

An essay on the causes and cure of running frush in horses' feet / by Bracy Clark.

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Publication/Creation

London : Printed for the author, and sold by Sherwood, Neely, and Jones, 1821.

Persistent URL

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AN ESSAY
ON
THE CAUSES AND CURE
OF
RUNNING FRUSH
IN
HORSES' FEET.

By BRACY CLARK,

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Lyceum of New York.*

LONDON:

PRINTED FOR THE AUTHOR,

AND SOLD BY SHERWOOD, NEELY, AND JONES, PATERNOSTER ROW.

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AN ESSAY

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As there appears to be no sufficient reason for continuing the absurd and barbarous appellation of *Thrush* to this disorder, I take the liberty of restoring again to its proper place in our language the real old English term *Frush*, as the continuation of the former can only perpetuate confusion and error which has prevailed too much in these things. This corruption appears to have proceeded from the Jockeys and Smiths, and perhaps Amateurs of the turf, who have too blindly followed them, for it has existed only since the commencement of the racing for Plates, which introduced a new era in horse affairs, and not much to their advantage or advancement in knowledge, as during three hundred years it has been in vogue, no light on these matters has proceeded from this school. One can only attribute this error to the want of attention to the spelling and also to the source and origin of the Word which has no analogy to any such name as *Thrush*, similarity of sound alone was probably the cause of their being misled, for the term is erroneous and perfectly inapplicable in any way to this complaint. I restore it for two reasons, first because the word Thrush is equivocal and conveys no idea of the complaint, meaning a singing bird or a disease of

children; and secondly, because we enrich the British language by adding to it a definite term for a specific object, and which has no analogy with any other, and by which we are enabled readily to think, speak, or write of it without confusion, for epithets well chosen are of no mean importance in conveying correct ideas, but, on the other hand, if ambiguous or incorrect, they embarrass, disturb, and often falsify them.

We may remark, the term *Frush* is originally derived from the Latin *Furca*, signifying a fork, and probably more immediately to us from the French word *Fourche*, also signifying the same thing, and its diminutive *Fourchette*, is the appellation in this language of the frog at this day. Hence formerly we obtained *Running Fourche*, and by an easy transition *Running Frush*, which word actually occurs in our old English writers as in *Blundeville*, and *De Grey*, and others, and is therefore the true word. Also the word *Frog*, I am inclined to believe, is nothing more than a corruption of the same word *Furca*, introduced into this country, perhaps, by the Romans, which, among illiterate people, from want of attention to, or knowledge of the original, was changed to *Furc*, *Froc* and finally *Frog*, its dark color, soft and squalid appearance, and retired situation in the foot, would tend to suggest and confirm this last appellation. The epithet, *Furca*, *Fourche*, or *Fork* was given it in allusion, there is no doubt, to the forked base or cleft of the Frog, this part branching off laterally to cover over the inflected ends of the hoof, forming there a denser coat, which we have called the *bulbs* of the Frog, and the French *Glomes*, at my suggestion, the former term not being admissible in their language.^a That *Frog* was not the original name of this

^a The Greeks appear also, like the other nations, to have given it an appellation which referred to the forked nature of its base, for they called it *χελιδων*, or *the Swallow*, the forked tail of this bird most probably being the cause or object of this allusion.

part appears evident from there being no word analogous in meaning, or similar in sound, in any of the languages from whence the English language is derived, for this part; I prefer, however, to leave it, though a barbarism, rather than disturb the present language, by attempting to alter it; but recommend, in speaking of its conditions and qualities, adjectively, to use the word *Furcaceous*, as the word frog admits of no adjective, that is at all applicable to the organ in question.

The disorder itself is truly a troublesome one, and often rendered still more so by the want of a proper management. Much weakness and soreness of the part appears to attend it, which is productive of great inconvenience, and sometimes of serious accidents; for when the horse treads on a stone or a flint in the road, and with his whole weight resting upon this tender point, he drops from excessive pain, with the limb, or perhaps falls. A disease so painful and frequent is well worth the labor of an essay, in which what I have to advance is for the most part new, at least differing from the views generally entertained of it. Contracted heels have been hitherto generally considered the chief cause of this disease, which we shall show is by no means the case; and for the treatment, pressure on the frog, and even cutting away the horn has been recommended, which we shall exhibit as unnecessary, or something worse.

