardly any medium observed. Thus, a certain degree of warmth is agreeable, and even necessary to horses, yet they generally are kept too hot, at the same time frequently loaded with body-clothes. Food, which ought to be distributed according to their work or exercise, is frequently dealt with too liberal a hand; whether they work or not, the food is always continued the same, without considering whether the waste in the constitution, requires a greater or a lesser supply of nourishment. Exercise, that necessary article for preserving them in health, and fitting them for the active exercises required, is too frequently neglected. Fresh air, that exhilarating principle of life, which is so essentially necessary for the health of all animals, is but too much excluded from their stables. But that I may not anticipate my subject, I shall only observe, that the health and soundness of horses depend greatly on the manner in which they are treated; and it ought always to be observed, as a general maxim, that the nearer we approach in the management of horses, to that which is most agreeable to their nature, they will

be in the greater perfection ; and the farther we deviate from this rule, we lay a restraint upon them, and injure their constitutions.

It is surely of greater importance to endeavour to prevent diseases and lameness in horses, especially when it is practicable, by proper care and attention in the managing of them, than by an opposite conduct, to run the risk of their health and soundness, and afterwards have recourse to precarious and uncertain cures ; for many diseases and lameness in horses might, without all doubt, be prevented, by proper care and attention, which, when once they have taken place, cannot so easily be removed. Slight causes, when neglected, often produce the most violent complaints, which art, in many cases, can only palliate ; and it ought always to be remembered, that unless horses are in health, and thoroughly sound, they are not fit for the laborious exercises required of them.

Health is the faculty of performing all the functions of animal life in the most proper and perfect manner ; that is, when respiration or breathing is performed in a free, easy, regular manner ; when a horse can bear exercise or labour without becoming short-breathed, faint, or appear too much fatigued in proportion to the labour or exercise he has undergone ; when he eats and drinks moderately, with a good appetite and appears refreshed by it ; when his hair lies smooth and shining ; when the excretions of dung, urine, &c. are discharged in a due proportion and consistency ; and when a horse appears lively, active, and full of spirit.

In order to preserve horses in this healthful state, it is not necessary to have recourse to medicine or bleeding.

&c. &c. by way of preventing diseases, or preserving them in health. The most effectual means to attain this end, are a proper attention to the management of them in general, which partly consists in accommodating them with well aired stables, with wide stalls, and allowing them wholesome and nourishing food and drink, in proportion to the labour required of them ; together with well-timed exercise, when they are not otherwise employed ; to which may be added, good rubbing and dressing, twice or thrice every day.

CHAPTER I.

On the Building and Construction of Stables,

And the Management of Horses.



YOUNG horses generally are accustomed to live and breathe in a pure open air till they come of age, and are fit for labour; it is then found convenient to house them. This produces a considerable change in their bodies, and makes them liable to be greatly affected by the temperature of the air which surrounds them, and in which they breathe.

That the generality of stables are kept too close and hot, requires no demonstration, as every one who goes into them, (even when the weather is pretty cool) must have discovered this from their own feelings; and, in the summer season, the heat within them is increased to a very great degree. What renders it still worse, it frequently happens, that from the situation and structure of many stables, no opening can be made to allow a sufficient quantity of fresh air, so as to enable horses confined in them to breathe with any tolerable degree of freedom. The door is the only entrance for air, and that can only happen occasionally when it is open. It is true, the intercourse that must unavoidably take place through the day in going out and in, renders such stables tolerably fresh aired; yet in the mornings, when the door has been shut up for some hours through the night, and especially in summer, the heat is intolerable, and the air so foul, that a

man can hardly breathe in it, whilst, at the same time, the sharpness of the salts, arising from the horse's urine, &c. attacks his nose and eyes, and occasions a copious discharge of tears.

Many of the hovels at present used as stables do not even deserve the name ; and it is surprising that, considering the value and usefulness of horses, so little attention is paid to their health in this respect : for surely there can be nothing more hurtful than keeping a number of them (perhaps 30 or 40) shut up in a close warm stable, where they must constantly breathe a hot foul air, which, at the same time, is strongly impregnated with the putrid steams of their own dung, wind, and urine, besides the exhalations that arise from their bodies, which, in this case, are kept in a constant strong perspiration, by the great heat of the air which surrounds them ; and, to add to all this, they are perhaps wrapped tight up in body-clothes. How can it be expected that a horse, who has passed the night in this situation, should be active and vigorous to perform his day's work ? Will he not rather be faint, languid, and dull, his whole system, as it were, being unhinged, and in a relaxed state ? Let any man, who is an advocate for this treatment of horses, try the experiment on himself ; let him sleep in a heated close room, covered up with clothes, sweat it out for the night, and try the condition he will be in next day for any employment whatever.

Although the description I have given of the situation of horses in large close stables through the night, may appear exaggerated to those who have not had an opportunity of knowing it from their own observation, it is, howev-

er, a true one; and the same observation will hold with respect to those stables that are of smaller dimensions, even although they should contain fewer horses. If, at the same time, the stable is made so close as to exclude the admission of fresh air, it is well known to be a common practice to shut up every crevice that would admit the least quantity of air. The very threshold of the door is choaked up with dung; and even the key-hole is filled up with straw.

Every man knows, from his own experience, that when a number of people are met together in a close room, the air when it becomes moist and hot, renders breathing difficult: and, if continued in for a length of time, this uneasy sensation would be increased. In churches, or crowded assemblies lighted with candles, the effects of a heated foul air are evident to the sight from the lights burning dim and very faintly; and although the loftiness of the roofs in such places contributes to render it less perceptible to those who are on the lower or ground floor, (as the heated foul air always ascends) yet, to such people as are in the higher parts or galleries, the oppression it occasions in breathing is great, the perspiration becomes profuse, and their thirst excessive. The bad effects of breathing long in a heated foul-air is but too well known, and will be remembered by every one who has heard of the unfortunate affair of Calcutta black hole.

The lowness of the generality of stable roofs renders them unwholesome from this circumstance alone; the horses' heads being too near the stable roof, are under the necessity of breathing a heated foul-air, almost constantly.

During the time they are confined in the stable, especially through the night, when the doors, &c. are shut up, it is still worse in the warm months of summer. A heated foul-air is noxious to animal life in general. How then can it be expected that horses should thrive in it? At the same time, can there be any thing more inconsistent than keeping horses warm to an excess in the house, by the use of body clothes, in a constant state of strong perspiration, and stripping them naked the moment they are to go abroad in all weathers? The constitution of a horse, strong as it is, cannot withstand such irregularities: it must, and indeed does, too often fall a sacrifice to this manner of treatment. The sudden and frequent transitions which horses undergo, almost every day, from being surrounded with, and breathing a hot foul air through the night, and suddenly exposed to a sharp piercing cold air, and *vice versa*, from a cold to a hot, were there no other causes, are sufficient of themselves to produce a number of the most violent diseases. It is to be observed, that great heat and profuse perspiration dissipates the watery parts of the blood, and renders it too thick for circulation; and from that cause alone many diseases proceed. The constant inspiring of a hot foul air does not expand the lungs sufficiently, so as to promote the circulation of the blood through them; hence it is accumulated, and proves another source of diseases in that organ. It likewise renders them liable to fevers, faintness, langour, frequent sickness, and loss of appetite. It exposes them to all those external complaints which arise from obstructed perspiration, as rheumatism, tumours in the glands, scabs, lumps, scales on the skin, staring of the hair, &c. But

the danger is still greater when the perspirable matter that should be carried off in the ordinary course is thrown upon some of the internal viscera, as the lungs, intestines, brain, pleura, &c. From the first of these proceed coughs, peripneumony, or inflammations of the lungs, consumptions, &c. From an affection of the intestines proceed obstructions in the bowels, and diarrhoea, or *scouring*, as it is called in horses. When it settles on the brain, it produces vertigo, or staggers, apoplexy, epilepsy, &c. And when on the pleura, it is attended with the most acute pains or stitches; symptoms which nearly resemble those of the gripes or cholic. These complaints, if not speedily relieved, generally prove fatal to horses.

Together with the heated foul air which generally prevails in such stables, as are kept too hot and close, there is always a dampness or moisture. This is occasioned by their being made too close, and kept so; insomuch that no fresh air can be admitted into them, but what passes in at the stable door, and that only, as I have already observed, when it is occasionally open. Hence the moisture from the horses breath (and which may be increased from a low or damp situation) gathers, or is collected, in large drops on the roof, walls, and glass windows, and runs down in small streams. At the same time, the stable is filled with a hot, damp, and moist air, which is not only extremely pernicious to horses health, but destructive to their furniture of every kind. Foul air, whether from putrid steams, or exhalations of any kind, is noxious to all animals, and productive of various diseases which frequently prove fatal.

It would be needless to enter here into an inquiry con-

cerning the properties of air, as every one, from his own experience, must have observed, at some time or other, the great difference arising from his breathing in a foul or in a fresh air; it will be sufficient to observe, that air is the chief instrument of health, and principle of life, without which no animal can subsist. It is likewise necessary to observe, that there is a peculiar matter thrown from the lungs of every animal, together with the air, which renders it unfit for respiration or breathing. Besides, particular situations and seasons often alter the qualities of the air, and render it more or less unfavorable to animal life. Nature, accordingly, makes use of all possible ways to preserve the air in a wholesome state; for it is thinned and purified by heat, and kept in continual motion by the winds.

Although the air is by such means often preserved in a wholesome state, yet, as has been before observed, particular situations and seasons often alter its qualities, so as to render it more or less hurtful. Its dryness produces one set of diseases, its moisture another; its heat or its cold others; and so on. It is well known, that no animal can exist long in the same individual quantity of air.

Thus, it is computed that a gallon of air is rendered unfit for respiration by the steams of a man's breath in one minute; consequently a hogshead of air would not supply a human creature one hour; nor, indeed, can he live in it one third of that time. Hence, therefore, we may learn, that, without a continual supply of fresh air, the lungs cannot perform their office. This will appear still more necessary, when it is considered that the lungs are supposed to be the chief instrument of sanguification,

and mixing the blood and chyle by their expansion and dilatation, &c.

Dr. Hales, to whom the world is much indebted for his curious and useful experiments on air, tells us, that he could not live half a minute without uneasiness in seventy-four cubical inches of air, and not one minute in the same quantity, without danger of suffocation.

If the quantity of air above mentioned is rendered unfit for respiration by a man's breathing in it for so short a time, we may conclude that a much greater quantity of air would be rendered unfit for respiration in the same time by a horse, whose lungs are considerably larger, and of a more extensive surface.

The effluvia from animal bodies are likewise very hurtful to the air. Three thousand men, living within the compass of one acre of ground, would make an atmosphere of their own steams seventy feet high, which would soon become pestilential, if it were not dispersed by the winds. The air of prisons, for this reason, produces mortal fevers, &c.

Moist air relaxes all animal fibres. Such diseases, therefore, as proceed from laxity of fibres, must be the common diseases, both of moist seasons and moist situations. Dry air, by producing opposite effects, produces opposite diseases.

Cold air, by bracing the fibres, and giving them a stimulus, produces that strength and activity of which we are so sensible in frosty weather. Hot air, likewise, relaxes the fibres so as to occasion that faintness and debility so often experienced in hot weather.

Those stables, which contain a great number of horses,

are attended with other disadvantages, beside those I have already mentioned, especially to tired or fatigued horses, from the great intercourse which must unavoidably happen in people going out and in, especially in public stables. Hence those horses that are shy to lie down, or are easily disturbed, will not rest themselves in that horizontal posture, which is of great consequence for keeping their legs fine and clean, as it forwards the circulation of the blood, &c. in the vessels, and prevents swelling and gourdiness of the legs and heels, which are generally the forerunners of ulcers, scabs, grease, &c. Rest, to horses that are tired and fatigued, becomes absolutely necessary, in order to recruit and refresh nature. We know how agreeable and necessary it is to ourselves. Horses are susceptible of the same sensations: therefore, every opportunity of resting and stretching their legs should be given them.

Large crowded stables contribute greatly to communicate contagious or infectious diseases. A great number of horses breathing in one place contaminates the air; and if it has not a free current, it soon becomes unwholesome, and, like the air of jails, it contracts a malignant quality, which produces fevers in those horses who stand in them; and, on changing them to other stables, they likewise communicate the infection to others. Hence it has been remarked, in those epidemical diseases amongst horses which have appeared in Britain, that it raged with most violence in those stables where a great number of horses were confined together in one large stable, whilst its effects, in small well aired stables, were more mild and less destructive.

To enumerate all the disadvantages which arise to horses, from their being kept too warm, and breathing a hot foul moist air in close stables, would take up too much of the reader's time, or perhaps weary his patience, as the impropriety of this treatment to horses, must be obvious to every one, who allows himself to reflect coolly upon the subject, and to apply these reflections to what he has experienced from his own feelings in the like situations. I shall therefore only add further, that it renders horses exceedingly delicate: it enervates their whole system, and, of course, renders them unfit for the laborious exercises required of them.

On the other hand, too cold stables are likewise hurtful to horses, more especially after labour or exercise, or when they are kept standing fixed to one place, or where the cold air is directed upon them in a current or stream from any door or window. A current of cold air is more noxious to animals that stand in it but for a short time, than heat. The natural qualities of the former is one of the principal causes of the distempers it produces; for its coldness checks perspiration, by contracting the skin, and closing or shutting up the pores.

It is a common saying among stable people, that horses feed best when kept in darkness. But this is by no means the case. They feed equally well in light, are fond of it, and show evident symptoms of pleasure, when they are brought from a dark stable into the light, by their frisking, &c. Such stables are generally unwholesome; for, as they have no windows, fresh air is excluded as well as light.

Very dark stables are likewise hurtful to the eyes.

Horses are naturally timorous, more especially when they see but imperfectly around them. Hence they are the more constantly upon their guard. By this means the pupils of the eyes are too much dilated, or opened, in search of the least ray of light, in order to discover objects near them. This constant dilatation of the pupils greatly weakens their contractile power; and, when the horse is brought out to the open day, the rays of light fall so suddenly, and so strong, upon his eyes, as to cause a kind of quivering or convulsive motion in them, and in the eye-lids; the immediate efforts of the poor animal to keep out those rays of light which give him so much pain, and that, at other times, are so very agreeable to him. But this is not the only bad effect that arises to horses from their standing in dark stables. It affects their seeing objects distinctly when abroad, and causes them to startle, and be alarmed at every thing they meet with, which makes them exceedingly troublesome to the riders. The poor animals are blamed, when, in fact, it is in a great measure owing to the dismal situation in which they are too constantly kept. Light, to horses, is as cheering, agreeable, and natural, as it is to the human species, therefore, they ought not to be denied that common privilege.

Farmers, from a view of making dung, lay great quantities of straw under their horses, where they sometimes let it remain for weeks together. The dung, urine, together with the heat of the stable, soon reduce it to a state of putrefaction from which issue steams of a most noxious quality, which the horses constantly breathe in; and, in wet weather, when they are more confined to the stable, this hot foul air may occasion fevers of the most malig-

nant kind ; and, perhaps, this may be the cause of those epidemical fevers which break out in rainy seasons.

In my observations upon the shoeing of horses and the diseases of their feet, I have frequently hinted at the bad effects of keeping their hoofs and legs too hot, by means of too great a quantity of litter at all times, night and day, and perhaps large quantities of heated dung. The great heat of the stable, together with the accumulated heat arising from too great a quantity of litter about the legs, occasion a more than ordinary derivation of blood to the legs, &c. which causes a dilatation, or fullness of the blood vessels, and, of course, a swelling or gourdiness in the legs. Hence proceed a stiffness and numbness, greasy heels, &c. If the horse lies down for relief, the great heat of the litter soon forces him to get up again ; and, after repeatedly lying down, and being forced to get up immediately, from the above cause, he attempts it no farther, but stands upright, or perhaps a little straddling, often shifting the weight of his body from one leg to another. This erect position, in which he is obliged to stand, increases the swelling of his legs, &c. Recourse is then had to all the remedies commonly prescribed for swelled heels, under the notion of carrying off humours, as bleeding, rowels, purging, diuretics, &c. &c.

I have been the more particular in the above description, as many cases have occurred, arising from the above cause, when no disease did at first actually exist, and which might have easily been prevented, by removing the quantity of litter as soon as the horse's legs began to swell, keeping them cool, and washing them frequently with cold water.

The Earl of Pembroke, in his Military Equitation, has a very judicious remark on this head. "After working, (says he,) and at night of course, as also in lamenesses, and sicknesses, it is good for horses to stand on litter; it also promotes staling, &c. At other times, it is a bad custom; the constant use of it heats and makes the feet tender, and causes swelled legs. Moreover, it renders the animal delicate. Swelled legs may frequently be reduced to their proper natural size, by taking away the litter only, which, in some stables, where ignorant grooms and farriers, govern, would be a great saving of physic and bleeding, besides straw. I have seen, by repeated experiments, legs swell and unswell, by leaving litter, or taking it away, like mercury in a weather-glass."

The Arabians,* who are remarkably careful in the management of their horses, and have them in the greatest perfection, litter them with their own dung, dried in the sun, and afterwards beat down to a powder, and spread thinly upon the floor, about four or five inches thick; and, after being soiled, it is dried a second time in the sun, which clears it entirely of its offensive odour; and, in order to keep their legs cool, wash them carefully with cold water morning and evening. This practice has not only the desired effect on the legs, but it keeps their hoofs cool and moist in that dry and warm climate.

The same author likewise tells us, that the Arabians keep their horses, as much as possible, in the open air. "Every day, (says he,) from morning to night, all the Arabian horses stand saddled at the tent doors; and, as

* Buffon's Natural History of the Horse.

“ the Arabians live in tents, these tents serve them like-
 “ wise for stables.”

This method of managing horses approaches as near as it is possible, to the natural or wild state, and cannot fail of being attended with salutary effects to the constitution of this useful animal : and, although this practice cannot be adopted or recommended in our cold and changeable climate, yet the inference is very obvious, and cannot fail of showing the propriety and usefulness of keeping our horses in well aired ventilated stables.

The above author likewise observes. “ That very
 “ warm climates, it would appear, are destructive to
 “ horses ; and, when they are transported from a mild cli-
 “ mate to a very warm one, the species degenerate.” This observation, together, with the arguments produced in support of it, and which appear to be founded in fact, shows how pernicious and unnatural too hot stables are to the constitutions of horses. Stables, with double heads as they are called, that is, when the horses stand with their tails opposite to one another, are very improper, unless there is a considerable open space behind them, as horses are apt to kick and fight, by which they lame and wound one another ; instances of which occur almost every day : a precaution of this kind is the more necessary, as many, if not most horses, when not feeding, stand as far back as the stalk of their collar will admit. This practice I have observed to prevail mostly in those stables that were kept too hot, probably owing to a foul hot air prevailing near the rack and manger, or from putrid steams arising from old musty litter below the manger, or from that under the horse’s fore feet ; for it is to be ob

served that horses and geldings, when they stale throw their urine considerably forward, and if the wet litter is allowed to remain under them, (which indeed is too frequently the case) it heats like a dunghill. The saline steams arising from it are so sharp and disagreeable to the organs of smelling, that horses stand as far back as they can in order to avoid the smell, and to breathe a freer and fresher air.

From what has been said, it is obvious, that the prevailing custom of keeping horses too warm in their stables, and where at the same time, a hot foul air must of course prevail, cannot fail of being attended with bad consequences to their health, &c. and shows the necessity of accommodating them properly with well aired stables, free from all damp or foul air, and so contrived as to be kept at all seasons of a proper temperature, avoiding the extremes of heat and cold.

It is well known, that in hot-houses, where exotic and other delicate plants are kept, a thermometer is used to ascertain the heat of the air within the house, which becomes absolutely necessary, as an excess of heat or cold would injure the plants. This practice, with great propriety, might be adopted in stables, that, when the heat within them is increased to a certain degree, the ventilators should then be opened; and when too cold, they may be shut, or nearly so, as may be found necessary.

All stables should be built in a dry situation, and in a free air. They ought to be at a distance from all boggy or marshy grounds, and free from all noise or disturbance, The ceiling or roof should be high and lofty, as the heated foul air always ascends. The dung should never be

allowed to rot within the stable, (as is done in some places,) nor even at the stable door; but every thing about horses should be kept sweet and clean. The stables should be frequently well aired, by keeping the doors and windows open when the horses are out through the day. Experience teaches us how agreeable and even necessary it is to admit fresh air into our own apartments, it is equally necessary and useful to horses. No stable should contain more than six or eight horses at most, for the reasons already mentioned. The stalls should be large and roomy, at least six feet wide, in order that a horse may stretch his legs out when he lies down with freedom; and as horses are sociable creatures, and always thrive best in company with one another, no stable should be made of one stall only, unless it may be so situated as the horse that stands in it may be within the hearing of other horses. The stable-windows should be large, in order to admit a good deal of light, and made so as to let down from the top occasionally for the admission of fresh air. The damp or moisture that settles on the glass-windows should be frequently wiped-away, and kept clean and dry. The litter under the horses should always be put up through the day below the manger, especially when a horse goes abroad, in order to let the pavement dry and cool; and when the litter is spread down, it ought never to be too thick for the reasons already mentioned. A horse should never be allowed to stand on litter through the day unless he is unwell or fatigued, when it is presumed he will lie down to rest himself.

Having already hinted, that too much clothing to horses, whilst they stand in the stable, contributes greatly to

render them tender and delicate, besides exposing them to all the diseases arising from too great heat about their bodies, and likewise to those arising from an obstructed perspiration from cold when they go abroad. It will be proper here to observe, that in some cases clothing becomes highly necessary. What I condemn is the too constant and improper use of them, even to excess, in warm weather and in warm stables. When a horse is in health, and stands idle, very little clothing is necessary: a single sheet or rug will be sufficient, unless the stable he stands in is very cold. But when a horse has been overheated, from violent labour or exercise, more clothing will be at that time necessary, as circumstances may require, till he becomes moderately cool.

Here I cannot help taking notice of that pernicious custom of girding horses bodies so very tight above their clothing, by means of very broad girths or rollers, having a considerable number of straps and buckles, with a view of taking up the horses belly (as the phrase is.) If such bandages, are necessary, of which I have great doubt, why are they used indiscriminately to all horses, and even to those that are naturally light bellied? Post and road horses, when they are fed for some time with clean dry food, have as light bellies as the finest hunters or racers; and yet no such thing as broad rollers are ever applied to them.

Broad girths, when drawn too tight round the body, impede the free action of the lungs, and, by their compressing the liver and other viscera, the circulation of the blood, &c. in them is considerably affected. I have seen many horses, when labouring under a feverish disorder,

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girded so tight with these broad rollers, that it occasioned a more than ordinary difficulty of breathing, attended with great anxiety and restlessness: and on ungirding the rollers, the animal seemed greatly relieved. For the same reason, too great a number of girths to a saddle are hurtful, when too good ones will answer the same purpose.



CHAPTER II.

*Farther observations and directions on the same subject—
partly selected and partly original.*

IN the construction of a stable there is no circumstance more deserving attention, or that is more generally neglected than ventilation; the most convenient method of doing this is to have one window in each stall a little above the manger so contrived that it may be occasionally shut; this will prevent the air from becoming impure, and enable you in some measure to regulate the temperature of the stable.

The stalls should be of sufficient width to allow the horse to turn freely say at least five feet; narrow stalls are not only very inconvenient, but have some times occasioned dangerous diseases of the spine.

The floor should be made of two inch plank at least and nearly level, very little declivity being sufficient to drain off the urine.

The partitions of each stall should, by all means, join to the floor; as by leaving such a vacancy that the horse

can get his foot and leg under, or his foot only, he may be in danger of breaking his leg or thigh.—An instance of which happened to a horse belonging to the publisher, by which he sustained a loss of one hundred dollars.

The common method of making the back part considerably lower than the front, is certainly very improper: When a horse stands in this way the muscles and ligaments of the hind legs are kept constantly on the stretch in some degree, frequently producing a swelling of the legs.

Dark stables are very injurious to the eyes, the windows therefore should be larger than they are commonly made.

There is a neatness and advantage in having the manger made so as to slide into the wall, like a drawer, and an iron rack is preferable to one of wood; by this contrivance they may be more easily kept clean, and the horse will not be so liable to acquire the vice of *crib-biting*. Horses should not be suffered to stand on their litter during the day, unless they have undergone considerable labour, nor should it be placed under the manger as is usually the case; the stimulating vapours, which constantly exhale from it, being injurious to the eyes and lungs; it tends also to produce in the hoof a disposition to contract: it is advisable, therefore, to remove the litter every morning, and expose it during the day to the air; the moisture and stimulating vapours would be completely dissipated by the evening, and it would be nearly as useful as fresh straw. Another advantage arising from this plan is, that a horse would have but little opportunity to eat his litter, which they are frequently inclined to do

when stinted in hay. The quantity of litter which some horses eat during the day is productive of much mischief; it certainly oppresses the stomach, and weakens its digestive power; it tends also to injure the wind, without affording the smallest quantity of nutriment. Though ventilation is of the utmost importance in a stable, heat, in a moderate degree, is certainly congenial to the constitution of the horse, and contributes to the promotion of his condition; moderate clothing, therefore, during the winter is to be recommended.

When a horse is brought in from exercise he should not only have his feet cleaned out with a picker, but it is necessary to wash them well with a brush and water; this will effectually remove all dirt and gravel, and serve likewise to cool and moisten the hoofs. Horses should if possible be watered at a pond or brook in hot and dry weather, the moisture which the hoofs receive in this way will frequently prevent those sand-cracks and lameness which are so apt to occur in the hot months of summer.

PART I.

CHAPTER III.

Advice, General Observations, Helps and Instructions to the purchasers of Horses.

THERE is nothing more difficult in the art of horsemanship, than to adopt any rule to govern men in the purchase or choice of horses ; for, according to the adage, *That which is one man's meat is another man's poison ;* what one likes, another dislikes. But to proceed according to the rule of reason, the precepts of ancient and modern practice and of our present conceived opinions, I will in this work lay down such rules and observations as may strengthen and fortify you in any hard and difficult choice.

First, you are to observe, in buying a horse, this principal consideration, viz. the end and purpose for which you want him ; whether for the saddle, speed, draught or burthen ; every one having their several characters and their several faces, both of beauty and uncomeliness.

But because there is but one truth, and one perfection, I will under the description of the perfect horse, shew all the imperfections that either nature or mischance can put upon the horse of greatest deformity.

Let me then advise you that intend to buy a horse, to acquaint yourself well with all the true shapes and excellencies which belong to an horse, whether it be in his natural and true proportion, or in any accidental or outward

increase or decrease of any limb or member ; and from their contraries, to gather all things whatever that may give dislike or offence.

To begin, therefore, with the first principles of buying, you are to understand, that they are divided into two special heads : the one general, the other particular.

The general rule of buying, is, first, the end for which you buy; then his breed or generation, his colour, his face and his stature, and these are said to be general ; because the first, that is the end for which you buy, is a thing only known to yourself.

The other, which is his breed, you must either take it from faithful report, your own knowledge, or from some known and certain characters, by which one strain or one country is distinguished from another ; as the Neapolitan is known by his hoop nose, the Spaniard by his small limbs, the Barbary by his fine head, the Dutch by his rough legs, the English by his general strength, being well knit together, &c.

As for his colour, although there is no colour exempt entirely from goodness, for I have seen good of all, yet there are some better reputed than others, as the dapple-grey for beauty, the brown-bay for service, the black silver-hairs for courage, and the lyard or true mixed roan for countenance. As for the sorrel, the black without white, and the unchangeable iron-gray, they are reputed choleric ; the bright-bay, the flea-bitten, and the black with white marks, are sanguinary ; the blank-white, the yellow-dun, the kite-glewed, and the py-bald, are phlegmatic ; and the chesnut, the mouse-dun, the red-bay, and the blue-grey are melancholy.

Now for his pace, which is either trot, amble, rack or gallop, you must refer it to the end also for which you buy; if he be for the wars, hunting, running, or your own private use then the trot is most tolerable. And this motion you shall know by a cross-moving of the horse's limbs, as when the far fore leg and the far hinder leg move and go forward at the same instant. And in this motion, the nearer the horse takes his limbs from the ground, the opener, the evener, and the shorter he treadeth, the better his pace; for to take up his feet awkwardly shows stumbling and lameness; to tread narrow or cross, shews interfering or falling; to step uneven, shews toil and weariness; to tread long, shews overreaching.

If you buy for ease, or long travelling, then an amble is required; and this motion is contrary to a trot; for now both the feet on one side must move equally together; that is, his far fore leg, and the far hind leg; and this motion must go just, large, smooth, and nimble; for to tread false takes away all ease; to tread short, rids no ground; to tread rough, shews rolling; and to tread nimbly, shews a false pace that never continueth, as also lameness.

If you buy for hunting for galloping on the highway, for post, hackney, or the like, then a racking pace is required; and this motion is the same as of that ambling, only it is in a swifter time and shorter tread; although it does not travel so quick, yet it is a little more easy.

Now, to all these parts must be joined a gallop (which naturally every trotting and racking horse hath) but at which the ambler is a little unapt at first because the motions are both one, so that being put to a greater swiftness

of pace than naturally he hath been acquainted with, he handles his legs confusedly and out of order; but being tamed gently, and made to know and understand the motion, he will shortly as well undertake it as any trotting horse whatever. In a good gallop, you are to observe these virtues—

First, that the horse which taketh his feet nimbly from the ground, but doth not raise them high, that neither rolleth, nor beats himself, that stretcheth out his fore legs, follows nimbly with his hind, and neither cutteth under the knee, (which we call the swift cut) nor crosseth, nor claps one foot upon another, and ever leadeth with his far fore foot, and not with the near.

Such a horse is said ever to gallop most comely, and most true, and is the fittest for speed, or any other like employment.

If he gallop round, and raise his fore feet, he is then said to gallop strongly, but not swiftly, and is fittest for the great saddle, the wars and strong encounters.

If he gallop slow, yet sure, he will serve for the highway; but if he labor his feet confusedly and gallop painfully, he is good for no galloping service; besides, it shews some concealed lameness.

Lastly, touching his stature, it must be referred to your own judgment, and the end for which you buy; ever observing, that the biggest and strongest are fittest for strong occasions, as great burthens, strong draughts, and double carriage; the middle size for pleasure, and general employment; and the least for ease, street-walks, and summer hackney's.

Touching the particular rule of purchasing, it is to be

observed in the discovery of natural deformities, accidental, outward or inward hidden mischiefs, which are so many, yea, infinite, that it is a world of work to explain them; yet, for satisfaction's sake, I will in as methodical a manner as I can, briefly, and according to the best conceived opinions, shew what can be known on this occasion.

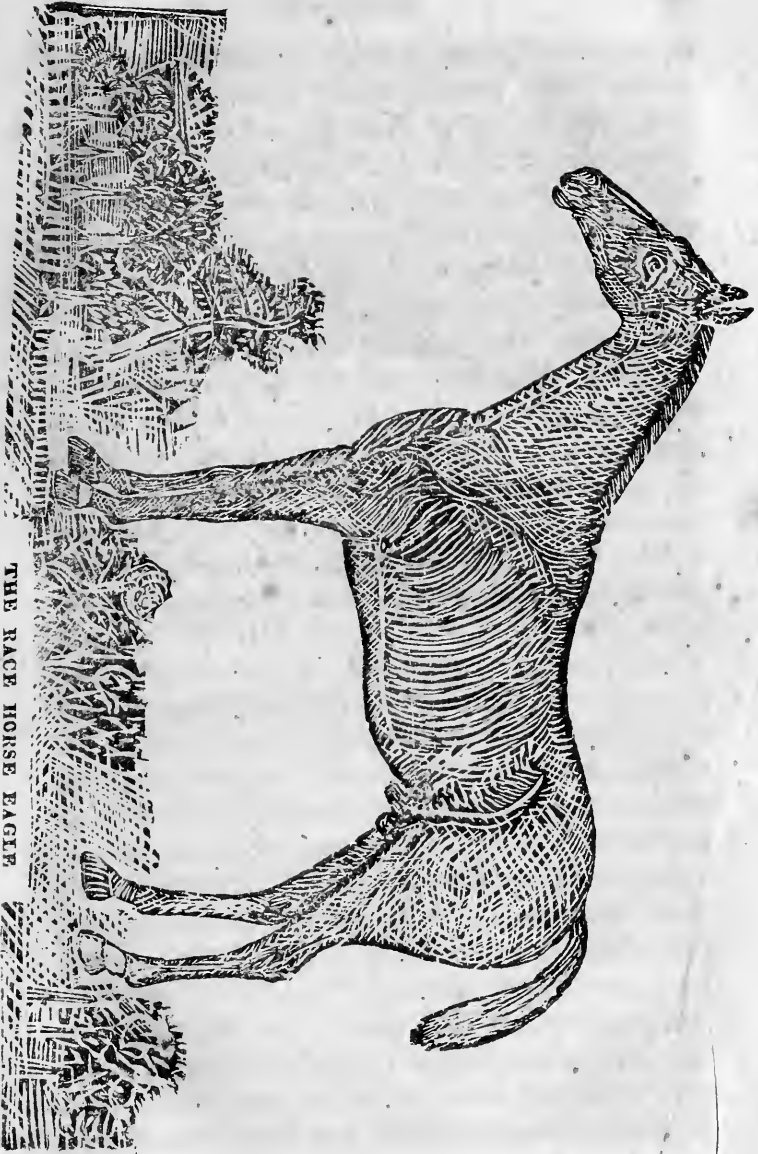
First, then, when an horse is brought to you to buy, being satisfied of his breed, his pace and colour, then see him stand naked before you, and placing yourself before his face, take a strict view of his countenance, and the cheerfulness thereof, for it is an excellent glass wherein to see his goodness; as thus, if his ears be small, thin, sharp, pricked, and moving, and if they be long, yet well set on, it is a mark of beauty, goodness, and mettle; but if they be thick, laved, or lolling, wide set on, and unmoving, then are they signs of dullness, doggedness, and ill nature.

If his face be clean, his forehead swelling outward, the mark or feather in his face set high, as above his eyes, or at the top of his eyes; if he has a white star, or a white rach of an indifferent size, and even placed, or a white snip on his nose, all are marks of beauty and goodness; but if his face be fat, cloudy or scowling, his forehead flat as a trencher, which we call mare-faced, the mark in his forehead stands low, as under his eyes; if his star or rach stand awry or in an evil posture, or instead of a snip, his nose be raw and unhairly, or his face generally bald, all are signs of deformity: if his eyes be round, bright, black shining, staring, or starting from his head; if the black of the eye fill the pit, or outward circumference, so that in the moving none (or very little) of the white appears,

all are signs of beauty, goodness and metal ; but if his eyes be uneven, and of a wrinkled proportion ; if they be little, (which we call pig-eyed) are uncomely, and signs of weakness ; if they be red and fiery, take heed of moon-eyes, which is the next thing to blindness ; if white and walled, it shews a weak sight, and unnecessary starting ; if with white specks, take heed of the pearl, pin and web ; if they water or shew bloody, it shews bruises ; and if they matter, they shew age, over-riding and festered rheums, or violent strains ; if they look dead or dull ; or all hollow and much sunk, take heed of blindness ; at the best the beast is of an old decrepid generation ; if the black fill not the pit, but the white is always appearing, or if in moving the white and black be seen in equal quantity, it is a sign of weakness and dogged disposition.

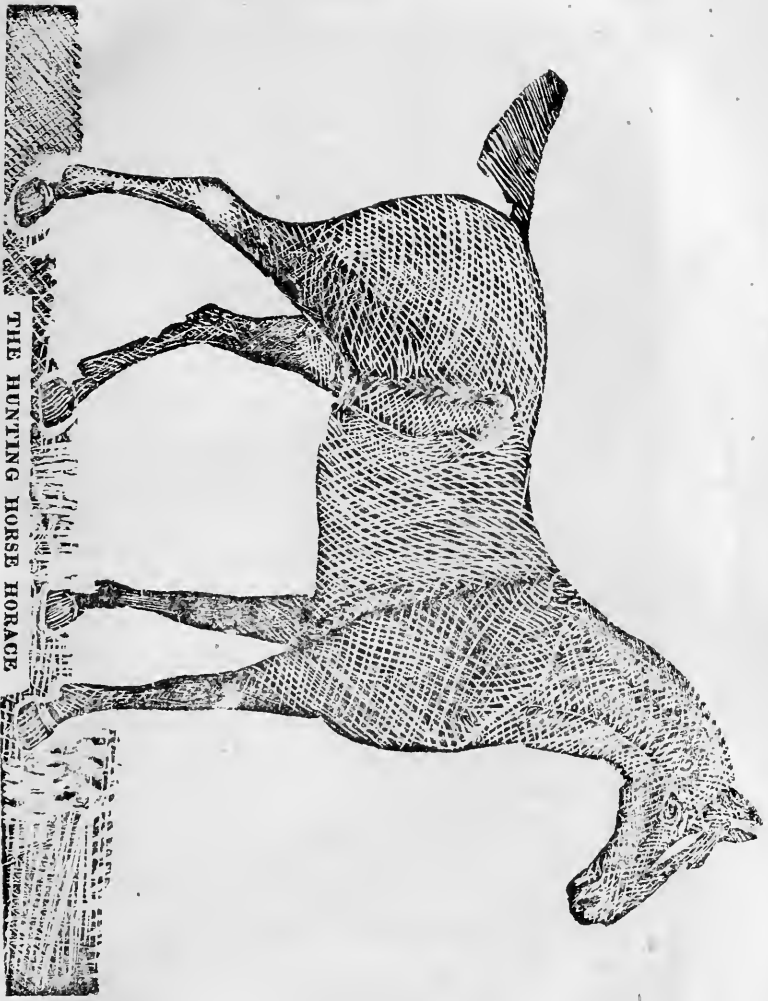
If handling of his cheeks or chaps, you find the bones lean and thin, the space wide between them, the thropple or wind-pipe big as you can gripe and the void place without knots or kernels, and generally the jaws so open that the neck seemeth to couch within them ; they are all excellent signs of great wind, courage and soundness of head and body ; but if the chaps be fat and thick, the space between them closed up with gross substance, and the thropple little, all are signs of short wind, and much inward foulness ; if the void place be full of knots and kernels, take heed of the strangles or glanders, at least the horse is not without a foul cold.

If his jaws be so strait, that his neck swelleth about them ; if it be no more than natural, it is only an uncomely sign of strait wind and pursiness, or grossness : but if the swelling be long and close to his chaps like a whet-

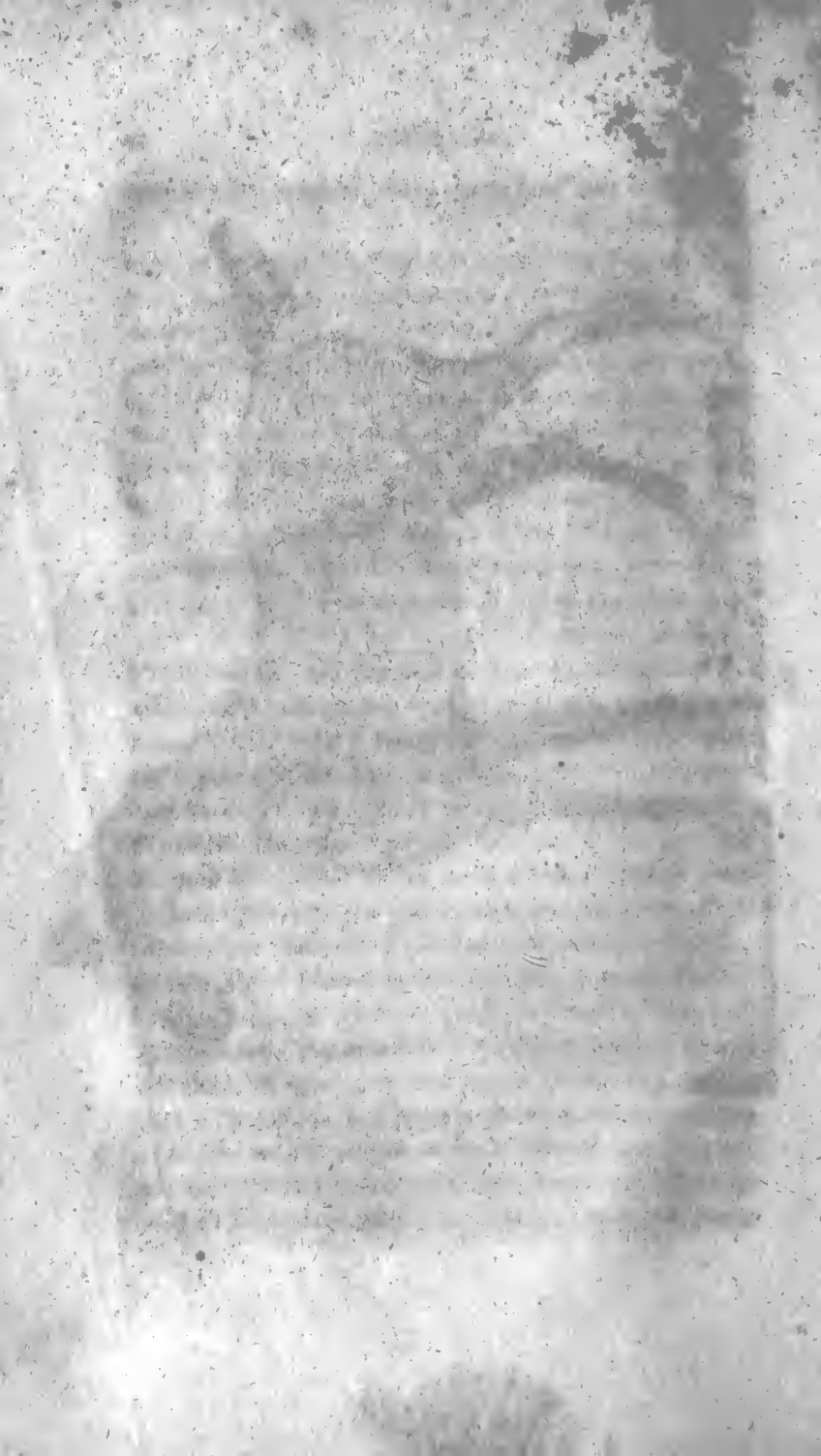


THE RACE HORSE EAGLE





THE HUNTING HORSE HORACE



stone, then take heed of the uvics, or some other unnatural imposthume.

If his nostrils be open, dry, wide and large, so as upon any straining the very inward redness is discovered; and if his muzzle be small, his mouth deep, and his lips equally meeting, they are all good signs of wind, heat and courage; but if his nostrils be strait, his wind is little; if his muzzle be gross, his spirit is dull—if his mouth be shallow, he will never carry a bit well; and if his upper lip will not reach his under, old age or infirmity hath marked him for carrion; and if his nose be moist and dropping, if it be clear water, it is a cold; if foul matter, then beware of the glanders; if both nostrils run, it is hurtful; but if one, then dangerous.

From his head look down to his breast, and look that it be broad, out-setting, and adorned with many feathers, for that shews strength and endurance. The little breast is uncomely, and shews weakness; the narrow breast is apt to stumble, fall and interfere before; and the breast that is hidden inward, and wanteth the beauty and division of many feathers, shews a weak armed heart, and a breast that is unwilling and unfit for any toil or strong labor.

Next look down from his elbow to his knee, and see that his fore-thighs be rush-grown, well horned within, sinewy flesh, and without swelling, for they are good signs of strength; the contrary shew weakness, and are unnatural.

Then look on his knees, that they carry an equal and even proportion, be clean, sinewy, and close knit, for they are good and comely; if one be bigger and rounder than the other, the horse hath received mischief; if they be gross, the horse is gouty; or if they have scars, or hair.

broken, it is a true mark of stumbling and a perpetual falling.

From his knees look down his legs to his pasterns, and if you find his legs clean and sinewy, and the inward bought of his knee without a seam, or hair-broken, then he shews good shape and soundness; but if on the inside there are excretions, if under his knee are scabs on the inside, it is the swift-cut, and he will ill endure galloping; if above his pasterns on the inside you find scabs, it shews interfering. But if the scabs be generally over his legs, it is either extreme foul keeping, or a species of the mange; if his legs be fat, round and fleshy, he will never endure labour; if in the inward bought of his knee you find seams, scabs, or hair-broken, it shews a malander, which is a cankerous ulcer.

Look then on his pasterns, the first must be clean and well knit together, the other must be short, strong and upright standing; for if the first be big or swelled, take heed of the sinew-strain and gurding; if the other be long weak, or bending, the limbs will hardly carry the body without tiring.

For the hoofs in general, they should be black, smooth, tough, rather a little long than round and hollow, and full sounding: for a white hoof is tender, and carries a shoe ill; a rough, gross, seamed hoof shews old age or overheating: brittle hoofs will carry no shoe; an extraordinary round hoof is ill for foul ways or deep hunting: a flat hoof that is pummiced shews foundering; and an hoof that is empty and hollow sounding, shews a decayed inward part, by reason of some wound or dry founder. As for the crown of the hoof, if the hair be smooth and

close, and the flesh fat and even, all is perfect ; but if the hair be staring, the skin scabbed, the flesh rising, then look for a ring-bone, a crown scab, or the like evil.

After this stand by his side, and first look to the setting on of his head, and see that it stands neither too high nor too low, but in a direct line ; and that his neck be small at the setting on, and long, growing deeper and deeper, till it comes to the shoulders, with a high, strong and thin crest ; and his mane thin, long, soft, and somewhat curling, for these are beautiful characters ; whereas to have the head ill set on, is the greatest deformity ; to have any bigness or swelling in the nape of the neck, shews the poll-evil, or beginning of a fistula. To have a short thick neck, like a bull, to have it falling at the withers, to have a low, a weak, a thick or falling crest, shews want both of strength and mettle ; and to have much hair on the mane, shews intolerable dulness ; to have it too thin shews fury, and to have none, or to shed, shews the worm in the mane, the itch, or else mange.

Look then to the chine of his back, that it be broad, even and straight, his ribs well compassed, and bending outward, his fillets upright, strong and short, and not above four fingers between his last rib and his knuckle-bone. Let his body be well let down, yet hidden without his ribs, and let his stones be close thrust up to his body, for all these are marks of perfection. Whereas to have his chine narrow, he will never carry a saddle without wounding ; and to have it bending, or saddle-backt, shews weakness ; to have his ribs fat, there is no liberty for wind ; to have his fillets hanging long or weak, he will never climb a hill well, nor carry burthen ; and to have his belly chng

up and gant, or his stoncs hanging down close or aside, they are both signs of sickness, tenderness, or foundering in the body, and unaptness for labor. Then look upon his buttocks, and see that they be round, full, plump, and in an even level with his body; or if long, that they be well raised behind, and spread forth at the setting on of the tail, for these are comely and beautiful. The narrow pun-bottock, the hog, or swine-rump, and the falling or downlet-buttock, are full of deformity, and shew both an injury in nature, and that they are neither fit nor becoming for pad, foot-cloth, or pillow.

Then look to his hinder thighis, or gascoins, that they be well let down, even to the middle joint, thick, brawny, full and swelling, for that is a sign of strength and goodness; whereas the lean, lank, slender thigh, shews disability and weakness. Then look upon the middle joint behind, and see that it be nothing but skin and bone, veins and sinews, rather a little bending than too straight, then it is perfect as it should be; but if it hath chops sores in the inward bought or bending, then it is a salander.

If the joint be swelled generally all over, then he hath gotten a blow or bruise; if the swelling be particular, as in the plot or hollow part, or on the inside, and the vein full and proud; if the swelling be short, it is a blood-spavin; if hard, it is a bone-spavin; but if the swelling be just behind, below the knuckle, then it is a curb.

Then look to his hinder legs, and if they be clean, and sinewy, then all is well; but if they be fat, they will not endure hard labor; if they be swelled the grease is molten into them; if they be scabbed above the pasterns, he hath the scratches; if he has chops under his pasterns, he hath

the pains, and none of these but are dangerous and a nuisance.

Lastly, for the setting on of his tail, where there is a good buttock, there the tail can never stand ill, and where there is an ill buttock, there the tail can never stand well, for it ought to stand broad, high, flat, and a little touched inward.

Thus I have shown you the true shapes, and deformities, you may therefore in your choice please your own fancy.

Farther advice on the same subject.

THE artifice too generally practised by dealers in horses, renders it necessary that unwary as well as unskilful purchasers should have some rules laid down by which they may, in a degree, avoid or guard against such fraudulent and dishonourable practices. Indeed it is to be lamented that some men who evince a proper regard for rectitude in their ordinary transactions, will, when selling a horse, deviate from their true character, by extolling the animal beyond his real merit, or by concealing material faults or latent defects, in direct violation of truth and candor.

The purchaser ought therefore first to examine the horse as he stands in the stall, when no person is near him, and observe whether he stands firm and steady on all his legs; if he shifts their position frequently and appears restless, it indicates hard usage or something worse; and, although, it may not be a sufficient reason alone, to de-

cline a purchase, the cause ought first to be well inquired into.

Having examined the horse in the stall, let him be brought out of the stable and placed upon level ground, (not with his fore feet several inches higher than the hind ones, which is an universal practice among dealers) then minutely examine his limbs, beginning at his breast which should be reasonably broad and a little projecting, as a hollow, small and contracted breast indicates weakness and an aptness to stumble.—Thence examine from his elbows to his knees, which is by some called the fore thighs and by others the arms; these ought to be fleshy and a little bulging on the outside, but nearly straight within. If, on the contrary, they are lean and slender, it is a sign of weakness. See that he does not tremble or totter, but stands firm upon his knees, which should bear an exact proportion to each other and be stout, lean and sinewy; if they be scared it will at least afford reason to suspect that he is a stumbler if nothing worse.—The legs from the knees to the pasterns or fetlock joints, should be lean and flat. If, on the inside, hard excrescences or knots are found, they are splents; but if they do not approach too near the knee joint they seldom or ever occasion lameness and generally go away of themselves as the horse grows in years.

The horse should also stand firm on the pastern joints, which must be of equal size, clean, and well knit, and the pasterns be strong, stout and almost upright; if, on the contrary, they are long, slender and bending, or tottering and leaning forward, it indicates weakness as well as hard usage. After examining thus far, stand a few paces be-

fore the horse and see that he is not bow-legged, that is, the knees turning outward and the toes inward; for, this is a defect not only disagreeable to the sight, but a horse thus formed never can be sure footed.

This is a proper time also to examine the hoofs, on which much depends; they should be large, black, smooth, tough and nearly round, not too flat, neither too upright and the bottom concave. White hoofs are apt to be tender and do not so well bear, or retain the shoe: a hoof that is flat and pumiced on the under side is generally tender and indicates founder or some other defect. If the hair lie smooth at the edge of the hoof and the flesh even, all is well there, but if the hair is rough and the flesh raised and uneven, a ring, or quitterbone may be apprehended.

The hinder thighs should be thick, full within and bulging on the outside, at what is called the stifle or middle joint; lean and slender thighs are not so agreeable to the sight, nor do they promise much service. From the thigh bones to the hock or what is by some called the gambrel joints, should be pretty long, but from thence to the pasterns or fetlock joints short, and the leg lean, flat and sinewy.

The hock joint should be particularly examined, and to be perfect must not be fleshy, but consist of skin, bone, veins, and sinews only; bending a little, rather than too straight. If any knots or swellings (either hard or soft) are found in the hollow part, or inside of the legs, just below the joint; beware of spavin, for although the horse may not yet be lame, a little labour will probably make him so. The remarks before made with respect to the

pastern, or fetlock joints of the fore legs, also apply to those of the hind. If scabs are found on the inside of the pasterns of the fore or hind legs, it is evident that he cuts or interferes, which is a great objection, particularly if the horse is intended for the saddle.

The head should be of a medium size, the forehead bulging, and the face from the root of the ears to the nose a little bending outward. A hollow faced horse, with his nose projecting, never can please the eye, though he may not be the worse for service.

The head also should be of a gradual taper, rather small just above the mouth, which should be large, as a horse with a small mouth never carries or bears the bit well. The nostrils should be wide, and when the horse is in motion, a redness should appear within, which indicates free breathing.

The eyes ought to be most minutely examined, and in a situation where glare of light is not too strong; the middle sized eyes are to be preferred, it is better, however, that they should be rather large than small; they should be round, lively, dark coloured (but not entirely black) and so clear and shining that you can see far into them, and when the horse is moving, but little of the white should appear.—Eyes that are very black or cloudy, ought to be avoided, as they are generally prone to disease. Most dealers in horses are prepared to account for every defect that an observing purchaser may happen to discover or point out, and particularly as respects the eyes, which they studiously endeavour to make appear as trivial, or of no consequence at all. The purchaser however should be aware of such sophistry, and not rely too

implicitly upon it ; but rather trust to his own judgment, or that of some disinterested friend.

The neck should be long, and small at the setting on of the head, growing deeper from thence to the shoulders. The upper edge should be thin and rising a little semi-circular from the shoulders to the head ; the mane thin and strong, as a heavy thick mane, bull neck, or a very lean and slender neck, are never pleasing to the sight. The shoulders should be thin, and lay well back ; but to judge correctly of them, the horse should stand upon level ground. If the shoulders are thick and upright, he will not answer well for the saddle, as too much weight will necessarily be thrown upon his fore legs, which will make it unpleasant, as well as unsafe for the rider. For a draught horse, however, thick and upright shoulders are rather a recommendation than otherwise. Beware of swellings on the top of the head, or on the withers, as the former may result in the poll-evil and the latter in the fistula.

The back should be short, and the chine broad or thick, and moderately curved, but if too much bending, or what is called saddle backed, it is never strong. A horse with a high or roach back is very objectionable as he never can be used under the saddle with satisfaction to the rider. If the chine be thin the saddle will not sit well. A horse with a high back, or thin chine, is however, not the worse for harness.

The ribs should not be flat, but bend well outward, the last rib should approach the hip or huckle bones within about four or five inches and the belly be moderately let down, but not to swag.

A flat ribbed horse with a gaunt or clung up belly, can never perform much labour. The buttocks should be round, full, and the rump nearly on a level with the back, and the tail set high. Thin, contracted, or steep buttocks, are always offensive to the eye, though probably do not injure the animal for actual service.

It is a good sign when a horse is deep in the girthing place; but if, on the contrary, he is there slender, it indicates weakness.

Having attentively examined the horse standing, let him be rode in your presence, on hard level ground, fifteen or twenty rods backward and forward frequently, first in a walk, then alternately in his other gaits. Observe his mouth that he bears steady and fair on the bit, his head well up, but his nose not much projecting, as this is a great fault, especially for a riding horse. Stand occasionally before as well as behind him, and see that his toes neither turn inward or outward, and that he goes rather narrower before than behind, as no horse can move well on his legs unless he does. If he goes too close there is reason to believe he will cut; his action should be lively and when in a trot his fore legs well thrown forward, though even and regular, and not clambering; observe that he treads firm on the hardest ground, otherwise you may be assured he is tender footed, which is a great fault and diminishes his value much. His hind legs when in a trot should move even, bending a little outward at the hock; and be thrown well under him, though never to strike the fore shoes, which is called forging and is very objectionable. If he takes up his feet slovenly, throws them outward, steps irregular, or clambers, have nothing

to do with him for any active service ; as he is only fit for the heavy draught.

After a minute examination, such as before recommended, mount yourself and ride him a few miles *alone*, otherwise you cannot judge correctly of his gaits or spirits, as most horses go much freer and better in company than they do alone. This is a proper time also to observe his wind. Such trial is the more necessary as it is not uncommon to meet with horses whose gaits and actions are pleasing to the eye ; yet when mounted, are intolerably rough and unpleasant to the rider, and often addicted to start and stumble.

Do not permit yourself to be hurried into the purchase of a horse because he is a beautiful figure, or otherwise fascinating in his external appearance, but always examine *more than once* before you purchase ; otherwise, it is highly probable that some material defects will escape your notice ; especially, if you are not a critical judge. This caution is the more necessary because your morals as well as pecuniary interest may both suffer. For, should it so happen that by making a hasty purchase, you get a horse defective in some essential points, that will by no means answer the intended purpose, you may possibly be induced to commence the jocky, to get him off your hands ; and, in order to do this with the least loss to yourself, you may not consider it indispensably necessary to acquaint the purchaser (perhaps as inattentive as yourself) with the whole truth respecting the defective animal ; in which case your morals will most certainly be implicated.

It is also necessary to have particular regard to the

kind of service for which the horse is intended. If for the saddle or any active service, the middle size, say about fifteen hands high, well formed as before described, is to be preferred; but if for a slow and heavy draught, the larger and stronger the better.

Small horses answer equally well for the purposes of agriculture, as well as for many other employments to which their strength is adequate.

All the extraordinary qualities and exact symmetry, before described will seldom or ever be met with in any one horse; the purchaser however, will, no doubt, give a preference to those that approach them the nearest.

Age. A horse that has arrived at an age fit for service ought to have forty teeth; twenty-four grinders, twelve fore teeth, and four tusks. Mares, however, have but thirty-six, except when they happen to have tusks, which is by no means common.

It is by the fore teeth and tusks that the age of a horse is to be judged of, and as they are not generally put to service until they come *three years old*, (and indeed that is one year too soon) we shall commence our description of the teeth at that age.

At *three* therefore, he will have four horse and eight colt teeth, which are easily distinguished, by the horse teeth being much larger and flatter than the colt's. These four horse teeth, which are called pincers, have a deep black hole in the middle; while those of the colt, are round solid and white.

A short time before the horse comes *four years old*, he loses four middle teeth, two above and two below, which

are followed by four more horse teeth, with black holes in the middle, the same as the pincers.

A few months before he comes *five*, he sheds the four corner teeth, two above and two below, which is his last colt's teeth, and at *five* they are replaced with horse teeth hollow as before described and grooved on the inside. At this age he also gets four tusks, the two lower ones generally three or four months before the upper.

Some horses, however, never have any upper tusks, but this is not common. The appearance of the two lower tusks is the most certain proof that the horse is coming *five years old*; even if some of his colt's teeth still remain.

When he is nearly *six*, all his fore teeth are full grown, pointed and a little concave on the inside. At *six* the grooves on the inside begin to fill up, and soon after disappear, the black holes in the middle of the teeth also begin to fill up, but are still very apparent.

At *seven* all the fore teeth except the corner ones are generally filled up smooth, though a black spot in the centre may yet appear. Between *seven* and *eight* the corner teeth also fill and become smooth; after *eight* it is difficult, and indeed by some held to be impossible to judge correctly of the age of a horse; all the striking marks of his mouth having disappeared.

After which period, recourse must be had to the general aspect of the mouth. If the tusks be flat and pointed and have two small grooves on the inside, which you can readily feel with your finger, be assured he is not old, probably not yet ten, but if you find only one groove within the tusk, you may conclude that he is approaching twelve.

After *twelve* the grooves generally disappear and the

tusks become blunt, and as round within as without. The length of the teeth is by no means a certain criterion to judge of the age, though long teeth, projecting forward, certainly indicates an advanced age, as the teeth of young horses are not so long and generally meet almost perpendicular.

The lips of a young horse are very firm and elastic, while those of an old one are soft, flabby, and hanging, and the tongue often so large, that the cavity of the mouth is scarcely capable of containing it.

The holes in the centre of the teeth, sometimes continue to an advanced age, but when the tusks become round and blunt, the fore teeth long and projecting forward, the tongue large and lips flabby, the horse is most certainly old; say from *twelve* to *twenty*, or upwards, notwithstanding any apparent marks to the contrary.

Having noticed all the material marks which serve to instruct us as to the age of a horse, it is believed that a person of the most common capacity may, by paying attention to the foregoing directions ascertain the age of a horse with a considerable degree of certainty; at least until he is too far advanced to be of much value.



CHAPTER IV.

Observations on the Management of Horses when Travelling.

It ought always to be remembered, that, when a horse is intended for a journey of any length, and the prospect

of continuing it for some time, that he be properly prepared for it, by good feeding, and that he has been in the habitual practice of regular and daily exercise: for, without a due proportion of the latter, no horse can be in proper condition for travelling, or undergoing any fatigue, without danger of being laid up by some acute disease; for which reason it will be obvious, that a horse which is too fat, or full of flesh, or that has been kept long on soft feeding, or newly from the hands of a dealer, or running late at grass, or that has been accustomed to stand much at rest in the stable, or those that are too low of flesh, and are worn out or exhausted by former fatigue, from disease, or from old age, are unfit for this purpose: neither are too young horses fit for a journey, especially when about casting their foal teeth, or before their strength is confirmed, and their bodies seasoned by the habit of labor or exercises. On the other hand, a horse that is rather meagre than fat, and whose flesh is firm from good feeding, and in the habitual practice of undergoing active exercises of labor, has always the best chance of performing a long journey with ease to himself, and with satisfaction to his owner.

For the ease of the horse, and safety of the rider, it is proper to attend particularly to the saddle, that it fit the horse's back properly, that is, it must neither be too wide in the trees, to come forward on the shoulder blades, nor too narrow, so as to pinch and break off or bruise the skin; and that the bolstering or stuffing in the pannel is adapted to the hollow spaces on each side of the spine or ridge of the back; that it lie smooth and equal on every part, the spine excepted, which it ought not to touch or come near in the least, neither on the fore or back part. If it is thus

properly fitted, there will be no occasion for a crupper, unless it may be the choice of the rider. The rider must likewise take notice, when on the road, that the stuffing in the saddle pannel does not become too thin, which it will be apt to do, and if needful, to have it repaired.

Before a horse sets out on a journey, it will be prudent to have him shod some days before hand, in case any accident should happen by driving the nails too near, &c. There is another advantage attending this caution, which is, the shoes become firmer seated on the hoofs, and the clenches and nails rusted, which contributes greatly to keep them firm in their place. If the horse goes too near, so as to cut his legs, either before or behind, that must be provided against in the shoeing.

It is customary to water horses in the morning before they are fed; but it will be found of more advantage to water them after feeding, as it then more properly dilutes the food that is taken into the stomach; at the same time it washes the mouth and throat, and prevents or restrains the too sudden return of thirst or desire for water, which occasions an inclination in horses of stopping at every rivulet that comes in the way on their road. But, as horses that stand in a warm stable through the night, and perhaps feeding greedily on hay, are disposed to drink too much water, when led to a watering trough, it will be proper to prevent them drinking too much, by giving them water in a pail by measure; about half a pailful at once will be sufficient. On their first setting out on the road, they ought not to be too suddenly hurried on, as the stomach and bowels are then too full; as this fulness goes off, they will naturally mend their paces of themselves: to-

ward the end of the stage, their motion may be restrained by degrees, and brought in as cool as possible. After they are thoroughly cool and well dressed, they should then be fed and watered as above. The same rules may be observed at the end of every stage. At night, their legs below the knee, and the hoofs, may be washed with cold water, and well rubbed afterwards, till the legs are thoroughly dry, when they may be fed, and indulged with more water given them at once than they had through the day. It ought always to be observed, that when horses come to the end of a stage, if they are very warm that they be walked about gently till they cool gradually; and never to wash their legs, or any part of their bodies, till they are cool. In hot weather, when the roads are dry and dusty, the washing of horse's legs proves very refreshing; when the roads are dirty and wet, it is the readiest method of cleaning them; but they ought always to be well rubbed afterwards.

It may be needful to remind young travellers, that they have their horse's shoes inspected at every stage, and whatever is amiss about them, or the clenches of the nails, rectified; likewise to observe that the saddle has kept its proper place, in order to prevent its injuring the back, or coming forward on the shoulder blades.

It frequently happens, that the skin of horses, who have not been accustomed to perform long journies, becomes scalded by the friction of the girths, and likewise on the under part of the breast, between the fore legs, where the skin is loose and full of wrinkles. This proceeds entirely from neglect, in not cleaning the sand and dirt from those parts, but suffering it to clot among the hair, it col-

lects in lumps, and, by the continued friction in the horse's moving, it produces the above effect, which is attended with pain to the animal, and causes a contracted step in his going; and when it is not taken notice of in proper time, the parts become inflamed and swelled, which proves a great hindrance to the horse's travelling. When the hair is fretted off by the girths, they should be washed clean from the sand and dirt, and dried thoroughly before a fire, after the horse is put up for the night. At the same time it will be proper to cause the sand and gravel to be picked out from below the shoes, and to wash out the smaller particles of sand and gravel that are apt to lodge there, as in weak hoofs it frequently occasions lameness. One great advantage that arises to the hoofs from being frequently washed and moistened with water, especially in dry warm weather is, that it keeps them cool, a state which is most natural to them, and which is much more beneficial than all the stopping and greasing which at present is so much in use.

It is likewise proper to observe, that the saddle girths be not drawn too tight, especially on the belly; if the fore or point girths on the breast be drawn tolerably tight, that will be sufficient of itself, if the saddle fits properly, to keep it in its place. The girths on the belly, however tight they may be drawn, soon slacken as the bowels empty, and they only serve to give pain to the animal, by confining the viscera, and occasion a difficulty of breathing on the horse's first setting out, when the belly is distended with food; besides, in round bellied horses, especially if the belly is big, the tighter the back girths are drawn the more they contribute to push the saddle on the

shoulders, in spite of every means that can be devised to keep it in its proper place.

Road-horses, on long stages, at any halting-place, about the middle of the stage, should get a little corn, wheat, rye or oat-meal mixed in about half a pail of water, to refresh them. This not only quenches their thirst, by washing their mouths, &c. when the roads are dusty, but it invigorates them to perform the remainder of the stage. The meal prevents any bad consequences that might arise to them from giving cold water when they are heated, especially in such a small quantity at once.

It frequently happens on by-roads, or little frequented inns and baiting places, especially towards the end of harvest, that horses are fed with green oats in the sheaf, newly taken from the field, for want of other feeding; that is extremely hurtful to them, as it occasions faintishness, &c. and frequently produces a scouring, attended with great weakness. If, possible, in such situations, it would be prudent to get oat-meal for them, and mix it with a small quantity of water, only as much as is sufficient to moisten the meal, so as to prevent it blowing away by their breath in feeding. When the oats are too new and softish, oat-meal should always be got for them, if possible, in their stead, and given as above directed. Bread, of different kinds, is likewise a good substitute in place of new or bad grain, especially the coarse wheaten bread, formerly so much used to horses, and known by the name of *horse bread*. But, whatever kind can be got, if they will not eat it by itself, it may be rubbed down between the hands, or beat in a trough, and mixed with oat-meal. This will make very good feeding for horses, and which most of them will

eat. A little trouble and care, in such cases, ought not to be spared for the benefit of so useful and valuable creatures, on such emergencies.

Horses on a journey, from the strong perspiration they undergo, and the constant feeding on dry food, are apt to become too costive. This ought to be guarded against, by giving them occasionally a mash of scalded bran, boiled barley, or malt, either by itself, or mixed in their oats, by way of a double feed. When a horse shews an inclination to stale on the road, he should always be allowed to stand still for that purpose; and, if he has any difficulty in staling, an ounce of nitre may be given in his food for a few nights following. It is of consequence to attend to this discharge, and also that by stool, as inattention to either of these frequently proves the source of many disorders.

Before I conclude this article on travelling, I would beg leave to prefer a petition in favor of the poor animal who is the subject of this treatise, and which is, the allowing him a little more time to perform the task required of him; fifteen minutes more than what is allowed at present to perform a stage of as many miles, would save the lives of a number of horses yearly, besides the numbers that are lamed, and otherwise rendered useless by such severity.

When the roads, &c. are covered with ice, it becomes necessary to have the heels of the shoes turned up, and frequently sharpened, in order to prevent horses from slipping and falling. As this cannot be done without the frequent moving of the shoes, which breaks and destroys the crust of the hoofs where the nails are

drove, to prevent this, I would recommend to have steel points screwed into the heels or quarters of each shoe, which might be taken out and put in occasionally.

