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ADDRESS

DELIVERED BEFORE THE

N. Y. STATE AGRICULTURAL SOCIETY,

At the Annual Meeting, Albany, February 10, 1859,

BY WILLIAM T. McCOUN.

ADDRESS

DELIVERED AT THE

ANNUAL MEETING

OF THE

N. Y. STATE AGRICULTURAL SOCIETY,

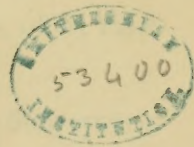
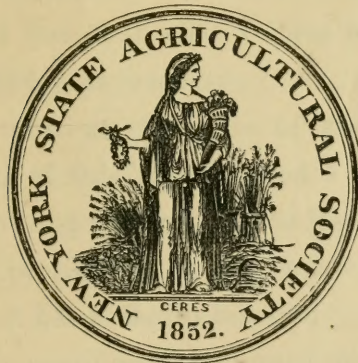
ALBANY, FEBRUARY 10, 1859,

By WILLIAM T. McCOUN, PRESIDENT,

AND

ADDRESS OF ABRAHAM. B. CONGER,

ON TAKING THE CHAIR AS PRESIDENT ELECT.



PUBLISHED BY THE SOCIETY.

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1859.

THE STATE OF TEXAS

IN SENATE

COMMISSIONERS OF THE GENERAL LAND OFFICE

REPORT

OF THE

COMMISSIONERS OF THE GENERAL LAND OFFICE

FOR THE YEAR 1881

AS PASSED AT THE REGULAR SESSION OF THE SENATE, FEBRUARY 1882

BY

JOHN W. HANCOCK, COMMISSIONER

AND

W. W. HANCOCK, COMMISSIONER

AND

W. W. HANCOCK, COMMISSIONER

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MIR

A D D R E S S .

GENTLEMEN OF THE SOCIETY — Aware that there is due to this occasion something beyond the mere form of leave taking, with expressions of personal respect and regard for the members of the Society, with whom it has been my happiness to associate, in the management of its affairs, during the year past; yet I fear that what I have to offer, may somewhat tax your courtesy.

We are now at the close of another year's transactions of this Society, and I congratulate you that nothing has occurred to lessen our interest in its prosperity, or to impair the public confidence it has hitherto inspired. Steadily the Society has continued its onward march towards the great objects of its institution, "the improvement of the condition of Agriculture, Horticulture, and the Household Arts."

It has constantly stood by the requirements of its charter, and has ministered to the wants of

these paramount interests, by collecting and diffusing knowledge, and by encouragement given to all classes in these various useful pursuits. Excellence in the productions of all departments of the farm, the garden, and the household, has been liberally rewarded.

Improvement in the farm itself, the soil, the best method of cultivation, including the best time and manner of applying manures, and the growing of the largest crops, has met with similar encouragement. So has the inventive genius of the country, when devising new agricultural implements and machinery, or when improving upon the old, to facilitate the labors of the farm. In all these directions, the influence of the Society has been exerted, and with good effect, as our last annual fair, like those which preceded it, abundantly proved. I need only to refer to the Report of the Executive Committee, prepared by the Secretary, with his wonted ability and accuracy, for all the information that can be desired on the subject.

The constantly growing necessity for increasing the productiveness of the soil, in order to meet the demands of human wants, must naturally lead to improvements in the art of Husbandry, through-

out its various departments. Improvement, however, in this as in every thing else, that relates to man's social and moral condition, depends primarily upon the educational means provided for the masses, and the consequent spread of useful knowledge. The sources of knowledge are now open to all alike; to the poor as well as to the affluent. With the acquisition comes power, for "knowledge is power," and it is that quality in man, derived from his physical education, as well as from his mental and moral training, that fits him for his laborious duties as a tiller of the soil, in the great work set before him, "of earning his bread by the sweat of his brow."

This subject of agricultural education, in all its bearings upon civilization and social enjoyments, has lately been presented to our consideration, in the admirable address of Mr. Williams, of Michigan, which is now before us in print. The subject is there discussed with eminent ability. I regard it as a production worthy of all commendation, and one which we cannot too highly appreciate, as a valuable contribution to our stock of agricultural papers.

