depths and thickness—the porous portions supplied and overcharged with water, endeavouring, by its own gravity, to force its way through it from the highest to the lowest level, and constantly endeavouring to escape upwards from its disposition to find a level, or rising to the surface by capillary attraction whenever the disintegrated particles rest on quicksands below, already highly charged with water—the resident in such a district says that nothing but *deep*-draining will answer, the *distance* apart being only secondary; but nothing less than four-feet drains, and in many instances even twice that depth, will suffice to rid the subsoil of its injurious occupant.

Again, we have the farmer from a country where one uniform flat surface prevails, and regularity of subsoil, are each of themselves equally remarkable features; and he requires drains as near to each other, in point of distance, as can be effected—six yards apart at most, and from 26 to 36 inches in depth, running parallel to each other throughout the whole field. This mode he has found to answer his purpose, and, he has no doubt, will equally answer for every one else.

And thus might we multiply instances without end. But as a few invariable and unerring principles are connected with the subject, we will endeavour to record them.

1st. The specific gravity of water is 817 times heavier than air.

2nd. By its gravity it always has a disposition to descend; but the instant it meets with resistance it exerts its force equally in every other direction.

3rd. That force is invariably excited until it has found a level, and it can then only be said to be at rest.

4th. That whenever this equilibrium is attained, it remains in that state (stagnant) until disturbed.

5th. That in perforating the soil with a drain, that portion nearest the drain is first set in motion, and this is followed in successive rotation by the next nearest portion, and so one to the extent of its action.

6th. That its action ceases wherever the compactness of the soil is sufficient to overcome the gravity of the water held in it by suspension.

7th. That water not only descends by its specific gravity, but ascends by capillary action; wherever the lower portion of the soil rests in water, the complete disintegration of its particles facilitate that object.

8th. That water passing from a higher to a lower level through the soil always has a tendency to rise to the surface, and would invariably do so unless intercepted by open or underground drains—hence the origin of springs.

9th. Water, on reaching the surface of the earth, would continue to descend in the soil until resisted, which it invariably would be whenever a porous soil was preceded by a retentive one.

10th. That water in its purest state, as rain water, is slightly charged with ammonia; but to an inconsiderable extent, excepting after long seasons of drought.

11th. That water becoming stagnant in a soil becomes deleterious to plants growing upon the surface, the mineral deposits, especially iron, after entering into its composition, rising towards the surface.

12th. That water passing through a hollow pipe meets with resistance produced by friction. A pipe filled at one end cannot be made to run full at the other.

13th. That water in a drain, upon meeting with resistance, will fill it continuously upwards until the weight of the column of water overcomes such resistance by the pipes giving way at the lowest point.

14th. That the velocity with which