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Farming will never be a success unless the farmer had more voice in the disposal of his produce—P. Morrel.

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A NEW *GUNTAKA*

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Iron and steel are slowly but surely taking the place of wood in the construction of the ryot's tillage implements. The superiority of metal, from the points of view of strength and durability to say nothing of the great variety of forms of vastly superior efficiency which cannot be obtained in wood, can no longer be denied by the most ardent advocates of indigenous wooden implements.

A sure criterion of a good thing is that it is capable of improvement and this may aptly be applied to the *guntaka*—that admirable implement of the Ceded Districts which so ably performs in after-ploughing operations and is so deserving of a wider popularity in other districts of the Presidency. In spite of its good performance it is subject to the inherent defects of an almost entirely wooden construction and the introduction of an all-steel framework with certain refinements in form and facilities for adjustment is capable of investing the implement with a number of distinct improvements. Several steel *guntakas* have already appeared and the cultivator is evincing a keen interest in their performance.

A somewhat new design of implement of this type has recently been produced at Coimbatore and is illustrated in the accompanying sketch. The design incorporates a number of desirable features to which the following notes refer :—

Simplicity of Construction. With the exception of the pole and handle which are as usual of wood and of which the former is usually provided

by the ryot himself, the construction is entirely of steel and consists of five parts only including the blade. The rear portion of the pole is made to serve as a member of the framework thereby reducing the amount of steelwork and consequently the cost. All joints are effected by bolt and nut of which there are eight in all and the implement may be completely assembled from its seven separate parts in a very few minutes.

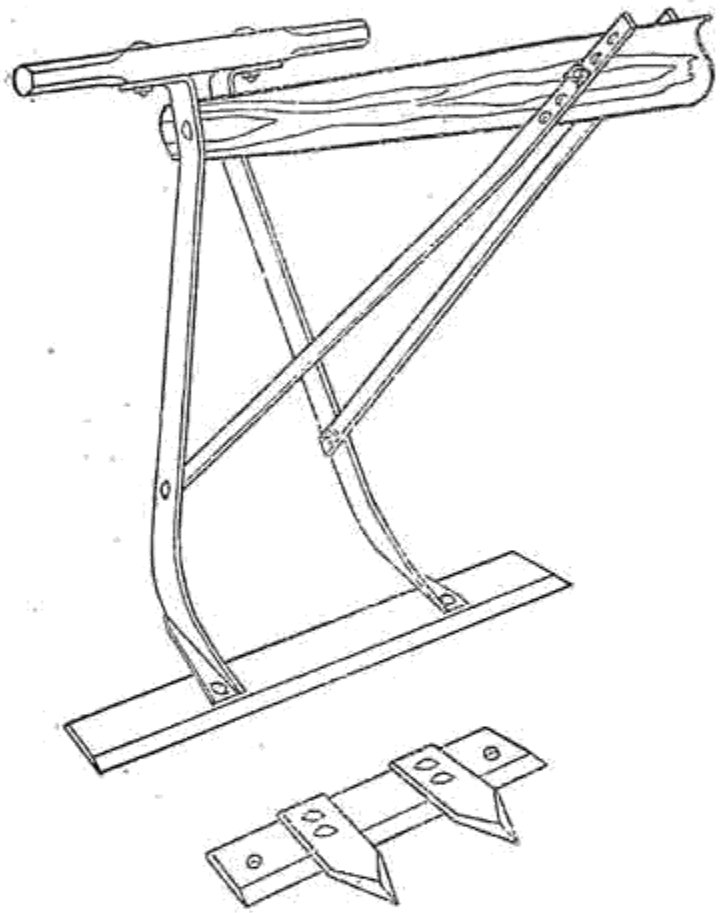
Light weight and portability. It is an old and admirable practice of the ryot to transport his implements on the bullock yoke and in order, also, that he may experience no great difficulty in handling them, weight and portability are factors which must be considered in modern implement design or in any modification of existing forms. These points have received due consideration in the design of this new *guntaka*. The complete implement with pole weighs not more than 60 lbs. and may be handled with ease by one man and conveniently carried on the yoke.

