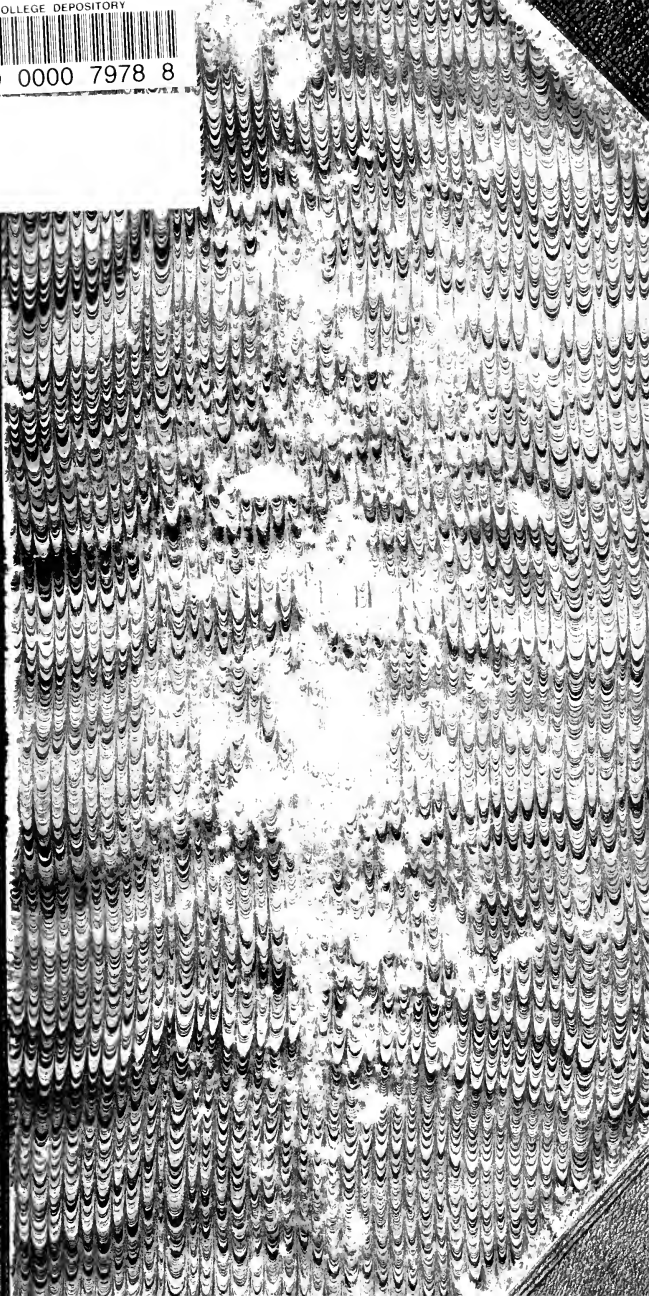


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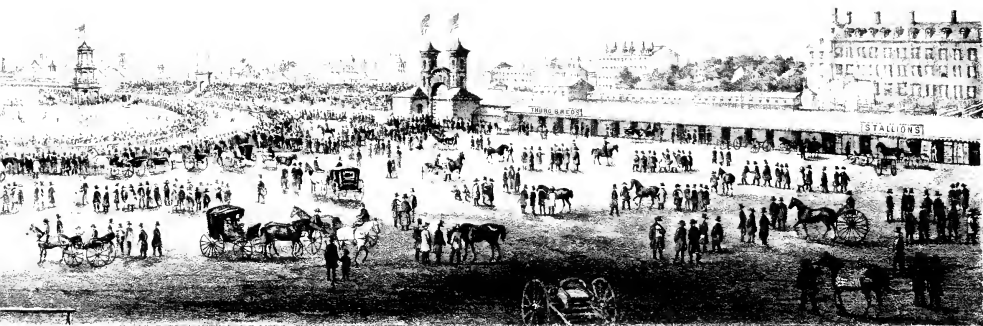
Presented by
Marshall P. Wilder

Containing an
account of the
Great Agricultural
Exhibition in Boston
in 1853.



H. B. H. B. H. B.

VIEW OF THE GROUNDS & STRUCTURES OF THE UNITED STATES



Engraved by J. W. Alden from a photograph

ESSEX AGRICULTURAL SOCIETY, AT ITS THIRD EXHIBITION IN BOSTON 1855.

JOURNAL
OF THE
UNITED STATES
AGRICULTURAL SOCIETY,
FOR 1854.

V. 2.
—
EDITED BY WILLIAM S. KING,
SECRETARY OF THE SOCIETY.
—

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OF THE
UNITED STATES AGRICULTURAL SOCIETY,

ELECTED FOR A. D., 1874.

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MARSHALL P. WILDER, of Boston, Mass.

VICE-PRESIDENTS,

JOHN D. LANG, Maine,
HENRY F. FRENCH, N. Hampshire,
FRED. HOLBROOK, Vermont,
B. V. FRENCH, Massachusetts,
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S. M. BAIRD, New Mexico,
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EXECUTIVE COMMITTEE,

C. B. CALVERT, | **JOHN A. KING**, | **A. L. ELWYN**, | **B. P. POORE**, | **A. WATTS**,
J. D. WESTON, | **JOHN JONES**.

SECRETARY,
WILLIAM S. KING, Boston, Mass.

TREASURER,
WILLIAM SELDEN, Washington, D. C.



UNITED STATES AGRICULTURAL SOCIETY.

THE Second Annual Meeting of this Society was held at Washington, D. C., on the 22d, 23d and 24th days of February, 1854. Notwithstanding the fearful snow-storm, which delayed many members on their route, and deterred many others from an attempt to attend, twenty-one States were represented at this meeting by an aggregate of over one hundred delegates.

The Society met at the Smithsonian Institute, on Wednesday, the 22d of February,—the birth-day of Washington; and at once, on the suggestion of the President, (Hon. Marshall P. Wilder, of Mass.,) adjourned, in honor of the day.

SECOND DAY.

On Thursday morning the Society met, pursuant to adjournment; and the proceedings of Wednesday having been read, and the credentials of delegates received, the President delivered his

ANNUAL ADDRESS.

Gentlemen of the Society:—The occasion which has convened us in the Second Anniversary of UNITED STATES AGRICULTURAL SOCIETY.

Our meeting occurs this year on a day ever memorable in America, as commemorative of the birth of the immortal Washington, the friend of all that ennobles and dignifies humanity. His military valor, his political wisdom, his patriotism and benevolence were equalled only by his skill as a farmer, and by his warm and enduring attachment to that worthy cause which our Association seeks to promote.

In his first message to Congress, and in his last, he recommended Agriculture to the consideration and patronage of government, an object which he considered most important to the welfare of his country and of mankind, and to which he returned from the camp and the forum, after a life rendered illustrious by distinguished public service in the cause of freedom and humanity.

I congratulate you, on the appreciation, by the men of this generation, of the words of wisdom which fell from his lips on this subject. The seed which he sowed has been long buried; but at length it has sprung up, and gives promise of a bountiful harvest. The progress of Agriculture is remarkably evinced in our period by improved arts of cultivation,—by discoveries in the natural sciences on which those arts depend—by the multiplication of agricultural societies and periodicals—by the patronage extended to these—by the general diffusion of knowledge—by labor-saving implements of husbandry—by the increase of our agricultural products, in variety, quality and amount,—by the extended demand for our crops,—and by the facilities for conveying the same from the field of production to the great agricultural marts of the world. But on these themes, it is not my purpose to dwell, nor to address you at this time upon the science or art of Agriculture, nor on the immense influence which is yet to be exerted on our own country and the world, by the application of science to this art. My official relation rather demands such suggestions pertaining to our organization and progress, as the experience of the past year, and the present condition of our Society seem to require.

PROGRESS.

When we consider how long kindred and richly endowed institutions, in other countries, existed before their influence was powerfully felt in their respective territories, for the promotion of Agriculture, we need not be surprised if our Association, in the first year of its existence, and with small pecuniary means, has not made its full impression on the public mind.

Like every other enterprise, it must pass through its infancy before it can attain to manhood ; yet it has vital energy and an important mission to accomplish ; it has grown and began to act for itself in a manner which gives promise of future and extensive usefulness. Its general objects have been defined ; but its specific, await a fuller development.

Four numbers of its Journal have been issued.—the first National Exhibition has been held—its number of members and funds have been increased—its agents have commenced their action under favorable auspices—its diploma has been designed ; and all these will be spoken of in their proper place.

THE JOURNAL.

In behalf of the Executive Committee, I have the pleasure to announce that four numbers of the Society's Journal have now been published, and constitute the first volume of its Transactions, thus cancelling our obligations to the annual members for their first year's subscription.

These, it is believed, will be found of permanent value, as they contain original and other articles of intrinsic merit ; and especially as it includes the history of the origin and progress of the Society, its amended Constitution, lists of officers and members, with their post office address, as far as it was possible to obtain them. In some instances, it has been impracticable to ascertain these, and, consequently, to transmit to members through the post office, the publications of the Society. It will, therefore, be necessary for each member to see that his name and post office address are properly registered on the Treasurer's book. It is hoped that the future numbers of this periodical will possess increased interest and value, be prepared by a permanent editor, and, if quarterly, issued with promptness and regularity. Of the past numbers, the first was edited by DANIEL LEE ; the second by J. C. G. KENNEDY, Corresponding Secretaries ; and the third and fourth by WILLIAM S. KING, Recording Secretary. It may be deemed advisable, by the Executive Committee, to issue the next year's Transactions, not in quarterly numbers, but in one volume, a

the close of the year, to be delivered to members, on or before the annual meeting, and to enrich it with illustrated plates, and drawings of new or improved implements, of stock, of agricultural products; and to make, so far as practicable, a digest of the doings of the several State Societies, and of others in foreign lands.

FIRST NATIONAL EXHIBITION.

The first National Exhibition, held under the auspices of the Society, was at Springfield, in Massachusetts, on the 19th, 20th, 21st, and 22d days of last October. This was confined exclusively to that noble animal, the horse. It originated with the enterprising inhabitants of that city, who generously assumed its pecuniary responsibility, and whose perseverance and devotion to the object, conducted it with the most flattering success; and who respectfully invited the co-operation and superintendence of United States Agricultural Society. A full report thereof is contained in the Journal of the Society. The benefits of this exhibition, and the attendance of more than *twenty thousand people*, encouraged the proprietors to make the following proposition to the Society:

Resolved. That we present to the United States Agricultural Society our hearty thanks for their co-operation in carrying forward to its successful termination, the First National Exhibition of Horses in the world; and that we respectfully request them to unite with us in promoting a second exhibition of a similar character, to be held under their auspices, in this city, in the year 1854, at such time and under such arrangements as may be deemed expedient.

More recently, similar applications have been received by your Executive Committee, from Ohio and from different districts of the country. These, in the process of business, will be submitted, all of which are commended to your favorable consideration.

From the experiment alluded to above, and the lively interest manifested therein by all classes of society, it requires no unusual foresight to discover that such national exhibitions may not only give character to the Society and extend its influence, but also may easily be made to enrich its treasury. I therefore recommend that a Special Committee be appointed to consider and report at this meeting, upon the expediency

of holding one or more exhibitions during the current year, either upon the account of the Society, or in conjunction with similar organizations.

MEMBERS AND FUNDS.

As full returns from the agents employed to solicit memberships and funds, have not been received, it is impossible to report with accuracy the additions which have been made during the year. The Treasurer's Report, which will be hereafter submitted, will exhibit the condition of his department at this date.

A number of life-memberships have been created, and a generous donation has been received from Hon. JONATHAN PHILLIPS, of Boston, of five hundred dollars, the latter to procure a suitable diploma for the Society. It is confidently believed that funds sufficient to meet the current expenses of the year, can be obtained from memberships and donations, secured by the personal application of our agents; and from exhibitions, (should they be deemed advisable,) a permanent fund might be realized on the principle which has placed other societies in an independent condition.

GOVERNMENTAL AID.

It is still considered desirable to solicit the patronage of Government, as contemplated in the last annual address, either in the form of "a grant in furtherance of our objects, on the same general principle as many of the State Governments bestow their patronage upon the Agricultural Societies within their territorial limits; or, if Government would so direct, in the form of a consideration for the performance by this Society of the duties of the Agricultural Department of the Patent Office.

"The sum now expended by Government in that branch of the Department, if placed at the disposal of this Society, would enable us to collect, through our auxiliaries and corresponding bodies, the most reliable statistics and the most recent and valuable information, and would also enable us to publish the

same and to distribute it, through the members of Congress, through those of this Society, and of the hundreds of kindred local Associations acting in concert with us throughout the country."

This recommendation was referred to the Executive Committee, under the following Resolution :

Resolved, That the Executive Committee be requested to make immediate application to Congress, for that portion of the money now annually appropriated to the Patent Office for the preparation of the Agricultural Report, and the collection and distribution of Seeds, with a view to the performance of the same work by the United States Agricultural Society.

The pressure of business before Congress at the close of the last session, and other unavoidable circumstances, prevented your Executive Committee from memorializing that body on the subject; but they conferred with members of both branches, who expressed a deep interest in these objects, and promised to give them their favorable consideration. It is recommended that the same Committee be instructed to prosecute these objects during the present session, or that a Special Committee be charged with that duty.

DIPLOMA.

In accordance with the suggestion of the Executive Committee, on the necessity of a suitable Diploma or Certificate of Membership, an application was made to the benevolent gentleman, already referred to, for funds to accomplish this object; and in consequence of his generous response, I am now able to present the design for the same, which has been approved by the Executive Committee.

The design represents, at the top, Ceres, goddess of Agriculture, seated in a car drawn by a pair of oxen, and attended by farm laborers. On her right hand sits Science, on her left, Art; before her lie the fruits of the earth, and various implements used in its cultivation. The front of the car is decorated with reliefs of the four quarters of the globe. She is accompanied also by the Seasons of the year.

On the right side of the design is Pomona, goddess of Horticulture, and on the left, Flora. Groupes of horses, cattle, sheep, etc., form the back grounds to these figures.

At the base, in a cartouche, is a view of Mount Vernon, surmounted by the national emblems, and supported on either side by a farmer and a gardener, with appropriate scenes in the distance.

If this design meets the approbation of the Society, it should be placed in the hands of a competent engraver, and, as early as possible, a certified copy transmitted to each of the members.

INCORPORATION.

As the funds have been entrusted to this Society, which we hope will be greatly increased, it is now deemed important that an Act of Incorporation should be obtained; and I recommend that a Special Committee be charged with that duty.

NATIONAL AGRICULTURAL INSTITUTION AND EXPERIMENTAL FARM.

A Committee of the Maryland State Agricultural Society have the honor of bringing to the public notice the importance of a National Agricultural Institution and Experimental Farm. Your Executive Committee had the pleasure to receive from them a circular, inviting your co-operation in these worthy objects; and it is expected that these gentlemen and their associates, in the progress of business, will present the subject for your consideration and action.

These objects are essential to the social organization of American agriculturists. We have various County Associations auxiliary to those in the States where they are located; and the State Societies cordially co-operate with the United States Agricultural Society. These State Societies either have, or are endeavoring to secure Agricultural Institutions and Experimental Farms under Legislative patronage within their respective limits. Is it too much to expect that the Central Government will do at least as much for agricultural education and scientific farming in the nation, as any one of the individual States accomplishes within its own borders? Is it not competent and expedient for Government to give more prominence to this great industrial pursuit,—the principal source of national wealth and prosperity? These are im-

portant and legitimate inquiries, and I trust they will receive the consideration which they deserve. May not a National Agricultural Department, with suitable instructors, library, cabinet, and apparatus, be attached to the Smithsonian Institution, for the study of the Science of Agriculture? May not the estate of Washington, at Mount Vernon, be purchased for a national Experimental Farm? And may not the United States Agricultural Society aid in the solution of these problems, and in the accomplishment of these objects?

COMMISSIONERS TO STATE EXHIBITION.

Important advantages have resulted to other Agricultural Societies, from the appointment of Commissioners to visit the exhibitions of kindred institutions; and it is hereby recommended that your Executive Committee be authorized to appoint Commissioners, whose duty it shall be to attend the annual exhibitions of the State Agricultural Societies, to collect and transmit to said Committee the transactions of those Societies, together with their own report of their personal observation, of whatever is specially important of record in matters pertaining to the general interests of Agriculture, and to promote a kind and friendly relation between the National and State organizations. These reports, from time to time, to be published under the direction of the Executive Committee, and be distributed to the members.

OBJECTS OF THE SOCIETY.

These have been substantially set forth in its Constitution, but they are general, and their accomplishment must be a work of time, and must depend on a concentration of our energies upon their essential parts.

Our general object is the improvement of American Agriculture; but on how many things does this depend? Each of these must have its time and place; and all must be prosecuted in their natural order. Coming up as we do from different and widely distant sections of our country to the Capital, only at our annual meeting, it is the more important that we

should, on these occasions, clearly define our *specific* objects and plans of action for the succeeding year, waiting the developments of Providence to point out to us the path of future duty. As I have already intimated, there are certain subjects which claim our particular attention at this time, — *certain* duties which we can, and in my estimation, ought, to perform.

Of these, the most important and feasible are :

1. Exhibitions by the Society, either in its individual capacity, or in connection with other associations :

2. The efficient action of the Commissioners to attend the exhibitions of the various State Societies, and to report thereon :

3. The publication, in the Journal of the Society, of whatever is most valuable in the progress of the Agriculture of our country :

4. An application for the aid of Government, either by an annual appropriation, or by assigning to our Society the compilation and publication of the agricultural volume now issued under the direction of the Patent Office, with the privilege of receiving and distributing seeds etc., free, so that the same may be placed, by the agency of our Agricultural Associations, acting in unison with us, directly in the hands of the most prominent Agriculturists of the country, and so that, in return, the most reliable and important results may be obtained as to their inherent value and relative adaptation to different localities. This service we may advantageously perform, even should an Agricultural Bureau, so eminently desirable, be established.

The accomplishment of these *specific* designs will materially aid in the attainment of our general object, — will extend our influence, and, in return, will increase our share in the public confidence and patronage, and will give us our relative position among the Agricultural Institutions of our own, and other nations.

Gentlemen : — The presence, on this occasion, of so many who took an active part in the organization and previous meetings of this Society, and of others from distant sections of the country, whose acquaintance we are happy to make, afford us the highest satisfaction and encouragement. Among these I

recognize gentlemen whose names are honored, not only for the important contributions they have made to the cause of Agriculture, but also for their valuable services in the praiseworthy enterprises of our time and nation. But all are not here ! An inscrutable Providence has removed some from the scenes of earth, whose charity contributed liberally to the funds of the Society. Three of our honorary members, principal benefactors, whose donations were reported at our last annual meeting, have ceased from their labors, and have been gathered to their rest, “like a shock of corn fully ripe in its season,” — SAMUEL APPLETON, THOMAS H. PERKINS, and ROBERT G. SHAW — a trio of the oldest and most honored citizens in the commercial metropolis of New England, gentlemen whose memories will be cherished so long as merit shall be appreciated, princely benevolence awaken gratitude, and worthy deeds command the admiration of mankind. These have fallen ; but others are rising up to occupy their places, and to aid and encourage our endeavors.

BROTHER FARMERS: I am especially happy to meet you on this Second Anniversary of the United States Agricultural Society. Whether you come from the auriferous fields of California — from the alluvial soils of our great valleys — from the plantations of the genial South — from the grain-growing and manufacturing districts of the North ; I welcome you to a participation with us in this enterprise, and in the glorious prospects of our beloved country, — prospects which we think can hardly be represented in colors too bright, when we consider the agricultural and other resources of our favored land — the rapid increase of population that supplies the laborers requisite for the development of these resources — the advancement of the arts that put improved implements into their hands — the progress of education that teaches them how to apply science to cultivation, and consequently how to labor more successfully — the facilities for intercommunication that connect city with city, state with state, and ocean with ocean, conveying our agricultural products to the great markets of the world, and rewarding industry and labor with competence and independence.

What an inviting and interesting field of labor opens before us! What a vast extent of territory, to whose limits and population no *manifest destiny* has hitherto set bounds! Who can predict the amount of our agricultural products, when genius shall have improved as highly as possible the implements of husbandry, and when science shall have applied to the arts of cultivation the rich fertilizers that now lie in their native beds! Who can calculate the millions of population that those products shall sustain, when our unoccupied territory shall be peopled and improved by an enlightened and industrious yeomanry?

FRIENDS OF AGRICULTURE: In view of these cheering prospects, let us act in a manner worthy of the position we occupy. Let us mature plans as broad and deep as the responsibilities that rest upon us, and let us execute them with an energy which will surmount every obstacle, and with a perseverance that shall never tire. Then will success reward our efforts, and enable us to transmit to those who shall succeed us, an inheritance richer than the birthright of kings or princes,—the exalted privileges, the glorious independence of an AMERICAN FARMER!

On motion of Mr. J. C. G. Kennedy, 1000 copies of the Address were ordered to be printed.

On motion of Mr. C. B. Calvert, (President Maryland Agricultural Society) the recommendations therein contained were referred to special committees.

The Chair presented a communication from the Secretary of the Treasury, (Hon. James Guthrie), inviting the members of the society and their families to an entertainment at his residence in the evening. The invitation was accepted.

On motion of Mr. Dederick, of New York, a Committee of three members was appointed by the Chair to consider and report upon the subject of Agricultural Implements; viz: Messrs. Dederick, Mapes, of N. J., and Musgrave, of Ohio.

On motion of Mr. Denton Offut, of Lexington, Ky., a committee on Animal Physiology and the improvement of Domestic

Animals, was appointed, (Messrs. Browne, of Penn., B. V. French and Ben. Perley Poore, of Mass.) This Committee subsequently reported, and several members testified in corroboration, that Mr. Offut possessed a singular power over horses submitted to him,—a power similar to that exercised by the famous Irish *Whisperer*. The most vicious animals he tamed in a few moments, insomuch that, loosened from halter or bridle, they followed his footsteps and kept time to the beat of his little drum. Mr. Offut desired rather to obtain subscribers for his forth-coming book on this subject, than to explain his mystery verbally; and the Committee recommended no action in the premises.

An invitation from Mr. Townend Glover to visit his collection of Models of Fruits, &c., &c., on exhibition at the Patent Office, was received and accepted.