It appears to be necessary, to set this complaint in a more clear light, to give some account of the growth and structure of the part, diseased, by which *the natural Frush* will be best understood; and afterwards I shall consider *the secondary or acquired Frush*, which distinction appears to be of use in estimating them.

The part diseased is the Frog-stay, and in my Treatise on the Foot of the Horse, published in 1809, I described this part, p. 25, and observed, that feet even in the most contracted state, were often without any frush, and also that one foot might be frushed and the

other not, of the same horse, though both were equally contracted, that this pointed out clearly some other cause was producing it than mere contraction; and again, that the feet of young horses which had never been shod, consequently could not, in the proper sense of the word, be contracted, had Frushes often, and very badly, so that it was most evident some cause other than contraction, must be the source of it.

In the above work the *Frog-stay* is thus described. “In the base of the Frog, or posteriorly at its widest part, there is seen a deep oval cavity or depression, which hollow cavity is called the *Cleft of the Frog*, the edges or margins of which are surrounded by rising lips of a more polished, denser, and harder horn, apparently to secure it from rupture by external violence, and the sides of this cavity sloping pretty suddenly, meet and form a longitudinal line at the bottom of it, thus closing and terminating it. In the offices and business of the foot this cavity appears to be useful in many ways. By closing when strong pressure comes upon the Frog, it saves it from a too severe condensation of its horn, which would be inconvenient by inducing pressure to the tender parts immediately under it, as the principal flexor tendons and the joint of the foot. And in soils of a looser nature, as in sands, this cavity in the base of the Frog, can be farther useful by receiving them within it, and thus render the foot more stable and firm upon such ground. It assists also by the unoccupied space it affords in conferring a degree of liberty to all the posterior parts of the foot, by yielding on all occasions, which liberty and elasticity of parts is essential to the health and well-being of the foot, and the due performance of all its functions.

But what we wish more particularly to impress upon the reader's attention is, that this cell, or cleft, is prevented from being ruptured inwards, or towards the quick, by a stout cone of horn, which is

passing from it upwards into the Sensitive Frog, and of which cone this cleft is merely the hollow base. And it is somewhat remarkable, that this solid cone of horn, though passing within the sanguiferous and sensitive parts of the foot, is nearly or quite as hard as is the external horn exposed to the air, in order apparently to give it the more efficiency in resisting rupture from external assault; and this cone, we may observe, commences nearly opposite to the point where the heels of the coffin bone terminate, assisting in strengthening these posterior parts of the foot in the absence of bone. The sides of this cone are somewhat compressed or flattened, and contracting as it rises upwards, it terminates superiorly in a rounded bluntish edge, posteriorly it enlarges, and is wider, presenting a broad flat surface for adherence to the Curtain of the Frog. This part was without a name and very little noticed, till I gave it the epithet *Frog-stay*, from its holding together the cleft base of the Frog, and the French have followed the example in calling it *arrette Fourchette*, for the same reason.

It is to be observed that the horse's foot is not exactly a *solidungula*, as the ancients called it, but more properly a *semifissipes*, or half-cloven foot, for the hoof, though entire in front, has two terminations posteriorly, formed by its inflected extremities, and between which the Frog is inserted to fill up the vacuity with soft yielding matter; and again, the Frog is nearly cleft asunder at its base, to which is given this singular nucleus, or centre-piece, the *Frog-stay*, to consolidate it, and present a barrier to its separation by external violence. This barrier it is, when broken down, that is the real cause of *Frush*, or when during its growth it is not properly closed and consolidated, of the *natural Frush*.

Since there could not exist in nature such an anomaly as a really solid foot, that is of one continued circle of horn without any

break or interruption, as the power of yielding and extending under the impression of the weight, which is an indispensable condition, would be removed. Less objectionable for this sort of foot, is the Greek term *monungular*, or *monuchal*, as not implying solidity, and is more agreeable to truth and nature.

The Frog-stay, like an inserted tooth, firmly holds the horny to the sensitive Frog; for whilst the sensitive Frog falls into the reverted arch of the horny Frog, this part entering in the opposite direction into the sensitive Frog, serves reciprocally to fix and confirm these parts together, and preserve them from external injury or dislocation," p. 28. "And this part will also essentially co-operate with the coronary frog-band, in keeping the whole structure of these parts together, and especially under circumstances that might tend to disunite them, as in the suction of strong clays or in swampy ground."

