

American makers of agricultural machinery. This means that our neighbors are furnished by a paternal government, free of charge, with information as to markets, that it would be simply impossible for an individual or firm to collect, and is only rendered possible by the complete and well-regulated system of consular reports from all parts of the world, furnished by men of proved ability and special aptitude for their position.—*Canadian Manufacturer.*

New Telegraphic Code.

A new telegraphic system by which the present code is simplified has been exhibited in Boston. Chemically prepared paper, moved by clockwork, receives the record of signals sent over the lines, which are represented by dots and dashes as in the Morse code. On the moving strip of paper rests the points of six fine iron wires or styluses, and the chief feature of the new system consists in enabling the operator, at the transmitting station to make a signal through whichever one of the six styluses he may choose, although only one line wire is used, and in this way to make the position of the mark which is recorded in the chemical paper play a part in determining its meaning. The new system is the application to telegraphy of the system of notation employed in music. Just as the pitch of a half note is determined by the bar in which it occurs, so a telegraphic character is by this method given six different meanings according to the stylus through which it is sent and the position in which it is recorded. The bars of the staff are ruled by copper styluses which make a red line on the receiving strip as it is moved forward, a constant current from a local battery being passed through them for this purpose. When a message is to be sent by hand six keys are used at the transmitting station, each corresponding to one of the styluses at the receiving station, one key pivoted to swing easily over six contact points may be employed. As each signal has six different meanings, according to the bar or which it occurs, only one-sixth as many are required as in the Morse system, and for these the shortest and simplest are selected. Thus a dot is used for the six letters which occur most frequently. In this way the actual time occupied in making the signals required to send a message is reduced fully one-half from that required by the Morse system, so that the speed of transmission is doubled.—*Chicago Journal of Commerce.*

Crop Influence on Machine Trade.

The transportation interests of this country are so stupendous that influences which depress them exert an injurious effect upon every other branch of industry, and mechanical interests are peculiarly liable to suffer from this cause. For several years back crops were a partial failure over nearly the whole country, and not an inconsiderable amount of the depression in railroad securities is due to the decreased earnings resulting from the loss of business that resulted from short crops. This season brings tidings from all quarters that the crops are very bountiful, and the effect cannot

fail to exert improvement on all lines of business. The wheat crops are safely harvested, and insure abundance of that staple. In the corn raising districts the corn crop is most encouraging, and a heavy yield will revive many depressed industries. In the early part of the season grave fears were entertained for southern crops, but they have proved groundless. Sugar-cane is now reported as looking unusually well; rice is already assured to be a good crop, and cotton promises a gratifying yield. In this regard it is a wonderful fact that a great stretch of country bordering on the Mississippi river which was under water sixty days ago, is now blooming with rice and sugar-cane. The revival of trade that will bring spare locomotives out of the round houses on the road, and will put the numerous idle cars in motion, will encourage railroad companies to buy a little more than is demanded for their immediate needs, and idle tools will in consequence be set to work.—*American Mechanist.*

A New Metal.

A New York Scientist claims to have discovered, along the Lehigh Valley, a hitherto unknown metal which will some day supplant nickel in general use. He was making an experiment with an explosive substance mixed with pulverized furnace slag, which, on being heated, caused an explosion to take place. Upon examining the crucible in which the mixture had been, he found that a chemical process had taken place by which an apparently valuable, but hitherto unknown metal had been eliminated from the slag. It was silvery white in color, of fine smooth texture, and susceptible of a brilliant polish that no exposure will tarnish. It was found to be malleable, ductile and of great tenacity, showing a tensile resistance of 140,000 pounds to the square inch. Further experiments only confirmed the results of the first trial, and a company has now been organized for the purpose of "working" the large slag banks along the Lehigh Valley for the new metal.—*Canadian Manufacturer.*

Warping of Wood.

It is said that the wood on the north side of a tree will not warp as much as that from the south side, and that if trees are sawed in planes that run east and west, as the tree stood, it will warp less than if cut in the opposite direction. However this may be, it is certain that the tendency to warp when sawed into boards is much greater in green than in dry wood, and that the convex side of the curve is always toward the heart. This warping, due to unequal shrinkage, and to the more open texture of the external portion of the tree, is not found to occur in the middle plank or board of the log, excepting as it may in slight degree reduce the breadth. This quality of not warping, which is in many cases absolutely indispensable for certain uses, as, for example, in the sounding-boards of pianos, is secured in the case of spruce timber by first quartering the logs, and then sawing them with the angle downward. It is then sawed into boards very nearly at right angles with the line of annual growth, and a small triangular strip must be taken off to make the board

square-edged, but qualities of stability and strength are secured that could not otherwise be had.—*Canadian Manufacturer.*

General Notes.

A MILL in Germany has been in the same family for three hundred years. It was purchased in 1584 by Peter Roellig, and has passed from father to son through twelve generations.

IN 1872 there were in Dundee about 100 jute mills, employing upward of 20,000 workmen, and manufacturing more than 180,000,000 pounds of jute annually. In the same year nearly 50,000,000 gunny bags, most of which were made in Dundee, were exported from Great Britain. Of the 300,000,000 pounds of jute that were manufactured in the United Kingdom in 1876, 200,000,000 pounds were woven in the mills of Dundee. The annual value of the flax, hemp and jute manufactured in Dundee is now \$15,000,000. The jute factories of Dundee have created a flourishing city, giving employment to thousands of workmen, diffused prosperity throughout a large community, promoted the commerce of Scotland in the importation of the raw material and the exportation of the manufactured product, and facilitated the movement of the cotton and grain crops of the world.

THE British labor market, as reported by the *London Labor News* of September 20, was very unsettled, and showed no sign of future improvement. Work in the colliery districts was very slack, and the iron trades generally were much depressed, many men being discharged and several large works closed. The ship-building and marine engineering trades showed no signs of improving, and at Cardiff several hundred men were on strike. The Sunderland engines were still on strike, and were being supported by their societies. A large strike among the butchers was reported from Limerick, and it was expected that 3,000 men would quit work during the week. The textile trades were fairly active, but some factories were still on short time. Railway building was fairly active and agricultural operations were still brisk.

THE lumber trade, as reported by the *Chicago Northwestern Lumberman* of September 27, was very dull and depressed. The usual reports of oversupply and small volume of distribution were made, and, except in the large cities, the trade was very slow. The petition to stop work for the season presented to the boom companies by the mill-owners of the Saginaw district, if agreed to by those companies, it was expected, would lessen the stock of lumber and probably ease up the market considerably, which has been long suffering from oversupply. The effect of the cut in Missouri river freights was at the time of writing not very marked. If the cut continued to spread it was expected that the effect upon the southern pine market would be very depressing, as the white pine from Michigan and Wisconsin would be brought into direct competition in Kansas and Nebraska with the pine from the Gulf states. The general feeling in the west was that the end of the cutting was not yet, and it was expected that rates would be further demoralized.