On motion of Mr. W. S. King, of Mass., the following gentlemen—Messrs. Worthington and Warder, of Ohio, Berckmans, of N. J., B. Munn, of N. Y., and Richards, of Mass., — were appointed a Committee to examine Mr. Glover's collection. This Committee subsequently submitted the following report:

REPORT ON GLOVER'S MODELS OF FRUITS, &c., &c.

The Committee to whom was referred the examination of the *fac simile* imitations in Plaster, by Mr. Glover, of the Fruits and Vegetables of our country, Report,

That the collection, so far as it extends, is superior to any they have seen in the country—being but a commencement however, and chiefly copied from specimens north of lat. 38° and east of the Ohio River.

Some of the smaller and softer fruits, as the Strawberry, &c., are not so well imitated as the larger ones. The latter, however, comprising the Apple, Pear, Plum, Cherry, &c., are so well copied from nature, as to leave little or nothing to desire, being almost perfect *fac similes* as to weight, size, shape, color, and peculiarities of every kind. To this Mr. Glover has added the *habitat* of each variety and specimens from various localities and climates (showing how they are thereby modified), the local names given in different parts of the country, observations of the quality, time of fruiting and maturing of each variety, their adaptation to different latitudes

and locations ; and specimens of the insects by which they are attached.

The Committee forbear to press upon the brief time of the Society, considerations of the value which this collection, when completed, would be to the fruit growers of our vast country. To be able at once, to decide from an authentic source, the true name, qualities, time of maturing, *habitat* and insect foes of all the valuable fruits of our country, would be conferring a benefit incalculable in value ; and these considerations are confidently submitted without further comment.

The only question seems to be, "Has this been well done so far ; and is this enterprize in competent hands ?" To both these questions your Committee answer unanimously and unhesitatingly in the affirmative.

The copies by Mr. Glover of fruits, vegetables, and insects, are admirable, considered merely as works of art, and to the sight offer in most cases a perfect illusion ; and the *fac similes* once secured, copies can be made at small expense, and distributed when desired.

The collection as before stated is not complete, and it would require several years and a skilled devotion to the subject to make it so.

Your Committee consider this subject a national one, worthy the national patronage, and indeed almost impossible of accomplishment otherwise.

We therefore recommend the adoption of the following Resolution :

Resolved, That this Society consider the collection of a complete suite of imperishable *fac similes* of the various fruits and vegetables of our country a great desideratum for our National agriculture, and commend the purchase and completion of the collection of Mr. Glover to the favorable consideration of the Congress of the United States.

JAS. L. WORTHINGTON,
L. E. BERCKMANS, N. J.,
JNO. A. WARDER,
EDWARD M. RICHARDS.

The President then offered for consideration the contents of two communications confidentially committed to him. One was from Mr. Joel Hitchcock, of St. Lawrence county, New York, on the subject of a remedy for the potato rot ; the other on the subject of a remedy for the devastations of the *curculio* on fruits, by some person whose name did not transpire. The

object of the parties seemed to be to get their remedies to be tested by the society through committees of the same, and reports made at the meeting of next year.

The question on the reference of these proposals gave rise to a very animated debate, in which views of very opposite character in respect to the probable value of the alleged discoveries were elicited. Mr. Browne spoke strongly against entertaining any proposition of a secret nature, and held that all subjects should be open to all members alike. Science, knowledge, and not concealment or private speculation and advantage, was the basis of all the action of this society.

The Chair vindicated Mr. Hitchcock from any secret or selfish aim. All he wished was that a competent Committee of the society should give the matter the benefit of their investigation, and report accordingly.

Mr. Worthington said the discovery, whatever it was, is the property of Mr. Hitchcock, and if the test to be made of it were successful, Mr. Hitchcock was entitled to the endorsement of this society. He then moved, "That the communication just read be received and referred to the Executive Committee to test the mode proposed, and that they report to the next annual meeting of this society."

Mr. Earle supported the same views as above expressed by Mr. Browne.

Mr. W. S. King protested against the prejudgment of a case without a hearing, and, in advance, pronouncing to be a humbug what was as yet untested. To call a thing a humbug is an easy, but not an honorable way of disposing of it. The parties ask of us nothing unusual; merely to appoint a Committee to *test the worth* of their discoveries. Twice to-day this has been done.

He believed Mr. Hitchcock's discovery had genuine merit in it, and was no humbug; at all events, it was worth a fair trial.

Mr. Horsey, of Maryland, thought the communication ought to be printed, that all the members of the Society might test the thing. He then made a motion that it be printed.

The Chair did not feel it to be within his power to place the communication in the Society's hands to be printed, without further instructions from Mr. Hitchcock.

Mr. Landreth, of Philadelphia, thought little would be lost if the proposal were declined. If the thing had really any value in it, the public would soon get it. For himself, he placed but little confidence in the value of the alleged discovery.

Mr. Lewis, of Massachusetts, thought all those members of the Society who felt an interest in the subject should form the Committee to test the matter.

Prof. Mapes took the same general views as those expressed by Mr. Worthington, Mr. W. S. King, and the Chair.

Mr. Dedrick proposed to amend so as to permit the publication of the secret by the Society.

Further discussion was pursued by Messrs. Poore, Lewis and French, when the previous question was put and carried.

Mr. Cory, of Indiana, moved that communications from other persons on the subject of potato disease be referred to the Executive Committee.

Mr. French thought the Executive Committee should be instructed to appoint proper persons, members of the Society, to institute experiments. He moved an amendment of Mr. Cory's motion in consonance with these views, which amendment was carried.

The Chair then presented a written communication from a gentleman in Ohio, requesting that a Committee of three be appointed to investigate the subject of the remedy for curculio.

Mr. Browne opposed this and all such secret methods of operation. He adopted the same line of remark as above on the potato rot.

Mr. Poore thought it was one of the purposes for which the Society was organized to test the value of new discoveries.

On motion of Mr. Calvert, it was unanimously agreed that in the future proceedings of the Society at this session, no member speak more than once on same subject, and then only for five minutes.

Mr. Lewis moved to lay the curculio paper on the table. Lost.

Mr. W. S. King moved a select committee of three on the subject, of which the President of the Society should be Chairman. This was carried, and a committee appointed of Messrs.

Wilder, Brinckle, of Pennsylvania, and Borekmans, of New Jersey.

Mr. Bradford, of Delaware, asked and obtained leave to read a memorial to Congress from citizens of Delaware, praying the interposition of Congress, either by purchase of one of the Chincha Islands or by negotiation with Peru, to put a stop to the effects of the operation of the Anglo-Peruvian monopoly, by which the price of guano has been raised and kept at the extravagant price of \$54 per ton.

Mr. Bradford pressed this subject on the attention of the Society as one of primary concern to the agriculturists, and in fact the whole people of the country. On his motion a Committee of five was appointed in relation to the matter, viz.: Messrs. Bradford, Calvert, Browne, Burgwin, of North Carolina, and Booth, of Va.

This committee subsequently reported that they had had an interview with the Assistant Secretary of State, (Mr. Dudley Mann), and encouragement was given that arrangements would be made with Peru, by which the price of guano would be materially reduced. The report was re-committed.

On motion of Mr. J. D. Weston, of Mass., a Committee of one from each State and Territory represented, and the District, was appointed to nominate officers of the Society for the ensuing year.

Prof. Henry, of the Smithsonian Institution, reported the order of business.

Mr. B. Munn, of N. Y., then presented, and by request read a communication from Mr. James Pederson on the subject of introducing into the United States, the Alpaca or Peruvian Sheep. A copy of the communication was requested for publication.

Papers collected by the Lighthouse Board were referred to by Prof. Henry, who made some interesting remarks on one of them, being a paper on the use and importance of Colza oil for burning.

Seeds were distributed by Dr. Warder and Mr. Henry Ives, of Ohio, and other members; and the meeting adjourned till 5 1-2 o'clock, P. M.

EVENING SESSION.

At six o'clock, P. M., the President called the meeting to order, and introduced Prof. Mapes, of New Jersey, who exhibited and explained an improved sub-soil plough, invented by himself. The remarks of the learned Professor were listened to with great attention.

On motion of Mr. Bradford, of Delaware, the subject was referred to the Committee on Agricultural Implements.

Dr. J. A. Warder presented a quantity of Japan peas, and described their nature and value. They were introduced into the neighborhood of Cincinnati three years ago, and have been widely distributed. It is not a pea nor a vine, but has a stiff woody stem; the leaves, however, are broad, and are greedily eaten by cattle; the fruit is very abundant, and occurs in short pods containing two or three peas; these are oblong when green, but round when dry. They will not be valuable for table use when green, but are liked by most who have tried them boiled or as soup, when ripe in winter, and must prove of great value, especially in the Southern States; succeeding well on all soils in which they have been planted. Their great value will be as food for cattle; they are easily threshed out when ripe.

In planting give them ample room; for the greatest effect, say at squares of three feet; cultivate as corn.

The meeting then adjourned to 10 o'clock the following morning.

THIRD DAY.

The Society was called to order by the Recording Secretary, William S. King, of Massachusetts, who stated that the President of the Society was prevented from attending at the opening of the meeting by indisposition, but he hoped to be present during the morning session. On motion of the Recording Secretary, the Hon. John A. King, of New York, was called to the chair *pro tempore*.

Dr. Weston from the Committee on Nominations, reported a list of Officers, who were elected.

Prof. Fox, of Michigan, (senior editor of the *Farmer's Companion and Gazette*,) then commenced his address on the important subject of extending and improving the education of the agricultural population of the United States, so as to elevate that vast majority of our people up to their proper level, and to bring a greater amount of intelligence to bear upon that important interest, the judicious cultivation of the soil. During the lecture the President of the Society entered, and took his seat as chairman of the meeting, held temporarily by Mr. J. A. King. Not long after, and before the conclusion of Prof. Fox's address, the President of the United States, accompanied by the Secretary of the Interior, came in and were introduced to the Society, which received them with courteous greeting.

At the conclusion of Prof. Fox's very able, interesting, and eloquent address, on motion of Mr. N. P. Causin, a vote of thanks was tendered to Prof. Fox for his most acceptable paper, and it was referred to the Executive Committee for publication.

The President of the United States then arose, and addressing the chair, thanked him for the intelligence that had been furnished him of the session of the Society: spoke in terms of compliment and approval of so much of Prof. Fox's address as he had heard; acknowledged the high interest and importance of the objects of the Society, and of the question before it; and said that, whilst he should be most happy to remain during the interesting proceedings yet to be had, other duties demanded his retirement, and compelled him to bid them good morning.

Mr. Tayloc, of District of Columbia, moved a resolution for the purchase of Mount Vernon by the General Government, and making a portion of it the site of a national experimental farm.

The Chair stated that the subject was already before the Society, under a recommendation in the President's annual address.

Mr. Earle proposed a substitute for Mr. Tayloc's resolution, the intent of which was that the United States Agricultural Society, should endorse the efforts of the Maryland State Society to effect the same object. Mount Vernon, he said, was on all accounts the best place for a national experimental farm, and he believed there were many members of Congress in favor of purchasing it.

Mr. Browne moved a reference of the matter to a special Committee for a report.

Mr. Calvert hoped it would not be referred to the Executive Committee. They had now at least a month's consecutive work cut out for them.

Mr. Earle, speaking by permission a second time on the same subject, opposed reference to any Committee. Its magnitude and importance entitled it to a consideration by the Society in full.

Mr. J. A. King liked Mr. Taylor's best, because it was based upon the independent action of the Society, and thus gave additional weight to the memorial from Maryland. In answer to Mr. Browne, Mr. King said that what Virginia had done was well, but it must be remembered they here represented the farmers of the whole Union. For this reason he should support the original proposition.

On motion of W. S. King, the subject was laid on the table, to be taken up in the afternoon session.

The report of the Committee on Exhibitions was read by Mr. Calvert, and, on motion of Mr. Poore, made the order of the day for the next morning.

The Hon. George Washington Parke Custis, — the grandson of Mrs. Washington — then addressed the Society in the most eloquent and feeling terms. We hope to procure a correct copy of Mr. Custis's remarks for the Journal of the Society.

Mr. Chandler Robbins, of Ohio, presented a memorial from citizens of Ohio, asking the countenance and patronage of the Society to a cattle exhibition to be held in September next, in Springfield, Clark county, Ohio.

Prof. Mapes moved a reference of this memorial to the Executive Committee.

After considerable discussion it was so referred.

[As the action of the Executive Committee upon this and other similar applications has been variously and incorrectly stated, we here give an official report thereof:—In Executive Committee, Feb. 25, 1854; on motion of W. S. King, *Resolved*, that the application of inhabitants of Springfield, Ohio, for the holding an exhibition at that place, under the auspices of this Society, be referred to the President, to be governed by the terms of the following resolution:—*Resolved*, that no Exhibition be held within the limits of any State, where a State Agricultural Society, holding Exhibitions, is in existence, without first obtaining the assent and approval of the State Board or of the Executive Committee of such State Society.—Ed.]

The application of citizens of Springfield, Mass., for the holding of a show of Horses at that place, and the memorial of the Hon. Mr. Meacham for the holding of a show of Sheep in Vermont, were similarly referred.

Dr. Warder, of Cincinnati, being called on, addressed the Society on the subject of the culture of the Catawba grape vine, illustrating his remarks by reference to a series of drawings of the plant in various stages of progress. Though extemporaneous, the address was a very excellent one, and so luminous that everybody could understand it. Dr. Warder was much questioned by several members on various topics connected with the culture of this vine, all of which he answered most readily and satisfactorily.

The Society passed a vote of thanks for the address, and ordered a written paper on the subject to be printed among their transactions.

Prof. Mapes testified to the value of charcoal in vine culture.

Dr. Warder spoke of the admirable effects of *potash* as a manure for the grape plant. It supplied sweetness, increased the size, and improved the flavor.

Mr. Darius Claggett, of the District of Columbia, gave the history of a Catawba vine, now in his possession, more than forty years old, the parent of the greater portion of the vines now in the country.

Mr. W. S. King said that, although five hundred copies of numbers three and four of the Journal had been carefully mailed to members, he feared many had failed to reach their destination. In such case he would supply all who had not received their copies.

The meeting adjourned to meet again at 5 P. M.

EVENING SESSION.

On motion of Mr. Myron Finch, of N. Y., a resolution, favoring the erection of a monument to the late John S. Skinner, by the contribution of a stone with a suitable inscription, to the Washington Monument, was passed. The stone is to be purchased by private contribution.

Mr. George Blight Browne, of Penn., presented to the Society in the name of the author, a copy of Mr. Peter A. Browne's able treatise on Wool and Hair.

Dr. Weston moved that when the Convention adjourned, it should adjourn *sine die*, Mr. Lewis of Massachusetts, seconding the motion.

After some debate it was carried.

On motion of Mr. Earle, the memorial of the Maryland State Agricultural Society, petitioning Congress to purchase Mount Vernon for an Agricultural School, was taken up and read, as follows:—

MEMORIAL OF MARYLAND AGRICULTURAL SOCIETY.

“ To the Congress of the United States of America :

The Maryland State Agricultural Society, (through its committee appointed at its last general meeting) begs leave to submit the views entertained by it in relation to the improvement of agriculture, and to solicit for the plan proposed in the mem-

orial presented in its behalf, the favorable consideration of Congress.

The Smithsonian Institution at Washington has been spoken of as a seminary, around which might spring up that national board, or school of agriculture, with an experimental farm annexed, contemplated by Washington. During his Presidency he favored such a plan as a great desideratum to assist our progress.

"The National Board of Agriculture in Great Britain," he says, *"I have considered one of the most valuable institutions of modern times; and in reply to a letter of Baron Poelnitz, suggesting the establishing of a farm under public patronage, for the purpose of increasing and extending agricultural knowledge, he expresses his solicitude upon the subject, but adds: 'I know not whether I can with propriety do any more at present than what I have done. I have brought the subject, in my speech at the opening of the present session of Congress, before the National Legislature.'"*

This was his first message. After eight years administration of the Government, he renewed the subject; and in his last message to Congress, near its close, impresses the object nearest his heart, with zealous argument, (seldom used in his messages,) evincing the deep solicitude he felt in the success of this, his recommendation:

"It will not be doubted, that, with reference either to individual or national welfare, agriculture is of primary importance. In proportion as nations advance in population and other circumstances of maturity, this task becomes more apparent, and renders the cultivation of the soil more and more an object of public patronage. Institutions for promoting it grow up, supported by the public purse; and to what object can it be dedicated with greater propriety? Among the means which have been employed to this end, none have been attended with greater success than the establishment of boards, composed of proper characters, charged with collecting and diffusing information, and enabled, by premiums and small pecuniary aids, to encourage and assist a spirit of discovery and improvement. This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common center the results everywhere of individual skill and observation, and spreading them thence over the whole nation. Experience, accordingly, has shown

that they are very cheap instruments of immense national benefits.

"I have heretofore proposed to the consideration of Congress the expediency of establishing a national university, and also a military academy. The desirableness of both of these institutions has so constantly increased with every new view I have taken of the subject, that I cannot omit the opportunity of, once for all, recalling your attention to them.

"The assembly to which I address myself is too enlightened not to be fully sensible how much a flourishing state of the arts and sciences contributes to national prosperity and reputation. True it is that our country, much to its honor, contains many seminaries of learning, highly respectable and useful; but the funds upon which they rest are too narrow to command the ablest professors in the different departments of liberal knowledge for the institution contemplated, though they would be excellent auxiliaries.

"Among the motives to such an institution, the assimilation of the principles, opinions, and manners of our countrymen, by the common education of a portion of our youth from every quarter, well deserves attention. The more homogeneous our citizens can be made in these particulars, the greater will be our prospect of permanent union," &c.

Washington's heart was, at this time, when at the loftiest point of his elevation, still looking back to the unpretending pursuit from which he had risen to the command of armies, confederacies, and finally the great modern model Republic. He looked back to the soil and that honest industry which made it teem with blessings. He looked back to the productive masses, that make up the States and nation, and felt it to be the duty of those placed by them in power to use that power to facilitate and perfect the creative industry, which is the foundation of the prosperity of the whole country. A national board or school of agriculture, with all the advantages which books and science could bring; with all the assistance which philosophical apparatus and experimental tests, applied directly to the soil, upon the largest scale, could lend; with all the opportunities which the cultivation of a considerable domain could afford, for the introduction of that tuition and discipline necessary to form practical skill and thoroughly systematized views, in relation to the various modes of farming, was what he contemplated. A national school with all these essential requi-

sites, was the great object which Washington had at heart up to the close of his life.

It is fortunate at this time that Congress, in acting on the bequest of another far-seeing philanthropist of a foreign land, has organized an institute as a national instrument of instruction, which can, without starting any constitutional cavil, be employed in imparting agricultural knowledge, not only among our own countrymen, but among men of all countries. The express injunction of Smithson's will, which Congress, as a trustee, has undertaken to execute, is "to diffuse knowledge among men." Can it be pretended that agricultural knowledge is not that sort of knowledge, which the benevolent friend of human progress wished to disseminate? The design of the utilitarian, who sought, in transferring his wealth to a new country, where an energetic people were scattered over a rich but rude domain, to dedicate it to the progress of his race, in pursuits to which they were called by surrounding circumstances, and which were most likely to promote their prosperity, would not exclude from the knowledge he provided for them that on which their welfare most depend."

Mr. French, of Massachusetts, advocated the adoption of the memorial. It was carried, and Messrs. Blair, of Maryland, Earl, Browne, King, of New York, and French, of Massachusetts, were appointed a Committee to present it to Congress.

Mr. N. Pope Causin, who, with F. P. Blair, Esq., had been appointed a Committee to audit the accounts of the Treasurer, reported them correct; and that there was a balance of \$3,005 now in the Treasury,—upwards of \$1,000 of which have been contributed at this meeting.

Hon. Mr. Benson, of Maine, read a Bill now before a Committee of Congress, creating an Agricultural Bureau. Mr. Calvert, of Md., said that we did not ask for a Bureau; that a Department with a Secretary—a Cabinet Minister—was demanded.

The subject was further argued by Messrs. Browne, of Penn.; French, of Mass., and others. Professor Mapes said he should vote against any resolution praying Congress to establish an Agricultural Bureau. They would accept nothing of the sort.

What they wanted was a full Department of Agriculture, and would have nothing less. Farmers had been bamboozled long enough, and put off by politicians. It was time Congress should know this. Talk of an Agricultural Bureau, and what would it amount to? He had no notion of the farming interest of this country being sifted down to a well-hole at the bottom of a Patent Office. Congress could spend money without stint in improving the telescope, but not a cent could they give to aid the plough; as if the soil of the moon were of more importance than our own native soil. Who did not know that whatever would add one-half per cent. to the corn or wheat crop of the country would give more wealth than the whole annual revenue of the country amounted to? Why then refuse the means to do this? An Agricultural Department is absolutely necessary. The agricultural returns of the last census were not reliable, and no census should ever be without a proper Department.

Mr. Jones, of Delaware, spoke strongly in favor of a home market for our wheat. It is the only remedy for many of our national grievances.

Finally, on motion of Hon. John A. King, of N. Y., the resolution passed at the first annual meeting, asking for a Department of Agriculture, was re-affirmed unanimously.

Hon. Mr. Benson presented a resolution, in behalf of Mr. Meacham, of Vermont, that a National Exhibition of Sheep be held in the course of the year in the State of Vermont, at such time and place as the Agricultural Society of Vermont shall appoint. Referred to Ex. Committee.

The Chair appointed Hon. John A. King, of N. Y., and Hon. Mr. Benson, M. C., from Maine, a Committee to apply to Congress for an Act incorporating the United States Agricultural Society. This Committee, we learn, have already laid the matter before Congress.

On a strong expression of the wish of the Society, Benj. Perley Poore, Esq., addressed the Society. Mr. Poore sketched the rise and progress of agriculture in the old world, and in the new. He gave an account of Indian agriculture, and, passing through the history of colonial and revolutionary farming, came down to the present time.

On motion of Mr. Calvert, the address was ordered to be published by the Society.

On motion of Mr. Poore, it was resolved that a Committee of three be appointed to collect facts and statistics illustrating the Indian and subsequent agricultural history of this Republic, embracing statistics, accounts of tools, and biographical sketches of noted farmers, and report to the Executive Committee in season for publication in the next report, if worthy. The Committee are Messrs. B. P. Poore, W. S. King, and J. A. Warder.