Next to a thorough knowledge of farming, one great means of success in its operations is, the

use of improved implements and labor saving machines. The last half century has been productive in these respects. Implements adapted to every kind of work have been greatly multiplied. Those formerly in common use have been remodeled and much improved, lessening by their use the severity of toil, and rendering the work of the farmer more effective and economical. Among these enumerate the mowing machine, the horse rake, the reaper, the thrasher and separator, all worked by horse power, and by successive improvements in construction, brought to a great degree of perfection, and we have the heavy work of the farm and the barn, hay making and harvesting, thrashing and winnowing, performed in a much shorter space of time than formerly, and at a greater saving of expense and manual labor.

But while these improvements are in progress, there is another power greater than has ever yet been employed upon the farm, ready, as it would now seem, to take the field, there to do man's bidding in the cultivation of the soil, whenever his inventive faculties shall devise the method of rendering it there as elsewhere, subservient to his will.

The time for subduing this power, and bringing it into use for certain purposes, was ushered in with the present century; not, however, to meet the demands of agriculture, for these were not then thought of, but for objects, perhaps, then deemed of more practical utility than any other.

The compressible and expansive properties of steam had become known. It was perceived that its elastic power might be turned to account. The minds of ingenious men were gradually drawn to the subject. The engine was constructed rudely at first; experiment after experiment was made; improvement followed upon improvement until at length the steam engine stood forth the giant of the earth, perfect in its proportions and adaptations, and whether as a stationary or a motive power; whether for propelling ships or long lines of land carriages, is now justly regarded as the greatest achievement of human skill—of mind over matter, that the world has ever beheld.

It is true, that some twenty-five years before the commencement of the present century, the steam engine was brought into use as a stationary power, in the working of mines and the driving of ponderous machinery.

James Watt, of Glasgow, though not the originator, was the first to devise improvements that produced useful and satisfactory results. By the united genius of Watt, and of Boulton, of Birmingham, their engine was applied successfully to an apparatus, also of their construction, for striking off the sterling coin of England. Such was the perfection of this combined machinery, that four boys only ten or twelve years old, were capable of working it, and striking off thirty thousand guineas in an hour; the machine itself keeping an unerring account of the number. As yet, no attempt was made to apply steam to the purposes of *loco motion*: but Doctor Darwin (a poet and philosopher of considerable celebrity in his day), after describing the operations of Watt and Boulton's engines, thus *prophecies* with regard to the future of steam power:

“ Soon shall thy arm, unconquered steam, afar
 Drag the slow barge and drive the rapid car,
 Or on wide waving wings, expanded, bear
 The flying chariot through the fields of air.
 Fair crews triumphant, leaning from above,
 Shall wave their fluttering 'kerchiefs as they move,
 Or warrior bands alarm the gaping crowd,
 And armies shrink beneath the shadowy cloud.”

This was published as early as in 1782.

The steamboat and the railroad have more than verified the prediction of the "barge" and the "car," and although we have not seen "the flying chariot," with its "fair crews" or "warrior bands," there are those of soaring minds at this day, sufficiently credulous to believe, that this phenomenon may likewise happen. That immutable law, however, by which "the apple from the tree falleth to the ground," is directly opposed to the fulfillment of such an expectation. We must be content with the more humble and less venturesome employment of steam. With the portable, and the fixed or stationary engine, steam has of late years become familiarized to the indoor work of the farm, to some extent, I believe, in this country, but to a far greater extent in Great Britain. The economy of it in large establishments appears to be admitted.

Under these circumstances the question is often asked, why may not steam be employed in the outdoor work as well? Such, for instance, as in the draining of land and the breaking up of the soil, preparatory to planting and sowing. This is the great problem with respect to steam machinery—its adaptation to the culture of the soil, which remains to be solved, and which is now

in the course of actual experiment. Under the encouragement held out by Agricultural Societies, in the offer of premiums (and in some instances to large amount), engines differing in form and in the manner of working, have been constructed and exhibited for trial within the past year; one such is mentioned in the report of our executive committee. Another was produced by a citizen of Pennsylvania, and taken to Illinois, for trial upon the prairie land of that state, and has, in a measure, proved successful. It is represented as an engine adapted to locomotion, drawing a gang of plows or plow shares, cutting regular furrows, and turning with ease and precision. (Whether the premium of the Agricultural Society of Illinois has been awarded to this engine or not, I have not ascertained.) These two, I believe, are the only instances of experiments yet made in this country with steam power, adapted to the work of cultivating the soil. The newspapers, however, inform us that a number of steam plows, as they are called, are now in the process of construction in the state of Illinois, for the purpose of further experiments in plowing, and in draining, and in forming the ditch and hedge, to enclose their lands. Another

season will probably show the results of experiments in that direction with steam.

