

TOOLS THE TEAM, AND THE MAN DETERMINE GOOD OR BAD PLOWING

By S. M. CLINTON

ALTHOUGH the plow is the first implement used by man in field farming, real progress in its development has come only within the last fifty years. First mention of the plow in the Old Testament is by Job where he says: "The oxen plowing and the asses feeding beside them." In Job's time the plow was probably a crooked stick drawn by oxen, with a straight stick bound to their horns with a grass rope was attached.

This kind of implement was in use for thousands of years afterward, and even now in Old Mexico, within a hundred miles of the borderland of America, the crooked stick is still used.

About a hundred and fifty years ago a plow with a wooden mold board was devised, and this held sway for fifty years when some genius of a blacksmith put an iron edge on it, and it was then thought that the perfection of plow making had been reached. Then came the plow with the iron mold board and wooden frame. This was followed by the all-steel plow, which now reigns supreme.

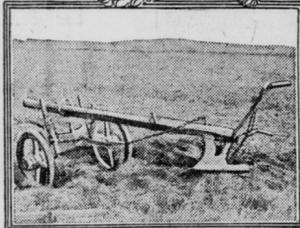
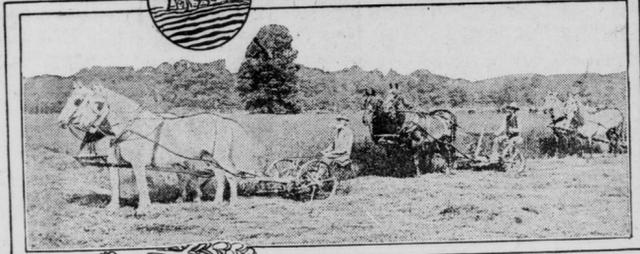
The aristocratic offspring of the all-steel plow is the disk, and this implement, in connection with the plow itself, is doing such good work that it does not seem possible that we shall see any decided improvement in this instrument for some time.

Good plowing depends as much upon the kind of plow used as upon the man who directs it. A great many farmers have yet to learn that one plow will not do the necessary work in all kinds of soil and under all conditions.

Perhaps the best plow to use is the one with the chilled share and point. I think it is a mistake to use a plow point that has to be constantly renewed; for every time a blacksmith tinkers with it he turns out a different kind of plow, and this is one reason why there is so much poor plowing done in this country. When a man gets a plow which does the work to his entire satisfaction he should stick to it, and never permit its shape to be changed, if possible. With a soft point that has to be constantly renewed this is not possible, and that is why I prefer the chilled point.

Daniel Webster once essayed to be a plowmaker. After years of deep thinking and experimenting, he turned out a most wonderful implement. It was over twelve feet long, built of wood, with an iron point, and required four yokes of oxen to pull it. It turned a furrow eighteen inches wide, twelve inches deep, which resembled the irrigation ditches of today. This did not last long, however, and was never used outside of Massachusetts.

To do good work the plow must scour well;



that is, the soil must slip from the mold board evenly, leaving the surface bright and clean. Poor scouring is due to many causes. The mold board may be too soft to take a good polish, or it may be imperfectly ground, or slight imperfections may have been left in the surface.

To test a good mold board is an easy matter. By running the fingers over the surface from the bottom to the top one can easily tell whether the plow has the right shape, and whether its surface is perfect. A plow should have a hardened edge and point—the harder the better—because upon the wearing qualities of the plow depend success or failure to a very large degree.

For breaking new sod, a plow with a long, sloping share and mold board should be used, but for stubble or well-tilled ground the plow with short, steep mold board is better. The breaking plow turns the sod over evenly, and covers all growth so that it rots and forms humus in the soil.

Upon the shape of the plow also depends the draft. A plow unsuited to the soil on which it is used will cause a much greater draft than is necessary, wearing out the strength of the team

and the patience of the plowman. The more abrupt the curvature of the mold board the more pulverizing the action upon the furrow slice. The use of a colter reduces the draft materially, particularly on tough soils, clover sod and the like.