The method of doing this properly is, first to have the shoes fitted to the shape of the hoof, then to make a small round hole in the extremity of each heel, or in the quarters, about three-eighths of an inch in diameter, or more, in proportion to the breadth and size of the shoe; in each of these holes a screw is to be made which the steel points are to have on them, exactly fitted to that in the shoes. Care must be taken that the screw on the points is no longer, when they are screwed into the shoe, than the thickness of the shoe. The steel points are to be made sharp; they may either be made square, triangular, &c. as may be most agreeable. The height of the point above the shoe should not exceed half an inch for a saddle-horse; they may be made higher for a draught-horse.



CHAPTER V.

Ordering and keeping the Running Horse, according to the several states of his body.

When a horse is to be matched for a running course, you are principally to regard the state of the body in which the horse is in at the time of his matching: and this state of body I divide into three several kinds.

1st. If he be very fat, foul, and newly taken from grass or soil.

2d. If he be extremely lean and poor, either through over-riding, disorder or other infirmity.

3d. If he be in a good state, having had good usage and moderate exercise.

If your horse be in the first state, you shall take longer time for matching, keeping, and bringing into order, as two months at the least.

If your horse be in the second state, that is, very poor, then you shall also take as long time; yet you need not so much as in the former, both because grease cannot much offend, and exercise may go hand in hand with feeding.

If your horse be in the third state, (which is a mean betwixt the other extremes) then a month or six weeks may be time sufficient to diet him for his match.

Now as you regard these general states of body, so you must have an eye to certain particular states of body; as if a horse be fat and foul, yet of free and spending nature, apt quickly to consume and lose his flesh, this horse must not have so strict a hand, neither can he endure so violent exercise as he that is of a hard disposition, and will feed and be fat upon all meats and all exercises.

Again, if your horse be in extreme poverty, through disorder or misusage, yet is by nature very hardy and apt both soon to recover his flesh, and long to hold it, then over this horse you shall by no means hold so liberal and fender a hand, nor forbear that exercise which otherwise you would do the horse which is of a tender nature, a weak stomach and a free spirit; provided always, you have regard to his limbs.

Thus you see how to look into the state of horse's bodies, and what time to take for your matching.

I will now descend to their several orderings and dietings, and because in the fat horse is contained both the lean horse, and the horse in reasonable state of body, I will in him shew all the secrets and observations which are to be employed in the dieting and ordering of all three, without any omission or reservation whatsoever.

How to diet a Horse for a match that is fat, foul, and either newly taken from grass or soil being the first fortnight.

If you match a horse that is fat and foul, either by running at grass, or standing at soil, or any other means of rest, or too high keeping, you shall for the first fortnight at least, rise early in the morning before day, or at break of day, according to the time of the year, and having put on his bridle, washed him in beer, and tied him to the rack; take away the dung and other foulness of the stable, then you shall dress the horse exceeding well, that is to say, you shall first curry him all over, from the head to the tail; from the top of the shoulder to the knee, and from the top of the buttock to the hinder gambrel; then dust him all over, either with a clean dusting cloth, or with a horse's tail, or such thing, made fast to a handle; then curry or rub him all over with the French brush, beginning with his forehead, temples and checks, so down his neck, shoulders and fore legs, even to the setting on of his hoofs, so along his sides and under his belly; and lastly, all about his buttocks and hinder legs, even to the ground. When you shall go over all those parts which the brush hath

touched, with your wet hand, and not leave, as near as you can, one loose hair about him, nor one wet hair, for what your hands did wet your hands must rub dry again; you shall also with your wet hands cleanse his sleath, yard, cods, and tuel, and not leave any secret place uncleaned; as ears, nostrils, fore-bowels, and between his hinder thighs: then take an hair-cloth and rub the horse all over, especially his face, eyes, cheeks, the top of the forehead, the nape of the neck, and down his legs, fetlocks, and about his pasterns. Then take a clean woollen cloth and rub the horse all over, beginning with his head and face, and so passing over each part of the horse's body: then take a wet mane comb and comb his mane and tail; when this is done, take a large body-cloth of thick warm kersey, if in the winter; or of fine cotton or other light stuff, if in the summer, and fold it round the horse's body, then put on his saddle and girt, the foremost girt pretty tight, and the other girt slack, and whisp it on each side of the horse's heart, until that both girts be of equal straightness, then put before his breast a warm breast-cloth, and let it cover both his shoulders.

When the horse is thus accoutred, you shall take a little beer into your mouth, and spirt into the horse's mouth, then lead him out of the stable and mount him, leaving some person to trim up your stable, clear away the dung, and shake up your litter, for your horse must stand upon good store of fresh dry litter continually—of wheat straw if possible, if not, of oat straw: as for barley or rye straw, they are both unwholesome and dangerous, one causeth the heart-burn, the other scouring.

When you are mounted, walk forth your horse a foot-

pace which is called racking (you must neither amble nor trot for a mile or two at least,) upon good smooth ground, and as near as you can to the steepest hills, then gallop your horse gently up the hills, and rack or walk him down softly, that he may cool as much one way as he warmed the other; and when you have thus exercised him until sun rise, you must walk him to some fresh river or clean pond that is fed with a sweet spring, and let him drink at his pleasure. After he hath drank you shall gallop and exercise him moderately, as before, then walk him a pretty space and offer him more water: if he drinks, then gallop him again; if he refuses, then gallop him to occasion thirst, and always give him exercise both before and after water.

When you think he hath drank sufficient, ride him home gently without a wet hair. When come to the stable door, before which you must throw all your foul litter, there alight from his back, and by whistling, stretching the horse upon the straw, and raising the straw up under him, see if you can make him piss; which if at first he do not, yet with a little custom he will soon be brought to it; it is a wholesome action both for the horse and for keeping the stable clean.

When these things are performed, you shall bring the horse into his stall, and tie his head up to the rack in his bridle, then with hard wisps rub down his legs very hard, afterwards untie his breast cloth, rub his head, neck and breast very much with a dry cloth; then take off his saddle and body cloth, and rub him all over, especially his back where the saddle stood; and then clothe him up with a linen sheet, then over it a good strong housing cloth, and

above it his wollen body cloth, which in the winter is not amiss to have lined with some thin cotton or wollen stuff, but in the heat of summer, the kersey itself is sufficient.

When you have girt these clothes about him, stop his sursingle round with large soft and thick wisps, for with them he will lie most at ease, because the small hard wisps are hurtful.

After your horse is thus clothed, then pick his feet and stop them up with cow dung, and then throw into his rack a small bundle of hay, well dusted and bound up hard, this he will tear out as he standeth with his bridle.

After the horse hath stood with his bridle on more than an hour, then rub his head, face, and the nape of his neck, with a clean rubber of new coarse hempen cloth, it is excellent for the head, and dissolves all gross and filthy humors; then draw his bridle, and with a clean cloth clear out the manger; and if he hath scattered any hay therein, gather it up, and throw it back into his rack; then take a quart of sweet, dry, and clean dressed old oats, of which the heaviest and the whitest are the best, such as the Poland oats, or the cut-oats, for those only are wholesome, the others breed infirmity, those which are moist cause swelling in the body, those which are new, breed worms, and those which are half dressed, deceive and injure your horse much; as for the black oats, though they are tolerable in time of necessity, yet they cause foul dung, and thereby hinder a man's knowledge in the state of the horse's body.

This quart of oats put into a sieve, somewhat less than a riddle, and rather larger than a reeing sieve, such as will let light oats go through, and keep a full oat from

scattering. Having well cleaned your oats, give them to the horse, and if he eats them with a good stomach, then sift and give him as much more, letting him rest until 11 o'clock; then return to the stable, and having rubbed the horse's head, neck and face, take another quart of oats, cleaned as before, and give them to him, then closing up your windows, that the horse may remain as dark as possible, leave him till one o'clock, for the darker you keep your horse in your absence, the better it is; it will occasion him to feed, lie down and take his rest, where otherwise he would not, and you should cover the stall all round, over head and over the rack, with strong canvass, both for darkness, warmth, and that no filth may come near the horse.

At one o'clock, return again to the horse, and dress him another quart of oats and give it him: after you have well rubbed his face, head and the nape of his neck, put away his dung, and make the stable clean, give a small lock of hay, and leave him until four o'clock, if it be summer, and until three, if it be in the winter.

At four o'clock return to the stable, and having made all things clean, bridle up your horse; having wet the snaffle with beer, and tied him to the rack, then take off his clothes, and dress him in all points, as was shewn you in the morning, then clothe and saddle him, and lead him forth, endeavor to make him piss, and dung upon the foul litter at the stable door; afterwards mount his back and ride him forth as you did in the morning, but not to the hills, if you can find any plain and level ground, as pasture, meadow, &c. especially if it lies along the river side; but in this case you must take the most convenient ground

you can find, there air your horse as you did in the morning, galloping him both before and after his water, then rack him gently up and down; in your racking you must observe, even from the stable door, in all your passages, especially when you would have your horse to empty himself, to let him smell upon every old and new dung he meets, for this will cause him to empty his body, and repair his stomach.

When you have watered your horse, and spent the evening in airing him, till near night, (for nothing is more wholesome, or sooner consumeth foulness, than early and late airings) you shall then ride him home, and whatever you did in the morning, either within doors or without, do the same also at night, and so leave him in his bridle for an hour or upwards, then return and rub him well, take off his bridle, clean the manger, put up his scattered hay, sift him a quart of oats, and so let him rest till nine o'clock.

At nine o'clock, which is bed time for your horse, you must rub down his legs with hard wisps, then with a clean cloth rub his face, head, chaps, nape of the neck, and fore parts; then turn up his clothes and rub over his fillets, buttocks and hinder parts; then sift him a quart of oats: afterwards put into his rack a small bundle of hay, toss up his litter, and make his bed, and let him rest till the next morning.

Next morning visit the horse at day-break, and do every thing that hath been formerly mentioned. You shall keep your horse thus constantly, for the first fortnight: in which time, by this daily exercise, you shall so harden

his flesh and consume his foulness, that the next fortnight you may venture to give him gentle heats.

Now touching his heats, you are to observe these four considerations.

1st. That two heats in the week are sufficient for any horse, of what condition or state of body he may be.

2nd. That one heat should be given on that day in the week on which he is to run with his match, viz :

If your match is to be run on Monday, then your best heating days are Mondays and Fridays, and Monday to be the sharper heat, because it is the day of his match, and there is three days respite betwixt it and the other heat.

If the match is to be run on Tuesday, then the heating days are Tuesdays and Saturdays.

If on Wednesdays, then the heating days are Wednesdays and Saturdays, by reason of the Sabbath.

If on Thursday, then the heating days are on Thursdays and Mondays, and so of the rest.

3d. You shall give no heat, (except in case of extremity) in rainy or foul weather, but rather change the time and hours, for it is unwholesome and dangerous. And therefore in case of showers and uncertain weather, you shall be sure to provide for your horse a warm lined hood, with linen ears and the nape of the neck lined, to keep out rain, for nothing is more dangerous than cold wet falling into the ears, upon the nape of the neck and the fillets.

4th. Observe to give your heats, (the weather being

seasonable) as early in the morning as you can, that is by break of day ; but not in the dark, for it is unwholesome for the horse.

The second fortnight's keeping.

Now with regard to your second fortnight's keeping, your approach to the stable, cleaning and the like, you shall do all things as in the first fortnight, only before you put on his bridle you shall give him a quart of clean sifted oats, when he has eaten them, bridle him up and dress him well; then clothe and saddle him, air him, water him, and bring him home, as in the first fortnight, only you must not put any hay in his rack, but draw a handful of fine, sweet hay, which you must dust well, and let him tear it out of your hand as he standeth with the bridle on, and if he eats it greedily, then you may give him a second and a third handful, and so let him stand an hour or more, then return, and after rubbing him, &c. dress up another quart of oats and lay them by ; next take a loaf of bread, that is at least three days old, made in the following manner :

The first bread.

Take three pecks of clean beans, and one peck of fine wheat, mix them together and grind them into pure meal: then sift and bolt it through a pretty fine sieve and knead it up with a good quantity of yeast and lightening, but with as little water as possible ; work it well in the trough, tread and break it, and then cover it warm, and let it lay in the trough to raise ; afterwards knead it over again and make it into large loaves, bake them well and let

them soak soundly ; after they are drawn from the oven, turn the bottoms upwards and let them cool.

When three days old you may venture to use this bread but not sooner, for nothing occasions surfeits, or is more dangerous than new bread : yet if compelled by necessity to use it sooner, or it grows heavy and clammy, so as to displease the horse, you may then cut it into thin slices, lay it in a sieve to dry, and then crumble it amongst his oats, you may then give it to the horse without danger.

When you have taken a loaf of this bread of three days old, you must chip it very well, then cut it into thin slices, and break three or four of them very small, and mix it with the oats you had before sifted, and give them to your horse.

About eleven o'clock visit your horse, and after doing the necessary things about the stable, give him the same quantity of bread and oats as you did in the morning, and let him rest till the afternoon.

At one o'clock in the afternoon, (or after if you do not intend to give him a heat the next day) you shall feed him with bread and oats as you did in the forenoon, and so every meal following for that day, observing every action and motion as heretofore.

But if you intend the next day to give him a heat, you must only give him a quart of sweet oats, and as soon as they are eaten, put on his bridle and tie up his head, not forgetting the several other things necessary to be done ; then dress, clothe, saddle, air and water him, and order him as before, only give him no hay.

After he hath stood an hour with the bridle on, give him a quart of clean sifted oats, and when he hath eaten them

put on his head a clean sweet muzzle, and let him rest till nine o'clock at night.

With regard to the use of the muzzle, and which is the best kind, I shall inform you:—

The true use of the muzzle is to keep the horse from eating his litter, knawing boards, and to keep him from eating any thing, except what he receiveth from your hand.

These muzzles are sometimes made of leather and pierced full of holes, or else close, but they are unsavory and unwholesome, for if it be allumed leather, the allum is offensive; if it be liquored, the grease is fully as disagreeable: besides they are too close and hot;—both make a horse sick, cause him to lose rest, and retain his dung longer in his body than he would do otherwise.

The best summer muzzle is the net muzzle, made of strong pack thread and knit very thick, with small meshes in the bottom, and gradually wider up to the middle of the horse's head, and then bound about the top with strong tape, upon the near side a loop, and on the far side a long string of tape, to be fastened under the horse's head.

The best winter muzzle is that which is made of strong double canvass, with a round bottom, and a square lattice window of small tape, before both his nostrils, down to the very bottom of the muzzle; this must also have a loop and string to fasten it about the horse's head.

At nine o'clock at night, visit the horse, and when you have performed your by-ceremonies, give him a quart of oats, and as soon as he hath eaten them, put on his muzzle, shake up his litter, and leave him to rest.

Next morning come to him before day, if he be lying, do not disturb him.

Now whilst he is lying, or if he be standing, take a quart of clean oats, and wash them in a little strong beer, do not let them be too moist, for fear of offence, and so give them to him.

As soon as he hath eaten them, bridle him up and hang his muzzle on some clean place; afterwards unclothe him and dress him as hath before been shown; then put on his body-cloth and breast-cloth, and saddle him; when ready to go forth, take his bridle and draw it over the top of the rack, so that you may draw his head aloft; then take a new laid egg, washed clean, and break it in his mouth, and make him swallow it, then wash his tongue and mouth with a little beer, and so lead him out of the stable.

At the door see if he will piss or dung, then mount his back and rack him gently to the course, making him smell upon other horse's dung, that he may empty himself the better.

When you are come within a mile of the starting post, alight from your horse, and take off his body-cloth and breast cloth, then girt on the saddle again; afterwards send away your groom both with those cloths, and the clean dry rubbing cloths; let him go to the last end of the race and stay there till you come. Then rack your horse gently up to the starting post, and beyond; make your horse smell to that post, as you shall also do at the first post, which we call the weighing post, that he may take notice of the beginning and ending of his course, there start your horse roundly and sharply at near a three quarters speed, and according to his strength of body, ability of mind, and cheerfulness of spirit, run him the

whole length of the course, but by no means do any thing in extremity above his wind and strength; but when you find him yield a little, give him a little ease, so that all he doth may be done with pleasure and not with pain; for this manner of training will make him take delight in his labor, and so increase it; the contrary will breed discomfort, and make exercise irksome.

Also during the time that you thus course your horse, you shall, with all care, note upon what ground he runneth best; whether upon the hill, the smooth or rough earth, whether on the wet or dry, and according as you find his disposition, so maintain him for your own advantage.

When you have thus run the course over strongly and swiftly, and after a little slightly galloping him up and down the field to rake his wind and cheer his spirits, then ride to some warm place, (your groom being ready with the clothes, and other necessaries) as under the cover of some hedge, bushes or trees, into some hollow dry ditch, pit, or other defence from the air, there alight, and with a grasping knife, or scraping knife as some call it, made either of some broken sword blade, some old broken scythe, or for want of them, a thin piece of old hard oak, shaped like a long broad knife with a sharp edge; and with both hands scrape the sweat off your horse in every part, and continue to do so until he will sweat no more, and every now and then walk the horse up and down, and then with dry clothes rub the horse well all over, afterwards take off his saddle, and having glassed, scraped and rubbed his back, put on his body-cloth, and breast-cloth, then set on the saddle again, afterwards gallop the

horse gently forth, and again a little space, often rubbing his head, neck, and body as you sit on his back, then walk him about the fields to cool, and when you find that he drieth apace, rack him gently homewards, sometimes racking, sometimes galloping, but by no means bring him to the stable, until he is quite dry. When come to the stable, dismount and having enticed him to piss and empty himself, then lead him into his stall, and tie his head gently up to the rack with the bridle, then give him the following scouring, having prepared it before.

The first scouring.

Take a pint of the best sweet sack, and put thereto better than an ounce of the clearest and best rosin, well powdered, brew them together very much; when they are well incorporated together, put to it half a pint of the best salad oil, and brew them also well together: lastly, take an ounce and a half of brown sugar-candy, bruised to powder, and add it also; then mull the whole upon the fire, and being luke-warm, and the horse just come in from his heat, draw his head up to the rack, and with an horn give him this scouring, for it is a strong one, and takes away all manner of molten grease and foulness whatsoever.

The ordering of the Horse after this Scouring.

As soon as you have given the horse this scouring, let your groom rub his legs immediately and do you take off his saddle and clothes, and finding his body dry, run slightly over it with your curry-comb, and then the brush then dust well, and lastly, rub all his body over exceeding well with dry cloths, especially his head, nape of the neck, and about his heart; then clothe him up warm, and wisp him round with great warm wisps, and if you

throw over him a little loose blanket, it will not be amiss at such times, especially if the season be cold.

Your horse must fast full two hours after the receipt of his scouring, but do not depart from the stable, but stay and keep the horse stirring and awake, partly by noise, and partly by making him move up and down. There is nothing more hurtful to the horse, or hindereth the operation of the medicine, than sleep; and inaction; and nothing better than action, for it makes the spirits lively, and stirs up those humours which should be removed, when rest keeps the spirits dull, and the humours so confined, that nature hath no power to work.

After your horse hath fasted upon his bridle for two hours, then take a handful of wheat-ears without beards, and first handle the roots of his ears, then under his clothes against his heart, upon his fillets, flanks, and thighs; and if any sweat arise, or any coldness of sweat, or if his body beats, or he breathes fast, then forbear to give him any thing, for it is a sure sign that there is much foulness stirred up, on which the medicine working with great power, the horse is brought to a little heart-sickness: in this case, only take off his bridle, and put on his collar; then toss up his litter, that he may lie down;—after having made the stable dark, absent yourself for two hours, which is the utmost end of that sickness.

But if you find no such appearance, offer him the ears of wheat by three or four at a time; and if he eats them, give him more.

After he hath eaten the wheat ears, give him a little bundle of hay and draw his bridle, rubbing his head well.

An hour after this, sift him a quart of the best oats, and

to them put two or three handfuls of spelted beans, which cause to be ree'd and dressed very clean. To these oats and beans, break two or three thick slices of bread, clean chipt, and give all to the horse, and let him rest for near three hours.

At evening before you dress your horse, give him the like quantity of oats, spelted beans, and bread, and when he hath eaten them, bridle him up and dress him; after he is drest, clothe him, for you shall neither saddle him nor ride him forth, as this evening after his heat, the horse being inwardly foul, and the scouring yet working him he must not receive any water.

After the horse is dressed, and hath stood an hour and a half upon his bridle, then take three pints of clean sifted oats, and wash them in strong beer, and give them to the horse, for this will inwardly cool and refresh him.

After he hath eaten all his washed meat, and rested a little while, then at his feeding times feed him with oats and spelt beans, or oats and bread, or all together, or each several and simple by itself, as you find the horse's stomach suited to receive best; feed him that night in a plentiful manner, and leave a lock of hay in the rack when you go to bed.

Early the next morning, feed, dress and clothe your horse, then saddle him, air him, and water him, as before; afterwards bring him home and feed him with oats, spelted beans, and bread: give him but little hay, and keep your heating days, and the preparation the day before, in such manner as hath been formerly declared, without omission or addition. Thus you shall spend the second fortnight, in which your horse having received four heats

soundly given, and four scourings, there is no doubt but his body will be inwardly clean.

The third fortnight's keeping.

The third fortnight you must make his bread which is finer than before : viz.

The second Bread.

Take two pecks of clean beans, and two pecks of fine wheat, have them well ground, and sifted through a fine seive, and knead it up with yeast and lightening, working it well, and baking it in the same manner as you did the former bread.

With this bread, having the crust cut clean off, and being three days old, and clean oats, and clean spelt beans, you shall feed your horse this fortnight as in the former ; observe his dressing, airing, and hours of feeding, as in the former fortnight ; also observe his heating days and the day before his heat, as before, only with this difference :

You shall not give his heats so violently as before, but with a little more pleasure ; that is if the first heat be of force and violence, the second heat shall be of pleasure and ease, and not at all to overstrain the horse, or make his body sore.

Next, you shall not after his heats, when he comes home give him any more of the former scouring, but instead thereof you shall instantly, upon the end of your heat, after the horse is a little cool, and clothed up, and in the same place where you rubbed him, by drawing his head up aloft as you sit in the saddle, or raising it up otherwise, give him a ball somewhat bigger than a French wal-nut, hull and all, of that confection which is mentioned before. of the true manner of making cordial balls.

The fourth and last fortnight's keeping.

You shall make your horse's bread much finer the last fortnight than either of the former.

The last bread.

Take three pecks of fine wheat and one peck of clean beans, grind them to powder, and bolt them through the finest bolter you can get; then knead it up with very sweet ale yeast, and new strong ale and the yeast beaten together, and the whites of at least twenty eggs; and instead of water, take a small quantity of new milk. Then work it up very much, and bake it as before.

With this bread (having the crust cut clear away) and oats well sunned, rubbed and beaten, and winnowed; and with the purest spelted beans, feed your horse at his usual feeding times, in such manner as you did in the fortnight before mentioned.

You shall keep his heating days the first week of this last fortnight, in the same manner as you did the former fortnight, but the last week you shall forbear one heat, and not give him any heat five days before his match, only give him long and strong airings to keep him in wind.

You need not give him any scouring this fortnight.

If for this fortnight you burn, each morning and evening, some pure Olibanum, or Frankincense, mixed with Storax and Benjamin, upon a chafing dish of coals in your stable to perfume and sweeten it; you will find it exceeding wholesome for the horse, and he will take delight therein.

In this fortnight when you give your horse any washed meat, wash it not in ale or beer, but in the white of eggs or maskadine, for that is much more wholesome.

During this fortnight give your horse no hay but what he taketh out of your own hand after his heats, and that must be in little quantities and well dusted, unless he be an exceeding bad feeder, very tender, and a great belly loser.

The last week of this fortnight, if your horse be a foul feeder, you must use the muzzle continually: but if he be a clean feeder, and will not touch his litter, then use the muzzle three days before you match.

On the morning of the day before your match, feed him well before and after his airing and watering, as at other times before noon:—after noon, scant his portion of meat a little.

Before and after evening airing, feed as at noon, and water as at other times, but be sure to return before sunset.

This day you shall cool the horse, shoe him, and do all extraordinary things of ornament about him, provided there be nothing to give him offence, or hinder him in feeding, or other material points; for I have heard some horsemen say, that when they had shod the horse with light shoes, and done other actions of ornament about him, the night before the course, their horse hath taken such special notice of it, that they refused to eat or lie down: but those horses must have been old, and long experienced in this exercise, or they cannot have such apprehensions. As for the nice and straight plating up of horse's tails in the manner of sackers or docks, howsoever great the ornament may appear to the eye, yet I do not like it, because if an ignorant hand have the managing thereof, he may give offence to the horse many ways,

and by endeavoring to avoid incumbrance may incumber the more; therefore I advise every one rather to avoid such ornament, than by such false notions injure their horse.

The necessary and indifferent things which are to be done to the horse, should be done the day before, rather than on the morning of the course, because the horse should not be troubled or vexed on that morning.

The next morning, which is the match day, visit your horse before day; take off his muzzle, rub his head well, and give him a pretty quantity of oats mashed in muskadinine, if he will eat them, or else in the white of eggs: or if he refuses both, try him with fine dressed oats, dry and mixed with a little wheat, or with your lightest bread; but do not give him beans. Of any of these foods give him such a quantity as may keep him in high spirits; then if he be a horse that is hard of digestion, and will retain food long, you may walk him abroad; and in the places where he used to empty, there entice him to empty; as soon as he hath done, bring him home, put on his muzzle, and let him rest until you have warning to make him ready and lead him forth; but if he be easy of digestion, you need not stir him, but let him rest quiet.

When you are warned to prepare for leading out, come to your horse, and having washed his snaffle in a little Muskadine, take off his muzzle, and bridle him up; but if you think the horse is too empty, give him three or four mouthfuls of the washed food last spoken of, before you bridle him. Then bridle up and dress, having waxed your saddle and girts with shoemaker's wax, set it on his back and girt it very gently, so that he hath a feeling,

but not strained. Then lay a white sheet over the saddle next his skin, and over it his ordinary clothes, then his body and breast clothes, and wisp them round with soft wisps. If you have a counterpane or cloth of state, let it be fastened above all. When you are ready to come forth take half a pint of best Muskadine, give it him with a horn, then lead him away.

In all your leadings upon the course, of slow motions, suffer the horse to smell upon every dung, that he may thereby empty himself; and in places of advantage, as where you find rushes, long grass, or heath, walk your horse, and entice him to piss: but if you find none, then walk him in good places on the course, and chiefly towards the end; and having used the same means before, break some of your wisps under his belly, and make him piss.

In your leading, if any white or thick froth arise about the horse's mouth, wipe it away with a clean handkerchief. Carry a small bottle of clean water, and wash his mouth now and then:

When arrived at the place of starting, before you uncloth your horse, rub and chafe his legs with hard wisps; then pick his feet, and wash his mouth with water; afterwards uncloth him, mount his rider, and then start fair.

CHAPTER VI.

Feeding, Exercise, Docking and Nicking.

Feeding and Exercise.—This is a subject of considerable importance, and requires more attention than is commonly paid to it; since by a judicious management in this respect, many troublesome diseases may be prevented.

When a horse is in a state of nature, and using only voluntary exercise, there cannot be a doubt that the food which nature provides for him is perfectly sufficient for his support, and better calculated than any other to keep him in health; but when he is employed in the various labours in which he is found so essentially useful, it becomes necessary to adapt the quantity and quality of his food to the exercise he has to perform; for example, if a horse, whose work consisted merely in being walked out for an hour every day, were to be fed daily with twelve quarts of oats, and an unlimited quantity of hay, he would in all probability become full of humours, according to the language of grooms, and some troublesome disease, either of the lungs, eyes or heels, would be the consequence; but if one that performs the hard labour of a post horse were to be kept on such allowance, he would soon lose flesh, and become inadequate to his work. When we undertake, therefore, to get a horse into condition, it is necessary to enquire what kind of work he is designed for, as it is by this circumstance that his feeding and exercise are to be regulated. It is a fact, not sufficiently known perhaps, that the strength of an animal, or any particular part of an animal, may be increased to a considerable degree by means of exercise properly conducted. Thus

we find that the arms of a waterman are particularly large and strong from frequent exertion of its muscles; and the same may be observed of the legs of a porter, who is almost constantly employed in carrying heavy burthens. In like manner, a horse, by means of exercise gradually increased, and proper feeding, may have his strength brought to the highest degree of perfection of which it is capable.

It is a very common practice, and thought by many to be indispensably necessary, to give a horse three doses of physic, in order to train him for the field, or to bring him into high condition. We believe, however, that this practice frequently does mischief, and it has been proved that a horse's wind and strength may be made as perfect as possible, merely by proper management in feeding and exercise.

With respect to the food most proper for horses, oats and clean hay free from dust are certainly the best. Indian corn appears to dispose the body to inflammatory complaints, unless this effect is counteracted by a considerable degree of exercise; it should be given only to such horses as work very hard, and then it will be found a very invigorating and nutritious diet.

To a horse that works moderately, ten or twelve quarts of oats and fourteen pounds of hay are a sufficient allowance for twenty four hours. If at any time he is required to perform more work than usual, there should be a proportionate increase in the quantity of oats, but the above quantity of hay will on all occasions be sufficient.

But straw or hay cut short, well wet and mixed with shorts, chopped rye or corn, is a most healthy and desira

ble diet for a horse, particularly in warm weather; and, indeed, occasionally at other times, when he is not employed in much active service.

Those who have paid most attention to the effects of different kinds of water upon horses, are of opinion that pond water is to be preferred, where the bottom is composed of clay, and the water generally turbid. It has been asserted also by persons of considerable experience, that without *good* water it is difficult, and often impossible to bring a horse into high condition.

A horse should not be stinted too much in water, but should be served three times a day, particularly in summer; many horses are injured in this way, but they should not be allowed to drink too much at one time, nor should it be very cold.

The hours of feeding should be regularly observed, and never deviated from if it can be avoided.

To a horse that does no work, two or three hours exercise every day is necessary to his health and condition. When a horse is to be prepared for the road, and is intended for moderate riding, his exercise may be confined to walking; but if he is designed for fast riding or for hunting, he must be gradually accustomed to that velocity of motion for which he is wanted; it is in this way only that his wind can be brought to perfection.

Horses are very liable to be injured by too sudden a change of temperature; this has been often occasioned by bringing them too hastily from grass into warm stables, many fatal diseases having been produced by it; on those occasions, therefore the most open stables should be chosen at first, and the diet should consist of hay, bran, cat-

straw, &c. After a few days a small quantity of oats may be given, and the stable made a little closer. He may thus be brought gradually to usual diet. If during this time, any symptoms of inflammation make their appearance, such as cough, inflamed eyes, quickness of breathing, swelling of the legs, &c. he should be immediately bled, and next morning take a laxative ball. Were these precautions more attended to than they are, many fatal diseases might be prevented.

Docking.—This operation is to be performed as follows : a twitch is to be put upon the upper lip of the horse but not so high as to affect his breathing, a cord is to be made fast to the fetlock of one of his hind legs, thence carried forward and made fast to his near fore leg, below the knee and from thence to the fetlock of the other hind leg; which will effectually prevent his striking or kicking during the operation. The horse being thus bound, a block of wood is to be placed under his tail and a sharp instrument is to be drove through it (at a joint if possible) with one stroke. The bleeding is to be stopped by searing the dock with a hot iron of a circular form prepared for the purpose; some powdered rosin is first to be applied to the dock. After the first day, let a little train oil and spirits of turpentine mixed, be applied daily, which will lessen the inflammation and soon heal the sore. The best method of docking, however, is by an instrument prepared for the purpose which operates as a pair of shears.

Nicking.—After the horse is securely bound as directed in case of docking and the twitch applied to his nose; the tail is to be held up and three deep incisions are to be cut

(though not so deep as to touch the bone) with the point of a sharp pen-knife, so as to effectually divide the lower sinews, the ends of which sinews, however, need not be cut off or shortened as usual; as they never can unite if the tail is kept in the pullies until the incisions heal up, which ought to be particularly attended to, otherwise the operation will in a great degree be useless.

The first incision should be about two inches from the root of the tail, another at about the same distance from the end, provided the dock is already reduced to the proper length, and the other at a medium distance between the two.

A pulley should be placed over each side of the stall, precisely opposite to the tail when the horse stands in a position to feed; a cord is then to be passed through each pulley and the ends brought together and securely fastened by means of strong twine, to the hair of the tail; a moderate weight must be attached to the other end of each cord, sufficient to keep the tail perpendicular; thus situated the horse will generally stand in the middle of the stall, which will effectually prevent the tail from inclining to one side or the other, which is too often the case when but one pulley is used. The tail should be kept in the pullies at least one month, in order to give the new flesh that generates in those deep incisions time to become firm, otherwise the horse will not carry so well. He ought to have an hour or two of moderate exercise daily after the first two or three days and a little train oil applied to the sores once a day, with a feather.

If proud flesh appears, apply powdered allum or red precipitate, and if the tail should become much inflamed,

wash frequently about the root with salt and vinegar, and apply a poultice of flaxseed and bran, moistened with hogs lard, and give half a pound of salts in about two quarts of water every other day until the inflammation subsides.

A horse may even be nicked in warm weather (though this we would not recommend) provided salts are given a few days before and after, and the root of the tail well washed daily with salt and vinegar, which will also prevent the hair from coming out.

☞ As pricking is a practice that is frequently of serious injury to a horse, and therefore ought never to be used, we shall give no directions on that subject.



CHAPTER VII.

Horses cutting their legs in Travelling.

Horses frequently cut their legs both before and behind, by striking or knocking the foot when trotting, &c. against the opposite leg, whereby a wound is made, which is attended with an inflammation, swelling, &c. and of course lameness. The parts commonly wounded from cutting in the fore legs, are the prominent and back part of the fetlock joint; and under the knee joint on the inside of the leg. The former is most common: the latter only happens to those horses who raise their feet high in trotting: and as horses generally go fast, this last species of cutting is distinguished by the name of *swift or speedy cut*.

In the hind legs, horses cut themselves upon the prominent part of the fetlock; and sometimes, especially those who move their legs too low, cut upon their coronet. But whether they cut before or behind, it commonly proceeds from some of the following causes.

Injudicious shoeing, under which may be included, the hoof being suffered to grow too large and broad, the shoe projecting over the inside edge of the hoof, the clenches or rivets of the nails rising above the surface of the crust.

There are a great variety of shoes recommended for preventing this complaint, of different constructions; but the most common are those that are made thick upon the inside heel. Others have a border or margin turned up upon the inside of the shoe's rim, commonly called a *feather*, which raises the inside of the hoof considerably higher from the ground than the outside. Either of these shoes may be of use to a dealer to make a wry-footed horse appear to stand straight upon his limbs, but can have no effect upon a horse's manner of moving his legs, especially at the time when the foot is raised from the ground, and passing by the other leg, so as to prevent him from cutting. The reason why this method of shoeing seems to succeed, especially in the hind feet, is this, when the shoe is made thick upon the inside heel, which part commonly strikes the opposite leg, the shoe-nails are removed to a considerable distance forward from the thick part of the shoe, which at the same time is kept much within the circle of the hoof; and on that account, it becomes impossible that the shoe should touch the opposite leg.

N. B. To shew that this raising of the inside quarter

or heels, by a thickness of rim in the shoe, is not necessary to prevent horses from cutting, the author has frequently caused the heel of the shoe to be made thinner than common; and, by keeping it within the hoof, it answered equally well with the former; he has likewise caused the shoe to be cut in the middle of the quarter, whereby the hoof at the heel was left quite bare, which answered the purpose so much the better, as the foot was less loaded with the additional weight of superfluous iron.

The great weight of the concave shoes commonly used, is likewise another cause why horses, that in other respects move well upon their legs, do frequently cut and wound themselves, and to this we may add, the great length of the hoof at the toe, especially in the fore feet, which is allowed frequently to grow to an unnatural size. It has been already said, that a great load of iron is by no means necessary in a horse's shoe; on the contrary it becomes a great disadvantage: for a flat one, that is properly constructed, and well wrought, that is, well hammered, will wear as long as a concave or hollow shoe that is almost double the weight of the former. This, at first view, will perhaps appear a paradox, but never the less it is a fact; for as the round or outward surface of a concave shoe is the only part that touches the ground, and is liable to be worn, it soon grows thin, and yields to the pressure from the weight of the body; and therefore must be renewed before the other parts of it are hardly touched, and but little reduced in its original weight; but the surface of a flat shoe, resting equally upon the ground, will remain firm upon the hoof, and be sufficiently strong to support the weight of the body till it wears very thin.

When horses cut or wound themselves immediately under the knee joint, this is called the *swift*, or *speedy cut*, and is occasioned by raising the feet high in trotting; whereby the inside toe or quarter of the hoof strikes against the opposite leg. This is easily prevented by making the shoe straight, and placing it considerably within the hoof of the part where the shoe strikes the other leg, observing that no nails are to be put in that part of the shoe which is kept so much within the hoof, they must immediately plunge within the quick.

When cutting proceeds from a natural defect, that is, a wrong position of the foot upon the leg bones, whereby the toes are turned too much outward, or too much inward, at the same time, if the horse crosses his legs much in trotting, in this case there is no preventing his cutting altogether, though it may be palliated. Such horses are by no means fit for journey riding, being generally addicted both to cutting and stumbling.

In the last place, it may proceed from fatigue or weakness. This happens frequently, even to those horses that deal their legs well, (as the phrase is) especially in young horses; but they soon leave it off when they acquire more strength, and become accustomed to their work. Most people must have experienced this in themselves when boys; as they at that age are very ready to knock with the heel of the opposite shoe, which custom wears off as they grow strong. Upon the whole, the best general rule that can be laid down for preventing horses from cutting their legs, is, to keep the hoofs round and sharp at the toe, and from growing too large and broad; to observe that the shoe does not project over the inside edge of the hoof;

that the clenches or rivets of the nails on the outer surface of the crust are smooth; and, above all, that the shoe be made tight, well worked, and properly proportioned to the size of the foot.



CHAPTER VIII.

ANATOMY OF THE HORSE.

1. *Of the Osteology or bones.*—As the bones are the foundation and support of the whole body, so the knowledge of them is the ground work of anatomical research. They may be considered, collectively, as forming a surface of attachment for the various soft parts which they are the means of preserving in their true form and situation. Bones in their structure are hard, compact, and durable bodies, insensible but when inflamed, and of a whitish colour. We may consider them as principally made up of two parts, a membrane of the size and form of the bone, and an earthy matter filling up this membrane. To detect these two principles, we need only macerate or soak a piece of fresh bone in spirit of salt, which acts on the earthy matter alone, dissolves it without affecting the membrane, which still retains its form and size, though it may be rolled up and put into a phial, when the addition of water will open and bring it to its original shape. This earthy matter appears deposited in layers, composed of fibres crossing each other and forming a net work. They are not plac-

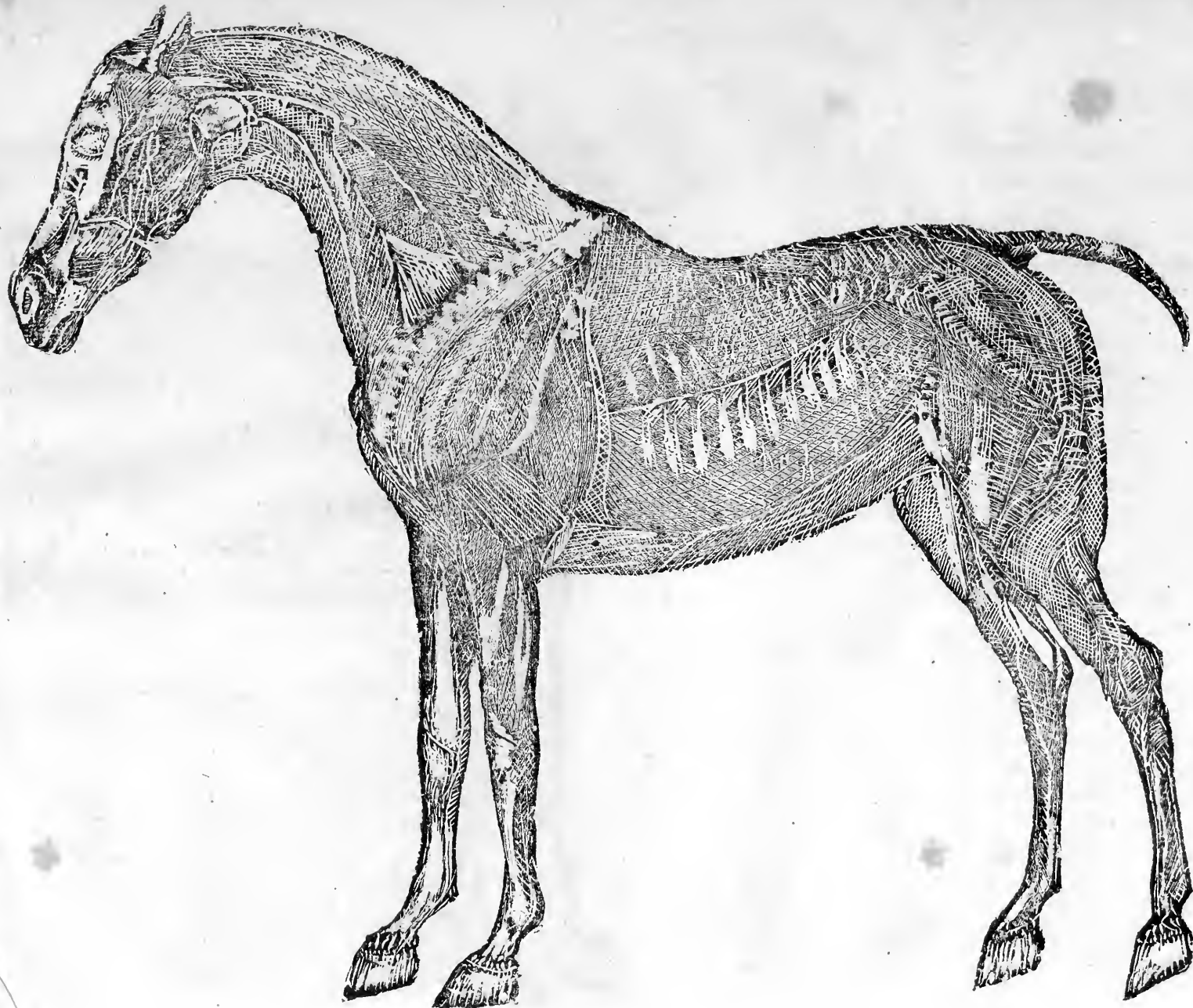
ed exactly alike in all bones, nor in all parts of the same bone; in some they are so close as to make it almost solid, as in the middle of the long bones, whereas the extremities or ends appear spongy throughout, composed of little cells extending through the centre only of the compact parts; thus their ends are larger than their middle, to allow a greater space for muscles to attach themselves, and to extend the surface of the joints.

Bones are furnished with *arteries* of two kinds, one entering at their extremities to afford nourishment, the other piercing the middle to secrete the *marrow*, which is deposited in the cells we have noticed. This substance keeps them moist and from becoming brittle; thus the bones of old animals, where it exists but in small quantities, break more frequently than those of the younger. It may become diseased from long fevers, it then corrodes and eats through the bone, producing a thin fetid discharge; this will happen (more particularly to blood colts near the knee and hock) without previous fever, and then is called, as in the human *spina ventosa*. The veins of the bones, though not very evident, yet are now and then detected; and the sensibility of inflamed bone, and of the fungus arising from a diseased one, plainly shews the existence of nerves. In common with other parts, they are likewise furnished with a set of vessels, named *absorbents* or *lymphatics*. As all the fluids of the body are continually changing, and fresh poured out in their room, it is necessary that there should be appropriate vessels to carry back what the arteries before deposited, which is performed by the absorbents. Both externally and internally the bones are covered by a membrane, from its situation term-

ed *periosteum*; it serves to strengthen and prevent their overgrowth, and to give a rough surface for the attachment of muscles, &c. It is very sensible, and when stretched, as in splents, spavins, &c. becomes very painful. It may likewise itself become diseased, and is then apt to be mistaken for an affection of the bone. Bones are furnished with *ligaments*, which are common and proper: the common surround the ends of the bones, fastening them together, forming the connected parts, called joints, into complete cavities, within which is secreted, by glands, a fluid, called *synovia* or joint oil, for the purpose of easing the motion of the joints, by rendering the ends of the bones smooth and slippery. In old animals it is formed only in small quantities, and this occasions that stiffness and cracking of their joints we so constantly observe. From a defect in the absorbents, or from an increased secretion of this fluid, is produced a dropsy of the joints, to be distinguished by attention from wind-galls. The cure consists in making a small opening into the cavity, and letting out the contents, carefully preventing the air from getting into the joint. The proper *ligaments* are such as are attached to particular parts, as those of the foot, that which connects the thigh bones with the pelvis, and several others. In their structure they are firm and inelastic, and from this cause arises the great difficulty of removing extensions or strains of the joints: from this likewise we are made sensible that the cure must consist in such applications as tend to brace the relaxed fibres. The progress of *ossification*, or the formation of bone, appears to begin in a few weeks after conception, or after the mare is in foal: at first little limes shoot out, which

prove to be the membrane of the bone ; by degrees this hardens into gristle ; the earthy matter then begins to be deposited in the middle of it, and gradually proceeds to the ends, where the *ossification* is not completed till the fourth year ; consequently young horses should not be exercised violently till then ; the lessening of the joints being the last act of growth, may afford a rule to guide us in this respect. The complete formation of the bones may be hastened by exterior causes, as by pressure, whether arising from any foreign body, or from increased and violent action of the muscles. This pressure may act on the blood itself going to form bone, or it may produce its effect by accelerating and propelling it, and thus incorporate the long matter more speedily and minutely : however it may act, it appears evident that it has the effect attributed to it ; the spine becomes so ossified in horses long used to burden, as sometimes to form one entire piece ; it must likewise be the increased action of the blood-vessels, when we give spirits to puppies and bathe them in it, that prevents in a measure their future growth ; the same reason accounts for the appearance of splints and spavins in horses when too early worked. If a tinging substance, as madder, is given to animals, even after they have arrived at their full size, the bones partake of the colour : should the madder be omitted, after sometime they resume their natural appearance : from this it would appear that the earthy matter of bone is taken up by the absorbent vessels, and a fresh supply is deposited by the arteries, and this change seems continued through life. Should not this teach us the necessity of feeding young horses well ; and that, if bones partake so much of what-

ever is taken into the stomach, how much firmer will be the bone produced from oats, beans, and hay, than from marsh grass or straw? The ends of the bones are covered, or, as it were, tipped with a white, smooth substance, called *cartilage* or *gristle*: by its elasticity it prevents the jar that would otherwise arise from any violent action, as leaping, trotting, &c. When this becomes diseased, it is not easily replaced, but bony matter is thrown out, and a stiff joint generally follows. To the ends of many of the bones are small processes or parts, of a bony nature, adhering, called *epiphyses*: most of them by age are so firmly joined as to appear one and the same bone; they are then termed *apophyses*; their use is considerable, in furnishing a broader surface for the attachment or fastening of muscles, and preventing the tendons or sinews from inserting themselves too near the centre of motion. Bones being irregular and various in their form, must necessarily have many risings and depression; these receive names according to their shape and appearance; thus a rounded body jutting out, is called a *head*, as is the part that supports it, a *cervix* or *neve*; if flattened on each side, a *condyle*; when rough and irregular, a *tuberosity*; a sharp rising is named a *spine*, but if slight a *crest*; when the risings are more determined, they are called *processes*, and these are various, as *transverse*, *oblique*, *inferior*, *superior*, &c. The cavities are likewise named according to their appearances, as *sinus*, *fossæ*, *groove*, *notch*, *channel*, *furrow*, &c. but as these are so expressive, we shall not particularize them; neither shall we enter into a detail of the various names and classes that the junction of the bones with each other, called *articulation*, receive; it is



sufficient to say, they are more or less moveable according to their situation and the nature of their office.

2. *Of the Eyes.*—The eyes form one of the principal organs, and are in most animals two in number; wisely and securely placed by nature within a long bony canal formed of the bones of the head. The principal part of the eye is the globe; the others are some external and some internal; as the lids, caruncula lachrymales, puncta lachrymalia, the membrana mictitans, fat, lachrymal gland; nerves, blood vessels, &c. The cavity wherein the eye is lodged is called the *orbit*, it is lined throughout by a production from the dura mater, and is perforated at the bottom for the passage of the optic and other nerves, and blood vessels.

The globe of the eye is made up of several proper coats, forming a shell containing fluids, termed the humours of the eye. The coats are some additional, while some properly invest the humours. The coats investing the globe of the eye are the *sclerotic*, the *cornea*, forming the anterior part, the *iris*, *choroides*, and *retina*. The additional coats are two, one called *tendinosa* or *albuginea*, this forms the white of the eye, the other is called *conjunctiva*.

3. *Structure and Functions of the Internal Organs.*—The hollow part of the body is divided into two cavities by a strong muscular partition, termed *diaphragm* or midriff; the anterior part is named *thorax* or chest; and the posterior *abdomen* or belly. The thorax contains the *lungs* and *heart*; the abdomen the *stomach*, *intestines*, *liver spleen* or *melt*, *pancreas* or sweet bread, *kidneys* and *bladder*.

4. *Of the Lungs.*—In describing the lungs it is necessary to begin with the *trachea* or windpipe, which is a cylindrical

cal cartilaginous tube, extending from the throat to the chest; the trachea is not made up of one entire cartilage, but of several cartilaginous rings, which are united by strong membranes, and such is the elasticity of these cartilages that the tube is enabled to preserve its cylindrical form, even when it receives considerable pressure, and thereby affords free ingress and egress to the air in respiration. The upper part of the trachea is composed of stronger cartilages than the other parts of the tube, and is termed *larynx*; to this is connected a curious kind of valve, called *epiglottis*, which is always open, except in the act of swallowing, it is then forced down upon the larynx so as to prevent food, or any thing which may be passing over the throat, from falling into the windpipe: when the trachea arrives at the chest, it divides into numerous branches, which gradually becoming smaller, at length terminate in minute cells; the lungs indeed are made up of the ramifications of the trachea and blood vessels; the interstices being filled with cellular membrane, which serves not only to unite them, but likewise to give a uniform and homogeneous appearance to the whole mass. The lungs are covered with a fine delicate membrane called the *pleura*, which also covers the internal surface of the ribs and diaphragm, and by stretching across the chest from the spine to the breast bone, divides the thorax into two cavities; this part of the pleura is therefore named *mediastinum*. On every part of the pleura an aqueous fluid is secreted for the purpose of preventing a cohesion of the parts, and when this is produced too abundantly, it constitutes the disease termed hydrothorax or dropsy of the chest. The lungs are divided into two parts, one of

which is situated in each cavity of the thorax; this division seems to have been provided in case of accidents, it having been proved that when one lung has been incapable of performing its function in consequence of injury or disease; the other has been found adequate to the support of life.

The lungs are the organs of respiration or breathing, but they do not appear to be *actively* concerned in the performance of this office; when the diaphragm, and the muscles of the belly and ribs contract, the cavity of the thorax is considerably diminished, and the lungs so compressed, that all the air contained in them is forced out through the windpipe; when this has been effected, the muscles relax, and the thorax returns to its original size; there would now be a vacuum between the internal surface of the ribs, and the external surface of the lungs, did not the air rush in through the windpipe, and so distend its branches and cells as to make the lungs completely fill the cavity; thus are the lungs constantly employed in inspiration and expiration, and this process, which we call breathing, is carried on by the combined action of the diaphragm, and the muscles of the ribs and abdomen.

5. *Of the Heart.*—The heart is placed nearly in the middle of the thorax, it is rather conical in its form; the apex inclining towards the left side. The heart is divided into two cavities, termed *ventricles*, each of them having a small hollow appendage, which from a slight resemblance it bears to a dog's ear, has been named *auricle*. When the left ventricle is full of blood, it contracts so powerfully as to force its contents into the *aorta* or grand artery, by which the blood is distributed all over the body; it is then

taken up by the *veins*, and conveyed by them to the *right auricle*, whence it flows into the *right ventricle*; this also, when it is sufficiently distended, contracts upon its contents and propels the blood into the *pulmonary artery*, by which it is conveyed to every part of the lungs. The *pulmonary veins* then receive it, and convey it to the *left auricle*, from whence it is propelled into the *left ventricle*, that it may again be distributed by the *aorta* to every part of the body.—The blood is thus continually circulating through the body, and this process may be considered as one of the most important actions that is performed in the animal machine; if it be stopped for a few seconds, all motion is suspended, and if it be prevented a longer time from going on, vitality is destroyed. The function of the lungs is of equal importance in the animal economy, and cannot be stopped even for a short time, without suspending or totally destroying animation. Ancient physiologists had a very imperfect idea of the manner in which those organs so essentially contributed to the support of life; the moderns, however, have been more successful in their researches; they have discovered that the blood derives from the air which is taken into the lungs, the most important properties, without which it would be an useless vapid mass, totally inadequate to the purposes for which it was designed. If we examine the blood in the *left ventricle* of the heart, and in the arteries, it will be found of a bright scarlet colour, and replete with those properties that render it capable of nourishing the body; and stimulating the whole system to action: in the *veins* it becomes of a much darker colour, and when it arrives at the *right ventricle* is nearly black, and destitute of those

enlivening qualities which it possessed when in the *left ventricle*: had not the Creator then provided some means for its renovation, it would have been quite unfit for a second circulation, and the duration of life must have been short indeed; but from the *right ventricle* it is conveyed by the pulmonary artery to the lungs, at the moment they are distended with air: here the blood undergoes a wonderful alteration, it resumes its bright scarlet colour and is returned by the pulmonary veins to the *left* side of the heart, with all its original and essential qualities restored to it.

Hence we may learn how important are the functions of respiration and circulation of blood, how essential to the life of animals, and how dependant they are on each other.

6. *Viscera of the abdomen*.--Having finished our description of the thoracic viscera, we shall proceed to notice those of the *abdomen* or belly; the first and most important of which is the *stomach*. Whatever this organ receives, is conveyed to it by a long muscular tube, named *æsofagus* or gullet; the *æsofagus* originates in the throat, where its size is considerable, but it suddenly diminishes into a small tube, and is continued of the same size to the stomach; this upper part has been thought to resemble a funnel in its form, and is distinguished by the term *pharynx*.

The *æsofagus* having passed along the throat and back part of the chest, penetrates through the diaphragm, and terminates in the stomach.

The *æsofagus* of a horse has on its internal surface an insensible membrane, which stretches into the stomach

and lines nearly one half of it; this peculiarity of structure enables us to account, in some measure, for the inactivity of many violent poisons when given to the horse. In the human œsophagus this membrane does not exist, the whole of its internal surface, as well as that of the stomach, being exquisitely sensible.

If two grains of emetic tartar are swallowed by a man it soon occasions violent vomiting; whereas two hundred times that quantity would produce no sensible effect upon the horse. At the cardiac orifice, or that part where the œsophagus enters the stomach, its internal coat is so loose as to be thrown into folds, appearing as if it were designed as a valve to prevent the regurgitation of the contents of the stomach; from this cause, as well as from the insensibility of the membrane with which great part of the stomach is lined, a horse very rarely vomits; but the opinion that he is totally incapable of that action, is certainly not true, as the contrary is well ascertained.

When we examine the throat of a horse, another vulgar structure is observed, which is formed by the *epiglottis*, or valve of the wind pipe, and a membranous substance that hangs from the back part of the roof of the mouth, and is peculiarly large in the horse, termed *velum pendulum palati*; these bodies form a very complete valve, which opens downwards only, thereby preventing the return of any thing through the *mouth*, either from the lungs or stomach: thus we find that a horse breathes only through his *nose*, except in coughing, by which the valve is so deranged as to allow the air, which is thrown out from the lungs, to pass through the mouth.

In case of vomiting the contents of the stomach are at

first observed to pass through the *nose*, at length, by a violent cough, the valve is deranged, and a considerable quantity of fluid, mixed with masticated food is evacuated by the mouth.

That part of the stomach where the *æso*phagus terminates, is called the *cardiac orifice*, and that where the intestines begin, is termed *Pylorus*.

The intestines or bowels consist of one very long tube; which terminates at the anus.

In the horse the intestines measure nearly thirty yards, but being convoluted in order to adapt them to the cavity in which they are placed, they have the appearance of several distinct parts.

The internal surface of a horse's intestines are not lined with that insensible membrane which is found in the *æso*phagus and upper part of the stomach, on the contrary it is endued with a high degree of sensibility, and appears to be more susceptible of irritation than that of most other animals; from this irritability of the intestines, many horses have been destroyed by the administration of strong purgatives, and hence arises the necessity of using those medicines with skill and caution.

The intestinal tube is not throughout its whole extent of a uniform size; that part next the stomach is rather small, and continues for about fifteen yards nearly of the same diameter; it then becomes very large, but again diminishes before it terminates the anus.

Anatomists in describing the intestinal canal, divide it into two parts, viz. the small and the large intestines; these are subdivided, the former into *duodenum*, *jejunum*, and *ileum*: the latter into *cæcum*, *colon*, and *rectum*.

All the internal surface of the intestinal tube is covered with a mucœous substance, for the purpose of defending it from the action of acrimonious bodies. The various convolutions of the intestines are held together by a membrane called *mesentery*, which not only serves this purpose, but affords also a bed for the *lacteals*, or those small vessels by which the nutritious parts of the food are conveyed to the heart to be converted into blood; but before we give a particular description of those vessels, it will be necessary to describe the process of nutrition.

When food is taken into the mouth, it is broken down by the teeth, and so mixed with saliva, as to be in a proper state for entering the stomach: it is then by the united action of the tongue and muscles of the throat forced into the œsophagus, whence it passes into the stomach; in this organ it undergoes a considerable alteration; for here nature has provided a curious liquid, called gastric juice, which has the property of dissolving every thing that is taken into the stomach, and of converting it into a soft pulpy mass, of an uniform and homogeneous appearance; when the food has been thus altered, it is forced by a contraction of the stomach into the duodenum, or first part of the intestinal canal; this mass, however, does not consist wholly of nutritive parts, or such as are fit for the formation of blood, and another operation is necessary in order to separate them from such as are useless: this seems to be effected by the bile and pancreatic juice.*

The bile is formed by the *liver*, which is a large gland

*This opinion appears to have been proved by the experiments of Mr. Ashley Cooper, Lecturer on Anatomy and Surgery, and Assistant Surgeon of St. Thomas' Hospital.

gular body, divided into several lobes, and situated immediately behind the diaphragm, to which it is firmly attached. The form of the liver is too well known to require a particular description; we have only to observe, therefore, that the bile which it secretes, is conveyed by the hepatic duct into the duodenum, within three or four inches of its origin. In man, and the greater part of the quadrupeds, all the bile does not flow immediately into the intestine, there being a small vessel connected with the hepatic duct, which conveys a certain portion into a sac that is attached to the liver, and called the gall bladder, whence it is occasionally expelled; but this does not exist in the horse, although Mr. Taplin, in his *Stable Directory*, has attempted to give an accurate description of its situation and diseases.

The *pancreas* is also a glandular body, and secretes a fluid somewhat resembling saliva, which is conveyed by the pancreatic duct into the duodenum, at the same place where the hepatic duct enters. When these fluids (the bile and pancreatic juice) are poured into the intestine, they mingle with the mass of digested food, which has been expelled from the stomach, and separate from it all those essential parts which are fit to be converted into blood; this process is termed chylification. We have before observed, when describing the mesentery, or that membrane by which the intestines are held together, that an immense number of small delicate vessels are spread over its surface; these are named *lacteals*, from their containing a fluid, which in its appearance resembles milk; this fluid is in fact the essential parts of the food, proceeding to the heart in order to be converted into blood. All

the lacteals open into the intestines, and cover the whole of their internal surface, where they are always disposed to absorb the nutritious parts of the food in its passage through the intestinal canal. Some physiologists suppose that the mouths of the lacteals have the power of *selecting* such parts of the food as are fit to be converted into blood, that no previous separation takes place, and that the bile serves only as a natural purgative, constantly stimulating the intestines, thereby keeping up a small degree of motion in them, and promoting the expulsion of the feculent parts of the food.

It will probably be asked how it is that the mass of food passes through the intestines, since they are so convoluted that it cannot possibly be effected by the power of gravity; but if we examine their structure, this phenomenon may be readily explained. The intestines are composed, in great measure, of muscular fibres, some of which run in a *circular* and others in a *longitudinal* direction: when the *circular* fibres contract, the *diameter* of the canal is diminished, and when the *longitudinal* fibres are in action, it becomes *shorter*; by the combined action of those fibres, the food is gradually propelled through the whole of the intestinal canal; the motion thus excited may be distinctly seen in an animal recently killed, and in some it continues a considerable time after death. The intestine, however, is not entirely composed of muscular fibres, its internal surface is lined with a fine nervous and muscular membrane, which is endued with exquisite sensibility, and has the power of forming on its surface a mucous substance, which serves to protect it from the action of acrimonious bodies. Besides the muscular and

nervous coat there is another which enters into the composition of the intestine, and this is a thin membrane called *peritonæum*. The *peritonæum* not only forms the third and external coat, it likewise envelopes the whole of the abdominal viscera, and is then so reflected, as to form a kind of sac, in which they are all enclosed. Thus are the intestines composed of three coats, which are closely in contact with each other; the *peritonæum*, the muscular, and the nervous coat. We have yet to describe the course of the lacteals, or those vessels which take up the chyle or nutritious parts of the food. We have before observed that they are spread upon the mesentery, from whence they pass on towards the spine, becoming larger and less numerous in their progress, at length they terminate in a large tube, which runs along the spine, and is named thoracic duct; this pours its contents into a large vein near the heart, to which part it is immediately after conveyed and converted into blood.

The *Kidneys* are two glandular bodies, situated within the loins; their office is to separate urine from the blood: the urine thus separated is conveyed by two tubes of considerable length termed *ureters*, into the *bladder*, which is composed of three coats like those of the intestine, and when it has received a sufficient quantity of urine to stimulate its muscular fibres into action, it contracts upon the urine, and forces it out, through the urethra or urinary canal.

7. *Physiology of the foot.* Of all the diseases to which horses are liable, there are none more difficult of cure, or that occur so frequently, as these which attack the foot; and however improbable it may appear to those who

have not paid much attention to this subject, it is an incontrovertible fact, that almost all of them are the consequence of bad shoeing and improper management of the foot.

No one can be aware of the importance of this branch of the Veterinary Art, but he who has had frequent opportunities of seeing those diseases, and has taken the trouble to enquire into their causes; and such a man will be convinced that nearly half of the horses that become unserviceable, are rendered so by some defect in the feet; and he will find that such defects are most commonly occasioned by a bad method of shoeing; therefore it must surely be of importance to every man who values his horse to acquire such a knowledge of this subject, as may enable him to preserve so useful an animal from a multitude of diseases.

The bad effects which arise from the common practice of shoeing are so gradual, that we can easily account for their having been so generally overlooked: the gradations between soundness and absolute lameness are so numerous, that it has been found rather difficult to trace the disease back to its source; and this cannot be done readily without having some knowledge of the structure of the foot, and the particular uses of the various parts which compose it. It is necessary also to be well acquainted with the natural form of the foot, in order to determine how far it has been altered or destroyed by any plan of shoeing; for example, take a horse that has had a sound well-formed foot, let it be improperly pared, and let bad shoes be applied, in all probability lameness will not be the immediate consequence; by a repetition, however, of

this practice, it will be found that the original shape of the foot is gradually altered, and that eventually it will be so far deformed as to produce, perhaps, incurable lameness; therefore we ought not to be satisfied with a plan of shoeing, merely because a horse is not immediately made lame by it, but should examine also the effect produced by it upon the shape and structure of the foot; and this rule may invariably be depended on, that any mode of shoeing and treating the foot, which has a tendency to alter the form given to it by nature, is highly absurd and destructive; while that practice which tends to preserve its original form, is founded upon sound and rational principles.

It has been very justly observed, that if we wish to examine a perfect foot, such as nature made it, it is generally necessary to find one that has never been shod; for the common mode of shoeing is so frequently destructive, that we seldom meet with a horse whose feet have not lost, in some degree, their original form; and this deviation from their natural shape, is generally proportioned to the length of time he has worn shoes. From this circumstance writers on farriery have been led to form various opinions respecting the most desirable form for a horse's foot: but had they consulted NATURE, this variety of opinion would not have existed—they would have been convinced, that the feet of all horses that have not been taken from a state of nature, or improperly shod, are nearly of the same shape; and surely no one will dispute that this form which the Creator has given it, is the most perfect, and far better adapted to all the purposes for

which the animal was designed, than any that can be given by the most ingenious farrier.

A person unacquainted with the anatomy of the horse's foot, would naturally suppose that the internal parts are simply inclosed by the hoof, and that by its hardness it served to protect them from the blows and pressure to which they would otherwise be constantly exposed; but very little reflection would convince him how incomplete and inadequate such a protection would be; let him consider that those internal parts are replete with blood-vessels and nerves, and possessed of a high degree of sensibility: let him consider also, what an immense weight is thrown upon them at every step, and what painful concussion must be occasioned to the animal, were this the only safeguard against it; but nature, ever provident, has so constructed this part as to obviate all those inconveniences; if we examine any part of the animal economy, we are astonished at the infinite wisdom that is displayed in it; it is not however too much to assert, that the structure of the horse's foot is strikingly beautiful and curious; here we find a variety of wonderful contrivances to prevent any painful concussion, from the most violent exertions, or from carrying heavy burthens; but such is the folly and obstinacy of farriers, that they frequently destroy or pervert the whole of this beautiful mechanism, and the poor animal is doomed to painful labour or perpetual lameness.

It will therefore be essentially useful to give such an explanation of the foot, as will enable the reader fully to comprehend the principles of shoeing, and the method of

preserving the feet, from many troublesome and incurable diseases.

The horse's foot is made up of a great variety of parts, some of them possessing blood-vessels and nerves, like other parts of the body, and highly sensible; others are composed of dead horny substance that is perfectly destitute of feeling. All the *external* parts of the foot, which, when taken together, are termed the *coffin* or *hoof*, are composed of this horny substance, which is not only very hard, but is possessed also of a considerable degree of toughness and elasticity, which render it extremely durable, and well calculated to protect the sensible parts which it encloses.

The hoof consists of the *wall* or *crust*, the *sole*, the *frog*, and the *bars*; the upper part of the *crust*, where it is connected with the skin, is termed the *coronet*, the lower part in front the *toe*; the sides of the *crust* are named the *quarters*, the quarters terminate in the *heels*, and the heels are connected with the *frog*. The *crust* grows from the *coronet*, and instead of taking a perpendicular direction becomes oblique in its descent, whereby it acquires a conical figure, being considerably wider at the basis than at the *coronet*; but this description of the hoof applies only to the healthy foot, that has not been improperly treated, for when the bars have been cut away, and the frog mutilated and prevented from receiving pressure, the heels will contract, or approach each other, and the shape of the foot will be considerably altered.

When we examine a hoof that has been recently separated from the foot, an immense number of small orifices or pores may be observed in that groove, which is

found on the inside of the coronet; into the orifices the extremities of those vessels are inserted, which secrete the horney matter, the whole of which appears to be pervaded by a fine fluid, serving to prevent brittleness, and to preserve in the hoof a proper degree of elasticity.

All the internal surface of the crust, except the groove we have just mentioned, is covered by a beautiful membranous or laminated substance, which very much resembles the under surface of a mushroom; these are united, or rather interwoven, with similar laminæ or membranes, which cover all the anterior and lateral surfaces of the sensible foot, forming a very secure union between the crust and the internal parts, nor are those membranes possessed merely of great strength; they possess likewise a considerable degree of elasticity, constituting one of those curious springs which nature has provided to prevent concussion when the animal is in motion; that these laminæ form an union between the crust and sensible foot, of sufficient strength to support the animal's weight, has been proved beyond a doubt, by removing from a living horse the bottom of the hoof, that is, the sole and frog: in this case, had the laminæ been unable to support the horse's weight, the internal foot must have slipped through the hoof so as to come down upon the ground, but this did not happen, and the sole, as it was re-produced, assumed its proper concave form.