In England, during the last twenty or twenty-five years, attempts have been often made to cultivate the soil, by steam power, in different ways, all passing under the general designation of "steam plowing;" but it never has been reduced to a perfectly successful operation, even in that country of systematic labor, where public spirited efforts, directed by their most enlightened men (and where, too, the increasing scarcity of laboring hands creates a demand for agricultural machinery) are constantly being made to introduce improvements into their husbandry. A trial of a considerable number of engines, constructed upon different principles, and intended to operate in different ways, took place at the Chester meeting of the Royal Agricultural Society in the last summer.

The Society's prize of £500 was awarded to a portable engine, though fixed or stationary while at work, having six plows, and working three at a time alternately, by means of anchors and pulleys, a man walking by the side of the plows to keep them steady. This engine was found to do the best work of any on trial, but it is said

the work was not as good as that of ordinary plows in common use, nor such as good farmers required from their plowmen.

The next best was a traction engine, moving forward on a revolving endless railway of its own, carrying six plows and turning as many furrows at a time. An eye witness of the performance of this engine, says of it, that it appeared to be capable of performing its duty. It walked across the field (which was level, and free from obstructions of any kind) with as much regularity as a team; carried out its plows, and turned with so much precision, as to leave but few balks, and showed that it was not so much the fault of the engine as it was the fault of the plows, that the work was not more perfectly done.

Even with the imperfect success which attended the trials of these engines, and the qualified praise they received, they were nevertheless regarded as having demonstrated the practicality of using steam advantageously in the cultivation of the soil, and with economy likewise, when compared with animal power.

Indeed, the year 1858 is claimed as the commencement of a new era in British farming, since, by means of such engines and machinery as

Fowler's (the one to which the prize was awarded), they can hereafter, almost regardless of the weather, accomplish the autumn plowing of their heavy soils, heretofore often very much delayed by rains, and sometimes either impossible, or very difficult of accomplishment with horse labor, and the ordinary implements of the farm.

I have stated these facts in relation to the introduction of steam culture, mainly for the purpose of drawing your attention to one point in connection with it, which seems to me deserving of general consideration, and especially of the consideration of those among us, whose genius or mechanical skill may incline them to look into the subject. Hitherto, as you may have observed, the principal effort has been, both here and in England, to get up steam machinery for the culture of the soil, through the medium of the plow. The idea most prevalent is, that the plow in some form of combination, is still to be retained and used with the engine, and that there is no need of any other contrivance to which the power is to be applied or attached. Just so it was with Ramsey's experiment on the Potomac, and with Fitch's on the Delaware, when they undertook to apply steam to the propelling of

boats. They thought only of the *oar* as the implement to which the new power could be so easily and successfully applied. So, likewise, when machinery was first brought into use in the thrashing of grain, the *flail* was retained as the implement, fixed to the arms of a revolving shaft or a reel, and made to strike in rapid succession on the thrashing floor.

A short time, however, sufficed to show that the *oar* and the *flail*, efficient as they were in the hand accustomed to use them, were but ill suited to inanimate machinery, and were soon displaced to make room for the paddle wheel and the toothed cylinder. In like manner the plow, as general as is its employment in all civilized countries, as much as it has been extolled for its usefulness in all ages of the world; revered for its antiquity, and "crowned with wreaths," as the symbol of the art that "calls forth the harvests," is nevertheless destined to be laid aside, with other primitive inventions, as a thing out of place, when attached to the farm engine. There will still be ample employment for the plow in its proper place, that is, in its connection with animal power, and the horizontal draft of the ox and the horse. In that connection we can never entirely dispense