Some farmers claim that the only first-class plowing that can be done is with the walking plow, but I have seen some of the best plowing done with a sulky plow. There is not much difference in the draft. A sulky plow carrying a man will be about as easy on a team as walking, because the friction of the mold board of the walking plow is eliminated to some extent.

The draft of the walking plow depends largely upon the way in which it is set. If properly adjusted with a steady pull so that the heel or wing does not press too heavily against the soil, the plow will run easily, smoothly, and with very little attention from the plowman. I have seen the men follow the plow round after round without even touching the handle, except at the turning point.

Another important thing in plowing is to have the width of the furrow just right. If the plow is set to take a larger land than it can turn over properly, it will leave much vegetation uncovered, and the field will be ridgy. The plow should be set to exactly cut and cover all that it enters, and no more. When a plow runs properly it should set exactly level.

No man is a good farmer unless he is first of all a good plowman. Upon the skill with which he plows his fields depends to a considerable extent the facility with which he can cultivate his crop, and, in fact, its yield.

The question of deep or shallow plowing is one which must be studied by every man, and adapted to the needs of his soil and his crop. Deeply plowed soils contain moisture longer, affords better home for fertilizer and all kinds of plant food, is more easily cultivated, and is always to be desired.

CHATS WITH THE AMBITIOUS FOLK

By ORISON SWETT MARDEN.

NEVER TOO LATE FOR SELF-IMPROVEMENT.

A New York millionaire—a prince among merchants—took me over his palatial residence on Fifth avenue, every room of which was a triumph of the architect, of the decorator's, and of the upholsterer's art. I was told that the decorations of a single sleeping room had cost \$10,000. On the walls were paintings which cost fabulous prices, and about the rooms were pieces of massive and costly furniture and draperies representing small fortunes, and covering the floors were carpets on which it seemed almost sacrilege to tread. He had expended a fortune for physical pleasure, comfort, luxury and display, but there was scarcely a book in the house.

It was pitiful to think of the physical surfeit and mental starvation of the children of such a home as that. He told me that he came to the city a poor boy, with all his worldly possessions done up in a little red bandana. "I am a millionaire," he said, "but I want to tell you that I would give half I have today for a decent education."

One of the sad things about the neglected opportunities for self-improvement is that they put people of great natural ability at a disadvantage among those who are their mental inferiors.

I know a pitiable case of a born naturalist whose education was so neglected in youth that later, when he came to know more about natural history than almost any man of his day, he could not write a grammatical sentence, and could never make his ideas live in words, perpetuate them in books, because of his ignorance of even the rudiments of an education.

Think of the suffering of this splendid man, who was conscious of possessing colossal scientific knowledge, and yet was absolutely unable to express himself grammatically! It is difficult to conceive of a greater misfortune than always to be embarrassed and handicapped just because of the neglect of early years.

Many a girl of good natural ability spends her most productive years as a cheap clerk or in a mediocre position because she never thought it worth

while to develop her mental faculties or to take advantage of opportunities which reach to fit herself for a superior position. Thousands of girls unexpectedly thrown on their own resources have been held down all their lives because of neglected tasks in youth, which at the time were dismissed with a careless "I don't think it worth while." They did not think it would pay to go to the bottom of any study at school, to learn to keep accounts accurately, or to fit themselves to do anything in such a way as to be able to make a living by it. They expected to marry, and never prepared for being dependent on themselves—a contingency against which marriage, in many instances, is no safeguard.

One of the perpetual clerks is constantly being recruited by those who did not think it worth while as boys to learn to write a good hand or to master the fundamental branches of knowledge requisite in a business career. The ignorance common among young men and young women in factories, stores and offices, everywhere, in fact, in this land of opportunity where youth should be

well educated, is a pitiable thing. How often stenographers are mortified by the use of some unfamiliar word or term, or quotation, because of the shallowness of their preparation! It is not enough to be able to take dictation when ordinary letters are given, not enough to do the ordinary routine of office work. The ambitious stenographer must be prepared for the unusual word or expression, must have good reserves of knowledge to draw from in case of emergency. If she is constantly slipping up on her grammar, or is all at sea the moment she steps out of her ordinary routine, her employer knows that her preparation is shallow, that her education is limited, and her prospects will be limited, also.