As these laminæ form so secure an union between the crust and the internal foot, it is evident that the weight of a horse is in a great measure supported by the crust, which therefore ought to possess considerable strength, for if it were too weak and inflexible, it would not be ade-

quate to the burthen which it has to sustain, and must consequently bend to it. In this case the hoof would lose the oblique form which it had originally, and would approach the horizontal line, at the same time, the sole would lose its concave form, from receiving an unusual degree of pressure, becoming flat, and at length convex or projecting; but when the crust is sufficiently strong, the internal foot, and consequently the whole animal is suspended by those elastic membranes, as a carriage is by its springs; and though the bottom of the internal foot is in contact with the sole, it nevertheless does not press upon it considerably, except when the horse is in motion, and then the back part of the sole descends a little (being somewhat elastic,) and suffers the laminae to elongate in a small degree, so as to prevent any painful concussion.

The bottom of the hoof is formed by the sole, the frog, and the bars.

The sole is rather concave or hollow on its external surface, and consists of a different kind of horn from that which forms the crust, being of a scaly texture, and sometimes soft and pulverable on its exterior surface; its use is to defend the sensible sole that lies immediately under it; from its concave form the horse is enabled to tread more firmly on the ground, and the sensible parts are less exposed to blows or pressure than they would be, had it been made either flat or convex; and being somewhat flexible and elastic towards the heels, it assists in the action of those curious springs we have just described.

The frog is a very important part, and requires to be particularly considered; it is intimately united with the sole, but is composed of a tougher and more elastic kind

of horn ; it resembles a wedge in its form ; but towards the heel, where it becomes wide and expanded, there is a separation in the middle which is continued to the heel : when the frog receives the pressure of the horse's weight, this separation is increased, and consequently the frog becomes wider, and as it is connected with the heels of the crust, the same effect must be produced upon them.

As great part of the frog is placed behind the coffin bone, all the intervening space between it and the back sinew being filled with a fatty elastic substance, it forms another of those curious springs which nature has provided to prevent concussion.

When the frog is in contact with the ground, it is evident, from its construction with the heels of the crust, as we have before observed, and with two cartilages or elastic bodies, which are covered in a great measure by the heels and quarters of the crust, and belong to the internal foot, that it must tend to widen or expand the heels, and however they may be disposed to contract, by the foot being kept hot and dry, such contraction cannot possibly take place while the frog bears on the ground, because it is then opposed by a very considerable part of the animal's weight.

It has been supposed by some, that the principal use of the frog is to serve as a cushion and point of support to the back sinew. When we consider, however, the structure and relative situation of those parts, this opinion does not appear to be very probable. From what has been said of the frog, the reader may judge of its importance, and how necessary it is to attend to its preservation ; but such is the mutilated practice of farriers, so de-

terminated do they seem on most occasions to act in opposition to nature, that this essential part is generally the *first* that is destroyed or rendered useless.

The *bars* form two ridges, one on each side the frog, extending from the head of the crust towards the toe of the frog; they appear to be a continuation of the crust, being like it, composed of strong longitudinal fibres; at the part where it joins the crust a very firm bearing is afforded for the heel of the shoe. The use of the bars is to *oppose* any disposition there may be in the hoof to contract, by acting as props to the heels: but in the common practice of shoeing they are generally destroyed, for farriers have supposed that they bind the heels together and prevent their expansion; they have therefore named them *binders*, and cut them away in order to open the heels, as they term it; this practice, however, is not now so frequent as it used to be.

Having finished our description of the hoof, we shall proceed to describe the *internal* or *sensible foot*.

All the parts, of which the internal foot is composed, are, as we have before observed, endued with great sensibility; and so nicely is it adapted to the cavity of the hoof, that it completely fills it, without suffering the least inconvenience from pressure; but when the foot has been improperly treated, when the frog has been deprived of its hard surface, for the purpose of giving it what farriers conceive, a neat and fashionable appearance, (as if nature had been so clumsy in this part of her work, as to require a polish from the hands of those ingenious gentlemen) when the frog has been thus mutilated, the bars destroyed, and shoes applied that are either

turned up or made very thick at the heels, and when this shoe, for the purpose of saving trouble, has been applied to the foot almost *red hot*; in such circumstances the hoof must necessarily contract, whereby its cavity will be diminished, so that the nerves and blood-vessels will be compressed, the circulation of the blood impeded, and inflammation and lameness will most probably be the consequence.

All the anterior and lateral surfaces of the sensible foot are covered with that membranous or laminated substance which we have before described; but it differs from those laminæ which are found on the internal surface of the crust, in possessing numerous blood-vessels, which can be easily demonstrated by injecting coloured wax into the trunk of the arteries; but the laminæ of the crust cannot be made to appear vascular even by the finest injection, and are therefore supposed to be insensible. At the upper part of the sensible foot, where the laminæ terminate a roundish projecting body may be observed, extending all round the coronet to the back part of the frog, this is termed the coronary ring, its surface is covered with the extremities of vessels, which are very conspicuous when the arteries have been injected with coloured wax or size; it is from this part that the hoof is formed.

The bottom of the internal foot is formed by the sensible frog and sole, the former perfectly resembles in shape the horney frog, to the concavities of which its convexities are nicely adapted. In describing the horney frog, we had occasion to mention its connection with two elastic bodies or cartilages, that are in a great measure covered by the heels and quarters of the hoof; but this con-

section, is, through the medium of the *sensible frog*, which is more immediately united to those cartilages. When the former come in contact with the ground, and receives the pressure of the horse's weight, the latter is forced upward and rendered wider, and at the same time the cartilages are forced upward and outward, tending thereby to expand the heels and quarters, and assist in taking off concussion. From the sensible frog and sole the horn which composes the external frog and sole is secreted; for this purpose they are supplied with numerous blood vessels, the extremities of which may be seen upon their surface, and become very conspicuous when the arteries have been injected with coloured size. Hence we are enabled to account for thrushes, and that rottenness of the frog which generally accompanies that disease: for when the sensible frog is compressed and inflamed by a contraction of the heels, it becomes incapable of performing its principal function, that is, the secretion of horn; and the blood which should have been applied to this purpose, is chiefly expended in forming that offensive matter discharged in thrushes; from this we may learn also the cause of that unnatural thinness in the soles of horses that have pumice or flat feet. When the crust gives way to the pressure of the horse's weight, allowing the internal foot to bear so upon the sole as to render it either flat or convex, the extraordinary pressure which the sensible sole receives, inflames it and impedes in a greater or less degree the secretion of horn.

The sensible sole lies immediately under the horny sole, by which it is defended from blows or pressure. When the horny sole loses its concave form, and be-

comes thin and incapable of performing its function, if flat shoes were applied, or if the sole were suffered to bear upon the ground, lameness would be the consequence; and it is for the purpose of preserving the sole from pressure, that the concave or hollow shoe is employed in these cases. When these parts which we have described are removed from the sensible foot, the tendons, ligaments, and bones come into view.

It will be unnecessary to give a particular description of these. It may be useful, however, to point out the sesamoid bones, and the navicula or nut bone: the former is connected posteriorly with the lower extremity of the cannon or shank bone; they consist of two small bones, firmly united by means of very strong ligaments; they compose part of the fetlock joint, having a moveable articulation with the cannon bone; their external part affords a smooth polished surface for the back sinews to slide upon, and the same ligament which composes this surface, comes round the back sinews, so as to form a sheath for them, and keep them in their situation. In this sheath a fluid similar to synovia, or joint oil, is formed for the purpose of rendering it smooth and slippery, and enabling the tendon to move easily upon it. As these bones project a little, they serve as a pulley for the tendons to slide upon, and afford a considerable mechanical advantage to the flexor muscles of the limb. The nut bone serves as another pulley for the tendon or back sinew to move upon: it is connected posteriorly with the coffin bone and the small pastern, and affords the same kind of polished surface and sheath for the tendon as we have before described.

7. *On the practice of shoeing.* Having given a concise description of the horse's foot, and pointed out the uses of the various parts which compose it, we shall now describe the method of shoeing; but first it will be necessary to observe, that as the mode of shoeing most commonly practised has so destructive a tendency; and produces such a variety of diseases, that we seldom meet with a foot that has not lost in a greater or less degree its original shape: it must be obvious therefore, that one kind of shoe cannot with propriety be recommended for general application, and that it is necessary on all occasions to adapt it carefully to the state of the foot. This constitutes the most difficult part of the art of shoeing, and from neglecting this precaution, shoes of the best form have often occasioned lameness.

If we examine the foot of a hundred colts, it will be found that more than ninety of them are of the same form; it is true that some may have grown more luxuriantly than others, whereby the crust will be deeper, and the bottom part may have been partially broken, so as to give the foot a ragged and uneven appearance, still the essential shape is the same, and when this superfluous horn has been removed, it will be found that the bottom of the foot will be nearly circular, the sole concave, the bars distinct, the frog and heels open and expanded.

In preparing a horse's foot for the shoe, the lower part is to be reduced, when luxuriant, which is generally the case, more particularly at the toe, and this is to be done by means of a buttress or rasp: the loose scaly parts of the sole are likewise to be removed, so as to preserve its concavity, and the small cavity is to be made with a

drawing knife, between the bar and crust, to prevent the shoe from pressing on that part, and occasioning corns : it is however necessary in doing this, to take particular care that the connection between the bar and crust is not destroyed or weakened, which would of course render the bar useless.

The junction of the bar and crust affords a firm bearing for the heel of the shoe, and is to be rasped perfectly flat, and so low as to be exactly on a level with the frog, that they may bear equally on a plane surface, before the shoe is applied ; indeed, the whole of the bottom of the crust is to be made perfectly flat and even at the same time with the rasp, that the shoe may bear equally on every part of it ; farriers should never be allowed to do this by means of a hot shoe, which is too frequently the case. If any ragged parts are observed in the frog, they are to be carefully removed with a knife, for, if suffered to remain, they might afford a lodgement for dirt and gravel. Thus do we prepare a foot for the shoe, and to a foot of this description, meaning one that is sound and perfect, or that has not suffered any material alteration in its form from improper shoeing, a shoe of the following description is to be applied. The toe of the shoe for a middle sized horse intended for active service is about an inch in width, and a quarter of an inch in depth or thickness ; the heels about half an inch in width, and barely three eighths in depth ; the wearing part of the toe is best to be made of steel, and the nails ought to be brought very near to the toe, but not quite round it ; for when that is done, there must also be a groove made, which considerably weakens that part, and almost all horses wear principally at the toe, no nails

must be put near the heels. Both surfaces of the shoe must be perfectly flat, and the heel of the shoe rest upon the junction of the bar and crust, beyond which it should never extend:

It will be supposed, perhaps, that a shoe which is flat on the surface next the foot, will be apt to produce lameness by pressing on the sole; but let it be recollected, that this shoe is recommended only for a sound foot, in which the sole is always a little concave, so that it cannot possibly receive any pressure from a flat shoe; it may be said also, that when the nails are placed far from the heels, the shoe will not be sufficiently secure, and will be frequently loosened; but as the shoe bears equally on every part of the crust, this objection cannot have any weight; it must be granted, however, that when a foot is pared in the common way, that is, when the heels have been opened, and the shoe so applied, that nearly an inch of the heel has no bearing upon the crust; that if the nails were placed so far from the heels, as before recommended, the shoe would be very insecure, for as much of it as has no bearing upon the crust, would operate occasionally as a lever in raising the nails, and consequently the shoe would frequently be loosened. Farriers therefore find it necessary, when the foot has been thus pared, and the shoe applied in this way, to place the nails in the quarters, by which the shoe is certainly rendered more secure than it would be, had it been placed nearer the toe:

Many disadvantages, however, attend this method. In the first place, by placing the nails in the quarters, they prove a considerable obstacle to the expansion of the heels, and as the crust is generally much thinner at the quar-

ters than at the toe, the sensible parts are more liable to be wounded; but this does not apply to the hind feet, in which the crust of the quarters is generally thicker than that of the toe. When a horse over-reaches, if any part of the shoe has no bearing upon the crust, it is very liable to be struck by the toe of the hind foot, and shoes are often forced off in this way; to this may be added, the insecurity of such a shoe when a horse is rode on deep or heavy ground.

It will probably be observed of the shoe here recommended, that it is inconsistent with the principle which has been laid down respecting the necessity of the frog's receiving pressure. It is an incontrovertible fact, that unless the frog receives a certain degree of pressure, it will become soft and incapable of affording sufficient protection to the sensible frog which it covers; that the heels will gradually contract, and the natural form of the foot will be destroyed; for it has been proved by experiment, that the bars alone are not sufficient to *prevent* contraction, though they certainly oppose it with considerable force; but it does not follow from this, that it is necessary for the pressure to be *constant*, nor is it believed that a shoe which allows the frog to bear upon the ground, when the horse stands upon a plane hard surface, can be always applied, even to *sound* feet, without inconvenience; there is no doubt that a horse in a state of nature has his frog almost always in contact with the ground, and then of course he feels no inconvenience from it; but when burthens are placed upon his back, and he is driven about upon hard roads, he is certainly in very different circumstances; and if the frog in such cases were con-

stantly exposed to this severe pressure, it would no doubt occasion lameness.

When a shoe is applied agreeable to the foregoing directions, the frog would be raised three-eighths of an inch from the ground; that when the horse is going upon a hard surface, where he would be most liable to feel inconvenience from the pressure on the frog, it receives none; but upon soft yielding ground the frog certainly receives pressure, and without giving the animal any pain. To a horse that travels or works regularly, and is occasionally taken upon soft ground, the pressure therefore that the frog receives in this way, is quite sufficient to preserve the foot in a state of health; but when a horse is kept almost constantly in the stable, standing upon hot litter, particularly in hot and dry weather, his feet will certainly be undergoing an alteration in their form, and will be in a progressive state towards disease.

In those cases, however, contraction of the hoof may be effectually prevented by means of the patent artificial frog, invented by Mr. Coleman.* By this ingenious contrivance, a horse's frog may receive sufficient pressure, in whatever circumstances he may be placed, to prevent contraction, and keep the foot sound and healthy, without the inconvenience of wearing thin heeled shoes; but it must be remembered that whenever the frog is much exposed to pressure, whether it be by applying the patent frog, or by the thin heeled shoe, and reducing the crust at the heels, it is necessary that the quarters and heels should possess a proper degree of pliancy; if they are rigid and

*Professor of the Veterinary College.

inflexible, it is evident that the sensible frog and cartilages would be placed between two fixed points, and they would consequently be bruised and inflamed. Indeed many cases of lameness are produced in this way; whenever the hoof appears to be too dry and brittle, or to have lost its natural elasticity, it is necessary to rasp the quarters and to keep the whole hoof moist, either by applying several folds of flannel round the coronet, constantly wetted, or by making the horse stand in water or soft clay four or five hours during the day; by these means the natural flexibility of the horn would be restored, and the heels and quarters would yield in a small degree, whenever the horse's weight was thrown upon the frog.

Having said as much as appears to be requisite of the method of shoeing a sound foot, and having also described those diseases of the foot which render a different kind of shoe necessary, we would proceed to observe. In the first place it will be proper to say, that when a horse, even with a sound foot, has worn shoes that are very thick, or turned up at the heels, particularly if at the same time the crust at the heels has been suffered to grow so high that the frog is kept at a considerable distance from the ground, it would be very improper to reduce the heels suddenly, so as to allow the frog to receive pressure; the back sinews would in that case be injured, and lameness might ensue. In feet of this description, it is necessary to remove from the toe all that can be done without exposing the part too much, and to lower the heels gradually; the toe of the shoe should be made rather thin, and of the best steel.

The shoes for draught horses should be made flat on both surfaces, provided the sole is of a proper form and

thickness, but if flat or convex, and consequently too thin, which is often the case in horses of this description, the internal surface of the shoe must be concave; still the external surface should be flat, for the convex shoe, which is commonly used for draught horses, prevents them from treading securely, and renders them incapable of exerting the whole of their strength.

Shoes for draught horses that seldom go out of a walk, should be much stronger than those for horses employed in active service, and may be turned up or raised at the toe and heels with advantage, when the ground is frozen.



CHAPTER IX.

Remarks and directions concerning Bleeding.

This operation is frequently necessary in the diseases of horses, and is performed either with a lancet or fleme, in the neck vein.

The blood should always be preserved, that the *quantity* drawn may be accurately known, and that its *quality* may be ascertained. If, after it has coagulated, a white, or rather a light buff coloured jelly, is found on the surface, an inflammatory state of the body is indicated; but in order to render this criterion useful, the blood must not be taken from too small an orifice, nor should it be suffered to run down the sides of the vessel which receives it.

Blood drawn from a healthy horse very soon coagu-

lates, and appears like an uniformly red jelly with a small quantity of fluid, resembling water, floating on its surface; this red jelly may by washing be rendered of a light buff colour, and exactly resembles the buff or size, as it is termed, of inflamed blood. The most healthy blood, therefore, contains this size, and the cause of its not being conspicuous in such blood, is that coagulation takes place before the red colouring matter can have time to separate from it; but as blood that is drawn from an animal labouring under general *inflammation* or fever, always preserves its fluidity much longer than healthy blood, and as the red colouring particles are specifically heavier than the fluid with which they are mixed, they will of course be gradually subsiding as long as the mass continues fluid, leaving a coat of buff coloured jelly on the surface.

It has been observed before, that healthy blood, when suffered to coagulate, appears to consist of two parts: the red jelly, termed *crassamentum*; and the water, or *serum*; and that the former may afterwards be separated by washing into two parts, viz. the red colouring particles, or *red globules*, as they are termed by anatomists, and buff coloured jelly, or *coagulable lymph*. The proportion which these component parts of the blood bear to each other, seems to depend upon the state of the system at the time it is drawn. When the body is healthy and vigorous, we find but little serum; when it is preternaturally excited, or in a state of inflammation, there is still less; and when the animal is weak and debilitated, there is generally an abundance of serum. Another circumstance to be attended to in examining blood, is the firmness or tenacity of the

coagulum.—In health the blood when drawn and suffered to coagulate, is of a moderately firm consistence, and easily broken; but when the system is highly excited, as in general inflammation, so great is the tenacity of the mass, that the finger can scarcely penetrate it; on the other hand, when the powers of life are weak, as in the latter stage of symptomatic fever, the blood almost loses its power of coagulating. The necessity of examining blood that is drawn from the diseased horse must be obvious, as it assists in forming a judgment of the nature of the disease, and points out the proper remedies. When blood exhibits buff on its surface, particularly if at the same time the coagulum is firm and solid, we may be certain that the complaint is inflammatory, and that bleeding may be repeated with advantage. If on the other hand the mass of blood is wanting in tenacity, and has more serum than usual, we may safely conclude that the system is in a state of debility, and consequently that bleeding is highly improper.

In cases of symptomatic fever it will generally be necessary to take away four or five quarts of blood at the first bleeding; even six quarts have been taken with manifest advantage. It is at this period of the disease (its commencement) that copious bleeding is particularly useful; and it is from an absurd prejudice that obtains against this practice, that so many horses are destroyed by such fevers. It is truly laughable to hear a groom or quack farrier pronouncing, with an affectation of unerring sagacity upon the qualities of blood, frequently observing that it is too hot, and that consequently the horse must have a fever; or that it is too dark coloured, and

therefore foul, or that it is too thick, and consequently unfit for circulation; it is said to be full of humours. With respect to the *heat* of the blood it will be sufficient to observe that it preserves nearly the same temperature while circulating in the body, whether the animal be an inhabitant of the most sultry or the coldest country, whether in health or in the highest fever.

As to the colour of the blood while flowing from the body, it may be either red or of a dark colour, as the operator pleases, for pressing on the vein for a short time before the orifice is made, it may always be made to appear of a dark colour. The opinion that blood sometimes becomes thick or viscid in the body, was supported by many respectable philosophers, but is now universally abandoned, because it has been *proved* to be erroneous.

It is a bad practice to bleed horses frequently when there is no urgent occasion, as they thereby acquire a plethoric habit, and unless the operation be regularly performed and gradually increased in frequency, troublesome diseases might ensue. Horses of a full habit, that are consequently liable to inflammatory complaints, will receive most benefit from moderate, but long continued exercise, and good grooming. When bleeding is performed for the cure of important inflammatory diseases, a large orifice should be made in the vein, and the blood drawn in a large stream, as we thereby diminish the action of the heart and arteries much more readily than if it were drawn slowly from a small orifice. In cases of external and circumscribed inflammation, topical bleeding is eminently useful, which is done by opening some veins contiguous to the affected part, or by scarifying the inflamed surface.

CHAPTER X.

Remarks and directions concerning Physic.

In purging horses great care and attention are necessary, their bowels being particularly irritable, and liable to inflammation. The physic commonly given is certainly too strong, and many horses have been destroyed by the immoderate doses that have been recommended by writers on farriery; when this happens, the mischief is generally attributed to the coarseness or impurity of the medicine, and the druggist is undeservedly censured.

When time and circumstances will allow, it is advisable to prepare a horse for physic by giving him bran mashes for a day or two; this will gently relax the bowels, and remove any indurated fœces that may be lodged in them; it will also tend to facilitate the operation of the medicine.

When a horse is purged for the first time, it is prudent to give a very moderate dose. Were the common quantity given to one of weak, irritable bowels, there would be danger, not only of producing great debility, and thereby of counteracting the intention of the medicine, but likewise of destroying the animal, by bringing on an inflammation of the bowels; and this is by no means an unfrequent occurrence.—Should the first ball not operate sufficiently, a stronger may be given after an interval of a few days.

The morning is the best time for giving a purgative, the horse having previously fasted two or three hours. If

he is disposed to drink after taking the ball, give a moderate quantity of warm water, which will promote its solution in the stomach, and consequently expedite the operation: during this day the horse is to be kept in the stable, and fed with bran mashes and a moderate quantity of hay; he may be allowed also to drink plentifully of warm water; and if he refuses it in this state, let it be offered nearly, but not entirely cold. The following morning he is to be moderately exercised until gentle perspiration is produced, and at this time the medicine will generally begin to operate. Should the purging appear to be sufficient, he need not be taken out a second time; but when the desired effect does not readily take place, trotting exercise will tend to promote it; during this day also he is to be carefully supplied with bran mashes and warm water; warm clothing, (if the weather is cold) more particularly when out of the stable, must not be omitted; the next day the purging will generally have ceased, and then a small quantity of oats may be added to his mash. When physic does not operate at the usual time, the horse appearing sick and griped, relief may generally be obtained by giving a clyster of water gruel, and making him drink freely of warm water. When the purging continues longer than usual, and the horse appears to be considerably weakened by the evacuation, let the astringent ball be given.

It will be observed, perhaps, that some ingredients, commonly thought necessary in physic, have been omitted in the following formulæ.—These medicines have been proved, however, to be perfectly useless. Jalap, though given to the amount of four ounces, will produce very little purga-

five effect upon a horse, nor will cream of tartar; rhubarb, however large the dose, will not operate as a purgative, tho' it may be useful in moderate doses as a stomachic.

PHYSIC. No. 1. Succotrine aloes, 5 dr. Prepared natron, 2 dr. Aromatic powder, 1 dr. Oil of carraways, 10 drops.

Syrup or molasses enough to form the ball; one dose.
(How to be given.*)


No. 2. Succotrine aloes, 7 dr. Castile soap, $\frac{1}{2}$ oz. Powdered ginger, 1 dr. Oil of carraways, 10 drops.


Syrup enough to form the ball; one dose.

No. 3. Succotrine aloes, 1 oz. Prepared natron, 2 dr. Aromatic powder, 1 dr. Oil of anise-seed, 10 drops.

Syrup enough to form the ball for one dose.

No. 4. One pint or 20 oz. of castor oil is also a safe and excellent purge, or $1\frac{1}{4}$ pint of linseed oil.

 The ball, No. 2, is generally found sufficient for strong horses, and there is scarcely ever occasion to go farther than No. 3. Should any one, however, be desirous of stronger medicine, it may readily be procured by adding 1 or 2 drachms of aloes, or 1 drachm of calomel to the ball No. 3; but it is proper to observe, that there may be some danger in making the addition.

 Cold water must never be given after purgative medicine, nor until it has entirely worked off.

Moderate exercise until a gentle perspiration is produced, the next morning, or twenty-four hours after the purge is given, will assist the operation much.

*DRENCH.—The best method of administering a drench or any liquid medicine, is by means of a claret, or any other bottle with a long neck; the liquid being first put into the bottle, the neck is to be introduced

CHAPTER XI.

Remarks and directions concerning, Diuretics, Fomentations, Poultices, Rowels, Pulse and Clysters. &c.

1. *Diuretics.* These are medicines which by stimulating the kidneys, increase the secretion of urine. The following formulæ I have found both convenient and efficacious.

No. 1.—Castile soap, 4 oz. Powdered rosin and nitre, of each, 2 oz. Oil of juniper, $\frac{1}{2}$ oz.

Linseed powder or any flour and syrup enough to give it a proper consistence, to be divided into six balls for strong, or eight for weak delicate horses.

No. 2.—Castile soap, 4 oz. Venice turpentine, 2 oz.

Powdered anise-seed enough to give it a proper consistence, to be divided into six balls.

Fomentations are commonly made by boiling wormwood, southernwood, camomile, and bay leaves in water so as to make a strong decoction, which being strained off, is to be applied as hot as it can be, without giving pain to the animal, by means of large flannel cloths.—The efficacy of fomentations depends in a great measure on their use being continued for a considerable time together, and being frequently repeated.

as far into the mouth of the horse as possible and the contents discharged, his head is at the same time to be held so high with a bridle as to prevent his throwing out any of the liquid; the under jaw and tongue must be left at liberty or he cannot conveniently swallow.—When a ball is given, the same method must be observed as to holding up his head.

Poultice. The following mixture will be found useful as a common poultice; fine bran one quart; pour on it a sufficient quantity of boiling water, to make a thin paste, to this add of linseed powder or boiled linseed, enough to give it proper consistence.

Rowels. When these are used with a view of relieving internal inflammation or fever, it will be found useful to apply blistering ointment instead of turpentine, or the digestive commonly made use of, for this will produce a considerable degree of inflammation in a short time.

Pulse. In the management of sick horses, great advantage may be derived from attending to the state of the pulse, as we are thereby enabled to judge of the degree or violence of the disease, and the probability there may be of recovery: we are in some measure assisted also by it, in ascertaining the nature of the complaint, and in the application of remedies.

In a healthy horse the pulsations are about 36 or 40 in a minute, and may be felt very distinctly either on the left side, or in an artery which passes over the lower jaw bone; in short, a pulsation may be felt in every superficial artery. When the brain is oppressed, the pulse generally becomes unusually slow: in a case of water in the brain, the pulse has been known to fall to twenty three in a minute; in the progress of the disease, however, it became unusually quick.

When a horse appears rather dull, and does not feed properly, it is adviseable to examine the pulse; and if it is found to exceed the standard of health, immediate recourse should be had to bleeding: by this timely interference many dangerous complaints may be prevented. When the pulse

rises to 80 or 90 in a minute, there is reason to be apprehensive of danger; and when it exceeds 100, the disease frequently terminates in death.

Clysters. A variety of compositions have been recommended for clysters by those who have written on the subject, there being scarcely an article in the *Materia Medica* that has not been occasionally employed in this way. It is ascertained, however, from considerable experience, that for a common clyster, water-gruel is as efficacious as the most elaborate composition; when that cannot be readily procured, warm water has been used without perceiving any difference in the effect. Where a purgative clyster is required, from four to eight ounces of common salt may be added; and if an anodyne be wanted, or an astringent, let half an ounce of opium be dissolved in a quart of water-gruel. If a clyster is employed for the purpose of emptying the large intestines, or of purging, the quantity of liquid should not be less than a gallon or six quarts; but when it is used as an anodyne or astringent, from a quart to three pints of the liquid will be sufficient—given as a drench.



CHAPTER, XII.

Farther advice, on the management of a Horse preparatory to, and during a journey.

Previous to setting out on a journey, your horse should be exercised one hour every morning and evening in the gait in which he is intended to be used, for eight or ten

days at least, and every precaution should be employed to bring him into as perfect a state of health as possible; as you may thereby avoid much trouble and inconvenience; should he be at all subject to grease or swelling of the legs, a dose of physic is to be recommended, taking care to preserve the heels clean, and to keep up a brisk circulation in the legs by frequent hand rubbing; should the feet of the horse be tender, it is necessary to enquire into the cause of the tenderness; if it arises from corns, let the directions be followed that are given under that head; if it proceeds from flat and thin soles, apply tar to them, and let the horse stand upon a flat surface, without shoes, by which means they will be rendered thicker and more firm: and when he is rode, let the concave shoe be made use of. When thrushes or rottenness of the frog are the cause of the tenderness, cut away the diseased parts, apply tar with a pledget of tow, first pouring in oil of turpentine, and upon this place an *artificial frog*—the *natural frog* will in consequence soon become firm and solid, and the tenderness will be in a great measure removed: if the thrushes are occasioned by a contraction of the heels, which is frequently the case, it will then be necessary to rasp the quarters moderately; and should they appear to be too strong, wanting a proper degree of elasticity, keep the hoof constantly moist. Horses that travel during the winter are very liable to have their heels inflamed and cracked, as it is termed, unless great attention is paid to them in the stable. In cases where the heels are already thus affected, they should be washed with moderately warm soap suds as soon as the horse gets in, and afterwards carefully wiped dry with a cloth;

if much inflamed the astringent lotion may be applied, or strong soap suds will answer: and if there be any ulcers or cracks, use the gun powder ointment twice a day at least, (see grease or scratches) and if the horse can be permitted to stand for a couple of days, give him half a pound of salts in about two quarts of water.

Particular attention should be paid to your saddle, (if the horse is to be rode,) taking care that it is well fitted to his back, with a good soft woollen pad, and stuffed to prevent any bearing upon the chine or back bone. When you are mounted, there must be sufficient room to introduce your finger between the saddle and the chine or back bone of the horse, before and behind; the pad ought to be beat with a stick every two or three days to prevent it becoming hard.

A soft blanket folded and placed under the saddle in cool weather, has a tendency to preserve the horse's back, but it is too heating in warm.

Your first day's journey, (if you have a long one to perform) ought not to exceed twenty miles, which may be increased daily from five to ten miles, but should never exceed, except in cases of real necessity, forty miles in one day; nor should you ever travel at a gait exceeding five miles an hour, and even less when the roads are not good.

A traveller that has industry enough to start early in the morning, and patience enough to jog on at this moderate gait, will in all probability get over 75 to 100 miles more in the course of a fortnight, than he would do if more speed were attempted; besides the advantage of preserving his horse in a condition capable of continuing his journey to almost any extent; while on the contrary an

attempt at more speed would most probably be productive of lameness, sore back, founder, or some other casualty still more fatal.

It is adviseable, except in very cold or stormy weather, to start very early in the morning, and travel eight or ten miles before you feed or breakfast; this will enable you to give your horse several hours rest at different periods through the day, which will be of essential benefit to him, and yet afford you sufficient time to make your day's journey good. At your first stage in the morning after your horse is well washed down and cool, feed with four quarts of oats: again in the middle of the day with about six, and at night with six, eight, or ten, or as much as he will eat, given at different times in the course of the evening, always sprinkled with water. If oats can be had, never feed with Indian corn, or any other grain; but if you are necessitated to do so, the quantity must be reduced one half, or one third at least, and given but in small portions at a time.

A horse ought to eat at least from sixteen to twenty quarts of oats per day, otherwise he will not, nor cannot, perform a long journey. Clean fresh hay, and a little water, should be given as often as you stop.

Never trust to ostlers when you are on a journey. It is essentially necessary that you personally see to the cleaning, watering, feeding, and littering of your horse, otherwise you will in all probability soon be necessitated to hire, or purchase another, or abandon your journey.

Should your horse lose his appetite, give him half an ounce of salt-petre in a bran mash once or twice. This, with a little rest, will soon recover him.

Should you be so unfortunate as to have your horse foundered, by injudicious feeding, or watering, before he is sufficiently cool, which is always to be apprehended when you feed on Indian corn, or any other grain except oats; it is adviseable on the first appearance of founder, to take two quarts of blood from the neck, and also bleed in two places (in each foot) in the coronet or upper edge of the hoof, about one inch each way from the centre, and if it is possible to get him out of the stable, force him to take exercise; which is of all others, the most efficacious remedy; and if persevered in, however cruel and painful it may appear to be, seldom or never fails to carry off the complaint in a short time, especially if the founder or stiffness is not very severe. But should it be found impracticable to move the horse out of the stable, which is sometimes the case, he must be bled as before directed, and bran poultices applied to his legs and feet, kept constantly wet with cold water, and one of the following purges must be given.

No. 1. Mix Soft soap, $\frac{1}{2}$ pint; Beer or porter, $1\frac{1}{2}$ pint. Add a handful of fine salt.

If beer or porter cannot be had, substitute a pint of molasses.

If this dose does not operate in ten or twelve hours, especially if the horse can be exercised, it may be repeated. (To be given the same as a drench.)

No. 2. Castor oil 1 pint, or Linseed oil, $1\frac{1}{2}$ pint.

The latter will not operate so quick as the former; probably in not less than double the time, say in about twenty four hours; either of which, however, ought to be assisted by exercise if possible; clysters of three quarts of warm water, flaxseed tea, or water gruel, ought also to be given,

and repeated if necessary, with a handful of fine salt in either. While the stiffness continues, the horse should be fed upon bran mashes, with a small quantity of oats added, and be allowed but little water, and that not entirely cold. Exercise must on no account be omitted.

When a horse's wind appears to be imperfect, he should not be allowed to fill himself with hay or water, and must be prevented from eating his litter; which horses of this description are generally inclined to do, particularly when stinted in hay: in this case costiveness sometimes occurs, which always increases the complaint; to remedy this, let a clyster and a few bran mashes be given; too high feeding is also very prejudicial in those complaints, as any thing which tends to create a plethora, and determine too much blood to the lungs, is sure to aggravate the disease. To a horse that purges or scours in travelling, and appears faint, (sweating much with moderate exercise) give the cordial ball, the efficacy of which is sometimes increased by being mixed with a pint of ale or strong beer; if the complaint does not give way to this treatment, let the astringent ball be given. As soon as a horse comes into the stable, let his legs and feet be well cleaned by washing, as it cannot effectually be done otherwise. It is a very common practice with ostlers, even in winter, to tie the horse up in the yard, that he may undergo the ceremony of having his heels washed with cold water; this is very proper in warm weather, but should never be permitted when cool, as many bad consequences may arise from it; but washing with warm water is highly commendable. During hot weather, when the roads are dry and dusty, allow a horse to rest a few minutes every six or

eight miles, and to drink a small quantity of water; this not only refreshes him considerably, but has the useful effect of cooling and moistening his hoofs, if he is permitted to stand in the water while drinking, (if not they should be wet by the ostler) nor is there the least danger to be apprehended from it, unless he is rode very hard immediately before or after drinking. In winter he should never be taken into the water if it can be avoided conveniently. Some horses are particularly subject to the flatulent cholick or gripes; this is often the case with *crib-biters*; on such occasions it is adviseable to be always provided with a remedy, and as a ball is the most convenient form, I have given a recipe for the purpose (see flatulent cholick or gripes.) For want of the ball or some of the prescriptions for that complaint, (but not otherwise) give three gills of gin or any other ardent spirits diluted with an equal quantity of warm water. Should the pain not subside in half an hour, repeat the dose and give copious clysters of water gruel or warm water, and bleed from two to three quarts. A suppression of urine or great difficulty and pain in staling, is an accident that sometimes occurs in travelling; and in such cases a diuretic ball is commonly given, which though sometimes successful, has often done mischief. The most effectual way of relieving the horse, in this case also, is by throwing up a clyster,* and bleeding moderately: should there be no appearance of inflammation in the

* CLYSTER.—The method of administering a clyster, is by means of a large bladder (to be softened by putting it into warm water before it is used) and a pewter pipe or common reed, or indeed any other tube nine or ten inches in length, which is not more than about one inch in diameter. The neck

kidneys, a dose of nitre may also be given. The common practice of loading a horse with clothes, and keeping him in a close warm stable, if he happens to take cold during a journey, is certainly improper, since he is liable to be frequently exposed to wet and cold in travelling; it is a well-known fact, that animals are not hurt by being kept in any uniform temperature, whether it be hot or cold; and that their diseases more commonly arise from sudden changes, or frequent variation of temperature.

When a horse becomes suddenly lame in travelling, let the feet be carefully examined. Should the lameness be occasioned by a wound from a nail or flint, apply oil of turpentine, tincture of Myrrh, or Fryar's balsam, having previously removed all dirt or gravel from it; and if the wound has been inflicted with a nail, let it be carefully opened to the bottom with a small drawing knife, and proper means used to prevent dirt from getting to it.

Should the back of your horse get sore by saddle galls, or other inflamed tumors, wash the part affected with crude sal. ammoniac dissolved in vinegar or water; or with any ardent spirits alone, which must be done very frequently

of the bladder should be cut off, and after the clyster is put into it through a funnel, it must be securely tied round one end of the tube; the other end after being made smooth, is to be well oiled and then introduced several inches into the anus; the liquid in the bladder is to be forced through the tube by pressure with the hand.

When the clyster is given the horse should be placed with his hind parts much the highest, and if he will not stand, a twitch should be put upon his nose.

to prevent matter forming; in which case, the sore will be more troublesome and difficult to heal. You must also take special care to prevent any friction or bearing of the pad of the saddle upon the tumor, which may be effectually done by cutting a small slit or hole in that part of the pad which bears immediately upon the tumor, and pull out so much of the stuffing as will prevent any bearing; this may be done without any essential injury to the pad, and even in various places if necessary.

Cordial balts. No. 1.—Cummin-seeds, Anise-seeds, Caraway seeds, of each, 4 oz. Ginger 2 oz.

Treacle or molasses enough to make it of a proper consistence for balls. The dose about 2 ounces.

No. 2.—Anise-seeds, Caraway-seeds, Sweet Fennel-seeds, and Liquorice Powder, of each, 4 oz. Ginger and Cassia, of each, 1½ oz. Honey enough to form them into a mass. The dose about 2 oz.

No. 3.—Cummin-seeds, Coriander seeds, Caraway-seeds, of each, 4 oz. Grains of Paradise, 1 oz. Cassia, ½ oz. Cardamon-seeds and Saffron, of each 2 dr. Liquorice, dissolved in white wine, 4 oz. Syrup of Saffron enough to form the mass. The dose about 2 oz.

No. 4.—Powdered ginger, 4 oz. Oil of caraways, 1 oz. Liquorice powder, 8 oz. Treacle enough to form the mass.

ALTERATIVES.

These are medicines which produce their effects almost insensibly; the following formulæ will be found efficacious:

Alterative Powders, No. 1.—Levigated antimony, 6 oz. Flower of sulphur, 8 oz. Mix for eight doses.

No. 2.—Powdered Rosin, 4 oz. Nitre, 3 oz. Tartarized Antimony, 1 oz. Mix for eight doses.

No. 3.—Unwashed Calx of Antimony 2 oz. Calomel, 2dr. Powdered Anise-seeds, 4 oz. Mix for eight doses.

Should a ball be thought more convenient than a powder, the change may be easily made by the addition of syrup and linseed powder, or any kind of flour or meal.



CHAPTER XIII.

CONDITION.

By the term *condition* is to be understood not only a fat and sleek appearance in a horse, it implies also a proper degree of vigour, by which he is enabled to perform extraordinary labour, without being too much fatigued. Every defect with respect to condition must originate either in *disease* or in bad *grooming*. Under the latter head must be comprehended feeding, exercise, and the general management of the stable; the former will include various disorders, which will be concisely described, and the most effectual means pointed out for their removal.

In treating of the anatomy and physiology of the internal organs, an explanation has been given of that curious process by which the body is nourished, and enabled to perform its various functions with regularity: from thence it will appear that the following circumstances are necessary to produce that degree of vigour and general healthiness of appearance which constitute good condition.

1st. That there is no impediment to mastication.—It sometimes happen that the molar teeth or grinders wear so irregularly as to have sharp edges, by which the inside of the cheek is wounded: the pain which the act of chewing occasions in this case, induces the horse to swallow some part of the food unbroken, which being difficult of digestion, frequently passes through the body unchanged. This complaint may be removed by rasping down the sharp edges of the teeth.

The lampas is said to be another impediment to feeding (see lampas,) and are therefore removed with a red hot iron. This operation is certainly performed much oftener than is necessary.

2d. That the saliva which is formed in the mouth passes into the stomach: this juice being designed by nature to assist the stomach in its office of digestion. Horses that have acquired the vicious habit termed *crib-biting*, suffer great inconvenience from the waste of saliva which it occasions; the stomach being in a great measure deprived of this liquid, performs its functions imperfectly; hence arise flatulent cholick or gripes, general emaciation and debility. The remedy commonly employed is a leather strap, buckled tight round the neck immediately beneath the jaw; this, however, is seldom effectual; a better method is to cover the edge of the manger, and every other part he can lay hold of, with sheep skins, (the wool side outward) until the habit is destroyed. There are other causes by which the energy of the stomach may be impaired; among these are excessive fatigue, bad food, defect in respiration or breathing foul air, taking too much food or water at once, or at an improper time; bots, fever,

in short, the stomach is so important an organ in the animal system, that scarcely any part can be materially injured without affecting it in some degree: and whenever the stomach is hurt, the whole system seems to sympathize and partake the injury.

Weakness of the stomach is sometimes very easily cured; the powers of nature indeed are often capable of restoring its tone; at others we find the disease extremely obstinate, resisting the most powerful medicines. This difference depends upon the variety in the *causes* by which the weakness is induced. When it arises from loading the stomach with improper food, that contains scarcely any nutriment, such as straw, and where the horse has been fed in this way for a considerable time, the diet should be gradually changed to one more nutritious. During the time we are making this alteration, it is generally necessary to give one or two doses of laxative medicine, joined with aromatics (see laxatives,) to prevent any inflammatory affection of the eyes, lungs, or heels, or according to the more fashionable language of grooms, to prevent *humours* from breaking out. Should the appetite appear deficient, the cordial ball will be found of great service, given occasionally. When excessive fatigue is the cause of the weakness, which we often find after a hard day's run with the hounds, nothing is so effectual as the cordial ball, particularly in old horses; it soon gives them an appetite, and renders them fit for work again much sooner than they would otherwise be. Where a speedy effect is required, the ball may be mixed with a pint of good beer or ale.

If a horse after sweating from exercise or any other

cause, is allowed to drink freely of cold water, the stomach is suddenly debilitated, and the whole system is frequently affected in consequence; hence arise flatulent cholick, suppression of urine, shivering, quick pulse, and other symptoms of fever, (for the remedies in this case see flatulent cholick, suppression of urine and fever.)

The stomach sometimes becomes weak, gradually, and without any apparent cause; this is first indicated by the appetite failing, which is soon followed by general debility, emaciation, and unhealthy looking coat. The most effectual remedies in this case are the tonic balls and a nutritious diet; the corn should be given more frequently than usual, but in small quantities: a little malt on those occasions is extremely useful. The stable should be well ventilated, but not cold; regular exercise will also be very beneficial, and should never be omitted. It should be understood, however, that although exercise tends to promote *strength*, if carried beyond the animal's power, it becomes a cause of debility: it is highly necessary, therefore, when a horse is in a state of weakness, to take care that his exercise is but moderate.

Worms in the stomach and bowels are a frequent cause of leanness and debility in horses; and while they exist, every exertion to promote condition will be ineffectual (see worms.)

3. That there is no defect in the organs of respiration. If the blood is not duly supplied with that vivifying principle, which is derived from the air by breathing, a greater or less degree of debility must be the consequence; hence a want of tone is always observable in the stomach and bowels of broken-winded horses, as well as deficient

cy in the muscular power in general. The same evils will result from keeping a horse in too close a stable, where the air does not contain the usual proportion of this principle.

4th. That the liver and pancreas are healthy, and that there is no obstruction in the tubes by which their respective juices are conveyed to the intestines. The liver is very subject to disease, particularly inflammation (see inflammation of the liver;) it may also have an unusual quantity of blood determined to it, whereby its action or secretion will be increased. This generally causes a parging, and a yellowness of the eyes and mouth (see jaundice.)

It is very probable that the internal surface of the intestines may sometimes be so loaded with mucus, that the mouths of the *lacteals* are in some measure plugged up and rendered incapable of absorbing a sufficient quantity of nutriment or *chyle*. A dose of physic in this case is the best remedy.

Having described those diseases which most commonly prevent horses from acquiring *condition*, I shall proceed to point out the many other disorders incident to that useful animal.

CHAPTER XIV.

A Description of most Disorders incident to Horses.

INFLAMMATION AND FEVER.

It was supposed by the celebrated Boerhave, and other physiologists of his time, that inflammation depended on a viscosity of the blood, which rendered it unfit for circulating in the finer vessels, and that hence arose obstructions and those appearances by which the disease is characterised: this opinion, however, has obtained very little credit with modern physiologists, and is now universally rejected, it having been proved that blood drawn from an animal labouring under inflammation, is *more fluid*, and *remains fluid longer*, than that which is taken from the same animal when in health.

The most prevailing opinion at present respecting inflammation is, that it consists in an increased action of the heart and arteries, when *general*; whereby the blood circulates with unusual velocity, throwing the whole system into derangement; and when *local*, or existing in a particular part, the increased action is also confined to the vessels of that part.

When a part is inflamed, there arises in it an unusual degree of heat, generally attended with considerable tension and swelling; the sensibility and irritability are always increased and produced by it in parts where it did not before exist; in bones and tendons, for example, scarcely any *sensibility* can be perceived when they are in a state of health; but when *inflamed*, it is roused to an alarming degree, and the most dangerous consequences may ensue

from it. Inflammation has four modes of termination; the first is termed *resolution*, that is, when the disease, after going a certain length, gradually disappears again; the second, *suppuration*, that is, when matter is formed, or an abscess produced; the third is named *effusion*, which implies an extravasion either of blood, coagulable lymph or serum; and the fourth, *gangrene* or mortification, by which is meant the death of the inflamed part.

Inflammation of the external parts is generally occasioned by some mechanical injury, such as wounds, bruises, &c. sometimes, however, it rises, in consequence of an *internal* inflammation, or symptomatic fever, and is then to be considered as an effort of nature to cure the internal disease: thus we sometimes find in fevers, abscesses taking place on the surface of the body, by which the fever is considerably diminished, and generally terminates favourably.

Inflammation is often produced by plethora, or a redundancy of blood in the body; in this case it is sometimes *general*, the whole arterial system having its action increased; this also may be considered as an effort of nature to get rid of the superfluous blood, and in such cases she must be assisted by copious bleeding; it more commonly happens, however, that the redundant blood is determined to some particular part, occasioning *local* inflammation; in horses it very frequently falls upon some of the internal organs, and the lungs are peculiarly liable to suffer in this case; from this source, indeed, the most dangerous fevers arise.

In the treatment of external inflammation, we should endeavour to bring it to the most favourable termination,

that is resolution, except where it arises from an effort of nature to cure some *internal* disease; it is then desirable to bring it speedily to suppuration. The remedies to be employed for resolving inflammation, are, local or general bleeding (see bleeding) purgatives, or fomentations, poultices, or the saturnine lotion made warm; sometimes indeed, we have seen cold applications used with success, such as sal ammoniac dissolved in vinegar, golard, &c. When inflammation takes place in tendinous parts or joints, the saturnine poultice has been found an useful remedy, and in the latter case we have often found blisters extremely efficacious; as in those cases the inflammation generally proves more troublesome, and as the pain which it occasions is often so considerable as to produce symptomatic fever, it becomes necessary to employ without loss of time, the most prompt and efficacious means for its reduction; with this view we excite *artificial* inflammation in the contiguous skin and cellular membrane, which are parts of far less importance in the animal economy, than joints or tendons, and capable of bearing a considerable degree of inflammation without much inconvenience to the animal; this is done by means of rowels and blisters; and the inflammation thus excited, will tend in a considerable degree to diminish that which is going on in the more important part. Should we fail in our endeavours to *resolve* inflammation, it will probably terminate in *suppuration*; and when it appears that the disease does not abate by the use of the remedies we have recommended, an assiduous application of fomentations and poultices, will expedite the suppurative process, and afford great relief to the animal. When the inflammation, or rather the swelling

Which it occasions, arrives at this state, it is termed an *abscess*, in which, when the suppuration is complete, and it contains *matter*, a fluctuation may be felt upon its being pressed by two fingers alternately; when this point has been ascertained, an opening is to be made with a lancet or knife, in such a way that the matter may be completely evacuated, and a future accumulation prevented; it is then to be dressed with digestive liniment or ointment. Should the wound appear indisposed to heal when this treatment has been pursued for a short time, discharging a thin offensive matter, and wanting that red appearance by which the healing process is indicated, the detergent lotion will soon remove those unfavourable appearances; the *discharge* will become whiter and thicker, and red granulations of new flesh will sprout up; should these granulations however become luxuriant, constituting what is commonly termed *proud flesh*; they are to be kept down by means of the caustic powder. It sometimes happens that when a part is inflamed and swollen, instead of going on to suppuration, it degenerates into a hard and almost insensible tumor; this depends on the inflammation having terminated in *effusion* of coagulable lymph, and is to be removed by stimulating embrocations or blisters.

When inflammation runs very high, which is sometimes the case, in violent bruises, or deep and extensive wounds of the lacerated kind, it may terminate, in *gangrene* or mortification, which is generally attended with danger; in this case the matter discharged, instead of being white and thick, consists of a dark coloured fluid of a peculiar offensive smell; the constitution is generally affected, the pulse becoming quick, weak, and sometimes

irregular, the appetite goes off, and there is a great degree of debility: when inflammation terminates in this way, if it arises from a wound, let it be dressed with digestive liniment, oil of turpentine, or camphorated spirits of wine; the diseased parts should be scarified, and fomentations applied almost incessantly, until the mortified parts appear to separate, and the matter loses in a great measure its offensive smell, appearing whiter and more thick. When the horse is weakened by the disease, and he loses his appetite, particularly if there is a copious discharge from the wound, one or two of the following cordial balls are to be given daily:

Receipts for inflammation.

No. 1.—Yellow Peruvian bark, 1 oz. Ginger, powdered, 2 drs. Opium, 1 dr. Oil of carraways, 20 drops. Syrup or honey enough to make the ball for one dose.

No. 2.—Yellow Peruvian bark, $\frac{1}{2}$ oz. Powdered snake root, 2 drs. Powdered cassia, $1\frac{1}{2}$ dr. Oil of cloves, 20 drops. Syrup enough to form the ball for one dose.

☞ The opium in the ball, No. 1, is to be omitted when the horse is costive, or if it appears to take off his appetite; but when the disease is accompanied with a purging, it is extremely useful.

When any of the *internal parts* are inflamed, a *fever* is generally produced, the violence of which will depend upon the importance of the inflamed organ, as well as upon the extent of the inflammation; some of the internal parts being more essential to life than others, and when inflamed, occasioning of course greater derangement in the system. The only *favourable* terminations

to which internal inflammation can be brought, are resolution and effusion; and as the first is by far the more desirable, the most desirable, the most vigorous measures ought to be adopted to effect it; the most important remedy in those cases is *copious bleeding*, and the earlier it is employed the more effectual will it prove: the next remedy is *external inflammation*, artificially excited by means of rowels and blisters. The fever powder and occasional clysters, are of considerable service.

FEVER.

The fevers of horses bear very little analogy to those of the human body; and require a different treatment. Writers on farriery have described a great variety of fevers, but their observations appear to have been drawn from the works of medical authors, and their reasoning seems to be entirely analogical. We have been able to distinguish only two kinds of fever, the one, an idiopathic or original disease, and therefore properly termed *simple*; the other, dependant on internal inflammation, and very justly denominated *symptomatic* fever: for example, if the lungs, bowels, or stomach were inflamed, the whole system would be thrown into disorder, and a symptomatic fever produced; but if a cœlapse of the perspirable vessels happens to take place, the blood will accumulate in the interior parts of the body, and though inflammation is not produced by it, the unequal distribution of the blood alone will occasion that derangement in the system which constitutes the simple fever. The simple fever does not occur so frequently as the symptomatic, nor is it by any means so formidable in its appearance, yet it is necessary

to give it the earliest attention, for unless nature receives timely assistance, she will be sometimes unable to get rid of the load which oppresses her; and the blood will accumulate in the interior part of the body, until inflammation in some of the viscera is produced, and a dangerous disease established. The following are the symptoms of simple fever:—Shivering, succeeded by loss of appetite, dejected appearance, quick pulse, hot mouth, and some degree of debility; the horse is generally costive and voids his urine with difficulty. Sometimes the disease is accompanied with quickness of breathing, and in a few cases with pain in the bowels, or symptoms of cholick.

Receipts for fever.

No. 1. As soon as a horse is attacked by this disease, let him be bled freely, and if costiveness is one of the symptoms, give a pint of castor oil, or the oil of olives, and let a clyster of warm water gruel or flax-seed tea be injected; the fever powder is to be given once in twelve hours, and continued until its diuretic effect becomes considerable.—Warm water and mashes are to be frequently offered in small quantities; warm cloathing, frequent hand rubbing, and a liberal allowance of litter are also necessary, and when the fever runs high, it is advisable to insert rowels about the chest and belly, in order to prevent internal inflammation from taking place. When the disease appears to be going off, the horse looking more lively, and the appetite returning, let him be led out for a short time in some warm situation, and give now and then a mash of cut straw, with a small quantity of oats and shorts mixed, for the purpose of recovering his strength.

FEVER POWDER.

No. 2.—Powdered Nitre, 1 oz. Camphor and tartarised antimony, of each 2 dr. Mix for one dose.

No. 3.—Powdered Nitre, 1 oz. Unwashed calx of antimony, 2 dr. Mix for one dose.

No. 4.—Antimonial powder, 8 dr. Camphor, 1 dr. Mix for one dose.



CHAPTER, XV.

On symptomatic fever, inflammation, &c.

The symptomatic fever is generally occasioned by high feeding with dry food, close stables, and a want of proper exercise; sometimes, however, a sudden transition from a cold to a hot temperature is evidently the cause of it; in this respect it is different from the simple fever, which, as before observed, sometimes arises from exposing a horse suddenly to a cold air, when he has been accustomed to a warm stable. Horses that are taken from camp or grass, and put suddenly into warm stables, are extremely liable to those internal inflammations on which symptomatic fever depends, and many thousands have fallen victims to this kind of treatment.

When a fever is symptomatic, it is not preceded by shivering, nor is it so sudden in its attack as the simple fever; but when it is not subdued by an early application of remedies, the symptoms gradually increase in violence

until they present a very formidable appearance. When the disease however is occasioned by great and long continued exertion, it generally comes on suddenly, and the complaint has a very dangerous appearance in its earliest stage.

The symptomatic fever has many symptoms in common with the simple fever, which are, loss of appetite, quick pulse, dejected appearance, hot mouth, and debility; and if to these are joined difficulty of breathing, and quick working of the flanks, with coldness of the legs and ears, we may conclude that an inflammation of the lungs is the cause of the fever. If the horse hangs down his head in the manger, or leans back upon his collar with a strong appearance of being drowsy, the eyes appearing watery and inflamed, it is probable that the fever depends upon an accumulation of blood in the vessels of the brain, and that the staggers are approaching; in this case, however, the pulse is not always quickened, sometimes indeed we have found it unusually slow. When the symptoms of fever are joined with a yellowness of the eyes and mouth, an inflammation of the liver is indicated. Should an inflammation of the bowels be the cause, the horse is violently griped. An inflammation of the kidneys, will also produce fever, and is distinguished by a suppression of urine, and an inability to bear pressure upon the loins. When inflammation of the bladder is the cause, the horse is frequently staling, voiding only very small quantities of urine, and that with considerable pain. Extensive wounds, and particularly those of joints, will also produce symptomatic fever. Sometimes several of the internal parts are inflamed at the same instant, and indeed when

inflammation has existed for a considerable length of time, it is seldom confined to the organ in which it originated; the disease spreads to other viscera, and when more than one organ is inflamed, the symptoms will generally be complicated; still, however, the essential remedies are the same, that is to say, copious and early bleeding, with rowels and blisters.

Having now given a general description of symptomatic fever, we shall proceed to treat of those cases separately to which we have above briefly alluded.

Inflammation of the Lungs.

This is a very dangerous disease, and one to which horses are extremely liable; the frequency of its occurrence seems to be occasioned by improper management, and not by any natural defect in the constitution of the animal; it may therefore be prevented by proper attention in the groom. Medical writers make a distinction between inflammation of the lungs and of the pleura or the membrane, which covers those organs, calling the former *peripneumony*, and the latter *pleurisy*; this distinction, however, is not necessary in veterinary nosology, since we never find those parts affected separately in the horse. The progress of this disease is often very rapid, and unless proper remedies are employed at an early period, it frequently terminates fatally. Its approach is indicated by the following symptoms; loss of appetite, an appearance of dullness, and disinclination to motion, unusual quickness in the motion of the flanks, hot mouth, and sometimes a cough. If the disease, by adopting an inert, or improper mode of treatment, is suffered to proceed, all

these symptoms will increase, respiration will become extremely quick and laborious, the pulse more frequent, and at the same time weak. A striking appearance of uneasiness and anxiety may be observed in the animal's countenance, the nostrils are expanded, the eyes fixed, and the head inclining downward, the legs and ears become cold, and the debility is so considerable, that he is incapable of moving in the stall without great difficulty; he never lies down unless so much weakened as to be incapable of standing. The disease, however, is not always so rapid in its progress as we have here described it, and not unfrequently a considerable remission may be observed, which is occasioned probably by an effusion of serum or water having taken place in the chest, and this remission is sometimes so conspicuous, that we are led to give a favourable prognosis, the horse beginning to feed again, and the pulse becoming less frequent; but this flattering appearance often proves fallacious, the disease soon returns with accumulated force and puts a period to the animal's life. I have seen cases where bleeding has not been performed with sufficient freedom, in which the inflammation being checked in some degree, at length terminated in a plentiful effusion of water in the chest; when this happens the horse returns to his food, looks more lively, in short, the symptoms of fever in a great measure disappear; still however, there is an unusual quickness in respiration, generally accompanied with a cough, the hind legs swell, and the horse very rarely lies down; a rough unhealthy appearance may also be observed in the coat, the skin feeling as if stuck to the ribs, and the animal continues in a

state of weakness ; after some time the inflammation, generally returns, and then speedily ends in death. It sometimes happens that the inflammation terminates in suppuration, in this case also the fever is in some degree lessened, and the horse begins to feed a little, but he still remains in a very feeble state, has a weak cough, and discharges foetid matter from his nostrils; at length the disease again becomes violent, and soon puts a period to his sufferings.

Receipts for inflammation of the Lungs.

1st. The first thing to be done when this dangerous disease is observed, is to bleed copiously, say three or four quarts, even till the horse begins to faint from loss of blood. We have known six quarts drawn at one operation, and with the best effect ; sometimes indeed the disease will be completely subdued by thus bleeding freely at its commencement.—Should the horse be costive, or even if the bowels are in a natural state, it will be advisable to give a pint of castor oil, and inject a clyster of flaxseed tea or warm water gruel ; it will then be necessary, in order to divert the inflammation from this important organ, to insert rowels about the chest and belly, and to blister the sides extensively ; let the legs be kept warm by almost constant hand-rubbing; and warm cloathing, if in cool weather, must never be omitted. Nothing is more pernicious in this complaint than obliging the animal to breathe the impure air and stimulating vapours of a close and filthy stable ; this is indeed so obvious a truth, that it would be unnecessary to mention it, if it were not a constant practice with grooms on this occasion to stop

every crevice they can find, by which pure air might be admitted, and the noxious exhalations suffered to escape.

2nd. If the disease does not appear to abate in twelve hours after the bleeding, particularly if it has become more violent, let that operation be repeated, and with the same freedom as at first; we need not be apprehensive at this early period of the disease, of any dangerous debility ensuing from the loss of so much blood; on the contrary, it will tend to re-establish strength, by subduing the inflammation on which the fever depends. In some cases, indeed, it has been found necessary to bleed several times, and very plentifully; it must be recollected, however, that when the fever has existed for sometime, and has nearly exhausted the horse's strength, bleeding seldom does good, and in some instances, has probably been the means of hastening death. When suppuration takes place in the lungs, though there is little probability of saving the animal, his life may be prolonged by giving frequently good water gruel and infusion of malt opium; salt of hartshorn, and other cordials, will also be of service. We have generally given the following ball on those occasions, and though we have never seen a horse recover after suppuration had taken place in the lungs, yet these remedies have certainly afforded considerable relief.

Salt of hartshorn, $1\frac{1}{2}$ dr. Opium, 1 dr. Powdered aniseeds, $\frac{1}{2}$ oz. Syrap enough to form the ball for one dose.

☞ When the mode of treatment we have recommended is adopted before the disease has gained much ground, it will generally succeed completely; considerable weakness will of course remain after the fever has been removed, but that also will gradually go off, if proper attention

is paid to the horse's diet and exercise. When the appetite begins to return, it will be advisable to give small quantities of oats that have been softened by steeping in boiling water; good water gruel will also be found serviceable in recruiting his strength; the sweetest parts should be selected from the hay, and given frequently in small quantities; malt is an excellent restorative on these occasions, but must not be given too freely. When the weather is favourable, let the horse be led out for a short time every day; or if a small enclosure can be procured, and the season of the year will admit of it, he may be turned out for a few hours every day, while the sun shines, taking care that he is well clothed during that time; by these means he will be gradually restored to his original strength.

Inflammation of the Bowels.

This disease is not so frequent as the preceding, though equally dangerous, and generally more rapid in its progress. Inflammation may attack either the peritonæal coat of the intestine, or that delicate membrane which forms the internal or villous coat; in the former case the disease will be attended with costiveness, but in the latter a violent purging is the most conspicuous symptom; but which ever of these coats is first attacked, the inflammation, in a short time generally spreads to the other.

The peritonæal inflammation begins with an appearance of dullness and uneasiness in the horse; the appetite is considerably diminished, or is entirely lost, and the pulse becomes more frequent; the pain and febrile symptoms gradually increase; he is continually pawing with

his fore feet, and frequently endeavours to kick his belly; he lies down and suddenly rises again, and looks round to his flanks, strongly expressing by his countenance the violence of the pain he suffers; his urine is commonly high coloured, and in small quantity, and sometimes voided with considerable pain; he is generally costive, and the pulse is remarkably small and quick; the legs and ears become cold, respiration is very much disturbed, and sometimes, from the violence of the pain and the animal's struggling, profuse perspiration breaks out; at length mortification takes place, and is quickly succeeded by death. Sometimes the progress of this disease is remarkably rapid, in one instance a complete mortification has taken place in the course of twelve hours, and that very extensively.

When only the *internal* coat of the intestines is inflamed, there is generally a violent purging, accompanied with febrile symptoms; these, however, are seldom so considerable as in peritonæal inflammation, nor does the animal appear to be in so much pain. This disease is commonly produced by the improper use of physic, or by neglecting a horse during the operation of a purgative.

In the treatment of peritonæal inflammation, *early and copious bleeding is the most important remedy.* The efficacy of artificial inflammation on the surface of the body is remarkably conspicuous in this disease; and we would recommend covering the back with fresh sheep skins, which would soon excite and keep up for a considerable time, a copious perspiration on the part; the whole of the abdomen or belly should have the mustard embrocation carefully rubbed upon it, the stimulating effects of which may

be promoted by covering the part afterwards with sheep skins or warm cloathing ; rowels also may be inserted about the chest and belly, putting into them blistering ointment instead of turpentine, or the common digestive, which is usually employed for the purpose. Should the horse be costive, which, as we have before observed, is almost always the case, give a pint or twenty ounces of castor oil, and let clysters of flaxseed tea or water gruel be injected. He should be allowed to drink plentifully of a warm infusion of linseed or warm water alone ; and hand rubbing to the legs, with a liberal allowance of clean litter, should not be forgotten. If the disease does not abate in six hours after the bleeding, the operation must be repeated; and if the costiveness continues ten or twelve hours after the oil has been taken, give another dose, and repeat the clysters. If the disease continues and increases in violence after all these remedies have been properly applied, there will be but little probability of recovery, particularly if the pulse has become so quick, weak, and fluttering, that it can scarcely be felt, and there appears to be a remission or cessation of pain, or if the horse becomes delirious ; these are always fatal symptoms, denoting that mortification is taking place, which is the certain harbinger of death ; but if the pain should continue after the above remedies have been fairly tried, the anodyne clyster may be injected.

With respect to the causes of peritonæal inflammation, the most common appears to be high feeding on dry provender and want of exercise ; it is not unfrequently occasioned, however, by putting a horse suddenly into warm stables when taken from camp or grass, the fatal conse-

quences of this management has often been experienced before the veterinary art had made sufficient progress to point out its impropriety and danger.

In some instances the disease appears to have been produced by the distension which the intestines have suffered in flatulent cholick or gripes, where that complaint has been neglected or improperly treated, or where the *spasm* has been so violent as to resist the operation of every remedy.

An inflammation of the villous or internal coat of the intestine, we have before observed, is most commonly occasioned by giving too strong physic, or by attention during its operation, and is generally accompanied with profuse purging; in this case a different treatment is required from that we have recommended for peritonæal inflammation, and bleeding must not be employed unless the pulse is much accelerated and the febrile symptoms considerable; the oil also must be omitted; here the mustard embrocation and sheep skins to the back and belly are eminently useful.

It is of consequence to make the horse drink freely of fine water gruel or linseed tea, which if he refuses to drink must be given by means of a long necked bottle, introduced into his mouth, his head to be held up until he swallows. If the disease continues, notwithstanding these remedies have been carefully employed, let the anodyne clyster be injected, and if that fails, give the anodyne or the restringent draft. It sometimes happens when a horse has taken physic, that gripes and violent sickness occur before the purging takes place; in this case by means of a clyster, a plentiful exhibition of thin water

gruel and exercise, will produce an evacuation and relieve the animal. Peritonæal inflammation has sometimes been mistaken for flatulent cholick or gripes, but their appearances are very different, and they may easily be distinguished by referring to the annexed table, in which their symptoms are contrasted.

Restricting draught. Opium, 1 dr. Prepared chalk, $\frac{1}{2}$ oz. Compound powder of tragacanth, 1 oz. Mint water, 1 pint.

Anodyne draught. Opium $1\frac{1}{2}$ dr. Water gruel 1 quart. Mix for one dose.

Mustard embrocation. Camphor, 1 oz. Oil of turpentine and water of pure ammonia, each 2 oz. Flour of mustard, 8 oz. To be made into a thin paste, and rubbed for a considerable time on the part.

Anodyne clyster. Opium, $\frac{1}{2}$ oz. Water gruel, or linseed tea, 3 pints. Mix for one injection.

A table, shewing the difference between flatulent cholick or gripes, and inflammation of the bowels.

Symptoms of inflammation of the bowels.

1. Pulse very quick and small.
2. Lies down and suddenly rises again, seldom rolling upon his back.
3. Legs and ears generally cold.
4. Generally attacks rather gradually, is commonly preceded, and always accompanied by symptoms of fever.
5. No intermissions can be observed.

Symptoms of flatulent cholick.

1. Pulse natural, though sometimes a little quickened.

2. Lies down and rolls upon his back.
3. Legs and ears generally warm.
4. Attacks suddenly; is never preceded, and seldom accompanied by any symptoms of fever.
5. There are frequently short intermissions.

Inflammation of the Stomach.

The stomach like the intestines, may be inflamed either on its *external* or *internal* surface; when the former is the seat of disease, the symptoms are nearly the same as those by which peritonæal inflammation of the intestines is indicated, and the same treatment is required: the only difference observable in the symptoms is, that in this case the pain seems to be more acute and distressing than in the other; the same difference, indeed, may be observed, between the large and small intestines; the latter being possessed of more sensibility than the former.