with it. There is much land deserving of high cultivation, where the steam engine cannot be made available, and which can only be broken up by manual labor and by the plow and the team. The spade in the hands of the laboring man accustomed to its use, is a more efficient instrument in respect to the quality of the work, than the plow and its congeners are capable of doing, but where considerable areas of land are to be improved, spade husbandry is out of the question. It is too slow and expensive an operation for the farm. Necessity compelled the resort to animal power, for the purpose of general tillage, and the plow was devised as the implement best suited to the capacity of that species of power. With the animal for draft, the plow came into general use; but we all know that the work which the plow performs is always imperfect and incomplete; that its operation is only the beginning—the incipient step in the process of good cultivation, and that it requires to be followed by various other implements to complete the work it has begun. The plow, moreover, is objectionable in another respect—an objection which lies deeper and is very liable to be overlooked, indeed, too much so by the generality of farmers. I allude

to the unavoidable pressure which it exerts upon the subsoil. The wedge like form and action of the share in being driven through the soil, though splitting off and raising a portion of it to be turned over, produces a corresponding downward pressure, and leaves a smooth and glazed surface beneath the sole, and to this add the trampling in the furrow, and we have a compact and solid substratum underlying the whole plowed surface, almost impenetrable to the roots of plants, and unfavorable to their full development. This can only be remedied by the subsoil plow, loosening the earth below, but involving a double expenditure of both time and labor in the very first operation towards good tillage. For these reasons, it appears to me that the plow share in common use, or other implements acting upon the same principle, should not any longer be thought of in connection with steam power. Let that idea be abandoned, and when steam shall be humbled to the outdoor work of the farm, let its object be a higher and a nobler performance than the mere drawing of the plow.

The mechanism of the engine should be such as to possess the means *of itself*, and *within* itself, to accomplish such a work, and when it shall be

seen, "a' field walking like a thing of life," let not the indignity be put upon it, of harnessing it to the plow. There is something about the motions of the engine, which seems to me to despise the labor of tugging at the plow beam, or the pole or shafts of any mere land carriage, but like another Hercules, it prefers to put its shoulder to the *wheel*, and there to exert its strength. It is frequently remarked of steam, that it is a great "revolutionist." This is true in more than a mechanical sense, but I am now speaking of it only as a mechanical power, capable of being applied to the work of thoroughly breaking up and comminuting the soil. For this purpose a transverse cylindrical shaft has been suggested, affixed to the hind part of the engine, armed with strong steel pointed claws, to operate upon the soil as the shaft revolves with the forward motion of the engine. The skillful mechanic may take the idea from this suggestion.

In many things nature furnishes the type or model for man to work from, in the exercise of his inventive faculties. She sets before him numerous examples of perfect models, wrought with great skill and beauty, from which he may take

instruction. "Learn of the mole to plow," is one of the lessons she gives.

This seemingly insignificant animal; this little earthling, is indeed an instructor and a friend of man, though sometimes hunted and destroyed as an enemy.

Hogg, the Ettrick Shepherd, speaking from the experience and observation of thirty years, pronounces the destruction of moles as having deteriorated sheep pastures, and to have been followed by the pining and the foot root among sheep stock; and the story is told of a worthy old gentleman, a sagacious observer, who to his dying hour would not suffer a mole upon his grounds to be harmed. He had reclaimed from a waste his whole paternal estate, and laid it in grass fields, and he maintained that the moles were his laborers, yearly top dressing his lands, and adding to the depth of the soil and fertility of the sward; and the writer adds, that every field seemed to bear evidence of the good effects of this species of natural fertilizing.

In another way the mole renders an important service to the farmer. It is known that he is a very voracious feeder; he subsists on worms and the larvæ of insects which he finds under ground,

where no other enemy can reach them, and at night he sallies forth and pursues his prey on the surface. It is probable, then, that he destroys a vast number of grubs and other creatures whose ravages would all be felt in their season; but it is not to his instincts, so much as to his physical organization, that I would direct your attention. Who has seen this little fur clad animal working his way along beneath the surface of the earth, as if he were in the act of tunnelling for an "under ground railroad," and has not wondered at the power he displays in his subterranean occupation. You see the small ridge he has raised in his progress, occasionally terminating in a little hillock. Examine it, and you will find the particles of soil thoroughly disintegrated, and ready for use, in the formation of a most perfect seed bed. How has this effect been produced. The implement used in the operation is not a spade nor a plow; nature has provided him with a better contrivance, perfectly adapted to his case, and which man may use for a pattern. It is something in shape between a foot and a hand, armed with strong and robust claws. If perchance the creature is thrown on the surface, observe the effort he instantly makes to bury himself again beneath it,

and how tenacious appears to be the hold which he takes of the earth by means of these claws, and with what speed his purpose is accomplished.