This part, the Frog-stay, also appears to be the last of the foot in obtaining its perfect growth and consolidation, and if opposed by natural weakness, or externally destructive agents of the horn, such as wet, dirt, urine, &c. then the Frog will never be properly closed, and a Frush be the consequence through life. On casually visiting the Stud of the East India Company, Sept. 8, 1807, upon the borders of Epping Forest, I was surprized to see several young Colts whose Frogs were broken, and with Frushes, and the inflexions of the hoof were pressing in upon the base of the Frog. These Colts were most of them the offspring of the famous horse *Worthy*, and he also was foundered from violent racing, and perhaps from having naturally weak feet, having been a favourite. The man who looked after them assured me, that as the Colts grew older, some of their feet became perfectly sound and free from Frush, but not all. The place where they were confined was particularly wet, and most unsuited to their condition. Observing these facts, I was led to reflect upon

them as I returned home, and to perceive that it was not by the condensation of the foot, or contracted heels, as it was called, that this took place, but in fact from an imperfectly formed, or ruptured Frog-stay. At an early stage of the growth, therefore, there appears to be an opportunity of doing much good by attention to the breeding yards, and places for rearing young colts, which should be kept as free as may be from any unnecessary wet or dampness, especially where there is a tendency or disposition to this disease: But these measures neglected, or not understood the Frog would remain weak and unclosed and be tender perhaps through life, and if imperfectly united, would disunite again on the slightest cause. Great care and attention therefore, is necessary to this part with young horses. Where however the Frog-stay is naturally large, healthy, and of firm texture, and early consolidated, it may be able to resist all these opposing agents, and even the mal-practices of the smiths in cutting it, and shall continue through life, sound and free from rupture or disease.

The Frog-stay is subject to vary in different individuals, as to its dimensions and figure, and the period of its completion, being in some small, in others large, in some perfected at two years and a half, and in others not till three and a half, or four. And I once observed that the front part of the margin of the cleft began to form before the other parts, and in growing it appeared to extend backwards. I mention it also as rather a singular circumstance, that a very large number of horses have one foot of the four with the furcaceous parts weak, this I have so often remarked, that I am led to record it, sometimes happening to the fore, and sometimes to the hind feet.

I may also just mention, that it has appeared to me from some casual opportunities I have had of seeing it, that the Frog-stay is

composed or made up of concentric coats, or layers of horn, somewhat as the coats of an onion, as I have seen it come away or exfoliate in pieces of this figure, though in a healthy state, a section of this part does not discover this structure, so intimately are the coats united. I have thought also, that this part was often larger, in proportion to the foot, in blood horses, than in horses of the coarser breeds. See Dissertation on the Foot, p. 29.

There is a further circumstance in the structure of these parts which appears to be worth noticing, that on carefully dissecting the internal frog I observed that the skin passes down and is every where continued under the horn of the frog; which horn begins by a fine edge at the line or precise point where the hair ceases to grow upon the skin, then passing outside or beneath the cutaneous frog, the organ secreting it, it thickens as it goes on to the middle, and then thins away from the centre to the point of the frog the skin running distinctly under it, the whole way; till reaching the point of the frog, it is lost in the sole.

The breaking up of the Frog-stay therefore, brings this same skin into contact or exposure to extraneous bodies, and it becomes the seat of irritation and tenderness. A sort of cuticle also is seen covering the horn above described, and seems to run between the two halves of the frog; though whether it be so is not readily decided.

The skin appears to thicken considerably, flowing irregularly under the middle of the frog, and becomes more vascular and contains a streaky ligament which covers its surface within, and is again containing or involving it; the middle mass is a sort of granular ligament, for when you cut it, it starts out in elastic granular points more so than any other of the ligaments of the foot. These circumstances are best seen by laying open the frog longitudinally with a sharp scalpel, and reflecting and turning back the edges.

