of Leith Walk, whereby, *cæteris paribus*, manual labour has at length been placed upon a par with horse power when employed in field labour. The implement thus devised by Mr. Sivewright was originally a grubber of five flat hoes, arranged triangularly in the ordinary manner, and in this state it was found to perform with the greatest facility all the labour usually effected by means of the Dutch hoe in cleaning the ground, stirring the earth between rows and drills, extirpating weeds, and working and pulverizing the soil to the depth of four inches; the flat hoes being so arranged, as, at each entrance, to work a breadth of 17 inches, which, however, might, by means of a contracting and expanding transverse bar at the base of the triangle, be reduced to thirteen inches for going between drills. Mr. Sivewright found, that with this implement he could completely prepare his garden ground at Gargilfield, extending two acres, for crops, in many instances, without resorting to the use of any other means whatever; and that, too, with the greatest saving of labour, as it simply required one man to draw it through the ground, and he could do so with great rapidity. We ought to mention, however, that Mr. Sivewright's is a fine light sandy soil, in a beautiful state of pulverization, and presenting less than usual obstruction to the working of machinery. But we have no doubt that in any garden soil whatever, very little more difficulty would be presented to the action of this particular hand machine. Being composed entirely of iron, its great lightness, acuteness and strength, cause it to be very easily worked; and being, moreover, supported by a fore-wheel, as in some of Ransomes' celebrated ploughs, figured in this day's Journal, the shifting of this wheel regulates the depth to which the hoes and tines may be entered in the soil; and once entered, they would undoubtedly cut and loosen the stiffest soil, pulled by a single labourer. The inventor having accomplished this object, was not satisfied, however, until he had succeeded in converting his hand-grubber, by the simple addition of double mould boards (removing four of the hind tines), into an effective drill-plough, both for raising ridges and earthing or moulding up potatoes, turnips, all and plants growing in drills. The fore-tine being left attached to the machine as a cutter, the double mould-boards are joined on to the sides by a hinge passing in front, and the earth thrown up is moulded gently down upon the ridge by means of a comparatively trifling weight hooked on to the back bar of the implement, at the centre. As the implement is drawn along the drill, the turned-up earth, therefore, passes under the curves of the mould boards, and is beautifully, smoothly, but lightly pressed down upon the sides of the opposite drills, without choking up the lower leaves of the growing plant, as is too frequently the case with the drill plough. The weight at first attached to the implement, in order to mould down the earth upon the drills, had been twenty-one pounds; but this was found to be unnecessarily large, and to offer considerable impediment to the labour; though still, a good workman could effect a great deal in a light soil, even with this. A weight of seven pounds, however, has been found by Mr. Sivewright perfectly adequate; and we never saw better or more systematically formed drills than he has thrown up in a half-acre plot of potatoes by means of this implement. The saving of labour is such, that a piece of garden ground, which a man was formerly five days in hoeing, has been worked by one man, with the machine, in one day. For instance, the half-acre plot in question could be earthed up at the rate of ordinary labour of which this machine admits, in six hours, an able-bodied labourer, or indeed a lad, could therefore accomplish, single-handed, a whole acre in a day of twelve hours. The simplicity of construction, and necessary cheapness of these machines (for we have no doubt Mr. Slight could turn them out at a most reasonable price), commend them very strongly to market-gardeners, cottagers, small farmers, nursery grounds, gentlemen's and family gardens—in short, in all situations where it is inconvenient, inexpedient, or even impossible to introduce horse labour. Mr. Sivewright, with the utmost liberality, has authorised us to state that he is anxious only for the adoption of it, wherever it may be found useful, and, in fact, makes a present of the invention to the public; nay, in order to facilitate this purpose, he will be happy to send round his gardener with any one desirous of witnessing the work which the implement has performed; and the implement itself is on view at Mr. Slight's, where its advantages we are sure, may be ascertained by any practical person at a single glance.—*Scottish Agricultural Journal.*

Analyses of Manures.—At a late meeting of the Highland Agricultural Society, Mr. Finne spoke of the great advantage which had been derived by farmers in Scotland from the analyses of portable manures, upon which, he estimated, nearly one-half of the green crop of that country is dependent. The amount of guano, for instance, imported in 1837, was upwards of 220,000 tons. Great adulteration had been practised with guano; and bone-dust had been mixed with ground oyster-shells. Various manufactured manures, of the constituents of which the farmer could not be acquainted, were offered for sale. In illustration he related the following: Some years ago I joined with two or three farmers in the purchase of some tons of nitrate of soda. None of us derived any benefit from the application of it. Most fortunately I had some left—got it analysed by Mr. Kemp at the College; and when the secret was explained, it was to a great extent mixed with common salt.—I heard of a cargo shipped to a party in London; a chemist was ordered to examine it before taking it from the ship. The adulteration was detected, and immediately the shipload was ordered off to Scotland, and sold amongst the farmers. I once purchased a quantity of guano from a party in Leith. Professor Johnston had given an analysis of it, but the sample sent to him had been very different from the stock. I found upon taking delivery that all was not right. I then had a sample from the stock analysed, and had no difficulty in procuring an abatement of 10 per cent. from difference of value. I cannot conceive how any agriculturist who expends his hundreds a-year upon portable manures is justified in applying them before being tested, and would grudge a few shillings per annum to obtain a chemist of skill who could satisfy him as to the purity of the article upon which he is not only expending a large sum of money, but upon the genuineness of which his green crop, and every succeeding crop in the rotation, is dependent; for, without a knowledge of the nature and properties of the materials employed by the agriculturist, it is evident that the result of many of the laborious and extensive processes incident to his daily occupation must be a matter of mere chance—thus contributing more than any thing else to the precariousness of the profits upon which his prosperity depends. I may be told this is a tenant's question, and let him look after his own interest and he will fare the better; but I hold whatever is necessary for the tenant cannot be dispensed with by the landlord; and if from not having a ready and cheap way of having his manures analysed, the loss of a crop is the consequence, is not the landlord's rent endangered? But I would respectfully submit that these portable manures, now so important an element in good farming, and for which I would say a chemist's services are required, leaving every other consideration, have done much already for the proprietors of land."

Languages.—There are 3,664 known languages now used in the world. Of these 937 are Asiatic, 587 European, 276 African, and 1,624 American, languages and dialects.