

made for use. This sum will be paid each year, less only a small commission taken to sustain the cost of maintaining the exchange. Further details need not here be considered.

The advantage of the exchange to the owner of tools is obvious. He has a machine which he can perhaps use but a few hours out of the 365 days of the year. He is subject to storage, loss of interest, taxes and wear and tear, with the final extinction of the capital invested. Will not what he receives from the use of the implement through the exchange, be a saving? If much used it will be soon paid for; if not, the owner has saved the care and storage.

Suppose a farmer to need a machine not found in the exchange. The implement is expensive, but how much better he can afford to purchase, when, by placing it in the Exchange, he can receive back something from its usefulness to others. Implement manufacturers, like those of pianos and sewing machines, can here loan their tools and obtain a higher price than they can get in other markets, without oppressing agriculture. To the owner of implements, borrowers are always annoying. He can avoid them by recommending the exchange, or sending tools there for their benefit.

But of what surpassing usefulness will the exchange be to the farmer? He will there find every implement and machine useful in agriculture, not on exhibition to tempt a heavy and perhaps perilous investment, but for use at a very moderate sum. He obtains them at no risk which his own prudence cannot reduce. He need not now be distracted or deceived with newly invented implements, the introduction and trial of which is expected to be at his expense, since at the exchange a small sum will test their worthiness. These tools, practically his, are more numerous and costly than can be found in the wealthiest private establishment. To agriculture the exchange will be not less useful. Progress here is necessarily slow and laborious. The high farmer leads where his poorer neighbor cannot follow. Cheap tools will reduce this inequality and render improved methods more common. Farm machinery in this country represents a vast amount of usually idle capital. The farmer of average means can hardly be progressive. Few machines can be purchased at a price upon which, on small holdings, they will pay a profit. Can we not then co-operate, and with little capital use the best implements?"

The suggestions made in the foregoing essay met with very general approval, and a committee was appointed to devise ways and means for giving them effect. It was thought that inventors, manufacturers and dealers in agricultural implements might find it conducive to their interest to place samples occasionally in the exchange for trial and hire; and some were even of the opinion that it would be a profitable use of capital to invest it in farm machinery and tools for loan at moderate rates so that possibly a new branch of business might spring up in this direction, very similar to circulating libraries. The difficulty in regard to some implements, as it strikes us, would be that all the farmers in a neighbourhood would want them at once. It is however, a subject well worthy of

being rendered, and having laid it before our readers, we commend it to their best consideration.

WORK THE LOWER FARM.

Under the above appropriate heading a correspondent of the *Country Gentleman* counsels his brother farmers to get up the soil from below the present working soil, and render it available for tillage. He says there are two ways of doing this, both good; you may bring up part of the under soil and use it for years mixing it with the top of your other soil; or you may bring it up all at one time, burying the other beneath it. The latter is recommended as the best way where there is time and it can be afforded, but since this course would give as the immediate result a raw fallow, atmospheric action and manuring would be required to bring it into good tilth, but ultimately there would be thus obtained a fine, deep, rich seed bed fit for the reception of any seed, and certain to yield a profitable return of any crop desired.

We earnestly echo the advice to *work the lower farm*. Not a few appear to be in blissful ignorance of the fact that they are proprietors of two farms, an upper and a lower one. In all their operations they have had to do with what Mechi calls, "the agricultural pie crust," some five inches deep. This is only the upper crust. All good pies have an under crust also, and in many cases this is the better crust of the two, soft and saturated with valuable juices. It is better to work the lower farm, than to do what many farmers are covetous of doing—*buy a second farm*. The lower farm involves no outlay of fresh capital, will not increase the taxes, and may be made to double the crops just as readily as a second farm might do it.

Beside the methods of working the lower farm suggested by the *Country Gentleman's* correspondent the same result may virtually be secured by using the sub-soil plough. This implement loosens and mellow the lower stratum of soil without throwing it up to the surface. While in the hard pan condition it is impervious to moisture, and uninfluenced by the fertilizers that may be applied to the top soil, but when loosened and mellowed it is accessible to both moisture and manure. By one or other of the methods above described—either by putting the common plough down a little deeper every year, or by boldly throwing up several inches of the lower soil and making it exchange places with the top soil; or by the use of the sub-soil plough. Every farmer should avail himself of the lower farm, which underlies his upper one.

The advantages which are certain to result will be, more room for the plant roots, more nourishment for them, a better condition of the soil owing to its