

A NEW PLOUGH FOR INDIAN CULTIVATORS

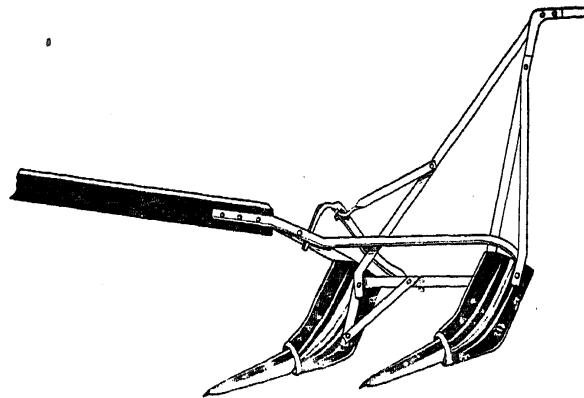
A new plough, which may well go a long way towards solving the important function of heavy cultivation in the field of agriculture has been designed by the Agricultural Engineering Division of the Indian Agricultural Research Institute, New Delhi.

In the course of experimental work it was discovered that the draught of two similar country ploughs coupled together in a certain way fell considerably short of that required for a single plough of the same design. As a result of this factor it was immediately decided to investigate the possibility of designing a double Desi plough capable of operation by a single average pair of bullocks.

The new plough as finally designed is simple in construction and consists of the bottoms only of standard Desi ploughs, suitably coupled together by means of an iron frame work and pulled by a single central beam. The ploughs are so placed in relation to each other that identical furrows are cut and carry out in one operation similar work as would be formed in two operations by a single standard plough.

This new plough is comparatively light, its weight being approximately 50% lighter than a single plough; thus an average ploughman can easily lift and carry it as required for ordinary operational purposes. The draft is, as already noted, tolerable, as instanced by trials in hard dry land, ploughing 4½"–5" deep, using local Delhi plough bottoms the draft did not exceed 260 lbs. The draft of a single similar plough under identical conditions was 155 lbs. It may be of interest to note that the draft of a single 'VICTORY' bullock drawn soil turning plough under average conditions varies between 320–400 lbs.

The merits of the new plough are obvious. Bullocks, in many instances and so long as ploughing is concerned are underworked and based on observations made on bullocks when operating 'Victory' plough against a single Desi plough there is considered no doubt that this plough is capable of being operated by a single pair over considerable area in this country without undue extra effort and its daily output will be practically double. Taking an extreme case where due either to soil conditions or



capacity of bullocks it is only possible to operate for 3 or 4 hours instead of 6 or 8, that is for only half of the usual daily working period, the out-turn of work will be similar as for a full day and the cultivator given extra time for relaxation or alternative work. In the case of a further extreme when soil conditions make the operation of the new plough impossible, this could be done as before with a single plough and subsequent second and third operations done in half the time with the new plough.

Quality and regularity of ploughing must automatically be improved.

Seasoned ploughmen who have used the new plough are enthusiastic about it and state that in operation it is easier and less tiresome to handle due to its 'stability' when in work or simply—it works itself.

When in production it is estimated that its cost will not exceed that of a single plough by more than 50%. Thus it will be cheap. It is simple in construction and easily repaired or even constructed by the village blacksmith or carpenter and may well prove to be of great value in the effort being made to-day to increase food production and at the same time ease and improve the work of the Indian cultivator.

I.A.R.I.,
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CEREBELLA ON SUGARCANE

DURING the course of taxonomic studies of the sugarcane flower in the material collected in Hebbal, Bangalore, large numbers of spikelets were seen parasitised by a *Claviceps* species, which was similar to that reported by Thirumalachar² from Mysore.