In this simple operation, guided by the unerring instinct of the little creature, provided with the proper implements, we have foreshadowed a method of disintegrating the soil by steam power, now placed at man's disposal. Let then the moles claw serve as the type of the implements with which the engine shall be armed, and we shall presently see the work of large farms greatly accelerated, and cultivation much more efficient and productive than by any other means.

In thus advocating the cause of steam culture in the way suggested, I must not be understood as supposing that it will ever be a matter of universal adoption. It may be brought into common use in many parts of our country, but cannot be brought into general use. It is only farming on a large scale that will justify the outlay, or a number of small farmers favorably located with respect to each other, may, perhaps combine, to own an engine between them, yet the old methods of cultivation must still be pursued on a very large proportion of farms. Nevertheless, on the broad prairie and bottom lands of

the west, on all smooth and level surfaces free from obstructions, it will be a gratifying spectacle which is already in our minds eye, anticipating the event of this great improvement of our age (the farmers steam engine), taking the place of the dull plodding plow, and performing its daily rounds of toil, honoring the practice of husbandry, man's first and best and noblest calling.

It is claimed in behalf of the inventive talent of Great Britain, and why may it not be in behalf of that of our own country? that when the steam engine shall be brought to that degree of completeness for field work, which is now expected of it, so that it shall prepare the soil in the best possible manner for the reception of the seed, it will, at the same time, be able to carry along with it the seed drill and the roller, and thus, unlike the hand of the sower in the parable, the seed shall not fall by the way side, nor in stony places, but fall in good ground, to bring forth its fruit accordingly.

I cannot forego the pleasure which this opportunity affords me of saying a word or two here in commendation of *an author* who has presented a very conclusive argument in favor of steam culture, unconnected with the plow. It is con-

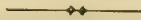
tained in a small volume, called "Talpa, or the chronicles of a Clay Farm," written in a pleasing style, abounding in practical good sense, and with a rich vein of humor underlying the whole work. We have an American edition of the book from the Buffalo press, with a handsome introduction, and useful and judicious notes, by a member of this Society. In a new "Cyclopedia of Agriculture," recently published in Great Britain, composed entirely of original articles on the theory, the art, and the business of farming, as practiced there at the present day, and in the contributions to which, the talents of more than fifty of the most eminently practical and scientific men of that kingdom have been employed; this same author (Mr. Hoskyns) has contributed an article on "steam culture," in which much of the argument before used is reiterated and enforced. He remarks that the impediments steam power, in the work of cultivation, has had to encounter, have been those of *delay*, rather than of *denial*, and the delay itself has been due rather to error than neglect; the error so long persisted in, of regarding the plow as the *sine qua non* of field cultivation, and the necessary medium through

which the steam engine was to be applied to that purpose.

Again, the author says in conclusion, and I cannot do better than quote his words, in bringing my own remarks to a close: "It does not appear, from any past experience, that the accomplishment of the most difficult mechanical or other processes, or the most surprising feats of invention, have any practical effect in removing the distrust we still retain of future triumphs of inventive skill; nor are there wanting minds so singularly constituted, as to find matter of congratulation that the culture of the soil has hitherto presented an insoluble difficulty to that great modern invention, which multiplies so amazingly the power of the *human hand*, and by economizing its labor, cheapens the products which toil wrings from nature; but fortunately, invention outruns distrust, and surmounts, step by step, the barriers of alleged impossibility, and if it sometimes have to submit to the rebuke of counting prematurely on its unaccomplished triumphs, it may find support for perseverance, by turning from the apparent discouragements of the present to the annals which extend backward, from the last page just turned over, to be included in the past."