Everywhere we go we see men and women, especially from twenty-five to forty years of age, who are cramped and seriously handicapped by the lack of early training. I often receive letters from such people, asking if it is possible for them to educate themselves so late in life. Of course it is. There are so many good correspondences schools today, and institutions like Chautauqua, so many evening

schools, lectures, books, libraries and periodicals, that men and women who are determined to improve themselves have abundant opportunities to do so.

One trouble with people who are smarting under the consciousness of deficient education is that they do not realize the immense value of utilizing spare minutes. Like many boys who will not save their pennies and small change because they cannot see how a fortune could ever grow by the saving, they cannot see how a little studying here and there each day will ever amount to a good substitute for a college education. Beware of people who feel their lack of education, and who can afford the outlay, who will direct their reading and study along different lines.

There is one special advantage in self-education—you can adapt the studies to your own particular needs better than you could in school or college. Everyone who reaches middle life without an education should first read and study along the line of his own vocation, and then broaden himself as much as possible by reading on other lines.

Every well-ordered household ought to protect the time of those who desire to study at home. At a fixed hour every evening during the long winter there should be by common consent a quiet period for mental concentration, for what is worth while in mental discipline, a quiet hour uninterrupted by the thief callers. There is a divine hunger in every normal being for self-expansion, a yearning for growth or enlargement. Beware of selling this craving of nature for self-fulfillment. There is untold wealth locked up in the long winter evenings and odd moments ahead of you. A great opportunity confronts you. What will you do with it? (Copyright, 1915, by the McClure Newspaper Syndicate.)

No Longer Room at the Top.
Prof. Scott Nearing says the motto, "There is plenty of room at the top" is no longer true in this country on account of the fact that in every great industry only three or four thousand employees have a chance to rise to the top. The professor's statement is no doubt literally correct, but he will probably not deny that the motto still applies to those spheres of activity which cannot be considered under the head of industry.—Washington Herald.

Work for Crippled Soldiers.
One form which Germany's provision for the employment of crippled soldiers is taking is the purchase of two large landed estates in the neighborhood of Magdeburg, where each man will have a plot of ground for growing vegetables and fruit, which can be easily disposed of in the Magdeburg market. One estate cost \$375,000, and the other about the same price.

Heavy Guard for Morgan's Place.
J. P. Morgan's estate at Glen Cove is still under guard and is likely to be until the end of the war. Three men are on duty by day and four by night. One is on post at the bridge connecting East Island with the mainland, and not only every traveler, but every package that passes can do so only after having been subjected to his scrutiny. The others patrol the beaches.

When Courage Comes.
Knowledge is an antidote to fear—Knowledge, Use and Reason, with its higher aids. The child is as much in danger from a staircase, or the fire grate, or a bathtub, or a cat, as the soldier from a cannon or an ambush. Each surmounts the fear as fast as he practically understands the peril, and learns the means of resistance. Knowledge takes the fear out of the heart, knowledge and use, which is knowledge in practice. They can conquer who believe they can.—Emer-

EXPLANATION OF THE CROWD

Few Members of Big Gatherings Act and Think as They Would Do as Individuals.

The most striking peculiarity presented by a psychological crowd, according to Gustav Le Bon, is the following: Whoever be the individuals that compose it, however like or unlike be their mode of life, their occupations, their character or their intelligence, the fact that they have

been transformed into a crowd puts them in possession of a sort of collective mind which makes them feel, think and act in a manner quite different from that in which each individual of them would feel, think and act were he in a state of isolation.

There are certain ideas and feelings which do not come into being or do not transform themselves into acts except in the case of individuals forming a crowd.

The psychological crowd is a provisional being formed of heterogeneous elements which for a moment are combined exactly as the cells which constitute a living body form by their reunion a new being which displays characteristics very different from those possessed by each of the cells singly.