The Society then called upon Dr. Eddy, of Massachusetts, for his lecture on *Bees and Bee Culture*. He described this branch of rural industry as the most profitable of all, as he had proved by his own experience. He pursued the history of the Bee, in its family and social characteristics, and explained the process of honey-making.

Dr. Eddy having concluded his lecture on Bees, and a vote of thanks awarded him, it was, on motion of Mr. W. S. King, of Massachusetts,

- *Resolved*, That the thanks of this Society be, and are hereby presented to Prof. Henry and the officers of the Smithsonian Institution, for the use of their lecture-room, and for their kind attentions; and also to Mr. H. Hardy, for his faithful attendance upon our sessions, and for his full and correct reports of our proceedings in the National Intelligencer.

And the Society adjourned *sine die*.

THE NECESSITY OF AGRICULTURAL INSTRUCTION

AN ADDRESS, DELIVERED BEFORE THE UNITED STATES AGRICULTURAL SOCIETY,
BY CHARLES FOX, OF ANN ARBOR, MICHIGAN.

Mr. President, and Gentlemen:—It is with no little diffidence that I rise to speak on the subject of Agricultural Improvement, to the audience which I see before me. I dare not measure myself with the experience, knowledge, and skill of those whose names have become familiar words through the length and breadth of this great country, as promoters and improvers in that Art, which has given America her power, and enabled her, even at this early day, to feed the world, and to snatch a numerous people from the very jaws of famine. But I know that the same desires which have brought you here to-day, with so patriotic a motive, will prompt you to overlook my deficiencies; the more especially when I assure you that my heart is earnestly with you in your work; and that I look upon such meetings as tending not only to ennoble our common pursuit—to render more profitable the sweat of our brows, but to raise up, with the lever of knowledge, the great mass of the American mind from its present level, to that position which is rightfully the due of a nation of free-men and of farmers.

In this annual Congress of Agriculture, there is much more than the surface shows. Your labors tend not only to improve an art, but to improve the mind,—not only to add to our temporal riches, but to the riches of knowledge and wisdom,—not only to render the earth fruitful of grain, but the popular mind fruitful in resources; you are not only exalting agriculture, but you will exalt the position, character and influence of the land-owners and voters of our country—in one word, of the country itself.

I must therefore beg your lenient consideration, while I endeavor to add my mite to the treasures around me.

On this occasion, I will venture to call your attention to that often-told tale, the necessity of Agricultural Instruction,—the demand which should, but which unfortunately does not practically exist, for a higher education for the sons of farmers, in general. This, I conceive, lies at the very root of your endeavors; it is the one great object which, at present, you are striving to attain; without which, all else you can accomplish will but die an untimely death, and, like the apple-tree, planted in a small hole, in a wet soil, your Society may wear out a lingering life, and be forever destitute of wholesome fruit. For what effect can your teachings produce upon a mind incapable of comprehending them?—what motives for advancement and improvement can you offer to hearts that are content to remain as now they are, and never sigh for the green fields beyond the swelling flood, because, with their darkened senses, they can neither see nor hear of them? The first step, which a man makes towards advancement, is when he becomes discontented with himself and his relative position. The first gleam of light gives the sense of darkness. There are arts and professions, wherein men are driven to energetic labor by poverty; but the American farmer has the command of every sober luxury; he desires no more. There are positions, where envy, jealousy and emulation are the hardest task-masters; but the American farmer is a most contented, charitable, kind-hearted man. He is impenetrable to mortal weapon, but in one spot. Take him in his youth, place him in a college, and show him what the mind of man has done and is doing,—cause him to understand the great principles, the philosophy of his profession, and you have made a breach in the walls cemented by centuries of unconcern; you lead him henceforth by no petty mercenary motive, but by the love of knowledge, by the desire implanted in every human mind,—the great motives of curiosity, and pleasure in discovering what others have failed to discover.

Place one thoroughly educated farmer, educated in hand and mind and heart, with muscles of his body and the muscles of his intellect harmoniously trained—place such an one in an ordinary agricultural community, and you electrify the

whole. No man will then sit down contented, as of old. If too many years have passed their wings over his brow, he is determined that his son at home shall take up the gauntlet thus cast down: and thus, a little leaven will leaven the whole lump. But leave us as we now are, to pick up an imperfect traditionary knowledge of our art, any how we may, with no principles to direct, and no power to understand the words of science, and how will you proceed.

For five thousand years, have farmers formed the majority of the world; for eighteen centuries have they proved the weakest and of least account; for two centuries, the world of all other arts and sciences, but ours, has gone onwards and upwards: yet we stand where our grandfathers did, and as they did, with theirs. Books after books have been written—appeals most earnest have been made—general instruction has become common; but still, as farmers, we make but little progress. We have tried all things—but ONE, and that is PROFESSIONAL EDUCATION, and on that one hangs all our hopes.

In order that we may form a clearly defined idea of what is wanting, allow me to state what appears to be the existing condition of things among our agricultural population. And I am the more anxious to call your attention to this point, persuaded, as I am, that those who have enjoyed superior advantages, or have made more than usual progress in knowledge, are too apt to place the popular standard of information too high. I do not say this without just grounds, nor without a wide investigation. I do not say it in any spirit of detraction; but because I believe that there is more or less misunderstanding between the two classes of farmers, (if I may so call them,) which leads to injurious results, and prevents the one class from uniting and sympathizing with the other.

Gentlemen, I am not fond of separating men into classes. I do not use the word in the popular, but in the scientific sense, and when I make use of it here, I mean by it, what in common parlance are called Book Farmers and Practical Farmers—admitting for the moment the existing prejudice which thus classifies us, and the existence of which prejudice, as a great fact, we cannot deny.

In the United States, we have the workers of the soil, formed of many nations, and of many degrees of capability; almost worshipping the word "*practical*," content with moderate success, and not anxious to make any changes. And we have a still comparatively small, but a daily increasing class of farmers, who are *not* contented to be as they are; who place before their minds a standard of perfectness, which they strive to attain;—men who study scientific works; reflect on them, and, what is more, *act on them*;—men who introduce mechanical improvements; import superior stock, and try new grains;—men who honor and love their profession with all their hearts, and who are found at the head of our Agricultural Societies, and Progressive Institutions—who advocate professional education, and who are never weary of climbing the rugged hills of knowledge,—who take "*Excelsior*" for their battle-cry.

That the Agriculturists of the United States may be thus broadly distinguished, without any invidious feelings, I think you will all agree. Upon the latter and the smaller division, rests, under Providence, the burden of assisting and invigorating the larger body; and I repeat my belief, that neither class understands nor sympathizes with the other, as they might do; and thence, if not contention, at least unconcern; if not bitterness, at least jealousy, are too apt to prevail. There is an antagonism in position which prevents the minority extending their full intellectual influence, and serves to repel rather than unite. And yet, I am quite sure that on your part, gentlemen, as the representatives of the intellect of American Agriculture, there is no other feeling than an earnest desire to accomplish all the good you can. It is but a repetition of the old, old truth, that one half the world know not how the other half lives; that men exist in parties, and are separated, as by a wall of fog, from their fellow-men: and I believe that little more is necessary to work a great change than the calling to your attention the existence of such a fact. It is true strength, which never hesitates to bow down to the weak. Pardon me, if am but repeating an idea already familiar to you. It has not long been familiar to myself, and yet to

the existence of this apparently trivial circumstance, it seems to me that very many of the difficulties with which we have hitherto contended, are owing.

I lay it down then as an axiom, that the Reformers, the advanced guard of the agricultural army, do not sufficiently take into consideration the intellectual deficiencies of their brother agriculturists, and therefore fail to gain sympathy or arouse energetic action in their favor.

The true American farmer is a man of good plain education, of much general intelligence and shrewdness, deliberate and calm in judgment, and yet not without a trusting and believing heart, which sometimes makes him the victim of the dishonest pretender. He is hospitable; in proportion to his means, he is liberal; yet he knows the value of every dollar he possesses. He is endowed with remarkable persevering patience; he is not only habitually industrious, but he works fast and constantly, for his heart is in the matter. Compared with other nations, he is peculiarly capable of being his own master; of forming his own plans; of laying down a system of duty which he obeys without hesitation, as the laws of his existence. He is not readily led astray; and having once chosen an object of pursuit, he is tied to it by bands of steel. Place him in the West—in a situation entirely novel, with nothing but his own right arm and clear head to depend on, and he is most fertile in resources. The densest forests frighten him not: chip by chip the trees fall and disappear; inch by inch he fights his way. He is eminently, above all men in the world, the cheerful, hoping, persevering conqueror of unsubdued nature. In his social positions, the same calm, steady character predominates. He respects religion, but he shows it more in the uprightness of his life than in his conversation. Next to his church he loves the school-house; and in a new country, he never feels easy till he sees both rising beside him, whatever personal sacrifices they may have cost him. In all town and county offices he is conscientious, honest, and straightforward; and he not only understands the theory of self-government, but he is capable of organizing and conducting a miniature republic with ability and consistency. He is fond of comforts, but he is independent of luxuries. However

much he may have prospered, he rarely indulges in the prevailing fashions and follies of the day, either in his person, his house, or style of living; and if occasionally he relaxes in his stern republicanism, it is in favor of his daughter, or to place a son who has left the paternal acres for city life.

But it is necessary to add certain dark shades to complete the picture. His solitary position — solitary when compared with city life — produces a positive effect upon his character. At the best, we are but the children of circumstances. The professional man, the merchant, the mechanic, in fact all who live in large communities, are driven forwards, and, intellectually, upwards, by direct and indirect competition, by constant intercourse with others, and by the tear and wear of earnest life. In consequence, the city man is characterized by rapidity, both of action and thought, by an ever readiness to seize on novelties, by polish of manner and appearance, by boldness and self-reliance. Like the pebble in the brook, his sharp corners are worn off and his resting-place is but temporary. But the farmer lives alone: his social intercourse is quiet and circumscribed. His thoughts are regulated by the fixed laws of nature, and progress becomes a matter of difficulty. Wanting in no comforts, he has no inward impulse to improvement. Rarely meeting with superiors, never with the clash of intellect, no outward force drives him forwards; and his quiet, happy and useful life is passed in self-communion, or in a wandering recognition of the ten thousand objects which nature presents to his view. So occupied are the eyes, and the outward senses, that the mind is not driven in upon itself for amusement; and as has been observed, while the mechanic, confined to some solitary and monotonous trade, is compelled to think in order to live, the farmer, with ten thousand varying objects to examine, passes them unheeded and unknown. In the words of the poet, —

“He wanders on unknowing what he sought,
And whistles as he goes, for want of thought.”

A shrinking from novelties, an instinctive dislike to be put out of his old ways — a suspicion of that which he has not seen and proved — a still greater suspicion of what he cannot

understand—a proud bashfulness which keeps him to himself—a clannish spirit which causes him to avoid city life—and a timid distrusting of his own powers which prevents his competing intellectually with strangers, and which at last degenerates into a morbid dislike of men of other pursuits—a sensitiveness to ridicule, and yet a prevailing tendency to ridicule any brother farmer who is pushing ahead, or striving after a better education, all mingle with the finer traits of character. I must say, however, that the darker hues are merely on the surface: the good not only greatly prevails, but is ingrained. It has been my lot to travel in many countries, and to mix with men of all characters and professions, and I know not a single class of men, who exhibit a finer character, with more that is intrinsically excellent, than the true American Farmer; and I am fully convinced, that you will no where find so much general intelligence, and such sound judgments among men of all other professions, who have only enjoyed the same educational advantages. Considering the farmer as a man and a citizen, he wears the worst part of his character outwards; to admire him as he deserves, you must know him well; but to know him well is to love him.

But considering the Farmer strictly in his professional aspect, there are other traits which peculiarly distinguish him, and it is to these that I especially direct your attention. When we speak of such peculiarities, our judgment is necessarily a comparative one; positive certainty is not only out of the question, but a wide margin must be left for both individual peculiarity and local circumstances. Yet, as we usually attribute courage to a soldier, or rough manliness to a sailor, while there may be cowardly soldiers, and sailors of highly polished manners, so may we attribute a character to the great body of our farmers—one which is scarcely accurate as it respects the individual, but which yet faithfully distinguishes the class.

The most remarkable trait which strikes the investigator, is a want of *esprit du corps*. Farmers do not join together to sustain each other. They feel few or no interests in common; they are the bundle of sticks of the Fable, with the bands

severed. Until Agricultural Societies became the fashion, this was most conspicuous. Nay, I have been assured that the first attempt to establish such a Society in New York many years ago, failed chiefly from personal jealousy, and private antagonism among the members. When they came together to form an united Society, they were still *individuals*:—they could not melt into one harmonious conglomerate. We hear of the Bar, of the Boards of Trade, of Change, of Literary and National Associations; Printers have their Societies and laws, uniting them in every town and village; Mechanics have their Unions; the New Englander has his Pilgrim's Day: but what have Farmers?—where, when, or how do they unite to strengthen themselves, to improve themselves, to make their influence felt either practically or otherwise?—to introduce new implements and stock, etc.? Though the soil he tills, the grain he gathers in, the wool he clips, all teach him that union is power, and nature is never weary of proclaiming to him that the mightiest powers are but combinations of small and trivial units, yet, so far, he has failed to learn this lesson in his own social relations. Perhaps you point to our now numerous Agricultural Societies; but need I affirm that these very Societies are a proof of what I am saying? What are they but a dozen or so of the minority providing a show for the majority, which majority feel no more direct personal interest in the matter, than the Indian, who, gazing at the jeweller's window, feels a desire to attain the civilization of which the gorgeous objects he views are proofs?

While manufacturers have long joined together for mutual benefit, what have farmers done? While the comparatively small class, the inventors and patentees of machinery have added one of the noblest buildings to this already noble city, what march have farmers made?—what monument have they, as agriculturists, created? The preponderating majority of our voters are farmers. The preponderating majority of the members of our State Legislatures are farmers: and yet, can you tell me one single step which these legislatures have ever spontaneously taken for the intellectual or moral advancement of farmers, as such? Our schools and colleges are the glory

of our land ; every class is provided with some opportunity of professional instruction ; but where is the Farmer's College ? Let New York, and the shade of the lamented Delafield, answer.

Still further : when compared with other men, do not our agriculturists manifest a want of pride in their profession ? I fail to express in words what I mean. I appeal to your own feelings, for a definition of the term "professional pride." It is something beyond the mere *profit* of business ; it is higher than the mere calculating the number of dollars so much labor will produce. It is the poetry of existence — a golden mantle cast around decayed mortality. It upheaves labor from the mere catagory of plodding toil ; it purifies it from the contamination of time. A worker, with an earnest pride in his work, is no longer of the earth earthy. It is shown in many ways : by a struggle to improve, to go onwards, to excel. The business we love, we do much to honor. The farmer, with professional pride, has the best buildings, the neatest fences, the most select orchard his means will allow, whether they pay him or not. In his stables you will find the finest horses, in his pastures the purest stock, in his granary the choicest seeds, harvested and stored in the most approved manner. In his tool-house are the latest inventions ; his fields will be worked with skill ; and the master mind will be every where conspicuous. Such farmers we do have ; and I am glad to believe that the number is rapidly on the increase ; but I ask you candidly, are they not the exception, not the rule ?

Another striking peculiarity, especially brought to light by the last census, is the tendency of the sons of farmers to forsake their father's business, and crowd to cities : a tendency which may be ascribed to the want of professional pride which we have just mentioned. "Bring up a child in the way in which he should go, and when he is old he will not depart from it," is a maxim too strongly established in human nature to be doubted : and did farmers endeavor to turn the attention of their sons to agriculture, I cannot believe that we should see so remarkable a change. How it is in the older States, I can only judge by report, or statistical facts ; but so far as it has

come under my own observation, it seems to me as if there were a desire among parents to drive their sons from country life. If a boy shows any remarkable ability, he must be a lawyer, or a physician, or a minister, or at least, a merchant. A heavy stupid boy may be retained at home to do the chores and hold the plow; if he masters the elements of reading, writing and arithmetic, it is supposed to be all he needs, while his more highly gifted brother enjoys every educational advantage, and a few years open wide the chasm which is thus begun between the two. At the end of ten years, they are essentially different men in standing, feeling, thoughts, manners, and position; and when uncle John deigns to visit the old homestead, he becomes the envy and admiration of a new generation of candidates for city life. And thus, not only is there an ever increasing tendency to degrade the requirements necessary for the agriculturist; but those who should be an honor to our profession, are taken from us, and go to increase the antagonistic forces.

But what is the most remarkable part of the whole, is the great and prevailing lack of accurate professional knowledge among those who especially claim to be *practical* men. We look upon it as a very peculiar metaphorical phenomenon. Here we have a large body of truly intelligent persons, all capable of reading — probably all readers; in ordinary affairs and in ordinary knowledge they compare most favorably indeed with the farmers of any other country in the world. As citizens, they are all we can wish or expect them to be; and personally they cherish and sustain the interests of popular education.

Gentlemen, the farmers of Michigan are the sons of New England and New York, with a fair representation of many other States. Whether the wholesome influences of a new country may have expanded their powers, ripened their judgments, and enlarged their minds, I know not and I ask not; but this I do know, that they are a class of men who are, in every particular, an honor to their country. And yet how very few of them are able to give a certain answer to the plainest problems of agriculture. The theory and effect of

thorough draining ; the proper depth of plowing, under various circumstances ; the time requisite to plow a field of a given size ; the best quality of seed to use ; the comparative effect of different manures ; the cause of the soil being less productive than formerly ; the best mode of using plaster ; the nutritive power of different fodder, grain and root plants ; the per centage of water contained in each ; the philosophy of feeding cut or cooked food ; the amount of grain necessary to fatten a hog or an ox ; the cheapest mode of doing this ; the profit any one crop pays ; the mode of keeping farm accounts ; to say nothing of carefully conducted experiments — so necessary in a new country — with a thousand other particulars a *positive* knowledge of which is requisite to place us on a level with the manufacturer, or the chemist, how few can solve.

What is our farming ? Hitching a team to a plow ; turning over the earth without fixed rule or calculation ; casting in seed in untested quantity, and burying it at unknown depths ; harvesting and selling. Or if stock is our department, what is it but providing grass and hay, and telling the animal eat all it can, without inquiring the cost, while the animal is itself the product of chance, and not of science or cultivation ?

It is my duty, as it is my pleasure, to read the greater number of our agricultural papers ; and it is a constant source of surprise to me to observe at this latter day the extraordinary want of knowledge of the practice of agriculture among those who are eminently practical men — an ignorance of those facts which constitute the very alphabet of the art ; while *certainty* on *any* point — that certainty which well directed experiments and observations alone can confer, may be looked for wholly in vain. In illustration, I take at random a late number of an agricultural journal, one of the largest and oldest, and deservedly considered one of the best in the country, circulating among a population remarkable for its ability, that of Massachusetts ; one person asks, “ how many bushels of cob-meal are equivalent to one ton of hay, or clear meal, or how many bushels of oat-meal are equivalent to the same ; ” and the editor answers that he knows of no persons in New England capable of answering the above questions from exper-

iments under his own supervision. Another asks for the best mode to destroy Canada Thistles, and the best time to sow plaster on pasture lands. Three or four practical men are disputing whether turnips are good food for pigs, the real state of the case being quite unknown, although more or less tried; and there is a flat contradiction between two editors as to how muck and lime should be used; with several other mooted points. But there is no harm in practical men asking such questions, if they are ignorant of the case; but certainly the question will intrude — “How is it that at this late day, with our millions of pages of able agricultural writings in constant circulation among an educated community — how is it that scarcely a fact is positively ascertained by those whose lives have been spent in the practice of the art?” What would be thought of the calico printer, or of the manufacturing chemist, if they were equally ignorant of their dyes and chemicals; and yet I have no reason to believe, that in *general* knowledge they are more intelligent than farmers.

In connection with this remarkable absence of all positive knowledge, there is a strong dislike in the minds of our practical men, to what they call science. To you, gentlemen, I need not say, that true science is merely facts accumulated and reasoned on, so that general principles are deduced. True science owes its birth to Lord Bacon. Before his day, there was none; but he taught us that the foundation of all *general* knowledge is *scientific* knowledge; and the man of science is distinguished from the man of art, as the Doctor is distinguished from the Empiric — the former having an accumulation of facts from which he reasons, the latter possessing only isolated and disjointed truths. But in the minds of practical farmers, science looms large and dread in the fog of misunderstanding; and with many, a writing is self-condemned if it professes to seek the aid of science in the art of agriculture. Moliere, in one of his comedies, depicts the surprise of an individual on learning that he had been speaking prose all his life without knowing it. So it is with our best practical farmers: all that is good in their practice, they owe to science, either the science of others or the science of their own minds, their own reason-

ing, or well deserved facts. That farming can be improved without science, a long experience should now have taught us to be impossible. If the old way were an efficient way, why are we now stranded on the bare rocks of ignorance, asking to-day with equal uncertainty the very questions our great-grandfathers asked a century ago.

Now, gentlemen, I might proceed to show how melancholy is the result of this state of things, how the very fate of our country hangs wavering in the balance, and how in the older States the descent is rapid, as it is easy from nitrogenous grains, as the food of man, to carbonaceous grains as the food of animals, and thence to carbon and silex-grass plants for the production of meat, cheese and butter for distant city communities, with all the attendant evils of a sparse population and a pastoral state of society. But not to detain you unreasonably, and not to mourn helplessly over the past, but to look cheerfully and energetically to the future, allow me to ask what is the only remedy? We are living at a late period in the world, and history tells us that farmers have tried everything but one,—and that one is a strict Professional Education. Time will not allow me to enter fully on this aspect of the subject, but let me remark that education is general and professional, and that the former is very far beneath the latter in value. The one is the philosophy of Aristotle, the other that of Bacon; the one is of the past, the other of the present. The one adapts the man for a general indefinite utility, the other for direct productive utility. We occasionally see arrive upon our shores from Europe, cast here by the tide of immigration, a gentleman of high general education, but impoverished, and compelled to gain his bread by his own labor. How wholly useless does he find himself even by the side of the uninstructed Irishman. The latter can, at least, dig, and he is wanted on our railroads; the other can do nothing that the community will pay for. All our professional men enjoy a distinct professional education,—our mechanics serve their apprenticeships. It is only those who earn their bread by the brute force of their bodies, who do not require a distinct training. Farmers are the only exception to the rule. The only practical education they receive is the

handling of tools, of simple tools, for few understand mechanical combination, and by such a course they place themselves on a level with the hand-workers, instead of the mind-workers of the world. But, I need proceed no further herein, for I am sure that you agree with me that the only remedy for the present evils which we so deeply deplore is Professional Education.