When inflammation attacks the peritonæal coat of the stomach, it very soon diffuses itself to the small intestines and neighbouring viscera; or if the small intestines be its original seat, it frequently spreads to the stomach, and sometimes to the large intestines also. In examining horses, therefore, that have died of these diseases, we seldom find the inflammation confined to one particular organ; it more commonly happens, indeed, that the whole of the abdominal viscera will exhibit morbid appearances, but in different degrees; those most contiguous to the part first diseased having suffered very considerably, while such as are more remote from it, are perhaps scarcely altered, for we can generally distinguish the original seat of the inflammation.

An inflammation of the *internal or villous* coat of the stomach is not a very common disease, and is generally occasioned either by poisons or strong medicines that have been swallowed, or by that species of worms termed bots. When poisons or strong medicines, incautiously given, are the cause of this disease, it will of course come on suddenly, the pulse will be extremely quick and so weak, that it can scarcely be felt; the extremities will become cold, and there will be a peculiar dejected appearance in the animal's countenance, respiration will be disturbed; sometimes there will be a cough, and always a high degree of debility. The treatment of this disease consists in giving oily or mucilaginous liquids freely, such as decoction of linseed, gum arabic dissolved in water, &c. and at the same time medicines that are capable of decomposing or destroying the poison; for this purpose the sulphurated rati is useful in doses of half an ounce, provided the poison be either mercurial or arsenical. Clysters are to be injected, and if the disease is accompanied with purging, they should be composed of strong linseed decoction or water gruel. We once saw five cases of inflamed stomach, all of them occasioned by poison, in which the above treatment was pursued; four of them perfectly recovered, and one died.—The inflammation which bots produce in the stomach is indicated by symptoms somewhat different from those we have been just describing, indeed it may more properly be considered as ulceration of the stomach than inflammation, since, upon examining horses that have died of this complaint, ulcers of considerable size have always been found. This disease generally comes on very gradually, the

horse becomes lide-bound, has a rough unhealthy coat, gradually loses flesh and strength, though he continues to feed well, and has a frequent and troublesome cough; the disease perhaps will continue in this state for some time, and no serious consequences are apprehended; its cause and seat are seldom suspected, medicines are given to remove the cough, with common alteratives for the purpose of improving his condition.

In some instances these insects are spontaneously detached, and expelled through the intestines: in such cases, if the stomach has not been much hurt by them, it will gradually recover, and the horse will be restored to his original strength and condition. It sometimes happens, however, that these worms produce such considerable mischief in the stomach, as to throw the whole system into disorder. The lungs are particularly liable to sympathize with the stomach in this case, and frequently become inflamed in consequence. The inflammation thus produced in the lungs is extremely obstinate; and though it may be checked in some degree by bleeding, and the other remedies we have recommended for that disease, yet as the cause cannot often be removed, it generally terminates fatally. This symptomatic inflammation of the lungs may be distinguished from the idrophatic or original, by the following circumstance:—It is generally preceded by an unhealthy appearance in the coat, and a troublesome cough: the animal seldom bears bleeding well, the loss of any considerable quantity causing a rapid diminution of strength; whereas in the idiopathic inflammation of the lungs, the strength of the pulse, as well as the whole system, is often increased by bleeding.

With respect to the remedies for this disease, those recommended for inflammation of the lungs are the best, but when the stomach has been considerably injured, there is little prospect of success. Infusion of malt has been recommended for the purpose of inducing bots to disengage themselves, (see Bots.) It is doubtful, however, whether any thing will effectually remove them; though they frequently come off spontaneously, particularly about the Spring. We have had an opportunity of examining the bodies of several horses that had been destroyed in this way; in all of them there was mortification and suppuration of the lungs, which appeared to have been the *proximate* cause of death; but on opening the stomach, an immense number of bots were found, many of them attached to the *sensible* part, and to the pylorus or beginning of the intestine; in every instance there were ulcers of considerable size found, in some the coats of the stomach had been nearly destroyed. It appeared very clearly, in all these cases, that the disease of the stomach was antecedent to that of the lungs.

It must not be supposed, from what has been said on this subject, that bots cannot exist in the stomach without producing all this mischief; on the contrary, they are often found in healthy horses that have been shot or otherwise destroyed; and it has been known that such horses have suffered no apparent inconvenience from them during life. In all these instances, however, they have been attached to the upper or *insensible* coat of the stomach.—
See BOTS.

Inflammation of the Kidneys.

This disease does not occur very frequently, and is generally occasioned, it is believed, by an immoderate use of strong diuretic medicines. At the first attack of this complaint the horse constantly stands as if he wanted to stale, sometimes voiding a small quantity of high coloured or bloody urine; when the inflammation becomes more considerable, a suppression of urine and fever generally takes place; if the loins are pressed upon, the animal shrinks from it, and appears to feel great pain. In the first place bleed freely, then give a pint or twenty ounces of castor oil, throw up clysters of warm water, and cover the loins with sheep skins, having previously rubbed upon them the mustard embrocation; should these remedies fail of procuring relief, repeat the bleeding; and should the oil not have operated sufficiently, let another dose be given. All diuretic medicines are to be carefully avoided, or any thing capable of provoking urine.

Inflammation of the Bladder.

When the bladder is much inflamed, its irritability is so increased, that it becomes incapable of containing any urine, contracting upon every drop almost that passes into it from the kidneys; in this complaint, therefore, the horse is attempting almost constantly to stale, but voids only a few drops of urine, and that with considerable pain: it is generally attended with quick pulse and other symptoms of fever. Nothing is more beneficial in this disease than causing the horse to drink largely of linseed decoction, or any other mucilaginous liquid, and throw-

ing up frequently clysters of the same; bleeding, and a dose of castor oil, are likewise highly necessary; after the operation of the oil, let the following ball be given every sixth hour. Should no relief be obtained by these means, the horse continuing to void his urine frequently, in small quantities, and with pain, give one drachm of opium twice a day, and omit the ball: costiveness tends very much to aggravate this complaint, whenever it occurs; therefore, let a clyster be injected, and a dose of oil given.

The ball.—Powdered nitre, $\frac{1}{2}$ oz. Camphor 1 dr. Liquorice powder, 3 dr. Honey sufficient to form the ball for one dose.

Inflammation of the Liver.

This disease is indicated by a yellowness of the eyes and mouth, red or dark coloured urine, great weakness, and fever, generally, though not always, accompanied with diarrhœa or purging; the horse has a very languid appearance, and is almost constantly lying down: sometimes the progress of this complaint is very rapid, speedily terminating in death; at others it proceeds more slowly, the animal lingering for a considerable time; in this case it not unfrequently terminates in dropsy, or inflammation of the bowels.

Bleeding can only be employed at the commencement of this disease with safety, afterwards it generally does harm, by inducing a dangerous degree of debility; the sides should be blistered, and if there be no purging, the ball, No. 1, given once in twelve hours, until it occasions moderate purging; but if the bowels are already in a lax

state, the ball, No. 2 or 3, will be better adapted to the complaint, and is to be given in the same way.

The ball. No. 1.—Calomel, $\frac{1}{2}$ dr. Aloes, 1 dr. Castile soap, 2 dr. Rhubarb, $\frac{1}{2}$ oz. Syrup enough to form the ball for one dose.

No. 2.—Opium, $\frac{1}{2}$ dr. to 1 dr. Calomel, 1 dr. Castile soap, 2 dr. Syrup enough to form the ball for one dose.

No. 3.—Opium and calomel of each, 1 dr. Emetic tartar, 2 dr. Liquorice powder, 3 dr. Syrup enough to form the ball for one dose.

Inflammation of the Eye.

When the eye is inflamed it loses in some measure its transparency, appearing sometimes as if covered with a film, the lids are partially closed, and the haws become more visible.—Should the inflammation have been brought on by some external injury, and particularly if it is not very considerable, washing frequently with salt and water or molasses and water cold, will be sufficient to remove it; but in more violent cases it will be necessary also to bleed moderately and give a laxative ball of succotrine aloes, 4 dr. castile soap, $\frac{1}{2}$ oz. by these means inflammation arising from external injury may generally be cured in a short time. The eyes often become inflamed in consequence of cold and fevers, in which cases the *cause* is to be chiefly attended: when that is removed the inflammation usually ceases. The most common cause, however, of this complaint, is high feeding, without sufficient exercise, or too violent exercise; a dark and badly ventilated stable, foul litter, &c. these cases require great care and attention, for

unless proper remedies are employed on the first attack, the disease (though it appears to go off) will be frequently returning, and in all probability eventually produce blindness. The first remedy to be employed on this occasion, is bleeding, and the quantity of blood that is drawn should be proportionate to the violence of the inflammation, and the *condition* of the animal, say from two to three quarts. Should the vessels on the white part of the eye and inner part of the eye-lids appear to be distended with blood, great advantage will be derived from scarifying the latter with a lancet.—A laxative ball, or half a pound of salts dissolved in three quarts of water, is to be given, and the bowels afterwards kept in a lax state by means of bran mashes. A seton placed immediately under the eye is a very useful remedy: but unless the operation is nicely performed, it frequently leaves an unpleasant mark behind; which would lead a person, experienced in horses, to suspect that the eye had been diseased, and might, therefore, diminish the value of the horse. This kind of inflammation generally comes on rather suddenly, sometimes attacking only one eye, at others, both are affected; as there is no apparent cause for this sudden attack of inflammation, the groom very commonly attributes it to seeds or dust having fallen from the rack into the eye, and very little attention is paid to it; notwithstanding this neglect, the disease frequently goes off, and in some cases its disappearance is nearly as sudden as its attack: in a short time, however, it again appears as unexpectedly as at first, and again perhaps goes off; in this uncertain way it may continue a considerable time, the eyes sometimes appearing transparent, and free from inflammation, at others,

watery, inflamed, and opaque on the surface; at length, the internal parts of the eye are affected, and a cataract produced. Whenever a horse's eye becomes inflamed, it is necessary to enquire into the *cause* of the inflammation; if it arises from a mechanical injury or any of the aforesaid causes, and is not considerable, there will be great probability of its being speedily removed, by means of the remedies pointed out, if employed sufficiently early; but if they are neglected at the commencement of the disease, though the inflammation, after some time appears to go off, and the eye, to a superficial observer, seems to have recovered, yet the disease frequently returns and ultimately occasions blindness. Should the disease have occurred before, and particularly if the former attack was violent, there is still less chance of its being removed, and all our remedies may prove ineffectual. It frequently happens that when both eyes are inflamed, and a complete cataract forms in one of them, the other becomes perfectly sound and strong. It must be observed that when a horse has suffered more than once from this disease, and is in low condition, evacuations must not be made too freely; there are few cases, however, where moderate bleeding and a laxative ball, or a dose of salts are not required. With respect to topical applications, or those remedies which are applied immediately to the eye, much benefit is not generally derived from them, except when the inflammation has abated considerably, and there remains an opacity or film on the surface, in which case, put a scruple of roach allum and a scruple of white vitriol both finely powdered, into a gill of spring water and with a feather put a drop or two into the eye morning and evening.

Eye-Water, excellent for weak Eyes.

Put half a drachm white vitriol, half a drachm sugar of lead into $\frac{1}{2}$ pint of rose or spring water, apply a drop or two with a feather morning and evening:

Do not use grease or oil about the eye, or blow powders of any kind into them; always prefer liquids. Whenever the eyes are weak, or in a state of inflammation, the vapours which arise from foul litter, should be carefully guarded against; indeed, it is by no means an improbable conjecture that when the eyes are weak, these irritating vapours may often prove the exciting cause of inflammation. There is a cartilaginous body connected with the eyes of horses, commonly termed the haw. Whenever the eye is drawn into the socket; (which the horse has the power of doing by means of a muscle that does not exist in the human subject) the haw is forced over the eye, so that when dust happens to adhere to the surface of the eye, he is enabled by means of this cartilage to wipe it off; and as light is painful to the animal when the eye is in a state of inflammation, we generally find that organ, on such occasions, drawn more than usual into the socket, and consequently the haw becomes conspicuous on its surface. Some Farriers in this case consider the haw as an usual excrescence, and the cause of the disease, they frequently therefore cut it off. The celebrated Mr. Taplin considered the haw as a preternatural enlargement of the corners of the eye. The haws should never be cut off; as blindness is generally hastened by this cruel operation.

CHAPTER XVI.

Of Strangles, or Throat Distemper, & Catarrh or Cold.

This disease generally attacks young horses between the 3d and 5th year of their age, and consists in an inflammation and swelling of the glands under the throat, accompanied with cough and a discharge of white thick matter from the nostrils; sometimes there is likewise a soreness of the throat and difficulty in swallowing. The inflamed glands commonly suppurate in a short time and burst, discharging a large quantity of matter; when this has taken place, the cough and other symptoms generally go off, the sore gradually heals, and the horse speedily recovers. In some cases the strangles assume a more formidable appearance, are attended with a considerable degree of fever, and the throat is sometimes so much inflamed, that the horse is incapable of swallowing either food or water: but however violent the attack may be, if a proper mode of treatment is adopted, every unpleasant symptom may be easily removed, and a speedy recovery effected. It is not a very uncommon circumstance for the strangles to attack young horses while at grass, and then they are frequently not perceived until *nature* has nearly effected a cure.

The approach of strangles may be known by a dullness of countenance, watery eyes, cough, and a slight degree of swelling in the glands under the jaw; as soon as they are discovered, let the hair be carefully clipped

off from the inflamed glands and contiguous parts of the throat; let a large poultice be then applied to the throat, in doing which it is necessary to take care that it is so secured as to be constantly in contact with the throat; for unless this is attended to, the poultice will be but of little service. It will be found that by rubbing a small quantity of some stimulating ointment on the inflamed glands, previous to the application of each poultice, suppuration may be considerably promoted, for this purpose the following formula will be found useful:

Camphor, 2 dr. Oil of origanum, 1 dr. Spermaceti ointment, 2 oz. mix.

☞ When matter is completely formed in the glands, which may be known by the tumor becoming larger, and by the skin feeling tense, and somewhat elastic, an opening should be made with a lancet, and its contents evacuated; this plan is certainly preferable to that of waiting until it bursts spontaneously, as the animal is instantly relieved by it, and the cure more speedily effected. To evacuate the matter perfectly, it is necessary to use moderate pressure with the fingers; and when this has been done, let a piece of lint, dipped in digestive liniment, be inserted for the purpose of keeping the lips of the wound open, and allowing the matter to escape freely; the poultice is to be continued until the swelling is perfectly reduced. When strangles attack so violently as to render the horse incapable of swallowing, and particularly if the swelling in the throat is not considerable, it will be advisable to blister the throat, and keep the bowels open with clysters of flax-seed tea or gruel. It is very necessary, in every case of strangles, to steam the head well,

that is, to put hot bran mashes into the manger frequently, so that the horse may inhale the vapours.

It is of consequence to distinguish cases of incipient strangles from common colds; in the latter, *bleeding* is an useful remedy; but in the former, it does much harm, by interrupting a process of nature. We cannot, by any *argument*, shew why bleeding should be improper in the strangles; indeed, if our practice were guided by theory only, we should be led to consider it as a case of common inflammation, and consequently adopt that mode of treatment which would tend to remove it most expeditiously and prevent suppuration, and with this view we should have recourse to bleeding and purgatives; *experience*, however, certainly sanctions a different treatment, and has fully proved the propriety of using every means for encouraging suppuration. We have seen several hundred cases in which this plan has been pursued, and not one of them terminated unfavourably. Should a cough or any unpleasant symptom remain after the strangles are healed, let the following alterative ball be given every morning, until moderate purging is produced, and if it is found necessary, let it be repeated after an interval of four or five days. It is almost superfluous to add that great attention must be paid by the groom; the head, neck, and chest, as well as the body, should be clothed, warm water should be given frequently in small quantities, a large quantity of litter should be allowed, and hand rubbing to the legs should never be omitted.

Alterative Ball.

Succotrine aloes, 1 dr. Emetic tartar and Castile soap, of each, 2 dr To be made into a ball for one dose.

RECEIPTS

From different Authors for the Strangles.

No. 1. If a large tumor appears under the jaw, apply a poultice made of *mallow leaves*, four handfuls; *white lily roots*, one pound; three midling sized *turnips*; boil them in a sufficient quantity of *water*, till they become soft, then beat them up well together; then boil them again in *milk* to a thick poultice, adding to it two ounces of *linseed*, and half a pound of *hogslard*; stirring all well together. Spread on a piece of coarse cloth; and make it fast about the swelling, with a packing needle and twine. When it is sufficiently brought to a head, open the tumour, and squeeze out the matter, constantly applying the poultice warm; and in a few days it will all run off. When the matter is quite drawn away, give the following purge.

Aloes, one ounce; *ginger*, one drachm; *rhubarb*, one drachm; made into a ball with *castor-oil*.

Warm bran mashes should be given during the illness, with gentle exercise.

No. 2. Bleed under the tongue, and fume with the decoction of camomile, and poultice with bran, vinegar, salt, and hog's-lard, and it will soon cure. Proved.

No. 3. Take wine, one pint; Venice treacle, diapente, of each one ounce; saffron, two drachms, mix and give it to the horse. This is a very good cordial for any other disorder where a cordial is proper. Apply outwardly the following poultice to the part:

Take milk, one quart; Rye flour, and Indian meal, of each two handfuls; boil them over a gentle fire till they be thick; then add turpentine, four ounces, dissolved in the yolks of two or three eggs.

It would be superfluous to give a particular description of this complaint, since it is so well known, and its appearances so generally understood, that scarcely any one can be at a loss to distinguish it from other diseases. It consists in an inflammation of the mucous membrane, which lines the internal part of the nose, throat, &c. sometimes attended with a slight degree of fever; hence arise the cough and discharge from the nostrils, which are its principal symptoms. On the first attack of this complaint, bleeding will generally be found an effectual remedy, but if it is neglected until a considerable discharge has taken place from the nostrils, it seldom proves beneficial. A dose of fever powder is to be given every morning and evening until the symptoms abate, or a considerable diuretic effect is produced, and then every second or third day only.

Sometimes a swelling takes place in the parotid glands, which is situated immediately beneath the ear. Should no unusual heat or tenderness be observed in those swellings, apply the stimulating ointment recommended for strangles, but if they feel hot, are painful and appear to be in a state of active inflammation, a poultice is the best remedy. If the eyes are inflamed and watery, a rowel should be inserted under the jaw, and if the inflammation in the throat is so considerable as to render the swallowing painful and difficult, a blister will afford great relief. Hot bran mashes should be given frequently, which will not only serve to keep the bowels open, but will act as a fomentation to the inflamed membranes, since the horse will be constantly inhaling the vapour which escapes from them. Should he be costive (which is not likely to hap

pen while he is taking bran mashes) let clysters be injected occasionally. The head and chest, as well as the body, should be well clothed, the legs frequently hand rubbed, and a large quantity of litter allowed: by these means he will soon be restored to health. Should a cold be attended with a considerable degree of fever, or if the appetite goes off, and the flanks work quicker than usual, it is necessary to make some alteration in the treatment (see fever and inflammation of the lungs.) It is necessary to observe before we conclude this subject, that the strangles on their first attack are sometimes mistaken for a cold; this may be productive of mischief, since bleeding is generally improper in that complaint; if, therefore, a cold is accompanied with a swelling of the glands under the jaw, if they feel hot and are painful, and particularly if the horse is young, we may conclude that the strangles are approaching, and treat it accordingly.

Should the cough remain after the other symptoms are gone off, give the ball, No. 1, every morning, until moderate purging is produced, and if it continues after this, let the ball, No. 2, be given every morning for a week.

No. 1. Succotrine aloes, 1 dr. Castile soap and tartarised antimony, of each, 2 dr. To be made into a ball with syrup.

No. 2. Powdered squills, 1 dr. Gum ammoniac, 3 dr. — opium, $\frac{1}{2}$ dr. Syrup enough to form the ball.

CHAPTER, XVII.

Locked Jaw, Lampas and Roaring.

This disease, very fortunately occurs but seldom, and generally terminates fatally; it begins with a difficulty in mastication; at length the jaws become so completely and immoveably closed, that neither medicines nor food can be got into the stomach; the muscles of the neck are generally in a state of rigid contraction, and the animal appears to suffer great pain: it is often brought on by trifling causes such as wounds of the foot, inflammation in the tail, from docking or nicking, &c. and sometimes it attacks without any apparent cause. Various remedies have been tried in this complaint, but no effectual mode of treatment has yet been discovered; immersion in cold water, or even snow, is said to produce a temporary relaxation of those muscles by which the jaws are closed. Opium and camphor have been strongly recommended. We have lately been inform'd of a case in which a combination of those medicines completely succeeded. In America and the West India Islands, where the disease is more frequent than it is in Europe, strong stimulants have in some instances been found effectual; it would be advisable therefore to try the same plan in horses should opium and camphor fail. The best stimulants for this purpose are spirits of hartshorn, ether, opium, and brandy, given internally.

Lampas. When the bars or roof of the horse's mouth, near the front teeth, become level with, or higher than the teeth, he is said to have the *Lampas*, and this is supposed to prevent his feeding. Farriers burn down this swollen part with a red hot iron made for the purpose. We believe this operation is performed much more frequently than is necessary, but we have never seen any bad consequences arise from it.

Roaring. This disease takes its name from a peculiar sound in respiration, particularly when the horse is put into a brisk trot or gallop; it seems to arise from lymph that has been effused in the windpipe or its branches, which becoming solid obstructs, in a greater or less degree, the passage of air. As a remedy for this complaint blistering the whole length of the windpipe has been recommended; It is believed, however, that this disease is always incurable.

CHAPTER XVIII.

BROKEN WIND.

It seems to be universally allowed that this complaint is incurable, though it will admit of considerable alleviation; and if its approach be perceived sufficiently early, may probably be prevented. Horses that appear to be most subject to it, are those with voracious appetites, that eat even their litter, and keep themselves in good condition upon a moderate allowance of corn; also such as are

fed highly, and at the same time not properly exercised. The lungs of broken winded horses are generally unusually large, with numerous air bladders on the surface; this must have arisen from a rupture of some of the air cells, for in that case some part of the air which is inspired, will necessarily get into the *cellular membrane* of the lungs, and diffuse itself until it arrives at the surface, when it will raise the pleura so as to form the air bladders we observe. This is the reason that the lungs of broken winded horses do not collapse when the chest is punctured, and this will serve to explain the peculiar motion of the flanks in broken winded horses, which does not consist, as Mr. L. asserts, in quick expiration and very slow inspiration, but quite the reverse. Air is received into the lungs *very readily*, which is manifested by a sudden falling of the flanks, but is expelled *slowly*, and *with great difficulty*, as may be perceived by the long continued exertion of the abdominal muscles.

When the membrane which lines the windpipe and all its branches, has been effected with inflammation, it becomes thickened in consequence, and the capacity of the lungs will of course be diminished: this will cause a *quickness* in respiration, but not that irregular or unequal kind of breathing, by which broken wind is characterised; the complaint which is thus produced, is commonly termed thick wind, and the horse so affected, if made to move rapidly, wheezes almost like an asthmatic person, and is unfit for any violent exercise. It not unfrequently happens, we believe, that this complaint proves a cause of broken wind, for when the membrane is much thickened, many of the finer branches of the windpipe are probably ob-

structed in a greater or less degree, the violent coughing which usually accompanies this disease, will, under such circumstances be very liable to rupture some of the air cells. The same effect may be produced by violent exercise when the stomach is distended with food or water. We believe, however, that a plethora or fulness of habit is most commonly the *remote* cause of broken wind; in that case there is generally an undue determination of blood to the lungs, whereby the secretion within the air vessels is increased, and perhaps rendered somewhat acrimonious and viscid, exciting a violent and troublesome cough.

Receipts for broken wind.

No. 1. Whenever a horse appears to be imperfect in his wind, if he coughs violently, particularly when exercised, with unusual working of the flanks; and if at the same time he appears to be in good health and spirits, let him be bled moderately, and take a laxative ball; by these means, assisted by a bran diet and regular exercise, the lungs will soon be relieved, and the cough, if not completely removed, will be considerably diminished; then give the following ball every morning for a week, and take care that regular exercise is never omitted. It will be adviseable also to prevent the horse from filling himself too much with hay or water; the latter should be given five or six times a day, in small quantities; the common method of stinting a horse in water, when his wind is supposed to be bad, is certainly prejudicial; corn should be given sparingly, for high feeding tends very much to aggravate the complaint; bran is an useful diet, if mixed with corn, and cut hay or straw. The vapours which arise from foul litter and the

air of a close stable are extremely pernicious. We have seen very good effects from turning the horse into a yard or lot during the day, when the weather is favourable. When the cough and other symptoms have been removed, these means must be still persevered in; or the disease will probably return: regular and long continued exercise tends more than any thing to keep it off, but violent exercise is extremely improper. Whenever costiveness occurs it should be removed by means of a clyster and bran mashes; and should the horse be disposed to eat his litter, it is to be prevented by means of a muzzle.

The Ball.—Powdered squills, 1 dr. Gum ammoniac, $\frac{1}{2}$ oz. Powdered aniseeds, 3 dr. To be made into a ball with syrup, for one dose.

(To be given as a drench.)

No. 2. Mix linseed and fenugreek frequently in his corn, and sometimes those of fennel, carraways, and anise; and boil in his water, three or four handfuls of barley, with a little liquorice or honey dissolved in it; but you must not often use the liquorice. Exercise him more or less every day, but let it be moderately, and in clear weather.

If he be at any time seized with an oppression, and a more than ordinary difficulty of breathing, he should have a vein opened in his flank; or on the inside of the thigh, from whence may be taken a small quantity of blood; but this must be done only when there is an absolute necessity for it; or the following balls have been given and continued with great success.

Take of myrrh and gum benzion, of each four ounces; gum arabic, the roots of orice, round birthwort, and the

shavings of hartshorn or ivory, of each two ounces; galougal and zedoary, of each an ounce; fennel seeds, cummin seeds, and fenugreek, of each an ounce and a half: Let these be beat into a fine powder, and made up into a stiff paste with honey, or syrup, or colts foot: then work into the whole an ounce of the common balsam of sulphur, and let them be made into balls the bigness of a large walnut, whereof one is to be given every morning and afternoon, an hour before watering time.

No. 3. The cause of this disorder, generally speaking, is from galloping a horse off his wind, which I have frequently seen done by obstinate grooms, after giving him as much cold river water as he could drink; from hence proceed more broken winds, than from any other cause whatever.

The symptoms of a broken wind are, as I said before, a difficulty of breathing, attended with a dry cough, and an irregular motion of the flanks: the nostrils of the horse will be wider than common; and you will sometimes, while standing in the stable, hear him blow at the nostrils, at the same time tossing up his head, as if just coming off a gallop.

Two ounces of *assafetida*; two ounces of *elecama-
pane*; two ounces of *flowers of colts foot*; two drachms of the *powder of squills*; one ounce of *linseed powder*. Make these into a paste with *honey*, and divide it into four balls. Give one morning and evening.

The food to be given a broken winded horse should be the best that can be obtained; which, together with his water, should be given in small quantities, but rather oftener than is common to feed and water horses in health;

making it a general rule to give him nothing dry, always sprinkling his hay, oats, or whatever you give him, with clean soft water.

No. 4. A Broken Wind may be cured if the following be applied on the discovery of it: *A quarter of a pound of common tar, and the like quantity of honey: beat them well together, then dissolve them in a quart of new milk; let the horse fast two hours before you give this drench; walk him an hour after, and let him fast two hours; give this drench every second day, with warm meat and drink.*

No. 5. Take one ounce of liquorice-ball, dissolve it in one gallon of spring water, give your horse one pint thereof every morning, and take barley or wheat, and grow it until you see the cheat or beard begin to spring, and give your horse two or three quarts at a time; if you mix a little good wine with your liquorice water, it would be much better: be sure to sprinkle his hay, it is a certain remedy. If you wish to stop the heaving of the horse's lungs for a few hours, put a good handful of his dung into a quart of new milk, stir it, and give it to the horse, but let him have no cold water or any drink; this will stop it for a few hours, perhaps a day.

No. 6. Take hoars dung, dry it to powder, and put a spoonful of it into two pints of milk just from the cow, and give it to him. If it does not make him sick, give him two spoonfuls more of the powder, and in four or five times giving, it will perfectly cure him. It must be given every third day.

Proced.

CHAPTER XIX.

Jaundice, Flatulent Cholic, Gripes or Fret.

Jaundice. This disease is indicated by a yellowness of the eyes and mouth, dulness and lassitude; the appetite is generally diminished, the urine of a reddish or dark colour. Sometimes the complaint is attended with costiveness, but more commonly with a purging. This disease does not often arise from an obstruction in the biliary ducts, as in the human subject, but generally from increased action of the liver, whereby an unusual quantity of bile is secreted. Inflammation of the liver is sometimes mistaken for jaundice, but may be distinguished from it by the fever with which it is always accompanied.

When costiveness is one of the symptoms of jaundice, give the ball, No. 1, every morning, until moderate purging is produced; but if the bowels are already open, or in a state of purging, give the ball, No. 2, every morning. The horse's strength should be supported by an infusion of malt or water gruel.

The ball. No. 1.—Calomel, $\frac{1}{2}$ dr. Aloes, 1 dr. Castile soap, 2 dr. Rhubarb, 3 dr. To be made into a ball with syrup, for one dose.

No. 2.—Calomel and opium, of each, 1 dr. Columbo root, powdered, 3 dr. Powdered ginger, $\frac{1}{2}$ dr. Syrup enough to form the ball for one dose.

Flatulent Cholic, Gripes or Fret.—This disease generally attacks rather suddenly, and is brought on by various causes; sometimes it is occasioned by drinking a large

quantity of cold water when the body has been heated, and the motion of the blood accelerated by violent exercise. In horses of delicate constitutions, that have been accustomed to hot stables and warm cloathing, it may be brought on merely by drinking water that is very cold, though they have not been previously exercised. Bad hay appears to be another cause of the complaint; but it frequently occurs without any apparent cause, and then probably *depends* upon a sudden loss of energy in the stomach or bowels, occasioning a spasmodic constriction of the intestine, and a confinement of air. The air which is thus confined, does not appear to be produced by fermentation of the contents of the intestine, it is more probably a secretion of the internal or villous coat, in consequence of its atonic state; this opinion, however, is founded merely upon analogy, the air having never been examined.

The pain and uneasiness which this complaint occasions are so considerable as to alarm those who are not accustomed to see it, and lead them to be apprehensive of dangerous consequences: but if properly treated, it may be easily and expeditiously removed. It begins with an appearance of uneasiness in the horse, he is frequently pawing the litter, voids a small quantity of excrement, and makes fruitless attempts to stale; the pain soon becomes more violent, he endeavours to kick his belly, and looks round to his flanks, expressing by groans the pain he labours under; at length he lies down, rolls about the stall, and falls into a profuse perspiration; after a short time he generally gets up, and appears for a minute or two to be getting better, but the pain soon returns, and the succeed-

ing paroxism is generally more violent than the former—the pulse is seldom much accelerated, nor are there any symptoms of fever. The disease will sometimes go off spontaneously; it more commonly happens, however, when proper remedies are not employed, that the air continues to accumulate, and so distends the intestine, as to produce inflammation of its coats: the distension has sometimes been so considerable as to rupture the intestine, whereby the horse is speedily destroyed.

As soon as this disease is observed, let one of the following draughts be given, and a clyster injected, composed of six quarts of water gruel or warm water, and 8 oz. common salt. If the disease has existed for several hours, and the pain appears to be very considerable, particularly if the pulse has become quick, it will be adviseable to bleed three quarts, with a view to prevent inflammation and remove the spasmodic contraction of the intestine. If the disease, however, is perceived on its first attack, the draught and clyster will generally be sufficient to cure it: but should no relief be obtained by these means in an hour or two, let the draught be repeated, and let the belly be rubbed for a considerable time with the mustard embrocation. Should the disease be so obstinate as to resist even these remedies, which will scarcely ever happen, give a pint of castor oil, with $1\frac{1}{2}$ oz. tincture of opium or laudanum; and if castor oil cannot be had, $1\frac{3}{4}$ pint of linseed oil may be substituted: as soon as the horse gets up, let him be rubbed perfectly dry by two persons, one on each side, and afterwards let him be well clothed. It is necessary in this complaint to provide a large quantity of

litter for the purpose of preventing the horse from injuring himself during the violence of the paroxism.

THE DRAUGHT.—*No. 1.* Balsam of capivi, 1 oz. Oil of juniper, 1 dr. Spirit of nitrous ether, $\frac{1}{2}$ oz. Simple mint water, 1 pint. Mix for one dose.

(*To be given as a Drench.*)

No. 2. Venice turpentine 1 oz. Mix with the yolk of an egg, and add gradually Peppermint water, 1 pint. Spirit of nitrous ether, $\frac{1}{2}$ oz. Mix for one dose.

No. 3. Camphor 2 dr. Oil of turpentine, $\frac{1}{2}$ oz. Mint water, 1 pint. Mix for one dose.

Or in case neither of the foregoing prescriptions can be had (but not otherwise) use

No. 4. Gin or other ardent spirits, 3 gills, diluted with an equal quantity of warm water, which may be repeated in half an hour if the pain does not subside.

As this complaint is liable to occur during a journey, in situations where the above remedies cannot be readily procured, I have annexed a formula for a ball, for the convenience of those who are in the habit of travelling. If this ball is wrapped up closely in a bladder, it may be kept a considerable time without losing its virtues.

THE BALL.—Castile Soap, 3 dr. Camphor 2 dr. Ginger, $1\frac{1}{2}$ dr. Venice turpentine, 6 dr. To be made into a ball for one dose.

No. 5. In all cases of violent griping pains in the bowels, bleeding is the first thing necessary, and that pretty freely, as that relaxes the whole system, and paves the way for other means, which are to empty the rectum, by taking out with the hand the hardened excrements that are lodged there; sometimes they appear softish, and the

horse dungs frequently, from pain, in very small quantities at a time; but generally they are very much hardened; in this case, the operation formerly mentioned (which is called *back-racking*) gives the horse great relief, by removing the pressure from the neck of the bladder; the horse will then be able to stale; but the pain from the air that is pent up in the bowels may still remain; emollient clysters are then of great benefit, as they not only empty the intestines of the excrements, which affords a passage for the wind backwards, but they act as an internal fomentation, by which means they contribute to remove the spasmodic constriction from the bowels, and prevent inflammation; they may be frequently repeated, till the confined air finds a passage backwards by the anus; when once this takes place, it frequently passes off in great explosions, to the great relief of the horse. I have observed, in such cases, that the air they passed, from being long pent up in the bowels, was more inflammable than ordinary, so as to catch fire from a candle, if it happened to be near, and spread a blue flame for a considerable space around, and sometimes to singe the hair and eye-brows of the by-standers who were within its reach.

All the different species of cholick pains, whatever cause they may proceed from, ought to be treated in the same manner, on their first attack; as it is a necessary step to free the intestines from what may tend to aggravate, or add to the disorder. This becomes the more necessary as it is the only means that can be used with safety in horses, to clear the passages, and pave the way for medicines, which may be afterwards found necessary; at the same time, carefully avoiding the giving of medicines, by the

mouth, that are either heating or irritating; if opiates are found necessary, laudanum may be given, to the extent of a table spoonful at once in a pint of thin water gruel, by the mouth; the same quantity, if needful, may be repeated about three or four hours afterwards, or it may be given after the intestines are cleared of excrement, in a clyster, increasing the quantity to two spoonfuls, or more: a second bleeding may be necessary when the symptoms are violent.

No. 6. If a horse is taken with the gripes (which he will discover to you by often looking towards his flanks,) and cannot keep upon his legs, but rolls and beats himself about, as undoubtedly he is in very great misery, do not bleed him, unless his breath is very hot, but clothe him warm immediately, and, with a horn, give him half a pint of brandy, and as much sweet oil, mixed; then trot him about till he is a little warm; this will certainly cure some horses. If it does not cure yours, boil an ounce of beaten pepper in a quart of milk, and put half a pound of butter, and two or three ounces of salt, into a bowl or bason, and brew them together; give it rather warmer than usual; it will purge him in about half an hour, and perhaps remove the fit. If it does not, omit half the pepper, and give the same in quality and quantity by way of clyster, adding as it cools, the yolks of four eggs. If he is very bad, and neither will do, boil a pound of anniseeds in two quarts of ale, brew it upon a pound of honey; when it is almost cool enough, put in two ounces of disascordium, and give it, with a horn, at three doses, allowing about half an hour between each dose. If his fit abates, give him time to recover; but if all this does not give him ease, and you have

a suspicion of worms or bots bred in his gut, which indeed may be the cause; for they sometimes fasten in the passage from the stomach unto the great gut, stop it, and so torment him till he dies: then give him two ounces Æthiops mineral, made into a ball, with an ounce of the powder of anniseeds and a spoonful of honey and it will cure him: *But you must not give this to a mare with foal.*

No. 7. Take a quart of thin *posset drink*, *penny-royal*, *pellitory* of the wall, of each an handful; *mallows* and *plaintain*, of each an handful; and *cummin seeds* and *saxifrage seeds* of each one spoonful bruised, *cammomile flowers* one spoonful; boil them down to half the *posset ale*, take half a pint thereof, dissolve therein half an ounce of the electuary called *Electuarim de baccis lauri*. *Proved.*

No. 8. Take one quarter of a pound of *tobacco*, and boil it in a pint of water, which give to your horse, and it will cure either *cholic*, *belly ache* or *botts*. *Proved.*

N. B. Any person who will give their horse one leaf of *tobacco* cut fine, in his feed, once every two, three or four weeks, it will prevent the above named diseases.

No. 9. The *cholic* or *belly-ache*, is a fretting, gnawing or swelling of the belly or great bag, proceeding from windy humours, or from eating of green corn or pulse, hot malt grains without salt or labor, or bread baked badly: and *belly bound* is when a horse cannot dung. The cure of the *cholic* or *belly bound* is thus;—take a quantity of the herb *dill*, and boil it in his water that you give him to drink, but if he cannot dung, then boil in the water a good quantity of the herb *fumitory*, and it will make him dung without danger of hurting.

No. 10. Boil one spoonful of *Cummin-seeds* with a few *cammomile flowers*, in *posset drink*: it is a good drink for the wind, for a horse that is costive in his body. *Proved.*



CHAPTER XX.

Apoplexy or Staggers.

This disease generally begins with an appearance of drowsiness, the eyes being inflamed and full of tears, and the appetite diminished; the disposition to sleep gradually increases, and in a short time the horse is constantly resting his head in the manger and sleeping; the pulse is seldom much altered; costiveness and a deficient secretion of urine commonly attend this complaint. Sometimes the disease will continue in this state for several days; at others it assumes a formidable appearance very early, or even at its commencement, the horse falling down and lying in a state of insensibility, or violent convulsions coming on. Sometimes a furious delirium takes place, the horse plunging and throwing himself about the stable, so as to render it dangerous for any one to come near him. From this variety in the symptoms, writers on farriery have divided the disease into the *sleeping* and the *mad staggers*. It has been supposed that the staggers are frequently occasioned by a diseased condition of the stomach. When the complaint originates in the stomach, the horse is generally in a state of debility previous to the

attack, the pulse is quick and weak, there is a yellowness in the eyes and mouth, and should the stomach be considerably distended with air and food, the belly will be swollen and feel very tense, and respiration will be much disturbed: it will also occasion very acute pain, which will be strongly expressed by the animal. In cases of this kind it must be obvious that bleeding is a doubtful remedy, and should not be employed unless there are evident marks of congestion in the brain: *bleeding* however, has proved a sovereign remedy, if employed with *sufficient freedom*, before an effusion of water, extravasation, or inflammation have taken place; for it appears evident that the first stage of the complaint arises from an accumulation of blood in the vessels of the brain, which impedes, in some degree, the functions of that important organ; and if these vessels are not relieved by copious bleeding, there will be either an effusion of water in its ventricles, an inflammation of the membranes, or a rupture of some blood vessel, and are consequently an extravasation of blood.—These are the causes which give rise to those violent symptoms denominated mad staggers, and which frequently prove fatal.

There is sometimes so *sudden* a determination of blood to the brain, that those dangerous symptoms make their appearance before any effectual remedies can be applied.

Receipts for the Staggers.

From the view we have given of the staggers, it will appear, that the terms which farriers have adopted to distinguish its different appearances, are very inadequate; and that it would be better to consider the disease under the two following heads, viz. the *idiopathic* and the *symp*

tomatic staggers. In the former, bleeding is the grand remedy, and seldom fails affording relief if employed with freedom at the commencement of the disease. It will be adviseable also to give the following purgative draft, and inject a stimulating clyster, composed of a gallon of water and 8 oz. common salt. Should the symptoms not abate in eight or ten hours after the bleeding, there will be great probability of obtaining relief by opening the temporal arteries, and suffering them to bleed freely. When the disposition to sleep is not removed by the first bleeding, the head should be blistered, and a rowel inserted under the jaw. With respect to the symptomatic staggers, which originate in a diseased condition of the stomach, a different treatment must be pursued. In this case medicines of a stimulating and antispasmodic quality have been strongly recommended; of this kind are salt of hartshorn, assafætida, ether, fætid spirit of ammonia, camphor, &c. &c. It appears, however, that an opening medicine is preferable, and for this purpose the following formulæ is recommended:

Aloes, 6 dr. Myrrh and ginger, of each, 2 dr. Castile soap, 3 dr. Simple mint water, 1 pint. Mix for one dose.

Its operation may be assisted by a clyster.—Should this not succeed in relieving the animal, it will be adviseable to have recourse to one of the three following formulæ:

No. 1. Fætid spirit of ammonia, 1 oz. Camphor, 1 dr. Mint water, 1 pint. Mix for one dose.

No. 2. Spirit of hartshorn, 1 oz. Powdered valerian, 6 dr. Mint water, 1 pint. Mix for one dose.

No. 3. Assafætida, $\frac{1}{2}$ oz. Camphor and salt of harts

horn, of each, 1 dr. To be made into a ball with syrup for one dose.

Purgative draft.—Succotrine aloes, 1 oz. Castile soap, 2 dr. Common salt, 4 oz. Water, 1 pint. Mix for one dose.

Bleeding, it has been before observed, is seldom proper in symptomatic staggers; but whenever the pulse is tolerably strong, and the disposition to sleep considerable, it should by no means be omitted.

No. 4. If a horse be strong, take, first, a pint of blood from the neck; and when you have done that, open one of the thigh veins, and from thence take a quart; if the disease be simple, this will cure him: but keep him afterwards to a moderate cleansing diet, and by degrees harden him with proper exercise; if he is weak, bleed him less in proportion. After which, we recommend the following clyster.

Boil two ounces of the *sortæ* of the liver of antimony, made into a fine powder, in five pints of beer; after five or six wambles, remove it from the fire, adding a quarter of a pound of butter, or hog's lard, and give it him two or three times, if he will bear it, and it will cure him; Rub him well down, and give him warm water during this course of physic.

No. 5. The signs of this disease are; The Horse will foam at the mouth white, and will seem dull-headed, and will have at that time a blue film over his eyes, and will wander much up and down: be sure to let him bleed on both his neck-veins, within one or two days after he complains, and in the third furrow in the palate of his mouth, with the point of a Cornet-horn: You may run an awl

into the gristles of his nose, something above his nostrils ; the bleeding at the mouth and the nose will ease the pain in his head. The cure is, take a handful of *Rue*, by some called *Herb-grass*, three cloves of *Garlick*, a spoonful of *Salt*, a spoonful of *Vinegar*, and two spoonfuls of *Aqua vitæ* ; bruise all these together well, and then put the one half into one ear, and the other half into the other ear, with a little wool after it ; put the liquor in with a spoon first, and then the herbs, and then the wool ; and then tie or stitch with a needle and thread the ears up very fast with two listing garters ; then presently fume him at the nostrils through a funnel with the stalks and peelings of *Garlick*, beaten in a mortar with *Mastick* and *Frankincense* mixed together ; of these make pellets as big as a bullet, and lay them upon a chafingdish of fresh coals, and the smoke will go up through the funnel into the head, and much comfort and cleanse the brain ; fume his head three times a day till you see him mend : At the same time beat *Redwood-seed*, which grows in Winter-corn, by some called *Poppy-seed*, very small, and give as much of the powder at each nostril as will lay upon a sixpence, in two half hornfuls of any beer ; do this every morning : Or thus, if you cannot get *Poppy-seed*, then give him white *Poppy-water*, which you may likewise have at the Apothecary's, and give at each nostril a spoonful and a half at each time ; it will make him sleep so soundly, that you may walk upon him from the head to the tail ; and he will not stir ; he will lay as if he were dead for a time ; his sleeping will mightily refresh him : After you have given it to him, you will see him, before he falls down, to buckle and sally, till at last he will tumble down.

Let him stand in a dark room and warm, where he may see no light; let him have bursten oats, and mashes of ground malt; let his drink be cold water; that which you put in his ears, must remain there twenty-four hours, and no longer: Put wool, flax, lint, or a rag after it; stitching is better than a garter, for that will make the hair come white.

Proved a rare cure.

No. 6. To know this palsey, the signs are these: it either will take him in the neck, that he cannot put his head to the ground, or in the after parts that he cannot rise; the sinews of his flank will be hard, if you feel them with your hand. The cure is thus: take six penny worth of the oil of *Peter*, and anoint the place grieved with it at one time, and dry it in with a hot iron. If you anoint the after part of him, then lay upon him the litter of a hot reeking *Muckhill*, and lay a cloth over that to hold it on, renewing it four times a day. If it be in the neck, after you have anointed it and dried it in, make a thumb band of the longest hottest dunghill-litter that you can get, and wind it round about his neck something loose, that he may eat and drink. Let the thumb-band be so long, that it may reach from his shoulders to his ears.

Proved.

No. 7: I met with some horses whose disorders were in effect a composition of the whole disorders as above. On a circumspect observation of their symptoms and signs, it did not appear that one particular of these was the cause, but that they were all united, and with sharp fits of an intermitting fever. They had been bad three days before I saw them, and had been bled in the neck; I immediately bled them in the mouth, and put some tar on their nos-

trils, and ordered them to be cloathed and kept warm; I ordered a friction of *goose-grease*, *vinegar* and *honey*, all melted together, and being hot, rubbed their poles and napes of their necks therewith very painfully; then added to this friction a little spirit of *turpentine*, and rubbed it well across their loins against the hair; then ordered a man with a good wisp of straw to rub them well for near half an hour; this cheared them a little, and began to set the blood and juices to work a little in their proper tone; then ordered some long dung to be got that would heat, and laid it on their loins, six or eight inches thick, and bound it close on: then I made a sovereign drink, of wild *comfry roots*, *elecampane*, *fennel-seeds*, *garlick*, a good quantity of *worm wood*, *ditany*, *spice-wood*, *bark*, *ginger*, *house-hold bread*, *butter*, *honey*, *rosin*, *molasses* and clear *cider*, prepared in the manner of the sovereign drink, for internal ailments, and gave it them: the same evening I used the aforesaid friction, rubbed them, changed their dung, littered them with straw to keep them warm, and left them till morning, when I saw that they would recover with proper care taken, and that in a few days, and the disorder in a great measure broke. I followed the same that day and the next, and the day after I bled them in the mouth again, still doing as heretofore; after three days I gave the drink but once in two days, but continued the rubbing and friction, and the dung, renewing it twice a day, and they perfectly recovered in a little time, beyond the expectation of every person that saw them; for every one concluded that it was not possible to recover them. There were other horses taken with the same disorder, which I was not with, but most of them died. Those

things seem to be nearly calculated for these disorders; bleeding in these cases once or twice, or three times, a little at a time, is of good effect; the friction is certainly good, as it clears the head and brain, opens the vessels, and causes perspiration in those parts; also strengthens the loins, and drives the disorder from the kidneys; the dung is a great help to the friction, as it keeps the loins and kidneys warm for the friction to do its office, and in a manner to draw part of the disorder and fever outwardly, which you may see by the dew on the loins when you renew your dung in its proper season; the drink is a strong antidote against poisonous qualities, or nourisher of feeble stomachs; a strengthener of weak lungs, nerves and arteries; the rubbing with the straw gives great circulation to the blood and juices, so that it mightily strengthens the limbs, and frees them from stiffness; I am quite of opinion, that these remedies will work a cure in any of those disorders. *Proved.*

N. B. Those disorders are infectious; therefore separate the sound from the sick, and rub tar on their nostrils and on their bridle-bits, and let them drink with it; tar being often a preventer of infections. You may fume with a match of brimstone.

No. 8. The signs are, dimness of sight and reeling and staggering to and fro, thrusting his head against the wall, and forsaking his meat. Take a long straight stick, about as thick as a pipe stem, smooth it well, and cut a notch at one end, then run it up to the top of his head, job a little hard, turn the stick and draw it out, and he will bleed freely. It is bad to cord him about the neck in this disease; when he hath bled well in the head, give him this

drink: an ounce of aniseeds, an ounce of turmeric, beaten small, half a gill of aqua vitæ, a pint and an half of mild beer, a pint of verjuice, or else a gill of wine-vinegar, heat them luke-warm, and give them to the beast in the morning before he drinks. As soon as you have given it, take a handful of rue, beat it small in a mortar, and a little aqua vitæ: put half the aqua vitæ into one ear, holding it upright in the hollow of your hand, and put half the rue after it, and put wool or tow to keep it in; tie up the ear with a woollen list or garter, and do the same with the other ear; tie up his ears with your list together, and at twenty fours hours end untie them, and take out the wool and rue: next morning let him blood on both sides the neck, save a pint of it, mix it with an handful of salt, and give it to the horse fasting: four or five hours after, give him sweet hay, and at night warm water and bran: after you have given him the first drink, tie up one of his fore-legs; strew good store of litter under him, and he will lie down and take his rest, and come to in a day or two, or else be soon dead: the vinegar will make him stale, and the aqua vitæ will make him sleep: if he comes not to his stomach, give him honey and white wine, and the cordial, as you are directed in the receipt for a dry surfeit. After any sickness, give him bran and peas, or bran and beans, when able to eat: when you let blood in the head with your cornet horn, let blood in the third furrow of his mouth, and let him bleed well, and let him blood in the gristle of his nose, with a long bodkin or awl.

Proved.

CHAPTER, XXI.

Diarrhæa or Purging.

This is not a very common disease in the horse, and seldom difficult of cure; it may be occasioned by a suppression of perspiration, or by an increased secretion of bile; from whatever cause it may proceed, give in the first place the following laxative ball, and if the disease does not cease in two or three days, let the astringent ball be given. Warm clothing is particularly required in this complaint, and exercise should not be neglected; his water should be moderately warm, and given frequently in small quantities. When a purging is accompanied with griping pains and fever, it is to be considered as a case of inflammation in the bowels, and treated accordingly.

Receipts for Diarrhæa or Purging.

No. 1.—*Laxative Ball.* Succotrine aloes, 4 dr. Powdered Rhubarb, 3 dr. Castile soap, 2 dr. To be made into a ball with Syrup for one dose.

No. 2.—*Astringent Ball.* Opium, 1 dr. Tartarised antimony, 3 dr. Powdered ginger, 2 dr. Syrup enough to form the ball for one dose.

No. 3.—Take a pint of red-wine, or claret, warm it and add an ounce of beaten cinnamon, and give it him a little warm: you may add the yolks of two new laid eggs: once or twice is a cure:—give him warm water at night, and cold water next day, and ride him upon it.

No. 4.—Take a quart of red wine and set it on the fire; then put into it an ounce and a half of Bole-armos-

niac, in fine powder, and two ounces and a half of the conserves of sloes; stir them well together; then take it from the fire, and add two spoonfuls of the powder of cinnamon: brew all well together, and give it to the horse. Let him fast two hours after it and eat no washed meat. Hay is good, so is bread and oats if well mixed with beans or wheat, but not else.

No. 5.—Take a little allum and bole-armoniac, finely powdered, put them into a quart of new milk, stir it till it comes to a curd, then give it to the horse with a horn. A pint of verjuice is very good for a sucking foal.

No. 6.—Take a quarter of a pint of *Verjuice*, and as much *Bole-armoniac* beaten to powder as a walnut; stir it well up and down in the *Verjuice*, and give it to the beast.

No. 7.—Our professors, or, perhaps with more propriety, our executors, generally manage it so as to kill the horse before they can remedy the disease. To their eternal shame, this is generally accomplished by their being over hasty in stopping the complaint; and as a plea for their ignorance, on opening the horse, they will endeavour to persuade you that his lungs were inflamed, or that his liver was quite rotten. The number of horses, whose deaths are the consequences of this injudicious and violent treatment, ought to deter every gentleman from trusting a favourite animal to such ignorant practitioners.

Instead of stopping the disease on a sudden, it should rather be encouraged by gentle purges, to render the discharge regular and uniform; afterwards the flux and acidity of the stomach (which is nothing more than a profusion of redundant bile) must be corrected and destroyed by degrees, with alkalis and absorbent medicines.

CHAPTER, XXII.

OBSERVATIONS ON THE URINE,

And Diabetes, or Excessive Staling.

The urine which is of a pale-yellow, rather thick, a strong smell, and sharp, is good sound urine: if on the contrary, the horse is out of order. If the urine be of an high red colour, like blood, then the horse has had too great heats, been over-ridden, or ridden too early after winter grass; if the urine be of a high clear colour, like old beer, then the horse is inflamed in his body, and hath taken some surfeit.

If the urine carry a white cream on the top, it shews a weak back, and consumption of seed.

A green urine shews consumption of the body. Urine with bloody streaks, shews an ulcer in the kidnies; and a black, thick urine, shews death and mortality.

This disease often proves extremely obstinate, and not unfrequently incurable; it is believed, however, that if attended to at its commencement, a cure may sometimes be effected without much difficulty. The complaint at first consists merely in an increased secretion of urine, the horse staling frequently, and in considerable quantity; the urine is generally transparent and colourless like water; at length he becomes feverish, the mouth feels dry, and he seems to suffer much from thirst; the appetite is diminished, and the pulse becomes quick; the horse is generally hide-bound, and gradually loses flesh and strength. Lime

water has been much recommended as a remedy for this disease; it is sometimes given, however, without any good effect. Some recommend diaphoretic medicines, from a supposition that it depends in a great measure upon a suppression of perspiration. Bark and other tonics have also been considered as useful remedies. A number of cases have speedily been cured by means of the following ball :

Receipts for Diabetes, or Excessive Staling.

No. 1.—*Ball for Diabetes.* Opium 1 dr. Powdered ginger, 2 dr. Yellow Peruvian bark, $\frac{1}{2}$ oz. Syrup enough to form the ball for one dose.

But these were all cases, not attended with fever, nor had the horses lost much strength or become hide-bound in any considerable degree, yet the disease was well marked, and would no doubt have produced all those symptoms, had it not been attacked as soon almost as it made its appearance. In all these cases the quantity of urine discharged was very considerable, the mouth was dry, and there appeared to be a constant thirst. It seems, therefore, highly necessary to attend to this disease at its commencement, since, if neglected at this period, it becomes extremely obstinate, and sometimes incurable.—Should the above remedy fail, try one of the following formulæ:

No. 2. Emetic tartar, 3 dr. Opium, 1 dr. To be made into a ball for one dose.

No. 3. Salt of hartshorn, 2 dr. Opium $\frac{1}{2}$ dr. Powdered ginger, 1 dr. Liquorice powder, 3 dr. To be made into a ball for one dose.

No. 4. Salt of steel $\frac{1}{2}$ oz. Myrrh, 2 dr. Ginger, 1 dr.
To be made into a ball for one dose.



CHAPTER XXIII.

Suppression of Urine.

Horses are often attacked with a difficulty in staling or making water, sometimes amounting to a total suppression of that excretion; this most commonly arises from spasms in the neck of the bladder, or from hardened excrement in the rectum or latter part of the intestines.

Receipts for suppression of Urine.

Let clysters of warm water be injected until all the hard excrement is discharged, then give the following ball.

No. 1.—Nitre, 1 oz. Camphor, 2 dr. Linseed or other meal, and syrup enough to form the ball for one dose.

☞ Should there be any appearance of fever, or should the horse appear to feel pain when the loins are pressed upon, it is probable that the kidneys are inflamed; in such cases the ball would be improper. (See inflammation of the kidneys.)

No. 2.—Take half a pint of white wine, an ounce of ivy-berries beaten to powder, let it steep in the wine all night, and give it to the horse in the morning fasting; do not heat it: ride him after it a mile or two, then tie him up to the rack for two or three hours after it. This is very

good for the wind-cholic, and to make a horse stale freely; do it every morning till you see him stale free; it will cleanse the kidneys, and is good for the stone and gravel. These berries must be gathered when they grow black, about Shrove-tide. You may put a handful of nettle-seed to the berries and wine. *Proved.*

No. 3.—Boil the size of a walnut of castile-soap in a pint of strong beer and give it him luke-warm, it will make him stale. *Proved.*

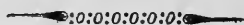
No. 4.—Take a pint of claret-wine and put into it an ounce of ivy-berries and one ounce of parsley-seeds beaten small, and give it him at any time: once doing is enough.

No. 5.—Boil in the water which your horse drinks, a good quantity of the herb called hog-fennel, or loveage, and it will cure him.

No. 6. Bleed largely without delay; then take *Castile* or *yellow soap*, two ounces; *nitre*, one ounce; *ginger*, in powder and *camphor*: divide this into two balls, and give one immediately; let it be repeated in two or three hours at farthest, if the first should not prove sufficiently successful. That not the least time may be lost, but relief given to the beast without unnecessary delay, the following *clyster* should be given him by means of a bag and pipe prepared for the purpose, all which might be going on at the same time: Take gruel, of moderate consistence, full three pints; *gum arabiac* and *nitre*, in powder of each one ounce; *oil of juniper*, two drachms; *liquid laudamum* half an ounce; *olive oil*, a quarter of a pint; incorporate these well together, and let it be injected something more than blood warm. That the obstruction or cause of diff-

culty in the urinary passages may be perfectly removed and restored to a proper tone, it will be adviseable to give one ounce of *gum arabiac*, and half an ounce of *nitre*, in the water which the beast drinks, every morning for a week or ten days, for the purpose of sheathing the passages that may have slightly suffered through the severity of the disease in its progression.

No. 7. Sometimes a horse cannot stale, and will be in great pain; to ease him, take half an ounce of anniseeds beaten fine in a mortar, one handful of parsley roots, boil those in a quart of old strong beer, and strain it off, and give it to him warm.



CHAPTER, XXIV.

WORMS.

There are three kinds of worms found in horses. The most common and mischievous reside in the stomach, and are named botts. They are of a reddish colour, and seldom exceed three fourths of an inch in length: at one extremity they have two small hooks by which they attach themselves, and the belly seems to be covered with very small feet; they are most frequently found adhering to the *insensible* coat of the stomach, and then they do not appear to cause any considerable uneasiness or inconvenience; sometimes, however, they attach themselves to the *sensible* part, and do great injury to this import-

ant organ, keeping up a constant irritation, and thereby occasioning emaciation, a rough staring coat; hide-bound, and a cough. Frequent instances happen of their destroying the horse by ulcerating the stomach in a considerable degree; and cases are recorded where they have penetrated quite through the stomach. It is astonishing with what force these worms adhere, and how tenacious they are of life; they have been found to resist the strongest poisons; nor is any medicine yet discovered fully capable of destroying them, or of detaching them from their situation. It seems probable that this worm, like the caterpillar, undergoes several changes; it is said to be originally a fly, which depositing its eggs in the horse's coat, causes an itching which induces him to bite the part: in this way he is supposed to swallow some of the eggs, which by the heat of the stomach, are brought to maturity, and produce bots. When the bots are fit to assume the chrysalis state, they are spontaneously detached, and gradually pass off with the fœces. This is the most rational account given of their production. It has been asserted that the fly from which bots are produced, crawls into the anus of horses, and deposits its eggs there; that the worms when hatched soon find their way *further up the intestines*, and often penetrate into the stomach. This account is literally copied by a late writer on Veterinary Pathology;* but it appears rather strange that any one who has considered the structure of the horse's intestines should for a moment give credit to it. It seems *impossible* indeed for this worm to crawl from the anus to the stomach; and as far as the best observations go, they are never found resid-

* Ryding's Veterinary Pathology.

ing in the intestines; sometimes, indeed two or three are found, but they are evidently proceeding towards the anus to be expelled.

Receipts for the Bots, and other Worms.

No. 1. Take yellow emetic mercury, 1 dr. Liquorice and linseed powder of each, $\frac{1}{2}$ oz. Syrup or honey sufficient to form the mass, and divide it into two balls.

The horse should be put upon a diet of bran before this medicine is given; after which, let him take one of these balls, and the other about forty hours afterwards, and when you have waited about the same time for the operation of the medicine, let the following brisk purge be given :

No. 2. Take Barbadoes aloes, from 6 to 8 dr. Calomel, 1 dr. Venice turpentine sufficient to form the ball.

☞ By paying proper attention to the operation of this medicine, we may be able to judge if it has the desired effect; but if, after it is over, we suspect there are still some worms remaining, a second course may be repeated in about a fortnight afterwards.

The next worm we have to describe is very slender, of a blackish colour, and seldom exceeds two inches in length; they are never found in the stomach, and very rarely in the small intestines, the largest part of the canal being generally the place of their residence; here they prove a constant source of irritation, occasioning loss of condition, a rough unhealthy looking coat, and frequently a troublesome cough. A variety of alterative medicines have been proposed for the destruction of these worms, and some of them are supposed to be infallible; it

is believed, however, that none of them are possessed of much efficacy, and ought not therefore to be depended upon.

The following are the alteratives to which we allude :—Savin, rue, box, æthiops mineral, antimony, sulphur, emetic tartar, calomel, and vitriolated quicksilver; the two last, if given with aloes, so as to purge briskly, and particularly the calomel, are excellent remedies; but given merely as alteratives, they do no good.

No. 3.—The following ball has been found very effectual; giving the preceding night from half a drachm to a drachm of calomel. The calomel mixed with the ball will be found equally efficacious; the former method, however, is generally preferred.

No. 4.—Succotrine, aloes, 6 dr. Powdered ginger, $1\frac{1}{2}$ dr. Oil of wormwood, 20 drops. Prepared natron, 2 dr. Syrup enough to form the ball for one dose.

☞ It is often necessary to repeat this medicine, but there should always be an interval of ten days between each dose.

The third kind of worm is of a whitish colour, frequently seven or eight inches in length, and generally found in the lower part of the small intestines. These worms are not so common as the other, but appear to consume a considerable quantity of chyle, or the nutritious part of the food; they may be got rid of by the same means that we have recommended for the small blackish worm.

We may always be satisfied of the existence of worms in the intestines, when a whitish or light straw-coloured powder is observed immediately beneath the anus. Giv-

ing one drachm and a half of aloes every morning until purging is produced, will sometimes destroy them.

You may easily ascertain whether your horse is troubled with worms, if you only observe his motions; for he will stamp on the ground with either of his fore legs, and frequently strike at his belly with his hind ones, which look somewhat swelled, or projecting, and feel rather hard; he will often look behind him, and at the same time groan, as if in very great pain.

There are several ways to destroy these creatures; but I would recommend the following ball, as being the most efficacious.

No. 5. Three drachms of *rhubarb*; half an ounce of *liquorice powder*; two ounces of *Æthiop's mineral*; honey, sufficient to form the ball.

No. 6. Take one gill of *Rum*, and add thereto two ounces of *Pilgrim's salve*, shake it well together, and give it to your horse; it is said to be a present cure.

No. 7. Take of red *pecipitate*, as much as will lay on a half quarter dollar, and work it up into pills with sweet *butter*, and give it the horse, and ride him after, and it will kill all the worms and botts. *Proved.*

An exceeding good drench for Bots and Worms, or a foul Stomach.

No. 8. Take an earthen pot, make a hole in the bottom and stop it with a spile; put in a little straw, and take about four or five lumps of white *dung* of a hen, and three pints of good *ashes*, as much *chimney soot*, and put all these into the pot; then put to it two quarts of hot *water*, cover the pot and let it stand one hour; take out the spile and

draw off the liquor; then take a pint thereof and add to it one gill of *hog's-lard*; give it to the horse blood-warm, and this drink will perfectly cleanse his stomach, kill the worms, and cause him to rope at the mouth abundantly. I would not advise it for a general drench, but in extreme cases.

Proved.

No. 9.—*For Bots, &c.* The signs are—the horse will be knotted under the upper lip; and when those knots appear to have yellow heads, he is far gone. He will be faint and sweat, standing in the stable, and sweat much at the roots of his ears, yet curable with a speedy remedy. But when he sweats at his fore bowels, and his breath smells very stong and hot, then there is danger of his never being cured. He will likewise, if not very bad, often rub his breech against a fence or post; look lean and jaded, the hair will stare; he won't thrive; often strike his hind feet against his belly; show signs of the cholick, lay down and stretch himself, get up hastily, and immediately feed greedily. These are the principal signs: The cure is, if not incurable. First bleed him plentifully in the mouth, so as he may swallow down a large quantity of blood; or for want of that, take three pints of *milk* and sweeten it well with *molasses*; then give it him blood-warm, and let him stand near an hour, so as the bots may loose their hold, which they will immediately do, and fill themselves with the blood, or milk and molasses; then get one pint of *lindseed-oil*, give him one half, and the other next morning: It is so safe, that you may ride him or work him immediately; this oil kills them in an instant: I have known the experiment often tried by dropping a bot or worm into it, and they instantly died:

It has been tried by other common oils, but the effect is not so soon, although it is believed that most oils will kill them, especially those that are of a close texture; therefore if you use this remedy alone, and that before your horse is too far spent, which by the signs before recited you may readily know, as being taken from observation and experience, you need not loose any creature with that disorder, and your horse will afterwards thrive in an extraordinary manner; so that it would not be amiss to give a horse thereof once or twice in a year, especially in the spring, just before he goes to pasture. Also it will purge away molten grease and gross humor in a great degree, and in a manner prevent disorders of the like nature; the nature of its working has been found by experience to be quick and free from trouble. The origin or breeding of the bots has gone through divers speculations; but an ingenious friend informed me, that their progeny is actually from the horse-bee in the summer season, and are some months before they come to maturity. The manner, he says, is thus: he having observed a horse to have voided a bot with his dung, immediately took part of the dung, with the bot, and some earth, and put all together in a glass tumbler, and covered the tumbler close, and by often viewing, he found its wings, legs, and all parts to form, spring and grow, until it became a perfect bee, and that about the time those insects are first seen. His opinion is, that the horse imbibes them from the number of knits those insects fix on their coats, by nibbing and gnawing themselves: The certainty of which way the horse receives them, I shall leave to the ingenious to judge, but recommend the above remedy as certain. *Proved.*

N. B. The decoction of *Savin*, and *Nitre* dissolved in it, well sweetened with *Honey*, will kill worms or bots in horses: This deserves to be ranked with some of the best for bots or worms, and is very safe for children that have worms. The decoction of *Savin* and hickory *Ashes* mixed with their feed, will both prevent their breeding and kill them.

No. 10. *Turmerick* and *Anniseeds*, of each an ounce, one penny worth of the flower of *Brimstone*, half a quarter of a pint of *Brandy* or *Aqua Vitæ*; beat the *Anniseeds* and *Turmerick* small, and then put all together into a pint and a half of strong *Beer*, except the *Brimstone*, and that lay upon the top of the horn when you are ready to give him the horn into his mouth: give this drink fasting, and let him fast four or five hours after it, and stand upon the bit; give him to drink warm water at night, the next day cold water; ride him after it; this drink will work pretty strong. If he has not been lately blooded, let him blood in the neck-vein, and in the third furrow of the roof of his mouth, with the end of your cornet-horn. This drink at once giving will kill the bots, and take him off his faintness, and much cleanse and purge him of tough gross humours in his body, upon which the worms do breed. *Culpepper* saith, that *Boxtree-leaves* are excellent good to kill the bots in horses; they are hot, dry and binding; you may put in a handful of them into this drink.