What really takes place is a combination followed by the creation of new characteristics, just as in chemistry certain elements, when brought into contact—bases and acids, for example—combine to form a new body possessing properties quite different from those of the bodies that have served to form it.

Needed it. Theatrical Manager—Hi, there! What are you doing with that pistol? Discouraged Lover—Going to kill myself.

Theatrical Manager—Hold on a minute. If you're bound to do it, won't you be good enough to leave a note saying you did it for love of Miss Star, our leading lady? It's a dull season and every little helps.

Diamond as a Talisman.
The diamond, being the most precious and beautiful of gems, has innumerable legends connected with it, but it has always been considered the safest of talismans. Because it signifies purity, innocence, and joy, and is supposed to maintain peace, it has come to be the engagement symbol.

Gasoline and Salt.
When cleaning spots use a little salt in the gasoline and there will not be the objectionable ring left on the woods when dry.

SEEK TO REDUCE TYPHOID

Federal Authorities Take Steps to Prevent the Spread of the Too Prevalent Disease.

There were 30,000 deaths from typhoid in the United States last year and 400,000 people were incapacitated by the disease, according to a United States health report. The necessity is pointed out for precautionary measures to prevent such invasions in the future.

The United States health service is starting a campaign of education to reduce typhoid. It is pointed out that few communities in this country having a population of 2,000 or more have remained free from this disease for a year at a time.

In many American cities there has occurred within the last twenty years a considerable reduction of typhoid fever. Due in a large part to improved sanitary conditions in the cities, the typhoid rate for some entire states has shown a material decrease. For

the country as a whole, according to available figures, the rate has been reduced about 50 per cent in the last 48 years. But the present rate is about the same as that which prevailed in some of the other advanced nations of the world 30 years ago. In other words the United States is a generation behind the times, in respect to the reduction of its typhoid rate.

China is running short of window glass. The war in Europe is blame-

HOW NOBEL MADE DISCOVERY

Cut Finger Caused Him to Find a Way of Handling Nitroglycerin. With Safety.

When that very dangerous explosive, nitroglycerin, was first invented extraordinary precautions had to be taken to prevent accidents while the substance was being handled, but, notwithstanding this, so many disasters occurred that there seemed to be strong probabilities that its manufacture and use would have to be prohibited, says an English paper.

After several governments had actually interdicted its use, however, means were discovered by which this powerful explosive could be used with a minimum of danger to those who handled it.

One of the methods employed was to convert the nitroglycerin into dynamite by its absorption in the infusorial earth known as kieselguhr. This process, however, involved a reduction of the explosive power of the nitroglycerin and explosives chemists persisted in their researches to find some substance which, when added to nitroglycerin, would render it safe for handling without diminishing its explosive force.

One of these chemists was Nobel. It is on record that one day while Nobel was at work in his laboratory he cut his finger, and in order to stop the bleeding he painted some collodion (a liquid preparation akin to gun cotton) over the cut to form a protective artificial skin.

Having done this, he poured some of the collodion, by way of an experiment, into a vessel containing nitroglycerin, when he noticed that the two substances mixed and formed a jellylike mass.

He at once set to work to investigate this substance, and the outcome of these experiments was blasting gelatin, a mixture containing 90 per cent of nitroglycerin and 10 per cent of soluble gun cotton. Thus, as a result of a very trivial occurrence, that violent explosive, blasting gelatin, was discovered.

Paderewski's "Pupil."
Paderewski arrived in a small western town about noon one day and decided to take a walk in the afternoon. While strolling along he heard a piano, and, following the sound, came to a house on which was a sign reading: "Miss Jones. Piano lessons 25 cents an hour."

Pausing to listen he heard the young woman trying to play one of Chopin's nocturnes, and not succeeding very well.

Paderewski walked up to the house and knocked. Miss Jones came to the door and recognized him at once. Delighted, she invited him in and he sat down and played the nocturne as only Paderewski can, afterward spending an hour in correcting her mistakes. Miss Jones thanked him and he departed.

Some months afterward he returned to the town, and again took the same walk.