How then is this to be attained? If I am not much mistaken, the prevailing idea on this subject is that in order to instruct Farmers in the art of Agriculture, we must have an institution entirely devoted to this one subject, and that in connection with theoretical lectures, we must of necessity also possess a model farm where the students can learn the mechanical and manual labor portion of their business. So completely has this idea taken possession of the public mind that it appears to have prevented all efforts in any other direction. But the consequence of fixing on this one form of instruction has so far been that nothing has been accomplished. We all know how anxiously, and with what self-denial the late Mr. Delafield and his friends labored in what is justly termed "the Empire State" to influence the Legislature to establish such an institution, but in vain; and how at last, incited by Mr. Delafield's enthusiasm, many private individuals united to try the experiment, but death deprived us of his useful labors, and nothing but disappointment remains behind.

Against such an institution I have nothing to say. I most ardently wish that it was in full and successful operation; but I must state that I am exceedingly doubtful whether it is at all adapted for general acceptance throughout our country at the present time. The doubts which my investigations have aroused may be stated in few words. 1. That the sons of farmers are rarely able, if willing, to devote a great length of time to such instruction. 2. That it would be impossible, in our state of society to compel young men to work on the farm without directly remunerating them. They will attend lectures and receive instruction, because all the benefit reverts to themselves; but they will not test with their bodies for the benefit of others. 3. That there is a practical difficulty in finding the

proper men to conduct such an institution. The President, the Professors, the analytical Chemist must be scientific Agriculturists; and the farm must be worked by a practical farmer, willing and able strictly to follow every regulation given him by the President. One or two institutions in our older States might have the good fortune to meet with men fully qualified to work harmoniously together; but my own private opinion is, and for practical purposes I have given the subject my most earnest attention, that under the present circumstances such an institution is unfitted for us, because we could not carry it out so as to render it valuable. The coldness and unconcern around us, and the many practical and pecuniary difficulties in the way have entirely disheartened me in any attempt to copy the German, French, and English Agronomic Institutions. Under these circumstances, my mind reverted, as I may say, to first principles, and I asked myself what is the great difficulty in the way of general improvement? I was obliged to answer, "an ignorance of better things before us." Scientific knowledge is despised because it is not understood. Men neglect science because they do not perceive its direct connection with art. They will not study chemistry or meteorology, because they do not understand what bearing they can have on the profitable working of a farm. In one word,—I believe the prevailing need is to imbue the popular mind with general principles, and until we do this we shall not arouse a demand for further instruction.

Instead, therefore, of beginning with a college and model farm, I would begin with our Normal and District Schools. I would attack the evil at its very origin. I would teach our little children, the *hard words* used in Agriculture, for in such a case words are things, and thousand of farmers are discouraged in reading scientific books, because they cannot understand the terms used. Then I would proceed to the more general principles, of the composition of soils and plants, and so forth, and if a student made no further progress at school we have gained a vast advantage. We have given him the power of understanding,—we have taught him the language of science, and we have afforded him such an insight into the

utility of theoretical knowledge, that he cannot fail to respect it, and probably take other means of improving himself hereafter. When I first began to edit an agricultural paper, I used such scientific terms as are common in Liebig and Johnston; but I soon received letters from intelligent men in all parts of the State assuring me that the great proportion of the farmers did not understand what I meant; and I became thoroughly convinced that a want of knowledge of *words* at present stands, as a lion in our path. So has it been with my agricultural lectures. I have found the greatest difficulty in making the simplest general principles understood, because there had been no previous instruction; and during the last winter, I found it advisable to meet such young men as were most anxious to improve, very intelligent young farmers too,—in order that I might explain to them the alphabet of knowledge. Then, and not till then, I believe we shall find no difficulty in filling classes at the educational institutions already established, with young men seeking wider and profounder instruction. To the knowledge demanded by Agriculture, there is no limit,—when I mention chemistry, meteorology, mechanics, surveying, botany, vegetable and animal physiology, a knowledge of medicine and surgery, together with book-keeping, I only state a tythe of what an educated farmer ought to understand well, that his art may pay him well. I am aware of the high esteem in which the manual operations of a farm are held—an esteem which causes the demand for such a model farm in connection with a college; and causes also contempt of mere theoretical instruction. But, I believe this esteem to be much exaggerated. It is the smallest portion of the whole, that which can be learned by any one. We see in Europe, that the most skilful plowmen and sowers are often the most grossly ignorant in other respects. Such manual dexterity is but the fruit of constant application. We suppose that pupils of agriculture are brought up on a farm and return to a farm. If so, as boys and men they acquire this dexterity; and what else they need to know in this connection—the depth and best mode to plow, the varying principles proper for the working of various soils, the best modes of dragging, sowing, &c., can be taught in the lecture room as well as not.

What, then, I wish to impress upon your attention, gentlemen, (and I trust that you may be led to act on), is the necessity in this day of small things, of beginning with small things. If your Society could succeed in introducing efficient instruction of the elements of agriculture, first into your Normal schools, thence into the district schools, thence into the higher institutions of education, and finally into our colleges, with appropriate museums of grains, grasses, and models of implements, with field lectures upon neighboring farms, I believe all our difficulties would be overcome; and then we might, with every hope of success, have our own colleges, with experimental farms on all sides of us. In fact, as we are at present acting, we are controverting the experience of all ages. Reading begins with the alphabet, Algebra with the Addition table. Doctors and lawyers spend years in the *theory* of their arts before they proceed to practice. Why should not the farmer perfect himself in the theory of agriculture before *he* learns the practice? I feel the fullest confidence in the ultimate success of such a plan. It is not skilful practice which we now need. It is scientific knowledge; and in truth, the late great improvements of agricultural mechanics threaten before long to reduce farming to a mere scientific art, all the manual operations being performed by machinery; and the mere mechanical farmer will rank with the driver of a locomotive engine.

Gentlemen, our professions teach us the value of little things—two or three invisible gases, and two per cent. of soluble salts in the soil make our fields of wheat. Our millions of bushels of wheat are composed of very small grains uniting. Particle by particle the grass is turned to meat and wool. Our richest marls, our densest rocks are but microscopic infusoria. Agriculture is but the study and employment of minute means for great ends. In education then let us assume the same principles. In our Rural School Districts let the child learn farming in company with the perpetual reading, writing, and arithmetic, and depend on it the boy will soon demand the same in his college. The fathers may stand still—I have known fathers themselves farmers, refuse to allow their sons to study agriculture. But the great probability is that the knowledge of

the children would react upon the parents. By these means we assure ourselves of a great demand for agricultural instruction in ten or fifteen years, if not sooner. With our present plans, how hopeless is the prospect. At the same time, I beg you not to suppose that I am opposed to strictly agricultural colleges. If we *can* have them now, no one would more sincerely rejoice; nay, I would go further, and demand from our State Governments, farms where the best kinds of stock might be raised, the produce to be sold at a low price, and where experiments might be made, suitable to the various soils and climates of this country: but at present I am hopeless of any other means than these I have mentioned.

Gentlemen, allow me to remind you that you are not only a Society, but individuals, and in your individual characters you can accomplish much in your own districts and States. I see labors and disappointments enough in introducing agricultural instruction even in this way. But I believe they are inferior to any other modes; and as we shall act upon a vastly increased number of minds, so is the final hope of success the greater, and it is not the labor of accomplishing a great work which intimidates a wise man, but the doubt of its finally succeeding. Besides you can exert your influence in dispelling the many prejudices existing on the subject; and in inducing young men to attend the few collegiate institutions where such lectures are now delivered.

CULTIVATION OF COLZA OR RAPE SEED.

TRANSLATION OF AN ARTICLE OF M. BOSCH,—FURNISHED BY LIEUT. THORNTON
A. JENKINS, U. S. NAVY, AND SECRETARY LIGHT HOUSE BOARD.

COLSAT, OR COLZA: BRASSICA, OLERACLA. — This name is commonly given to a variety of cabbage, the least removed from the type of the species, and cultivated principally for its seed, which furnishes an oil valuable in the Arts. It is known by its radical leaves, which are petiolated, sinuated or slightly incised — sometimes even pinnated at their base — and by its cauline or head leaves, which are sessile and cordiform. Both sets, smooth, and of a yellowish-green color, vary often in size, but are always smaller than in other varieties.

There are two sub-varieties of Colza: 1st., with white leaves; 2nd., with yellow leaves. These latter are larger, thicker, and more patient of winter than the former, and the plant that bears them is therefore cultivated in preference.

Such cultivation cannot be carried on in all localities, some of which are entirely unsuitable. In France it is only pursued, to some extent, in the plains of what was formerly Flanders. It would be uselessly attempted in the Southern Departments, where there are often prolonged droughts, and where water for irrigation is scanty. The character of the soil must be above all considered. In a sandy soil, the stem of the plant is weak, and the grains small; amid clays, it vegetates slowly, turns yellow soon, and yields but little oil. An intermediate soil, a loam, light and rich, (i. e. the best wheat land,) is the only one that properly suits it; and such a soil must have a good depth, and requires to be well worked and highly manured.

Sown broadcast in the field, it furnishes, in the spring, a green crop for use ; and in this respect, it is very advantageous in many circumstances : still for this even, other varieties of cabbage are preferable. It may be profitably seeded, too, in order to being turned under when in flower.

In some districts, Colza is cultivated like Rape, i. e. sown broadcast at once in the field ; but experience has shown, that the best method is to sow first in a bed, and then plant as other cabbage.

Ground intended for seeding Colza, is generally chosen in the neighborhood of the dwelling, so as to be able to take more regular care of the operations which it requires. It is worked with the spade better than with the plough, and it must be manured in proportion to its natural poverty, or the exhaustion from previous crops ; its surface, made as even as possible by harrowing and rolling, is divided into squares of four or five feet, separated by furrows or tracks, a foot wide.

Seeding is generally done in July. The grain should be put in as uniformly as possible, and in small quantity, so that the plants should not grow up too crowded. The plants after they come up, are watered in a drought, and are thinned and weeded as may be necessary.

In England, where good farmers have generally adopted the method of seeding in ranges or furrows, a similar method is followed with Colza, i. e. little furrows, six or eight inches apart, are made with the awk end of the rake, and the seed is dropped in by pinches, and covered up with a stroke of the rake.

While the plants are growing in the Colza bed, the ground intended for planting is being prepared.

The field for it is almost always one which has borne wheat that season : there is always profit in manuring afresh, though this is often omitted. The manure should be ploughed in first, a little after wheat harvest ; a second ploughing should follow in the first half of September ; and a third, some time in October. The ploughing should be as deep as convenient, and crossed, in order to break up the soil more.

It is probable that salt employed in its cultivation would hasten the vegetation, as it does that of flax and hemp.

A single spading would supply the place of the three ploughings, but the expense of it does not allow it except on small plantations worked by the proprietor or the tenant by his own labor and that of his family—labor, which happily for agriculture is counted for nothing—otherwise many operations would go undone, did we calculate beforehand the trouble they cost, and the money they return.

In all cases the land should be laid in raised beds in order to discharge surplus water ; and little drains should be made with the same view, if the nature of the soil and the lay of the land require them.

The month of October is the most proper for transplanting colza. Weather cloudy, and a little showery should be chosen that the plants may take more readily. The plants are removed from the seed bed, not by hand pulling, but with a mattock, handling the roots and leaves with the utmost care, and are carried in baskets to the field.

The best form for the plantation is a quincunx (*i. e.* parallel rows breaking joint alternately) fifteen to eighteen inches apart, and they should be set in with a mattock rather too deep than too shallow ; for what is called *the stem*, in cabbages, is only the prolongation of the root, and this prolongation being susceptible of throwing out new fibrils, the plant is better nourished.

If necessary to plant quickly, one person makes the holes and another puts in the plant and covers up, not pressing the earth too much around the roots, for that both constrains the position of the plant and embarrasses the root fiber.

In November if the weather allows, plants that have not taken are replaced ; as this operation is performed till early next spring. Either way a proportionate number of plants is always reserved in the seed bed for this purpose.

Planting colza with the plough is so easy and economical that it is astonishing this method is not more generally practiced. The only inconvenience with it is, that the plant does not always set straight, but it becomes so ; and whether much or little leaning, it can be brought up with a short prop.

The plantation is touched no more until March, or even

April, according to the season. Then it is hoed and the stalk is ridged or hilled. The drains, if there are any, are cleaned out, and the earth from them is thrown on the ridges. In May a second hoeing is given like the former.

In the northern departments of France where colza is much raised, its grain is generally ripe towards the end of July. More to the southward it may be a month earlier. The state of the weather also concurs to advance or retard the epoch of its maturity. When it should be gathered is known by the yellowness of the stalk and the falling of the lower leaves. As the greatest quantity and best quality of the oil result from perfect ripeness, and as when the seed is left to ripen on the stalk, a good deal must be lost, the skill of the cultivator is in choosing the proper time for balancing between these two.

When from being too late in gathering, or from some accident, the grain has been scattered, some amends may be had by harrowing it in, thus furnishing an abundant pasture, or at least a vegetable manure.

The stalks of colza when the grain is ripe, is cut with a sickle close to the ground. Morning is best for this, in order that the shakings, which in spite of all care the cutting will occasion, may cause the least loss—the pods swelled by the dampness of night, having then less tendency to open. The stalks are placed in a cart, and conveyed to large barracks, whose floor is close and clean, where they are laid in heaps, but without being pressed so as to allow, in fact, a circulation of air around the branches. There the seed continue to ripen from the sap which remains in the stem and which evaporates very slowly.

Where there is no barrack for the purpose, ricks are made in the field itself on some convenient place with the cabbage heads and straw in alternating layers. The tops and sides of these ricks are then thatched with straw so as to keep off the rain.

When the stacks are perfectly dried, they are threshed either on the barn floor, or on a treading floor made in the field in order to separate the seed from the pod, an operation very easy and very rapid. The grain is then winnowed as wheat is, sifted and cleaned by all possible means from foreign substances,

for the cleaner it is, the less it attracts moisture, and consequently the sounder it keeps.

As the grain, although coming from stocks perfectly dry, (which is however not always attended to) contains still a superabundance of moisture, it is good to spread it for several days upon sheets, turning it over often in order to hasten the expulsion of the moisture. Then it is put in sacks, which must be emptied and refilled every fortnight, until it is carried to the mill.

With these precautions the grain is kept without moulding or heating, and yields abundance of oil of excellent quality.

When the grain is pressed too soon, it yields less oil and of inferior grade. When the pressing is put off too late, there is still a less yield, and the oil is rancid. In the first instance the mucilage has not had time to become transformed into oil; in the second, the grains themselves become more or less decayed, or spoil in some other manner.

The beginning of winter before the heavy frosts is ordinarily the time for expressing the oil, and this is in fact the most favorable period in all respects.

The mode of expressing Colza Oil does not differ from that employed for other oil yielding grain.

The mass of the grain after expression of the oil is called *tourtean*, *trouille*, or *pain de trouille*. It is given to cattle, to cows and pigs, especially, who are very fond of it, and fatten rapidly on it, or it may be applied to the land which it helps almost as much as stable manure.

Every time a healthy leaf is pulled off from a vegetable, especially a vegetable which has leaves so few and so large as Colza, its growth is hurt, and therefore also its flowers and its fruit are injured. We cannot therefore recommend for imitation the practice in some places to strip the Colza leaves for food of cattle, or even men. If this is the object of the crop it would be much better to raise green cabbage, and some other varieties which have more leaves than the Colza, and from which those leaves can be better spared because they are all consumed before running to seed.

A variety of Colza, spring colza, is sown in the month of

May either broad cast or in furrows, or to be transplanted. Like all annuals in the same category, it yields fewer and smaller seed. It ought not therefore to be raised when it can be avoided.

It is manifest from what has been said, that the cultivation of Colza is a substantial benefit in districts where yet prevails the disastrous fashion of leaving ground in fallow, for it is planted after the wheat crop of one year and gathered before the seeding of the next. It ought to enter then into the rotation of all rich and moist lands. The hoeings which are necessary in this crop clears the ground of weeds and prepares it for the next crop. But as like all plants that furnish oil, it is very exhausting to land, it should not come in turn, but after a period of five or six years at least.

One principal advantage of introducing Colza into the rotation of crops is, that by planting it immediately after the wheat is cut off, the ground is then used before it has become dried, and also at a season when for the most part it would otherwise be bearing nothing.

CULTIVATION OF OIL-YIELDING PLANTS.

TRANSLATION OF AN ARTICLE OF PROF. SCHLIPF,—FURNISHED BY LIEUT.
THORNTON A. JENKINS, U. S. NAVY, AND SECRETARY LIGHT HOUSE BOARD.

THE following article on the culture of Rape or Colza is translated from Professor Schlipf's Manual of Husbandry for the People, 3d Edition, enlarged and improved. Rentlinger, 1847. 8vo.

Schlipf is (or was) the lecturer of the Royal Wirtemberg School of Agriculture at Hohenlinden, on or near the Nechar. The Manual in question was written for a competition founded at the association of German Agriculturists at Carlsruhe, in 1850, and obtained the prize.

OIL-YIELDING PLANTS. *Rape, Winter Rape, Cole-seed, Colza, Leevat.*(a)—The culture of Rape, Winter Rape, Cole-seed, and Colza, have been attended with remarkable advantages in the Districts where it has been introduced. It yields the earliest crops that give the farmer a money return; it furnishes him fodder at a season when it is ordinarily scarce; and its harvest occurs at a time when he is not usually over-pressed with other work.(b)

The Rape has many insect enemies especially hurtful, among which are the flea beetle, and the turnip butterfly.(c) The last appears at the period of blossoming and hinders the pods from forming.

SOIL AND EXPOSURE. — The Rape thrives principally upon a rich and deep soil, such as is suitable for Barley and Wheat, but more especially upon those which are mellow, marly, or calcareous. In a very light or a very stiff soil, it only succeeds by heavy manuring. In a wet land, such as peat and moor

grounds, it does not thrive at all. It answers in all the Districts of South Germany except on the bleak mountain sides. Unseasonable weather in spring, especially extreme changes from warm to cold in April and May, are very prejudicial. Very cold and raw north and east winds are likewise very injurious when the ground is not covered with snow. Standing water is very hurtful to the soil.

ROTATION OF CROPS.—Colza agrees well with every other growth and is especially good to precede winter grain when it has thriven well. The best fore crops for Rape are feed-rye, (*d*) feed-velcher, and clover, or those crops used for soiling, on the three field system. (*e*) It is sown usually in the summer field, so that it ripens for fallowing, (*f*) and the winter grain following it has then the advantage of a half fallowing. In a regular rotation ordinarily, feed-rye or feed-velcher precede it.

MANURING.—Colza requires a very heavily manured soil and more especially loves the more liquid muck. If the manure be applied immediately, the seed often ripens unequally. Therefore, it is better to manure the preceding crop. On the stiffer soils sheep dung especially is advantageous.

PREPARING THE SOIL.—Colza needs the utmost working and pulverization of soil, which it obtains very well from naked fallowing. After feed-rye, the ground can readily be prepared, and so too after clover, when only the first cutting has been taken. Industrious thorough plowing, harrowing, and rolling are never lost, and are especially necessary when the seed is sown with a machine.

DIFFERENT METHODS OF CULTIVATION.—Colza is raised in three different fashions, viz.: 1. Drilled or sown with a sowing machine, which has very many advantages over the others, for the drilled seed, better protected against wet and cold, leaves room for the possible workings to keep the ground freer and clearer of weeds. So too the proportionate yield is higher, for less seed is taken in machine sowing. They reckon 6 to 7 pounds per acre in Baden, 4 to 5 pounds in Hesse, and 5 to 6 pounds in Wirtemberg. (*g*) With the machine the Colza is seeded in the first half of August; often in many places already at the end of July; worked in the middle of Septem-

ber, with the horse hoe; and in October hilled once or twice with a hill plow. If seeded too thick, it must be thinned late in the year. The machine with one man can seed in a day from 6 to 7 pounds.

2. Broad cast seeding is done at the end of July or beginning of August. The ground must be lightly harrowed and the seed covered in. Some pounds more of seed is required for this than for machine seeding. Care must be taken to make the casts uniform, so that the plants may stand at the proper distances. Since the introduction of seeding machines broad cast sowing has gone very much out of vogue, as it is so often liable to injury in unfavorable winters.

For transplanting or planting, the seed must have been put in during the latter half of July. The field on which the rape is to be planted can be sufficiently prepared if it has borne, just before, a straw crop. One acre of rape beds will cover two to three acres of rape plants.

3. On large establishments the planting is done in the beginning of October with the plow, the plants having been drawn beforehand. A furrow is made, on the steep side of which the plants are set from four to six inches apart. This setting is done by eight or ten grown boys or girls who are stationed along the whole length of the furrow, each one having a certain distance to set in, and being supplied with the necessary number of plants. The plants thus set are covered in by the return furrow, along which there is then a fresh setting. If any of the plants fail of being properly covered, they must be attended to. The cost of planting is from \$1,37½ to \$1,50 per acre. On small plantations it is done with the spade and dibble, which is more costly, but often pays well.

THE HARVEST.