Proved.

No. 11. Take as much black soap as a walnut, as much flower of *brimstone* and a little *garlick* bruised; put these in a pint and an half of strong new *beer* or *sweet wort*; steep it all night, and give it to the beast next morning

fasting, and tie him up to the rack three or four hours after; then give him warm water and what meat you please.

Proved.

No. 12. Give him two ounces of *Æthiop's mineral* made into a ball, with an ounce of the powder of *anniseeds*, and a spoonful of *honey*.

N. B. But you must not give this to a mare with foal; you may bleed her in the roof of the mouth.

No. 13. Take a quart of new *milk*, and as much of the purest clarified *honey* as will make it extraordinary sweet; then being blood warm, give it to the horse very early in the morning, he having fasted all the night before; which done, bridle him up, and let him stand tied to the empty rack for more than two hours.

Then take half a pint of *white-wine*, and dissolve into it a good spoonful or more of *black soap*, and being well incorporated together (the horse having stood two hours as aforesaid) give it him to drink, and let him fast other two hours more after it, and the worms will void in great abundance.

No. 14. Take the soft downy hairs which grow in the ears of an horse, and which you clip away when you poll him, and the little short tuft which grows on the top of his forehead, underneath his foretop, and a pretty quantity of them, mix them well with a half gallon of sweet *oats*, and so give them to the horse to eat, and there is not any thing that will kill worms more assuredly.

CHAPTER, XXV.

Hide Bound.

This term implies a tightness of the skin, which feels as if it were glued to the ribs, the coat having at the same time a rough unhealthy appearance. This complaint is generally occasioned by worms, or want of attention in the groom ; it occurs sometimes, however, without any manifest cause ; in such cases give the alterative No. 1, every morning, until moderate purging is produced, and if this does not succeed, try the alterative No. 2, which is to be given every morning for eight or ten days, taking care to assist its operation by warm cloathing, good grooming, and regular exercise.

Alterative Balls.

No. 1. Succotrine aloes, 1 oz. Castile soap, 9 dr. Powdered ginger, 6 dr.

Syrup enough to form the mass, to be divided into six doses.

No. 2. Tartarized antimony, $2\frac{1}{2}$ oz. Powdered ginger, $1\frac{1}{2}$ oz. Opium, $\frac{1}{2}$ oz.

Syrup enough to form the mass, to be divided into eight balls.

No. 3. When a horse's skin sets so close to his ribs, that you can scarce raise it with your hand, he is generally said to be hide-bound. But I do not mean to call this any disease, as it may be easily removed by liberal feeding. If that should fail, you may then very reasona-

bly conclude that he labours under some internal disorder : in that case, recourse must be had to bleeding and purging.

No. 4. First let him bleed in the neck vein, then give him this drink ; take of *celandine* two handfuls ; if it be in the summer, the leaves and stalks will serve, but in the winter use the roots and all ; chop them very small, and take one handful of *worm-wood*, and *rue* as much, chop them likewise ; put all these into three quarts of strong beer, and boil them till it comes to a quart ; then take it off and strain all the moisture from the herbs ; dissolve in the liquor three ounces of *molasses*, and give it the horse fasting, blood-warm ; then for a week together rub all the horse's body over with *oil* and *beer*, or *butter* and *beer* against the hair. Let his diet be warm mashes of *malt*, or *bursten oats*, *rye* or *barley*, and he will soon recover.

No. 5. Let the horse bleed, and then give him to drink, three or four mornings together, a quart of new *milk*, with two spoonful of *honey*, and one spoonful of coarse *molasses* ; let his food be either sodden *barley*, warm *grains* and *salt*, or *homony* split in a mill ; his drink mashes.



CHAPTER, XXVI.

Surfeit and Mange.

Surfeit.—This absurd term is given by farriers to a disease of the skin, consisting in small tumours or knobs which appear suddenly in various parts of the body, some-

times in consequence of drinking largely of cold water, when the body is unusually warm : it appears frequently without any manifest cause. It may be easily cured by bleeding moderately, or giving a laxative ball ; sometimes, indeed, it goes off without any medical assistance. There is another disease of the skin of the same name, which is generally more obstinate, and attacks horses that are hide-bound and out of condition ; in this a great number of very small scabs are felt in various parts of the body ; the horse is frequently rubbing himself, and sometimes the hair falls off from those parts which he rubs. This complaint approaches to the nature of mange, and requires the same treatment, assisted by a generous diet, good grooming, and regular exercise.

Mange. This disease is seldom met with, except in stables where scarcely any attention is paid to the horses, and where their food is of the worst quality ; it is thought by some to be contagious, and may in that way attack horses that are in good condition. It is known to exist by the horse being constantly rubbing or biting himself, so as to remove the hair, and sometimes produce ulceration ; the hair of the mane and tail frequently falls off, and small scabs may generally be observed about the roots of that which remains. The mange is, we believe, a *local* disease, and requires only the following ointment or lotion for its removal ; in obstinate cases, however, it may be adviseable to try the effect of the following alterative :

Receipts for Surfeits and Mange.

No. 1.—*Mange Ointment.* Sulphur vivum, finely powdered, 4 oz. Oil of turpentine, 3 oz. Hog's lard, 6 oz. Mix.

No. 2. Oil of turpentine, 4 oz. Strong vitriolic acid, $\frac{1}{2}$ oz. Mix cautiously, and add train oil, 6 oz. Sulphur vivum, 4 oz. Mix.

No. 3.—*Munge Lotion*. White helebore powdered, 4 oz. boil in 3 pints of water to 1 quart, then add muriate of quicksilver, 2 dr. that has been previously dissolved in 3 drachms of muriatic acid.

No. 4.—*Alterative for Mange*. Muriate of quicksilver, $\frac{1}{2}$ oz. Tartarised antimony, 3 oz. Powdered anniseeds, 6 oz. Powdered ginger, 2 oz. Syrup enough to form the mass, to be divided into sixteen balls, one of which is to be given every morning.

Should they appear to diminish or take off the appetite, or create a purging, they must be discontinued two or three days.

No. 5.—*Surfeit*. Having first taken a pint of blood from the neck, give the purge prescribed for the *Molten Grease*, twice in nine days; and the ball (recommended for the *Molton Grease*,) every evening, except the day on which he takes the purge.

No. 6.—*Mange*. Most farriers lay so great a stress on bleeding, that they do it in almost every disease, right or wrong, but particularly in this; thinking that in the mange the blood is full of corruption, they immediately proceed to drain away, from various parts of the body, as the head, neck, palate, mouth, tail, and sometimes from the flanks and shackle veins all at once, until the animal spirits the horse possesses are wasted.

All that can be expected from bleeding in this distemper, is to lessen the quantity of it, which will make a free passage for the circulation of the juices, whereby the dif-

ferent secretions will be performed with considerably less friction : but do not suffer any man to bleed your horse in this distemper, unless it happens to be redundant in him.--- Therefore, the following medicine should be given.

No. 7.—Ball for the Mange. Cream of tartar, half an ounce; liquorice powder, half an ounce; flour of brimstone, one ounce; syrup of buckthorn, sufficient to form a ball. One of these balls may be given every morning on an empty stomach; and anoint the inflamed parts with the following ointment:

Flour of sulphur, and white hellebore, in fine powder, of each three ounces; quicksilver, half an ounce; oil of turpentine, two ounces; camphor, two ounces; hogs-lard, one pound; mix them all well together.

This ointment being rubbed on the inflamed parts once a day, with a woollen cloth, will destroy it in a very short time; but it is not at all necessary to rub the skin, to a rawness, before you apply the medicine; for that method, instead of doing good, not only excites much pain, but more frequently proves prejudicial.

No. 8.—Surfeit. If you ride hard, and go in hot, your horse will be off his stomach; then is your time to guard against a surfeit, which is always attended with the grease, the farcy, or both; the symptoms are, staring of the coat and hide-bound.

No. 9.—Staring of the coat will appear the very next morning. To prevent which, as soon as you dismount, rub him well, cover him, pick his feet, throw a handful or two of oats before him, and litter him deep. Go immediately and boil for a cordial, half a pound of anniseeds in a quart of ale, pour it upon half a pound of honey, into a

bowl or bason; brew it about, till 'tis almost as cold as blood, then give it (with a horn) seeds and all.

No. 9.—The Cure. Feed as usual; but keep him warm cloathed; give him warm water that night, and next morning. A mash will do well that night, and lest the cordial should not have force enough to carry off the surfeit, you must give him one of the following balls:

Half an ounce of Æthiops mineral; ditto of balsam of sulphur terib; ditto of diapente* or powdered aniseeds, mixed and made into a ball with honey or treacle. You may give him a pint of warm ale after it.

To prevent stiffness, supple and wash his legs with greasy dish wash, or water and soap, as hot as a man can bear his hand in it, with a dish clout (by no means take him out of the stable that night) and grease his hoofs.

**To make Diapente.* Take a quarter of a pound of Aristolochia, a quarter of a pound of myrrh, half a pound of bay berries, the outward husk-peeled off, two ounces of white ivory, two ounces of hartshorn; the round root of Aristolochia is the best, cut the outward rind and grate it small, do not dry it, but after you have grated it, beat it small by itself, or with the other things, in a mortar, then put them into a fine sieve and searse the finest out; then put the biggest into a mortar again, and beat it very small, then searse the finest from that, and so do till you have made all very fine, then put it into a bladder, and keep it for your use. You may give an ounce of this at a time, altho' you give other things with it. An ounce of diapente is a good drink in a pint of strong beer, for a new taken cold.

Proved.

CHAPTER, XXVII.

Grease, or Scratches.

This disease consists in an inflammation, swelling, and consequent discharge from the heels, the matter having a peculiar, offensive smell, and the heels being sometimes in a state of ulceration; the swelling frequently extends above the fetlock joint, sometimes as high as the knee or hock. When the inflammation and swelling are considerable, apply a large poultice to the heels (see Poultice,) taking care to keep it constantly moist, by adding to it occasionally a little warm water; at the same time let a dose of physic be given. After three or four days the inflammation and swelling will have abated considerably, the poultice may then be discontinued, and the astringent lotion applied five or six times a day. Should the heels be ulcerated, apply the astringent ointment to the ulcers; and if they are deep and do not heal readily, wash them with the detergent lotion previous to each dressing. Regular exercise is of the highest importance, but it is necessary to choose a clean and dry situation for the purpose.

In slight cases of grease, the astringent lotion and a few diuretic balls will generally be found sufficient to effect a cure; but when the disease is of long standing, and particularly if the horse has suffered from it before, there will be more difficulty in its removal; in such cases the following alterative powder may be given in the corn every day until it produces a considerable diuretic effect; in very

obstinate cases rowels in the thigh have been found useful.

Though the grease is most commonly occasioned either by high feeding and want of exercise, or by neglect in the groom, there are cases which seem to depend on general debility. A horse is rendered more susceptible of it by being in a state of weakness, and the complaint sometimes owes its continuance to this cause. When a horse has suffered much from this disease, and particularly if he appears to be weak and out of condition, a liberal allowance of corn will tend to recover him, if assisted by the astrigent lotion and careful grooming; in cases of this kind exercise is essentially necessary. It must be obvious that when this disease depends upon debility, a dose of physic would not be an eligible remedy, yet considerable benefit has sometimes been obtained by giving the following alterative every morning until the bowels are moderately opened.

Receipts for the Grease or Scratches.

No. 1.—*Alterative ball.* Succotrine aloes, 1 oz. Castile soap, $1\frac{1}{2}$ oz. Powdered ginger and myrrh, of each, $\frac{1}{2}$ oz. Syrup enough to form the mass, to be divided into six balls.

This medicine, though of an opening quality, will improve the horse's strength, and at the same time promote absorption.

No. 2.—*Alterative powder.* Powdered rosin and nitre, of each, 4 oz. Mix, and divide into eight doses. Give one daily.

Nothing tends so much to prevent grease and swelling of the legs, as frequent ha rubbing, and wash-

ing the heels carefully with soap suds, as soon as a horse comes in from exercise. In inveterate cases of grease, where the disease appears to have become habitual in some degree, a run at grass is the only remedy; if a dry pasture be procured where a horse can be sheltered in bad weather, and fed with hay and oats, it will be found extremely convenient, as in such circumstances he may perform his usual labour, and at the same time be kept free from the complaint. In obstinate cases the mercurial alterative will be of service, giving one ball every morning until the bowels are opened.

No. 3.—*Astringent lotion, or wash.* Alum powdered, 1 oz. Vitriolic acid, 2 dr. Water, 1 pint. Mix.

No. 4. Alum powdered, 4 oz. Vitriolated copper, $\frac{1}{2}$ oz. Water, $1\frac{1}{2}$ pint. Mix.

¶ The strength of these lotions often requires to be altered; where the inflammation and irritability of the part are considerable, they must be diluted with an equal quantity of water: but if the inflammation is subdued, and a swelling and ulceration remain, the alum solution cannot be made too strong.

No. 5.—*Astringent ointment.* Gun powder 1 oz. Butter, 2 oz. Mixed and made fine and smooth by the point of a knife or spoon.

Apply the ointment twice a day, the heels to be washed perfectly clean with strong soap suds at least twice every day; this is a most efficacious remedy, and may even be used upon a journey with almost certain success.

No. 6. Venice turpentine, 1 oz. Hog's lard, 4 oz. Alum, finely powdered, 1 oz.

No. 7.—*Mercurial alterative.* Calomel, $\frac{1}{2}$ dr. Alvert 1 dr. Castile soap, 2 dr. Oil of juniper, 30 drops. To be made into a ball with syrup for one dose

No. 8.—If your horse's legs be swelled because the grease is fallen into them, and there is no outward ulcer, neither will the bathing with cold water and other outward helps assuage it:—then take a piece of coarse woollen cloth, and make a hose somewhat larger than his leg, to reach from the lower part of his pastern up to his cambril or knee, and make it close and strait at the pastern, and wide above. Then take half a gallon of wine-les, or else the grounds or lees of strong beer, set them on the fire, and boil them well; then put to them a pound of clean hog's grease; when melted and stirred well together, take as much wheat-bran as will thicken it, and bring it to the body of a poultice: with this poultice as hot as the horse can bear it, fill the hose, and close it at the top.

Let the horse stand two days; the third day open the hose at the top, but stir not the poultice, only take molten hog's grease, hot as the horse can suffer it, and with a spoon pour it into the poultice on every side, till it will receive no more: this will renew the strength of the poultice: then close up the top of the hose, and so let the horse stand two or three days. You may then open the leg and rub it down, and if you find great occasion, you may apply a new poultice; if not, your cure is wrought.

No. 9.—Now, if besides the swelling in the legs, your horse hath ulcers, or chaps, or scratches, pains, mules, and the like; then you shall apply the former poultice in all res-

pects as aforesaid : after five or six days application, when you take the poultice away, take a quart of old urine, and put to it half a handful of salt, as much of alum, and half an ounce of white copperas, boil it till all be mixed and incorporated together ; then with this water very hot, wash the sores once or twice a day, and after a little drying, anoint them with the ointment called egyptiacum, made of eight ounces of vinegar, twelve ounces of honey, two ounces of verdigrease, an ounce and a half of alum, boiled to that height till it comes to a red salve ; it will both kill the malignant humours, and heal and dry up the sores.

No. 10.—Take eight ounces of hog's grease, of brimstone, lime, gunpowder, each three ounces, eight ounces of black soap, and as much soot as will suffice to bring them to a salve ; boil the hog's grease and soap together, and bring the other hard simples to a fine powder, and so mix all together, and make a black ointment : with this anoint the sores once a day, after they are cleansed and made raw.

No. 11. Take train oil, nerve oil, oil of bays, of each half a pint, and the size of an egg of alum :—boil them well together ; and having cleansed the sores, and opened the poultice, if there be any, with this salve, anoint the place. It is a speedy cure.

No. 12. Take a small quantity of verdigrease, red lead, and soap ; mix them together and apply it : let it lie three days and nights.—You must cut the hair close. Or, Take soap and salt, mix them together in your hand, keep his feet dry, and tie a linen cloth about them, it will

cure them. *Or*, Take verdigrease and burnt alum, mix them together and apply it, keeping the horse dry.

Proved

No. 13. Take a lump of black soap, a little fresh hen's dung, five or six oyster-shells put into hot embers all night, and beaten to powder: mix all these together as an ointment, and apply it to the horse's sore heels every morning and evening; the horse must not go into the water until you see he is cured. Always rub his heels very clean before you rub in the ointment, and you will find it a certain cure by two or three dressings.

No. 14. At night let his heels and legs be bathed in beef broth, next morning rub his legs clean and apply this ointment to heal it. Take a little of gilts grease, speck-oil, verdigrease and tran-oil, put them all into a pipkin, set them on the fire, and stir them till they be melted; once a day anoint him with this ointment, till his heels be well; chafe it and rub it in with your hands, and keep him out of water and dirt till he be cured.

No. 15. If your horse's legs swell, especially in the month of March, ride him into some rapid water up to the mid-leg, and let him stand a quarter of an hour; then when you set him up in the stable, take a whip and a pail of water, and dash the water against his legs till they be clean.—This will cure when they are not broke out, but only swelled.

Proved.

No. 16. Take a pail of fair water, wash his legs clean, and clip away the hair close to the skin as far as his legs are crannied, then wash his legs again, and let him stand till they be dry: take half a pound of honey, an ounce of ground pepper, ten heads of garlic, put them into a bowl

and beat them together till they come to a salve. If the scratches be on both legs, divide the salve into two halves, lay them on two half sheets of grey paper, spread a broad piece of linen over the paper, and lay the plaisters to the hinder part of his legs where the sores are, and sew them on fast, and close in the fet-lock, and as far up as his legs are scabby, and let them stay on two days: make a small thumb-band of hay, and wind it all over his legs and over the plaisters. At two days end, wipe the chaps of every cranny and crack in his heels, then lay on a plaister, and do every thing as before: at two days end lay on another fresh plaister, and let it remain three days; and when you take that off, if you see necessary, lay on a fourth plaister; and let it stay three days more; and by thus dressing it will dry quite up and be whole. Let him not go into the water all the time of his cure. If one or two of the pocky farcy drinks were given; it would much further the cure, and dry up those humours in the body which feed the scratches in the legs. *Proved.*

No. 17. Clip away the hair, then rub the sores till they be raw, wash them with old urine, alum and salt, as hot as possibly it can be borne; then take the tops and buds of elder and green brier-berries, and boil them in $\frac{1}{2}$ gallon of sweet wort, and add a good store of alum, being very hot; wash his legs two or three times, and it is a certain cure.

No. 18.—*Colds, glanders, sickness, molten grease, loose stomach, fainting; also to make a horse fat.* Take of *aniseed*, of *cumming-seeds*, of *fenugreek-seeds*, of the fine searsed powder of *elecampane* roots, of each two ounces, beaten and searsed to a very fine dust; then add to them two ounces of brown sugar candy beaten to powder, and

two ounces of the *flour of brimstone*; then take an ounce of the best juice of *liquorish*, and dissolve it on the fire in half a pint of *white wine*: which done, take an ounce of the best chymical oil of *aniseeds*, and three ounces of the syrup of *colts-foot*; then of *sallad oil*, of fine live *honey*, and the purest syrup of *sugar* or *molasses*, of each a half pint; then mix all these with the former powders; and with as much fine *wheat flour* as will bind and knit them all together: work them into a thick paste, and make thereof balls somewhat bigger than French walnuts, hulls and all; and so keep them in a close gally-pot, for they last all the year; yet I do not mean that you should keep them in the pot in balls; for because they cannot lie close, the air may get in and do hurt, as also the strength of the oils will sweat outward, and weaken the substance; therefore knead the whole lump of paste into the gally-pot, and make the balls as you have occasion to use them.

Now for the use of these balls, because they are cordial, and have divers excellent virtues, you shall understand, that if you use them to prevent sickness, then you shall take one of these balls, and anoint it all over with sweet butter, and so give it to the horse in the morning, in the manner of a pill; then ride him a little after, if you please; otherwise, you may chuse and feed, and water him abroad or at home, according to your usual custom; and this do three or four mornings.

If you use them to cure either cold or glanders, then use them in the same manner for a week together.

If you use them to fatten a horse, then give them for a fortnight together.

But if you use them in the nature of scouring, to take away molten grease or foulness, then instantly after his heat, and in his heat, you must use them.

Again—if you find your horse at any time hath taken a little cold, as you shall perceive by his inward rattling; if you take one of these balls, and dissolve it in half a pint of *sack*, and so give it the horse with a horn, it is a present remedy.

Also to dissolve the ball in his ordinary water, being made milk-warm, it worketh the like effect, and fatteneth exceedingly.

To give one of these balls before travel, it prevents tiring; to give it in the height of travel, it refresheth weariness; and to give it after travel, it saves a horse from surfeits and inward sickness.

For a sudden great Heat, as in Hunting, Racing, or hard Riding, that the Horse's Grease is melted.

No. 18.—This you shall know by the panting of the horse that night he comes in so hot; for if he be over-ridden and his grease melted, you shall know it by the panting at the breast and girding place, and heaving at the flank: you shall see the night he comes in, and the next day morning, that his body will be mighty hot. For remedy, take and give this to purge him and cleanse him, and to qualify the heat and working of his body: Take one pint of *sack*, and put to it one ounce of *diascordium*, beaten small—mix them together, and give it to the beast at any time cold, but in the morning fasting, is the best; give him warm water for three or four days after: give him bursted *oats*, boiled *barley*, and mashes made of

ground malt; keep him well littered, and clothed warm. If he forsakes his meat, and you see he hath lost his stomach, to bring him to his stomach again give him two ounces of *honey*, and half a pint of *white wine* mixed together, and heated blood warm. In the morning after he hath drank cold water, you may give it him with a horn: it will make him stale, clear his bladder, and bring him to his stomach again. After you have given him it, ride him a mile or two gently, and set him up warm; at night ride him a mile or two again, and litter him well, and keep him warm. Thus do for three or four days, or a week; at three days end, give him the wine and honey as you were before directed. If you see notwithstanding all these means used, that he will not fall to his meat, and that he is bound in his belly, and dungs very small, then give him this cordial two or three times, two or three days betwixt each cordial giving. Take three pints of stale *beer*, household brown *bread*, the quantity of half a penny loaf; boil these two well together, then take it off the fire, and put into it a quarter of a pound of *honey*, and a quarter of a pound of fresh *butter*: give him this cordial blood-warm fasting, and ride him a mile or two every evening and morning, as well when you do not give it to him, as when you do; ride him fairly, and clothe and litter him up warm: this cordial will bring him to his stomach, and cause him to be loose-bodied, and dung soft, although he be weak, and have little or no stomach. Four or five hours after his cordial, the first thing you give him, boil him half a peck of *oats* and a pound of *fennugreek* together in water till they be burst, and the water wherein these were boiled, pour it from

the oats into another pail, and put some cold water to it; and when he drinks, let him drink of this water; for the *oats* and *fennugreek*, throw some of them into the manger hot, and if he be loth to eat them, then strew some *wheat bran* upon it, and it is very likely he will eat all together. This course taken in every particular, will bring your horse to a stomach, and raise him suddenly.

A fortnight or three weeks after he is thus melted, and that you have given him the former things, to give him this purge of *aloes*, will do the beast a great deal of good in this case: I am confident it is good. Or give him as much of the powder of *mechoacan* as will lie upon a shilling, at three or four times: that is very good in a pint of *wine*, or a quart of strong *ale*. *Proved.*

No. 19.—*A purgation, when any horse is sick of his grease, or any costiveness.* Take a pint of good old white-wine, and set it on the fire; then dissolve into it a lump, half as big as a hen's egg, of castile-soap, and strain them well together on the fire: then take it off, and put into it two good spoonful of hempseed, beaten into fine dust, and an ounce and a half of the best sugar-candy beaten to fine powder, and brew all well together. Then having warmed the horse, to stir up the grease and other foul humours, give him this to drink, and walk him up and down a little after it, to make the potion work; then set him up warm, and after a little stirring up and down in the stall, if he grows sickish, give liberty to lie down. After two or three hours fasting, give him a sweet mash, then feed as at other times.

No. 20.—*For grease, fallen into the legs, to help them at twice dressing, and to help the scratches.* Take of train oil,

of nerve oil, of oil de bay, of each half a pint, and the big-
ness of an egg of alum; boil them all together; then having
cleansed the sores, and opened the poultice, if there be any,
with this salve anoint the griefs, and it is a speedy cure.

No. 21.—For to cure the scratches. Take soap and salt,
and mix them together in your hand, and keep his feet dry,
and tie a linen cloth about them, and it will cure them.

Proved.

No. 22.—Another. Take verdigrease and burnt alum,
mix them together, and so apply it, keeping the horse dry.

Proved.

No. 23. I would recommend to those who have conve-
nience, of the most safe and certain remedy for this disorder,
to turn their horses into good pasture for two or three
months, as that has been known to cure when all other
methods have failed. But to those who have not that
convenience, I prescribe the following medicine.

No. 24.—A purge for the Grease. Succotrine aloes,
two ounces; rhubarb, three dr. calomel, two dr. oil of
aniseed, sufficient to make a paste. Divide it into two
balls.

After you have given both these balls, between which
the space of four days should intervene, one of the follow-
ing diuretics should be given every morning.

No. 25.—Diuretic Ball for the Grease. Saltpetre, four
ounces; nitre, two ounces; yellow rosin, four ounces; cas-
tile soap, two ounces; salt of tartar, two ounces; honey
sufficient to make the whole into a paste. Divide it into
seven balls, and give them as above.

The hair must be constantly cut close about his swelled
heels, which must be kept very clean by frequently wash-

ing them with yellow soap and water; and when dry, rub in the following, twice or thrice a day.

No. 26.—*A bath for greasy heels.* To one pint of the spirit of wine, put one ounce of camphor.

No. 27.—*The horse ointment.* Put into a clean pipkin, that holds about a quart, the bigness of a pullet's egg of yellow rosin; when it is melted over a middling fire, add the same quantity of bees-wax; when that is melted, put in half a pound of hog's lard; when it is dissolved, put in two ounces of honey; when that is dissolved, put in half a pound of common turpentine; keep it gently boiling, stirring it with a stick all the time; when the turpentine is dissolved, put in two ounces of verdigrease; you must take off the pipkin (else it will rise into the fire in a moment,) set it on again, and give it two or three wambles, and strain it through a coarse sieve, into a clean vessel for use, and throw the dregs away.

There is an extraordinary ointment for a wound or bruise in flesh or hoof, broken knees, gaul'd backs, bites, cracked heels, mallenders, or when you geld a horse, to heal and keep the flies away; nothing takes fires out of a burn or scald in human flesh so soon; I have had personal experience of it. I had it out of *Degrey*, but finding it apt to heal a wound at the top, before the bottom was sound, I improved it, by adding an ounce of verdigrease.

No. 28.—*Swelled and cracked heels.* If his legs and heels should swell and crack, and become stiff and sore, so that he can hardly be got out of the stable in the morning, and perhaps did not lie down all night; you may travel on, but walk him for the first mile or two very gently, till the swelling falls, and he begins to feel his legs.

No. 29.—*Cure.* When you end the day's journey, wash his sore legs with warm water, and a great deal of soap; or foment his heels (first cutting away the hair very close) with old urine, pretty warm, for a quarter of an hour; by dipping a woollen cloth, or an old stocking into the urine, squeezing it, and then applying it to the part affected, having first well washed it with the urine. You may then prepare the poultice as follows :

Make a poultice of any sort of greens, such as lettuce, cabbage, mallow leaves, turnip tops, or turnips themselves, the best of all; boil them tender, squeeze the water out, chop them in a wooden bowl, with two or three ounces of hog's lard or butter; put this poultice into a cloth, and tie it on hot as soon as it can be got ready, letting it stay on all night. Feed him as usual, and offer him warm water in the house. About nine or ten o'clock (that is, an hour or two after he is put up for all night, and fed) give him a ball.

No. 30. If a horse's legs and heels swell and crack, and become stiff and sore, wash them with hot water and soap; then prepare the foregoing poultice, and tie it on hot, letting it stay on all night.—Feed him as usual, and offer him warm water. About three or four hours after he is put up for all night, and fed, give him the following ball :

Half an ounce of *Ethiop's mineral*; ditto of balsam of sulphur terib; ditto of diapente, or powdered aniseeds, mixed and made into a ball with honey or treacle, and a pint of warm whiskey and water, beer or ale after it: and, in the morning, give him water in the stable, on account of the ball. A day or two after, take a pint of blood from his neck.

CHAPTER XXVIII.

Mallenders and Sellanders.

When a scurvy eruption appears on the posterior part of the knee joint, it is termed *mallenders*; and when the same kind of disease happens on the interior of the hock joint, it is named *sellanders*.

No. 1. Should these complaints occasion lameness, it will be proper to give in the first place a dose of physic; let the hair be carefully clipped off from the diseased part, and let all the scurf be washed off with soap and warm water; a cure may then be soon effected by applying the following ointment twice a day.

No. 2. *The ointment.* Ointment of wax or spermaceti; 2 oz. Olive oil, 1 oz. Camphor and oil of rosemary, of each 1 dr. Acetated water of litharge, 2 dr. Mix.

No. 3. Ointment of nitrated quicksilver; olive oil, of each, 1 oz. Mix.

No. 4. Oil of turpentine, $\frac{1}{2}$ oz. Vitriolic acid, 1 dr. mix cautiously, and add of oil of bay, 3 oz. Mix.

No. 5.—*Mallender.* The mallender is a crack in the bend of the knee, it oozes a sharp humour like that at the heels or frush; a horse dare not step out for fear of tearing it wider; it is so painful it takes away his belly; it makes him step short, and stumble much.

The same method, medicine, greasing and poulticing (which you used for swell'd or crack'd heels,) will cure it.

No. 6. *Sellander and cure.* The sellander is a crack in the bend of the hough; and must be cured with the same things, and after the same manner.

No. 7. *Mallender.* First clip away the hair which grows upon it and about it; then rub the scabs off with a hair-cloth, or the back of your scissors and knife. This rubbing of it will cause it to run yellow matter. Take a linen cloth, and wipe away the filth clean; then take four penny-worth of the oil of riggrum, and mix it with a little of your own dung, and lay it on with a flat stick upon a linen cloth, and bind it to for a week: then make it clean, and dress it again—and it is a cure. After your first dressing, you may ride him or turn him out. *Proved.*

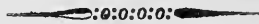
No. 8. First rub it dry with a cloth, then anoint it with crown-soap and red mercury precipitate, mixed together; when you have anointed it once, pluck the hairs which grow in it, and upon the edge of it, out; then dress him three times more, once in two days dress it; then anoint it with salad oil, and it is cured. But always before you anoint it; you must rub it dry. *Proved.*

No. 9.—*Mallenders and Sellanders.* If but newly observed, frequent washing with thin gruel, and rub it daily, with equal parts of camphorated spermaceti ointment, and mercurial mixed together: this may effect a cure; but if it is of long standing, a cure can only be expected by washing it often with the above gruel, and rubbing it daily with mercurial ointment.

No. 10.—*Of the mallender, sellander, pains, scratches, mellet, mules, crown-scabs, and such like.* For any of these you shall take verdigrease and soft grease, and grind them together to an ointment; put it into a box

by itself; then take wax, hogs-grease and turpentine, of each a like quantity; melt them to a salve, and put them in another box; then when you come to dress the sore, after you have taken off the scab and made it raw, you shall anoint it with the green salve of verdigrease and fresh grease only, for two or three days; it is a sharp salve, and will kill the cankerous humour: then when you see the sore look fair, you shall take two parts yellow salve, and one part green salve, mix them together, and anoint the sore therewith till it be whole, making it stronger or weaker, as you shall find occasion.

No. 11.—Take a sponge, and wash the part with copperas water; then apply the green ointment, twice every day, which is a complete cure for the mallenders.



CHAPTER, XXIX.

GLANDERS.

This is believed to be a contagious disease, and has hitherto proved incurable. The most essential thing to be known with respect to the glanders, is the method of preventing its being communicated to sound horses; and the appearances by which it may be with *certainty* distinguished from other diseases. The symptoms are, a discharge from one or both nostrils, and a swelling of the glands under the throat: if one nostril only is affected, it generally happens that the swollen gland is on the same

side of the throat: sometimes the disease remains in this state for a considerable time, at others the discharge increases, becomes of a greenish colour, and very foetid; ulceration takes place within the nose, and the swollen gland becomes harder, and feels as if closely attached to the jaw bone. A cold has sometimes been mistaken for the glanders, but may very easily be distinguished from it. In colds, there is generally a certain degree of fever, the eyes appear dull or watery, the appetite is diminished, and there is almost always a cough. If the glands of the throat should swell, they are not so closely attached to the jaw bone, as in the glanders, but feel loose and moveable under the skin; they are also generally in a state of active inflammation, feeling hot, and softer than in the glanders: in colds, both nostrils are almost always affected; in the glanders, it frequently happens that the discharge is from one only. In colds, the nostrils are never ulcerated—in glanders, it always happens, though at different periods of the disease; sometimes ulceration takes place at its commencement, at others a month or two may elapse before it can be perceived. The strangles has been sometimes mistaken for the glanders or sore throat, but in this disease the inflamed glands very soon suppurate and burst, whereby all the other symptoms are generally removed; whilst in the glanders the glands seldom or never suppurate: in order, however, to avoid all danger, it is advisable, the moment a horse is perceived to have a discharge from his nose, to put him into a stable where he can have no communication with other horses.

Receipts for the Glanders.

No. 1. If the glands of the throat are enlarged and inflamed, apply a large poultice to them, steam the head three or four times a day, let him be well clothed, particularly about the head, and give the fever powder, No. 2, every day, or once in twelve hours. Should the discharge arise from a cold, it will soon be removed by these means. When considerable ulceration is perceived in the nose, with the other concomitant symptoms of the glanders, the horse should be destroyed instantly.

☞ The most effectual mode of purifying stables in which glandered horses have been kept, is to remove, or carefully wash every thing on which the horse may have deposited any matter; and afterwards to cover every part of the stable with a thick coat of lime and size.

No. 2. Bleeding and purging are the only methods likely to afford relief in this case; and not even these, unless resorted to before there becomes too great a discharge.

☞ The following purging ball has been found beneficial in this distemper.

Take one ounce of Barbadoes aloes, three drachms of rhubarb, one drachm of ginger powder, and half an ounce of iron filings; put them into a mortar, and mix them all well together, with a sufficient quantity of brandy to make it into a paste. Divide it into two balls, and give one in the morning fasting; the other ball may be given the third morning.

The food should chiefly consist of good sweet old hay, and the oats should be ground. Mashies are very neces-

sary in this distemper; as also warm water with oat-meal in it.

One ounce of tar, and one ounce of honey, dissolved in a quart of ale, may be given three or four times a week.

No. 3.—A drink to dissolve and bring away the glanders. Take of *sweet wine*, one quart; or for want thereof, strong beer; figs, four ounces well sliced; and two ounces of sliced liquorice; boil them well together, then put in ginger in powder, elecampane and pepper in powder, of each one drachm: When it is boiled enough, put in of treacle five ounces, and of butter the same quantity, and the yolks of two new-laid eggs beat well together; give it to the horse lukewarm, and order him as needful.

No. 4.—A drink to bring away the glanders, when other drinks have rotted them, and brought them to suppuration. Take the best white wine vinegar, and the sharpest; put in it three whole eggs; let them lie twenty-four hours; then beat them well together, shells and all, and give it to the horse. You may do so two or three mornings, more or less, as you may find occasion; and this will clear off the glanders.

No. 5.—Of the running glanders, or mourning of the Chine. Take of auripigmentum, two drachms; of tussilaginis, as much made into powder; then mix them together with turpentine till they be like paste, and make thereof little cakes; dry them before the fire; then take a chafingdish of coals, laying one or two of the cakes thereon; cover them with a funnel; and when the smoke ariseth, put the funnel into the horse's nostrils, and let the smoke go up into his head; which done, ride him till he sweats; do this once every morning before he be water

ed, till the running at his nostrils cease, and the kernels under his chaps be lessened.

No. 6.—An approved cure. Take a quarter of a pint of verjuice, three spoonful of salad oil, and two spoonful of Aqua vitæ; put one half into one nostril, the other into the other nostril, being blood-warm; then ride the horse somewhat speedily for twenty or thirty rods, and only spare him when he coughs; then set him up warm, and at noon give him a warm feed. Lastly, if you find him grow sick, give him warm milk from the cow.

No. 7. A preparation before you give the black drink for the glanders. First take blood from him, if you find it gross or phlegmatick, for otherwise he cannot possibly mend; then instead of oats, give him every morning about four or five o'clock, wheat-bran prepared, for four or five days together, and the water to drink that the bran is sodden in, which is to qualify and dry up the moist and bad humour abounding in him; and then let him bleed in the neck, if you have not before. The next day rake him with your hand, and then give him this clyster. Make a decoction of mallows one pint and an half, and put into it four ounces of fresh butter, and of salad oil a quarter of a pint: administer it blood warm, with a strap of leather tied to his tail and put between his legs, and the other end fastened to the sursingle, so strait that the tail may be close to his towel or fundament, that he cannot purge till it be loosened: this done, mount his back, ride him gently an easy trot or foot-pace for half an hour; then set him up cloathed and littered, with the bit in his mouth three hours, during which time he will purge kindly; then give him white water and hay, and at night a little

oats, for he must be kept to a spare diet: The next day mix well together the powder of brimstone and fresh butter, and anoint all along with two goose feathers, and run a thread through each of their quills' ends, that you may fasten the thread to the top of the head stall of his bridle, and run them up as high as you can into each nostril, and so ride him an hour or two, and this will purge his head and lungs, and cause him to send forth much filthy matter; but when you set him up, take them out, and an hour after give hay and white water, and bran prepared, which is mentioned in the beginning of this receipt: the next day give him his clyster again, and let him rest for that day, but ordered in all things as before; the next day use the goose feathers again, and order him as you did before: all this is but to prepare him for the following drink; but you must observe to keep him always warm, and let him be ever fasting and empty, before you give him any physic, and air him evening and morning if the sun shine, or if the weather be warm or calm: then three days after, give him this drink called the black drink.

The black drink for the Glanders.

After having prepared your horse in the foregoing manner, take new-made chamber-lic, and of the best and strongest white-wine vinegar, of each half a pint; then take of mustard-seed two or three spoonsful, and make mustard thereof with vinegar, and grind it well; then put your vinegar and chamber-lic to the mustard, and stir them well together; then take of tar and bay salt of each alike, as much as may suffice, incorporate them well together, and fill two or three egg-shells therewith. Having prepared these things, keep him over night to a

very spare diet, and the next morning take and ride him first till he begins to sweat, then give him the egg-shells filled with tar and salt, as before prescribed; and as soon as he hath taken that, give him with a horn the aforementioned drink made of chamber-lie, vinegar and mustard, all at the mouth, except two small hornsful which must be poured into his nostrils; which, when he hath taken, ride him again as much as you did before, set him up, and cloathe and litter him warm, and so let him stand upon the bit till three or four o'clock: then unbit, and give him a warm mash, and order him in all things, as is usual for horses taking physic. Give him this medicine or drink every other day, if the horse be strong; and if he be weak in body, once in three or four days. This is an infallible cure, in three or four times giving, if it be rightly given, though he be far spent. *Proved.*

No. 9. Take a quart of red vinegar, being no wine vinegar; put it over the fire, and put thereto two spoonsful of honey, two spoonsful of elecampane, beaten into fine powder, and searse it through a fine searser; and as much rock-allum as the bigness of an egg, beaten into fine powder; half a pint of salad oil: put in your salad oil after all these have boiled together one quarter of an hour; then take it off the fire, and let it stand until it be milk-warm; then give your horse six spoonsful in each nostril with a little horn; after you have given this drink, ride him two or three turns and no more; then tie his head down to his foot for the space of four hours; then let him fast four hours; you must give this drink at nine several times, being three days between every drink; every second day after he hath had his drink, give him chicken's guts warm, rolled

in beaten bay salt, and put them down his throat, giving him warm water and wet hay all the time you give him this drink, and this will amend the glanders; and the mourning in the chine. *Proved.*

No. 10.—*To cure the glanders, running at the nose, and all colds and rheums.* First observe this, when you give him oats put some honey to them, and rub them very well together between your hands, continue to do so until he stops running at the nose. This is one of the best and most certain cordials, for it disperses all the phlegm and choler, it also purgeth the head and brain, it purifieth the blood, it venteth evil humours, it causeth good digestion, and freeth a horse from glanders, colds, catarrhs, rheums, running at the nose, &c. *Proved.*

No. 11. Take a bag and draw it over the horse's head, then fume up his nostrils with a lighted match; do so for three or four days, then let blood in the neck-vein, and give him the following drink.—Take one gill of vinegar, and two or three new-laid eggs, mix them well, and give them to the horse in the morning fasting, and ride him half a mile after he has taken it: rub his poll well with goose-grease, for it is excellent for any thing of that kind. Tar and sweet oil mixed together, and tied to the bit, is very good for a cough.

No. 12. Some young horses with a cold or a surfeit will run a bluish matter at the nostrils, but that is no glander; on the contrary nature is relieving itself; when the matter from the nostrils is of a glewy cruddy nature, greenish, white or yellowish, or thick, the glands under the jaws fallen, kernels one larger than the other, and several small ones sticking close to the bone; those kernels

in the mourning of the chine are generally more spread under the whole chaps, and loose in the midst of the two bones, just under the windpipe or wesand, the gleet at the nostrils is generally white and clotty; by these signs a glander may be known. The remedy; take goose grease, any quantity you like, and rub it on the pole and nape of the neck as occasion requires; this is the whole remedy: I have in a degree experienced its efficacy in some sort in this disorder, yet not in a desperate case with success. I am quite of opinion, provided the disorder is not too far advanced, that this remedy, and fuming at the nostrils with any of the fumes in this book laid down, or assafœtida and castor, and two or three drinks of the decoction of sassafras root, a quarter of an ounce of gum guaiacum dissolved in it, given luke-warm, will perfect a cure speedily. This remedy seems to be nearly calculated for the disorder in desperate cases: the goose-grease thus used will cause any common running at the nostrils speedily to evacuate, disperse and dry up, which I have proved; but shall leave further trial to the judicious. *Proved.*



CHAPTER, XXX.

FARCY.

The farcy generally appears in the form of small tumors or buds (as they are commonly termed) frequently in the course of the veins, from which they are erroneously

supposed to consist in a swelling of those vessels. These tumors generally burst, discharging a thin watery matter, and degenerating into foul spreading ulcers. The contiguous glands are usually inflamed and swollen from an absorption of the poison. This disease sometimes makes its appearance in diffused swellings of the hind legs, sheath, or other parts of the body. The most common cause of farcy appears to be contagion, either from a glandered or farcied horse, for there can be no doubt that those diseases *will reciprocally produce each other*; whence we may conclude that they both originate from the operation of the same poison, which produces different effects according to the parts on which its noxious influence is exerted.

There being certain parts only of the body which are obnoxious to this poison, its effects are always partial in some degree: thus we find the internal parts of the nose particularly liable to be effected by it; the skin likewise is very susceptible of its action, more particularly along the under part of the neck upon the veins, and on the inside of the fore and hind legs; and when the horse is suffered to live a sufficient time for the poison to acquire its highest degree of virulence, or to produce its full effect, the lungs do not escape the contagion. The farcy may be either constitutional or local: if glanderous matter taken from a farcy ulcer is applied to the skin where the cuticle has been torn or abraded, a chancre or foul ulcer is produced, which may easily be distinguished from all others by its peculiarly foul appearance, the edges becoming thick, and the discharge consisting of a thin and rather glutinous matter; it generally spreads rapidly, and never looks red or healthy: the absorbents or lymphatics

about the ulcer become inflamed and swollen from absorption of its poisonous matter, the swellings produced in this way are commonly mistaken for veins, and hence has arisen the opinion of the blood vessels being the seat of the disease : the glands likewise, to which those lymphatics lead, become inflamed and enlarged ; at length small tumors or *buds* appear in the course of these absorbents, which are small abscesses arising from the inflammation of those vessels.

Thus far the disease is certainly *local*, and the constitution untainted ; the poison being arrested by the glands, and for a time prevented from mixing with the blood ; at length however it insinuates itself into the circulation, and poisons the whole mass. At length the bones of the nose become carious or rotten, and finally the poison falls upon the lungs, and very soon puts a period to the sufferings of the unfortunate animal. Sometimes the progress of the disease is extremely rapid, and destroys the horse in a very short time ; at others it is remarkably slow, and continues in the same state for a considerable time, without affecting either the appetite or strength.

In the first stage of the farcy, while it is perfectly local, a cure may be easily accomplished ; and should the disease be discovered quite at its commencement, the application of the farcy ointment aided by half an ounce of nitre given in his feed or water morning and evening will generally remove it ; which however, must be continued for some time. But should the disease have been neglected, or not perceived at its commencement, should the lymphatics be enlarged or *corded*, (as it is termed by farriers) and the neighboring glands swollen, the cure is

by no means so certain; in that case some of the poison may have got into the circulation, though its effects have not been visible. Whenever therefore the farcy has been neglected at its first appearance, it will be advisable to give the following ball, once, twice, or even three times a day, if the horse's strength will admit of it, taking care to restrain its inordinate effect upon the bowels or kidneys by means of opium; at the same time it is necessary to keep up the horse's strength by a liberal allowance of grain mixed with mashes; malt has been found useful also on those occasions. During the time the horse is taking this strong medicine, great attention must be paid to him, he must be warmly clothed if the weather is cold, have regular exercise, and never be suffered to drink cold water.

The following balls indeed have proved so efficacious, there is seldom occasion to try other internal remedies; unless however they are given for two or three weeks after every symptom has been removed, the cure will seldom be permanent.

With respect to that kind of farcy which appears in the form of diffused swellings of the limbs or other parts, it seldom originates from infection, and does not often depend perhaps on the action of the glanderous poison, being merely common oedematous swellings, such as accompany the grease; from this we may account for the efficacy that has sometimes been attributed to purgatives and diuretics as remedies for the farcy.

When large abscesses form in consequence of farcy, they do not require any peculiar treatment, but it is particularly necessary to support the horse's strength in those cases by means of corn and malt. It has been sup-

posed that the farcy depends altogether upon debility, and medicines of the tonics or strengthening kind have been recommended for its removal.

Receipts for the Farcy.

No. 1.—*Ball for Farcy.*—Muriate of quicksilver, 1 scr. Powdered aniseeds, $\frac{1}{2}$ oz. Syrup enough to form the ball.

The quantity of muriate of quicksilver may be gradually increased, as far as the horse's strength will allow. When violent sickness, purging, or excessive staling is produced by it, it will be advisable either to discontinue it for two or three days, or to diminish the dose considerably. One drachm of opium will sometimes prevent such violent effects.

No. 2.—*Farcy Ointment.*—Oil of vitriol, 1 oz. Oil of turpentine, 2 oz.

Mix carefully in an earthen, stone, or iron vessel, as it will boil furiously for a few minutes.—Add a little train oil, then apply this ointment to the buds or tumors twice or three times a day, well rubbed in by a sponge or rag tied on the end of a small stick.

No. 3.—After bleeding, moderate purging may be safely complied with.

Purge for the Farcin.—Aloes, half an ounce; rhubarb, two drachms; mercurious dulcis, two drachms; oil of carraways, two drachms. Make it into a ball with a sufficient quantity of honey and flour of sulphur.

This is so mild, that it may be given to any horse, whether fat or lean, with safety, twice or thrice, letting him rest four or five days between each purge.

The following drink should be given in the morning, and the ball in the evening, till the cure is completed.

A Drink for the Farcin.—Dissolve one ounce of good molasses in a pint of warm ale, and give it with a horn.

A Ball.—Linseed in powder, one ounce; verdigrease, two scruples; sulphur, half a drachm. Form the ball with honey or molasses.

Ointment for the Farcin.—Oil of turpentine, one ounce; spirits of wine, three ounces; Flanders oil of bays, one pint; camphor, one ounce. A little of this ointment should be rubbed on the buds twice a day.

As the buds grow soft, and yield to the pressure of the finger, they should be opened with a lancet, in order that the matter may discharge, and to prevent its returning into the blood; but I do not conceive it necessary, or even consistent with sound doctrine, or the rules of physic, to pierce or bore them with a red hot budding iron, nor to pull out the knots with pincers, and then to thrust tents into them: the orifice made large enough, with a lancet for the matter to discharge is quite sufficient; as the most simple sore may easily be changed to an ill-disposed ulcer, by the use of tents.

No. 4.—First bleed in those veins that doth most feed the farcy, then give him this drink; take one ounce of aloes, and boil it in three pints of water till reduced to a quart, then add to it one gill of molasses, and as much soft soap, and half as much yeast, and give it to the horse lukewarm. Ride him a mile before and after it, and keep him warm for two or three days until the physic has done working.

Proced.

No. 5.—Take three quarts of strong beer, and dissolve in it six ounces of stone lime; give it the horse in two drinks, one half at a time, at two days distance, and it is a cure. *Proved.*

No. 6.—*For a farcy in the head.*—If it be in the head and no where else, then bleed him in both the neck-veins in the morning before he hath drank; then give him the former drinks for a pocky farcy, and no other drinks; let him bleed with your cornet-horn, in the third furrow in the roof of his mouth, and tie him up to the rack for five or six hours; then give him a little clean hay, and at night some warm water and bran. If it be in his head, and no where else, and some certain small buds do appear, then do nothing but bleed him in the neck-veins, and give him the drink, and bleed him in the palate of the mouth, and at the very same time apply the charge of soap and brandy hot, and heat it well in; lay it not upon the head of the buds, but all over the swelling, and in a short time by using the drink the farcy will die and the swelling will fall. *Proved.*

No. 7.—*To cure a foul, rank, pocky farcion, which runs all over a horse, or in any particular part of his body.*—An horse that hath the farcion, if his breath smells strong, and stinks, then do not meddle with him, for his lights are rotten, and there is no cure for him, and he is as full of them within as without: if his breath be sweet, there is no doubt of the cure. For all knotted, budded farcions, separate the sound from the sick, for this disease is infectious, they will take it one of another. This disease cometh first of colds and surfeit. Give him a little hay at night to keep his jaws from falling, the next morning let

him blood on both sides of the neck, and let him bleed well, then give him this drink : one ounce of aristolochia, an ounce of turmeric, an ounce of aniseeds : beat your turmeric and aniseeds small, and grate the root of aristolochia, and put them all together with one handful or two of lung-wort or liver-wort, and rue, a handful of green or dry wormwood, a handful of green fennel, if not to be had, take two ounces of fennel-seed : cut the herbs small, pound the seeds, and put them all to steep in three pints of water, and let them lie all night ; next morning before you give it him, ride him a mile till he be warm, then give him it cold as it stood all night, and ride him a mile gently, set him up warm clothed and littered ; let him stand upon the bit seven or eight hours then unbit him, and give him a little clean hay, and at night warm water with some wheat-bran in it : the next morning ride him to the river and let him drink ; and let him drink but once a day, but ride him well upon his watering, and at the end of three days, give him his former drink again, and order him as before : work him moderately the time of his cure. Be it winter or summer, keep him in the house with dry meat : when cured you may turn him out or keep him in : when he is cold, wash him twice a day up to the back, soak him well in the river, and at three or four days distance, if you see need requires, give him two or three drinks more, ordering him as before. As soon as you have given him the first drink, with the end of your cornet horn, let him blood in the furrow in the top of his mouth. These drinks will make him run at the nose much white or yellow matter, and they will make him spew much filth, and will purge and dry up all the gross

humours in his body, and cleanse the blood. After these drinks, you shall see the farcions appear with red heads, and they will drop out of themselves, and where you see them ready to drop out, apply this medicine; take half a pound of roche-alum, melt it on the fire, take it out and beat it to powder, and mix as much as you think will do with your fasting spittle, till it be like an ointment, and where you see they are ready to drop out, lay a little of this upon the head of the bud, and where you see they are hard in the flesh let them alone, for some will die and the rest will drop out of themselves: ride him up and down in the river twice a day, as far as the swelling goes, a good while after the alum and spittle have taken place: these drinks will kill and dry up any pocky gangrene farcion even if it spreads all over him.

Proved.

No. 8.—For a farcy in the head. If it be in the head and no where else, then bleed him in both the neck-veins in the morning before he hath drank; then give him the former drinks for a pocky farcy, and no other drinks; let him bleed with your cornet-horn, in the third furrow of the roof of his mouth, and tie him up to the rack for five or six hours; then give him a little clean hay, and at night some warm water and bran. If it be in his head, and no where else, and some certain small buds do appear, then do nothing but bleed him in the neck-veins, and give him the drink, and bleed him in the palate of the mouth, and at the very same time apply the charge of soap and brandy hot, and heat it well in; lay it not upon the head of the buds, but all over the swelling; and in a short time, by using the drink the farcy will die and the swelling will fall.

Proved.

No. 9.—*For a farcy that is broken out in the legs.* Do not charge it except it swells above those buds up towards the body; in such case lay on the charge of soap and brandy all over the swelling, above the buds, to stop it from running higher, but not upon the buds below; let blood in the neck veins, and in the third furrow of the roof of the mouth, and then give him one or two of the pocky-farcion drinks, at three days distance, till you see all the swelling killed and dried up with the charge of soap and brandy, and the drinks. Those buds that are broken, lay the alum and fasting spittle upon them, and they will dry and heal up: for those that are in the flesh, some will die in the flesh, and some will drop out.

Proved.

No. 10.—*For a button farcy.* You shall know it by these signs.—The horse will be full of bunches and knots, as big as peas or nuts, they are in bubbles in the skin, and are easy to be seen. First, let blood on both sides the neck, and let him bleed well, then take a little houseleek, and beat it and strain it thro' a fine linen cloth, and put it into his ears; then take an ounce of aristolochia, and grate it small, a handful of the tops of rue, the size of an egg of hog's-grease, beat these three last together till they be like a salve: as soon as you have put the houseleek into each ear, divide the others into two equal parts, put a part into each ear, and some wool after it to keep it in, then stitch his ears with a needle and thread, and tie a list hard about his ears that he may not shake it out, then tie the list of both ears together a little strait, and then cut a little hole in his forehead and raise the skin from his forehead the breadth of your hand round

about the hole, then take a red dock root, slice it and put three slices into the hole, they will draw a great deal of corruption out of it which will scald the hair off, and when the strength of the root is gone, it will drop out of itself; then anoint it with a little fresh butter. After you put in the root, lay a plaister of Burgundy pitch over it to keep out the wind and cold; let him fast seven or eight hours, and let him stand upon the bit; you shall see him slaver, champ, and foam as if he was ridden: give him warm water and bran at night, let his ears be shut up for two days. The knots and bunches will fall in a short time, and the hair will come again upon his forehead.

No. 11.—First bleed the horse. Take red precipitate, in fine powder, two drachms; and make it into a ball with one ounce of Venice treacle, and give it the horse. After the ball, give the following drink:

Take rue, two handfuls; roots of madder, sharp pointed dock, of each four ounces; chips of guaiacum wood, sassafras, of each two ounces; boil them in two quarts of stale beer, to three pints, then strain it. Dress the knots with arsenic.

Repeat the ball and drink, every third or fourth day, for three doses.

No. 12. Take misletoe, stale piss, honey, and black soap; infuse them together a day or two, then warm them, and wash your horse all over for six days together; and if the distemper is not got to too great a head, it will cure it.

No. 13. Let him be bled on both sides the neck, and give this drink:

Take a gallon of fair water, and put into it a handful of rue, and a spoonful of hempseed, being first bruised together in a mortar, then boil them till half is consumed; when it is cold give it to him to drink, which, being repeated will cure him.

No. 14. Steep the regulus of antimony in ale, with a little of the spice called grains of paradise, and a little sugar; of which give a horse about half a pint at a time, two or three times, with about a day or two's intermission between each, and it will cure him.

No. 15.—*Farcy and frush.* Take half an ounce of Roman vitriol boiled in a pint of urine, two-pence worth of turpentine, two pence worth of bole-armoniac, and a handful of rue. Give inwardly and repeat the dose, if requisite.

No. 16.—*For a farcion that lies all over the body of a horse.* First, bleed those buds that do not die, wash them with the water you have for any old ulcer, and this will cure them and kill them. Wash them once a day, then take half a gallon of clear water, boil in it two spoonful of hemp-seed beaten to powder, and two handful of rue cut small; boil all these together, till it come to a pint and an half, and give it the horse fasting; do this once in three days, or three times in nine days, let him stand in the night before, and not drink; you may give him three or four hours after it a mash, or warm water, then hay. This very drink given to a cow or bullock, after letting blood in the neck, will make them thrive exceeding fast, if it be given them in the spring of the year, and then turned out to grass. If a cow or bullock do not thrive, but is lean, scurvy, hide-bound, and her hair stand right

up, do but let blood, and give her this drink, and she will mend presently upon it. *Proved.*

No. 17. For a farcion only in the neck or head of a horse. First let blood in the neck-veins, then take two spoonsful of the juice of hemlock, and two spoonsful of the juice of houseleek, and mix them together, and put the one half into one ear, the other half into the other ear; you must mix two spoonsful of salad oil with the houseleek and hemlock, and put them all together into his ears. Put a little wool, flax or tow after it, stitch up his ears, and at the end of twenty-four hours, unstitch them and take out the stuffing; give him a mash two or three hours after, and warm water to drink. You may give him any meat to eat, only wash the buds with the water for an old ulcer, till he be whole. *Proved.*

No. 18.—Farcy. Bleed upon the first appearance in proportion to the state and size of the horse, and repeat it in four, five or six days, according to the state of the blood. Give him different food from what he has been accustomed to for three months before; and a few malt mashes at night, and a few old beans in his corn in the morning. If they are of a hard and watery kind, rub in a moderate quantity of the mercurial ointment upon the largest of them every other day for thrice; which follow with a daily washing of the following lotion for a week: Take corrosive sublimate, two drachms; rectified spirits of wine half a pint; spring water, one pint; let this be well shaken together, and the part affected plentifully moistened by means of a small piece of sponge constantly wet with the composition. After a few operations of the foregoing give the horse a purge.

No. 19.—*For a water farcy.* The signs to know it from a pocky-farcy are as follows: He will swell in bags as big as your head, sometimes mostly under the belly, and sometimes about the chaps and under his jaws. Take a nail rod, bend it at the end the length of a fleam, so that it may a very little more than go through the skin: at the end make it red, and make a number of holes all over the swelling with it, the yellow water will run out, and the swelling suddenly fall away; to qualify the heat of the iron rub a little soap upon it, and give him but one drink, such as you give for the pocky farcion. The more you work any farcy horse, the sooner the cure. If he be poisoned by any medicine, your often riding him into cold water will destroy the working of it. Give him warm water to drink, and let him stay at home the time of the cure. You may work any farcied horse with another, but let them not stand together, nor feed together; to make all sure, give the sound horse one or two drinks as if for a pocky farcied horse, and those drinks will prevent a farcy of the sound horse. *Proved.*



CHAPTER, XXXI.

WOUNDS.

The first necessary operation in wounds is to remove carefully all dirt or other extraneous matter, and if the wound be made with a clean cutting instrument, and not complicated with bruising or laceration, the divided parts are to be neatly sewed together; and, where it can be done, a roller kept constantly moist with the saturnine lo-

tion, diluted with an equal quantity of water, is to be applied, in order to assist in retaining the parts in their situation; this roller is not to be removed for several days, that the divided parts may have time to unite, and that the wound may heal by the first intention, as surgeons term it, unless considerable swelling and inflammation come on; it then becomes necessary to remove the roller, and apply fomentations. This kind of union, however, can seldom be accomplished in horses, from the difficulty of keeping the wounded parts sufficiently at rest, and from their wounds being generally accompanied with contusion or laceration; yet it should always be attempted where it appears at all practicable. Fomentations and warm digestives then become necessary, in order to promote the formation of matter in the wound: should considerable swelling and inflammation arise, moderate bleeding as near the affected part as possible, and laxative medicines, or even a dose of physic are strongly to be recommended; and a poultice, if the situation of the part be such as to admit of its application, will be found of great use. As soon as the swelling and inflammation shall have been removed, the fomentations and poultice are no longer necessary, and the digestive ointment only is to be applied; should the wound appear not disposed to heal, discharging a thin offensive matter, apply the detergent lotion previous to the digestive ointment.

When the granulations become too luxuriant, that is, when what is commonly termed proud flesh, makes its appearance, the caustic powder is to be sprinkled on the wound—slight wounds generally heal with very little trouble, and sometimes without the interference of art; and it

is from this circumstance that many nostrums have acquired unmerited reputation : in wounds of this kind, tincture of myrrh, or compound tincture of benzoin may be used.

Whenever a considerable blood-vessel is wounded, and the hemorrhage is likely to prove troublesome, the first object is to stop the bleeding, which, if the wound be in a situation that will admit of the application of a roller or bandage, may be easily effected ; for pressure properly applied is generally the best remedy on those occasions, and far more effectual than the most celebrated styptics : in some cases it becomes necessary to tie up the bleeding vessels ; this is rather a difficult operation, and not often necessary.

Punctured wounds, or such as are made with pointed instruments, are generally productive of more inflammation than those that have at first a more formidable appearance ; and if such wounds happen to penetrate into a joint, or the cavity of the chest or belly, the worst consequences are to be apprehended, unless it be skilfully treated.

When a joint has been wounded ; the synovia or joint-oil may be observed to flow from the wound ; the first thing to be done in those cases, is to close the opening that has been made into the joint ; for as long as it remains open, the inflammation will go on, increasing, and the pain will be so violent as to produce a symptomatic fever which has often proved fatal : the most effectual method of closing the wound is by applying the actual cautery or red hot iron ; this will appear probably a very strange remedy to those who have not seen its effect, yet

it is certainly the most efficacious that can be employed, but is only applicable where the wound is of the punctured kind, and small; for when a large wound is made into the cavity of a joint; and particularly if it is of the lacerated kind, it is impossible to close it effectually, and death is frequently the consequence. As soon as the opening has been closed, it is of consequence to guard against the inflammation that may be expected to arise, or to remove it if already present—for this, bleeding and purging are the most effectual remedies—a rowel in any convenient part near the affected joint, will be found useful also. Should the joint be swollen much, the following blister will prove very efficacious, and far superior to fomentations or poultices.

Receipts for wounds.

No. 1.—Oil of turpentine, 1 oz. To which add gradually, Vitriolic acid, 2 dr. Hog's lard, 4 oz. Spanish flies, powdered, 1 oz. Mix.

Wounds about the foot, from stubs, over-reaching, &c. often prove troublesome when neglected; as soon as they are perceived, care should be taken that no dirt gets into them—the detergent lotion and digestive ointment, or oil of turpentine alone, are the most useful applications on those occasions. When the foot is wounded in shoeing, the nails being driven into the sensible parts, the compound tincture of benzoin or oil of turpentine is to be applied. When the tendons or their membranes are wounded, considerable inflammation is likely to take place, which is to be removed by fomentation and the saturnine poultice; purging is also of great use in those

cases, and when the wound is extensive, and the inflammation runs high, bleeding likewise may be necessary.

In extensive, lacerated, or contused wounds, the inflammation sometimes terminates in mortification (see inflammation), in such cases fomentations are to be frequently applied, and the horse's strength supported by means of rich mashes and the cordial ball for mortification.

No. 2.—To heal a Wound in a Horse. There is nothing better to heal a wound in a horse, than tallow and turpentine mixed together.

No. 3.—An infallible Method of curing any Wound whatever, by three hazel sticks. If your horse, or any beast should be wounded in any part whatever, the cure is thus: Take three hazel sticks of the last season's growth, each one a foot long, made smooth at the ends—with each one of which search and probe the wound to the bottom, and then again, beginning with the one first used, and thus go thro' three several courses of probing in all. Remember to lay each one, in their courses of operation, after probing, on clean paper. Having thus done, lay the sticks beside each other on the paper, with the bloody ends together; then spread tar on so much of the paper, and on them as are bloody, and lay them thus up in the paper; after which, if it is winter, place it in the coolest part of a stove-room, but if summer, in any place you please out of the damp or sun, with that part which has been used, towards the east.


Proved infallible.

No. 4.—For a new Wound made with a Stake, or such like thing, Stub, or Fork. First, wash the wound well with Butter and Vinegar melted together, then take a clout and

tie it about a stick's end, and dip it in some *Linseed-oil*, and run it to the bottom of the wound, anoint it well, and in a short time nothing but this will heal it and kill the gangrene of it. If the wind get into the wound, and cause it to swell, anoint it with the *Oil of Populeon* round about the swelling: *Train-oil* and *Verdigrease* melted together, will heal and skin any wound well and quickly. *Proved.*

No. 5.—*A perfect Drier of a green Wound, or any other Sore.* Take *Soap* and unslacked *Lime*, and mix them well together; but before you lay it to, wash the wound or sore with a little white *Wine-vinegar*, and then apply it.

Proved.

 *A Marrow-bone* burnt and made into powder and strewed on a sore or wound, is a great drier

No. 6.—*A rare Green Ointment to heal any Wound, old or new, quickly.* Take a handful of *Water-betony*, as much of *Comfry* of *Mugwort*, red *Sage*, *Sage of Bethlehem* by some called *Jerusalem-sage*, of *Southern-wood*, of *Rue* by some called herb of *Grace*, of *Rosemary*, of each of these an handful; boil all these in a pint of *May Butter* and as much *Mutton-suet*; and when it hath boiled awhile, take it off the fire and strain it through a cloth, and put it into a pot for your use. This ointment will last good a year.

Proved.

No. 7.—*To draw out any thorn or nail in any place.* Take house-snails, seeth them in butter, and apply them: they will draw out any thorn or nail; or the roots of reeds bruised and bound to the wounded place with a linen cloth. The horse may run out, but to stand in is best.

Proved.

CHAPTER, XXXII.

BRUISES.

In recent bruises, fomentations are the most essential remedies—when they are violent, a considerable degree of inflammation may be expected to supervene; it will then be proper to give a laxative ball, and to bleed moderately, as near the affected part as possible.

If abscesses form in consequence of a bruise, discharging large quantities of matter, particularly if the matter is of a bad colour and an offensive smell, the wound also appearing dark coloured and rotten, indicating approaching mortification; the horse's strength must be supported by allowing him a large quantity of grain, and if he can be made to eat malt, it will be found still more effectual. If the appetite goes off he must be drenched with good water-gruel, and strong infusion of malt: it will be necessary also to give the cordial ball for mortification, once or twice a day. Stimulating applications to the part, such as camphorated spirit and oil of turpentine, equal parts, are of great use.

Should a hard callous swelling remain in consequence of a bruise, the following embrocation is to be well rubbed into the part twice a day; and if it does not succeed in removing it, recourse must be had to a blister.

Receipts for Bruises.

No. 1. Camphor, $\frac{1}{2}$ oz. Oil of turpentine, 1 oz. Soap linament, $1\frac{1}{2}$ oz. Mix,

No. 2. Tincture of cantharides, 1 oz. Oil of origanum, 2 dr. Camphorated spirit, 6 dr. Mix.

No. 3. *Cuts, treads, bruises, &c.* All cuts, and treads bruises, are cured by the following *horse-ointment*; not only soonest and safest, but without leaving any mark:

Horse-ointment. Into a clean pipkin, that holds about a quart, put the bigness of pullet's egg of yellow *rosin*; when it is melted over a middling fire, add the same quantity of *bees-wax*; when that is melted, put in half a pound of *hog's lard*; when that is dissolved, put in two ounces of *honey*; when that is dissolved, put in a half pound of common *turpentine*; keep it gently boiling, stirring it with a stick all the time; when the *turpentine* is dissolved, put in two ounces of *verdigrease*: you must take off the pipkin (else it will raise into the fire in a moment) set it on again, and give it two or three wambles, and strain it through a coarse sieve, into a clean vessel for use, throwing the dregs away.