Strength. The triangular disposition of the frame members offers a marked degree of rigidity to the whole structure. The angular section of the feet and the edgewise bending of the broad steel legs behind them amply resist distorting influences under heavy loads and hold the blade firmly to its work.

Good penetration. The straight blade however sharp has very little penetrating power by itself and the addition of weight to this type of implement with a plain straight blade will usually be found essential in any well-set soil. Where the implement is not heavy enough in itself, penetration is assisted by the placing of a stone on the implement, by the driver riding on it or by the exertion of pressure on the handle. The curved blade will penetrate a little more readily but has the objection that it imparts to the implement a tendency to roll and rather detracts from its handling qualities. It does not cut to a uniform depth over its entire length. The application of a pair of points as shown in the sketch is found to overcome this difficulty and causes very satisfactory penetration without any additional weight whatever even in the most difficult soils. No rolling tendency is imparted to the implement by the fitting of the points. In loose and loamy soils where sufficient penetration may be obtained without them, the points may very simply be removed. The points have the effect, incidentally, of breaking up the soil beneath the level of the blade and preventing the formation of a pan where such might otherwise arise through a too frequent working of this type of implement.

Ample clearance over blade. The legs of the *guntaka* are swept some distance backwards and upwards from the blade so that the accumulation on them of haulms and trash, which is inevitable in the lifting of certain crops and in dirty fields, will not immediately obstruct the penetration of the blade. The feet of the legs to which the blade is attached are designed to offer the minimum resistance to the passage of the soil over the blade and are subject to very little wear.

Ability to carry blades of various lengths. The *guntaka* is designed to carry a minimum length of blade of 24" which is a little more than the distance between the outsides of the feet. Any blade length in excess of this may be carried up to about 60 inches assuming the use of $\frac{3}{4}$" blade. The length of blade will, of course, be chosen to suit the nature of



A NEW *GUNTAKA*

the work and the capacity of the cattle. For the control of weed growth, mulching, and the covering of seed after broadcasting and similar work requiring a penetration of not more than several inches, the longer blades will be employed and the assistance of the points will not usually be required. For the lifting of groundnuts, the eradication of cotton stalks and deep-rooted weeds the short blade will be required, with or without the assistance of the points as the nature and condition of the soil and plant demand.

Reversible plain straight blade. The blades are straight and flat with a bevelled edge and may be simply prepared from a 3″ x ⅜″ flat steel bar. Both edges may be bevelled, preferably on opposite sides of the blade, for the blade is reversible both end for end and side for side. Two holes are provided in the blade for attachment to the feet of the implement and two pairs of additional holes for attachment of the points. The blade is thus free from any forged tangs or rivetted sockets which are necessary appendages to the blades of the country *guntaka* and any steel *guntaka* which has hitherto appeared. This feature must be appreciated in the manufacture of the blade and at times when the blade is due for re-sharpening.

Ease of adjustment and change of blade. The inclination of the blade may be varied over a wide angle for different degrees of penetration by means of the bolt in the pole and the series of holes in the forward ends of the adjusting rods. The blade may be removed or changed in a few moments by the application of the spanner to the two nuts on the underside of the blade. The bolts are round-headed and are set in square holes in the feet of the implement so that they offer the minimum obstruction to the passage of the soil and are proof against turning when the spanner is applied. The slope of the blade affords sufficient protection against wear to the nuts on the underside of the blade. Each point is attached to the blade in a similar fashion by means of two bolts.

Low cost. The price of the implement without the pole but including one 48″ blade, one 24″ blade and one pair of 8″ points will not exceed Rs. 11 which is not beyond the means of the average cultivator.

MANAGER'S NOTICE

The Managing Committee of the Union beg to thank those subscribers who have been kind enough to furnish them with the names and addresses of people interested in South Indian Agriculture, through the medium of the printed cards sent out with the October number of the 'Madras Agricultural Journal'. They would request other subscribers also to kindly help them in this manner so that they may send out specimen copies to a larger number of Potential subscribers and incidentally be able to improve the scope and usefulness of the Journal.