HARVESTING.—This occurs generally at the end of June, or first of July, and is commenced when the pods are brown, and half of the seeds are found to be of a dark brown color. The duration of the harvest in most years is very short, and therefore it is necessary to watch every day the grade of ripening. The cutting is regularly done with a sickle, and this

in the morning, so that but few grains may fall out. Every two handfuls are laid on the ground with the cut ends crossing and the pods spread out. These swaths are left in the field for some days, and after they are sufficiently dried are hauled in upon sheets spread in the wagon. In order that the seeds may not be wasted in loading, a long sheet is spread on the ground by the side of the wagon. The harvest women take up the swaths carefully, and lift them over this sheet upon the wooden pitch-forks of the loaders. In some parts of France colza is shocked in the field, the single swaths being laid in a circle, with the seed ends towards the centre, so that the diameter is double the length of the stalk. In building up the shocks which are made 5 or 6 feet high, this diameter is continually diminishing, so that the stalks require an inclination outward and downward. The shocks are left in this state until the seeds have fully dried, as is the case in 8 or 10 days. For hauling in, a sheet is laid by the side of the shock upon which it is tumbled with pitch forks. In some districts however, the seed is threshed out in the field. When hauled in it is left still some days on the barn floor, in order that the seeds may entirely ripen. After threshing, the seed partly mixed with husks and dust is left upon the floor, spread out then (2 to 4 inches high) and turned over at first twice a day, afterwards once a day until it is perfectly dried, which will be in 8 or 10 days.

YIELD. — This is very variable, being subject to divers contingencies. Drilled, sown or planted seed usually gives a higher yield than broadcast.

WEIGHTS AND PRODUCT IN OUR MEASURES.

| | Weight. | Oil yielded. | Oil Cake. |
|-----------------|-----------------------------------|---|---|
| Baden 1 bushel, | 54 $\frac{3}{8}$ 57 lbs. | 18 $\frac{1}{8}$ 20 $\frac{3}{4}$ lbs. | 31 $\frac{3}{5}$ 34 $\frac{3}{16}$ lbs. |
| Hesse do. | 54 $\frac{3}{8}$ lbs. | 19 $\frac{1}{4}$ 21 $\frac{1}{4}$ lbs. | 33 $\frac{3}{8}$ 36 $\frac{2}{5}$ lbs. |
| Wirtemb'g. do. | 49 $\frac{1}{5}$ 50 $\frac{1}{8}$ | 16 $\frac{3}{8}$ 19 $\frac{1}{16}$ lbs. | 29 $\frac{1}{2}$ 32 $\frac{1}{4}$ lbs. |

Summer Rape. — This crop is much more uncertain than the winter Rape, and ordinarily it is only tried to any extent when the latter has failed. It suits a light soil better, and succeeds upon black, muddy soils and dried ponds. It requires like the

other heavy manuring, well working and good weather are both necessary. The seed is put in by the end of April, and there is allowed to the Morgen a quarter semri of seed *i. e.* one-fifth bushell per acre. The yield is from 33 to 50 per cent. less than from the winter Rape. It is sold also at a somewhat lower price. It is often injured by the flea-beetle, or black-jack, the chafer and the plant lice, or aphides.

NOTES.

(a.) The synonyms are Schlipf's. Systematic Botanists distinguish between the Rape, *Brassica Napus*, and the Colza (*Kohlsaar* Germ.), which in *Brassica Compestris Oleifera*, and sometimes *B. Oleracea*. The distinction is easily marked in the young plant. The *B. Napus* being smooth leaved, while the *B. Compestris* is hispid. This latter yields about one third more oil, and is the plant cultivated on the continent of Europe. The former is the Rape, or Cole seed, sown principally in England. This distinction is for Light House purposes, well to be observed.

(b.) This is true for Germany, where the seasons are later than ours. In middle latitudes of the United States it is probable that the Rape harvest would occur about the first of June; which is just the time of being in the thick of working the corn. Its harvest fortunately however is quickly through.

(c.) The term used here for the German (literally) *ground-flea*, is the name given to the animal in New England. Probably, south of Mason's and Dixon's line it goes under the general name of *fly*. It is systematically classed among the *Halticida*, and the species most common here is the *Haltica Striolata*. Touching this insect and the means of its expulsion, Schlipf has given in another part of his Manual the following particulars:—

“Among the means of avoidance, which however are not always successful in preventing extensive devastations, the following deserve to be mentioned, *viz.* : Sprinkling quick lime, plaster, peat, ashes, slack coal, soot, brick dust, road-side dust, &c., early in the morning while the leaves are yet wet with the dew. Good results have attended a double seeding, the second being made to follow three to five days after the first. As the flea-beetles habitually resort to the youngest plants for their food, they of course attack the growth from the second seeding, and that from the first escapes. Cultivation in several adjoining fields will also lessen the damage in a single one. An early seeding in Spring is sometimes a protection. The flea-beetles can do the least harm when the plants have a rapid luxurious growth, so that the outer tissues harden themselves quickly, and the insect can make no more impression. For this behoof, the ground must be brought into a strong condition, and the soil by plowing, harrowing, and rolling so prepared that the plants may shoot up soon and lively.”

Schlipf then goes on to describe a machine which he says had been used in Hohenheim for some years with good results. This appears to consist of a

frame some twelve or fourteen feet long, and three feet wide, carrying boards smeared with tar against which the flea-beetles are caused to spring and then stick fast by the action of certain rods worked by the wheels on which the whole thing slowly moves, and whipping as it were the ground. The detail are only partially and somewhat illucidly given, but they do not seem very important.

The other insect mentioned (Glang Kaefer), is probably, as I have rendered it, the Turnip butterfly—*Pieris Nape*. As methods of resort against these, Schlipf indicates :

1. The shaking of the fly from the trees and killing it bodily, which can be done in the morning to a large extent.

2. The turning in of pigs upon the spots where the leaves are numerous.

3. Digging and plowing the ground if it has been in meadow before, or raking the soil and carefully gathering the leaves that are turned up ; then sowing Clover seed, or grass and rolling.

4. Gathering up the leaves after the plow.

5. Watering the spots in question when it is practicable.

6. Paring and burning the surface of the soil, for which he gives in still another part of the Manual some more particular specifications. If the ground for instance is even and free from stones and stumps, the paring is done with a suitable plow, taking up a sod of one-half to two inches thick. If the ground is uneven it is better done with a hoe. The clods are then piled in hollow heaps with a draft opening on one side. The heaps are about three feet in height, and as much nearly in the width. They are fired with any combustible rubbish, and the ashes of the pile are scattered then over the soil and harrowed in. The fire is regulated by the draft door and must be watched. The burning is generally done in the Spring.

7. Sparing the crows, rooks, magpies, &c., which are far more destructive of insects than of the grain, which they may disturb and pick up. The farmers' prejudice against these granivorous birds is less reasonably founded, than some other of their antipathies. There is reason to believe that such birds do not frequent fields, attracted by the grain, as much by the insect food they find. Loudon has already most emphatically and justly combated these prejudices, and says among other things very forcibly that while there are enormous devastation, and even entire destruction of crops from insects, it remains yet to find one in which any serious damage has been done by birds.

8. Finally the best remedy, says Schlipf quaintly enough is when nature has stepped in and killed the grubs with a hard deep frost.

(d.) What is translated here, feed-rye corresponds to the German *futterrogge*, and is supposed to explain itself; although not a term in our ordinary husbandry.

(e.) This term has to be translated literally ; for we have here no vernacular word for expressing a system, which coming down from the time of Charlemagne, is yet prevalent in Germany. In this the farm is divided into three fields, the word field not being taken here to mean necessarily a single self-contained enclosure. The fields or divisions are cleared into first winter crops, second summer crops, and third fallows. In this system there is no provision made for grass and hay, and therefore as the straw from the two crops will hardly hold out unless manure is imported on the farm, the land will in time be brought to a very poor condition.

(f.) The word fallow is used in several senses in agriculture. For instance it is an adjective, a substantive and a verb. Thus we speak of land "lying fallow," which means sometimes unseeded—sometimes unplowed, and at other times (metonymically) neglected, or in our phrase "old fields." Again, a fallow is sometimes applied to mean only a "breaking up." Sometimes, and most frequently with us it signifies a "fresh breaking up," to be plowed over again. In some districts it seems to be understood as applicable to plowing for a particular crop-grain. It is employed in the text in what seems to be its primary sense, that of "breaking up" for a crop to be afterwards put in.

What is called in the next sentence "a regular rotation," is a version of the German word *fruchtwechselwirthschaft*, for which we have in English no single corresponding word. Its principle is that two crops of the same kind are not to succeed each other. Thus for instance a grain and straw crop like wheat is not to be followed by a crop of oats, but intervening will be clover or potatoes.

(g.) The proportion of seed required in avordupois pounds per acre is as follows:—

| | | |
|----------------|------------------------------------|---------------------------|
| In Baden, | 7 7-10 lbs. — 8 2-2 lbs. per acre. | Average, 8 lbs. per acre. |
| " Hesse Darms, | 7 1-10 lbs. — 8 15-16 " | " 8 lbs. " |
| " Wirtemberg, | 6 6-10 lbs. — 7 15-16 lbs. " | " 7 1-4 lbs. " |

(1.) The Morgen in the three States named, varies between five and seven eighths of an acre. Supposing as is most likely the Hohenheim Morgen to be here meant the work of the machine would be between $6\frac{1}{4}$ and 7 acres per day.

(2.) The Wirtemberg Morgen is 0,7789 acre and the florin 38, 85 cents. The prices stated then will vary between \$1.37 and \$2.50 per acre.

(3.) The quantities in this paragraph become when reduced to our measures as follows :

| | Per acre. | Per acre. | Aver. produce. |
|----------------|---------------------|------------------|----------------------|
| In Baden, | 14, 36, 47 bushels. | 0,92, 1,40 tons, | 32½ bush : 621 tons. |
| " Hesse Darms. | 12, 35 " | 0,88, 1,76 " | 23½ " 1,32 " |
| Wirtemberg, | 13, 46 " | 0,88, 1,60 " | 29½ " 1,25 " |

(4.) These rates reduced to our measures are represented by 93 cents and \$2,31 per bushel. The mean price is \$1,80 per bushel.

VALUE OF PHOSPHORIC ACIDS AND PHOSPHATES IN AGRICULTURE.

BY DR. CHARLES T. JACKSON, BOSTON.

The importance of Phosphoric Acid, as an ingredient of soils, is not sufficiently appreciated by practical Agriculturalists. They do not seem to be aware of the fact that this acid is essential to the healthy growth of all plants, and that its presence in food is absolutely necessary to render it capable of sustaining animal life.

It does not exist in the soil in a free or uncombined state, nor is it so found in either plants or animals, but it is always combine dwith the earths and alkalies, in all three of these kingdoms.

Phosphoric Acid consists of one atomic equivalent of Phosphorus and five equivalents of Oxygen, or 43.96 per cent. of Phosphorus, and 56.04 per cent. of Oxygen.

In the state in which it is prepared by chemists, when fused, it is a solid, transparent substance, like glass, and is called, from its resemblance to Ice, *glacial phosphoric acid*.

If it is exposed to a humid atmosphere, its deliquesces, and forms a very sour liquid, which is a solution of the acid in water. If it is saturated with any basic substance, such as Lime, Magnesia, or with the Alkalies, Potash, Soda, or Ammonia, it loses its acid properties by combining with these bases. Its combinations with the two first named bases are but very sparingly soluble in pure water, but more so in water impregnated with carbonic acid, or with any acids, or with sea salt. With the Alkalies, it forms very soluble combinations.

In the soil, the comparatively insoluble salts of Phosphoric Acid are found, and it is evident that they are the only ones that would be retained; for water would dissolve the soluble salts, and soon transport them into that great reservoir of all soluble salts of the earth—the sea, from whence they would not return, since they are not in any degree volatile.

The wisdom of this law of nature in making the most precious saline manure a fixed and difficultly soluble salt, is at once obvious ; for it is thus kept always ready in the soil for the plants to act upon according to their need.

By their action, little by little the earthy phosphates are dissolved, taken into the circulatory vessels of plants, and, by the most curious laws, undergo changes of composition — exchanges of bases and acids taking place with the other saline matters absorbed from the soil. Thus we find Phosphate of Lime is partly changed into Phosphates of Potash ; and Soda, another acid, taking possession of the lime, while it yields up its Alkali, with which it was formerly combined to the Phosphoric Acid, and new salts are produced, in such proportions as the plants need, and adequate to the wants of animals feeding upon them. It is a curious law, also, that when the fruit, or seed, form, the phosphates mostly leave the stem and go into them, so as to become concentrated where they are most needed for food. If we cut the plants down before the seeds form, we have all the phosphates the plants contain diffused throughout them, and if we allow the seed to ripen, the phosphates, as before observed, will be found mostly in the seed. We find them in the state of Phosphate of Potash, Phosphate of Soda, Phosphate of Magnesia, and Phosphate of Lime, and probably, also, Phosphate of Ammonia.

Now, all these salts are essential to the growth and sustenance of animals, and without them grain would cease to be sufficient food.

When the farmer raises crops for sale, and removes his grain and grasses from the soil, he *sells a portion of his soil* ; and if he does not renew in some way the saline matters taken away in his crops, he invariably impoverishes the soil. This work of exhaustion is now going on to a most alarming extent, and our prolific wheat lands are to be searched for farther and farther westward as the operation proceeds.

Every one knows the superiority of wheat grown on newly cultivated lands, and most farmers are aware of the fact that soils become exhausted of something, they know not what, but of something essential to the most favorable production of grain.

It will be our object to explain to them the nature of this operation, and to demonstrate the means of obviating the diffi-

culty. This is the duty of the chemist, and his science will, we doubt, do, prove of practical value to the cultivators of the soil.

We shall, therefore, enter upon this investigation, and explain, with some minuteness of detail, the nature of the inorganic matters of plants, and the sources from whence they are derived, and endeavor to explain the best and most economical method of replenishing soils which have been, in a measure, exhausted or rendered comparatively infertile. In selecting the Phosphates for our first article, we do not intend to have it understood that they are the only things needed to render a soil fertile; we do mean to insist on the fact that they are the most important ingredient of plants and of fertile soils. This will be at once understood when we show that more than half the weight of the ashes, or inorganic matters, of all plants consist of the Phosphates of the Alkalies and earths, and that those salts all come from the soil.

Some writers on Agricultural Chemistry and Botany have neglected a proper consideration of the inorganic or mineral ingredients of plants, and have regarded them as mere accidental constituents, rather than as essential elements adapted to the wants of both vegetable and animal life. This great error in science would of course lead to important errors in practice, and therefore it is incumbent upon the chemist to demonstrate the necessity of the existence of certain mineral ingredients in plants. Perhaps we have already, by reference to well known facts, sufficiently established the principles for which we contend, so far as concerns certain combinations of Phosphoric Acid. It would be equally easy to prove that most of the mineral substances entering into the composition of plants used for food, are also essential to the perfect constitution of that food, but it would lead us too far from the present subject, and render complex this article, should an attempt be made to grasp at once all the relations of the inorganic elements to which we refer. If time and opportunity permit, the relations of some other important mineral salts will be considered, but we shall limit this paper to a more extended description of the Phosphates.

If the reader will compare a few of the numerous chemical analyses of plants that have been made subjects of exact re-

search by eminent chemists, he will discover how very important an ingredient Phosphoric Acid is in the vegetable kingdom. Phosphoric Acid, as before observed, is combined with certain substances called bases, or electro-positive matters, while the Acid is an electro-negative substance. The bases may be the Alkalies, Potash, Soda, and Ammonia, or those called Alkaline Earths, such as Lime and Magnesia. In some analyses, the Phosphoric Acid is calculated from the analysis of a salt of known composition, and is given separately. In others, the chemist represents it combined with the bases, with which, according to the laws of affinity, it was probably united in the plant. It is usual to give the bases and acids separately in an analysis, since there may be a difference of opinion among chemists as to the modes of combination of those ingredients, and in making calculations as to saline combinations it is essential that we should place the basic and acid elements separately, in order to see by the ratios of Oxygen in each set, what are the atomic relations of those bodies; for the laws of chemistry are as certain as those of any other science, and there is no division of ultimate atoms, as the very term *atom*, in its etymology signifies.

The following table, extracted from Professor Johnston's Lectures on Agricultural Chemistry and Geology, gives a good view of the relative proportions of Phosphoric Acid, and of certain bases in the ashes or inorganic matter of our usual crops and is recommended to the attention of farmers.

| | Potash and Soda. | Lime. | Magnesia. | Phosphoric Acid. | Sulphuric Acid. | Silica. |
|----------------|---------------------|-------|-----------|---------------------|--------------------|---------|
| Wheat, | 33 | 3 | 12 | 50 | 0.25 | 1 |
| Barley, | 22 | 3 | 7 | 39 | 0.10 | 27 |
| Oats, | 26 | 6 | 10 | 44 | 11 | 3 |
| Rye, | 34 | 5 | 10 | 50 | 1 | 04. |
| Indian Corn, * | 33 | 1 | 16 | 45 | 3 | 1 |
| Rice, | 30 | 1 | 12 | 53 | — | 3 |
| Beans, | 44 | 6 | 8 | 38 | 1 | 1 |
| Peas, | 44 | 5 | 8 | 33 | 4 | 0.51 |

* Mr. Teschemacher gives me the following note, which contains valuable suggestions explaining the relations of the stem to the grain;

“Previous to fecundation the chief part of the Phosphates are in the stem of the plant on their passage to the seed, therefore the green plant for fodder is nutritious, but as soon as the fecundation takes place, the Phosphates begin to concentrate in the seed, and the stalk or stem gradually becomes less nutritious.

| | Potash and Soda. | Lime. | Magnesia. | Phosphoric Acid. | Sulphuric Acid. | Silica. |
|---------------------|---------------------|-------|-----------|---------------------|--------------------|---------|
| Wheat Straw, | 13 | 7 | 4 | 3 | 6 | 65 |
| Barley " | 7 | 10 | 3 | 3 | 2 | 71 |
| Oat " | 29 | 8 | 4 | 3 | 3 | 48 |
| Rye " | 18 | 9 | 2 | 4 | 1 | 65 |
| Indian Corn Stalks, | 35 | 8 | 7 | 17 | — | 28 |
| Rice Straw, | 14 | — | 5 | 1 | 4 | 74 |
| Bean Vines, | 55 | 20 | 7 | 7 | 1 | 7 |
| Pea " | 5 | 55 | 7 | 5 | 7 | 20 |
| Red Clover, | 36 | 33 | 8 | 8 | 3 | 7 |

It will be seen by consulting this table that the proportion of Phosphoric Acid in the state of Phosphates, is much greater in the grain than in the straw or stalk, and hence, if we sell the grain raised on any soil, we remove the largest proportion of those valuable salts, and the proportions restored by returning the straw to the soil are by no means adequate to supply what has been taken away in the grain.

If the analysis of Indian Corn-stalks given in this table is correct, the stalks will not only form a valuable manure but will also prove more valuable for fodder than they have hitherto been supposed to be; but we are not informed whether the corn had ripened upon these stalks or not, and hence a new analysis is required. This I shall furnish before long.*

Mr. J. E. Teschemacher has kindly added the following note to my "Lecture on a Grain of Corn," and by his permission I here insert it, since the doctrine it indicates is of great importance to the farmer, and should be carefully tested in a practical way. He says, in relation to the Phosphates in Indian Corn,— "Now as the Phosphates, or Salts of Phosphoric Acid, are the most important of all the inorganic bodies which enter

* Letillier gives in his analysis of Indian Corn grown at Bechelbrun, the following composition :

GRAIN OF INDIAN CORN.

| | | | | | | | |
|------------------|---|---|---|---|---|---|------|
| Potash and Soda, | - | - | - | - | - | - | 30.8 |
| Lime, | - | - | - | - | - | - | 1.3 |
| Magnesia, | - | - | - | - | - | - | 17 |
| Phosphoric Acid, | - | - | - | - | - | - | 50.1 |
| Sulphuric Acid, | - | - | - | - | - | - | — |
| Silex, | - | - | - | - | - | - | 0.8 |

which makes the proportion of Phosphoric Acid equal in this grain to that found in Wheat. This is probably the most correct of the two analyses.

into the construction of the animal frame and its enveloping parts, it becomes a question of some importance to ascertain whether we can, by peculiar methods of agriculture, introduce into a given weight of Corn, a larger quantity of Phosphates than is usually found. If this can be done—and the experiment, as well as its test, are very easy—we should then be able, with less weight of provender, to put an equal quantity of flesh or muscle upon our animals, and the triumph of science would be great.” He also observes, in conversation with me,—“It is said that animals fatten more rapidly on grain and grasses which have been treated with guano,”—one half of the weight of guano consisting of Phosphates of Magnesia and of Lime,—and that “the instincts of cattle lead them to select for food those patches of grass where the Phosphates abound.”

This we can understand, as according with the opinion or suggestion contained in his note given above.

It is not at all improbable that the instincts of animals should thus guide them in the selection of the most appropriate food. We know that Squirrels, and other animals of the Rodent order, select the chits of Indian Corn as proper to supply their gnawing-teeth, and that they also devour all the horns of Deer, Moose, and Cariboo, that are annually dropped in our forests, the horns consisting chiefly of Phosphate of Lime, with animal matter.

There is of course a limit beyond which we should not go in feeding animals with highly phosphatized food, for we might surcharge their systems with mineral matter, and thus produce some derangement of them. Instinct, however, is a pretty safe guide, and if the animal is free to choose his food, will soon discriminate between what is injurious and what is wholesome, and regulate in a great degree the requisite supplies to his system.

If we were to feed young animals exclusively on food free from Phosphates, starch and sugar for example, they would soon perish. If, on the other hand, we should feed adult animals on food containing a great excess of Phosphates, we should embarrass their economy by surcharging them, and the excretory organs would have more than their natural functions

to perform, in discharging from their system an excess of matters which were not needed in the performance of their healthy functions.

We come now to consider the sources of supply of inorganic matters of plants. They were originally derived from the mineral kingdom exclusively and were drawn from the soil. The growth of a succession of crops that are removed from the soil will of course take away the inorganic salts that form part of them, and the soil will be impoverished and ultimately be rendered barren, unless the removed matters are in some way restored to it.

This leads us to correct principles in manuring, and it is the duty of chemists to point out what is to be done in order to render soils perpetually fertile.

The Phosphates are the rarest salts in the soil, and are those most required by plants, as the foregoing table fully demonstrates.

These salts are contained in all the manures that experience has proved to possess agricultural value, but the proportion in which they exist is very small, and we are forced to add an unnecessary amount of other matters not required. For instance, the soil may be rich enough in vegetable matters. Why then should we add more? They may contain an adequate supply of ammonia-producing matters. Why then should we add more of them? If we want fruit, why add those matters that only extend the foliage, and do not augment the grain?