This is an extraordinary ointment for a wound or bruise in flesh or hoof, broken knees, gaul'd backs, bites, crack'd heels, mallenders, or when you geld a horse, to heel and keep the flies away; nothing takes fire out of a burn or scald in human flesh so soon; I have had personal experience of it. I had it out of Degrey, but finding it apt to heal a wound at the top before the bottom was sound, I improved it by adding an ounce of *verdigrease*.

No. 4.—*To cleanse any, wound.* Take the roots of *Elder*, and beat them to powder, and boil them with *clear-honey*: it is good to cleanse any sore, old or new. But take this for a general observation, that before you dress any wound, let it be where it will about the horse, wash

it clean first with white *Wine-vinegar*, and then dress it with your salve. *Proved.*

No. 5.—Pricked.—Gravelled.—The cure. If pricked or otherwise wounded to the quick ; open the hole with a penknife, and drop a little diachylon or melilot, thro' a pair of warm tongs' into the hole, to suck out the gravel, but the horse ointment is best ; cover it close with dry tow, fastened in with a couple of splints, and put his foot, as before, into a hot poultice.

Repeat this till he is well ; which will be in two nights, if you have not been too free with your penknife.

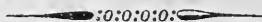
No. 6.—For a new hot inflammation or soft swelling, whether broken or not. Anoint it with the oil of populeon, and rub it in cold with your hand once or twice a day until it be down.

No. 7.—For a bruise or bite upon a horse's cods. First bathe them in warm whey or milk, let it be as hot as the horse can endure it, bathe it three or four days together, then make a bag to keep his cods warm, and anoint them with cold oil of populeon once or twice a day till you see the swelling to abate; apply the charge of crown soap and brandy to remove the rest, and to knit the veins and strings of the cods; lay it on hot and heat it in well: three or four days after, ride him into a river or pit, up to the belly, and you will see it fall in a short time. If the cods be swelled much, and it had been long done and is hard, then do not meddle with it. *Proved.*

To keep in your medicine, and keep out the wind. Over your medicine lay a plaister of Burgundy pitch, and it will keep out the wind till you take down the swelling with oil of populeon. *Proved.*

No. 8.—*For an inward bruise with any fume or stub.* Take a pint and an half of strong beer, and an ounce and an half of bole-armoniac, boil them a little together, and give it him with a horn luke warm. It is very good for an inward bruise of a beast. *Proved.*

No. 9.—*For a horse that hath torn his flesh about the belly or elsewhere.* Take a pint of sharp white wine vinegar, boil in it two ounces of bole armoniac; after it hath boiled a little, take it off the fire and put in a little butter, and bathe the place grieved once in two days, and in two or three times dressing it will cure. *Proved.*



CHAPTER, XXXIII.

Fistula in the Withers.

This disease generally originates in a bruise from the saddle, and is at first simply an abscess, which by early attention and proper treatment may be easily cured; but when neglected it degenerates into a fistulous sore, proves extremely difficult to cure, and cannot be removed without very severe treatment.

As soon as the injury is discovered, fomentations should be applied in order to promote suppuration, and when matter is formed let the tumor be opened, so that its contents may be completely evacuated, and a future accumulation prevented; the sore may then be healed by dressing

it daily with digestive linament or ointment, but should they prove ineffectual, apply the detergent lotion until the sore assumes a red healthy appearance, and the matter becomes whiter and of a thicker consistence. When the disease has been neglected in its first stage, and the matter has been suffered to penetrate among the muscles, affecting the ligaments or hones of the withers, it becomes *necessary* to adopt a more severe treatment. The sinusses or pipes are to be laid open with a knife, and if it is practicable, a depending opening is to be made, that the matter may run off freely; the sore is then to be dressed with the following ointment, which is to be melted and poured into the cavity while very hot.

The sore is not to be dressed, until the sloughs which this ointment occasions, have separated from the living parts; which generally happens two or three days after the operation. If the surface of the sore looks red and healthy, and if the matter appears to be whiter and of a better consistence, a repetition of this painful operation will not be required; the digestive linament or ointment being sufficient to complete the cure; but if the sore still retains an unhealthy appearance, and the matter continues thin and of a bad colour, the hot dressing must again be applied.

Receipts for the Fistula.

No. 1.—*The ointment.* Ointment of nitrated quicksilver, 4 oz. Oil of turpentine, 1 oz. Mix.

No. 2. Verdigrease, $\frac{1}{2}$ oz. Oil of turpentine, 1 oz. Ointment of yellow resin, 4 oz. Mix.

No. 3.—*An approved cure for a Fistula.* Take two large handfuls of the right Arsesmart, pound it, steep it in water all night, and lay it on the fistula or pole evil, then clap your hand on it and keep it there till you find the warmth come to your hand; then take the arsesmart and bury it, and throw the water you steeped it in, on the place you bury it; and as the arsesmart rots, the malady will sink; it is a cure which has been often proved. Once may do, but you may do it four or five times.

N. B. The right arsesmart has a red stalk, bears a white flower, and by tasting, it will be very hot on the tongue.

No. 4.—*Of the imposthume in the ear, poll-evil, fistula, swelling after blood-letting, any galled back, canker in the withers, setfast, wens, navel-gall, or any hollow ulcer.* These diseases are so apparent and common, that they need no other description but their names: and the most certain cure is, to take clay of a mud or loam wall, straws and all, and boil it in strong vinegar, and apply it plaisterwise to the sore, and it will of its own nature search to the bottom and heal it, provided that if you see any dead or proud flesh arise, you eat or cut it away.

No. 5.—*How to make black ash lie for the curing of ulcers, poll-evils, fistulas, and the like.* Take of the tops and bark of black ash, and burn it in some clean place to ashes; then put those ashes into a vessel that has a hole and a spile in it; then put a little straw in the vessel, and the ashes on the straw; then pour on boiling water, and cover it up; let it stand three or four hours, then draw it off, and if it be not strong enough, which you may know by its slipperiness, put it on the ashes again; you may either

boil it or let it stand some time, but it will be the stronger for boiling; then draw it off, and put it into a bottle for use. This lie, made warm, and put it into any ulcer or fistula, will of itself search, cleanse and heal it to admiration soon.

No. 6.—For the first coming of a fistula or poll-evil. Take tansy, worm-wood, and arse-smart, bruise them, and put some cold water on them, then put them into a bag, and lay it on the tumour, and there let it remain for three hours, then take it off, and bury it under the root of one of those herbs. and as it rots, the disorder will sink and remove. I have been credibly informed, that this will relieve these disorders. The oil of amber well rubbed in, is said to do the like, or the spirit of turpentine well heated in with a bar of iron. Where those disorders are hard, guaiacum-oil or palm-oil, are exceeding good to assuage and sink hard swellings and tumours. Rue boiled in milk, and salad-oil added to it, and given in the manner of a drench, is an exceeding good antidote against poison. *Proved.*

No. 7.—For a Fistula. To sink, first sear the fistula with a hot Iron until the skin looks yellow; then make a plaister of rosin, sheep's suet and brimstone, melted together, and lay it on hot, but not to scald; if it is broke or is likely to break, then lay on a plaister of shoemaker's wax, spread upon alum'd leather, on purpose to break it; and when broke, take verdigrease, butter and salt, well mixt and melted together, and pour it scalding hot into the sore, and use this till the flesh looks red, and then tent with verdigrease, burnt alum, wheat flour and the yolks of eggs, well beaten and mingled together, till

it is healed: and to skin it, take barm and soot mixt together, and spread it on the sore, and it is a perfect cure: The searing, and plaister of rosin, soot and brimstone, is very good for windgalls.

No. 8.—*For a fistula or gangrene in the foot, by reason of some channel-nail which hath lain long and deep in the foot, that breaks out above the hoof, and causeth the sole of the foot to come out, and the leg and pastern to swell very much.* If the nail causes the sole of the foot to come out, and to break out above the hoof, and cause the pastern and leg to swell; but if the sole of the foot be not come out, then do as you were directed formerly, by girding the fetlock hard, and when you have taken out the sole of the foot, search the wound with a little tow at the instrument's end to see how far and which way the channel nail went; when you see where the holes are, drop in ten or twelve drops of the oil of turpentine, and take a little fine tow or lint at your instrument's end, dip it in the turpentine and put it in tentways: then over this tent lay to the bottom of the hoof a handful of nettle-tops and a handful of salt, well beaten together, stuff his foot well with tow, and let it lie on twenty-four hours, and always when you dress it take off the shoe, and when dressed tack on the shoe again: dress it thus once a day with a tent dipt in turpentine, and lay to the sole first, and then the nettles and salt over that, till you see the sole come on a little, and when you see it a little grown, then apply the following poultice but not before, and lay some tow over the poultice and over the tow a piece of leather, and over the leather splinters of wood; his shoe taken off and set on again, as you were shewn in another place; let him stand dry in the house till he be

whole, which will be in a few days: the poultice must, on the first dressing, lay on twenty-four hours, the second dressing forty-eight hours, the third dressing forty-eight hours, and so continue till the sole of the foot be grown firm and strong again. The poultice is thus made. Take half a pint of salt beef or pork brine, and a quarter of a pound of kitchen grease, and boil them a pretty while together; put some wheat bran to it, and make it not too thick nor too thin: when you have taken out his sole, and untied the cord about the pastern, if it bleed much, then put a handful of salt into the bottom of the foot, with tow or flax between the sole of the foot and the shoe, and the splinters and a piece of leather over it to keep it in; at twenty-four hours, take it off and lay on the nettles and salt as before directed. Thus much for the cure of the sole of the foot: but mark what follows, which belongs to the foregoing receipt, which is, when the nail in the foot does not only cause the sole of the foot to come out but also breaks out above the hoof, and causeth a gangrene or swelling in the pastern, and so up the leg; in this case after you have searched it with a little fine tow or lint at your instrument's end, then drop into the hole a few drops of oil of turpentine, and after that put in a tent dipt in the oil of turpentine, into the hole as far as you can, and immediately apply the poultice laid upon a large linen cloth, to the swelling in the pastern, and up the leg so far as the swelling goes, and bind it close on with another cloth that it may not come off: tie him close up to the rack for seven or eight hours that he may not pull it off with his mouth; let it lie on twenty-four hours the first dressing, and for the

other dressings, the time before mentioned, till the swelling be down and the sore be whole.

Always put in a tent dipt in the oil of turpentine, before you lay this poultice to, or any other thing. If the hoof comes off and it swells and breaks out above the hoof; if all these happen together, you must observe the distinct directions. The cure of that in the sole of the foot from that which breaks out above the hoof, and apply each cure to each disease. In this case the poultice must be first applied above the hoof, because when the sole of the foot is taken out, you must not lay the poultice to the place till it be a little grown; and further, with great pain and continual holding up his foot from the ground, his sinews in the bent of his leg will be shrunk; to remedy which, use the oil of swallows as you may see for a blood spavin, but if you cannot get the oil of swallows, if his sinews be knit or stiff, then rub in some trotters oil, which is made of sheeps-feet, but for want of either of these, boil some hog's grease and aqua vitæ together, and rub it in cold with your hand. *Proved.*

No. 9.—Fistula. Is a deep hollow kind of ulcer, which oozes out a thin matter: it frequently proceeds from bruises and crushes of the saddle; but oftener from the unskilful heal of a wound.

The cure.—Search it with a slender leaden probe, which will bend wheresoever the concavity of the wound leads it: and when you have come to the bottom, let it be opened downwards, if it can be done, in order that the corruption may more easily discharge; you will then with your fingers, feel if there are gristly kind of pipes,

or horny substances; which must be cut away; and this fistula-water injected with a syringe twice a day.

The fistula Water. Sublimate, one drachm; white cop-
peras, two ounces: alum, three ounces: reduce them to
a powder, and burn them in a fire-shovel; this done,
you are to reduce it to a powder a second time; then pour
three quarts of *boiling water* over it.

After using this water, but not till it is quite cold, dress
the wound with the green ointment.



CHAPTER, XXXIV.

POLL-EVIL.

This disease like the Fistula, generally originates in a
bruise; and if neglected, requires the same severe treat-
ment: it consists at first in an abscess in the poll, which
by early attention might be easily cured: but if the matter
is suffered to penetrate to the ligaments and bones, it fre-
quently proves more difficult of cure than the fistula.

Mr. Taplin, in his Stable Directory, declaims against
this method of treating inveterate cases of fistula and poll
evil; it is certainly, however, the only effectual one that
is known; and had this author but seen the effect of this
remedy, as well as of that which he recommends before
his book was written, it is probable he never would have
favoured the public with the declamation above alluded
to. It is surely more consistent with humanity to rescue

an animal from a painful and gradually increasing disease, by means of a severe operation, than to suffer him to linger out a life of pain and misery, by adopting a mild, but inert mode of treatment.

Receipts for the Poll-Evil.

No. 1.—Poll-Evil. The poll evil is a malignant swelling which arises on the nape of the neck, immediately behind the ears; and is frequently occasioned by the friction of a halter or collar, and sometimes by a blow on the head from an inhuman driver, when a horse hesitates at passing any place or object.

The cure Consists in the ripening and bringing it to matter, as in all other bilcs, tumours, &c. which may be done by the following poultice.

A suppurating poultice. Take mallow leaves, four handfuls; white lily roots, one pound; three middling sized turnips; boil them in a sufficient quantity of water, till they become soft; then beat them up well together; then boil them again in milk, to a thick poultice, adding to it two ounces of linseed, and half a pound of hog's-lard; stirring all well together.

Spread the poultice on a piece of cloth, and bind it on the swelling, making it fast under the jaw with a packing needle and twine. It should be applied night and morning; and when it is sufficiently ripened, open the tumour with a sharp knife, and clean the matter therefrom. A little of the oil of turpentine, made warm, may be poured into the wound once a day; dress and rub the swelling with the green ointment, keeping the neck covered with flannel.

No. 2.—To cure the Poll-Evil, and swelled neck from bleeding. Take ointment of marsh-mallows, four ounces; mercury sublimate corrosive, in fine powder, half an ounce; mix and apply it to the part.

No. 3.—For a Poll-Evil in the head of an horse. If you take it at the first swelling, then do thus: Take half an ounce of the oil of turpentine, and anoint the swelling therewith, so far as it is swelled, and let it sink in and take its course four or five days, in which time the skin will be shrunk up like a purse: at the four or five days end, if you see the swelling begin to fall, then take Burgundy-pitch, and Black pitch, of each two ounces, and one ounce of Mastick, put them into a pipkin and melt them; then take a flat stick and spread it all over the swelling; then take the shearings of cloth or flocks, and do them thick on with your hand upon the pitch till it be hot: when your plaister comes off, which may be a fortnight or a month after, if then you see the oil and the plaister have killed the venom of it, and taken down the swelling, then do no more to it. Again, if you see, when your plaister comes off that it is too much swelled, or that there be any dead or proud flesh in it, cut it out; then fill the hole or wound with fine tow, or flax or hards, to dry the blood up, and there let it be five or six hours, then take it away, and put in some of the medicine which you use for a canker in the head, face or eyes, or nostrils of a horse. With this medicine dress it once a day at first, and as it begins to heal, dress it once in two days; this medicine will heal it suddenly. Cut a hole at the edge or lower part of the swelling, to lay it a draining, and it will heal a great deal sooner. Daub and throw on a good store of wheat bran

upon it when you lay it on; when your plaister comes off, look upon the top of the poll-evil, to see how far the dead, proud white jelly flesh goes; cut it all out with your incision-knife, till you come at the red flesh which is sound: the veins will bleed much, and spin again when you come at the quick; but let not that hinder you from cutting out all the dead proud flesh, which if you cut all out clean, you cannot do amiss, only take heed you do not cut the white pax-wax, which runs along the top of the neck, which some call a cress: it is white, and you may easily see it; if you cut that his neck will fall, and look basely, therefore have a care. There is a white pith in a poll-evil near the top of the neck by the pax-wax; take your nippers and pull it out, it will come out like a plug; there is no such thing in a fistula: when you have pulled it out, put some of your medicine to it, and it will heal it apace. Let not the dead flesh be left in the wound, but cut it clean out, although the wounds seem never so broad. The same cure and the same way is to be used for a fistula. The beast must stand in the time of the cure. *Proved.*

No. 4.—For a Poll-Evil. The decoction or oil of snapweed, two ounces, the oil of turpentine one ounce, mixt together, is an excellent thing for any fistula or poll-evil, either to heal it when broke, or to backen it, if near ripe to break it; but to backen, there should be an equal quantity of both. *Proved.*

No. 5.—For a fistula or a poll-evil. These are both one disorder, altho' not both in one place; take of old poke roots a good quantity, bruise them well, and boil them in water, vinegar or chamber-lic, and add thereto soft soap a pint, and wash therewith scalding hot; then take tincture

of myrrh and pour some in the wound in each hole after you have washed and dried the wound with tow, once in twenty-four hours ; your horse keep on low dry food, nor suffer him to run at pasture; for a speedy cure give him those drying drinks, viz. Take forge water and crocus martis, or the guaiacum shavings, sarsaperilla and stone raisins; while he is under cure, wet his bran with a strong decoction of sassafras root, which may answer the end of the former drinks; or once a week give him three quarters of a pint of linseed oil, and by a steady application of this external wash and tincture, those disorders may be removed in twenty days or less: The virtue of this tincture is so well known by surgeons and able farriers, that there is no occasion of scrupling its efficacy: If you have a horse before you whose fistula have been a running ulcer for some months, and the bone is affected thereby, cut all the horny callous flesh away, until you come to the bone, and when bare, scrape the bone, and apply tents, of equal parts, of tincture of myrrh and euphorbium; then fill the hole up with moulten snap-weed ointment, always using the decoction whilst any ulcer remains; but if the bone keeps putrified and crumbled, or any string, sinew, or membrane is ulcered, putrified or affected, I say, in this desperate case, so long as it remains in that order, there will be no cure perfected; you must get an iron in the form of a glazier's iron, the head thereof should be steel, finely filed, heated hot, and when the sparkling is off, then burn to the very bottom of the fistula; then for once or twice you may use the snap-weed ointment, or a salve made with the high snake-root, which is not unlikely to draw out the fire and venom; then use

the decoction of euphorbium which will bring to use the internals; I am apt to believe by a constant application as is here laid down, a speedy cure will be soon perfected.

N. B. You are caution'd, in incision, to beware of sinews and arteries.



CHAPTER, XXXV.

Saddle Galls, or Warbles.

These consist of inflamed tumors, and are produced by the unequal pressure of the saddle: if neglected they become troublesome sores, and are often a considerable time in healing. As soon as a swelling of this kind is observed, let several folds of linen be moistened with one of the following embrocations, and kept constantly applied to the tumor until it is reduced; but if matter has been allowed to form, let it be opened with a lancet, and afterwards dressed with digestive linament or ointment. Should it appear not to heal readily under this treatment, apply the detergent lotion made hot. When swellings of this kind are large and much inflamed, it will be advisable to bring them to suppuration as expeditiously as possible, by means of fomentations or poultices. Should a hard swelling remain after the inflammation is in a great measure removed, try the embrocation for strains, and if that does not succeed, recourse must be had to a blister.

Receipts for Saddle Galls, or Warbles.

No. 1. Water of acetated litharge, 2 dr. Distilled vinegar, 3 oz. Spirit of wine, 4 oz. Mix.

No. 2. Muriate of Ammonia, $\frac{1}{2}$ oz. Muriatic acid, 2 dr. Water, from 8 to 12 oz. Mix.

No. 3. Soap linament and water of acetated ammonia, of each 2 oz. Mix.

No. 4.—*Sore back and cure.* If the saddle bruises his back, and makes it swell, a greasy dish-clout laid on hot, and a cloth or rag over it, bound on a quarter of an hour (with a sursingle) and repeated once or twice, will sink it flat. If it is slight, wash it with a little water and salt only. But you must have the saddle altered, that it press not upon the tender part, for a second bruise will be worse than the first. If his furniture does not fit and sit easy, it will damp him; but if nothing wound or hurt him, he will travel with courage.

No. 5.—*For a horse new galled with a saddle or collar.* As soon as you take either the saddle or collar off wash the galled place with water and salt, or urine and salt, and then sprinkle upon it wood ashes, or wall mud, which is the best. Or get the root of the herb clowns-wort; burn it to a coal, (not to ashes,) pound it to a powder, and, after washing the sore, strew on some of the powder, it will quickly heal the galls although they be almost rotten and putrified.

N. B. The more you ride or work a horse that is galled, the sooner he will heal; keeping the saddle or collar from the sore.

CHAPTER, XXXVI.

SITFASTS, AND SORES.

Sitfasts are occasioned by repeated bruises from the saddle, which instead of inflaming the skin, as most commonly happens, causes it to become callous, and gives it somewhat the appearance of leather. The following ointment is to be applied until the callous part appears disposed to separate; it is then to be removed, which generally requires some force, and the sore which remains may be healed with digestive linament or ointment.

Receipts for Sitfasts and Sores.

Nb. 1.—*Ointment for Sitfasts.* Ointment of althea, 4 oz. Camphor 2 dr. Oil of organum, 1 dr. Mix.

Nb. 2.—*Sitfasts.* Are horny substances on the horse's back, under the saddle. They are cured by taking hold of them with a pair of plyers, and cutting them out; taking care that you leave no part of them behind to grow again; and dress with the green ointment.

Nb. 3.—*To heal a Navel-Gall, Sore Back, or a Sitfast.* Take a quarter of a pint of *Train-oil*, and boil in it as much beaten *Verdigrease* as half a walnut; put it into a pot and keep it for your use: This very medicine will heal any Navel-Gall, Sitfast or Sore Back suddenly, and no flies will dare to touch or come near it; if they do, they die presently. *Proved.*

Nb. 4.—*A plaister for a sore back.* Take of wheat meal, what quantity you like, of sheep dung half as much, of rye

meal half as much as sheep dung, mix them all together, and boil them in spring water until they come to a thick paste; then take a piece of alum'd leather or tow cloth, and spread thereon, and so clap it on the sore: you must tie your horse awhile, or otherwise he will gnaw the plaister off. If possible, you must let the plaister stay on till it comes off of itself, and it will cure him. Or make a plaister of soot, rye meal, whites of eggs, and honey; beat all together, and apply it as above, and it will cure it; but the other is the best. If there be any filthy matter in the sore, that must be first let out. For a new gall, when you take off your saddle, wash it with salt and water, or fair water, or what you may, but I recommend the water made for running ulcers. I say, when you have washed, take of the root clowns-wort, or clown-wound-wort, burn it to a coal, not ashes, and pound it very fine, and strew the powder on the sore—this in a few days will cure any horse's back, if it be nearly rotten.

☞ The more you ride or work a horse that is galled, the sooner he will be well, if you keep your saddle or collar from the wound. *Proved.*



CHAPTER XXXVII.

STRAINS.

This is a subject with which every sportsman ought to be well acquainted, since his horses are particularly liable to such accidents. Strains may affect either the mus-

cles, ligaments, or tendons. Muscular strains consist in an inflammation of the muscles or flesh, occasioned by violent and sudden exertion. When ligaments are the seat of this disease, there is generally some part of them ruptured, whereby very obstinate and sometimes permanent lameness is produced; in this case also inflammation is the symptom which first requires our attention: but tendons are the parts most frequently affected, particularly the flexors of the fore leg or back sinews as they are commonly termed.—Tendinous strains are commonly supposed to consist in a relaxation or preternatural extension of the tendon, and the remedies that have been recommended, are supposed to brace them up again; however plausible this opinion may be, it is certainly very erroneous; indeed it has been proved by experiment that tendons are *neither elastic nor capable of extension*, and from investigating their structure and economy, we learn, that were they possessed of these qualities, they would not answer the purpose for which they were designed. From an idea that strain in the back sinews depends on a relaxation of the tendons, many practitioners have been apprehensive of danger from the use of emollient or relaxing applications, than which nothing can be more useful at the beginning of the disease.

Tendinous strains consist in an inflammation of the membranes in which tendons are enveloped, and the swelling which takes place in those cases depends on an effusion of coagulable lymph, by the vessels of the inflamed part. Inflammation being the essence of a strain, we are to employ such remedies as are best calculated to subdue

it; and should any swelling remain, it is to be removed by stimulating the absorbent vessels to increased action.

Strain of the Shoulder.—This disease is by no means so frequent as it is supposed to be, lameness in the feet being often mistaken for it; the difference, however, is so well marked, that a judicious observer will never be at a loss to distinguish one from the other.

A shoulder strain is an inflammation of some of the muscles of the shoulder; most commonly, we believe, those by which the limb is connected with the body. The lameness which this accident occasions comes on rather suddenly, and is generally very considerable. When the horse attempts to walk, the toe of the affected side is generally drawn along the ground, from the pain which an extension of the limb occasions; in violent cases he appears to be incapable of extending it.

When lameness arises from disease of the foot, it is generally very gradual in its attack, unless occasioned by an accidental wound, and does not at all hinder the extension of the limb; an unusual heat and tenderness may also be perceived in the foot; and as the horse stands in the stable, the affected foot will be put forward, that it may bear as little as possible of the weight of the body.

Receipts for Strains.

No. 1.—The first remedy to be employed on those occasions, is bleeding in the shoulder or plate vein; then give a laxative ball; and if the injury is considerable, let a rowel be put in the chest; by means of these remedies and rest, the disease will generally be removed in a short time; a cooling opening diet, with perfect rest, will also be ne-

cessary. When the inflammation and lameness begin to abate, the horse should be turned into a loose stall; and after a week or two, he may be suffered to walk out for a short time every day; but should this appear to increase the lameness, it must be discontinued. The intention of moderate exercise, after the inflammation is in a great measure subdued, is to effect an absorption of any lymph that may have been effused, and to bring the injured muscles gradually into action. After an accident of this kind, particularly when it has been violent, the horse should not be rode, or worked in any way for a considerable time, as the lameness is very apt to recur, unless the injured parts have had sufficient rest to recover their strength; if he can be allowed two or three month's grass, it will be found extremely useful, provided he is prevented from galloping or exerting himself too much when first turned out; it is necessary also to choose a situation where there are no ditches in which he may get bogged. With respect to embrocations and other external applications, they are certainly useless, unless the *external* parts are affected, and then fomentations may be employed with advantage.

No. 2.—Strain of the Stifle. In this case the stifle joint will be found unusually hot, tender, and sometimes swollen. The remedies are fomentations, a rowel in the thigh, and a dose of physic. When by these means the inflammation of the joint has abated considerably, and at the same time the swelling and lameness continue, the embrocation for strains, or a blister, should be applied. Strains in the hock joint require the same treatment.

No. 3.—Strain of the Hip Joint, (commonly termed whirl

bone or round bone.) When lameness occurs in the hind leg, the cause of which is too obscure for the farrier's comprehension, he generally pronounces it to be a strain in the round or whirl bone; which, however, on an attentive examination, is often found to be an incipient spavin. It is advisable therefore in all such cases, that the hock joint be carefully examined; and if any unusual heat or tenderness be observed on the seat of the spavin, it is probable that the lameness arises from that cause, and that it may be removed by the application of a blister.

No. 4.—*Strain of the flexor tendons or back Sinews.* A Strain of the back sinews depends, as we have before observed, on an inflammation of the membranes in which they are enveloped, and is sometimes complicated with a rupture of the ligaments which are situated immediately under the sinews. When the lameness and swelling are considerable, bleed in the shoulder vein, and give a dose of physic; then let the saturnine poultice be applied so as to extend from the hoof to the knee, and let it be frequently moistened with the saturnine lotion. When the inflammation and lameness have abated considerably, and a swelling still remains, apply the embrocations for strains, rubbing it well on the part twice or three times a day; if this does not succeed, recourse must be had to a blister; it will be advisable also to turn the horse loose into a large stable or barn, and to give him this kind of rest for a considerable time: should he be worked too soon after the accident, the part is very liable to be injured again, particularly when it has been violent.

These swellings sometimes prove so obstinate, that even repeated blistering proves ineffectual; as soon how-

ever, as the inflammation which caused them is completely removed, they seldom occasion lameness; yet they will not admit of any violent exertion in the part, and are therefore always an impediment to speed.

Saturnine lotion. Acetated lead, 4 oz. Vinegar and water, of each, 1 pint. Mix.

Saturnine poultice. Fine bran, $\frac{1}{4}$ peck. To be made into a thin paste with hot saturnine lotion; to this add as much linseed meal or boiled flax-seed as will give it a proper consistence.

No. 5.—Embrocation for Strains. Oil of rosemary and camphor, of each, 2 dr. Soft soap, 1 oz. Spirit of wine, 2 oz. Mix.

*No. 6.—*Soft soap, spirit of wine, oil of turpentine, and ointment of elder, of each, 4 oz. Mix.

No. 7.—For a strain in the shoulder. Take two ounces of oil of pompilion, two of spike, and two of linseed: rub them well together upon his shoulder, and warm them in with an hot iron: then let him be blooded in the shoulder, and hople his fore-feet together.

No. 8.—A cure for a sincw-sprung horse. Take a pint of linseed-oil, boil it, and put in a small quantity of aqua vitæ, stir them together and anoint your horse's legs therewith.

No. 9. St. Anthony's excellent medicine for a strain, &c. Take cummin-seeds, bruise them well, and boil them with the oil of camomile; add to it as much yellow wax as will bring it to the body of a plaister, spread it on cloth or leather, and apply it very hot to the place. It is excellent also for mankind.

No. 10.—*Another for any desperate old strain, whether in the shoulders, joints, hips, or back sinews.* Take a pint of the best aqua vitæ; of oil of bays, oil of swallows, and black soap each half a pint: work all these together till they come to a thin ointment; then take camomile red sage, rue, and messeldine, of each an handful: dry them and rub them to fine powder; mix them with the ointment, and bring all to a gentle salve. With some of this salve as hot as the horse can bear it, anoint the strain and hold a hot bar of iron before it, chafing it with your hand as much as may be; thus do once a day, and in nine days the cure will be effected.

No. 11.—*An excellent remedy for any strain on the sinew, or sore proceeding from heat.* Take the whites of six eggs, and beat them well with a pint of white wine vinegar, and an ounce of the oil of roses, and as much of the oil of mint: then take four ounces of bole-armoniack, as much sanguis draconis, and as much fine bean flour, or wheat-flour, as will thicken it: bring it to a thick salve, spread it about the affected part, and renew it as it drieth.

No. 12.—*Markham's balm for any strain in the shoulder, or other part; or wind-gall, pain or swelling.* Take ten ounces of the purest goose grease, and melt it; put into it four oz. of oil of spike, and an oz. of the oil of origanum: stir them very well together, then put it up in a gally pot. With this ointment very hot, anoint the grieved part, and rub and chafe it in well, holding an hot bar of iron before it; and thus anoint it once in two days; but rub it in twice or thrice a day at least, and give the horse moderate exercise. This is infallible.

No. 13.—*For a strain.* Hog's grease is very good for a sinew strain, or any other part of the horse. *Proved.*

No. 14.—*For a strain in the pastern, back or sinews.* A charge of crown soap and brandy applied hot, and heated well in, is very good: keep him out of the water for a week after, until you see him go well. This soap and brandy is an absolute cure for a new strain or swelling; but if it be old, and the swelling hard as a bone, first anoint it with oil of turpentine and beer; and two or three days after, apply the charge of soap and brandy, and it will take it quite down. *Proved.*

No. 15.—*For a strain in the coffin joint, or a sive bone in the socket of the hoof.* Take off the shoe, then pare the bottom of the foot as thin as you can, till the blood almost appears: you shall know in what place the strain is in, by taking the foot in your hand and wrying it to you and from you: if it be there, he will shrink at it much when you turn his foot: when you find where it is, make this poultice and lay it on hot. Take a pint of strong beef or pork brine, and a quarter of a pound of kitchen stuff grease; put them into a skillet and boil them together for half an hour; then put some wheat bran to it, and make a poultice of them, neither too thick nor too thin; then set on the shoe again, and put a good quantity of this poultice as hot as you can, into the sole of the foot; then stuff the sole with tow or flax, and either splinter it with a flat stick or with a piece of sole-leather, to keep them in, and let them stay in forty-eight hours; then take a long linen cloth and spread the rest of the poultice, scalding hot, all about the top of the hoof, the pastern, and up the leg so far as the swelling goes, and let it lie on forty-eight hours;

at the end of which time take it off and lay on another, and let it stay on, and so likewise a third and fourth till you see him go sound, which will be in a very short time. If you have occasion to ride him, you may after the third dressing ride him moderately; a little before you set him up, wash his legs; and when they are dry, take off his shoe, and lay the poultice to as before.

No. 16.—*For a strain in the pastern of a horse.* Take grounds of beer, hen's dung, nerve oil, and fresh grease that never had salt in it, make a poultice thereof, and lay it on: this is admirable for a strain in the pastern or fetlock, and will make a speedy cure. *Proved.*

No 17.—*For a Strain.* Take smallage, ox-eye and sheep's suet, of each a like quantity; chop them all together, and boil it in old urine; bathe the strain therewith; then with hay ropes, wet with cold water, roll up his leg that is strained, and he will be able to travel the next day. N. B. Hay ropes boil'd in old urine, I have known to cure a strain. Or thus, take milk and boil it, and put as much salt into it as will turn it to a curd; then strain it and apply the curd to the strain, and bind it on, renewing it every day, and it will cure any old sinew-strain. N. B. The scum of salts sod in old urine will cure any windgall.—Soap and stone lime is accounted one of the strongest causticks that is, by being mixed together.

No. 18.—*A certain cure for a strain hidden or apparent.* Take the dog-berry tree, by some called red willow, which commonly grows in meadows, and by creek sides; there are two sorts; that of the broadest leaf is accounted the strongest; scrape off the bark and boil it

in spring water; then bathe the grieved place therewith; and take of the bark; thus boiled, and apply it to a strain as you would a poultice, and let it remain twelve hours; you must also, if the strain be great, give of the liquor inwardly, by wetting the bran or other food he eats with the boiled liquor; and by thus doing, it is a certain cure in a week's time, let the strain be never so great.

No. 19.—For a sinew-strain. Take of oil de-bay, oil of nerve, and aqua vitæ, mix't together, rub and chafe the strain therewith, and it will cure it: or thus: take a thumb band of hay, and wind it round the horse's leg; then take of the coldest water you can get, and teem it on the hay for a quarter or half an hour successively, twice in twenty-four hours; then when the hay is dry, take it off. I have known it cure strains newly taken.

Proved.

No. 20.—For the nether-joint or any strain. Take wheat flower or meal, the clay of a wall and wine-lees, all mixt together, and spread a plaister thereof, and put it on the strain, renewing it once in twenty-four hours; for a new strain twice is a cure: the clay must have no lime in it. N. B. The clay alone boil'd in the wine, is a speedy cure for any sinew-strain.

Proved.

No. 21.—For a strain in the stifle. Take oil of turpentine, linseed oil, oil of peter, olive oil, and oil organum, of each one ounce; half an ounce of oil de-bay, and half an ounce of nerve oil; shake them all well together, and anoint the grieved place once in twelve hours, and with your hand rub it well in, and it will take away his lameness in forty-eight hours.

No. 22.—For a sinew strain. Take a quart of milk boil it on the fire, and put as much salt into the milk as will turn it to a hard curd, then bind it on hot to the strain, renewing it once in twelve hours, it will cure it.

N. B. Wash or bathe the strain with warm vinegar, before you put on the curd, to hasten the cure.

No. 23.—A general cure for any strain in the shoulder, or any hidden part. Fill a large earthen vessel with the herb arse-smart and brook-lime, bruised together: cover them all over with old urine; cover the vessel close, and set it in a cool place: when you have occasion to use it, take a pipkin, and put into it as much of the urine and herbs as you think you may want, and set it on the fire and let it boil well; then if the strain be in the shoulder, cut the foot off an old boot, so that you may draw it over the horse's foot quite up his leg to his elbow, keeping the lower part of the boot close to his leg as possible, and let the upper part of the boot be wide open, and stuff the mixture into it as hot as the horse can bare it; and lay it close and fast about his shoulder, especially before and behind, then draw up the upper part of the boot, fasten it to the horse's mane that it may not slip down, and do so once a day until it be cured. This medicine is so violent, that if there be any foul matter it must come forth; it will bring it to an head, and ripen, heal, and break it. *Proved.*

No. 24.—Strains. All kinds of strains, whether in the shoulder, back, sinew, or wheresoever they may be, are cured by rubbing a little of the following oil into the part twice each day.

Strain oil.—Oil of turpentine, two ounces; camphorated spirits of wine, two ounces; tincture of Spanish flies, half

an ounce; oil of spike, two ounces; salad oil, three ounces. Let all these be incorporated together, and preserve it in a bottle for use.

☞ Rowelling may sometimes be of service in strains of the shoulder; and if violent, it is absolutely necessary: but do not suffer one to be cut before you have tried the strain oil.



CHAPTER, XXXVIII.

RING BONES,

Are bony excrescences about the small pastern bone near the coronet, or in an ossification of the cartilages of the foot (see anatomy of the foot;) if it be observed in its incipient state, a blister will probably be of service; but when of long standing and large, and it has proceeded so far as to cause a stiff joint, there is but little chance of recovery.

Receipts for Ring-Bones.

No. 1. If the callosity of a ring-bone does not spread itself below the coronet of the hoof, and is hard and bony, you may then take it out by applying a caustic, thus; shave off the hair close, and apply the caustic made of *Stone-lime* and soft *Soap*, and let it lie on not more than twenty-four hours; in that time or less, if your caustic be

good, it will penetrate to the very root of the ring-bone, and it will come clean out in fourteen or fifteen days. In the mean while keep some of your suppling and drawing salves to it, also keep it clean from filth and dirt; and when the ring-bone is out, apply your healing salves, and wash the wound with soap suds or lime water, or alum water, or whey, dressing once in twenty-four hours. When you see proud flesh arise, as it will, then scald it off with butter and salt, or burnt Alum, or any of your eating powders. Thus do with care, and there will be no doubt of a cure. A ring-bone at first coming is easily cured, sometimes by a mild *Blister* only; if it should be obstinate and will grow, then first fire gently and apply a *Blister plaister* or two, and when they are dry, make a poultice of oat-meal, oil and vinegar, and bind it on, and turn the horse to pasture, and it is a cure without much eye-sore.

No. 2.—Take *Train oil*, one quart, which rub daily on the part affected until done, heating it well in with a hot iron every time of rubbing. This stops it from forming into sinews, supples the joint, and makes the horse as whole and active as ever; yet the appearance will not be entirely taken away. *Proved.*

No. 3.—For a *Ring-Bone*. It grows just upon the instep, upon the forepart of the hinder leg, just about the hoof, in a hard knob as big as a walnut. The beast must be cast, or else tie up his contrary leg with a strong rope, till you strike four or five holes in the ring-bone, at the very edge of it. Let the holes be an equal distance, then take white mercury or arsenick powdered, as much as will lie on your flume, and put it into each hole, binding it on for twenty-four hours.

No. 4.—Take best quick lime, bruise it very fine, and lay it thick along the swelled place, and bind it on with a linen cloth fast to the foot, and lead the horse into the water a little while; afterwards unbind his foot and he is certainly cured. When you apply the lime let him be near the water side. *Proved.*

No. 5.—*Ring-Bone*, is a hard swelling a little above the coronet, which will cause the hair about that part to stare and look bristly.

The Cure.—Blistering will cure it, if recent; but if of long standing, recourse must be had to firing.



CHAPTER, XXXIX.

Thorough-Pin, Wind-Galls, Splents, Spavin, Curb.

Thorough-Pin.—By this term is meant the swelling both on the inside and out-side of the hock joint. When one of the tumors is pressed with the fingers, the fluid which it contains is forced into that on the opposite side—from this communication between the swellings the disease has probably obtained its name.

It is generally a consequence of hard work, and therefore difficult to cure; the only remedies are blisters and rest.

Wind-Galls, consist in an enlargement of the mucous sacs, which are placed behind the flexor tendons for the purpose of facilitating their motion. The swelling ap-

pears on each side the back sinew, immediately above the fetlock joint, if punctured they discharge a fluid resembling joint oil, indeed they frequently communicate with the cavity of the joint, and therefore cannot be opened without danger of producing an incurable lameness. Blisters are the only applications likely to be of service, and these seldom effect a cure unless assisted by rest. This complaint does not often occasion lameness, and is therefore seldom much attended to; but as it is almost always a consequence of hard work, and sometimes renders a horse unfit for active labour; it diminishes his value considerably.

Receipts for Wind-Galls.

No. 1. Sometimes rollers or bandages applied to the legs will have a good effect, keeping them constantly moist with the following embrocation:

Muriate of ammonia, 1 ounce, Muriatic acid $\frac{1}{2}$ ounce, Water 1 quart. Or, a strong solution of sal. ammonia and vinegar.

No. 2. These are little blebs, or small soft swellings on each side the fetlock, procured by much travel on hard and stony ways: the cure is, to prick them and let out the jelly, and then dry the sore with a plaister of pitch.

No. 3.—*The master medicine, for any Wind-Gall, Sinew Strain, Blood-Sparin, Splent, Curb, &c.* First, shave off the hair, then take of cantharides, which is a fly the apothecaries make their blister-plaisters of, half a quarter of an ounce, mixed with a little nerve oil: spread that upon the grieved part, and tie the horse up eight or ten hours till it has done working. Next morning squeeze out the

water with your finger and thumb; but take care not to break the skin. If you think once does not do, the next day spread on some more, and do as before directed, and twice certainly will perfect the cure.

It is best to spread the medicine on the grievance thin; two or three days alter anoint it with salad oil, or fresh butter, or heats foot oil, and it is a perfect cure.

No. 4.—*Strains, Wind-Galls, or Swelling.* The following ointment hath never failed for any strain in the shoulder, or other part, hidden or apparent; or any wind-gall, pain, or swelling whatever. Take ten ounces of the best and purest goose-grease, and melt it on a fire; then take it off, and put into it four ounces of the oil of spike, and an ounce of the oil of origanum: stir them very well together, then put it up into a gallipot. With this ointment anoint the grieved part; the ointment being made exceeding hot: and rub and chafe it in with all painfulness, holding an hot bar of iron before it, and thus anoint once in two days, but rub and chafe it in twice or thrice a day at the least, and gave the horse moderate exercise. *Proved infallible.*

No. 5.—*For a Wind-Gall.* First, shave off the hair, then get the inner bark of white walnut as soon as it is off the tree, and clap it to the wind-gall, and there bind it on, and let it abide on for twenty-four hours; whilst that remains, you should boil some of the bark in running water, and teem the liquor on the wind-gall, so as the bark may not dry; at the end of twenty-four hours take the bark from the windgall, and anoint it with fresh butter and hog's grease, and it is a cure.

No. 6.—*For Wind-Galls.* They are very apparent about the fetlock joints of an over-ridden horse: first open

the wind-gall with a lancet, making the orifice no bigger than that the jelly may come out, then squeeze it a little to send it away: take a wet woollen cloth, lay it on the wound, and press upon it with a hot iron until it sucks up all the moisture from the wind-gall, and it is quite dry: then take pitch, rosin, and mastick, of each a like quantity, melt them together, and daub it over the wind-gall very hot, and then clap on a quantity of shearman's flocks, and there let it remain until it comes off of its own accord and the wind-gall will be cured.

Splents are bony excrescences about the shank-bone, that is between the knee and fetlock joint; they never occasion lameness, unless situated so near the knee or back sinews as to interfere with their motion.

Receipts for Splents:

No. 1.—Many cases of lameness are attributed to splents, when the cause evidently exists in the foot.

These excrescences may sometimes be removed by strong blisters: but the old method of bruising and puncturing the part before the blister is applied, ought not to be attempted as it often does harm.

No. 2.—*For any splent, spavin, ringbone, curb, or other hard knot or excretion.* Having taken a view of the excretion, clip away the hair a little farther than it extends, then take a piece of alum'd leather, made just as big as the place you have bared, and fit it to the same: afterwards take a little shoemakers wax, and spread it only round the edge of the same, leaving all the middle part empty. Then take of the herb called asparagus, bruise

it in a mortar, and lay some thereof on the void place in the leather, and bind it fast on the bare place: if in the spring or summer time, when the asparagus hath full strength, let it lie two or three hours; but if in the winter, then it is not amiss to revive the strength of the herb by adding to it a drop or two of origanum, and let it lie a day. Be sure to tie up the horse's head for two hours for fear of biting it away.

When you have taken away the plaister, anoint the place with warm train oil, and you shall find no excretion.

No. 3.—For a splent. You must cast the horse, then beat the place with a stick until it is soft, and flemé it in three or four places upon the splent, and squeeze out the blood with your stick and your finger and thumb. Take as much hog's-grease as a walnut, and as much bole-armoniac and brimstone: beat these two last to powder, mix them with grease, spread it upon a sheet of grey paper, and lay it upon the splent, then heat a brick very hot and dry the medicine in with it, then melt some black pitch in an iron pan, and dip some flocks in it and daub it on close all over the splent that it may stick fast, and when the flocks come off, the splent will come out: but if the flock comes off before the splent, lay on more till the splent comes out; as soon as it comes out, wash it with a little white-wine vinegar, and then anoint it with salad-oil and turpentine melted together and cooled: use it once a day and the splent will come out and be whole in a week. It makes a great blemish, and takes away hair and flesh, and sometimes the hair comes no more.

Proved.

No. 4.—For a great splent. Beat it and fleam it, as you were directed in the other; then take as much crown-soap as an egg, and mix it with as much bole-armoniac, lay it on a piece of grey paper, and dry it in with a hot brick, as you did the former. It is much the same as the former.

Proved.

No. 5.—An excellent receipt for a great or small splent. Take a piece of leather twice as broad as will cover the splent, then take cantharides (Spanish flies,) and beat them to powder: take one-eighth of an ounce of them, and a spoonful of nerve-oil, rub them well together, and lay them upon a piece of leather, and bind them on for eight or ten hours; then take it off, and stroke it down with your fingers and thumb twice or thrice a day, till you see it quite fallen. This medicine will dissolve the splent into water, and it will sweat out water by doing it with your finger and thumb every day. If it be a great splent, lay it on twice; if but a small one, once will serve. He must stand in all the time of the cure: you may ride him after you have taken the medicine off. Make no more than you use, for it will not keep. This medicine will not diminish, but sink it flat: it must not be applied to a splent that hath been touched before, where the swelling still remains, and the hair is off, and skin very thin: it is too strong, and will soon eat the thin skin to pieces in such a case.

Proved.

No. 6.—Of the splent, curb, bone-spavin, or any knob or bony excretion or ring bone. A splent is a bony excretion under the knee or the fore leg. The curb is the same behind the hinder hough. The spavin is the like on the inside of the hinder hough; and the ring-bone is the like on

the corner of the hoof.—The cure is thus: upon the top of the excretion make a slit with your pen knife, near half an inch long, and then with a fine cornet raise the skin from the bone, and having made it, hollow the compass of the excretion, and no more; take a little lint and dip it in the oil of origanum, thrust it into the hole, and cover the knob, and so let it remain till you see it rot, and that nature casteth out the medicine and the cure. As for the ring bone you need to do nothing more than to scarify it, and anoint it with the oil only.

No. 7.—An approved and certain method to take away any splent. Take the root of elecampane, wash it clean, then lap it up in wet brown paper and roast it in hot embers till it be well done, and take care you do not burn it; then rub and chafe the splent; and as hot as the horse can bear, clap this root right on the splent, and bind it fast, and in two or three dressings it will consume it quite. But I would not have you lay it on so hot as to scald.—Also, if you rub the splent with the oil of origanum, morning and evening, it will take it away.

No. 8.—Splents. Let the splent be bathed with a sponge wet with the hot decoction of wormwood &c. for at least ten minutes daily: then the part moistened with the following solvent, wetting a small piece of tow with the same, and binding it slackly on the part with a small flannel roller; remembering when the horse goes out, or to his exercise, that the application is renewed (after being dressed) upon his return to the stable: Take extract of saturn, and oil of origanum each half an ounce, camphorated spirits of wine two ounces and an half; shake the two last well together, and add the extract, letting the bottle be well and con-

stantly shaken at each time of using; if which precaution is not invariably used, the oil of *origanum* will, by disuniting itself from the other articles, swim upon the surface, and by coming out, alone occasion loss of hair, which never does happen when the composition is properly shaken and applied. *Proved.*

No. 9.—Splent. The splent is a fixed callous excrescence, or hard knob, growing upon the flat of the in or outside (and sometimes both) of the shank bone; a little under, and not far from the knee, and may be seen and felt.

To take it off, shave the part, and beat it with a stick, prick it with a nail in a flat stick, clap on a blistering plaister as strong as you can make it, let it lie on three days; then take it off, and rub the place with half a drachm of the oil of *origanum*, and as much oil of *vitriol*, mixed; if the first does not do, rub it a second time with the oils; if you find any remains of the splent, apply a second blistering plaister for twenty-four hours; walk him moderately, to prevent any swelling or excrescence from settling.


Most young horses have splents, more or less, and they will occasion lameness while they are coming upon the bone, but after they are grown to the firmness of bones, they do not lame a horse, nor is such a horse worse for use, tho' he may not look so well to the eye.

SPAVIN.—A Spavin is a swelling on the inside of the hock, and is of two kinds; the first is termed a bone spavin, consisting of a bony excrescence; the other a bog or blood spavin. The former often occasions lameness just before it makes its appearance, and then can be discovered

only by feeling the part, which will be found unusually hot and tender.

Receipts for the Spavin.

No. 1. If a blister is applied and repeated at this period of the disease, it will generally prove successful; but when the disease has existed for some time, the cure is much more difficult; in such cases the skin should be irritated by caustic and the following day a strong blister applied; after this two or three months rest (at grass) are absolutely necessary; this disease is, however, generally incurable.

 The bog spavin does not so often occasion lameness as the other, except when a horse is worked hard, which generally causes a temporary lameness, removable by rest; but it does not often admit of a radical cure, for though it is frequently removed by two or three blisters, it generally returns when the horse is made to perform any considerable exertion.

No. 2.—*For any Splent, Spavin, Ring-Bone, Curb, or any other hard knot or excretion.* First, having taken a view of the excretion, clip away the hair as far as the excretion goeth and a little part more: then take a piece of alum'd leather, made just as big as the place you have bared, and fit it to the same proportion. Then take a little shoe-makers wax, and spread it round about the very edge or verge of the same, leaving all the inward or middle part empty, and not touched with the wax, according to this figure O. Then take of the herb called asparagus, which hath the virtue to raise blisters, and bruising it in a mortar, lay some thereof on the leather, in the void and

empty place, which ought to contain the just quantity of the knot or excretion, and bind it fast thereon; suffering it so to lie (if it be in the spring or summer time, when the asparagus hath its full strength and virtue) two or three hours. But if it be in the winter, then it hath less virtue; then it is not amiss to revive the strength of the herb, if you add to it a drop or two of origanum, and let it lie a day; and be sure to tie up the horse's head for two hours, for fear of his biting it away.

When you have taken off the plaister, anoint the place with train-oil warm, and you shall find no excretion.

No. 3.—For a Spavin as big as an egg. It groweth upon the inside of the hough of the after-leg: first, beat it with a blood-stick until it be soft; then anoint it with six-penny worth of the oil of origanum upon the bone-spavin which you bruised; put your oil into an oyster shell, or some such thing and rub it in with your fingers, no where but upon the place which you bruised: two days after the oil hath taken its course, take two or three ounces of the oil of swallows, and anoint the cord-sinews in the bent of the leg to stretch and give liberty to the sinews that are shrunk: lay on of the oil of swallows but half an ounce at a time, and lay it on no where else, but upon the sinews on the bent of the leg; after that the oil of swallows is well soaked in, you may ride him or work him: this oil of swallows doth much lengthen and give liberty to the sinews. At three or four days distance you may lay on half an ounce more. If blood-bags come in the spavin-place at the same time the bone-spavin comes, then do not sear it with your iron by any means; only lay the charge of soap and brandy hot

on, and heat it well in with a bar of iron, and for certain it will cause it to fall. *Proved.*

No. 4. To take it off, beat the bone with a bleeding stick, and rub it: then anoint it with the oil of origanum, tie a wet cloth about it, and with a hot brick applied to it, soak in the oil till it be dry.

No. 5. For the blood and bone Spavins. For either blood or bone spavin proceed in the following way: For three days let the part affected be substantially bathed with the following bathing decoction:

Take wormwood, lavender, rose-mary leaves, camomile and elder flowers (for want of the flowers take the bark) of each four ounces—boil these in three gallons of water for half an hour, keeping them stirred below the surface; this done let the affected parts upon all occasions be bathed with sponges or flannels for full half an hour night and morning, as hot as the horse can possibly endure it; this to be succeeded by patiently rubbing it in downwards with your hand for a considerable time, wrapping the parts immediately round with a flannel roller; which done apply the horse ointment. *Proved.*

No. 6.—To cure a Bog-Spavin. First open the bog, which will discharge a large quantity of matter; dress the sore with dossils dipped in oil of turpentine; putting into it, one ounce in three or four days, of a powder made of calcined vitriol, alum, and bole: by this method of dressing, the bog will decrease and come away, and the cure will be successfully completed without any visible scar.

No. 7.—*Blood Spavin.* Is a soft swelling on the inside of a horse's hock, but not the master-vein, as is generally supposed. It makes a horse take his leg very

stiff from the ground, and will sometimes cause him to go quite lame.

The cure. First clip away the hair from the swelled part; then with a piece of hard brown soap, rub all round the outside of the spavin, leaving it untouched where the following blister is to be laid: so that it may act alone upon it, and no other part.

Blistering ointment. Hogs-lard. half an ounce; bees-wax, three drachms; sublimate in fine powder, one drachm; cantharides, two drachms; be careful that they are all mixed together. Spread the plaister on a piece of white leather, and lay it on the spavin.

This ointment may be repeated after the former one is done running, if you see occasion for a repetition, which generally completes the cure.

No. 8.—Of the blood-spavin, or hough-bony, or any other unnatural swelling, from what cause soever it proceedeth. These two are postules or soft round swellings; the first is of the inside of the hinder hough, and the other on the very huckle of the hough; they are soft and very sore. The cure is thus:—first bind up the vein above, and let it bleed only from below; then having tied it fast with shoemakers ends on both sides, slit the vein in two pieces, then take linseed and bruise it in a mortar, mix it with cow-dung, heat it in a frying pan, and so apply it to the swelling only; if it breaks and runs, then heal it with a plaister of pitch, and the horse will never be troubled with a spavin more. If the swelling comes by a strain or bruise, then take pitch grease and melt it, anoint the sore therewith, holding a hot iron near it to sink in

the grease, then fold a linen cloth about it, and it will assuage all swellings whatsoever.

CURB.—This term implies a swelling on the back part of the hock, which sometimes occasions lameness.

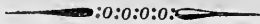
Receipts for Curbs.

No. 1.—Blistering and rest are the only remedies; it is frequently necessary, however, to apply two or three blisters before a cure will be effected:

No. 2. This Curb always groweth upon the back-part of the heel of the knee of the hinder leg, in a hard substance; I shall give no more signs, for it is easy to be seen: The remedy is this, first tie up the contrary leg as you do for a blood-spavin; then with an hot iron sear it lengthways down his leg upon the curb, till the skin look yellow; then draw your hot iron across it, as you did for a blood-spavin, in two or three places; then presently take an horse-nail and drive it through a stick, so that the point of the nail may come a little through the stick, the breadth of a straw, or a little more: then set the point of the nail to the fired places, and strike it, some ten or twenty times, according as the burning goes in several places, and as you see occasion: then take a handful or too of salt, and rub it well in with your hand to stop the blood; and half an hour after, wipe the salt off, and apply the charge of soap and brandy hot on, and heat it well in with a bar of iron; and as your iron cools, slake it over it, to dry it in the better: let the charge lie on till it comes off of itself; you may ride him every day after three or four days; in the mean time, let him stand in the stable. *Proved.*

No. 3.—Curb. Is a swelling of the great sinew below the elbow of the hock, extending itself downwards towards the heel. It causes a horse to go very stiff, and sometimes lame.

The most effectual method of cure is, to draw a line down the middle of the curb with a cautery, and afterwards apply the blistering ointment.



CHAPTER, XL.

DISEASES OF THE FOOT.

The most frequent cause of lameness in the foot is a contraction of the horny matter that composes the hoof which is generally accompanied with an increased concavity and thickness of the sole. The cavity of the hoof being thus diminished, the sensible foot suffers a greater or less degree of compression, which occasions in it inflammation and lameness. When we examine the bottom of a contracted foot, instead of being circular, it will be found of an oblong form, the heels and frog will appear as if they had been squeezed together in a vice. Sometimes the frog has become rotten, and discharge an offensive matter.

The sensible foot may also be compressed and inflamed by an increased thickness, and a consequent loss of elasticity in the hoof and sole; and in this case there is sel-

dom any considerable alteration observed in the external form of the foot.

We sometimes meet with horses that go perfectly sound, though their hoofs are much contracted; on the other hand we often see severe lameness produced by a slight degree of contraction.

Receipts for diseases of the foot.

No. 1.—In attempting to cure this disease, the first step to be taken is to remove carefully with a knife all the rotten parts of the frog, and apply tar to those which are sound: and oil of turpentine should be poured into the cleft of the frog; this will promote the secretion of honey matter, and if assisted by pressure, will increase the solidity of that which is already formed. The quarters and heels are then to be rasped, particularly at the coronet, and the superfluous parts of the sole removed with a butteris and drawing knife. The toe is to be shortened as much as can be conveniently done, and if the heels are too high, that is, if the crust at the heels is too deep, it will be necessary to reduce it with the butteris and rasp. It frequently happens, however, in feet of this description, that the heels are too low, in such cases they must be carefully preserved, and when a shoe is applied, it should be made thicker at the heel than at the toe, and somewhat longer than that recommended for a sound foot.

When the contracted hoof has been thus treated, the next thing to be done is to keep the foot as moist as possible, and expose the frog constantly to pressure, either by means of the artificial frog, or by reducing the crust at the heels. When these remedies have been persevered in for

a short time, the frog will have acquired a certain degree of hardness and solidity; it will then be proper to turn the horse out into some soft meadow ground, without shoes, taking care that the bottom of the foot is occasionally reduced, so that the frog may constantly receive pressure. If the foot is examined after a short time, it will be found that all the new formed hoof at the quarters and heels, that is all the horn that has been produced at those parts since the remedies were first employed, instead of growing down nearly in a perpendicular direction, or obliquely inward, is forced outwards in its descent, so that the cavity of the hoof will be considerably enlarged, and the compression of the internal parts removed. When the horse has been at grass a sufficient time for the new hoof to grow completely down, the shape of the foot will be found much altered; the heels instead of being narrow will be open and expanded, the frog will be considerably widened, and not squeezed together as before, and the oblong form will be changed to one that is more circular; in short when the frog, during this time has been properly exposed to pressure, and the quarters so rasped as to be rendered sufficiently flexible, the hoof will be found very similar in its form to that of a colt.

No. 2.—Inflammation and Lameness. In cases where a contraction of the hoof has already produced inflammation and lameness, particularly if the lameness is not recent, it will be advisable to blister the pasterns previous to turning the horse out, and when the inflammation is very considerable, a laxative ball, with a cooling diet, will be serviceable. The cruel operation of drawing or tearing off the sole has been recommended as a remedy for

contracted feet, but very little reflection will convince any one of its inefficacy; whenever it has been supposed to do good, the benefit has probably arisen from the long run at grass that becomes necessary after it, and then the advantage might have been equal, perhaps greater, had the operation been omitted. It has been observed before, that in contracted hoofs there is generally an increased concavity in the sole, whence we may reasonably conclude that it opposes the contracting powers, though in the end it is not capable of preventing the contraction from taking place. Upon a horse that has been lame from this disease a considerable time, it is difficult, if not impossible, to perform a radical cure. When the lameness is not so considerable as to render the horse totally unfit for work; it will be advisable to apply a shoe that is thicker, wider, and longer at the heels than that recommended for a sound foot, and if the frog is tender and rotten, the bar-shoe will be found serviceable. It will be found useful also to keep the hoof as moist as possible, by making the horse stand in water or wet clay four or five hours during the day, or in a bran poultice.

In examining the feet of horses after death, that have been thus diseased, we find generally that the laminae have been destroyed, the coffin-bone injured, the lateral cartilages ossified; in some cases, however, no appearance of disease can be perceived on the internal parts of the foot.

☞ When the disease has gone so far as to injure the laminae, cartilages, or coffin-bone, there is not a possibility of removing it, which shews how necessary it is to attend to the feet of horses more than is commonly done;

and that whenever any alteration is perceived to be going on in the shape of the foot, when the heels appear to be getting narrower, the frog squeezed together and discharging matter, in consequence of the compression which the sensible frog suffers; it surely must be of importance to adopt such measures as will not only prevent the disease from going any further, but will also restore the foot to its natural healthy state; for when it has gone so far as to produce absolute lameness, the cure is by no means certain. How frequently do we meet with horses that are said to be tender in the feet, and how subject are they to fall in consequence of this tenderness, which generally arises from contraction of the crust; in this case the sensible frog is extremely irritable and inflamed, and the horny frog which nature designed for its protection being soft and rotten, and inadequate to its function, every blow that it receives must of course give the animal very considerable pain. Whenever therefore any of those symptoms make their appearance, and whenever the foot seems to be undergoing an alteration in form; immediate recourse should be had to the mode of prevention we have pointed out.

No. 3.—The next disease to be noticed is the flat or convex sole, or, as it is most commonly termed, the pumice foot. This disease most commonly occurs in heavy draft horses, and seems to arise from a weakness of the crust; for when the sole becomes flat or convex, the crust also loses its proper form, and becomes flatter, appearing as if it had been incapable of supporting the animal's weight, and had therefore given way, allowing the internal foot to press so upon the sole as to give it the appear-

ance we observe. This explanation of the disease will perhaps appear the more probable, if we consider that when a horse is drawing a heavy load, not only his own weight, but great part of that which he is drawing also, is thrown ultimately upon his feet, and as the fore feet support by far the greatest share, it is not at all astonishing that the crust should sometimes give way; for though it possesses sufficient strength for the purpose of the animal in a state of nature—yet that strength is limited, and not always adequate to the burthens which the crust has to sustain. When the sole becomes flat or convex, it is rendered also thinner than it is naturally, and sometimes so much so as to yield easily to the pressure of the finger; the sole in this state is of course incapable of affording sufficient protection to the sensible sole, which is then closely in contact with it; and if it be exposed to pressure, lameness must be the consequence. It is almost superfluous to observe, that the flat shoe would be ill adapted to a foot of this description; it becomes necessary in this case to apply one that is concave on its external surface, that the sole may not receive any pressure from it, and of sufficient width to protect the sole as much as can be done from the pressure of the ground. In attempting to cure this disease, it is first necessary to take off the horse's shoes, and to make him stand on a flat hard surface; this kind of pressure will harden the soles, and in the end render them thicker, particularly if tar be frequently applied to them, and although a radical cure may not be affected by this treatment, considerable advantage may be derived from it.

No. 4.—We sometimes meet with horses, particularly among those that are well bred, whose pasterns are remarkably long and oblique in their position, while the heels are very low and the toe of considerable length; if thin heeled shoes were applied to feet of this description, or if the toes were not kept short, the horse would be very liable to lameness, from the extraordinary pressure to which the ligaments and back sinews would be exposed; the heels therefore of such horses are to be carefully preserved and the toes kept as short as possible. The shoes which are applied should be made sufficiently thick and long at the heel to make up for the deficiency of horn in that part, in order to relieve the ligaments and back sinews, and with the same view the toe should be made rather thin, and of the best steel. There is another kind of deformity sometimes observed in the foot, that is, the hoof loses its oblique form, and approaches towards the perpendicular, at the same time the heels become very high; in this case it is necessary to reduce the crust at the heels, and apply the thin heeled shoe.

No. 5.—*Hoof bound.* Is a sinking in of the hoof at the coronet, and a contraction of the heels, which will be drawn tight together, like a ball; so that they will become considerably smaller than the perfect ones; and if trial be made, by gently tapping them with a hammer, they will sound hollow.

The best method of cure is to cut several lines, from the coronet downwards to the toe, all round the hoof; afterwards fill them up with any greasy or softening matter, such as tallow and soap mixed together, or with pitch

But I would caution you against the farriers' mode of making the lines, or rases, with a red hot iron, to soften the hoof, as they pretend: because that will make it more hard and brittle, immediately after the burnt part becomes cool: instead of that method, the cure must be sought for by constantly keeping the hoof mollified and softened, as before directed, that it may stretch and become as pliable as possible. I must also conjure you not to be prevailed upon to take out the sole; as that is seldom attended with any good effect.

No. 6.—For a stub in the foot, or heel, an overreach with the toe of the after-foot, upon the heel of the fore-foot, a tread or a cut above the hair, or when a stone hath cut a horses Leg. First wash the wound with fair water or with water and salt; when the wound is dry, take a big onion, or two or three small ones will answer the end as well, a spoonful of pepper beaten small, as much crown soap as the bigness of an egg; these three things must be beaten to a slave, and laid upon a linen cloth, and laid to the wound twenty-four hours, and at the end of that time dress it as you did before; and so continue doing every twenty-four hours till it be whole. If this quantity of medicine be too little, make more. As you see it heal, dress it but once in two or three days. This onion salve will prevent a quitter-bone, if you lay it to before it break. This salve is good to heal and cure all these hurts. *Proved.*

No. 7.—For a Horse that is pricked in the shoeing and afterwards festered. First open it well, and take out all the corruption to the very bottom, so far as the nail did go; then take three or four house-snails, a little salt, as much soap as a walnut; beat them all together, and lay

it to the place that was pricked twenty four hours, till you see it begin to heal; then dress it but once in two days; and in three or four dressings it will be whole. When you lay this medicine to the bottom of the foot, lay some flax, hards, or tow, over it, and over that a piece of leather, or splinters to keep the hards and medicine in. And if it break out or be soft at the top of the hoof, lay some of this medicine to, and bind it on with a linen rag.

Proved.

No. 8.—For any Founder, Frettize, Surbate, or any imperfection in the Feet. First pare thin, open the heels wide, and take a good store of blood from the toes; then tack on a shoe somewhat hollow: after, take of the best Frankincense, and rolling it in a little fine cotton-wool or bombast, with an hot iron melt it into the foot, betwixt the shoe and the toe, till the orifice where the blood was taken be filled up. Then take half a pound of Hog's grease, and melt it on the fire; then mix it with wheat-bran, till it be as thick as a poultice. Then boiling hot, as is possible, stop up the horse's foot therewith; then cover it with a piece of an old shoe, and splint it up, and so let the horse stand for three or four days; then if occasion serves, you may renew it, otherwise the cure is wrought.

No. 9.—To make Hoofs grow quickly; and to be tough and strong. Take of the juice of Garlick seven ounces, of old Hog's grease two pounds, of Ass's dung (for want of it Cow's dung) an handful: mingle them, and boil them all well together; then with this both stop the horse's foot, and anoint the crownets of the hoofs and the effect is great.

No. 10.—For Brittle Hoofs. Take Hog's grease, Dog's grease and Turpentine, mix them together, and anoint the hoofs therewith. Dog's grease is an exceeding good thing for a brittle hoof.

No. 11.—Brittle Hoofs. Anoint them with an equal proportion of Dog's grease, Turpentine, and Tar, all boiled together a little while, and it will make them grow strong and tough; put in the Turpentine but a little before you take it off the fire. *Proved.*

No. 12.—To make hoofs that are brittle grow quickly, and to make them firm and strong. Take of garlic seven ounces, rue three handfuls, of alum beaten to powder seven ounces, of old hog's-grease two pounds, of ass's-dung, or for want of it cow's-dung, an handful; beat and cut them all small, and mix them all together, and boil them all together well; then with this ointment stop his fore feet, between his shoes and the bottom of his feet, and keep it on with a piece of leather or sole leather of a shoe: Let it be betwixt his foot and shoe. And besides, you would do well to anoint the outside of his hoofs all over; do this till you see his brittle-hoofs to grow tough and strong; you will find the effect to be great. *Proved.*

No. 13.—The best receipt that can be for brittle hoofs. Take dog's-grease a pound, and clarify it up with rosemary; then mix it with half so much cow-dung, boil it, and hot or cold, stop the horse's foot therewith.