Having described the part diseased, and the way natural frush is generated, I proceed to consider the *secondary* or *acquired Frush*, which I have so called, because it is formed in feet that have been previously well closed and consolidated in this part; the secondary frush is usually generated by the mal-practices of the shoeing smiths, in cutting away the horn of the frog and leaving it often in so weak a state, as to have even barely a covering of horn, and sometimes they cut it so unmercifully that the blood flows, and then the first stone it encounters is sufficient to break it up and rupture it, when wet and dirt insinuate themselves, and a general undermining, and ulceration of these parts of the foot ensue, with a tenderness, endangering both the horse and rider; and then you will perhaps be told, that it is a cankered foot, and adding with an accent which implores your acquiescence and commendation of his measures, "*that in spite of all his care and trouble with the foot, nothing could save it,*" though if simply let alone nothing would have ailed it, so injurious is ill-judged officiousness, that there is merit in knowing how to let well alone.

As the ruptured Frog-stay gradually rots away, in its place is presented an ugly longitudinal slit or fissure, discharging a stinking watery humor, or sometimes pus, and the two sides of the cavity in this case meet each other somewhat as two toes would do, if their outer skin were removed, and pressed and rubbed against each other produce excessive tenderness.*

Of the Cure. As the disease consists in the rupture and destruction of the Frog-stay, so the cure will consist in restoring again and rendering solid and entire this necessary part. The first aim or in-

* The French term for this disease is *Fourchette pourrie*, and *Fourchette echauffee*, the latter, according to the definition given in *The Dictionnaire Encyclopedique*, is used when the frog is very badly undermined, p. 39, Art. *Medecine Veterinaire*; the ingenious writer has however, by a *contre sens* (which is no uncommon thing with the French) exactly reversed the statement, of my opinion of this disease.

dication, as it called, appears to be to dry up and destroy all morbid discharges of the part, which prevent the growth and formation of horn, and afterwards to procure by growth, a new and entire Frogstay. The best desiccatives in these cases are the metallic sulphats, as a strong solution of the sulphat of zinc, or white vitriol, in the proportion of two drams of the salt to an ounce of water; or still more powerful, but perhaps rarely or never necessary, the sulphuric acid, diluted with four parts water; but this, if applied, too frequently will become a caustic and do harm, and the other will scarcely ever fail of effecting it. The oxymellate of copper, or Aegyptiac,* is an excellent preparation of this sort, made by boiling treacle and blue vitriol (sulphat of copper) together, till they assume a red color, which appears to be equally as efficacious as honey and verdigris, at a much less expence. These desiccatives should be applied to the bottom of the cleft with a spatula, or which is better, with a stick cut thin and flat, not sharp, introducing them with a bit of soft herds or tow, but not distending the Cleft with any force, but as little as may be, and diminishing the quantity every time, smearing the Frog and parts adjacent to the fissure with tar, by means of a painter's tool, or small brush, which is very convenient for this purpose: these dressings every other day will be sufficient. I have known even tar alone sufficient, regularly applied, to suppress these discharges, and induce the formation of healthy horn. We need not have the least fear or apprehension in drying up the discharge, for it behoves us so to do whenever we can, since its continuance only serves to weaken the parts and render the cure more difficult; for there is an idle notion among the grooms, that the suppression of a Frush, "*throws humours into the body,*" though no one, perhaps, ever

* Probably from this medicine having originated in Egypt.

saw such an effect, that it is the miserable logic of smiths and stable-boys, and not worth the smallest attention. It is to be remarked particularly, that the suppression of the discharge may be opposed by a heated, feverish, inflamed state of the body, from stable confinement, air, and food, which perhaps may have given rise to this notion, and which febrile action falling upon the weak part, shall keep up the discharge, and even if dried up, shall occasion its frequent return; this must therefore be attended to, and this disposition of body be removed by a bleeding, a dose or two of physic, or the prohibition of corn for a time, by a cooler stable, or even, if necessary, a run at grass.

We may add with considerable confidence, from an experience of its effects, to the above local application, the use of a shoe with a joint at the toe, the application of which gives liberty to the foot, and an opportunity to the hoof to open and dilate itself, and releases the sides of the Frog from the violent squeezing and pressure which it acquires from the use of the common shoe, never failing to refresh and cool the foot, inducing more healthy actions in the Frog itself, and is attended with the most beneficial effects.

