houses, which, formerly thrown down sewers and upon dung-heaps, is now contracted for to the extent of nearly eight hundred thousand gallons a-year. Mixed with ground or calcined bones and sulphuric acid, it is converted into a powerful corn and root fertilizer, known to agriculturists as the "Nitro-phosphate manure." The mere fact that these products were articles of sale, and not of home manufacture by the farmer, had a powerful influence in extending their use. Those on whom the essays of Professors and the orations of landlords produced little effect were worried into inquiry by the agents of manure-vendors, and, as the new practice spread, were convinced almost against their will by great crops in the fields of enterprising neighbours. The vendor of artificial manures helped in another particular the general movement. He soon discovered that his fertilizing stimulants were robbed of half their value on wet or ill-cultivated land. Hence he became the eager advocate of thorough drainage, and that thorough preparation of the soil which can only be effected by the best class of ploughs, harrows, horse-hoes, and clod-crushers. His customers would have been customers no longer unless he could have convinced them that the fault was in themselves and not in the goods. He argued to ears which had at last been opened, and prevailed without the assistance of the hedge-stake. A man grudged growing weeds with the fertility for which he had paid in hard cash, nor could a manure that cost £10 or £12 a ton be refused the economy of a machine to distribute it carefully; and thus drill husbandry, which is identified with clean husbandry, spread, led by pipe-drains, from Norfolk, Suffolk, and Bedfordshire, into every county of England, and with it bought all the machines and implements required for "clean, rapid, concentrated cultivation."

It was between 1816 and 1836,—the twenty years in which the breaking up of poor pastures and the reclamation of waste lands were most vigorously carried on by means of turnip-drilling, sheep-folding, and the four-course rotation—that the crude forms of the greater number of the agricultural implements which are now considered 'standard' were either invented or brought into use among the great lightland farmers. In general the ingenuity of the mechanic outstripped the wants of the cultivator, and many excellent contrivances had been forgotten because they were in advance of the requirements of the day. Under the new demand for mechanical aids, more than one ingenious blacksmith or wheelwright rose from a humble position, and has since expanded his small forge into a factory where steam-power and the best artisans are employed in the construction of agricultural implements. The opposition raised to the introduction of some of these machines, under the idea that they were injurious to the labourer, is known to every one. Between 1836 and the present time this prejudice has been almost entirely extinguished by a series of legislative and national changes. The commutation of tithes has unlocked the land; the new poor-law has, to a certain extent, emancipated labour, although the law of settlement still weighs heavily upon the improving farmer and the enterprising peasant; the Irish famine, and the enormous emigration during the last ten years to America and Australia, have removed a mass of floating, half-employed workmen, and made way for the introduction of the threshing-machine, the drill, the haymaking-machine, and the steam-engine, without producing a murmur of discontent. Experience, moreover, has convinced most persons that the use of agricultural machinery creates an increased demand for constant labour of a superior kind, although undoubtedly it relieves the farmer from his dependence on an itinerant army of reapers and haymakers. The true effect of the iron workman is not to displace the human, but to perfect cultivation, to multiply produce, to increase the means of subsistence, and to add to the prosperity of the entire community.

It may be taken for an axiom, that when a farmer has used even one good implement he derives so much advantage from its rapid and accurate work, that