No. 14.—Of the infirmities of hoofs, as false quarters, loose hoofs, hoof-bound, hoof-running, hoof-brittle, hoof-hurt, hoof-soft, hoof-hard, or generally to preserve hoofs. The hoof is subject to many infirmities, as half-quarters, which cometh by pricking, and must be helped by good shoeing, where

the shoe must bear on every part of the foot except upon the half quarters. If the hoof be loose, anoint it with Burgundy-pitch, and it will knit it: if it be cut clean off, then tallow and Burgundy-pitch, melted together, will bring a new one: if it be bound or straightened, it must be well opened at the heels, the sole kept moist, and the coronet anointed with the fat of bacon and tar: if the frush of the foot runs with stinking matter, it must be stopt with soot, turpentine, and bole-armoniack mixed together: if it be brittle and broken, then anoint it with pitch and linseed-oil, melted to a salve: if it be soft, then stop it with soap and the ashes of a burnt felt mixed together: if the hoofs be hard, lay hot burnt cinders upon them, and then stop them with tow and tallow. And generally for the preservation of all good hoofs, rub them daily with a piece of bacon.

No 15.—For the loosening of the hoofs. Take eggs, and to every egg a spoonful of honey, and to every two eggs powdered rosin as much as will lay on the point of a case knife; work them together, and thicken it with wheat meal; then heat it just warm and apply it plaister-wise.

Proved.



CHAPTER XLI.

SAND CRACKS, CORNS, QUITTORS, &c.

SAND CRACKS. Are longitudinal fissures in the hoof, generally next the heels, beginning at the coronet. Horses,

hoofs have become dry and brittle are most subject to them, and they generally occur in the hot and dry months of summer, and seem to be occasioned by a strong disposition in the hoof to contract, at a time when it is dry and inflexible; they do not always cause lameness, and are sometimes very easily cured; but when the fissure or work is so deep as to reach the sensible parts, it often produces very severe lameness, and requires a considerable time to be completely removed.

Receipts for Sand-Cracks.

Having rasped the quarter, let the crack be opened with a drawing knife, so that the actual cautery, or red hot iron may be applied to it; this will cause a matter somewhat resembling glue to exude, which will tend to fill up the fissure, and protect the sensible parts that would otherwise be exposed. Oil of turpentine will however, generally effect a cure without burning. Our next object is to remove the contractile disposition of the hoof, without doing which every other remedy would avail little; this is to be effected by keeping the hoof constantly moist, either by means of clay poultices, or by turning the horse out to grass in soft moist ground; but previous to this, it is necessary to rasp the bottom of that quarter which is cracked, so that no part of it may appear upon the shoe.

CORNS. Corns are generally the consequence of bad shoeing, or improper management of the foot, and may therefore be avoided by following the directions we have given under that head.

Receipts for Corns.

Nb. 1.—When they do occur, it is necessary to remove the red part or corn, with a drawing knife, and to apply the shoe so that the tender part may not receive any pressure: when it has been neglected, we sometimes find matter formed in this part, which often breaks out at the coronet; in this case it is necessary to make an opening for the matter in an angle between the bar and crust.

The sore is to be dressed with compound tincture of benzoin, and the cavity to be loosely filled with lint or tow, which is to be kept in by means of a bar shoe, and spirits of turpentine poured into the wound frequently.

Nb. 2. *Corns*, are found in the corner of the heel in the hoof, and must be cut out with a sharp knife; which every country farrier can do. If cutting should not completely extirpate them, and they grow afresh, then you must touch them with a little oil of vitriol, and dress with the green ointment.

QUITTOR. This disease generally arises from a wound or bruise in the coronet, and if neglected, penetrates under the hoof, forming sinuses in various directions.

Receipts for Quitters.

Nb. 1.—The most effectual method of treating those complaints is to ascertain, in the first place, the direction and extent of the sinuses, and then to force into them with a strong probe some chrysalized verdigrease, rolled up in thin blotting or silver paper. This, though apparently a severe remedy, will be found very effectual.

whose Sublimate and arsenic have been strongly recommended as remedies for the quittor; indeed it is probable that any caustic application would effect a cure.

No. 2.—When a corn has been neglected and suffered to break out as the coronet, or when the foot has been wounded or pricked, as it is termed, by the farrier in shoeing, and this is not discovered until matter appears at the coronet; though these may be considered as cases of quittor, a different treatment is required from that we have just described; in those cases the cure greatly depends on making an opening for the matter in the bottom of the foot, where the nail which inflicted the injury entered; or if produced by a corn, the opening must be made in the angle between the bar and crust. The best dressing on those occasions is the compound tincture of benzoin and digestive ointment, or oil of turpentine alone: a poultice is sometimes required to soften the horney matter, and subdue any inflammation that may exist in the foot.

No. 3.—*Quittor-bone*, is a hard round swelling, situated upon the coronet in the inside of the foot. It is generally attended with lameness; and if it is neglected too long, will break, and ulcerate the foot.

The easiest method of cure, is first to open it, and put a little oil of vitriol into it, which will so eat about the bone, that you may, without any difficulty, thrust it out with your finger and thumb; if you find it eats too much, you may easily put a stop to it with a little cold water. When the bone is got out, heal up the wound with the green ointment, as you have been before instructed.

No. 4.—Quittor. The sooner the swelling is ripened, the more expeditious is the cure; for which, make poultices of bread and milk, a small portion of barley meal, and plentifully mixed with white lilly root, pounded to a paste, with about half an ounce of turpentine dissolved in each; this should be placed upon the centre and surrounding parts (of a very considerable heat) every night and morning. When you find the matter begin to come from the effected part, after poulticing it, then it may be opened sufficiently large to let it run freely: this becomes the more absolutely necessary, as the longer it remains in the humor the greater is its property of hardening, and powers of devastation in forming sinews in every direction. Daily rub it with a very small quantity of compound tincture of myrrh to cleanse the wound and strengthen the vessels to throw off the load that surrounds them; after having thus done once in three successive days, take yellow basilicon, one ounce and a half, red precipitate, three drachms, reduced to powder, then mix it together: this spread thinly upon a piece of linen large enough for the part, and lay it on; then cover the whole with a poultice of the aforementioned ingredients; after these have been on two days, take them off and apply the horse-ointment to heal it and then give him a purge.

No 5.—For a quittor-bone, old or new. It always grows just above the top of the hoof, on the hinder foot, and sometimes on the instep just above the hoof, on the side of the foot: but be it in any place, cure it thus: take up the vein in the small of the leg; if the quittor bone be on the inside of the leg above the hoof, then take up the vein on the inside of the leg; if on the outside, then take

it up on the outside : this is the way to further the cure, and make all sure by taking up the vein which feeds it : You may see how to take up a vein, in the receipt for a blood spavin. After you have taken up the vein, let it bleed well, and put into the wound some butter and salt; then with a little tow, or linen cloth, wound about your instrument's end, search the quittor-bone to the bottom, and where you see the matter come out, put your instrument in : when you have searched the wound, and made it clean, put into it a piece of white arsenic as big as a small bean, and put a little tow in after it, and lay a little tow upon the top of the quittor-bone, with a linen cloth over it and a woollen cloth tied over all : then tie him up to the rack with a strong halter till the anguish of the arsenic be over, for fear he come at it with his mouth ; let the arsenic lie in for forty hours; then take out the tow, and you shall see the hole in the quittor-bone look black and swelled more than it was before, it is the effects of arsenic, therefore you need not fear, but as soon as you have pulled off the clothes and tow, you may put his foot into a pail of cold water for a quarter of an hour, and let it soak, or if the river be near so that you can lead him into it, if it be clear water, so that no sand or dirt get into the wound, and let him stand and soak his leg there for a quarter of an hour, for his leg must be soaked once a day either in a pail of clean water or in the river, for a week together : take off his wet hard clothes, and tie on dry ones ; this is all you have to do till you see the core of the quittor-bone come out, then make this medicine to heal it.—Take a little good honey, put it into a pipkin, and when hot, put in a little verdigrease, and three or four

spoonfuls of white-wine vinegar; boil them together for half an hour, then take them off the fire, and when it is cold dip a little fine tow into it, and put it in the wound, and lay a little dry tow over that, and a linen cloth over the whole, and bind them on with a string, and so dress it once a day till you see it begins to heal, and then dress it but once in two days; and as you see it heal dress it the seldomer till it be whole. There will be a little bare space where no hair will come: put in arsenick but once, and although you tie him up to the rack, because his mouth should not come to the arsenick, yet give him meat for all. Do but remember those two last cautions, and you need not fear the cure for it will be speedy. If you meet with a quittor-bone that hath been long in other farriers hands, that hath so corroded and poisoned it, that it is much swelled about the pastern and leg: in this case, you must first take up the vein on that side of the leg that the quittor-bone grows on, to keep the humours back that feeds it, then put in as much arsenick as a bean, as you were before directed, and when the core is out, heal it with the same salve, and do every thing as before directed: but if there grows proud flesh in it whilst you are a healing of it, then scald it with butter and salt, and that will keep the proud flesh down. An old hurt in the foot may come to be a quittor-bone, and break out above the hoof, but a quittor bone will never break out in the sole of the foot. Except you take up the vein, it is a very hard thing to cure. After the core is out it will not be amiss, before you go about to heal it, to wash it with white-wine vinegar, and then apply the healing salve mentioned in the foregoing receipt.

Proved.

No. 6.—Of hurts on the cornea, as the quitor-bone or matlong. The quitor-bone is a hollow ulcer on the top of the cornea, and so is the matlong: the cure is, first to tent it with verdigrease till you have eaten out the core, and made the wound clean, then you shall heal it up with the same salve that you healed the scratches.

THRUSH.—This disease consists in a discharge of foetid matter from the cleft of the frog, which part is generally rotten, and so soft as to be incapable of affording sufficient protection to the sensible frog which it covers; hence arises that tenderness of the foot which is so often observed. When this complaint attacks the fore feet, it is seldom, if ever, an original disease, but merely a symptom or effect. The cause is generally a contraction of the horny matter at the quarters and heels, by which the sensible frog is compressed and inflamed, the discharge which takes place in consequence of this inflammation, and may be considered as an ineffectual effort of nature to cure it; the discharge, however, certainly diminishes the inflammation, and prevents it from coming so considerable as it otherwise would, for it often happens when it has been stopped by the injudicious application of astringents, or when it ceases spontaneously, that the inflammation becomes violent, extends to the other parts of the foot, and occasion severe lameness, which generally is relieved or removed by a return of the discharge; but we are not to infer from this, that an attempt to cure thrushes is improper, it only shews that it is necessary in the first place to remove the cause of the disease.

Receipts for a Thrush.

No. 1. Rasp the quarters and the hoofs, keep them constantly moist by making the horse stand in clay for some part of the day, or bran poultice; taking care to keep the frog dry by means of tar if possible. When by these means we have succeeded in removing in some measure the compression and consequent inflammation of the sensible frog, it will be advisable to apply oil of turpentine or some other astringent to the frog, which, if assisted by pressure and tar, will render that part firm and solid, and the discharge will of course cease when the inflammation leaves the sensible frog.

☞ The best astringents for this purpose are a solution of white or blue-vitriol, alum, &c. There are some cases, however, of Thrushes which though occasioned by impression of the sensible frog, it is difficult, if not impossible, to eradicate.

No. 2. With respect to those Thrushes which attack the hind feet, and which sometimes, though rarely, happen also in the fore-feet, independently of the above cause, a different treatment is required. When the discharge has existed for a considerable time, by stopping it hastily we frequently produce inflammation and swelling of the legs; still it is necessary to check the disease, since, if neglected, it sometimes degenerates into that dangerous disease termed canker. It is advisable, therefore, in such cases, to keep the bowels open by the following laxative ball, given every morning until the desired effect is produced and repeated occasionally.—The best application for the frog is tar, and one of the above astringents. This treatment will be greatly assisted by two or three hours

exercise every day, and frequent hand-rubbing to the legs.

Lexative Ball.—Take aloes, 3 dr. Castile soap, 3 dr. To be made into a ball for one dose.

Canker in the foot. This disease frequently originates in a thrush, and most commonly attacks the hind feet; it generally proves difficult to cure, and not unfrequently incurable. The frog is the part first attacked, which becomes soft and rotten, discharging matter of peculiar offensive smell; the horny frog is at length totally destroyed, and the sensible frog, instead of secreting horn, forms a substance somewhat resembling shreds of leather. The disease soon extends to the sole and other parts of the foot, even to the coffinbone, and is then considered incurable.

Receipts for the Canker.

No. 1.—The first thing to be done is to cut away freely all the diseased parts, and when the bleeding is stopped, let the following liniment be applied, and repeated every morning; the dressings may be kept on by means of a bar shoe. Pressure on the diseased part will very materially assist in effecting a cure, if practicable; whenever the foot is dressed, such diseased parts as may again make their appearance are to be carefully removed, and to such as do not appear to be sufficiently affected by the liniment, let a little sulphuric or nitrous acid be applied. When the parts which were diseased begin to look red and healthy, and the discharge loses that peculiar smell before noticed, becoming whiter and of a thicker consistence, there is great probability of perfect cure being effected; and when those favourable appearances take place,

some mild application will be proper, except to such parts as do not appear to have entirely lost their foul appearance.

No. 2.—Strong liniment. Oil of turpentine, 1 oz. Sulphuric acid $\frac{1}{2}$ oz. Mix very cautiously.

No. 3.—Mix. Red nitrated quicksilver, $\frac{1}{2}$ oz. Nitrous acid, 2 oz.

The former being dissolved in the latter, mix them cautiously with 4 oz. tar.

No. 4.—Mild liniment. Chrystalized verdigrease, finely powdered, 1 oz. Honey, 2 oz. Powdered, bole and alum, of each, $\frac{1}{2}$ oz.

Vinegar enough to give it the consistence of a limiment, to be mixed over a gentle fire.

No. 5.—Canker. For to cure the canker in a horse's Mouth. Take half a pint of the best white-wine-venegar, and half a pound of the best rock-alum, and a handful of red sage, and boil them all together, and so wash the horse's mouth and tongue. *Proved.*

No. 6.—For a canker in the head. A canker is a disease in the head, and sometimes will set upon the eyes, and sometimes in the nostrils: you shall know it by his rawness, and it will run a yellow water. For remedy, take half a pint of salad-oil, one ounce of the oil of turpentine, three ounces of burgundy pitch, and one penny worth of verdigrease beaten fine; put all but the verdigrease into a pipkin, and let them boil together a pretty while: then take it off the fire, and put in the verdigrease, and let them all boil together to a salve; but if you have not a great care, the verdigrease will make them all boil over; to prevent which, always have another pipkin standing by

in readiness, that if it boil over you may put some into that; then put them together again, and set them upon warm embers, and let it gently boil till you see it come to a salve, being neither too hard nor too soft; you must stir it all the while it boils, then take it off, and keep it for your use. If you use this medicine for a canker in the nostrils, first tie a rag about a stick's end, and dip it in some white wine vinegar and some salt, and run it up his nostrils to do off all the scales. When you have washed it clean, take a feather, and if it be not long enough tie two together, and dip it in the cold salve, and run it up his nostrils but once a day. If it be a canker in the head, face or eyes, take a little tow, and rub the canker till it bleed and when it leaveth bleeding, anoint it with a feather dipt in the aforesaid salve, and strew some wheat bran upon the salve; it will hold on the better. Dress it once a day till you see it heal, and then once in two or three days, whilst it heals up. Observe this rule in all outward cures, for it is needful. Let him stand in all the time of the cure.

Proved.

No. 7. For Cankerous tumours in the Feet. Take cow dung, tar and hog's-fat, and make a poultice thereof, and as hot as possible, (free from scalding) apply it round the hoof.

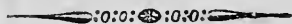
Proved.

No. 8. For a Canker or sore in any part of the body. Take a quantity of poke roots, and boil them in a quart of water until it comes to half a pint; then take six ounces of hog's fat, one gill of tar, and one ounce of the flower of brimstone, boil all together till the water is boil'd quite away; then use it for a common salve for any violent canker or sore.

Proved.

No. 9.—*Of the canker in the nose, or any part of the body.*

To heal any canker in what part soever it be; take the juice of Plaintain, as much Vinegar, and the same weight of the powder of Alum, and with it anoint the sore twice or thrice a day, and it will kill it, and cure it.



CHAPTER XLII.

Chronic, & other Coughs, Colds, Laxatives, & Blisters.

Chronic Cough.—We have already noticed this complaint as one of the symptoms of a cold, but did not at that time give any particular directions for its treatment, because it generally ceases as soon as its cause (the cold) is removed. It sometimes happens, however, that the cough continues, although every other symptom is gone off. This complaint, which from its long continuance, is distinguished by the term chronic, may be readily accounted for, when it is recollected that what is called a cold, consists in an inflammation of the membrane which lines the nose and throat; that this membrane also forms the internal surface of the windpipe and its branches. When the cold, therefore, has been violent and improperly treated, the inflammation is liable to extend to the windpipe, or even to its branches, causing an effusion of coagulable lymph from the membrane, which proves a constant source of irritation. It is probable also that the inflammation may sometimes render the membrane so very irritable, or so alter

its secretion, as to keep up a constant irritation and cough, without any effusion having taken place.

Receipts for a Cough.

No. 1. When a considerable quantity of coagulable lymph has been effused, it obstructs the passage of the air in respiration in some degree, causing that sonorous kind of breathing which is termed thickness of wind or roaring. Take from two to three quarts of blood from the neck, then give one of the following alterative balls every morning. until purging is produced, and this if assisted by proper attention to exercise, diet, and grooming, has often effected a cure. Bran mashes with a little oats added, is a proper diet.

☞ The chronic cough is frequently occasioned by worms in the bowels or stomach, and is then to be treated accordingly (see worms.)

No. 2.—Alterative Balls.—Succotrine aloes 1 dr. to 2 dr. Castile soap, 2 dr. Tartarized antimony, 2 dr. Syrup enough to form the ball for one dose.

No. 3.—Should the disease not submit to this remedy, try the following: Gum ammoniacum, 3 dr. Powdered squills and opium, of each 1 dr. Camphor, 2 dr. Syrup enough to form the ball for one dose.

This is to be given every morning, and continued five or six days. A stable properly ventilated, should be chosen, and the vapours of foul litter carefully avoided.

Tar water has also been found beneficial in this disease. If this is given, the horse should be permitted to drink plentifully of it for a fortnight or more, during which time no other drink should be allowed.

☞ The proper way to prepare it is, to put three or four quarts of tar into a wide vessel, open at one end and capable of containing eight or ten gallons, keep a sufficient quantity of soft water always standing on the tar for use.

No. 4. Cough. I have been informed that an Indian-turnip, dry'd and finely powdered and mixt with Bran, is a certain cure for a cough.

No. 5.—Cough, shortness of Breath, Pursiness, or broken wind. First, take three spoonsfuls of tar, sweet butter as much, beat and work them well together; add fine powder of liquorish, anniseeds and sugarcandy; till it be brought to a hard paste, then make it in three round balls, and put into each ball four or five cloves of garlic: give them to the horse, and warm him with riding both before and after his receiving the pills. He must fast full two hours both before and after.

*No. 6.—*Take a piece of fat bacon, four fingers long, and almost two fingers square, then with your knife make several holes in it, and stop in them as many cloves of garlic as you can; then roll it in the powder of liquorish, anniseeds, sugarcandy and flower of brimstone, all equally mixed together. Give it your horse fasting in the morning, at least twice a week, and ride him after it, and be sure you sprinkle all the hay he eats with water, and it will soon perfect the cure.

*No. 7.—*Take of the syrup of coltsfoot, two ounces of elecampane, anniseeds and liquorish root, half as much of each pounded into a fine powder; sugarcandy two ounces, divided into two equal parts; then with sweet butter work the syrup and powders with one part of the sugar-

candy into a stiff paste; then make balls or pills thereof and roll them in the other part of the sugarcandy; then give the horse one ball or two every morning fasting, exercising him gently an hour after. Thus do for divers mornings till you find him mend, which he will do in a short time.

No. 8.—For a Cough of the Lungs. To know this, the horse will cough hollowly and gruntingly; he will hang down his head when he coughs; his flanks will beat, he will fetch his breath short. For remedy, let him stand in the night before; the next day in the morning fasting, give him a spoonful of the syrup of horehound, and a spoonful of the flour of brimstone, and put these into a pint and a half of strong beer heated blood warm, and give it to him fasting; take him and ride him three or four miles presently upon it, till he sweat well: ride but a foot pace within a mile of home; be careful to set him up warm: litter and clothe him warm: let him stand in not above two or three nights, if it be in summer; after that turn him out from ten o'clock to three o'clock, for two or three days, and then turn him out for altogether: the more moderate you work him, the better he will thrive. It will take away his cough, clear his pipes, and make him thrive much after it. If there be a white, thick, clayey water near, let him drink there; it is a warmer and more fattening water than any other; give warm water not above twice. This drink will clear his pipes, and drive it from his lungs. You may put in as much of the powder of machoachan, as will lie upon a shilling at three times.

Proved.

No. 9.—*For a strangling in the guts, the cough of the lungs, clearing the pipes, and giving much Breath.* If you be to run your horse for a wager, give him two of these balls a week before. I make them thus: take as much of fresh or salt butter as the bigness of an egg and an half; part it in the midst as near as you can, hollow it in the fashion of a pie, mix and bray together with your butter half an ounce of anniseeds, beaten to powder, then make a pie of your butter and anniseeds thus mixed and put into it three quarters of a spoonful of syrup of horehound into each ball, and close up the ball close that the syrup may not come out. Make your balls no bigger than a barber's wash-ball, or but a little bigger; for it is not good to give balls too big: then warm a pint and an half of strong beer blood warm, and fill the horn with beer, and before you put it in, put in one of the balls, having pulled out his tongue with your left hand before. When his tongue is out, put the balls into his mouth as far as you can, then give two hornsful of beer to wash it down; do the like with the next ball as you did with the first; then take his back and ride him for three or four miles a hand-gallop, till he sweat well; for this reason, because the diseases, in this receipt, as they come with a heat, so the speediest and best remedy is to drive them away with a heat. The second reason is, that a drink will take no more place in a horse for heats and colds, than to give a horse a drink, and walk him about the yard. Therefore for diseases of this nature, ride him till he sweat soundly: a mile before you come at home, ride him but a foot pace, that he may be set up some thing cool; then tie him up to the rack, cover him with two cloths, stuff him and litter

him very warm, cover his head and body to keep him from the cold; let him stand four or five hours before he eat or drink; then when you unbit him, give him a mash, or some water blood warm, or some clean hay, and take off one cloth, and keep him warm. If this will not do, a week after give him the same again; and give him warm water but two days after it, and then cold water, a week before your horse goes to grass; give it three or four times a year, and it will keep your horse in gallant health. It will fatten a horse. It will make him sick; but fear nothing. If you give your horse too much at a time, that it makes him extraordinary sick, give him a pint of milk as it comes from the cow, & heat the milk blood warm.

Proved.

No. 10.—For an old Cold which causeth the horse to run sometimes at one nostril, and sometimes at both, and hath done for a year together, and is knotted with kernels under his throat between his jaws. The cure is thus: Take an ounce of turmeric, an ounce of aniseeds, beat them small, one ounce of lignum vitæ, you shall have it at the apothecaries, a quarter of a pint of aqua vitæ, a quarter of a pint of white wine vinegar, one handful of unset leeks beaten small in a mortar; wash the mortar with beer; put all these together with a pint and an half of strong beer; give them to the beast fasting blood warm, and litter and clothe him up warm; at the end of that time give a little sweet hay, and at night give him some water and bran; the next morning give him warm water and bran again, and presently after give him two ounces of honey, and half a pint of white wine blood warm: then ride him three or four miles after it, clothe and litter him warm when he

comes in; whilst he is abroad, boil him half a peck of oats with two ounces of fenugreek, and two ounces of coriander-seeds, burst them all together, and give it him; the third day morning, give him a cordial made of three pints of stale beer, and a quarter of a pint of honey, as much butter, a good piece of household bread: put in the honey and the butter after the bread and beer is boiled together, and give him this cordial fasting blood warm; the fourth day morning give him this drink, viz. one ounce of poly-podium, one ounce of bay-berries, an ounce of long pepper, one ounce of brown sugar-candy; beat them all small, and put them into a quart of mild strong beer, heat it blood warm, and before you give it him ride him a mile, and then give it him, and ride him two or three miles after it: clothe and litter him up warm. After he hath fasted for four or five hours, give him bursten oats, with two ounces of fenugreek, and two ounces of coriander, as before; if you have no coriander, then take two ounces of caraway seeds, and give him that night of the oats and seeds, and put the water where the oats and seeds were boiled, into some cold water, and let him drink that and no other. When you have rested him a week, then give him the first drink mentioned in this receipt, and follow him as you are directed every day; in the third week give him the same things again, in the same manner, and at the same distance of days, in all points, as you did the first week, and in three or four weeks it will be a cure. The first drink doth loosen the filth, and open the lights, and set them a running. The cordial, white wine and honey, will keep him to his stomach, help him to void filth at the nose and mouth, and will nourish him within; they do cleanse the ste-

mach breast and bowels, and do much waste the quinsy in the throat; they do cut the tough thick phlegm. If you order these things as you are in many places directed, and air him moderately once or twice a day, the horse will soon be sound again. The last drink of polypodium, long pepper, bay-berries, is a purger of the veins, blood and liver, and will stay the wasting of the body. That day morning you give him the first drink, apply the charge of soap and brandy, made in a salve, to the kernels between his jaws, and in a week's time it will be fallen flat, and not break. Lay the charge on scalding hot, and heat it well in. If you see the yellow matter to become white, there will be the greater hopes of the speediness of the cure. *Proved.*

No. 11.—*For an old cold.* If you see cause, take blood from the neck-vein otherwise not; then instead of giving him oats, give him wheat bran boiled in water after this manner, viz. set a kettle over the fire almost full of water, and when it begins to boil, put in your bran, and let it boil a quarter of an hour: then take it off, and let it stand till it be almost cold, and about four or five o'clock in the morning, give it him as hot as he can eat it, and for his drink give him the same water, and at night give him oats and white water to drink, and let him be covered and littered up warm. If it be in summer, let not the stable be too hot, for that will take away his stomach, and make him faint. And when you give him this water at night, always give him as much of this powder as an egg-shell will hold amongst his oats, to which you must keep him eight days together, or longer if you shall see cause; the boiled bran is that which drieth up all his

corrupt and gross humors, which was the cause of his cold. Now, the powder is this, viz. Take of cummin-seeds, fenugreek, silerus montani, otherwise called sissilers, nutmegs, cloves, ginger, linseed, of each of these two ounces, quick-brimstone six ounces, make all these into fine powder, and mix them all well together; it must be given him in his oats the quantity that was prescribed before; but he must first be watered with white water; and then presently let him be well rubbed all over, and clothed and littered warm: and an hour before you give him his oats, put into his rack a little sweet wheat straw, and let him eat thereof an hour or better, and then, and not before, give him his oats mixed with powder; which having eaten, give him hay at your pleasure, and with doing thus his cold will be gone in a short time, and still sooner, if you air him an hour before sun-set, and an hour after sunrising, if the sun shine, mark that; keep up his stomach with white wine and honey, and the cordials, and with what else you think best of. *Proced.*

Now if this cold bring with it a violent cough, as often seen, then use this receipt following.

No. 12.—For a cold with a violent cough. First give him the wheat bran boiled, together with the powder with his oats, as is directed in the foregoing receipt, but not above three or four days, or till you see he hath purged sufficiently, for the said powder disperses the corrupt and gross humors that are in his body, which do occasion the cough; and when you perceive that he hath purged sufficiently, keep him notwithstanding to his white water, which is no other thing than water made hot in a kettle, and then put in some wheat bran or barley meal; let him

eat the bran as hot as he will, and drink the water a little warm. But always an hour before you water him, take a stick a little bigger than your thumb and very nigh a foot long, and wrap a linen cloth about it four or five times, first dipped in oil of bays, and put into his mouth; and with some leather thong or piece of small cord, fasten it to either end of the stick, and so fasten it over his ears like the head-stall of a bridle, like as smith's do when they burn a horse for a lampas. Let him drink with this stick thus in his mouth, and so stand with it an hour after at the least, that he may lick and suck up the said oil; and after three or four days are expired, and that you see he hath purged sufficiently, which is a little before mentioned; then when you give him the oats, give him amongst them this powder following viz. Fennel-seeds four ounces, fenugreek two ounces, and cardamum one ounce; beat them but a little or else he will blow them away when he eats his oats. Put one spoonful into his oats, and keep him warm, and use him as is prescribed in the foregoing receipt, and you will find it to do him much good. *Proved.*

LAXATIVES.

This term is applied to opening medicines, that operate very mildly, and produce so gentle a stimulus upon the intestine, as merely to hasten the expulsion of their present contents, without increasing their secretions. Castor oil seems to be the best medicine of this kind, though oil of olives and linseed will produce nearly the same effect; the dose of the former is about a pint, but the latter

may be given to a pint and a half. When a laxative ball is required, the following will be found useful :

Succotrine aloes $\frac{1}{2}$ oz. Castile soap 3 dr. Syrup enough to form the ball for one dose.

BLISTERS.

Previous to the application of a blister, the hair should be cut from the part as closely as possible, the blistering ointment is to be well rubbed on it, and afterwards a small quantity is to be spread over the part with a warm knife. When the blister begins to operate, horses are very apt to bite the part, which, if suffered, might produce a permanent blemish; it is necessary therefore to guard against this accident by putting what is termed a cradle about his neck, or by tying him up to the rack. When the legs are blistered, the litter is to be entirely swept away, as the straw might irritate the blistered parts.

No. 1.—Blistering ointment. Spanish flies, powdered, $\frac{1}{2}$ oz. Oil of turpentine, 1 oz. Hog's lard, 4 oz. Mix.

No. 2. Oil of turpentine, 1. oz. To which add gradually, Vitriolic acid, 2 dr. Hog's lard, 4 oz. Spanish flies, powdered, 1 oz. Mix.

CHAPTER XLIII.

Founder—Vives—Fig—Costiveness—Fool Cast—Mad Itch—Hunger Evil—To make a Star—Stop Bleeding at the Nose—Fibula or Pestilence.

Receipts for Foundering.

No 1.—Of foundering in the feet. There be two sorts of foundering, a dry and a wet: the dry is incurable, the wet is thus to be cured: first pare all the soles of his feet so thin that you can see the quick, then let him bleed at every toe, and let him bleed well; then stop the vein with tallow and rosin, and having tacked hollow shoes on his feet, stop them with bran, tar and tallow, as hot as possible, and renew it every other day for a week together; then exercise him well, and his feet will come to their true use and nimbleness.

No 2.—For the founder in the body. If you find him lame, bleed him in every foot, and give him this drench:—boil 1 oz. of aloes in three pints of water until reduced to a quart, then add one gill of molasses, the same of soft soap, and half as much yeast; mix them together and give them to the horse lukewarm: ride or drive him a mile afterwards, when it has done working; then give him two ounces of the powder of elecampane, half an ounce of flour of brimstone, rolled up in butter and a little honey, and made into balls: wash them down with good beer, ale, or wine, or old strong cider, until he be quite recovered. Let his food be clean and comfortable; give him cordials made of white-wine and honey, and he will soon recover.

No. 3.—For a chest founder. To know this, he will go crimpling, and stand stradling; and wish to lie down. Take a little oil of pepper, and bathe it well into his breast; rub it in well at first, then dry it lightly with a hot iron. This is a perfect cure at the first trial.

No. 4.—For any founder, frettize, surbate, or any imperfection in the feet. Pare them thin, open the heels wide, and take a good quantity of blood from the toes; then tack on a shoe somewhat hollow; take best frankincense, and rolling it in a little fine cotton with an hot iron, melt it into the foot, betwixt the shoe and toe, till the orifice where the blood was taken from be filled up. Then take half a pound of hog's grease, and melt it; mix with it wheat-bran till it be thick as a poultice; then stop up the horse's foot with it as hot as possible; cover it with a piece of an old shoe, and splint it up, and let the horse stand for three or four days: then if necessary you may renew it, otherwise the cure is wrought.

No. 5.—Of foundering in the body. Foundering in the body is of all surfeits the most mortal and soonest gotten; it proceedeth from intemperate riding an horse when he is fat, and then suddenly suffering him to take cold; and there is nothing sooner brings this infirmity, than washing a fat horse: the signs are sadness of countenance, staring hair, stiffness of limbs, and loss of belly; the cure is only to give him wholesome meat and bread, of clean beans, and warm drink, and for two or three mornings together, a quart of ale brewed with pepper and cinnamon, and a spoonful of treacle.

No. 6.—For foundering of the body. This disease of ten proves of very bad consequence, and is chiefly

brought upon the horse by means of unskilful, careless, immoderate keepers and riders; the cure is, to bleed all his feet with a fleam on the top of the hoof, and then give him this drink; take nine or ten cloves of garlick, of pepper, ginger, and grains of paradise, two penny-worth of each; bruise them well together, and put it into half a gallon of strong beer, and give it at two drinks, a quart at a time; and afterwards give him nourishing food and comfortable cordials, of which you have store in this book. *Proved.*

No. 7.—For foot foundering either old or new. First with a very sharp drawing-knife, draw every part of the soles of the horse's feet as thin as possible, even till you see the water and blood issuing forth; and be sure to draw every part alike, which can hardly be done without a butteres, and at the very sharp end of the trush of the horse's foot you'll see the vein lie; then with your knife's end lift up the hoof and let the vein bleed, which, as long as you hold open the hoof, will spin a great way forth; when it bleeds better than a pint, close the hoof, and so stop the vein, and tack on his foot a hollow shoe, made for that purpose; that done, clap a little tow, dipt in hog's grease and turpentine, upon the vein very hard; then take two or three hard roasted eggs, hot out of the fire, burst them in the soal of the horse's foot; then pour upon them hog's grease, turpentine and tar, boiling hot, and as much flax, dipt therein, as will fill up the hollow shoe; then lay on a piece of leather to keep all in, and splint it sure; in this manner dress all his four feet if all be foundered, otherwise no more than are; thus dress the horse three times in one fortnight, and without any further

trouble you shall be sure to have the horse as sound as ever he was. *Proved.*

No. 8.—For feet foundering. That foot which is foundered he will set before the other. Pare it down to the quick, if he bleeds it matters not; then set on his shoe very hollow, and take flax or tow, and make a pretty thick cake thereof, spread Venice turpentine thick thereon, and lay it over the bottom of the hoof, and put a piece of the upper leather of a shoe to keep it in; in three days after lay on a plaister as before. If his hoof grows again, pare it to the quick, and every third day lay on a new plaister till you see him go better; he must run abroad in low grounds: this plaister will draw down the humours exceedingly. If he has not been foundered too long, this will cure him in a month or very little more; you may let him bleed at the toes, and let the place he goes in be clean. *Proved.*

Receipts for the Vives.

No. 1.—Vives. For the vives, which is an inflammation of the kernels between the chap and the neck of the horse: take a penny-worth of pepper, swine's-grease a spoonful, the juice of a handful of rue, vinegar two spoonfuls: mix them together, and then put it equally into both the horse's ears, then tie them up with two fiat laces, shut the ears that the medicine may go down; which done, let the horse bleed in the neck and in the temple-veins, and it is a certain cure.

No. 2.—Vives. For the vives, first shave off the hair, then take Shoemaker's wax and spread it on a piece of alum'd leather, and put this plaister on the sore; do not

remove it until it breaks: and then renew it, and it will both heal and dry it. It is exceeding good for a pole evil before it breaks. *Proved.*

Receipt for the Fig.

No. 1--Of the fig. If a horse has received any hurt either by stubb, nail, thorn, bone, splint or stone, either in the sole or any other part of the foot, and not well dressed or perfectly cured, there will grow in the place a certain superfluous piece of flesh full of little white grains, as you see in a fig; the cure is, first with a hot iron to cut the fig clean away, and keep the flesh down with turpentine, hog's grease and a little wax, molten together, laid in the sore, stopping the hole hard, with a little tow, that the flesh rise not, dressing it once a day till it be whole; or thus, after you have cut clean away the fig, then take the tops of young nettles and chop them very small, lay them upon a cloth just as big as the fig, and take the powder of verdigrise and strew it upon the chopt nettles, and so bind it to the wound; thus dress it once a day until the hoof has covered the sore, and it is a most certain cure.]

Receipt for Costiveness.

No. 1.—Costiveness. For costiveness in the body, take rye-straw, cut it fine; then scald some water and wet it well therewith; then mix rye meal or bran with it, and let the horse eat it as hot as he can, and it will quickly loosen him. *Proved.*

Receipts for Foal-Cast.

No. 1.—*Of the particular diseases in mares, as Barrenness Consumption, Rage of Love, Casting of Foals, Rudeness to Foal, and how to make a Mare cast her Foal.* If you would have a mare barren, let good store of the herb agnus castus be boiled in the water she drinks. - If you would have her fruitful, then boil good store of motherwort in the water. If she lose her belly, which sheweth a consumption of the womb, you shall then give her a quart of brine to drink, mugwort being boiled therein. If your mare through high keeping goes into extreme lust, so that she will neglect her food through the violence of fleshy appetite, as it is often seen amongst them, you shall house her for two or three days, and give her every morning a ball of butter and agnus castus chopped together. If you would have your mare cast her foal, take a handful of betony, boil it in a quart of ale, and it will deliver her presently. If she cannot foal, take the herb horse-mints, and either dry it or stamp it, and take the powder or juice and mix it with strong ale, and give it the mare, and it will help her. If your mare, from former bruises or strokes, be apt to cast her foals, as many are, you shall keep her at grass very warm, and once a week give her a warm mash of drink. This secretly knitteth beyond expectation.

No. 2.—*For a mare that has cast her foal.* Take two spoonful of Diapente and brew it well in wine, or strong beer, or else a cordial of honey, wine and anniseeds, well brewed together, and let her food be sweet mashes and comfortable drinks; what hay she eats, see that it be clean and sweet.

Receipts for the Mad Itch.

No. 1.—*For the mad itch*, first bleed in the neck; then take strong lie and vinegar and boil it; then add to it gunpowder and copperas; make it very strong, then tie a clout to a stick and wash the horse where the sores are, and it never faileth of a cure; you may wash with sour buttermilk and soot of the chimney mixed together. It has cured.

No. 2.—*For the mad itch.* First you should give a drying drink or two, made of forge water, crocus martis, Venice turpentine and flower of brimstone, or the drink for the pocky farcion, or the guaiacum chips and forge water, or any others of the drying drinks; then take soot, lime and soft soap, and train oil, and work them into a salve, and anoint the horse therewith. *Proved.*

Receipt for the Hungry Evil.

The hungry evil is an unnatural and over hasty greediness in an horse to devour his meat faster than he chews it, and is only known by his greedy snatching at his meat as if he would devour it whole. The cure is, to give him to drink milk and wheatmeal mixed together; a quart at a time, and to feed him with provender by little and little till he forsakes it

Receipt to make a Star.

No. 1.—*To make a star in a horse's forehead.* First, with a pair of scissors cut away the hair close to the skin, in such a place as you would have the form of a star to be; then take a piece of red brick, and rub it hard upon

every place, where you have clipt away the hair; rub it till it be at the roots of the hair, then wipe it clean with a linen rag; then make a plaister of Burgundy pitch, and spread it upon a linen cloth, no longer nor wider than the form of the star itself; then, a little before you lay it on, lay a hot iron upon the pitch to soften it, that it may stick on the better; then clap it to the place, as a plaister fit for the star, and lay a hot iron on the back of the plaister to heat it; then over the first plaister lay another plaister a little broader, heating the second as you did the first, and so let it stick on till it comes off of itself, which may be a month; when these plaisters come off, then to make the hair come white in the place where you would have the star be, take a little honey and butter, more honey than butter, and mix them together, and anoint the star once in three days, and do so for that distance of days four or five times, and in a quarter of a year you shall see the thing desired: he may stand in the house or run abroad: you may work him or ride him: I know nothing to the contrary but that a man with this course taking, may make a mark in any form, what he pleaseth, and where he pleaseth, about the beast, whether in his buttocks, sides, or any other place, as well as the forehead.

Receipt for bleeding at the nose.

To stop bleeding at the nose.—The chief cause thereof is the thinness of the vein in the head; you must let him blood in both plate-veins, then wind a thumb-band of wet hay about his neck, and throw cold water upon the thumb-band till you see the blood to staunch; the thumb-

band must be so long, that it may be wound from his ears to his breast very lightly.

Receipt for febula or horse-pestilence.

For a febula, or horse-pestilence.—Take one ounce of storax, one ounce of benjamin, one ounce of betony, a quarter of an ounce of English saffron; these being beaten all to a powder, put them into a quart of new ale, and give it to the horse to drink. Let him not have any warm water, but keep him from any drink two days, and let him eat grass, if to be had.



CHAPTER LXIV.

General Receipts for the cure &c. of many complaints in Horses.

A general salve for any sore swelling. Take turpentine, black soap, hog's grease, green treat, and pitch, of each a small quantity; mix and boil them well together, and apply it warm to the part affected.

For pearl, pin, web or film on the eye. Take a new-laid egg, roast it very hard, cut it length-ways and take out the yolk, fill the white full of white vitriol in powder, and close it up again. Roast it again till the vitriol be melted, then beat the egg, shell and all in a dish, strain it, and with the liquid dress the eye.

An approved cure for the pains, mules, rats-tails, and the like. Take half a pound of green vitriol, boil it in half a gallon of water, with alum, mustard, sage, and hysop, of each an handful. The night before you apply this, anoint all the sores with strong mustard after they are made raw: next day wash them with the water, the cure is sure.

To help a horse that galls between the legs. Take a raw egg, and crush it between the horse's legs, rub the gall well therewith, after the sores are made dry.

An approved cure for the swift-cut; or any herwing on the legs whatever. Take a pint of white-wine, put to it two or three spoonfuls of honey, stir them well together, and boil them till they be well incorporated and brought to the body of an ointment.—Then take it from the fire, and add as much turpentine as honey; stir all well together, and strain it. With this salve somewhat hot, bathe the sores twice a day. It is a quick cure.

Of pains in the withers. An horse's withers are subject to many griefs and swellings, which proceed from cold humours, sometimes from bad saddles; therefore if at any time you see any swellings about them, take the herb called hart's-tongue, boil it with oil of roses, and apply it very hot to the sore, it will assuage it, or else break and heal it.

Of swaying the back, or weakness in the back. These two infirmities are very dangerous, and may be eased but never absolutely cured; therefore where you find them, take coleworts and boil them in oil, and mix them with a little bean-flour, chafe it into the back and it will strengthen it.

Of tired horses. If your horse be tired in journeying, or in any hunting match, your best help for him is to give him warm urine to drink, let him blood in the mouth, and suffer him to lick up and swallow the same: then if you come where any nettles are, rub his mouth and sheath well therewith; then ride him gently till you come to the resting place, there set him up very warm, and before you go to bed, give him six spoonfuls of aqua vitæ, and as much provender as he will eat; the next morning rub his legs with sheeps feet oil, and it will bring fresh nimbleness to his limbs.

To make hair grow quick. Take green walnuts, burn them to powder and mix the powder with honey, sweet oil, and wine, then anoint the place therewith, and it wonderfully increaseth hair very soon; or take southernwood and rusty bacon, and make it into a salve, and it will bring hair quickly. Ashes of dead bees, mixt with any sort of oil, will do the like.

Relief for a tired horse. Take a quart of strong beer, cider or wine, and put half an ounce of elecampane; brew it well together and give it to the horse with a horn, and it will make him very chearful: also tie a bunch of penny-royal to your bit, and it will prevent your horse from tiring. Or thus, take off your saddle and rub his back with the herb arsesmart, and lay some under the saddle, and ride him, and with good feeding, and moderate usage, it will prevent your horse from tiring. Rub your horse all over with rue, and no flies will come near him.

Proved.

To get horse colts. Take your mare to the horse before the full of the moon, and when the sign is a female. To

get mare colts, cover after the full, and in the male signs. N. B. There be twelve signs, six male, and six female.

How to make the powder of honey. Take as much un-slacked lime as you think fit, powder it, and take as much honey as will make it to a stiff paste; make it into a thick cake or loaf, and put it into an hot oven or a strong fire, and let it be baked or burnt red; then take it out, and when cold, pound it to a very fine powder, and use it as occasion shall require; this will dry, heal and skin any sore whatsoever to admiration.

To draw out a stub or thorn. Take the herb ditany, bruise it in a mortar with black soap, and lay it to the sore, and it will draw out the splint, iron, or thorn.

Of the anbury or tetter. The anbury is a bloody wart on any part of the horses body, and the tetter is a cankerous ulcer like it. The cure of both is an hot iron to sear the one plain to the body, and to scarify the other: then take the juice of plantain, and mix it with vinegar, honey, and the powder of alum, and with it anoint the sore till it be whole.

Of broken bones, or bones out of joint. After you have placed the bones in their true place, take the root of Osmond, beat it in a mortar with the oil of swallows, and anoint all the member therewith; then splent it, and roll it up, and in fifteen days the bones will knit and be strong.

Of venemous wounds and bitings, as of a dog, boar, serpent, &c. Take yarrow, calamint, and the grains of wheat, make it into a salve, and lay it to the sore, and it will heal it safely.

PART II.

DIRECTIONS AND RECEIPTS FOR THE CURE OF MOST
DISTEMPERS IN OXEN, COWS, AND CALVES; ALSO,
A DESCRIPTION OF MANY COMPLAINTS INCI-
DENT TO THEM.

CHAPTER, I.

Advice to purchasers of Cattle—general drink either for Ox, Cow, or Calf that is ill—a cure for the Murrian or Plague among Cattle—of the loss of appetite in Cows and Oxen—a remedy for a Cow that is back-strained, or has the running—of the distemper, called the tail.

Advice to purchasers of Cattle.—When you go to buy cattle, whether for the stall, the draught, or the pail, always take the youngest, rather than those that are old and barren. And though some cattle are chosen by their strength and some by the greatness of their bodies, yet the best have commonly these properties: Large, well knit, and sound limbs; a long, large, and deep-sided body, white horned, broad foreheaded, great eyed and black;

the ears rough and hairy, the jaws large and wide, the lips blackish, the neck well browned and thick, the shoulders broad, the hide not hard or stubborn in feeling, the belly deep, the legs well set, full of sinews, and straight, rather short than long, the better to sustain the weight of their body; the knees straight and great; the feet, one far from another, not broad, nor turning in, but easily spreading; the hair of all their body thick and short, their tail long and big haired.

All country people know the benefit and advantages arising from the keeping of oxen, cows, and calves; and therefore we shall here only lay down some necessary observations and receipts for the cure of such distempers as they are liable to.

A general drink for either Ox, Cow, or Calf, that is ill. Take three or four garlic heads, a quart of new milk, three spoonful of tar, and two spoonful of sweet oil; infuse them for some time, and give it at a dose.

A cure for the Murrain, or Plague among Cattle. Take of the herb of angelica, one handful; of rue, the same quantity, chop them together; then take of tar, half a pint; of soap, four ounces; and salt, half an handful; make it into a compound, and give it to every beast in the quantity of a small egg, rubbing their noses with tar.

Of the loss of appetite in Cows and Oxen. You may perceive this when cattle of this sort do not chew the cud, which is occasioned from the want of digestion, they then forbear their meat, and do not lick themselves as usual; their eyes are dull, and they have frequent belchings. To cure this, or restore them to their appetite, use the following medicine, viz. Take of rue and pellitory of Spain,

of each one handful; of featherfew, horehound, red sage, and bay salt, of each a like quantity; put these ingredients into five pints of ale-wort, and boil them for a short space; and then, straining off the liquor, give about a pint at a time, milk warm, to each beast every morning not suffering them to drink till the afternoon.

The neglecting of this distemper will occasion the beast to be violently pained, which one may perceive by its suddenly starting from one place to another; which when you perceive, there is no better remedy than to tie his tail close by the body, as tight as possible, giving him then a pint of strong white wine, with half a pint of olive oil, driving him afterwards a mile or two as fast as you can get him along; and after some little resting, drive him yet a mile further, which will occasion the medicine to operate.

A remedy for a Cow that is back-strained, or has the running.—Take comfrey, archangel, knot-grass, plantain and shepherd's purse, a handful of each; boil these, tied up in bunches, in about five pints of ale-wort; or, for want of that, in middling beer, free from the yest, till the liquor is strong of the herbs; then add an ounce of aniseeds, and about a quarter of a pound of bole armoniac, finely powdered; when these have boiled again, put in half a pound of treacle; and when it is strained or passed through a sieve, give half the liquor to a cow in the morning, and the other half the morning following, not suffering her to drink until the afternoon.

The distemper is not unlike the running of the reins in other creatures.

Of the distemper called the tail.—The disease called the tail, is by some farmers called the wolf. This is disco-

vered by a softness between some of the joints of the tail, appearing as if the joints had been separated from one another, or some of the ligaments broken.

You ought, particularly where you are apprehensive of this case, with your finger and thumb to feel between every joint of the tail; and where you find any division or openness between the bones, or any remarkable softness between the joints, to slit that part with a sharp knife lengthways, on the under side of the tail, about two inches, laying in the wound the following composition :

Sea or common salt, wood-soot and garlic, well beaten and mixed together, of each a like quantity; binding them up with a bit of linen cloth.



CHAPTER II.,

Of the Flux, or Lax, or Scour in Cattle—of the Cough in Cows or Bullocks—of the Fever in a Cow or Bullock—of the stoppage of urine in a Cow or Bullock, and the method of cure—the Kibe in a Bullock, and its cure—of the Fellows in a Cow or Bullock, which some call the Pantess.

Of the flux, or lax, or scour in cattle.—When a beast is troubled with this distemper, you may be sure he will lose his flesh more in a day, than he can recover in a week or ten days. The remedy is, in the first place, to keep them from drinking much : and 2dly, to give them little meat the first day : or, as some would have, keep them fasting for twelve hours at least. There are several drinks which you may give them on this occasion, that have

been experienced to be extremely serviceable to them, such as the following, viz. The stones of grapes or raisins beaten to powder, to the quantity of a quarter of an ounce, and boiled in a quart of strong ale or beer, may be given warm in a morning.

For want of this you may use as much of the inner bark of oak boiled with strong ale or beer wort, or strong malt-drink, free from yest, strained after boiling, and giving them about a quart in a morning, being first sweetened with an ounce of coarse sugar well dried before the fire. Some choose to boil in this mixture a handful of wormwood, and an ounce of bole armoniac.

We have another Receipt relating to the same case, which is likewise very successful, viz.

Take rue, red sage, and Roman wormwood if you can get it, or otherwise, our common wormwood may serve; shred of each of these one handful, and boil them half an hour in ale-wort, or good drink free from yest; then put in four ounces of bole armoniac, and about an ounce of the grains powdered, and a piece of butter without salt; let these boil a little, and give half the quantity to a cow or bullock in the morning, keeping them from water two or three hours afterwards; and then missing a day, give them the other half.

Of the cough in cows or bullocks.—Some farmers, when they perceive this among their cattle, rightly judge, that if not soon removed, it may prove of dangerous consequence; and therefore, in the beginning, give them the following medicine, viz.

A pint of barley-meal, the yelk of an egg, and two or three ounces of raisins, boiled in a quart of ale-wort, and

well mixed together, for them to take in the morning fasting; always supposing that the grosser parts must be taken out of the draught before you give it to the cow or ox; as the raisins in this case, for example.

Another method which is famous among the country people, is, to take a large handful of hyssop and boil it in water, afterwards straining the water from the hyssop, and mixing it either with wheat flour, or barley flour, and to give it the beast to drink. Or else,

You may boil hyssop in ale-wort, about the same quantity, and give it a cow or an ox that has the cough, with good success.

Sometimes these cattle, when they have the cough, will be led into a consumption of the lungs; to prevent which, fetter them in the dewlap, and give them two ounces of the juice of leeks boiled in a quart of ale.

In desperate cases, boil the seeds of fenugreek, of anise, and bay berries, of each half an ounce; and madder, two ounces, in two quarts of good ale free from the yeast, till the liquor loses a fourth part.

It must be noted, that the madder and seeds must be well beaten and mixed together before you put them into the ale; and after the liquor is passed through a sieve, while it is yet warm, sweeten it with treacle, and give it in the morning.

Of the fever in a Cow or Bullock.—You may know when a cow or bullock has a fever, by the watering of their eyes, their heads will be heavy, their pulsation quick, and their body much hotter than usual: Moreover, you may observe a viscous liquid to fall from their mouths.

The morning following let them bleed in the tail; and an hour after, give them the following medicine, viz.

Take one handful of the young stalks of colewort, if they are to be had; or, for want of these, as much of cabbage leaves, savoy leaves, or the leaves of curled worts; boil these in a quart or three pints of common water, with a little salt; and after straining it off, add a little fresh butter, stirring it till it is entirely dissolved; an ounce of treacle may likewise be mixed with this medicine, and given milk warm for four or five mornings successively, while they are fasting.

Some farmers and others boil the colewort stalks in small beer, which is judged to be even better than the water and salt.

Others boil barley or malt in water, and then boil the colewort stalks, and add butter and salt to the medicine.

Of the stoppage of urine in a Cow or Bullock, and the method of cure.—This distemper is supposed to be the gravel in the kidneys when it first appears.

We have frequently, in examining the kidneys of oxen and cows, meet with rough stones in those parts, even to the number of an hundred; in one of them, about the bigness of a wheat corn.

But this gravel or stone, let us call it which we will, is sometimes found in the bladders or urinary passages of these creatures, and then it is best to kill them at once; for if you observe them two or three days without watering, you may know it is not in the kidneys alone.

If the distemper should happen to be in the kidneys, as you may perceive by the cattle's difficulty of watering and

groaning at that time, give them the following medicine, viz.

Boil of parsley, smallage, or green celery, sassafras, alexanders, and rue, of each one handful, in about two quarts of old beer; strain this off, then pass it through a sieve when it is strong of the herbs; then put in of liquorice sliced, anniseed, cummin seed, coriander seed, and turmeric, of each an ounce; and boiling them again in the liquor till it is strong of the last ingredients, add fresh butter and treacle to it, to the quantity of a quarter of a pound of each. This will serve for two mornings.

N. B. In this case some of the most curious will put in about a quarter of an ounce of fine oyster-shell powder, or two or three drachms of powder of crab's eyes.

When the distemper is so far advanced that the very yard of the bullock is supposed to be stopped by gravel, it is advised by some of the farmers to cut them; but it has been sometimes eased by putting a small wire up the *penis* like a catheter.

The kibe which is an ulcerated chilblain, or chafe in the heel of a Bullock, and its cure.—One receipt for a kibe, which has proved of very good use, is, first, to cut it with a sharp knife, and then to apply the following medicine, with fine tow, to the wound, viz.

Take an ounce of verdigrease finely beaten and sifted; work this into a salve with two ounces of fine soap, and dress the kibe with it.

Of the yellows in a Cow or Bullock, which some call the pantess.—This distemper is called by some the gall in cattle, and may be known by the running of the eyes, and a

large quantity of yellow wax in their ears: as also by a yellowness appearing under the upper lip.

This distemper commonly proceeds from the cattle's eating some unwholesome food, or from poor diet. The remedy for it is as follows, viz.

Take of wood-soot, finely powdered, an ounce; plain-tain and rue, of each a handful; garlic, eight large cloves, stamped; hempseed, an ounce; or the tops of hemp, an handful; boil these in three pints of fresh human urine, or as much old beer; and when it has passed through a sieve, give about a quart of the liquor to a large bullock; then rub his tongue and the roof of his mouth with salt, and chafe his back with human urine.



CHAPTER III.

The remedy for a beast disordered in his lungs—Of the Hide-bound, or the Distemper called the Gargut in kine—Of the Gargyse—a general remedy for Cattle that lower or lose the Cud—for a Cow or Bullock that is Cluc-bound—for Oxen that are galled or bruised in the neck by the yoke—Of the scab in Cows or Oxen—of the Husk in a Bullock, &c.

When a Beast is disordered in his Lungs. The remedy. You may perceive this distemper in a beast by the great weakness in his legs so that he will hardly be able to stand, although he may seem fit and in good order for the butcher at the same time. The following medicine in this case may be used, viz.

Bruise eight cloves of garlic, and take one handful of wormwood, with as much liverwort; boil these gently in a quart of ale, free from the yest, and passing the liquor through a sieve, add an ounce of madder, finely powdered; half a drachm of whole pepper and about a dozen cloves; which, as soon as they have boiled enough to give the liquor a pungency sufficient, clear them off, and sweeten it with two ounces of treacle, giving it to the cow or ox milk-warm.

Of the Hide-bound, or the Distemper called the Gargut, in Kine. This distemper shews itself commonly between the claws in cows or oxen, by blistering there.

To cure which, you must first draw a hair line between the claws or hoofs, in the blistered part till it bleeds.

You must then take a handful of the leaves of the plant called Moth-mullein; boil this in a quart of milk, and give it the cow in a morning fasting; or else boil it in ale, or ale-wort rather, because there ought to be no yest.

Of the Gargyse. The distemper called the Gargyse is a swelling on one side of the eye, in manner of a bile, botch, or bubo. This is as dangerous a distemper as any that can attend cattle. Cut with a sharp pen-knife or lancet this swelling round about, as deep as the skin, to prevent its falling into the muzzle of the beast, which will certainly happen, if not timely prevented by this method, and prove mortal.

When you have opened the skin, as above directed, wash the wound with the following preparation, viz.

Fresh human urine and salt must be gently simmered over a fire together, and when it is near cold, wash the swelling, and the part that has been cut with it, mornings

and evenings till the swelling abates; at the same time giving the beast, every other morning, some flour of sulphur in warm ale, or ale-wort.

When you dress this botch, or bile, have particular regard to scrape off, or clean the bile and the wounded part from the little blisters or pustules, even till you come to the quick, and the sore has quite ceased running.

When the swelling is quite gone, anoint the wound and sore part with nerve oil and honey boiled together, while the preparation is milk-warm, and it will soon heal.

A general remedy for Cattle that lower, or lose the Cud.—Take a handful of the inner rind of elder, a handful of rue, as much lungwort if it can be had, otherwise it may be let alone; chop them small, and put them into three quarts of ale free from the yest, or in as much ale-wort; boil these till they are soft, then stir them; then add half an ounce of long pepper, half an ounce of grains, half an ounce of liquorice, half an ounce of anniseed, a quarter of an ounce of cumminseed, an ounce of turmeric, and as much fennugreek seed, all well beaten, with a quarter of a pound of madder; and while all these are boiling, take a large bowl dish, and put into it an handful of bay salt, twelve cloves of garlic, four new laid eggs, shells and all; grind all these together with a wooden pestle, till they are well mixed with some of the liquor; then add the whole body of the decoction as hot as may be, letting the whole stand together till it is no warmer than milk from the cow, brewing it well together; give the beast half the quantity to drink, while it is yet warm, two mornings successively; keeping the ox or cow warm that takes it, for four or five hours after, before you give it any water.

For a Cow or Bullock that is clue bound.—Take castile soap, half pound; to this add treacle and butter, of each a like quantity; put these into three pints of soft water wherein chalk has been issued, though some would recommend stand-lee; of either of these liquors take three quarts; and when the whole is dissolved and mixed, give half the medicine to your cow or bullock in a morning, before they have drunk, keeping them in a house till noon. Repeat this medicine two mornings.

If yet the beast should be too much bound in his body, or the medicine should not happen to operate, give him some balls made of butter and riff-sand.

For Oxen that are galled or bruised in the neck by the yoke.—Take train oil, and grind it well with white lead, till it becomes a salve; with this anoint the grieved part, and it will presently heal the sore, and discharge the swelling.

Of the scab in Cows or Oxen.—This distemper chiefly comes from poorness of diet, and is very infectious among cattle, spreading itself presently through a whole herd. It is sometimes occasioned by the want of water in summer time.

The best way of curing this, is, to make a strong decoction of tobacco-stalks in human urine, and to wash the infected parts frequently with it; at the same time giving the beast the following drink :

Take of rue, angelica, of each a handful ; shread these herbs small, and boil them in three quarts of ale without yeast, or new wort, and add an ounce or two of the flour of sulphur, with butter and treacle, of each three ounces ; giving it to the bullock at two mornings.

When this distemper happens to any bullock, it will soon reduce him to a leanness and poverty of flesh; wherefore bleed him, and you may give him the following medicine, viz.

Of old human urine a quart, in which mix a handful of hen's dung, or half a handful of pigeon's dung, and give it to the beast to drink.

Of the Husk in a Bullock, &c. Take hyssop, the smaller centaury, celandine, marshmallows, of each one handful; boil these in ale free from yeast, or in three quarts of alewort; then add about three ounces of cowspice, with treacle and butter, of each six ounces. This will make two doses; to be given every other morning.

CHAPTER IV.



A Drink for a Bullock that has the Bloody Scour, or the Bloody Flux—Of Imposts—Of a Sinew Strain—For an Inflammation in the Lungs of a Bullock—An ointment for Cows and Bullocks that have any sore or wound about them—Another for a Bullock or Cow that has a swelling attending any wound—A water for an old wound or sore in a Bullock or Cow.

A Drink for a Bullock that has the Bloody Scour, or the Bloody Flux. Take of elder buds, or elder flowers, a handful; if the elder flowers are dry, take two ounces of them; hyssop, mallows, celandine, a handful of each.

If the cow or bullock be large, boil these in five pints of old strong beer: but if it be for a small breed, boil these in three pints; to which add aniseeds and liquo-

rice, of each about two ounces, more or less, as the ullock is larger or smaller, with treacle and butter, of each six ounces; put to them madder powder, about two ounces.

When you give your beast this drink, keep him warm, and give him warm mashes, in each of which about a quarter of an ounce of oak bark has been grated.

While this distemper is upon him, do not suffer him by any means to drink cold water, but prevent his thirst by mashes only.

Of Emposthumes. When any botch or boil appears upon a bullock, take white lily roots, and boil them in a quart or three points of milk till they are soft; then beat them with the milk till they become a pulp, and lay them on hot to the grieved place, which will occasion it to become softer by degrees till it will be fit to open, which some do with a hot iron, and others with a fine penknife, washing well the part afterwards with brandy and water.

To heal a wound of this kind, it is a common practice to use tar, turpentine, and oil mixed together.

For a Sinew Strain. When a beast is strained in his sinews, or it appears that his sinews are weak, take marsh-mallows and chickweed, of each a handful; boil them in a quart of vinegar, adding three or four ounces of tallow; or for want of vinegar, use the dregs of stale beer.

With this mixture, while it is very hot, bathe the grieved parts.

For an inflammation in the Lungs of a Bullock. A cow or bullock troubled with this distemper will discover it by

holding its head higher than common, and drawing its wind with difficulty ; it will likewise be chiefly in a standing posture, without caring to lie down, and will groan very much.

The cure is to bleed it in the neck, and then give it the following dose, viz.

Take lungwort, celandine, and hyssop, of each a handful ; of the small centaury dried, half a handful ; elder flowers dried, an ounce ; or for want of them, four ounces of elder tops ; Boil these well together in a quart of alewort, or, in lieu of that, in a quart of ale free from yeast ; then press the herbs, and strain the liquor from them, putting at the same time to it an ounce and half of cow-spice, or for want of that aniseed, and fenugreek seeds, of each one ounce, with about an ounce and half of liquorice sliced ; boil these together for a little while, and add of butter and treacle six ounces each, which will make a medicine to be given two successive mornings:

The fettering of a bullock (in this distemper) in the dew-lap with hellebore has proved effectual.

An Ointment for Cows and Bullocks that have any Sore or Wound about them. Take hog's lard finely rendered, six ounces ; honey, an ounce and half ; bees-wax and rosin, of each half an ounce ; stir these over a gentle fire together till they melt.

An Ointment for a Bullock or Cow that has a Swelling attending any Wound. Take of hog's lard, lintseed oil, and red lead, of each three ounces.

Melt the oil and hog's lard together then add the red lead, and stir it well off the fire till the composition is cold.

This salve being warmed, and dissolved with a hot iron, may be rubbed upon the swollen part once a-day, and it will certainly take the swelling down.

A Water for an old Wound or Sore in a Bullock or Cow.
Take of white copperas, three ounces; rock-alum, one ounce and a half; bole armoniac, six or seven ounces; let these be finely pulverised and mixed together, putting them then in a glazed earthen vessel over the fire, and stir them for about fifteen or eighteen minutes; till they seem to be well incorporated.

Take off then the mixture and let it cool; after which beat the composition in a marble mortar, till it is reduced to a fine powder.

You must then boil three quarts of spring water, which should rather be that arising from a spring of chalk than any other; and closely cover it while it is boiling.

After the water has boiled for five minutes, pour it hot into a clean vessel, and mix with it about three ounces of the powder, stirring it well as soon as the powder is put in.

In two or three days this water will be well settled, and then alter it, and preserve the clear liquor, in a bottle well stopped.

When you have occasion to use this water, make it as hot as it can be endured upon the affected place, dipping a linen rag into it, and applying that to the wound; which may be repeated at least twice, if not three times, the first day, and afterwards bind upon the sore a piece of linen cloth well soaked in the said water.

If the wound happens to be deep, even though there may be a fistula, force in this water warm with a syringe, and it will even cure that distemper.



CHAPTER V.

An Ointment for a green wound in a Bullock or Cow—Of the Harvs or other diseases in the Eyes of Cattle which occasion Weeping or Inflammation; or for the Pin or Wab—For the bite of a mad Dog, Viper, or Slow Worm—Of the falling down of the Palate—A remedy for a Bruise in Cattle—A mixture for a lameness in a Cow or Bullock, or when they are Shoulder Pitched, or Cup-Sprung—A Drink for Cows and Bullocks that are Shrew-bitten or bitten by mad Dogs or Vipers.

An Ointment for a Green Wound in a Bullock or Cow.
The ointment of tobacco is of excellent use on this occasion, and is even good if any of the sinews are hurt; therefore a farmer who keeps a great number of cattle should not be without it, no more than oil of turpentine.

Bees-wax, rosin, fresh butter, hog's lard, with turpentine also, make an excellent plaister for fresh wounds in cattle; and it is remarkable, that upon the application of this ointment, no flies or insects can come near the wound.

Of the Harv, or other diseases in the Eyes of Cattle which occasion Weeping or Inflammation; or for the Pin or Wab.

When you perceive the eyes of cattle to be sore, and flowing with water, take of white copperas the quantity of half a dram, in the lump, and dissolve it in spring water,

about half a wine pint; wash the eyes of the beast with the water twice or thrice a-day.

But if the eyes are much inflamed, wash them with eye-bright water, mixed with an equal quantity of the juice of house leek.

Or, on the same occasion, where there is danger of a pin or wab, or when a beast has received any cut or stroke across the eyes, use the following powder; *viz.*

Take a new-laid egg, and having taken out half the white, fill it up with salt, and a little fine flour of ginger; wrap this in a wet cloth, and roast it hard in some hot cinders or embers; then beat it to powder, shell and all; and when it is finely pulverised, keep it closely stopped in a bottle for use.

When you use this powder, blow a little of it through a quill into the eye of the beast, especially in that which seems the most inflamed.

For the Bite of a mad Dog, Viper, or Slow Worm. Take a pint of olive oil, and infuse in that four or five handfuls of plantain leaves, shred small, for eight or nine days; then boil these together till the leaves grow crisp, and strain it into a glazed earthen vessel, and anoint the part with it frequently till the wound or sore is healed. This is an oil generally used by the viper-catchers.

