

fore it could reach the furnace. A similar circulation, though less active, must take place whenever there is a difference in the temperature of the air in the drains and that of the atmosphere, and from observations that have been made it has been found that a difference of this kind takes place at least once in 24 hours. M. Jäger remarks that wherever a furnace exists, its fire may be usefully employed in fertilizing by means of air tubes, the adjoining ground; and that gardeners might thus make good use of their hothouse furnaces for improving borders and other parts of their gardens.

The advantageous action of atmospheric air in passing through the soil is due to the fact of its losing a portion of its oxygen, and thus giving rise to the formation of a larger portion of carbonic acid. To determine the changes effected in these respects, Messrs. Fichtner have analysed the air contained in the tubes comparatively with that of the atmosphere. They found, after several days' uninterrupted heating by the furnace, during which time the circulation through the soil had been rapid, the air in the tubes had exactly the same composition as that of the atmosphere (21 per cent. of oxygen, and 79 of nitrogen), and contained in 10,000 parts 12.80 of carbonic acid. Two days after the fire was not kept up the air in the tubes had only 20.85 per cent. of oxygen, and contained 20.99 of carbonic acid in 1000 parts, and from four to six days after the fire was let out, they found 20.71 of oxygen and 35.72 of carbonic acid; six or eight days after, 20.08 per cent. of oxygen, and 35.73 per 1000 of carbonic acid. During these experiments they only found 4 parts of carbonic acid in 1000 of the air in the atmosphere.

The produce of the aerated soil, even taking into account the effect due to the working of the soil in laying the pipes, was considerably increased during the first and only year in which the results are known. A particular increase was observed in the yield of sugar beet. On the estate of Totis in Hungary, where similar experiments have been made, very encouraging results have been obtained. It is, however, impossible as yet to state anything precisely respecting them, and before we can draw conclusions we must wait till the experiments which are being made shall have been carried on for a sufficient length of time.—*Gardeners' Chronicle*.

Warranty of Soundness in Horses.

The subject of warranty of soundness in horses is one which cannot fail to possess a peculiar interest to those of our readers who, either as agriculturists or sportsmen, are amongst the lovers of horse flesh. The manner in which horse doctors differ on the important matter of soundness is illustrated at nearly every trial in which the question is involved, and is perhaps

as high an example as can be adduced of the unsatisfactory nature of professional evidence—not less striking even than that of the mad doctors themselves in the celebrated Windham lunacy case. Mr. Litt, veterinary surgeon, has addressed to the editor of the *Edinburgh Veterinary Review* a long letter on the subject, in which he advocates with considerable boldness and spirit, as the only satisfactory solution of the difficulty, the entire abolition of the law of warranty. We give a few extracts:—

"A rather large experience of more than twenty years, during which I have had some not unfavourable opportunities for observation, has led to the conclusion that, so long as the present most absurd law and custom of warranty exist, so long will the evils that arise from them—the expensive law-suits, the contradictory professional swearing, and the injury and disgust which necessarily follow—continue to exist also. The great aim, then, it appears to me, of everybody who takes an interest in horse-flesh—lawyers excepted, of course—ought to be to seek to bring about the abolition of the law of warranty altogether. Everything that leads in this direction may be recognised as wise and serviceable; and I believe the effect of a thorough inquiry into the various bearings of the subject can scarcely fail to point to this conclusion. Not that I conceive any attempt to amend the law or the operation of the law as it stands much less than Quixotic, but simply because I consider that the more it is investigated, the more clearly will its injustice and its absurdity be made manifest. Show how injurious is the law itself, and how unwise the custom of warranty, and something may probably be done towards their abolition; for it is in this alone, according to my view of the case, that we can reasonably look for any very manifest advantage to arise. I feel assured that no man having given a warranty is safe from injury. He has made himself amenable to a law, of all laws the most absurd and most unsatisfactory, and he has no right to be surprised if he should chance to reap the natural fruit of such a course. A very worthy man whom I knew well some years since, a farmer and at one time a large breeder of horses, understood these things so well, that when he sold a high-priced horse with a warranty he always put the money in the bank, and allowed it to remain six months without reckoning it to his account. If, at the expiration of that time, he heard of a complaint of the animal, he then considered himself at liberty to make use of the money, but no sooner. By this means, and by making it a rule to request the immediate return of a horse that had been warranted by him, of which the slightest complaint was made, he managed to steer pretty clear of the law; and though he was once exposed to some annoyance and inconvenience, I am inclined to think this plan was a wise one, and I recommend all who can afford