He soon came to the home of Miss Jones, and, looking at the sign, read: "Miss Jones. Piano lessons \$1 an hour. (Pupil of Paderewski.)"

Physician of Eminence.
Dr. Richard Pearson Strong, having defeated the epidemic of typhus fever in Serbia, thereby saving countless thousands of lives, now returns to this country to resume his place as professor of tropical medicine at the Harvard Medical school. He had previous plague experience in the Philippines and China. Doctor Strong was born in Fortress Monroe, Virginia, March 18, 1872. It is said that even as a child he was attracted to medicine as a profession, and that the medical officers at the fort were his chosen friends. He graduated from the medical school at Johns Hopkins, winning his M. D., in 1897. Then came a year as resident house physician at the Johns Hopkins hospital. He entered the army July 23, 1898, as assistant surgeon. After his splendid work in China he was induced to attach himself to Harvard university, where he has operated along research lines.

Malayan Rubber Industry.
Since 1897 developments in the rubber industry in Malaya have been enormous. In 1897 about 350 acres were planted to rubber. Year after year more jungle was cleared and the acreage increased rapidly. A tremendous development was felt in 1906. Demand for rubber the world over taxed the supply and speculators rushed to land under cultivation. It is stated that in that year alone 150,000 acres were alienated for rubber cultivation. In 1912 there were 621,621 acres under rubber, and at the end of 1912 there were 1,055 rubber estates of over 100 acres in extent, the average yield per acre being 260 pounds.

War Influences Paris Veil Styles.
The war veil is the latest freak of fashion in Paris. Though quite grotesque in appearance, it is popular in the sense that it expresses the patriotism of the women.

The two designs most frequently seen are those of a black cannon woven in the mesh just where it rests on the cheek, and a "heavenly spot" woven to the shape of the Red Cross, but done in white on a black background.

Heavy Guard for Morgan's Place.
J. P. Morgan's estate at Glen Cove is still under guard and is likely to be until the end of the war. Three men are on duty by day and four by night. One is on post at the bridge connecting East Island with the mainland, and not only every traveler, but every package that passes can do so only after having been subjected to his scrutiny. The others patrol the beaches.

Convincing.
"Do you think that man is insane?" asked one lawyer.
"He couldn't possibly be so," replied the other. "He feigned insanity too cleverly."

Wireless Message on Piano.
New York Man Tells of Results of Experiments He Has Conducted for Some Time.

Ernest W. Hawkins of Peekskill, N. Y., sends the following interesting account of his experiments with a novel form of antennae for wireless telegraphy:

"To catch the mysterious electric waves that carry our wireless messages through space I find that our

piano works most efficiently when I connect the wires of it to my apparatus. With its aid I can receive from the following high-powered radio stations: Brooklyn navy yard, New York Herald and Fort Totten. The signals, however, are not by any means so loud as when I use my outside antennae, which are 40 feet above the ground and 100 feet long, and consist of four copper wires on spreaders, the wires being two feet apart.

"I receive much of my news by aid of wireless and also the time signals sent by the Arlington (Va.) wireless station. I hold a station license and also an operator's license, both issued by the United States government. My official call is 2 J C.—New York World.

Birds Warn Allies.
A soldier on leave tells how birds warn the allies of a gas attack. Long before the smell of the fumes can be detected in the trenches there is a great clamoring of birds awakened from their night repose.