Phosphates are the salts most needed in grain and seeds of all kinds. Let us then supply them. Originally, all the Phosphates came from the soil. Why then should we look exclusively to organic products for them? Why not go back to the matters that bones were made of, rather than depend wholly on them?

The mineralogist points out to the farmer the sources of direct supply of Phosphate of Lime from the rocks, and the chemist shows him how to use it to the greatest advantage. Attention being called to the mineral Phosphate of Lime, sources of supply will from day to day be discovered and wrought. The mineral Phosphate is better than bones, for it is richer in

Phosphoric Acid, and is more easily prepared for agricultural use, and in a short time farmers will learn to place more reliance on the indications of science.

About fifteen years ago, the British Government sent Professor Daubeny, of Oxford University, to examine the localities of native Phosphate of Lime among the ancient volcanic districts of Spain. The mineral was found to exist in too limited quantities, and too remote from the coast for profitable exportation, but the scientific question of the agricultural value of the mineral was fully demonstrated by this gentleman. All that was wanted was an adequate supply of the mineral at a reasonable cost. Since then, two abundant sources of supply of this mineral have been discovered in the United States, — one in Hurdstown, New Jersey, near the head of the Morristown Canal, and the other at Crown Point, on the borders of Lake Champlain, — and a considerable supply has already been obtained for agricultural use. A number of tons of it were sent to England, where it was readily sold, and more was called for. Here, where it may be had at a lower cost, it has been hardly known to our farmers; and a degree of apathy, truly astonishing, has been manifested concerning discoveries that have awakened much enthusiasm in Europe. This is excusable, for our farmers have not had the experience in the use of this substance, that is very common in England and France. It will not be long, however, before we shall be successful competitors with them in scientific agriculture, for the American is always awake to his interest, and will soon find out how a penny is to be saved or earned by improved methods; but he is not willing to run much risk in the matter, and is apt to wait until others have demonstrated fully the value of an improvement.

That we should not be reproached with want of enterprise and skill, let us spread new information over the country, and endeavor to awaken a proper degree of zeal in experimental agriculture. Let those who can afford it perform the practical experiments in testing new manures; and instead of laughing at experiments, let the practical farmer consider them with seriousness, and endeavor to profit from what can be learned.

No science ever came to maturity at once ; time, labor, patient observation, and careful reflections, are essential elements of such investigations. It is too late for any one to think he can drive science from the fields, and hold them subject to rude empiricism. Men will not walk in darkness, if they can have light ; they will not consent to be mere ignorant laborers, if they can have opportunities for intellectual improvement. Science renders the field more interesting by explaining the operations of nature, and there is no reason why we should labor without thinking. Nor should we be compelled to pursue exclusively ancient methods, when new ones promise successful results.

In order to render Phosphate of Lime more available in Agriculture, chemists recommend that it should be converted into the Super-Phosphate of Lime, by partial decomposition with Sulphuric Acid. This method has been advantageously employed in England and France for many years, and has been most highly commended by the late Henry Coleman, notwithstanding his strong prejudices against the application of Chemistry to Agriculture.

In England the farmers add thirty or forty pounds of Oil of Vitriol, (Sulphuric Acid of Sp. Gr. 1.8,) to one hundred pounds of bones, water being mixed with the acid before it is poured upon the ground bones. The whole is allowed to stand in tubs, or in some suitable vessels, until the decomposition is effected — say for three or four days — and then it is largely diluted with water, and distributed by means of a proper watering engine over the fields.

The immense increase of crops, especially of turnips and of hops, by this method of manuring, would by many be deemed almost incredible. The reader will find ample details in the excellent Lectures on Agricultural Chemistry by Professor J. W. Johnston, of Durham.

It is stated that coprolites from the lias formation, containing 10 per cent. of Phosphate of Lime are eagerly sought for by English farmers, and are converted into Super-Phosphate of Lime for agricultural use, and that the value of land has been many times multiplied by the introduction of this manure.

In this country farmers rarely are supplied with watering engines, suitable for the distribution of liquid manures, and therefore I have advised the formation of composts, to absorb the prepared Phosphate, and at the same time have shown how to form the kinds of Phosphates most needed by plants, and in the cheapest manner, by admixture of ashes with the Super-Phosphate solution. By this method we make a dry powder, easily spread on the land, and less liable to be lost by infiltration into the sub-soil. This powder contains Phosphate of Lime, Phosphate of Magnesia, Phosphate of Potash, Phosphate of Soda, Sulphates of the same bases, and soluble Silicates of the Alkalies. If urine is mixed with it, Sulphate and Phosphate of Ammonia will also be formed, both of which are valuable manures.

If we employ the Hurdstown mineral Phosphate of Lime, one hundred pounds of the pure mineral, containing 92 1-2 pounds of neutral Phosphate of Lime will require 80 pounds of concentrated Sulphuric Acid for its decomposition; but we do not wish to decompose more than half the Phosphate, and add but 40 pounds of Oil of Vitriol to one hundred pounds of the ground mineral, diluting it first with twice or thrice its weight of water, and adding three times the weight of the mineral of water to it, so as to make it about as thin as milk. On adding the Acid the whole becomes thick, and if it tends to become solid, we add more water, and stir with a wooden paddle, and leave for three days in the tubs to decompose. Then we mix it with wood ashes (leached ashes will answer) until it is all dried up. This powder is next to be mixed with soil or with any compost manure, and may be spread from the cart with great use, quite uniformly over the plowed ground, and should be harrowed in.

Half a ton of Phosphate of Lime thus prepared, and strewed over an acre of the soil, will soon render obvious proofs of its value as a manure, and its beneficial effects will last for several years.

The available Phosphoric Acid in two pounds or 14,000 grains, of the ground Phosphate of Lime sent to my laboratory by Mr. F. Alger, I found to be 2880 grains of glacial Phosphoric Acid.

About half this proportion would be set free by 40 pounds of Sulphuric Acid to 100 pounds of the mineral.

I have earnestly advised that the Phosphate of Lime should be decomposed here at some of our chemical works, where the diluted Acid of the leaden chambers' might be employed at a much lower cost than the concentrated Acid that is sold at the druggists' shops. This might be done, and the prepared Phosphates also mixed with ashes and with Ammoniacal Salts, might be furnished to the farmers at a lower cost than if they should buy the materials and do the work with their own hands.

If suitable encouragement was offered, I have no doubt that some of our enterprising manufacturing chemists would undertake the work.

ANALYSES OF PHOSPHATE OF LIME,

From Hurdstown, N. J., and from Crown Point, N. Y.

In laying before our Agricultural readers the following analyses of mineral Phosphate of Lime, we would remind them that the analyses were made on the pure mineral, unmixed with rock.

In order to ascertain how much of the ground mineral, sold in the market, consists of the pure Phosphate of Lime, a partial analysis will suffice. If the mineral is not mixed with Carbonate of Lime, (a fact which may be ascertained by pouring some diluted Muriatic Acid upon it, and observing that it does not effervesce,) we have only to take a weighed portion of the powdered mineral, and dissolve out the Phosphate of Lime, collect the residue on a filter of porous paper, wash, dry, and weigh. The quantity dissolved out is the mineral Phosphate of Lime, like that analyzed. If Carbonate of Lime, or any soluble matters are mixed with it, the processes become a little more complicated, and the farmer will find it most economical to take a sample of it to some analytic chemist; for few agriculturists have the apparatus and tests required for full analyses. When the proportion of Phosphate of Lime is known, it is easy, by consulting chemical tables, or by the use of Wollaston's Sliding Scale of Equivalents, to ascertain the

amount of Phosphoric Acid contained in it, and also the amount of Sulphuric Acid required to decompose the mineral.

In the Eupyrchroite Phosphorite, it would appear that part of the Lime is in the state of basic Phosphate; for the Lime is in excess over that required for the usual mineral Phosphate, like that of New Jersey, and the properties of the mineral are quite peculiar. Its concretionary structure, as remarked by Dr. J. Lawrence Smith, reminds one of that of calculi, such as are occasionally found in the stomachs of animals, or in the urinary bladder of man.

CRYSTAL OF PHOSPHATE OF LIME FROM HURDSTOWN, N. J.

This crystal had a yellow color, and was remarkably resplendent on the surface like those from St. Lawrence county, New York, appearing as if fire-glazed. Its sp. gr. is = 3.205.

Chemical Analysis.—By qualitative analysis, it was first proved to contain fluorine and chlorine, phosphoric acid, lime, oxyd of iron, and manganese. It does not phosphoresce when thrown upon an iron plate heated nearly to redness.

The fluorine is sufficiently abundant in it to cause deep etching on glass, when it is disengaged by the action of sulphuric acid. Specimens of this etching I exhibited at the meeting of the American Academy of Arts and Sciences last August.

By quantitative analysis, the mineral was found to consist of

| | | | | | | | |
|--------------------|---|---|---|---|---|---|---------|
| Phosphlate of lime | - | - | - | - | - | - | 92.405 |
| Chlorid of calcium | - | - | - | - | - | - | .540 |
| Peroxyd of iron | - | - | - | - | - | - | .040 |
| Oxyd of Manganese | - | - | - | - | - | - | .003 |
| Fluorid of calcium | - | - | - | - | - | - | 7.012 |
| | | | | | | | <hr/> |
| | | | | | | | 100.000 |

If the oxyd of iron is regarded as protoxyd, it will amount to 0.036 instead of 0.040, but the color forbids its being set down as the protoxyd. The mineral is evidently identical with apatite.

EUPYRCHROITE OF CROWN POINT, NEW YORK.

The specimens of Eupyrchroite, which I have analyzed, were sent to me by Mr. C. F. Hammond, of Crown Point, and he

writes to me that one hundred tons of the mineral have been taken from the mine, and it is understood it is to be employed in the preparation of phosphates for agricultural use. This enterprise has followed the movement which Mr. Alger made at my suggestion, in working the mine of phosphate of lime, in Hurdstown, New Jersey, and I hope it will awaken the attention of mineralogists and geologists to other neglected or overlooked deposits of this valuable mineral, so desirable as a fertilizer, and so important as a constituent of the vegetable products used for food.

When the mode of managing this manure is generally known, there will be a demand for it that all our present known localities will not be able to supply, and therefore every new discovery of any extensive deposit of it, will be hailed with pleasure.

I learn that measures have been taken to export this mineral to England, where it is most highly valued for agricultural use, particularly in the preparation of the land for the growth of hops. It is also extremely valuable in the preparation of the soil for the growth of other crops, all of which contain phosphates in considerable proportions. It appears that the exhaustion of wheat lands by incessant cropping, without adequately replenishing the soil by manures, is owing to the removal of phosphates from the soil. Our farmers should therefore look into this matter, and remedy the evil that an early want of attention to the chemical principles of agriculture has led them into. It is hardly necessary for me to say that burned or ground bones may be used for the same purpose as the mineral I am about to describe; nor will it be necessary to enter upon the discussion of the question as to the indispensable necessity of the existence of phosphates in food, which is to form flesh, blood, and bones, for most men know that they have seven pounds of phosphate of lime in their bones, and nearly as much of other phosphates in the soft parts of their bodies. It is also known that the ashes of all cereal grains contain almost fifty per cent. of phosphoric acid, united with lime, potash, soda, and magnesia, and that plants derive these

phosphates from the soil, which contains generally but a very minute proportion rarely amounting to three-tenths per cent.

DESCRIPTION AND ANALYSIS.

This mineral was first described by Professor E. Emmons, in his Report on the Geology of New York, and was analyzed by Professor Lewis C. Beck, and published in his Report on the Mineralogy of New York, p. 240; but his specimens differ somewhat from mine in their physical characters. It was named Eupyrchroite by Professor Emmons in allusion to the beautiful emerald green light which it gives out when thrown on a heated iron, its phosphorescence being nearly equal to that of the chlorophane fluor spar of Connecticut.

The Eupyrchroite phosphorite occurs in botryoidal concretions, having a fibrous structure, and an ash-gray or bluish gray color, the concretions being made up of successive layers of different shades of color. Their surface is frequently covered with a delicate film of iron pyrites which scales off readily when scraped with the knife. Its sp. gr. is 3.053. Hardness 4 1-2. Before the blow-pipe, phosphoresces with a green light at first, then gives the intense brightness characteristic of lime salts. It glazes on the surface at a high temperature but does not melt. In the glass tube it gives out water, which is acid, and corrodes the glass. When thrown in powder on metal, heated nearly to redness, it exhibits a beautiful emerald green phosphorescence. Larger fragments decrepitate strongly.

During its solution in chlorohydric or nitric acid, it effervesces slightly, carbonic acid gas escaping. The quantity of this gas was accurately determined by a proper apparatus. In preparing the mineral for proportional analysis, each fragment was carefully examined with a lens to ascertain that it was free from accidental admixture with other minerals. It was reduced to impalpable powder by levigation, and dried at 212° F., and weighed while still warm. A sample of the mineral in coarse powder was used in the determination of the water contained in it.

In the other steps of the analysis, the methods as given by Rose were pursued, and the following results were obtained.

| | | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|---------|
| Lime | - | - | - | - | - | - | - | - | 47.230 |
| Phosphoric acid | | - | - | - | - | - | - | - | 45.710 |
| Carbonic acid | - | - | - | - | - | - | - | - | 1.218 |
| Lime | - | - | - | - | - | - | - | - | 1.554 |
| Chlorine | - | - | - | - | - | - | - | - | 0.130 |
| Calcium | - | - | - | - | - | - | - | - | 0.204 |
| Fluorine | - | - | - | - | - | - | - | - | 0.599 |
| Calcium | - | - | - | - | - | - | - | - | 0.855 |
| Protoxyd of iron | - | - | - | - | - | - | - | - | 2.000 |
| Water | - | - | - | - | - | - | - | - | 0.500 |
| | | | | | | | | | <hr/> |
| | | | | | | | | | 100.000 |

The fluorine, as usual was expelled, and thus determined by difference, in the re-formation of phosphate of lime, after decomposition of the precipitated mixed phosphate of lime and fluorid of calcium, and its equivalent of calcium was deducted from the lime obtained as a sulphate of lime.

BEES AND BEE-CULTURE.

A PAPER READ BEFORE THE UNITED STATES AGRICULTURAL SOCIETY.

BY HENRY EDDY, M. D., BRIDGEWATER, MASS.

BEE culture in this country is in its infancy. It has not advanced relatively as improvements have been made in other departments of rural industry. Relative to improvements, it occupies substantially the same ground which agriculture occupied half a century since, when it began to receive a greater share of attention, and to awaken a deeper interest among intelligent and scientific cultivators of the soil. Since that period the attention of the agriculturist has been effectually aroused and directed, not merely to the real dignity of this employment as secondary to no other, but to the capabilities of the soil, to the adaptation of certain kinds of soil to particular crops, to the making of manures, to the importance of employing certain fertilizers upon particular kinds of soil to which they are best adapted, to the importance of a suitable rotation of crops, to the advantages resulting from the use of labor-saving implements, to the culture of an almost endless variety of fruits and flowers, to the rearing of improved breeds of horses and cattle, and sheep, and fowls, and to other kindred topics too numerous to be mentioned, which are worthy to engage the attention of the husbandman. The result has been most happy. Improvements have been made in almost every department of labor to which attention has been specially directed. Agriculture has been made to keep pace with the improvements of the age. It is now adapted to a high state of civilization. It suffers no material disparagement by a comparison with those improvements which have been made in science and other useful arts. Connected with these improvements, and auxiliary to them, valuable additions have been made to our literature. Treatises, lectures, addresses, discussions and periodicals have been multiplied upon almost every topic which is connected with a tillage of the soil. The consequence is, a degree of intelligence exists in the popular mind, relative

to the various topics which have been discussed, which has existed at no former period. Agricultural and Pomological, Associations, &c., have been formed by which there has been a concentration of interest upon particular topics, and it is gratifying to every lover of his country and his race that so much has been accomplished within so brief a space of time.

Bee-Culture forms an exception. It has not as yet received, here, that degree of attention which its importance demands. It has not been made to any great extent a source either of luxury or profit, and yet there is no want of encouragement to engage in it, if it is regarded in either of these points of view. The English have made fewer advances towards an improved system of Bee-culture than ourselves; while the Germans in many respects are far in the advance of us. They have done, relative to this subject, what we have aimed at and so happily accomplished in reference to other departments of rural industry. They have made and published in many instances very critical and patient investigations which greatly subserve the interests of an enlightened and profitable system of Bee-culture. These improvements, verified by our own, are to constitute the landmarks of our progress. To these, American Associations are greatly indebted for the advances which we have thus far made. They have formed Associations. They meet in Conventions, composed largely of professional and literary men (who are themselves bee-keepers and careful observers) to discuss and elicit truth, to state and embody facts, and thus to make common stock of their experience and observations. Annually in connexion with their Agricultural Associations, a Committee reports relative to their success in the line of Bee-culture, and those who have access to their literature through the medium of their language will find in their Bee Books and Reports and Journals, (two of which are devoted exclusively to the interests of Bee-culture), an amount of reliable and practical instruction upon this subject which is found in no other language.

There has long existed among Apiarrians a diversity of opinion relative to the particular office and gender of those insects which are found during the most active season of their labors in every colony of Bees which is in full and successful

operation. This diversity of opinion has arisen chiefly from a want of adequate knowledge, or for the want of opportunities for careful and accurate observation.

The facts which I am about to state are settled beyond a doubt in the minds of the most careful observers.

SOCIAL ORGANIZATION.



THE QUEEN.

The Queen is the only fully developed female in the colony. She lays all the eggs and is the mother of the family.



THE WORKER.

The workers are females, dwarfish in character, not sufficiently developed to dispose them to propagate. They do all the work of the family.



THE DRONE.

The Drones are the males of the establishment. When their appropriate office is fulfilled they are destroyed. There is a general slaughter of them in July or August. None of them survive the winter. Others are hatched in each successive season, which are destroyed in the same manner.

SWARMING AND NON-SWARMING.

Divers opinions have been entertained relative to the theory and expediency of swarming, and these different opinions have led to very different methods of bee-management. One, virtually believing that the propensity of the bee to swarm should not be gratified, or that the Creator (thus impeaching his wisdom) has given to them a wrong bias, has devised some method to interrupt or prevent this "wild freak of nature." Another, fearing that the bees (poor ignorant creatures) do not understand the best method of conducting this process, or that they will mistake the best time of attending to the matter, has undertaken to hasten the process by some "hot bed" arrangement, or volunteered to give them a few elementary lessons, relative to a matter which he understands (?) much better than they. In the view of one, the bees swarm too often. In the view of the other, they do not swarm often enough.

Both of these cannot be right; perhaps neither of them. I take the liberty here to suggest that it is barely possible the bees and their Creator also, understand the thing, nearly as well as those who set themselves up as teachers in this matter. The first or non-swarming plan is about as wise and profitable as it would be for a dairy-man to prevent the natural increase of his stock, by keeping on his farm perpetually, a parcel of farrow cows. The other, or artificial swarming, is about as wise and salutary an interference, as it would be for a boy to catch the old hen and squeeze her because she does not lay soon enough. There has been too much officious meddling in this matter. Between these opposite extremes, or with Scylla on the one hand, and Charybdis on the other, we find the bees occupying the golden mean, where truth and safety dwell, confident, it would seem, in the position which they have taken, unchanged in this indomitable propensity, and intent upon giving to their keeper a "a windfall" as soon as they are able with all their industry to furnish it to him. Swarming is a natural process. It cannot, to any great extent, be interfered with, and the results prove permanently beneficial to the bee-keeper.

The theory of swarming is this: "The Queen lays eggs

enough, ordinarily, in a common sized hive during the hatching season, to make up for the losses which the swarm sustains in various ways, and to increase the number of bees to such an extent that a colony can be spared or sent off, which shall constitute a new organization. If the hive is double the ordinary size, and the swarm which occupies it double also, its losses at the same time are double. If the hive is treble the ordinary size, and the swarm is treble also, its losses are treble. The Queen lays just about eggs enough during the season, to make up for the losses which are sustained by a swarm which is treble the ordinary size. There is no increase in numbers beyond the wants of the household. No colony is sent off, because none can be spared. They remain stationary for a time, or from year to year, although strong and vigorous. At length the Queen becomes less fertile as she advances in age. Fewer bees are raised. Their losses are not made good by the increase. They gradually diminish in numbers, dwindle and die. The result is the same, whether the bees are placed in bee-palaces or large hives, or a series of adjacent boxes from which they do not swarm. Bees are to be placed in a hive of suitable dimensions, which contains about one cubic foot, with an arrangement for the deposit of surplus honey, where full scope is given to their swarming propensities, if the keeper is to receive from them the greatest profits which they are capable of furnishing.

FEEDING.

The theory of feeding bees, on a large scale, has had its day. It has presented splendid results for a time, and resulted at length in splendid failures. Cheap honey, or a composition, has been used ; and the bees have been fed freely, under the impression that whatever they stored in their cells, must, of course, be honey of the first quality. I would ask why Cuba, or Southern honey is not made of the first quality, when it is stored up for the first time in Cuba, or Florida, if bees have the power of converting an inferior article into one of superior quality ? The true reason is, that much of this so-called honey is taken from the sugar plantations, or from flowers, which do

not furnish the best honey. And the second transportation, although done by Yankee bees, does not produce any chemical change in the article which is fed. Honey is *gathered*, not *made*, by the bees. Those who purchase, in market, Cuba honey, which is packed up in "Yankee" boxes, do not get the best end of the bargain. They have yet to learn that the packing, or transportation, does not make it the fine flavored and wholesome article, which is found in white clover, upon all our hills in New England. The feeding of bees, on a large scale, or with a view to secure larger quantities of surplus honey, operates unfavorably upon the bees, in a variety of ways, and the principal objections to it are the following: 1. There is no profit in it. No man gets the quantity of honey which he feeds. 2. It prevents the bees from going abroad to gather honey from the fields. 3. If the bees are fed liberally, late in the fall, and early in the spring, there will be very few empty cells, in which to rear young bees. 4. It is deceptive, because a cheap and inferior article is sold for one of superior quality. 5. It results, in the process of time, in the extinction of the bees.

The feeding of bees may be practised with advantage whenever they are not amply supplied with winter stores—a thing which happens to late swarms, and to those from which large quantities of honey have been taken. For this purpose, a cheap article may be used to help them through the winter. It may be desirable to take from the bees all the white clover honey, which can be obtained in boxes, with a view to supply them with a cheaper article.