Some make the following plaister; of bole armoniac, *sanguis draconis*, barley meal, with the leaves of plantain, shred small, or beaten together in a mortar, and then beat up with whites of eggs. This serves as a plaister to be laid on fresh every morning and evening.

Of the falling down of the Palate. When a beast labours hard and wants water, he is commonly attacked with the falling down of the palate; he will yet endeavour to eat, but to little purpose.

To remedy this, the beast must be cast, and you may then thrust up the palate with your hand; and as soon as that is done, bleed him in the same place, and anoint the wounded part with honey and salt, well mixed together, turning him then to grass; for dry meat is by no means proper for him.

A Remedy for bruises in Cattle. Take brooklime, two handfuls; chop it small, and boil it in tallow, or in hogs lard, for fifteen minutes, and apply it warm to the affected place.

A Mixture for a Lamencss in a Cow or Bullock, or when they are Shoulder, pitched, or Cup-sprung. Take oil of turpentine two ounces; oil of peter and oil of spike, of each the like quantity: mix these with six ounces of lintseed oil, anoint the grieved place once every day till it is well. Or,

Take nerve oil and lintseed of each a like quantity; mix them well together, and anoint the injured part once a-day, keeping the mixture warm while you use it.

A Drink for Cows and Bullocks that are Shrew-bitten, or bitten by mad Dogs or Vipers. Take of rue, the smaller centaury, box, and St. John's wort of each one handful; boil these in six quarts of ale-wort, till the liquor is strong of the herbs; then strain it off, and add a quart of water to it, then add five ounces of flour of sulphur, and of cow-spice three large spoonfuls with one spoonful of oyster shell powder

N. B. This will serve for six doses.

CHAPTER VI.

A salve or charge for any wound by a stab or thorn, where some parts of them are supposed to lodge in the wound—For a beast that has a bone broken or misplaced—A purge for a Cow or Bullock—Of the breeding of milk in Cows, and the way to promote it—Of the rot in Oxen or Cows—A remedy for swollen cuds in a Bull—For a Cow that pisses blood—Another for the same—For the blain in a Cow—For the black or red water in Cows, a distemper next to the pissing of blood.

A salve, or charge, for any wound by a stab or thorn, where some parts of them are supposed to lodge in the wound. On these occasions take black snails from commons, or, as some call them, black slugs, with as much black soap: beat these together till they are well mixed, and make a salve, which apply to the wound.

For a beast that has a bone broken or misplaced. When the bone is set right, or put into its true place, use the following preparation, viz.

Burgundy pitch and tallow, of each a like quantity; put to them as much lintseed oil as, when they are well mixed, will make a salve or charge, to be plaistered over the afflicted part.

When this is laid on, splent it, and cover it with a wollen cloth, and keep it on twenty days, in which time the bone will be well knit.

A purge for a Cow or Bullock. Take butter, tar and honey, with a little castile soap; mix these well together, and give the mixture in balls as big as a pigeon's egg; two balls in a morning.

Of the breeding of milk in Cows, and the way to promote it. Draw whey with strong beer and milk; in which boil aniseed, and coriander seed, finely beaten to powder, with an ounce of sugar-candy well pulverised; give a quart of this medicine to a cow every morning, which will not only make her milk spring freely, but will greatly increase it.

Of the rot in Oxen or Cows. When this distemper attacks any beast, it will fall from its meat, quickly grow lean, and have a continual scouring.

To remedy this distemper, take bay-berries finely pulverised, myrrh, ivy leaves, featherfew and the leaves of elder; put these into fresh human urine, with a lump of yellow clay, and a little bay-salt; mix them well together, and give a pint each morning warm to the beast.

A remedy for swollen coods in a Bull. Take two quarts of strong old beer, in which put a handful of the young shoots of elder, with two handfuls of the bark taken from the woody part of the common black berry bush; boil these gently till half of the liquor is consumed, then strain it off, and keep it for use.

When you use this, bathe the parts morning and evening with the liquor made pretty hot, and bind up the grieved part afterwards in a double linen cloth that has been dipped in the liquor.

For a Cow that pisses blood. Take oak, shave off the outer bark, boil it in spring water till it is red; as also comfrey, shepherd's purse, plantain, sage, green hemp or nettles, of each a handful; and boil them with the bark; strain it, and put a good handful of salt in the water; as also some alum, bole armoniac, chalk, or the powder of

sea-coal. If your beast is weak, give less than a quart ; if strong, more ; once often serves, but twice will surely cure the beast. Give it lukewarm.

Another for the same. Toast a piece of bread, and cover it well with tar, and give it. It is occasioned, some say, by their brousing on oak leaves, &c. Put a frog down a cow's throat, and drive her next way into water, and she will directly piss clear. It is a present cure.

For the blain in a Cow. When first taken, they stare, and foam with their tongues out of their mouths ; then immediately prick her in the nose, or bleed her in the neck, which will keep her alive twenty-four hours ; then take a handful of salt in about a pint of water, and give it her, putting immediately a whole egg down her throat : sometimes they have it behind under their tail, when a blister will appear ; this is cured by running your hand down her fundament close fingered, and brought wide out ; which breaks the blain within. If this is not presently discovered, it kills them.

For the black or red water in Cows, a distemper next to the pissing of blood. Take a piece of iron, heat it red hot in the fire, and put it into two quarts of milk ; then let the milk cool, and give it the beast blood warm, and it will bind up the bloody issue after two or three times giving.

CHAPTER VII.

For a Cow that strains in Calving, when her Calf-haulm, Udder, or Bag, will come down, and swell as much as a blown Bladder—For a Cow, who, by lying on the earth, and too soon drinking cold water after Calving her Calf-haulm swells and lies over the neck of the bladder, stopping the Urine, that she cannot stale or stand on her feet—For a Cow that cannot clean—To cure swellings or snarled Bags in a Cow—For a sucking Calf that scoureth—Directions how to feed Calves while they suck.

For a Cow that strains in Calving, when their Calf-haulm, Udder, or Bag, will come down, and swell as much as a blown Bladder. Take new milk, and strew therein lintseed bruised to powder, or chalk, or pepper, but lintseed is best; put it up with your hand, and let her hinder part stand highest for two or three days.

For a Cow who by lying on the Earth, and too soon drinking cold Water after Calving, her Calf-haulm swells and lies over the neck of the Bladder, stopping the Urine, that she cannot stale, or stand on her Feet. Take two sacks, or a winding-cloth, put it under her body, fasten a rope to it, and put it over a beam in the barn, and draw her up that she cannot touch the ground with her feet; then let a woman anoint her hand, and work the calf's haulm from the bladder, that the water may have a passage. Give her warm bedding, warm drinks, and warm clothes.

For a Cow that cannot Clean. Take a large handful of pennyroyal, and boil it in three pints of ale; then strain it, and put one pound of treacle into it, and let it just boil; take it off, and put a half penny worth of flower of brim-

stone into it, so give it in a horn to a cow. Instead of pennyroyal you may use southernwood.

To cure Swellings, or Snarled Bags in a Cow. Take rue and adder's tongue; stamp them together, and squeeze out the juice; mix this with a pound of fresh butter from the churn without salt, and make it into an ointment. This is an excellent remedy.

For a Sucking Calf that Scoureth. You must take a pint of verjuice, and clay that is burnt till it be red, or very well burnt tobacco-pipes; pound them to powder, and searse them very finely; put to it a little powder of charcoal, then blend them together, and give it to the calf, and he will mend in a night's time for certain.

To feed Calves while they suck. Put to them a trough of barley meal, and it will whiten and fatten. Some give them oats in troughs all the time of their sucking; and the night before they have them to market, cut off a piece of the tail, and tie it up with a shoe-maker's end; and, when at market, will give them a cram or two of flour mixed with claret, which keeps them from scouring.

PART III.

OBSERVATIONS AND RECEIPTS FOR THE CURE AND PREVENTION OF MOST DISTEMPERS INCIDENT TO SHEEP AND LAMBS.

CHAPTER I.

Introductory observations—To prepare Tar to apply outwardly to sheep for the Scab or the Ray—To make Broom-Salve, an excellent remedy for the Scab, or any other distemper that appears on the skin of sheep—How to use the Broom Salve for the Ray and Scab in Sheep.

Every farmer that buys sheep or lambs should take care that they be all in good health, and not buy more than his grass will feed ; for if he does some of the weakest must starve, or the whole flock suffer for want of sufficient grass, which makes them eat poisonous weeds, and so perish for want of proper remedies to relieve them ; for which reason we have here laid down all the medicines that are necessary for shepherds, &c. to keep by them.

To prepare Tar to apply outwardly to sheep, for the Scab or the Ray. Tar may be either mixed with the grease of poultry, or goose grease, or hog's lard, or butter that has been made up without salt : To every pound of tar you must use half the quantity of either of the former,

which may be well mixed together. Some choose to melt their butter to oil before they mix it with the tar, and it mixes the better, and is more healing.

To make Broom Salve, an excellent remedy for the scab, or any other distemper that appears on the skin of Sheep.— This salve is of great use to such as have large flocks of sheep; it answers the end of prepared tar, and is much cheaper than tar, where broom is to be had.

To make this, take twenty gallons of spring water, from a gravelly soil rather than any other, or in the room of that as much clear river or rain water; put to this of green broom tops, stalks, leaves and flowers, shred small, about ten gallons, and let it simmer or boil gently till it becomes of the consistence of a jelly, or till it be pretty thick; then add of stale human urine two quarts, and as much beef or pork brine made strong of the salt: and to these add about two pounds of mutton-suet, well melted and cleaned; stir these well together for about a minute or two, till the suet is mixed; and then strain all off into such a vessel as you think convenient, to be kept for use.

How to use the Broom Salve for the Ray and Scab in Sheep. This salve is very speedy and certain in curing the distempers called the Ray and Scab in Sheep.

If you use either this or the other prepared tar to a sheep when it is in full stapple (that is, before it is shorn) divide the wool, that you may see the inflamed part, and anoint it well, and the parts about it, at least half an inch round; then close the wool again, and the distemper will cease, and the wool not be discoloured.

When a sheep is troubled with the scab, you may presently discover it by its rubbing the distempered part against trees or posts, and with his horns; and as soon as you perceive this, you should apply either of the prepared medicines.

The broom-salve is also of great use in destroying the ticks or sheep lice, and the wool will not be the worse for sale.

If you use this salve to sheep newly shorn, let it be warmed, and wash the infected part with a sponge or woollen rag dipped into it.

But as the scab in sheep proceeds chiefly from poor diet, so when we apply this outward remedy, give them fresh and good pasture; for good food will help the cure, as well as prevent the evil. Sheep delight in shifting the pasture often, and if they have plenty they will take only that which is wholesome for them; otherwise they will be forced to eat such herbs as may prove injurious to them.

CHAPTER II.

To cure the skit or looseness in Sheep—To prevent and cure the rot in sheep—To destroy Ticks or Tichells in Sheep, which annoy and spoil the skins of Sheep and keep them low in flesh—Of the foot, and the cure—Of the cough in Sheep—A remedy when sheep happen to swallow any venomous worm, horse-leech, poisonous herb.

To cure the skit or looseness in Sheep. Take salt, alum or chalk, and give it in small drink or water, and it will knit and help them presently.

To prevent and cure the Rot in Sheep. Take a peck or better of malt, and mash it as though you would brew it into beer or ale, and make eleven or twelve gallons of liquor; then boil in this liquor a good quantity of herbs, viz. shepherd's purse, sage, comfrey, plantain, pennyroyal, wormwood, and bloodwort, of each a good quantity, and boil them in the said liquor very well; then strain them forth, and put a little yest therein, after that put a peck of salt into it, and put it up in a vessel: Then give it your sheep in wet weather, after April comes in, seven or eight spoonfuls a piece, once every week; if it be dry weather, you need not so often; and thus continue till May or after, as you see cause, according to the dryness or wetness of the weather. Give them now and then a little tar mixed with herb de grace chopped, and it will cleanse the bowels of much corruption, and be healthful to the blood.

To destroy Ticks or Tickells in Sheep, which annoy and spoil the skins of Sheep, and keep them low in flesh. Take the root of the common wood maple or *acerminus*, cut it in chips, or grind it, and make a decoction of it in common water; the quantity of about an ounce to a pint of water, which must be drawn clear from the root as soon as it is cold. This water being applied to the skin of the sheep where the ticks happen to prevail most, is a certain destroyer of them. We need not tell a bred shepherd that the wool must be first gently opened with the fingers before the liquor is applied. Some use a linen cloth that has been well soaked in it; others apply this with a sponge to the sheep immediately after they are shorn, to prevent the ticks for the future, and even to destroy the

eggs of the ticks which may remain upon the body of the sheep.

Of the Worm in the Foot, and the cure. The worm in the foot shews itself by a swelling between the two claws, which makes the sheep go lame; therefore when you find a sheep lame of any foot, examine between the hoofs, and if he is troubled with this distemper, you will find a hole big enough to admit a pin's head, in which you may observe five or six black hairs about an inch long; then, with a sharp pointed knife open the skin a quarter of an inch on each side the hole, and by pressing of it gently with your thumb above the slit, take hold of the black hairs with the other hand, and there will come out a worm like a solid piece of flesh, about two or three inches long. The wound must afterwards be anointed with tar to heal it, or you may use the broom-salve instead of tar.

Of the cough in Sheep. When sheep are troubled with the cough and shortness of breath, bleed them in the ear, and take some oil of almonds and white wine, which mix well together, and pour into their nostrils about a spoonful at a time. You may observe, that when sheep are thus afflicted with a cough and shortness of breath, they are subject to be scabbed about their lips; the remedy for which is, to beat hyssop and bay salt, of each a like quantity together and rub their lips, their palates and their mouths with it, but if there should be any ulcerous places, anoint them with vinegar and tar well mixed together.

A remedy when Sheep happen to swallow any venomous worm, horse-leech, or poisonous herb. When sheep have happened to eat any thing that occasions their body to swell, bleed them in the lips, and under the tail, giving

them a large spoonful of olive oil, or sharp white wine vinegar, or two good spoonsful of human urine, from a sound person.



CHAPTER III.

Against the murrain—The red water in Sheep, and of the common cure for that distemper—For the wild fire in Sheep—Of sore eyes in Sheep, and the remedy—Of the tag, or belt in Sheep—Of the measles, or pox in Sheep—Of the blood in Sheep, and its remedy—Of the wood evil, and its cure—A cure for the darters—To fasten loose teeth in Sheep or Lambs—Cutting or gelding of Lambs—Against the flowing of the gall—For the itch or scab in Sheep—A cure for the staggers in Lambs or young Sheep.

Against the murrain. Take the dried flowers of wormwood, or of rue; mix them with common salt, and give them to such sheep as are infected, or are in danger of being infected. About a dram is enough for each sheep in a morning, in a spoonful or two of human urine.

The red water in Sheep, and of the common cure for that distemper. The red water is accounted one of the most dangerous distempers attending the flock, bringing whatever sheep it attacks to death in a short time, unless it be discovered at the first coming; whereas in the rot, a sheep that happens to be taken with it, may live for a month or more. The remedy for the red water is to bleed the sheep in the foot and under the tail; then apply to the sore places the leaves of rue and wormwood, or the tender shoots of either of them, bruised and well mixed with bay

salt, and give them by way of diet, fine hay, in the mornings and evenings, or other dry meat sprinkled a little with salt.

For the Wild fire in Sheep. This is as dangerous a distemper as any that can attend the flock, and was for a long time held incurable; but some of the most intelligent shepherds have made a salve which has done great service. Their medicine is made of chervil, bruised and beat up with stale beer, with which the sore or afflicted place must be anointed. Or, to take another method, which is as certain, prepare a wash made of common water one quarter of a pint; the quantity of a horse-bean of white copperas; wash the sore part with this water twice or thrice in an hour's time, and it is a certain cure.

Of Sore Eyes in sheep, and the Remedy. Although sheep have a dulness in their eyes when rotten, yet sometimes they are subject to have a flux of humours which weakens their sight, and without timely help will bring them to be stark blind. Some of our shepherds use on this occasion the juice of celandine, which they drop into the eye: others use, with as good judgment, the juice of the leaves of ground ivy, which should be forcibly spirted out of the mouth into the sheep's eye; or a decoction made of either of the foregoing plants in common water will do as well: and you may have always the same remedies ready at hand, without the trouble of seeking the plants when you have occasion for them. It is necessary, however, to observe, that when you make these decoctions, about five or six grains of alum may be boiled in every pint of water; or if you use white copperas in this case of the eyes, in-

use about seven grains of the copperas in half a pint of fair water, it is a sovereign remedy.

Of the Tag, or Belt in sheep. Sheep are said to be tagged or belt when they have a flux, or continued running of ordure, which lighting upon the tail, the heat of the dung, by its scalding, breeds the scab. The common cure for this distemper is, First to cut off or shear the tags of wool that are berayed, so as to lay the sore bare; then wash the raw part with human urine; or strong beef or pork brine; then strew the place with fine mould, or dried earth; and after that, lay on tar mixed well with goose-grease, or hog's lard; repeat strewing of fine mould, and it is a certain cure, as far as outward application can act. This is the common receipt; but to give them as a diet, oats, fine hay, with a little sprinkling of bay-salt finely beat, and a small quantity of the powder of juniper-berries, will certainly remove the cause.

Of the Measles, or Pox in Sheep This distemper shews itself at first in the skin, in small pimples, either of a red or purplish colour, and is very infectious; so that whenever a sheep is attacked with it, it ought instantly to be removed from the flock, and put into a fresh-springing pasture. The outward application used by the shepherds, is to boil the leaves of rosemary in strong vinegar, about three ounces of leaves to a pint of vinegar, and to wash the pustules or sore parts with that decoction.

Of the Blood in Sheep, and its Remedy. This distemper we take to be a sort of measles or pox, attended with such a degree of fever, as will not suffer any breaking out in the skin; for it is generally observed, that the skin of such a sheep is redder than any other sheep in any other distemper.

per. In which case you are to bleed him as you perceive him stagger, by cutting off the upper part of his ears, which is the most ready way; and by bleeding him under the eye immediately after, which forwards the cure begun in cutting the ears; for thereby the head is immediately assisted, and they will soon recover. But as, from the beginning of the distemper to the death of the sheep, it is no more than five or six minutes, so a shepherd ought to be very watchful, and ready to bleed him, as soon as the foregoing symptoms appear. Some would suppose this distemper to proceed from the sheep eating pennygrass, while others suppose it to be an over-fulness of blood from rank diet.

Of the Wood evil, and its Cure. The wood-evil is seldom or ever found among sheep that have their pasture in low grounds: but for the most part amongst those that feed upon poor uplands, and grounds over-run with fern. The remedy is to bleed them in the vein under the eye.

This distemper commonly happens about April or May, seizing the sheep in the neck, making them hold their heads awry, and occasioning them to halt in their going, and will be their death in a day or two, if the aforesaid remedy of bleeding be not timely used, and fresh pasture in low lands provided for them.

If a lamb is seized with a fever, or any other sickness, take him away from his dam, for fear of her catching it: which done, draw some milk from the ewe, and put to it so much rain water, and make the lamb swallow it down. This is a certain cure for a sick lamb, if you keep him warm.

There is a certain scab on the chin of lambs, at some seasons, occasioned by their feeding on grass covered with dew; it is called by the shepherds the *Dartars*, which will kill a lamb if not stopped.

A Cure for the Dartars. Take salt and hyssop, in like proportion: beat them together, and therewith chafe the palate of the mouth, the tongue, and all the muzzle: then wash the scab with vinegar, and after that anoint it with tar and hog's grease mixed together.

There is also a scabbiness that often happens to lambs when they are but half a year old: to cure which you must grease them with tar mixed with two parts of goose grease.

To fasten Loose Teeth in Sheep or Lambs. When you observe their teeth loose, which you will see by their not feeding; then let them bleed under the tail, and rub their gums with powder of mallow-roots.

Lambs are generally yeaned in the spring, at which time shepherds should take great care to cherish the ewes, that they may be strong and able to deliver their lambs, otherwise they will have many abortive or dead lambs. And if the ewes are not able to deliver themselves then the shepherd should be always ready to help them, by setting his foot on their necks, and with his hands to pluck it gently from them.

If a lamb is likely to die when first lambed, open his mouth and blow therein, and he will soon recover.

Cutting or Gelding of Lambs. The age of cutting is from three to nine days old, after which they are rank of blood, which will fall into the cod in cutting, and there lie and kill them: to prevent which, put a little powder

of rosin into the cod, and that will dry up the quarie blood.

A sure way of cutting : Let one hold the lamb between his legs, or in his lap, and turn the lamb on his back, holding all his feet upright together : if you see black spots in his flanks, do not cut him : for he is rank of blood, and will surely die. Let the cutter hold the tip of the cod in his left hand, and with a sharp penknife cut the top thereof an inch long quite away. Then with his thumbs and his two fore-fingers of both hands, slip the cod softly down over the stones, and then with his teeth holding the left stone in his mouth, draw it softly out as long as the string is ; then draw forth the other stone in like manner. Spit in the cod, and anoint his flanks on both sides of the cod, with fresh grease, and so let him go.

Against the Flowing of the Gall. When a sheep is troubled with this distemper, he will stand shrinking with all his feet together ; to cure which, give him half a spoonful of aqua vitae, mixed with so much vinegar ; and let him blood under the tail. The above remedy is also very good against the red water in sheep.

For the Itch or Scab in Sheep. Take a small quantity of the herb bears-foot, with the root of chamelion noir which is the great thistle that has milk in it ; boil them together, and wash the scabby places therewith, and it will certainly cure them.

A Cure for the Staggers in Lambs or young Sheep.— Take of long pepper, liquorice, aniseed, and hempseeds, of each a pennyworth ; beat all these together, and mix with it some new milk and honey, and give each lamb or sheep two or three spoonful milk warm. This should, if possible, be done in the month of May.

PART IV.

RECEIPTS AND DIRECTIONS FOR THE CURE OF
MOST DISTEMPERS IN HOGS.

CHAPTER I.

Introductory observations and receipts for the cure of most common distempers incident to Hogs—Of the quinsey in Swine—Of the kernels in Swine, and the cure—Loathing of meat in Swine, or their discharging it involuntarily by vomit, and the remedy—Of the gargut or blood in Swine.

The hog is a hurtful and spoiling beast, stout, hardy and troublesome to rule; however, he is a very profitable creature, where they have convenience to keep him, such as on farms where there are large dairies: It is necessary that to each cow there should be a hog for the offals of the dairy; such as skimmed milk, or flit-milk, butter-milk, whey, and the washings of the dairy, which will afford them food sufficient to nourish them; and as there needs no more to be said concerning swine, we shall now treat of their diseases, and the cure of them.

Rules to know when Swine are in health. All swine in health curl their tails, for which reason the best swineherds will by no means suffer them to be blooded in that part; but in the ears and about the neck, when bleeding

is necessary. They are very subject to fevers, which they shew by hanging their heads, and turning them on one side, running on a sudden, and stopping short, which is commonly, if not always, attended with a giddiness, which occasions them to drop and die, if not timely prevented. When you observe this distemper upon them, you must strictly regard which side their head turns to, and bleed them in the ear, or in the neck, on the contrary side. Some would advise to bleed them likewise under the tail, about two inches below the rump. It is very certain that this giddiness, or as some call it staggers, in a hog, proceeds from an over quantity of blood, and by bleeding them in time they will certainly recover.

In the bleeding of hogs near the tail, you may observe a large vein to rise above the rest. The old farmers used to beat this vein with a little stick, in order to make it rise or swell. Open this vein lengthways with your fleam, or fine penknife; and after taking away a sufficient quantity of blood, such as ten ounces from a hog of about fourteen stone, or fifteen or sixteen from a hog of five and twenty and upwards; bind up the orifice either with bast taken from a fresh matt, or with a slip taken from the inner bark of the lime-tree, or the inner bark of a willow, or the elm. After bleeding, keep them in the house for a day or two, giving them barley meal mixed with warm water, and allowing them to drink nothing but what is warm, water chiefly, without any mixture. In the paste made with barley meal, some of the most curious swine-herds will give about half an ounce a day of the bark of oak ground fine.

Of the Quinsey in Swine. This is a distemper which swine are very subject to, and will prevent their feeding, and frequently happens when they are half fatted ; so that we have known after five or six weeks putting up, that they have eaten near ten bushels of pease, three or four days of this distemper has reduced them to as great poverty in flesh as they were in before they were put up to feed. This distemper is a swelling in the throat, and is remedied by bleeding a little above the shoulders, or behind the the shoulders. But the method which we take to be the most certain, is to bleed them under the tongue, though some pretend that fettering is the most certain method of cure. However, any of these methods will do.

Of the Kernels in Swine, and the Cure. The distemper called the kernels, is likewise a swelling in the throat : the remedy for which is bleeding them under the tongue, and rubbing their mouths after bleeding with salt and wheat flour, finely beaten and well mixed together. If a sow happens to be with pig, and has this distemper upon her, give her the roots of the common field narcissus, or yellow daffodil.

Louthing of Meat in Swine, or their discharging it involuntarily by Vomit, and the Remedy. When swine discharge their meat by vomit, their stomachs may be corrected by giving them the raspings of ivory or heart's-horn dried in a pan with salt, which must be mixed with their meat, which should be chiefly ground beans, or ground acorns ; or, for want of these, barley indifferently broken in the mill, and scalded with the above ingredients. Madder is likewise good to be given them on this occasion, mixed with their meat. This distemper however is not

mortal, but has the ill effect of reducing swine in their flesh. It certainly prevents the distemper called the blood in swine, or the gargut, as some call it, which generally proceeds from their eating too much fresh grass when they are first turned abroad in the spring.

Of the gargut or blood in Swine. This distemper among country people, is always esteemed mortal. Some call it a madness in swine. It shews itself most like the fever in swine, by staggering in their gait, and loathing their meat. In the fever, however, they will eat freely till the very time they drop; but in this, their stomach will fall off a day or two before the staggering or giddiness appears. The cure for which is, to bleed the hog, as soon as you perceive him attacked with the distemper, under the tail, according to the opinion of some. To make him bleed freely beat him with a small wand where the incisions are made: Though it is seldom in this distemper that the blood does not come freely enough from the vein, if it be rightly opened. After bleeding, keep the hog in the house, give him barley meal in warm whey, in which mixture give him madder, or red oaker powdered, or bole.

CHAPTER II.

Of the spleen in Swine—Of the cholera in Hogs, the remedy—Of the pestilence, or plague in Swine—Of measles in Swine—Of the distemper in the lungs of Swine, and its cure—Of the gall in Swine—Of the pox in Swine—Mr. M. T. Surry's remedy for the swelling under the throat—A cure for the bite of a Viper, or mad Dog, in Swine—Of the tremor, or shaking in Swine, its cure.

Of the spleen in Swine. As swine are insatiable creatures, they are frequently troubled with abundance of the spleen; the remedy for which is, to give them some twigs of tamarisk boiled or infused in water; or if some of the small tender twigs of tamarisk, fresh gathered, were to be chopped small and given them in their meat, it would greatly assist them; for the juice and every part of this wood, is of extraordinary benefit to swine in most cases, but in this distemper especially.

Of the Cholera in Hogs, the Remedy. The distemper called the cholera, in swine, shews itself by the hog's loosing its flesh, forsaking its meat, and being more inclined to sleep than ordinary, even refusing the fresh food of the field, and falling into a deep sleep as soon as he enters it. It is common, in this distemper, for a hog to sleep more than three parts in four of its time; and consequently he cannot eat as nature requires him sufficiently for his nourishment. This is what one may call a lethargy, for he is no sooner asleep but he seems dead, not being sensible or moving, though you beat him with the greatest violence, till on his own accord he recovers.

The most certain and approved remedy for it is the root of the *cucumis silvestris*, or wild cucumber, as some call it, stamped and strained with water, given them to drink. This will immediately cause them to vomit, and soon after to become lively and leave their drowsiness.— When the stomach is thus discharged, give them horse beans softened in pork brine, if possible: or, for want of that, in beef brine, or in fresh human urine, from some healthful person; or else acorns that have been infused a day or two in common water and salt, about a fortieth part of salt to the water.

It would be necessary to keep them in the house during the time of the operation, and not to suffer them to go out till the middle of the next day, first giving them a good feed of barley meal mixed with water wherein a little bark has been infused three or four hours.

Of the Pestilence or Plague in Swine. This distemper is judged to be infectious, and therefore all swine that are taken with it, must immediately be separated from the herd, and put into some house where none but the infected may come. In this, as well as in all other cases where swine are distempered, let them have clean straw: Give them when they are thus attacked, about a pint of good white wine, or raisins wherein some of the roots of the pollypody of the oak have been boiled, and wherein about ten or twelve bruised berries of ivy have been infused. This medicine will purge them, and, by correcting their stomach, will discharge the distemper.

If, after the first, another hog should be seized with the same illness, let the house or sty be cleaned well from the straw and dung of the first distempered hog.

At the first of his entrance give him some bunches of wormwood, fresh gathered, for him to feed on at his pleasure; observing every time that you have occasion to bring in new distempered swine, to give them clean litter and clean houses.

The pollypody of the oak in white wine, as above directed, is likewise an approved remedy for the distemper mentioned above, called the Cholera.

Of Measled Swine. Swine, when they are troubled with this distemper, will have a much hoarser voice than usual, their tongues will be pale, and their skin will be thick set with blisters, about the bigness of pease. As this distemper is natural to swine, the ancients advise, that you give them their meat out of leaden troughs by way of prevention. It is also a common practice, where this distemper prevails (for it is in some sort pestilential) to give the hogs an infusion of briony root and cummin water every morning in their first feed, by way of precaution. But the most sure way is to prepare the following medicine, viz.

Sulphur, half a pound; alum, three ounces; bay berries, three quarters of a pint; soot, two ounces. Beat these all together, tie them in a linen cloth, and lay them in the water which you give them to drink, stirring them first in the water.

Of the Distemper in the Lungs of Swine, and its Cure. Swine, as they are of a hot nature, are subject to a distemper which is called the *thirst*, or *lungs*, according to some farmers. This is what we design to treat of, as it is a distemper proceeding purely from want of water, and

what they are never subject to but in the summer time or where water is wanting. It is frequently to the farmer's expense very greatly, when swine are put up to be fatted, that there is not due care to give them water enough; then they surely pine, and lose the benefit of their meat. The remedy for this is to give them water fresh and frequently otherwise it will bring them to have an over-heat in their liver, which will occasion this distemper, which the farmers generally term the *lungs*; to cure which, pierce both ears of the hog, and put into each orifice a leaf and stalk, a little bruised, of the black hel-lebore.

Of the Gall in Swine. This distemper never happens but for want of appetite, and where the stomach is too cold to digest, as some authors say. Generally, as far as our experience teaches us, it happens to those swine which are confined in nasty pens, and are neglected and starved in their food. The cure of this distemper is to give them the juice of colewort or cabbage leaves, with honey and water about a pint.

This distemper shews itself by a swelling that appears under the jaw.

Of the Pox in Swine. This distemper is remarkable in such swine as have wanted necessary subsistence, and more particularly in such as have wanted water. Some have thought it to proceed from a venereal cause, whereby the blood has been corrupted. It appears in many sores upon the body of the creature, and whatever boar or sow happens to be infected with it, will never thrive, though you give them the best of meat. The cure is to give them inwardly about two large spoonful of treacle,

in water that has first been made indifferently sweet with honey, about a pint at a time, anointing the sores with flour of brimstone well mixed with hog's lard: to which you may add a small quantity of tobacco dust, while you give the preparation of treacle inwardly. The swine thus infected should be kept in the house, and quite free from the rest of the herd, till they are cured.

Mr. M. T. of Surry's Remedy for the Swelling under the Throat. This distemper appears somewhat like the *swelling of the kernels*, or what the ordinary farmers call the *kernels* in swine. The most immediate remedy is to open the swollen parts, when they are ripe for that purpose, with a fine penknife, or lancet, taking care that it is not in the least rusty; and there will issue from thence a great quantity of foetid matter of a yellow or greenish colour. Wash then the part with fresh human urine, and dress the wound with hog's lard.

A Cure for the Bite of a Viper, or mad Dog in Swine. The signs of madness in hogs which proceed from the bites of vipers, slow-worms, or mad dogs, are nearly the same; viz. An hog, on this occasion, will paw with his feet, foam at his mouth, and champ or gnash with his jaws, start suddenly, and jump upon all four at intervals. Some of the country people have mistaken this distemper for the fever in swine; others have mistaken it for the staggers: But in neither of these do the swine paw with their feet; the venomous bites alone giving them that direction. The most immediate cure or remedy for such bitings, if you can judge of their disaster presently after they are bit, is to wash the wound with warm human urine or warm vinegar; or, for want of either, with common

water and salt, warmed, the quantity of salt one fortieth part to the water, and then searing or burning the wound with a red hot iron.

It is necessary, at the same time, to set the hog in the ear, with the common hellebore.

It is convenient, when swine have been thus bitten, to give them the following medicine:

Take of rue, the smaller centaury, box, St. John's wort, of each two handfuls; vervain, a handful; these herbs should be boiled in four gallons of small beer, being tied up in bunches.

When you imagine that this decoction is strong enough, or has received the virtue of the herbs, pass the liquor through a sieve, or strain it through a course cloth; then add to it about a gallon of water, or as much as will make good the deficiency of the water boiled away; add to this about two pounds of flour of sulphur, and about a pound of madder finely beaten, and as much coriander-seed not beat; of aniseeds about three quarters of a pound, and fine oyster shell powder well prepared, or, in lieu of that, the powder of crab claws, or lobster claws, about six ounces. This medicine will be enough for five and twenty hogs.

Of the Tremor, or Shaking in Swine, its Cure; Take hyssop and mallows, in stalks, and leaves, about a handful of each; boil them in three pints of milk till the virtue of the herbs has sufficiently got into it; then pass the liquor through a sieve, or strain it, to be free from the herbs; adding then of madder, two spoonsful, and about an ounce of liquorice sliced, with as much aniseed.— Give it two mornings together.

CHAPTER III.

Of the remedy for the staggers in a Hog—Of the murrain, and measles in Swine, the remedy—Sows with pig—Gelding pigs and spaying sows—Gelding of Hogs—To feed a Hog for lard—A bath for the Swine's pox—Against vomiting.

Of the remedy for the staggers in a Hog. This distemper is to be cured two ways, viz. either by a draught prepared of flour of sulphur and madder, ground or powdered, about an ounce of each boiled in new milk, and given at twice to the hog fasting in the morning, two days following, if you take the distemper in the beginning: Or else, when it has already seized his head with violence, use the following preparation.

Take of the common house-leek and rue, of each a like quantity; to which add bay-salt, enough to make their juices very pungent, when they are bruised together, which should be done in a stone or marble mortar, with a wooden pestle; when these are well stamped and mixed together, add a large spoonful of the strongest vinegar you can get, and put the mixture into the ears of the hog, stopping them both close with tow, wool, or cotton; so that it may remain in a day and a night. This, if the hog is not far gone, will recover him; but if he is not quite well, the same must be repeated a second time; and as soon as the mixture is taken out of his ears, stop them with sheep wool, or with cotton or tow that has been greased a little with oil of almonds; for this will prevent his taking cold.

Of the murrain, and measles in Swine, the remedy. Although we have already mentioned this distemper, and its cure, give us leave yet to insert another remedy, which has been highly commended.

Take of the flour of sulphur, half an ounce, and as much madder powdered or ground as it comes over; liquorice sliced, about a quarter of an ounce, and aniseed the same quantity, to this put a spoonful of wheat flour, and mix it in new milk, to give the hog in a morning fasting; repeat this medicine twice or thrice.

If a hog has eat any ill herbs, such as henbane or hemlock; to cure the same, give him to drink the juice of cucumbers made warm, which will cause him to vomit, and so cleanse his stomach that he will soon recover.

Sows with pig. Great care should be taken of the sows when they are with pig, and to shut them up in the sty for fear of accidents; but you should not put two together, because they will lie one upon another, and so hurt themselves; let them sarrow in the sty, otherwise they will often cast their pigs, which is a great loss to the keeper.

Gelding Pigs and spaying Sows. The boar pigs ought to be gelded when they are about six months old, for then they begin to wear strong in heat, and will make the stronger hogs.

Sows should not be spayed till they are three or four years old: To do which, cut them in the mid flank, two fingers broad, with a sharp penknife, and take out the bag of birth and cut it off, and so stitch up the wound again, and anoint it, and keep her in a warm style for two or three days; then let her out, and she will soon grow fat.

Gelding of Hogs. In the spring and after Michaelmas, are the two best seasons to geld your hogs : To do which, cut a cross slit in the middle of each stone, then pull them gently out, and anoint the wound with tar.

To feed a Hog for Lard. Let him lie on thick planks, or a stone pavement ; feed him with barley and peas, but no beans, and let him drink the tappings or washings of hogsheads ; but for a change give him some sodden barley and in a small time he will begin to glut ; therefore, about once in ten days, give him a handful of crabs. Make him drunk now and then, and he will fatten the better. After a month's feeding, give him dough made of barley meal for about five weeks, without any drink or other moisture ; by which time he will be fat enough for use.

A Bath for the Swine's Pox. This is a distemper that often proves of very ill consequence, because, one infects another ; it generally proceeds from lice in their skin, or poverty ; and they never will thrive while they are troubled with it. The cure for which is this :

Take yarrow, plantain, primrose leaves, briar leaves, old oaken leaves, water betony, of each two handful ; boil them in two gallons of running water till they are all tender, and then wash your hogs therewith ; and in twice or thrice using, it will dry them up.

Against Vomiting. When you perceive your hog to cast or vomit, you may be sure his stomach is not well ; and therefore give him some shavings of ivory mixed with a little dried beaten salt. Also beat his beans small, and put them in the trough with his other meat, that he may feed thereon before he goes to the field.

PART V.

RECEIPTS AND DIRECTIONS TO CURE DISTEMPERS IN DOGS.

CHAPTER I.

Introductory Observations and receipts for the Cure of most Common Distempers incident to Dogs.

As dogs are good servants, and faithful to their masters so most country gentlemen take great delight in them, and the dogs that are of service in sporting are generally taken great care of; but for want of knowing what remedies are proper for their distempers, many a good dog is lost: For which reason we have here laid down what remedies we have often given with great success, for their immediate relief in most common distempers.

The dogs that are serviceable to the sportsmen, are the land-spaniel, the water-spaniel, the setting-dog, the Spanish-pointer, the otter-dog, the fox-hound, the beagle or tarrier, the blood-hound or buck-hound, the grey-hound and the lurcher.

The land-spaniel has a good nose for finding out game, such as hares, or for perching of pheasants; he will hunt close, and being brought up young to fetch and carry, is good company for a shooter: Your gun-spaniels will all-

ways open as soon as they discover their game, and spring them; so that they ought to be kept under command, and never range before the master out of gun-shot.

The water-spaniel, if he be of the right sort, has rough hair, and will naturally take the water when he is a puppy; at nine months old you may teach him any thing necessary for his office: His business is chiefly to hunt for ducks, teal, widgeon, or wild geese, in the fens, moors, or lakes, at the time when the young are just beginning to fly; he must be learned to fetch and carry, and by that means will bring to you what you shoot; or will dive after the young water-fowl, and bring them up.

The setting-dog is spotted with liver-colour and white; the use of him is to range the fields, and set partridges: He is of the spaniel kind, and of middling size, has a very tender nose, and will quarter a field in a little time; If he is of a right sort, take him at nine months old, with a halter about his neck, with hobnails in it, and teach him to crouch down at a dead partridge, if you can get one; and especially learn him to suffer a net to be drawn over him without stirring, which can only be done by giving the discipline of a hob-nailed collar, and making the experiment of drawing a net over him at the same time.

The Spanish pointer is esteemed the incomparable, and even without teaching, will point naturally at a partridge; and as he is large, will range well, and stand high enough to appear above any high stubble; when he points you may be sure of birds within gun-shot.

The otter dog is very rough in his hair, which is commonly curled. They are of a large size, but less docile than the spaniels, though they seem to be of that sort. Their delight is chiefly in water, and their use principally in destroying of otters, which devour all the fish they can meet with.

The fox hound is one of the largest kind of hounds; he should particularly be strong in his loins, and light in his chest; for his business is to run hard after his game, and to hunt the fox. A gentleman should not have less than twenty couple of dogs in a pack, for many of them will tire in a long chase; in some chases perhaps not three couple will be in at the death of the fox. Some of these will hunt the hare, but it is best to keep the pack to one business.

The beagle or tARRIER is smaller than the fox hound, and twenty couple make a good pack. Enter these when they are about a year old. When these hunt at first, you may bring them under command by the smack of a whip.

The blood hound, or buck hound is large and deep mouthed. This kind of dog will hunt dry foot, and when they have once singled out a deer, their nose is so fine that they never leave him till he is dead.

The grey hound is a long fine shaped dog, made to run and has but little scent. A leash of grey-hounds is enough for any gentleman that will observe the law of the game; one large one to turn the hare; and the two others low, and to bear well, so that they may easily take up the hare.

The smooth skinned sort will take a gate or stile, or run well in an open country; but the rough haired ones

are much the best for inclosed lands, because they will take any hedge, where they have strength enough to break through.

Let your grey hound bitch be full three quarters, and your dog a year old before you enter them, for fear of a strain; The bitches are always more eager after their game than the dogs.

The lurcher is a small sort of grey hound, for coursing of rabbits chiefly; he will sometimes take up a hare, but makes best sport with a rabbit.

These are the sorts of dogs that are useful, and considering the service and pleasure they are of to mankind, and the value of some of them, we see no reason why their health should not be regarded.

CHAPTER II.

To cure a Dog when he has been bit by a mad Dog, or a Viper; an approved remedy—To cure a Dog of the mange—To harden the feet of a Grey-hound not used to travel, or the feet of a Setter or Pointer which has ranged too much—To cure Dogs wounded by staking themselves, or to stop a violent effusion of blood—To cure a fresh wound in a Dog—To cure a Dog of convulsions—A purge for a Dog if you imagine he hath been been poisoned—To cure a megrim in a Dog—To cure films growing over the eyes of Dogs—Another receipt to cure the bite of a mad Dog—To kill ticks, lice, or fleas in Dogs—Another—For the worm under the tongue—For sore ears.

To cure a Dog when he has been bit by a mad Dog, or a Viper; an approved remedy. When a dog has been bit,

then, as soon as can be, wash the wounded parts with hot vinegar, changing the vinegar two or three times, and cut or shave off the hair; then immediately light a piece of tinder, and lay it red hot upon each wound till the dog is thoroughly sensible of burning, then wash the wound every day with stale urine; and keep your dog muzzled and it will certainly cure him.

If your dog is bit by a viper, wash the part clean with hot vinegar or urine, and shave the place where the wound was, or cut the hair close and then anoint it with oil of vipers once a day, for six or seven days; but muzzle him all the time, unless at the times that he should eat or drink, and then keep him from licking; and the same methods should be used with him as directed for the bite of a mad dog.

A dog that is bit with a slow-worm, or blind worm, is in as much danger as if he had been bit by a viper.

To cure a Dog of the Mange. Give him flour of brimstone and fresh butter, and wash him with a liquor made of human urine, a gallon, boiled half an hour, with a pound of tobacco-stalks boiled in it; the butter and brimstone must be given every morning fasting, and the outward application immediately after; but you must muzzle your dog, or by his licking himself, he will die.

To harden the Feet of a Grey-hound not used to travel, or the Feet of a Setter or Pointer which has ranged too much. Wash their feet with warm alum water, taking care that the sand is out; and an hour afterwards wash them with warm beer and butter.

To cure Dogs wounded by staking themselves, or to stop a violent Effusion of Blood. If any of these dogs should hap-

pen to stake themselves by brushing through hedges then cut off all the hair about the wounds, and wash them with warm vinegar.

If a dog receives a bruise in any joint, to cure him, cut off the hair about the place, and rub the part gently with the following mixture, viz. Two ounces of oil of spike and two ounces of oil of swallows, mixed; but muzzle him when you lay it on.

To cure a fresh Wound in a Dog. If your dog happens to be staked, or wounded any other way than where the wound is, (and no large blood vessel broken) immediately apply some oil of turpentine; but secure the dog's, mouth that he does not bite you; for the turpentine will occasion a violent smart for about a minute; but then you may be assured it will work a perfect cure.

Where any wound is, the hair must be cut close to the skin, or else it would fret the wound, and make it mortify.

If there be any deep holes in the wound, then take some fresh butter and burn it in a pan, and while it is hot, make a tent with some scraped lint; and when it is dipped in the warm butter, put the tent into the hole of the wound and change the tents every morning: By this means the wounds will soon heal; and when you change them, wash the wounds with milk.

But when you use tents to your dogs, you must swathe them with broad slips of linen, so that they may not get at their wounds; for they will else endeavour to remove them from their places.

To Cure a Dog of Convulsions. He will first stagger, and then fall and flutter with his legs, and his tongue hang

out of his mouth: and then you must dip his nose and tongue immediately into cold water, and he will presently recover; but it is likely he may have a second fit soon after; then give him as much water as he will drink, and he will be well: This will save the trouble of bleeding him in the tail.

A Purge for a Dog if you imagine he hath been poisoned.

Take oil of English pitch, one large spoonful for a large dog, or in proportion for a lesser; give it him in a morning, and it will carry off the malignity the same day.

To Cure a Megrim in a Dog. When you find a dog to stagger as he walks, take him and open a vein under his tail, and he will presently recover.

To cure Films growing over the Eyes of Dogs. When you perceive any film growing over your dog's eyes, prepare the following water to wash them with twice a day:

Take the quantity of a large pea of white vitriol, and put it in about half a pint of spring water, and when it has stood a day, take a fine piece of linen cloth, and dip it in the said liquor, squeezing it a little, and then pass it over the dog's eyes gently five or six times; and after about a minute is passed, then with a little spring water wash his eyes again, and dry them; if you find the dog's eyes smart, do this twice a day.

There is a necessity for dogs always to have water at their command; for they are of a hot nature, and would frequently drink if they had an opportunity.

Another Receipt to cure the Bite of a mad Dog. Take the root of flower de luce, one handful, bruise and stamp

it small, and put it into milk, and give it to the dog; A great many dogs, and keepers of dogs, have been cured by this receipt.

To kill Ticks Lice, or Fleas in Dogs. Take beaten cummin, with as much hellebore, and mix them together with water, and wash your dogs with it; or with the juice of cucumbers, if the above cannot be had; and anoint them with the lees of old dregs of oil olive.

Another. Wash him with water wherein lime has been slacked, and some wormwood and carduns boiled with it, and anoint him with goose grease and soap.

For the worm under the Tongue. In hot weather this sometimes causes madness in dogs; and therefore look under his tongue and you will see something white, which draw out with a sharp bodkin, and anoint the wound with alum and honey.

For sore ears. If the ears of a dog be only scabby, anoint them with oil of bitter almonds, and it will soon heal them; but if they be sore within, then mix with the above tar and hog's grease, and it will make a perfect cure.

N. B. *A grey-hound bitch goes six weeks with whelp, and her whelps are twelve days blind; but all other bitches go twelve weeks with whelp, and their whelps are only seven days.*

APPENDIX.

RECEIPTS AND DIRECTIONS, KNOWN TO BE EFFICACIOUS IN
THE CURE OF MANY COMPLAINTS INCIDENT TO THE
DOMESTIC QUADRUPEDS OF AMERICA, WHICH
HAVE NOT APPEARED IN ANY BOOK OF THE
KIND KNOWN TO THE PUBLISHER OF
THIS WORK.

No. 1.—*Cure for the Bots.*—Considering it to be the duty of every individual to contribute all he conveniently can to increase the fund of useful knowledge among mankind, I have thought proper to make known a sure and infallible cure for the bots in horses. This disorder proves fatal to more horses than any other to which that noble and favorite animal is subject. Its symptoms are, stamping with the hind feet, looking round to the side, lying down, wallowing, &c. and likewise on the inside of the upper lip, are small white lumps which grow more prominent as the bot progresses in cutting the maw. To remedy which, take one spoonful of common table salt, one spoonful of gunpowder, and two spoonsful of flour, then scrape the upper lip inside until it is raw and beginning to bleed; and then rub as much of the aforesaid mixture on it as will stick to it, after which keep the horse in mo-

tion for some time. The writer has been in the habit of making use of this remedy, for a great number of horses, for more than fifteen years, and has never known it to fail; and he is so well assured of its efficacy, that he has no doubt of its ever failing where the maw is not quite cut through.

No 2.—Take a table spoonfull of unslacked lime, and let it be given with the water, or the feed of the horse, at night and morning, regularly, for three or four days, and it will completely expel the bots.

Another Cure.

No 3.—Make a drench, composed of half a pint of new milk, a gill of molasses, an ounce of copperas, two table spoonsful of common salt and half a pint of warm water. Give this to the horse once or twice a day, for a few days and it will be sure to relieve him.

Cure for Founder.—Take as much steel dust as may be contained on the point of a table knife or as will lie on a quarter of a dollar, give it to the beast in a feed of wheat bran three or four times, three times each day.

No 1. To cure the yellow Farcy, commonly called the yellow water, in horses. The signs of this dangerous disease are; the horse will hang down his head and look sad, and the blood in the vein of the neck will move up and down like the beating of the pulse, and the flesh in his mouth and veins in the whites of his eyes will all turn white, which will be accompanied with a deadness of hair, a weakness at labour, and sliding to and fro in moving down a hill.

To cure this complaint, you must first put a rowel in the breast, and at the same time bleed in the tail; after which give barks as follows. Take one dollar's worth of

spanish burline barks and half a dollar's worth of the flower deluce, which will make one table spoon about even full, to which add nine pence worth of tincture of tumor and mix them together: the spoon will contain the whole, and give this to the horse at the time you rowel and bleed him. In two days after drench him with a pint of soft soap or yeast; in three days after do the same, and again in five days the same.

No 2. Give a horse that has the yellow water from a gill to half a pint of whiskey with a good handful of salt in it every day, and your horse in a week or two will be well

No 1. To cure the Pollevil or Fistula. Mix an equal quantity of the spirits of turpentine and the oil of Dragon's heart together, with which bathe the part affected first; then burn five holes as in this figure * * not more than half way to the bone by any * means, for if you do, you will kill your horse * * or make him have a stiff neck; after which take six pence worth of Arsenick, and three pence worth of the powder of Core mix them together and put an equal quantity of this mixture in each hole and stop them up with black soap; and when it comes out aniont the part with poke root stewed in hogs fat and he will soon be well.

No 2. Make a bag of Flannel that will hold $\frac{1}{2}$ a gallon, fill it with ice and tie it on the place; let it stay on till the ice melts, and repeat it—This has never known to fail; it will show its effects in a few days by the falling of the swelling.

Positive Cure for the Hydrophobia. Mr. Valentine Kettering, a native of Germany, but who for fifty four years

has been a resident of Pennsylvania, has communicated to the senate of Pennsylvania a sure cure for the bite of a mad dog—the remedy is as follows: Take the herb called *red chick-weed* when ripe or in full bloom, gather and dry it in the shade; reduce it to powder; give a small table spoonful one time to a grown person in beer or water, the weight whereof must be one drachm and one scruple; the same dose for a child, but it must be administered at three different times; also be eaten upon bread, with butter honey or molasses; a large spoonful for a beast, the dose weighing two drachms and one scruple. The herb must be cut fine and mixed with bran, when used green for a beast; when given to swine, mix the powdered herb with any kind of meal in little balls. It has been given at the distance of many weeks from the time of biting, and has never been known to fail. The same *red chick-weed* is an excellent cure for cuts and wounds on the human body, to be used as follows:—when green, mash it, drop of the juice into the wound, and bind the herb, so mashed on. The proper time to sow the seed of this herb, is in the beginning of April, and it must be sown thin.

This plant is known in Switzerland or Germany, by the name of *bauchheil rother meyer*, or *rother huinerdarm*; in England, *red pimpernel*; and by botanists it is called *annagallies*.

Note.—The editor and publisher, of this work most earnestly recommends the cultivation of the Red Chick Weed to every person who owns but a spot of ground large enough for a garden. The incomparable virtues of that herb should recommend it to every person. No one who is liable to be bitten by a mad dog, or by any pois

onous serpent, spider or any other reptile, should by no means be without it. Several years past it has been raised in the neighborhood of this place, (Winchester) and invariably used, where it is known, as a remedy for the bite of mad dogs, snakes of the most poisonous kind, and spiders; and where a cure could be known to be effected in a short time, it has never, as we have heard, and we have enquired very diligently, failed to complete a cure almost instantaneously. We have been credibly informed that it has, in a few hours, effectually cured the bite of a mad dog after the hydrophobia had commenced.

*To kill bots and all other worms, and to keep a horse from being troubled with them—Also, a preventive from any kind of cholic or griping pains, and to secure your horse against every inward complaint through the year.—*Early in the month of March take half a pound of whole or race ginger, and beat it as fine as you conveniently can in an iron mortar or otherwise; and when beaten, add to it about a quarter of a pound of salt peter, the same quantity of flour of sulphur and as much fenugreek seed, let the seeds be broken or bruised; of which mixture give your horse a large table spoonful every morning for the two first weeks, and every other morning for the last two weeks in the month.

To cure the complaint in a Horse vulgarly called the thumps. Give your horse, if he is a large one, a quart of strong beef brine, but if he is small, a pint, and let him be walked about for an hour afterwards. It will probably make him very sick, and will cause him to sweat profusely. It cures at once giving. Let his work and other exercises for some weeks afterwards be moderate.

To cure the strangles, or as some call it, the colt distemper, without much trouble. Bleed once pretty freely, then give the horse nothing to drink but water, in which indigo has been infused until the water is as blue as it is used to blue starch clothes with ; let his feed be grass, shorts or bran, and cut straw. Let this be continued, and in a week or two, your horse will be as well as ever, from the cough and every other symptom of the complaint.

To cure the most inveterate cough in a horse, if he is not inwardly decayed. Take good clean tar and mix it with rye or indian corn meal, until it is thick enough to make into a ball, give your horse three balls of this mixture, each the size of a hulled walnut, every morning ; and in two weeks, if not in less time, your horse will be completely well.

A speedy and sure remedy for a cut or wound in a horses flesh Wash the wound clean with castile or rosin soap, and anoint it daily with the oil of spike, (use a quill that has not been broke at the feather end.) Should the parts appear to swell or inflame, wash it well round the sore (but not in it) with vinegar, in which hops have been boiled. You may work your horse every day if the wound will admit of it and in a few days he will be well.

A speedy cure for a lameness in a horse, occasioned either by the spavin, splent or any other cause whatever Rub the part or parts affected severely, for at least five minutes each time, three times a day with oil of spike, and in less than ten days you may expect to have a sound horse.

Note.—You are not to expect that this cure will remove or lessen the appearance of the bone spavin or splent.

To take off wind galls. Rub them well twice a day with spirits of turpentine, with a small quantity of oil of spike mixed with it; and in a short time the wind galls will disappear. It will be expedient not to ride or work the horse hard for a few weeks after he is cured.

Be careful that you confine the rubbing to the wind galls only, as the liquid will probably take the hair off, which may be easily remedied by attending to the directions in this book for making the hair grow.

A

T A B L E

OF DRUGS AND HERBS, AND WHERE THEY
MAY BE HAD.

— 0:0:0:0:0 —

A

Aristolochia longa, birthwort or hartwort, at the apothecaries. *Small snake-root*, nearly the same quality. *Ameos*, or bishopsweed, in gardens. *Angelica root*, or seed, of the same nature. *Arsesmart*, common, that which bites the tongue is the best. *Auripigmentum*, at the apothecaries. *Avens*, a common herb in the woods grows like agrimony, but smaller. *Asphodelles*, see daffodills, in gardens. *Aqua vite*, whiskey or brandy will do. *Anni-seeds*, common. *Agnus castus*, or the chaste tree, at the apothecaries. *Agrimony*, in the woods. *Ash (black)* common, by runs and creeks. *Aloes*, at the apothecaries. *Armoniac*, at ditto. *Agaric*, at ditto. *Arsenick*, at ditto. *Alum*, at stores.

B

Betony, in woods or gardens. *Broom* in gardens. *Bears foot*, or black-hellebore, common. *Betony-water*, in flat, low ground. *Bay-tree*, or berries, at the apothecaries.

Brooklime, in runs, water-cresses has the same effect. *Beets*, common in gardens. *Barm*, what works from new beer. *Benjamin*, at the apothecaries. *Brimstone*, at stores. *Bdellium*, at the apothecaries. *Box-tree*, in gardens. *Brandy-wine* or *spirits of wine*, at the apothecaries. *Bole-armoniæ*, at ditto.

C

Calamint or *mountain-mint*, common. *Cumminseed*, at the apothecaries, fennel-seed may do. *Carthamus*, in gardens, called by the common people in America, saffron. *Colerwort*, in gardens. *Cresses*, two sorts, town and water. *Cellendine*, in gardens. *Coloquintida*, at the apothecaries. *Castorium*, at ditto. *Cantharides*, or *spanish-flies*, at the apothecaries. *Ceruse* white or red-led, at ditto. *Cassia*, at ditto. *Crocus-martis*, at ditto. *Cinnamon*, at ditto. *Copperas* at stores. the white at the apothecaries. *Cardus-benedictus*, in gardens. *Caroline*, at the apothecaries. *Chick-weed*, common. *Columbine*, in gardens. *Clary*, common. *Comfry*, common. *Centaury*, common. *Corriander-seeds*, at the apothecaries. *Carraway-seeds*, at ditto. *Cardamus*, common. *Camomile*, common. *Cudwort*, the running club moss will answer. *Clownswound-wort*, and *clownswort*, common.

D

Dill, in gardens. *Ditany*, see *calamint*, common. *Diaphera*, at the apothecaries. *Dialthea*, at ditto. *Dock*, (*red*) see *red-dock*, burdock, common. *Diascordium*, at the apothecaries.

E

Euphorbium, at the apothecaries, (be careful of giving much inwardly, it is excellent for any wound.) *Evula*

campana, see *elecampane*, in gardens. *Elm-tree*, common.
Elder common.

F

Fenugreek, in apothecaries gardens. *Figs*, at stores
Furmutory, common. *Fools-foot*, see *colts-foot*. *Fennel*,
 in gardens, and wild. *Frankincense*, at the apothecaries.
Fringe-tree, it grows by running water, and bears strings
 of white flowers in the spring, to be found near Brandy-
 Wine, in swamps.

G

Garlick, in gardens and wild. *Groundsel sertion*, or
butter-weed, they grow in new cleared land, and by the
 side of roads. *Guaiacum, liguum vitæ*, at the apotheca-
 ries. *Gentian*, at ditto two kinds. *Galbanum*, at ditto.
Gerologundium, at ditto, *Gum dragon*, at ditto. *Galls*
of aleppo, at ditto, see oak galls. *Ginger*, at stores.

H

Horseholm, see holly-tree. *Harts-tongue*, found on
 rocks, and north-side of hills. *Hog-fennel*, see wild or
 garden loveage. *hoar-hound*, common. *Hemlock*, com-
 mon. *House leek*, common. *higtaper*, common, see
 millin. *hyssop*, in gardens. *Horse-mint*, wild mint.
Hartshorn, deer horn. *honey*, common. *heild*, the grounds
 of beer. *Hempsced* common. *Hellebore, (black)* in bo-
 tanists gardens.

I

Ivy, (wall) see ivy-berries. *Ivy, (ground)* two sorts,
 common. *Ivory (white)* at the apothecaries. *Juniper*,
 at ditto.

L.

Lixer-wort, two sorts, common, *Lignum vitæ guana-*
cum, at the apothecaries. *long-pepper*, see red pepper.

Lavender-cotton, in gardens. *Lillies*, (*white*) in ditto. *Lapis calminaris*, at the apothecaries. *Lime*, common. *Leeks*, common. *Liquorice ball*, or *stick*, at the apothecaries.

Mother-wort, common. *Mugwort*, common. *Maide n-hair*, common, in the woods. *Mechoacan*, at the apothecaries. *Melilot*, common. *Mercury*, (*herb*) nearly of the nature of dock. *Mistletoe*, common. *Misledine*, common. *Mithridate*, at the apothecaries. *Mustard*, in gardens and wild. *Mallows*, white and marsh, common. *Moss*, many kinds, common. *Mastick*, a gum at the apothecaries. *Myrrh*, at ditto, or in botanists gardens.

N

Nep, see catmint, common, good for many uses. *Nettes*, common. *Nutmegs*, at stores. *Nut oil*, at the apothecaries.

O

Origanum, or wild majorum, common in the country. *Osmond royal*, or water-fern, common in low ground. *oil of Speck*, at the curriers, made of the shavings of leather. *oxyroceum*, at the apothecaries. *Onions*, common. *Ox Eye*, in botanists gardens. *Olibanum*, at the apothecaries.

P.

Pellitory, at the apothecaries, a plant not yet discovered here; fume with brimstone in place of it. *Polypodeum*, common, the true sort grows on rocks. *Populeon*, see poplar root, common. *pennyroyal*, common. *parseley* in gardens, common. *Plantain* many sorts, common, the white and broad mostly used for medicines. *Poake*, common. *Paradice-grains*, at the apothecaries. *Patch-*

grease, or piece grease, made of shoemakers ends. *Pitch*-white or black, common, burgundy-pitch at the apothecaries. *Pepper*, round or black, at stores. *precipitate*, at the apothecaries. *poppies in gardens*.

Q

Quicksilver, at the apothecaries.

R

Ruc, in gardens, and wild. *Rosemary*, at the apothecaries, or in gardens. *Rosin*, at stores. *Reddish*, common in gardens, see horse reddish.

S

Staves-acre, not yet discovered here; spurge is of the same quality. *Surewort*, see honey suckle, common. *Shearmans-flocks*, what comes off the dressing of cloth at the fullers. *Sowthistle*, common. *Shepherds-purse*, common. *Spurge*, common, in gardens, see staves-acre. *Sisylaris montani*, wild or garden loveage, common. *Soloman's-seal*, see polygnatum, common. *Serton*, see groundsel or butter-weed, common. *Sparagus*, common in gardens. *Sage*, common in gardens. *Savin*, a shrub in gardens. *Sallow*, see white willow, common. *Stichwort*, at the apothecaries. *Snapeweed*, or the womens dyeweed, common in runs and wet ditches. *Southernwood*, in gardens, commonly called old man. *Sanguinis draconis*, see dragons-blood, a gum at the apothecaries. *Sloes*, at ditto. *Soap*, common, casteel, or black, at the apothecaries. *Sugarcandy*, at ditto. *Sena*, an herb, at ditto. *Salad-oil* or sweet-oil at stores. *Salnitre*, see saltpetre, at the apothecaries. *Saffron*, the best at ditto. *Storax*, at ditto. *Snails* common. *Sanicula*, see senecle, white or black bears foot, common in the woods; the black is nearly of a quality

with black hellebore ; the white is very good in salves, for wounds, grows with a high stalk, has burrs on the top, and smells very fragrant. *Spuma-argenti*, at the apothecaries. *Spuma nitre*, at ditto. *Smallage*, an herb common. *Sassafras*, common. *Snakeroot*, common, tall snake-root weed, in woods, see bistort.

T

Tansey, in gardens and wild, common. *Termerick*, common in woods. *Taffiliginis*, at the apothecaries. *tar*, common, Barbadoes-tar at the apothecaries. *Turpentine* common, oil, or spirits of turpentine, or Venice-turpentine, at the apothecaries. *Trotters-oil*, the oil of sheeps feet. *Tobacco*, common. *Train-oil*, common. *Treacle jean*, at the apothecaries.

V

Violets, in gardens, or wild. *Vinegar*, common. *Vitriol*, at the apothecaries. *Verjuice*, the juice of wild crab-apples.

W

Wine-spirits, at the apothecaries. *Wine-lees*, the settling of the cask. *Woodroof*, common. *Woodroses*, a shrub or brier, common. *Walnut tree*, common. *Willow*, a shrub, white and red common. *Woodbine*, common. *Wax*, bees-wax, common. *Worm-wood*, common in gardens.

Y

Yarrow, common in gardens.

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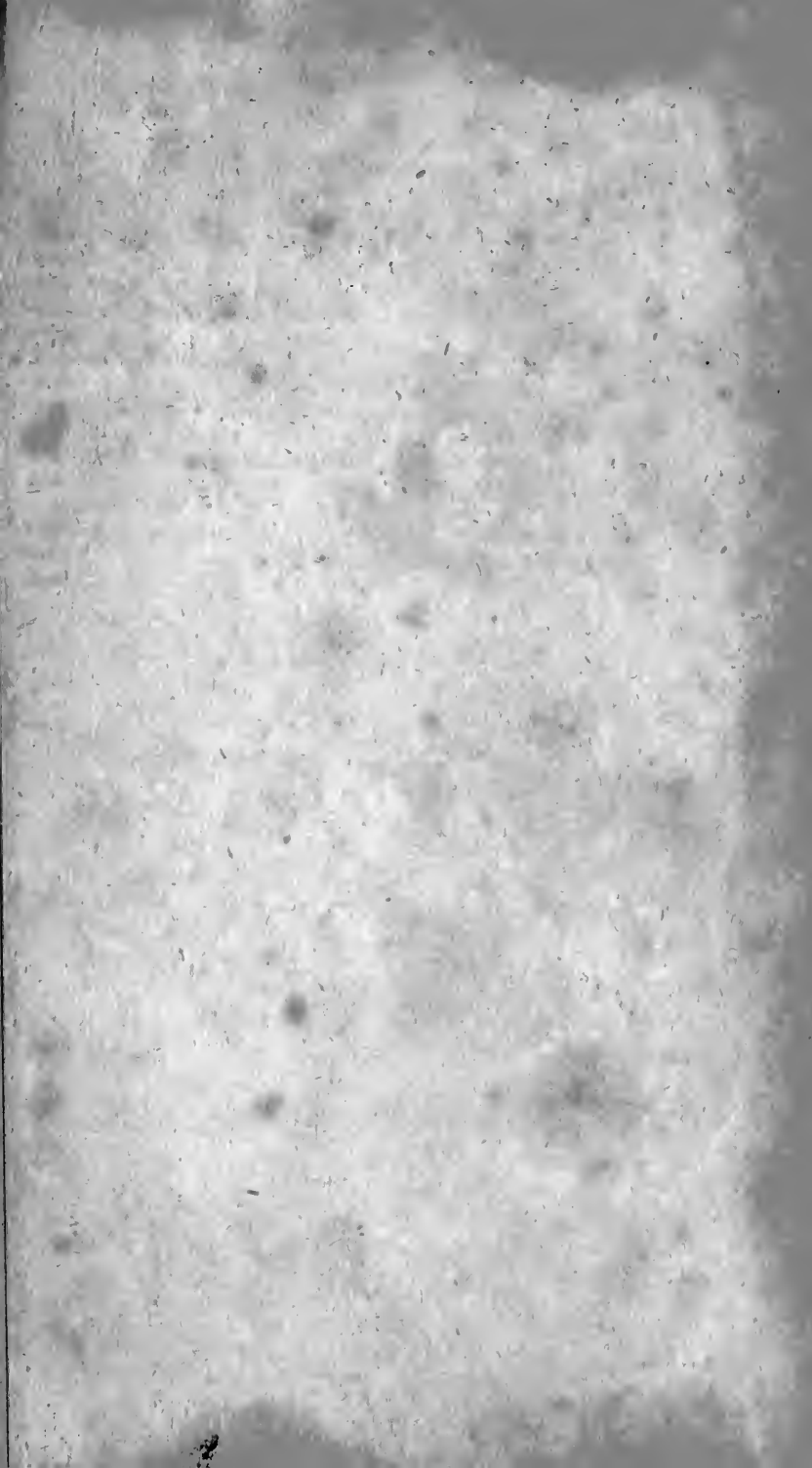
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