THE CANADIAN THRESHERMAN AND FARMER

ious moisture and will make the plowing go much faster and nicer and better that anyone who has tried the practice will not fail to days. Obviously then we should follow it up in the future. Even

amount of moisture lost during the first week over 60 per cent was lost during the first three get our harrows going and spread

And once the mulch is spread

on our newly plowed ground our

task is by no means finished. It

must be continually restored and



Tools that Will Tackle Any Tangle of Clay and Clod

ground that is apparently dry and our protective mulch as soon as hard will, after being disked, gather an unexpected amount of moisture, enough to make a very appreciable difference in the ease with which the plowing can be done.

Once the plow has turned over the ground, the mulch should be immediately spread as ground left loose from the plow loses moisture more rapidly than at any other time. This preventing a loss of moisture is best done by attaching a small rotary or other harrow directly on the plow so that the ground is levelled and a light mulch prepared immediately the ground is turned over. Such a harrow adds but little to the draft of the plow and will save its cost many times during the course of a season. Of course this kind of a harrow is necessarily light and does not produce

a really efficient or lasting mulch, and it should be followed in a few days with the heavier harrows; nevertheless it levels the ground nicely, breaks up the clods, fills in holes and closes up cracks and air spaces enough to save tons of expensive moisture.

If, however, you do not have a small harrow then you should slip over each day's plowing every night before quitting and not leave it day after day and week after week. It will cost you at the rate of one round of plowing a day, but it will save an amount of moisture that cannot be readily calculated. Experiments proved that in the case of a soil well filled with water during a three week's period nearly one-half of the total loss of moisture occurred the first week, while only one-fifth occurred during the third week, and of the

renewed. As soon as the harrow has passed over and loosened up its two or three inches of top soil that soil dries out and moisture from below being drawn up to the surface by capillary attraction, reaches this dry blanket of loosened earth and is arrested in its upward career but its arrest is not permanent.

The loosened particles of soil immediately begin to settle, to come closer and closer together, and if left without being stirred for any considerable length of time soon becomes pressed down upon and connected with the damp ground beneath and capillarity is re-established. Then. again every rainstorm, by melting and running together the loose particles of our mulch renders it useless as such and the harrows must be run over the ground again.

Care should be taken at such a time not to get on the land with the harrows too soon after a rain; the proper time being when the dirt is sufficiently dried so that it will not gather and stick on the harrow teeth.

If, on the other hand, we do not lay our mulch blanket over and over again after it has been destroyed by rain we simply allow evaporation to go ahead and undo all we have been at suchpains to accomplish. This evaporating of moisture is a similar thing. It comes like a thief in the night. We can see and feel the rain when it falls, but we can neither see nor feel nor hear the silent process of evaporation that is going on unremittently. If we could, if we could watch the moistures as it fades away from our land in the lightest of mist and could calculate the number of dollars it is carrying away from our fields every twenty-four hours, we would not go about our work as calmly as we do and leave our land unprotected.

Let me call your attention to



## A Complete Battery for the Seed Bed

the fact that these laws of gravitation, of percolation, of capillarity and of evaporation are not my laws nor the laws of any man whatsoever. They are inexorable

Taking the Vitals from the Weed Crop

## May, 17 May,

laws made and laid down by God Himself at the beginning of all things; laws that have been dis covered and tabulated by years of study given by scores of mon They are laws that we cannot disregard without paying the penalty and we pay it just in proportion as we do disregard them

And now let us take a trip along the public highway and se if we can point out by their prac tice how many farmers there an who understand these element of their business and who care for their land according to these law and principles and how many them cultivate according to law and principles of their own.

We will take a day along abo the latter part of August, or ever during the first part of Septem ber for our trip of observation At this time of the year all summer-fallow plowing should have been finished long ago, and i should be entirely free of weeds The first field we pass is an 80 acre patch that the owner has just finished plowing. As w drive along we can tell where the

owner started to plow and where he finished by the varying degrees of prolificacy of the growing weeds. Rain after rain has fallen on this land throughout the summer, has soaked down in and has been evaporated back out again and all the while this has been going on the owner has plowed steadily away with once in a while a day or two off for some other duty entirely oblivious to the fact that dollars have come and gone day after day, time after time.

The next we come to i a field of 640 acres that the owner is still plowing away at with a big power outfit. The unplowed portion is grown high with

weeds of all descriptions and in the plowed part the furrows are thrown up in all kinds of shapes and have dried out almost completely. The next is a field that



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