Gentlemen, allow me to congratulate you on the choice you have made of a Presiding Officer for the ensuing year. It is with great pleasure that I now resign my place to him, who will bring to the performance of its duties a talent and an energy that will reflect an honor upon the Society, and great credit upon the State to which it belongs. For myself, let me say that during the short period of time that may still be allotted to me on earth, I shall be happy to co-operate with you in the good work you have now in charge, of promoting the permanency of this Society, and the prosperity of the farming interests throughout our whole country.

REMARKS
OF
ABRAHAM B. CONGER,
THE
NEWLY ELECTED PRESIDENT,
ON TAKING THE CHAIR.



GENTLEMEN, FELLOW MEMBERS OF THE AGRICULTURAL SOCIETY OF THE STATE OF NEW YORK.—It is my privilege to express at this time a grateful appreciation of the trust which, in accordance with your constitution, you repose anew in your Presiding Officer.

A trust it is, which in the minds of all men, justly carries with it a sense of high honor conferred, while to such as are intent upon the issues of its fulfilment, it speaks of a large responsibility.

You, gentlemen, who have so generously called me to this post of duty and honor, will not charge me with any affectation of self distrust, when I

say that I have been emboldened to assume this responsibility, and this trust to accept, moved alone and supported in such decision by those kind expressions and those hearty assurances of especial support which you have been pleased to extend. The earnest co-operation which you so uniformly render, that you may advance the prosperity of our Society, and through it that of the farming interest at large, is the only ground on which I rest any expectation of success in the discharge of the duties that may devolve upon me; and I may add that I consider it as not only the secret of your strength at home, but the measure also of your renown abroad.

I may repeat, with pride, that which I first learned with the same emotion, when, as one of your delegates to the United States Agricultural Society, I was in attendance upon its last session in Washington. When the principal business of the Society was over, as I happened to be conversing on the conditions of its prosperity, and the experience gained in the conduct of such associations throughout the country, a delegate from a sister state, who, from his commanding position in the Agricultural world, has enjoyed singular opportunities for the forming of such an opinion, said to

me, and with great enthusiasm: "Ah! that is a noble society of yours in the State of New York; it stands the foremost in the Union." Elate with the feeling which this compliment had aroused, I interposed, as with a view of ascertaining the facts or impressions on which he rested such an estimate of our worth; "But I thought that the Society in your own state made a strong claim to this leadership." "Ah," said he, "you have such a noble band of men; you work so harmoniously together."

We may continue, gentlemen, to be worthy of such encomium, as we manifest an abiding resolution to cast aside all local jealousies, personal prejudice, and casual differences of sentiment, and to stand side by side in the fellowship of this great work, sustained in our purpose not only by the incentives furnished by the past, but by the natural outgoings of our daily life. No class of men feel so constantly the obligation of undaunted labor, are so nerved under a lowering sky, and conduct themselves so buoyantly through anticipations of danger, as those whose hourly task brings them in close communion with nature, and acquaints them with her varied teachings.

As when at some calm twilight hour, the drooping grain begins to rear its bowed head, and the blade which wilted under the fierce ray, is bathed with the gently falling dew, or the stem, which shook in the strong blast, returns erect, and stretches to a higher bent, and soon each tiny pore is oped to catch from earth and air new measures of nourishment and growth—we see that our despondency over a stricken crop was inopportune, that the processes of development and fecundity have been re-established—and that with a firmer hold—and believe that ere long each harvester will come in swaying under his golden load; so when, in the councils which shape the work of each succeeding year, should it happen, however rarely, that they are disturbed with divided thoughts or jarring schemes, smit with the fierce breath of passion, or scathed with the keener phrases of debate, and auguries become rife of intestinal discord and permanent schism, soon that which was but a trial of our strength is at an end; what threatened a breach, cements our union; we stand upon what has been decided, and feel reassured of harmonious action and more exalted achievement.

Gentlemen, may it be our happy lot, as we come hither at the close of another year, and pass in review our labors and our success, to know that we have brought not only increased products from our herds and fields to fill the lap of commerce, but contributions from new paths of nature explored to add to the swelling treasures of science, and with fresh zeal and maturer purposes, to devote our energies to our great enterprise, true to the motto so dear to a New Yorker, the record of our past and the pledge of our future, "Higher, Higher still."

MAR. 15. 1866.



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