The idea is extensively prevalent, that bees have the power, in some way, to *manufacture* honey. This is an error. They have no laboratory for this purpose, and no peculiar process, by which the work is done. If it were so, they would bring all the materials, which they employ, to a given standard; but such is not the fact, apple-tree-blossom honey is one thing; white clover honey is another; buck-wheat honey another; Southern or Cuba honey, (which is gathered from the sugar plantations) is quite another; and sugar syrup, (which is sometimes fed to bees, and is transferred by them, — the liquid part of which at length evaporates, and leaves the sugar in a candied

state, in the cell (thus spoiling the cells) is still another. Bees are merely gatherers of honey, which various blossoms spontaneously produce. The honey is their food, and they gather it. They will transfer to their cells any kind of sweet, which you choose to give them, and large quantities of it; but no chemical change takes place in the article while the Bees have it in their possession, or during the act of transportation. In one minute, and frequently in less time than this, the material which is gathered is deposited in the cell, and it is substantially the same thing after the transportation as before.

The protection from the encroachments of the Bee-moth which is practicable, the extent to which bees may be safely kept without overstocking the country, the process by which a new Queen is raised when one is lost or taken from the hive, and the profits resulting from a judicious system of Bee-culture are topics upon which I cannot at present enlarge. These and kindred topics are discussed in a work which I have recently issued under the title of "Eddy on Bee-Culture." To this and kindred works, the Bee-keeper is referred for instruction on this most interesting subject. It is a subject which is worthy to receive a much greater degree of attention, not only from the husbandman, but from the professional man, and the mechanic, than has hitherto been given to it. We need a Journal devoted exclusively to the interests of Bee-culture, which shall be circulated broadcast over the land, and diffuse among all classes safe and reliable information relative to the best modes of bee management. The day is at hand when such a Journal will be established.

The essential features of successful Bee-culture are the following: 1. Bees should be placed in a good hive, one which will bear exposure to the weather. 2. The keeper should be able at any time to inspect their condition. 3. They should be allowed to swarm. 4. They should be protected from the encroachments of the Bee-moth. 5. The hive should be sufficiently ventilated, especially in winter. 6. No Bees should ever be destroyed. 7. The keeper should be able to avail himself of all the labor which they can perform. 8. He should ascertain, and note their weight of stock in autumn and spring.

9. Bees which occupy a good hive (and they should be put into no other), should rarely be dislodged. These are by no means all the important features of a good system of Bee-culture. But these I regard as indispensable; others are comparatively of minor importance, or incidental. Without each of these, any system which may be adopted, must present glaring defects, and must prove unprofitable, in proportion as such defects are found to exist.

ALPACA OR PERUVIAN SHEEP.

BY CAPT. JAMES PEDERSEN.

A PAPER READ BEFORE THE UNITED STATES AGRICULTURAL SOCIETY, AT WASHINGTON, FEBRUARY 23, 1854, BY B. MUNN, OF NEW YORK.

Having recently returned from Peru, and brought with me to New York some fine specimens of the several varieties of the celebrated Peruvian Sheep, and having after much difficulty succeeded in devising means by which I am enabled to calculate on procuring from that country a sufficient stock of those valuable animals, to warrant an attempt to introduce them to the prominent notice of the agriculturists of the United States, I am desirous to call the attention of the United States Agricultural Society to the subject.

It is doubtless within the knowledge of many gentlemen connected with this Society, that for several years past the farmers, and others in England and on the continent of Europe, who are interested in the advancement and improvement of the races of domestic animals, have been desirous to introduce the Llama, Alpaca, and Vecuna of South America into their countries. Owing however to the extreme jealousy of the Peruvians at all times to allow these animals to be exported, the attempts that have been made in that direction have been unavailing; it having been found impossible to introduce more than a single specimen or two by some indirect means, into Europe. And from this great rarity, and consequent value to Zoological Societies there, these animals when obtained have usually found their way into the collections of those Societies. Specimens were however obtained some years ago by the late Earl of Derby, whose celebrated collection of animals is well known, and they were found to thrive and to adapt themselves perfectly to the change of climate to which they were subjected. The London Zoological Society also have specimens in their gardens in London, which are found to retain their health equally well.

It is therefore reasonable to draw the inference that, if the removal of these animals from their native mountains to the comparatively moist and humid climate of England has not proved injurious to them, they certainly cannot fail to be indifferent to a change to the Middle, Western and Northern States of America.

The character and habits of these animals is very similar to that of our own sheep, or perhaps an amalgamation of them, and of those of the domestic goat. They are gregarious, excessively gentle and timid to a degree. One valuable quality they possess that deserves especial attention, is that they require neither keeper nor fence, or at most one of the slightest description; for wherever they are driven, *there* will they remain for hours, or for days even, without wandering more than a few yards from the spot.

To those who are not aware of the extreme difficulty that there always has been to obtain these animals, owing to the jealousy of the Peruvians to their being exported, it may appear extraordinary that efforts on a large scale have not been long since made to introduce them. But that feeling will cease when this branch of the subject is better understood; and I will therefore give some explanation of it.

From time immemorial the Llama has borne an inestimable value in the eyes of the inhabitants of the southern Pacific coasts. They have found in them combined the beast of burden for the transit of ore from the mines of Andes to the seaboard, the raw material for clothing in their wool, and wholesome nourishment in their flesh. As in the case of the Egyptians of old, the value of the animal clothed it centuries ago with the character of sanctity. And thence arose and have been perpetuated prejudices, which superstition has nurtured into fixed principles. So that in the present day the Peruvian associates the idea of personal misfortune, if not sacrilege, with the separation of his favorite Llama from his native home. The mild temper and perfect domestication of these animals have led to the establishment of an attachment between the Peruvian and his flock of sheep, analogous to that existing between the Arabian and his horse. And I confess that the recent op-

portunities which I have had of observing these animals, enables me to appreciate in some degree this commendable feeling in a portion of the human race, who owe so great a share of their worldly comforts to these innocent creatures.

But the difficulties in procuring the animals are not dependent upon national prejudice only. The laws of the country preclude the export of them, and so stringently are they enforced that I have ascertained upon undoubted authority that repeated but unsuccessful attempts have been made by the resident Ministers and Consuls from European Courts at Lima, in their official character, to obtain them. And the same result attended an application made some time since by our Minister, Mr. J. Randolph Clay, who was directed, at the instance of the New York Agricultural Society, officially to apply for permission to obtain them.

An incident has been discovered, also, which deserves mention, as evincing the strong prejudice alluded to above, which is this, namely, that in several instances in which these animals have been purchased by individuals for export in some indirect way, it has been afterwards ascertained that the Llamas had been in some way injured so as to insure their early death, after leaving the country. And I regret to say that in my own attempt, recently made, I have found that one of my animals had been thus treated.

As an evidence of the high esteem in which these Alpacas are regarded as an addition to the domesticated animals, I may mention that in my searches in Peru to obtain them, I met with an individual who is at this very time stationed upon a rancho on the border, but without the boundary of the country, where he is rearing them for the purpose of their export to Australia. And I found from him that he has made arrangements with the government in Australia for the sale of all the Alpacas that he sends there at the rate of £60 a head, without however being restricted from finding a better market for them if he can do so; the sole object of the government being to procure the introduction of the animals into the country.

These animals are found in all parts of South America upon the Pacific coast, from the Equator to about the twenty-fifth

degree of South latitude, inhabiting principally the mountainous ranges ; frequently at the height of twelve to fourteen thousand feet above the level of the sea ; and in the region of continual mist and snow. It is not however in these intemperate regions alone that they find a congenial abode ; on the contrary, they are found to prosper equally on the middle elevations of the Andes, where in the Summer the clouds accumulated from the evaporations of the sea, are blown over and burst in torrents of which we can form but a faint idea. No change of temperature appears however to affect these interesting animals ; and when to these considerations is added the circumstance that in temper and docility they combine the intelligent vivacity of the Deer tribe, with the meek and confiding innocence of our own Sheep, it appears impossible to conceive an animal better adapted in every point of view, to form a valuable addition to our Farms and Homesteads. Such an animal would live and thrive where Sheep would starve.

It is of course as a wool-producing animal, that the Alpaca is esteemed in Europe, and in which its value would consist, if introduced into this country. And there are large tracts of unprofitable mountainous country in the Western States, that are admirably adapted to its habits.

I have extracted in reference to this branch of the subject some valuable information from a work published in Edinburgh some few years since by Mr. W. Walton, who it appears made some extensive researches and experiments relative to the comparative value of Alpaca wool, as compared with that of the Sheep.

That gentleman says :—

“ There are instances of Alpaca wool measuring thirty inches long, frequently it is seen twenty inches, and it averages from eight to twelve. In the samples there appeared to be no under wool,—no closer and intermediate covering. There is, in the mass, what is technically called a trueness ; that is, an equal growth, and an exemption from shaggy portions, accompanied by a soundness, by which is meant the general strength of the fibre,—properties, certainly of the first import to the manufacturer. In consequence of this characteristic disposition, Alpaca wool breaks less in the act of combing, is freer from

shreds, spins easily, and not being so harsh or so stubborn, does not injure the machinery so much. The thread spun with it is also finer and truer. In the manufacture of fine goods, it is agreed that the pile cannot be too soft or too silky, provided the strength of the fibre is not impaired. As well as I could, I have compared the strength of a filament of Alpaca with those of other wools, and found it the strongest; and as it is devoid of that irregularity of surface, (the knots and joints which some persons liken to those of a bamboo cane,) the cloth made from it must consequently be less harsh to the touch.

But the qualities of the Alpaca wool for manufacturing purposes do not rest upon mere conjecture. The merits of Alpaca wool have for some time past attracted the notice of manufacturers, and consequently of merchants, and through the advice of Mr. Danson, and other enterprising individuals, the importation of it have within the last eight years considerably increased. The total amount imported in seven years, ending Dec. 1843, exceeded twelve million pounds. Another advantage consists in the greater weight of the fleece; for it ranges from ten to twelve pounds; whereas that of our full grown sheep seldom exceeds eight pounds, and in the small breeds from four pounds, downwards. From the larger size of the animal, and the increased surface consequently covered, the Alpaca necessarily yields most wool, and it has already been ascertained that on British pasture the weight improves. At the Royal English Agricultural Show held at Liverpool in July 1844, a sample of black wool was exhibited, taken from an Alpaca belonging to the Earl of Derby's flock, the staple of which appeared to be about a foot long; when his Lordship's farm-agent expressed his conviction that the same animal had then seventeen pounds upon its back.

“Another material question is, could the Alpaca live in our country? Although delicate in appearance, the Alpaca is perhaps one of the hardiest animals of the creation. Nature has provided him with a thick skin and a warm fleece, and as he never perspires, like the ordinary sheep, he is not so susceptible of cold.

“Another great advantage in the Alpaca is, that he is not liable to the many diseases incidental to common sheep, and which have so often raged like a pestilence among the tenants of the Scotch hills. In Peru, where the circumstances are as near as possible alike, the Llama and Alpaca are not hurt by changes of diet incidental to the seasons.

“Speaking of the practicability of introducing the Peruvian sheep more generally, in a letter addressed to Wm. Danson,

Esq., of Liverpool, who, accompanied by a friend, visited Knowsley, the Earl of Derby's estate, at the beginning of the month, [April, 1841,] his lordship says, that 'he certainly knows of nothing likely to prevent the propagation of the animal in this country. On the contrary,' he adds, 'the gentleman will see in these grounds living specimens, that they can and will do so, one female having produced in each of the two last seasons, and the young are doing well.' "

At that time Lord Derby had a flock of fourteen Llamas and Alpacas.

The difficulty of obtaining the animals in question from Peru has been before alluded to. But my past experience enables me to say with confidence, that it is by no means impracticable. On the contrary I would myself personally undertake the task under proper arrangements.

Having reference to the injury often inflicted upon them, when sold to foreigners for export, which I have above adverted to, the most desirable method to be adopted would be, to obtain a few for stock and breed them in Peru. By such means in two years a constant supply of animals for export might be secured, which would be sound and healthy, and I would engage to deliver them either at Panama, or Aspinwall, for a specific price to be agreed upon. And I cannot doubt that the result of their introduction amongst us would at an early day prove both remunerative in an agricultural point of view, and important in a national one.

New York, February 22, 1854.

ADVANCEMENT IN AGRICULTURAL MACHINERY WITHIN THE PRESENT CENTURY.

BY R. L. ALLEN, NEW YORK.

The advance in all the practical sciences and the useful arts within the last half century, has been many times greater than within any similar period of authentic history. Some time previous to this date, and soon after Bacon threw out those magnificent conceptions embodied in his *Novum Organum*, then a sealed book to the masses, Chemistry was wrested from the insane crew of the Alchemists and reduced to a rational science. Geology, mineralogy, botany, and animal physiology, (embracing every department of animal living, whatever walks, swims or crawls, upon, above, or beneath the earth,) with many collateral and kindred subjects, soon followed in the train of chemistry, and more recently have been subjected to the mental crucibles of many of the greatest geniuses of the age, and are now made directly tributary to the advancement of the happiness of the human race. The science of mechanics and inventions, in every department of the useful arts, have not lagged behind in this rapid career, as the multifarious applications of steam and electricity, and the countless improvements in machinery testify.

The result of all this is shown in the augmented comforts, whether classed as necessities or luxuries, now within the easy reach of every deserving member of a civilized community ; and it is even seen in the rapid transition of what, but a few years since, were deemed luxuries, to what are now universally ranked as necessities. The peasant and laboring mechanic are, at this day, better fed and lodged and clothed, than were thrifty tradesmen fifty years ago ; and in many departments of social enjoyments, are far in advance of the gentry, and even nobility itself, two centuries since.

Agriculture, though slow of foot, and halting at every step, has not been wholly stationary in this age of progress. She

has caught some inspiration from her sister arts in their onward movement, and already is her banner waving with that powerful watchword, "Excelsior." But though slow and unambitious, as compared with many other departments of human employment and research, she has in many respects, kept even pace with the less complex pursuits, inasmuch as the advance in these have been directly applicable to the elucidation of this great and comprehensive pursuit. Such are the discoveries in geology and mineralogy, and especially chemical-geology, and many of the collateral branches of chemistry, which classify and exhibit the constituents of soils, and teach us how they should be modified and compounded to correct imperfections, and secure the greatest amount of fertility. The composition of manures, plants, and the ultimate products of all vegetation and animals, revealed by the researches of chemistry and animal and vegetable physiology, reflect the fullest length and breadth of their importance directly upon the *science of agriculture*.

But we have not the leisure to pursue this branch of our subject, however full and suggestive it may be, but we shall pass on to the more obvious improvements in the mechanism of agricultural implements; trusting that a few more years of the primary and higher educational efforts, now making to imbue the community of farmers, with the elementary data of their honorable profession, will render the more recondite and intangible principles barely alluded to above, equally comprehensible and attractive to the masses.

We will ask our readers to go back with us some thirty years ago, to which time our impressions reach with entire distinctness, and look at the various utensils then generally employed in the garden and on the farm. A stalwart man could shoulder and carry to his work, every item employed to aid or reduce manual labor, except the carts, and perhaps an unwieldy, bungling harrow.

THE PLOW.

A few cast iron plows had been introduced anterior to this, but generally they were made mostly of wood, (the share and

two or more strips nailed across the mold-board, to receive the brunt of the wear, being of iron,) were not so much behind the age as some of the old specimens, and especially the Roger Sherman plow, can testify. The form of the mold-board was, however, calculated rather for dividing and splitting up the shallow soil and turning it up edgeways, than to go deeply into the earth and turn over a handsome, flat furrow thoroughly pulverized throughout by the action of the mold-board. We had then but one or two sizes and forms of plows for all the varieties of work to be performed; no sod-plow, nor stubble-plow, nor flat-furrow, nor side-hill, nor double-mold-board, nor sub-soil plow; nor were there any of the present arrangements of fine-cutter, or locked or reverse cutter, or wheel, or dial-clevis and draft-rod, each of which reduce both hand and team labor, and add so largely to the benefit derived from the disintegration of the soil, which is the great object sought by plowing. We do not here speak of the signal advantages of the cast-iron plow, now in almost universal use, this being a question of economy in the prolonged wear and the great saving in time and mechanics' bills, by the ready substitution of a new and nicely fitting piece, always at hand, for the worn or broken part of the working instrument.

THE HARROW.

If we look to the harrow, we shall find an equal, or even greater improvement. Then, the divergent chunks of two sapling trunks, tied towards the rear by an equally cumbrous cross-piece, and pierced by some eight or ten huge bars of iron, or more generally, wooden teeth, served all the different purposes of pulverizing subsequent to plowing, cleaning the lands of weeds, and covering the seed sown broadcast, with the exception of the occasional substitution of the brush-harrow. This was simply one or more branches of a thickly sprayed tree, used only for covering grass seed, clover, turnip, and frequently the lighter grains. Now, we have the Geddes harrow, light, flexible and efficient, with admirable steel-pointed teeth, set in wings firmly connected by hinges, and varying in capacity from the one-horse to the four-horse implement. Besides, we have

the *scotch*, and the *square*, the *triangular* and the *cultivator* harrows, of various forms, and sizes, and combinations: and last and least, the tiny hand-harrow, with which the gardener can weed out and pulverize more surface than eight or ten men with the hoe.

THE CLOD-CRUSHER.

The clod-crusher, an invaluable instrument for the stiff clays and fine field cultivation of Great Britain, has been only partially introduced in this country, but when we shall have made a higher advance in our cultivation, it is destined to play an important part in the disintegration of our more stubborn soils.

THE ROLLER.

The field and garden roller, almost, if not quite unknown among us thirty years since, has taken its place among the most familiar and useful of our farming utensils. It acts not only as a leveller of awkward clods and obtrusive stones, thereby greatly facilitating the cutting of meadows, and in this respect being almost indispensable for the use of the great improvement of the day—the horse-mowing machine, but it serves the further and most important purpose of a crusher, breaking up and reducing to powder many of those obdurate and impracticable lumps, so obnoxious to desirable cultivation. They serve the further and most important purpose of compacting the surfaces of light and sandy soils, and compressing the divergent particles snugly around the freshly sown seed, thus affording them abundant moisture for sprouting, and a firm, compact foothold, to which the tender rootlets may adhere, and suck therefrom an abundant and appropriate food. These rollers are, moreover, constructed on the most efficient and economical principles, being made up of cast-iron sections, of about one foot in length, attached together by a common axle. When turning, this roller does not plow up the ground by its cumbrous immobility, like the old-fashioned wood or stone rollers, but gracefully accommodating itself to every curve it is required to make, the extreme sections are turning in opposite directions, while the centre only is at a comparative rest. If unusual wear or the fracture of any one section requires its

displacement, the whole implement is not thereby rendered worthless, but the impotent limb gives place to a sound one, and it is thus rendered as effective as when entirely new.

THE CULTIVATOR.

The cultivators embrace an almost endless variety of combinations, according as they are wanted for the various purposes of the farm; and it is not too much to say, that an intelligent lad and one horse will do the work of a dozen or fifteen men with a hoe, in the corn or other tillage fields. A friend of the writer assured him that he has repeatedly made a crop of seventy bushels per acre of corn in a stiff, northern soil, with the use of no other implements than the plow, the harrow, and the cultivator. The hand-hoe did not once profane the soil during the season. These are variously constructed with iron and steel teeth, of many forms, and with different arrangements and attachments, larger or smaller, as may be required, and adapted to any depth and variety of culture.

THE SEED-SOWER.

The seed-sowers are among the most meritorious of farm-utensil invention, and they are exclusively the work of modern times. These vary from the single small distributing wheel, that parodies the first play-thing of the toddling urchin, through every successive grade for hand and garden use, to the large, many-furrowed drill with broad-cast sower attached, which is moved over the field by a span of horses. Each of these not only vastly economises labor, by opening the furrows and depositing and covering the seed at exact and uniform depths; but they greatly economize the seed by leaving just the quantity required and no more, precisely in the place intended, and where it will be effectually out of the reach of surface marauders, yet not beyond the genial influence of heat and its requisite amount of light.

THOROUGH-DRAINING.

But before taking leave of the implements required in the preparation of the earth for receiving the seed, we must not omit to notice one of the greatest among the agricultural im-

provements of modern times, albeit, its inception, and partial, though imperfect practice, dates back, as far at least, as early in the last century. The past twenty years has, however, greatly developed its beneficial results, by perfecting and extending its practice ; though we regret to be obliged to add, this great and unapproachable mollifier of both soil and climate has been mostly limited to Great Britain. We allude to the system of *thorough under-drainage*, so recently introduced into the United States, and hitherto so partially practised within them. This consists simply, in sinking parallel underdrains, from two to four rods apart, so as to draw off all the surplus surface, and other waters inherent in the soil ; leaving a permeable, mellow, warm soil, ready to go direct to its appropriate work, of producing at once and without delay the greatest amount of crop of which it is capable. Of the beautiful chemical hydrometric and calorific affinities and changes thereby illustrated and brought into play, so beneficial to agriculture and the healthfulness of the country, we must not pause to consider. It is our duty in this brief article to notice only the aid which agricultural mechanics have given to this practise. By skilfully mapping the surfaces to be drained, and arranging the sluices, so that each shall effectually *draw* that portion of the field assigned for it ; calculating with entire precision their size, distance and depth, as determined by the character of the soil ; by the substitution of the economical earthen tile for the vastly more expensive and antiquated stone or wooden drain ; and lastly, by the use of improved tools for excavating, we have an aid to agricultural advancement within the present century, in this practise, which is second to none other heretofore adopted, and we think is richly entitled to hold the front rank.

THE REAPING-MACHINE.

