

then suffered to remain for a week or ten days, or until the fragments of bone are no longer visible—the whole, then, should be intimately mixed with ashes, saw dust, scrapings from the woods—*or what is much better, corn or wheat bran.* With this application, not only are the phosphates supplied to a soil, but also gypsum, the latter being formed by the action of oil of vitriol on the bones.

The use of the sulphuric acid requires some caution, as it will burn the skin and injure the clothes if suffered to come in contact with them.

The great superiority of bone prepared in this way, consists in their more complete division, they are reduced to an impalpable powder, which can be more evenly and equally distributed over the soil, more easily dissolved by the rain, and more readily taken up by the crop. The same amount expended in this way will produce a much greater return than when laid out for bone dust.

There is still another, and as I believe, a better mode of using bones, because cheaper and equally productive, viz: the applying of them in the *liquid* form. To do this the bones are first dissolved in oil of vitriol, and then diluted with a large quantity of water, and applied at the time of sowing wheat by a machine for that purpose.

The machines used in England for this purpose are very expensive, costing from two to five hundred dollars.

It may be applied by a very cheap and simple contrivance, as follows:

Take a hogshead of convenient size made of thick staves, and near the bottom insert a leaden pipe, connecting it with another hogshead, which may be of half the capacity of the first. The leaden pipe must have a stop-cock, by which the flow of water may be regulated from the larger into the smaller hogshead, so that in the smaller hogshead a regular head of water is kept up. This smaller hogshead is to have a leaden pipe also, with a stop-cock fixed into it near the bottom, which should be joined at right angles to a hollow cylinder of wood, perforated with numerous small gimblet holes.

This whole apparatus can be placed in a common horse cart, when the larger hogshead is to be filled with the dissolved bones. When in the field the stop-cock in the leaden pipe, leading from the larger to the smaller hogshead, is to be turned so as to keep up a regular head of water in the latter. As soon as the team starts, the stop-cock in the pipe, leading from the second hogshead to the perforated cylinder, is to be turned, and by means of the gimblet holes in the cylinder, the dissolved bones will be very equally distributed on the land. The perforated wooden cylinder should have a length equal to that of the axletree of the cart used. This simple contrivance will distribute the dissolved bones as effectually as the most expensive English machines, and the whole cost of it will not exceed twenty dollars. This application should follow immediately the sowing of the wheat. Bones used in this way will give the wheat a strong, quick growth, and thus,