To cut away the horn, even though ragged, is only to bare the sore to its enemies, and render it subject to painful collision with the objects of the road. A small rag of horn can only be injurious when it prevents the wash or lotion from getting to the part, which it rarely or never can do, if properly applied; as a defence, though but an indifferent one, it is useful as far as it goes, rendering more obtuse and less felt by any blows it may receive; it is, therefore, much the safer way to forbid cutting these rags altogether, and to let such wear away upon the road, than under any pretence of removing them to have the frog and frog-stay unmercifully sliced and denuded.

A very impoverished and wasted appearance of the heels and frog does occasion a bad frush, and in this case often, one side is

affected more than the other, depending on the internal mischief and ravages that the disorder has made; sometimes I believe the white ligamentous capsule which envelopes the internal frog, is corroded through by the discharge, or by too violent applications, and then the *resilient ligament* escapes from between the substrated layers of tendons of which the internal frog is composed,* and which perhaps as it cannot be renewed, occasions this wasted appearance.

Where the frog is extremely denuded, weak, and tender, a bar shoe is highly useful and necessary in protecting it from the road, and in preventing the breaking up of the new-formed horn, afterwards a shoe with calkings will be sufficient; but, in applying the bar-shoe, it must not be permitted to rest upon the frog, as has been recommended, since this part ill bears much pressure when well, much less therefore when sore and diseased.

Whilst making experiments on horses' feet some years ago, by taking the shoes off and using them without, to observe their going, and if they could be restored from the effects of the iron, as had often been asserted, but which I found from strong causes not to be true; so on one of these occasions I saw a frush generated by the foot and heels expanding, the frog-stay having opened in the middle and formed first a dry cleft, and which in time began to discharge, and at last became a complete frush, though during all this time there was no want of pressure to the frog, but the contrary, though according to the common doctrine, this would not only have prevented but cured the disease; but really generated it.

After all discharge from the cleft has been suppressed by the measures pointed out, and the frog has become dry, horn will then form, and though the horn of the frog is remarkably slow in its growth, it

* See the account of this most curious structure, first described in Part II. p. 117, in my Treatise on the Foot; and the figure of a frog thus emaciated, Part II. pl. v. fig. 3.

gradually advances untill it becomes a solid cone, which will obliterate the frush entirely, and if properly encouraged and attended to afterwards, will remain entire for the lifetime of the animal; but proper care should be taken after it is so formed, to prevent the access of those causes which led to its original formation, especially if it was a natural frush and the parts extremely weak, indeed then a bar-shoe may be necessary to defend it through life, and though with us there is often a dislike to this kind of shoe, perhaps as implying a disease, it is nevertheless extremely useful and necessary in protecting the foot, and making the horse when tender to go much better than by any other mode of ⁱⁿelastic shoeing.

Having described what observation and experience have led me to, with this complaint, I now conclude my Essay; hoping it may prove a useful accession to Veterinary science, and advantageous to those possessing or enquiring after knowledge in those valuable animals.

ON OSSIFIED CARTILAGES OF THE FEET, *vulgó* RING-BONES.

Having treated upon the foot and nearly all its diseases in my detached publications, or in Rees' Cyclopeda, excepting this, I subjoin the following brief account of it. The ossification of the lateral cartilages appears to proceed, in general, from the fixed and motionless state into which the foot is brought by the common shoe, and I have observed that in cart-horses the same effect is produced by the natural thickness of the hoof, for in these horses they are naturally very frequent. The ossification usually commences at or near the insertion of the cartilage into the bone, and spreads till it often

rises above the hoof, in which case it can be felt by the fingers, and this part above the hoof being called the circle, or ring of the coronet, has occasioned the name of ring-bone to this complaint. The structure and offices of these remarkable parts having been particularly described in my work on the foot, it only remains therefore for me to speak of their cure, or of what is still more desireable, their prevention, for they are a very frequent annoyance and painfully distressing to the animal. They are best relieved by a light firing of the skin of the coronet, and by a blister or two, but more especially by giving freedom of motion to the hoof, by a shoe having a joint, and by the use of which alone I have known some remarkable cures, in cases that were deemed almost hopeless. And so little has the elasticity of the foot been known or understood, that I apprehend this is the first time this simple means has been proposed.

F I N I S.
