

until it becomes absolutely broken-winded and useless.

In this stage of the disease it needs no examination to detect it: when at work, the loud, sobbing breath, and the laborious heaving and jerking collapse of the flanks, show it too plainly to be mistaken. It is caused by a rupture of some of the air-cells of the lungs, and the inspiration of the air is readily effected by the animal at a single effort, as usual; but the expiration of the air, from the rupture and ragged shape of the cavities into which it has been admitted requires a double effort; and when the disease is in its worst form, even two efforts are insufficient fully to exclude it. Broken wind is accompanied with a hard, husky cough, which is not easily described, but cannot be mistaken by any one who is used to horses. Broken-winded horses can never be cured, since it is not in the power of human art to build up and restore a broken-down and disorganized structure; but there are jockey tricks by which they can be so far palliated as to be made to disappear, for two or three days time, under any moderate observation. But let the horse be galloped a hundred yards, at his best, up hill; let his rider spring quickly to the ground and apply his ear to the chest, and the double expiration will be clearly heard, even if the flanks do not show—as, however, in ninety cases out of a hundred they will, by their jerking and laborious collapse—the extent of the affection. The minor and secondary modifications of this disease are, thick wind, roaring, wheezing, and whistling—all of which, more or less certainly, degenerate into broken wind, and are to be carefully looked for, and when detected, resolutely avoided. They all arise from a diseased or obstructed condition of some of the air passages, whether of the lungs themselves, the windpipe, the bronchial tubes, or the nostrils.

Thick wind is produced by insufficient space for the play of the lungs, or for the issue of the air through the bronchial tubes, owing to the thickening of their mucous lining consequent on previous inflammation. It produces laborious breathing, only effected by prodigious exertion of the lungs; often extends almost to suffocation, and nearly always leads to broken wind, or total disorganization of the structure of the lungs—of some portion or ramification of which it indicates either an originally faulty formation, or a diseased condition.

Roaring is a modification of thick wind, produced by the existence of a ring of coagulated matter, or of a thickening of a portion of the mucous membrane, within the windpipe, which produces a contraction of that passage, and, preventing the regular issue of the breath, renders some exertion necessary to expel it, and causes a loud puffing or roaring sound, similar to that of strong and hoarse exhalations, the inhalation being noiseless. Roaring occurs on sudden motion. Wheezing is a modification of roaring, and is produced, it would seem, by the lodgment of mucous matter in the bronchial tubes. It differs from roaring, in that it exists even when the animal is wholly at rest, and in his stable.

Whistling is a second modification of roaring, from which it differs in that the noise produced is shriller, and that it does not occur on sudden, but only after continuous motion. It is supposed to be caused by some contraction of the larynx.

Animals subject to any of these diseases speedily become exhausted by exertion, even while the disease is in its original state, apart from the distressing sound which they produce. All the forms are liable to degenerate into the worst form of broken wind, and all constitute an unsoundness for which a horse warranted sound is returnable. The