

Standardization of Farm Machinery

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Read before the American Society of Agricultural Engineers at their Third Annual Convention.

IF one of us desired to install a power plant equipped with the necessary steam engines, boilers and perhaps electrical machinery and switchboard, we would only need to go to any reputable engineering firm or member of the American Association of Mechanical or Electrical Engineers to obtain complete standard specifications as to what each piece of machinery must be in its respective component parts in order to fulfil our requirements satisfactorily for the duties involved and the respective manufacturers would sell them guaranteed to conform therewith.

If we were going into the railroad business and desired to purchase T rail, our consulting engineer would immediately supply us with the exact specifications as to size, weight, and even the chemical analysis of the steel required to fill our needs, and if we desired to purchase rolling stock we would find complete specification as to standard cars, character of wheels as to size, weight, chemical composition, also the same as to axles and bearings, also the specifications for all superstructure of the cars, even to the bolts and screws, and the manufacturers would sell in conformity therewith.

If, however, we have purchased a farm and desire to equip it with machinery adapted to the character of land and the kind of business to be undertaken, to whom shall we go for counsel and where shall we find specifications of standardized agricultural imple-

ments or parts which shall enable us in any way to be certain in our selection? Who knows the standards in respect to strength, durability, efficiency, character of gears, bearings, etc? Who can give us any idea of a proven or desirable chemical analysis for any metal part of any agricultural implement excepting the manufacturer's own idea of it? Where is there a specification that will even suggest to us whether a common cast gear is adequate or that a cut gear should be used in its stead in certain places in certain kinds of agricultural machinery? Who is to tell us whether the fly-wheel grinder we are about to purchase will stand to run at the rate of speed required by the machine to do good work or whether this fly-wheel is dangerously light in hub

and spokes and liable to fly to pieces if someone inadvertently throws some frozen grain or other obstruction into the machine? Who knows whether the bearings in one line of machines, though called bronze, are made with a high percentage of lead and are, therefore soft and short-lived or

manufacturer, for himself, sometimes in the interest of the purchaser, though probably more often in the light of costs of raw material and labor. If there is anything in this world that is organized to-day it is the manufacturers' SHOP and the very essence of such organization is



The end of the Furrow

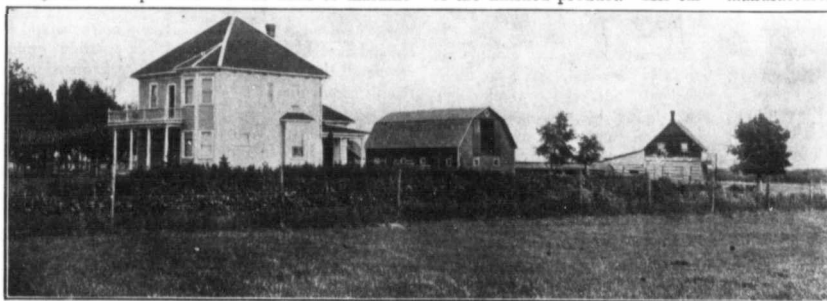
that the bearings in another line of machine are made of high class phosphorbronze or other good materials and that babbitted bearings in some machines are high class and commendable, and who particularly can tell us who has ascertained, or how to determine, how much horse power and horse flesh we would be wasting by the purchase of one kind of machine

low cost of production. Not infrequently does the purchasing agent of a large manufacturing corporation, in his eagerness to show low costs, buy materials which, if not standardized by some authority higher than that in his factory, may be so poor in quality as to impair seriously the wearing qualities or the efficiency of the finished product. His em-

the soil for these plants, standardizing balanced rations of animal food and balanced rations for plants, and through the aid of chemistry they are also specifying the different kinds of manure applicable to different localities, farms or fields. Why not standardized the materials of farm implements

Our remedy in undertaking to standardize and improve the general character of farm implements must, it seems to me, consist in testing in the first place by independent and reputable authorities, the publication of these tests with recommendations, not with respect of certain makes of machines, but with respect to principles of designs, character of materials, efficiency, durability, etc., and particularly in standardizing such parts as are commonly used in a large variety of machines. Having made this start and having acquainted manufacturers with our real purposes, there would ultimately work out some plan of concerted action between this association and the various manufacturers, or perhaps the associated manufacturers. There ought not to be any opposition on the part of manufacturers as soon as they become aware that the work of this association shall be based absolutely upon sound engineering, without fear or favor in respect to different makes of machinery.

The engineers should begin by standardizing methods of testing and of scaling implements and



The New

A Result of Five Years Work

The Old

or saving by the purchase of another and better design qualified to do the same work?

It would appear that while in many other lines of business standards of excellence have been made and adopted by the various Associations of Engineers or Manufacturers, yet in the agricultural implement business there seem to be no standards except those worked out by each

player will not stop him unless restrained by forces beyond his control. Some dominating standard practise below which he dare not go for fear of losing the reputation of his concern through detection by competent engineers must prevail.

Agricultural experiment stations of State and Nation are rapidly standardizing plants for different localities, standardizing

their parts; in grading them as to degrees of excellence, and the co-operation of all state agricultural societies solicited to the end that they shall require inspections and analysis to be made under the rules of the American Society of Agricultural Engineers and that all prizes awarded by State Agricultural Societies should be made in accordance with such standard rules.

Standard forms of sales contracts under which implements are sold should likewise receive consideration by this association, regular forms of guarantee be provided and a clause should be included providing for tests in case of dispute and the manner of such tests. Conditions as to defective parts and their replacement should also be included, through conference with the vari-



5 men and 20 horses to do the work of a Gas Tractor