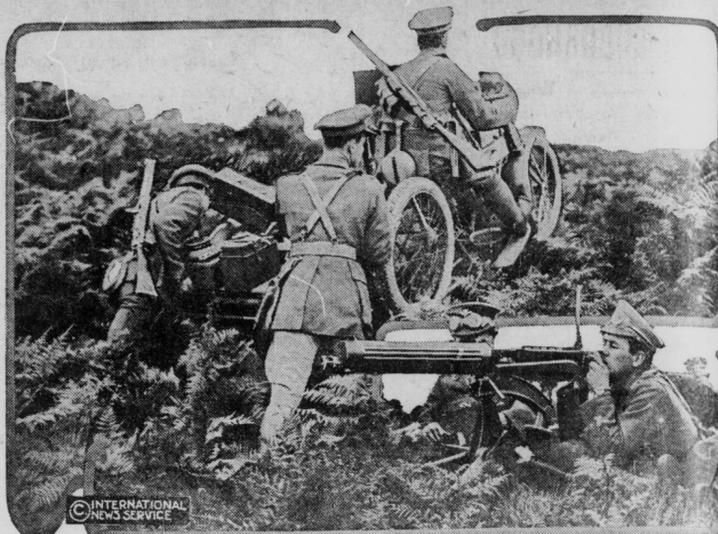
The greatest risk, the more it satisfies certain children's unconscious calls for acts and daring and courage. In illustration, Mr. Davis tells of discovering two boys swinging from telephone wires on which they had climbed.

"You may be electrocuted," he warned them.
"That's what we want," one of them answered grandly.
Co-operation on the part of teachers, parents, police and public service com-

panies, the author says, will to some extent solve the social problem presented by this spirit of recklessness among young children.

Just a Fancy.
True to form, somebody has again set the notion in circulation that chess players are great military tacticians. The theory sounds very pretty, and only trouble with it is that it isn't. Napoleon and Frederick the Great were both poor chess players.—Buffalo Times.

MOTORCYCLE MACHINE GUN IN ACTION



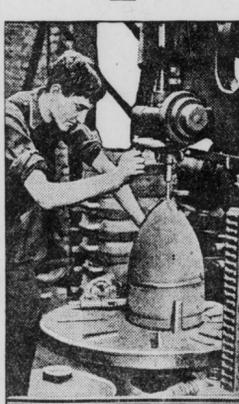
Among the most useful of modern weapons is the motorcycle machine gun. One of them is here seen being helped through a rough place, and, below, dismounted and in action.

RUSSIAN PRISONERS MAKING ROADS



Russian soldiers, taken prisoner by the Austrians in Galicia, compelled to work at road making.

ETON BOYS MAKE MUNITIONS



Many of the Eton boys have formed a "black brigade" and volunteered for work in England's munition factories. One of them is here seen at his task.

BRITISH CAMP ON PERSIAN GULF



Scene in a flooded infantry camp of the British forces near Balsa on the Persian gulf.

ODD AMBULANCE USED IN THE ALPS



A curious ambulance is this sled mounted on an axle and supported by two low wheels. It is used by the Italians in the Alps to convey their wounded soldiers to the military hospitals.

FROM SEVEN TO THIRTEEN

Said to Be Age When Spirit of Recklessness Especially Dominates the Child.

The motor development of the child from the age of seven to thirteen, says Philip Davis in his book "Street Land," is far greater than its mental development.

The thirst for adventure, for discovery, for taking chances is the strongest characteristic of this age.

The greatest risk, the more it satisfies certain children's unconscious calls for acts and daring and courage. In illustration, Mr. Davis tells of discovering two boys swinging from telephone wires on which they had climbed.

"You may be electrocuted," he warned them.
"That's what we want," one of them answered grandly.
Co-operation on the part of teachers, parents, police and public service com-

panies, the author says, will to some extent solve the social problem presented by this spirit of recklessness among young children.

Just a Fancy.
True to form, somebody has again set the notion in circulation that chess players are great military tacticians. The theory sounds very pretty, and only trouble with it is that it isn't. Napoleon and Frederick the Great were both poor chess players.—Buffalo Times.

The greatest risk, the more it satisfies certain children's unconscious calls for acts and daring and courage. In illustration, Mr. Davis tells of discovering two boys swinging from telephone wires on which they had climbed.

"You may be electrocuted," he warned them.
"That's what we want," one of them answered grandly.
Co-operation on the part of teachers, parents, police and public service com-

panies, the author says, will to some extent solve the social problem presented by this spirit of recklessness among young children.

Just a Fancy.
True to form, somebody has again set the notion in circulation that chess players are great military tacticians. The theory sounds very pretty, and only trouble with it is that it isn't. Napoleon and Frederick the Great were both poor chess players.—Buffalo Times.