Of those improved implements which most conspicuously follow the preceding in the operations of the farmer, the Reaping and Mowing machines confessedly stand far in advance of all others. Yet, with all our pride for the skill of modern invention, historic truth compels us to admit, that we must go far back through antiquity for the original, and that not a bad

one, of the reaping machine. Yet it is to the present century we must concede the perfection and general adoption of the reaping machine. With this, and a good span of horses, the husbandman can cut and throw into convenient bundles ready for binding, from ten to fifteen acres per day, in the most adroit and economical manner. The advantages of this machine are not to be estimated by the saving in the grain, and the cost of labor only ; but they are more largely to be found, in the prompt harvesting of every field of grain, as it successively ripens, without being obliged to hurry on the operation before it is matured, lest the unfavorable weather, or the scantiness of labor should oblige the postponement of the cutting, till much of the grain was loosened from its ear and wasted in the field. The aggregate of sectional and national wealth is also thereby greatly augmented, as large fields are thus enabled to be sown with the assurance that harvesters are attainable at the proper time to secure the grain, and at a cost that will leave a large remuneration to the grower. The train of benefits that will certainly follow from the general introduction and use of these mechanical reapers may be easily followed out, but cannot here be dwelt upon.

THE MOWING MACHINE.

We may give antiquity credit for the reaper, but for the mower we claim its paternity rests with the moderns, and those of a very recent date. The transition was easy from the one to the other, yet it has required much close study and application to adopt the principle to the cutting of grass. Difficult, however, as this was, it has been successfully accomplished, and we may assume the mowing machine as one of the accredited, and soon destined to be among the generally adopted improvements of the present day. The same general advantages we claim for the introduction of the reaping machine, must be conceded to the mower ; the facility for securing within a brief space of time, and with limited manual labor, large areas of grass, at any stage of maturity required. The capacity of a good machine, is ten or twelve acres per day, with a driver and span of horses ; and this without reference to the weight of forage per acre ; its age, condition, or other circumstance, whether lodged

and upright, succulent or dry ; clover, timothy, salt meadow or aftermath, all falling alike readily before this new conquering agent.

THE HORSE-RAKE.

The horse-rake follows the horse mowers, no intermediate turning of the swath being necessary, the mower leaving the grass as evenly spread over the surface as when growing, the only difference being, the horizontal instead of the upright position it occupied. The man and the horse do the raking with an eight dollar implement, that was but a few years since done by a dozen expert hands, each of whom would think himself indifferently paid by one dollar and a half to two dollars per day. The stationary pitcher, suspended under the barn-roof by cords and pullies, jerks off the load of hay by a few lifts from the horse ; and the easy guidance of the mowing man readily deposits the hay in such part of the barn as he desires, without the exhausting, suffocating labor of pitching, and stowing away in a close air, during the most sultry and stifling weather of the season.

THRESHING AND WINNOWER MACHINE.

The threshing and winnowing machines operate sometimes singly, and sometimes combined, and in either case may be driven indifferently by the force of horses, steam or water. The owner of one hundred or one thousand standing acres of stalwart grain, it matters scarcely which, moves his machinery into the midst of his field, and putting six or eight powerful animals to the levers of his horse power, with as many men to feed the ravenous jaws of the thresher, and remove the straw and grain after passing his mow, turns his sheaves into merchantable wheat ready for the miller, at the rate of four hundred to five hundred bushels per day, and this, too, regardless of the condition of the grain, whether early or late cut, peculiarly adhesive to the straw, or easily shelled, no matter which. Experienced wheat growers assure us that the introduction of threshing machines has enabled them to cultivate some of the choicest varieties of wheat, which was so difficult of separation by hand threshing, as to be tabooed from our best wheat grow-

ing regions. The political economist may here note another important datum for running out important consequences from adequate causes. Should the more moderate farmer require a smaller force and more economical machinery for his lesser harvest, it is readily found in smaller and more simple machines, many of which are sufficiently capacious, when driven by a single horse, to do the work of fifteen men.

Well do we remember the time, when the laborer was stinted to threshing five to eight, and ten bushels per day, according to the kind, quality, fulness, and tenacity of the grain, and thought himself but moderately rewarded in receiving one fourth the quantity of oats, one sixth of the rye, and one tenth of the wheat for his toil in threshing. And what a toil was it! Thwack — thwack — twack — with the heavy, resounding flail, as it swung in skilful, ponderous curves around the brainless, nay rather, unthinking head, from morning sun till night. Then came that other primitive operation, ycleped *winnowing*, which sapient practice consisted in strapping over the shoulders a broad willow fan, raised a few inches on the back part, while the clothing in front most exposed to the trituration was effectually guarded by the more thrifty operators by a substantial leather apron, carefully girded around each leg. This elaborately constructed machine was partially filled by the chaff and grain, after their separation from the straw, and by a half-tossing, half-revolving motion, with a chuck—chuck—chuck, the grain and chaff gradually, but only partially assumed different sides, like the non-committal or fence men in political parties; and these were soon more effectually separated by blowing the chaff off the smooth edge by the current of air produced by the often recurring fall of the grain; the final, and we believe the only effectual cleansing being secured by exposing the grain and remaining chaff to the more searching operation of a stiff breeze. All this is now done by a winnower attached to a large thresher, cleaning the grain for market as fast as threshed; or more frequently, by a simple machine, costing from twenty to thirty dollars, and cleaning by the aid of two men several hundred bushels daily.

THE CORN-SHELLER.

The corn-sheller is an almost equal improvement over the old methods for cleaning the corn from its cob. What farmer's boy, whose recollections go back to this time, does not remember with a grudge, the fussing and fumbling over the obdurate flinty ears, when resisting all well-directed efforts, they incontinently slipped past the opposing ear, or glided over the shovel's edge unshelled, which had been adroitly placed to peel away the grain from its tenacious hold? And for this stupid duty he was compelled to neglect his books, or postpone his fun on the rainy days and cosey evenings, whenever the grist had to be prepared for the mill. Husking corn was all frolic and glee, as the exciting labor was generally participated in by the whole neighborhood of youngsters, in those rural gatherings, appropriately dubbed, *husking bees*; and not unfrequently were they enlivened by the bright-eyed lasses of the adjoining households. But shelling corn was a dull, unmitigated bore, for when not thus sullenly jerked off by hand, it was as moodily pounded out by the flail. Now we have the easily propelled sheller, costing a few dollars only, that will readily turn off eight or ten bushels per hour, though moved by a lad. Larger machines, when driven by horse or steam power, will shell their thousands of bushels in a day, and each may be made effectually to separate the corn from the cob, and chaff in the same operation. The chaff-cutters for hay, straw or corn stalks, with its economical consequents; the root cutters and graters; the corn and cob crushers; the straining apparatus and vegetable boilers; with innumerable minor inventions, all follow in the train of modern agricultural improvements, and characterize this age as one eminently promising for the advancement of the agricultural machinery, the agricultural science, and the agricultural practises for the next, as they have been of the preceding half century.

New York, Dec. 15th, 1854.

SCIENTIFIC AGRICULTURE AND RELIGIOUS PROSPERITY.

 BY REV. WILLIAM CLIFT, STONINGTON, CONN.

It is a superficial view of agriculture, to regard it as isolated from other employments. Every lawful calling is linked with every other, and contributes its share to the general good. Man can do nothing worthy of his manhood, that will not make the race happier and better. This connection between the varied occupations of men is more obvious in some cases than in others. It is generally acknowledged, that religion lies at the bottom of social prosperity. The reaction of secular business upon religion is generally overlooked. Stagnation in the former is incompatible with thrift in the latter. A parish where all earthly interests droop, where the husbandman, the mechanic, and the manufacturer, alike fail of success, is not likely to see piety increasing. The man that is nerveless and disheartened in the prosecution of secular enterprises, will find it very difficult to "be present in spirit, serving the Lord." In his straitened circumstances and poorly remunerated toils, how hardly shall he "devise liberal things for Zion," whether at home or abroad?

There are parishes in New England, once able and self-sustaining, now so impoverished, by lack of skill and enterprise in business, that they have lost the ability to support gospel institutions among them, without foreign aid. Whatever may be the moral disposition of the people, they lack the pecuniary means to pay a minister's salary. That many, if not most, of our rural parishes are waning in numbers, wealth, and influence, is generally conceded by intelligent men, without any statistical knowledge of the fact. The most cursory observation shows it. The extent to which this decrease has gone on, would probably surprise any one who has not had his attention particularly called to this subject.

In the August number of the *Home Missionary*, we find the following account of the Congregational parish in Bolton, Ct.:

“The time has been when this church needed not the aid of sister churches. Here were men of wealth, enterprise and energy, who unitedly labored in the cause of Christ, and honorably sustained divine institutions. In the year 1722, they made ample provision for the support of a pastor, and were in a condition to command the best talent in the ministry. They had able ministers, and in the early history of missions, this church contributed annually to the Connecticut Missionary Society; not having the most remote idea that it would ever be a suppliant at the door of the Home Missionary Society.

“The causes of the decline in piety and enterprise are not without some interest. Bolton included the larger part of Vernon for thirty years after President Edwards accepted a call here; but it was comparatively an unimportant part of the town. Its streams ran noiselessly through tangled forests; while Bolton Centre was a place of business occupied by men who were princes in the land. Orford, then a waste place in East Hartford, was dependent for pasturage and bread upon this fertile mountain. Now Vernon contains three, and Orford — under the name of Manchester — two Congregational churches, and each the same number of other evangelical denominations — and they are all golden candlesticks; while Bolton church, the mother of them all, sits solitary as a widow, dependent on charity, for there are none among her sons and daughters to guide her. They are gone, some among the leading men of several of these churches; more are scattered all the way from this to California, promoting as we hope, the kingdom of Christ. ‘She that hath borne seven languisheth.’ Our most enterprising and energetic youth go from us every year to swell the population of the villages around us, or to lend an impulse to the tide which is bearing the institutions and the civilization of the Puritans to the Pacific.

“It is not more certain that the living springs, gushing from our mountain sides, will send their contributions to drive the machinery in the lower towns, than that our youth will be there to guide the spindle and the loom. The consequence is, that real estate has been depreciating here for fifty years; and the poor, who will pay small rent, or buy only on lower terms than in any of the neighboring towns, can find a home among us. They, who have the means to emigrate, do so, and our number lessens every census, though not so fast as our valuation; for poverty comes like an armed man.”

Such is the graphic description of an agricultural parish by its present pastor.

By referring to the census returns, I find the population of Bolton in 1810 — 700 ; 1830 — 744 ; 1840 — 739. The proportion of agriculturists to manufacturers is 164 to 23, showing the main business of the town to be farming. The statistics of the census of 1850 are not at hand, but if they were, they would probably show no substantial increase for the last forty years.* The following table of towns in New London County shows the same state of things in other parishes.

| | Pop. in 1810. | Pop. in 1830. | Pop. in 1840. | Farmers. | Manufacturers. |
|----------------|---------------|---------------|---------------|----------|----------------|
| Waterford, | 2185 | 2477 | 2329 | 695 | 131 |
| Lisbon, | 1128 | 1166 | 1052 | 564 | 41 |
| Franklin, | 1186 | 1194 | 1000 | 794 | 19 |
| Montville, | 2187 | 1972 | 1990 | 1187 | 98 |
| N. Stonington, | 2524 | 2840 | 2269 | 1661 | 196 |

It is believed that there is no exception to this state of things in any agricultural parish in Connecticut ; for these figures do not show the full extent of the decrease in such parishes. These towns include villages where manufactures flourish, and which increase in population ; but notwithstanding such increase, the towns as a whole, show no large addition to their population for the last half century. Such parishes have not the population, the wealth, or the influence they had fifty years ago.

To every good man, these examples of unthrift and decline are sad spectacles. They are contrary to the genius of Christianity, which not only “ makes the wilderness bud and blossom as the rose,” but keeps the wilderness it has reclaimed, in perpetual luxuriance.

The decline of our agricultural parishes is too often regarded as hopeless. Go into any of them, and converse with that class of farmers who take no agricultural paper ; and, while they concede the fact that their lands are less productive than formerly, they propose no remedy. Is there no help ?

Certainly it ought not to be so. For the right use of everything that God has made, improves it ; while man’s works only wear out in the using. Mind improves by use, and is broken down only by neglect or abuse. The soil is as much God’s work-

* By the census of 1850, which has come to hand since this article was written, the present population of Bolton is set down at 600.

manship as the mind. Use it rightly, and it will not only never wear out, but always improve. There is no good reason why the soil should not every year increase in riches, and in its capacity to produce aliment for man and beast. Any usage that does not secure this result is an abuse of one of the works of God.

The natural working of the soil, under the influence of light, heat and moisture, secures this result. The decay of vegetation on wild lands, every year, increases the mould, and all those elements of fertility which future generations of plants will require. It should be the office of human tillage to increase the action of these natural agencies, and to hasten the process of amelioration. We should come to this conclusion upon general principles, were there no science to demonstrate its truth. The soil would be an exception among all the works of God, if it were run down by legitimate use. But agricultural science shows us beyond all cavil, that good tillage, while it gives the amplest rewards, improves most rapidly the capacities of the soil for future fruitfulness.

If these principles are correct, it is quite manifest that far the greater part of the husbandry of our land, is a flagrant abuse of one of God's gifts. It is wearing out the soil and dissipating the inheritance of future generations with reckless prodigality.

Says Dr. Lee, in the Patent Office Report on Agriculture, for 1849 and '50: — "Of the twelve million acres of improved land in the State of New York, one million are so cultivated as to become richer from year to year. These improving soils are in the hands of forty thousand cultivators, who take, and read, agricultural journals, and nobly sustain the State and County Societies of that commonwealth.

Three million acres, of the twelve million, are so managed as barely to hold their own in point of fertility. These lands belong to a class of persons, who do as well as they know from personal observation, and seeing how reading men improve their estates and domestic animals.

Eight million acres are in the hands of three hundred thousand persons, who still adhere to the colonial practice of ex

tracting from the virgin soil all it will yield, so long as it will pay expenses to crop it, and then leave it in a thin, poor pasture for a term of years. Some of these impoverished farms, which seventy-five years ago produced from twenty to thirty bushels of wheat per acre, now yield only from five to eight bushels. In an interesting work entitled ‘American Husbandry,’ published in London in 1775, and written by an American, the following remarks may be found on page 98, vol I: —

‘Wheat in many parts of the province (N. Y.) yields a larger produce than is common in England. Upon good lands about Albany, where the climate is the coldest in the country, they sow two bushels and better, upon an acre, and reap from twenty to forty; the latter quantity, however is not often had, but from twenty to thirty is common; and with such bad husbandry as would not yield the like in England, and much less in Scotland. This is owing to the *richness and freshness* of the land.

‘According to the State census of 1845, Albany county now produces only seven and a half bushels of wheat per acre, although its farmers are on tide water near the capital of the State, with a good home market, and possess every facility for procuring the most valuable fertilizers. Dutchess county also on the Hudson river, produces an average of only five bushels per acre; Columbia, six bushels; Rensselaer, eight; Westchester, seven; which is higher than the average of soils that once gave a return larger than the wheat lands of England, even with bad husbandry.’

‘Fully to renovate the eight million acres of partially exhausted lands, in the State of New York, will cost at least, an average of twelve dollars and a half per acre, or an aggregate of one hundred million of dollars. It is not an easy task to replace all the bone, earth, potash, sulphur, magnesia, and organized nitrogen in mould consumed in a field which has been unwisely cultivated fifty or seventy-five years. Phosphorus is not an abundant mineral anywhere, and this subsoil is about the only resource of the husbandman, after the surface salt has lost most of its phosphates. The three hundred thousand persons that cultivate these eight million acres of impoverished soil annually produce less by twenty-five dollars each than they would if the land had not been injured.

‘The aggregate of this loss to the State and the world is seven million five hundred thousand dollars per annum, and more than seven per cent. interest on what it will cost to renovate the deteriorated salts. There is no possible escape from

this oppressive tax on labor, of seven and a half millions of dollars, but to improve the land or run off and leave it.

‘That the latter has been done to a large extent, is shown by comparing the population in rural districts at the census of 1830 with that of 1840. In nearly half of the towns in the State, population has decreased notwithstanding the rapid growth of the cities and villages, demanding an increase of farm laborers to supply the mere local markets.’

This curse of depopulation and poverty, which follows the abuse of the soil, is not to be wondered at. Every good which God has given us, has its laws — must have them — to guard it against abuse, and preserve it for the happiness of future generations. Retribution follows the violation of these physical laws in this instance. The soil, as if indignant at the treatment it receives, spews out the population that fail to enrich and improve it, as the stomach rejects all unwelcome intruders that it cannot use to replenish and build up the system.

What then is the remedy for these wasting agricultural parishes? They are so numerous, in all the older States, at least, that the question is one of public importance, and demands the attention of even philanthropists and Christians.

We answer, the remedy is not mere preaching, or moral appliances of any kind. The poor wise men in our pulpits, though more largely the benefactors of the public than any other class will find an evil here that the ethics of no school in theology will directly meet. Were their readers

“All ear,
And took in strains, that might create a soul
Under the ribs of death,”

they could not make of them flourishing congregations. Their souls are not there to be converted. There is not capacity in the wretched husbandry that prevails, to sustain them and make them an energetic and thriving parish, if they were converted. Religion corrects the maladies of the heart. It does not promise, directly, to remedy defects of mind, or to reform the bad results of a wrong mental training. Piety will not give a man the results of experience and business tact. It will not directly make a man a better farmer. But finding a farmer or mechanic intelligent in his business, it will furnish him with new

motives for its vigorous prosecution, and teach him to make a wiser use of his accumulations.

There is a physical, rather than a moral, cause for many of these spiritual wastes and waning parishes in New England, and there must be corresponding appliances to remove the evil.

The one thing wanted to renovate the soil and to bring back prosperity to these parishes is scientific agriculture. This will make husbandry as profitable as other callings, and will change it from dull plodding and drudgery, to a business of intelligence and taste. The aspiring sons of our New England farmers, finding employment for mind as well as muscle, in husbandry, can easily be retained at home to improve and adorn this heritage of the Pilgrims.

Here is the appropriate field of labor for our agricultural journals, and the man who shall succeed in putting these upon the farmer's table, beside his newspaper and his Bible, will have done a good work for the farmer — a good work for society and religion. The farmer does not believe it now — but as he reads and practices, he will believe it — that with the same labor and expense his crops may be increased to thirty, sixty, or an hundred fold ; — that the same sterile acres which now starve their hundreds, and eject as a burden all the natural increase of population, are capable of supporting their thousands in joy and plenty.

Disseminate agricultural knowledge in every family, and a new era will open upon these rural districts. A remedy will have been found for a great evil ; the chief embarrassment of many parishes will have been removed, and their pastors cheered and strengthened in their work.

THE GRAPE—THE VINEYARD.

A PAPER READ BEFORE THE UNITED STATES AGRICULTURAL SOCIETY,

BY DR. J. A. WARDER, CINCINNATI, OHIO.

SELECTION OF SOIL AND POSITION.

As this branch of Agriculture is pursued to a considerable extent, and with great success in this immediate neighborhood, the illustrations will be drawn, to a great extent, from our own vineyards, but the writer will endeavor to collate also the experiences of those who have studied and pursued the vine-culture in other parts of the country — for we do not arrogate to ourselves to possess the only vine lands in our extensive country ; many spots may be found to be as well, or better, adapted to the production of the luscious grape and generous wine.

The natural region of the grape-vine of our country, in its several species and varieties, is very extended ; we find the wild vines growing as far north as lat. 45° and extending into Texas on the south. The Hill grapes and Chicken grapes, *Vitis æstivalis*, abound upon the gravelly ridges of the middle States ; while the Fox grape is found in flat lands and near water-courses, in many parts of the same geographical range, and extending into New England, which has latterly become almost as famous for the *Charter grape*, which is of this class, as one of the cities of Connecticut is for the Charter oak, whose cavity, now secured with padlock and iron door, was once the depository of invaluable documents. The varieties of the Fox grape, *Vitis labrusca*, prevail over a wide extent of territory, covering the central portion of the Union, from the lakes on the north, to the Tennessee river on the south.

In this same region, wherever the river bottoms and adjacent hills are composed of a rich soil, we find, very generally distributed, a luxuriant vine, sometimes of enormous size, on our

western streams, where may be seen stems one foot in diameter, swinging, suspended from the tops of forest trees one hundred feet high. This is the variety known as the River grape or Frost grape, *Vitis riparia*; the fruit is very small and too tart and austere for the table, but its presence has, by most authors, been assumed a good indication, of a favorable location for a vineyard — this assumption, however, although supported by the authority of Michaux, himself, has not always proved to be a safe guide.

The elements for the production of an immense growth of wood are certainly present in these soils; but, as their appropriations to the culture of superior varieties of the vine have not always been attended with success, it may be inferred that the conditions requisite for the production of choice fruit have not existed. Still, it must be confessed that the natural growth of wild grapes may be taken as an index of considerable value, due reference being had to the exposure and elevation of the spot selected.

In a range south of the region just alluded to, beside the varieties of the species already mentioned, we find a new class of vines presenting themselves. In North Carolina, (the source of the celebrated Catawba, and where perhaps several of the better sorts of the Fox grape, or those nearly allied to it, grow,) the Scuppernongs and Muscadines, also, make their appearance, and constitute the chief representatives of this genus in that range of latitude, and extend to the Gulf of Mexico. In Arkansas, which is very fruitful in climbers, the grapes abound in almost all situations — the Muscadine varieties being most common on the sandy soils, and the better kinds on the rolling swells south and east of the range of Masserne Mountains; among the latter several have been discovered which bear a strong resemblance to the Catawba. In Texas new varieties are discovered, some of which may have great merit, but nothing very superior has yet been brought into notice.

Looking abroad, we find that the soils of the Grape countries of the world are equally various. In these, however, one striking feature may be observed, quite different from the natural conditions of our own land; there the original production

of grapes was limited, and embraced very few sorts, while the distinct species and varieties in this country, as described by some botanists, are exceedingly numerous. The great number of varieties cultivated in Europe are either those that have been introduced from other lands, or produced from seed — new individuals, but not true natives. In Spain, the soils are described as being flinty, and frequently volcanic or granitic. In France, we find an equal diversity in the character of the land planted with grapes; but generally speaking, that which is rich and level is not valued so highly for producing wines of high character, although the quantity is sometimes enormous. There we find gravelly, chalky, clayey, rocky and sandy soils, levels, and ridges, and steep terraced hill-sides, all in turn appropriated to the culture of the luscious grape and flowing wine. In Italy, the limestones of the Sub-Apennines as well as the Scoria hills, and the lava rocks of ancient volcanoes, and the gravelly detritus of the Alpine streams, all yield their surface to the culture of this crop. In the islands of Madeira, the clefts of the volcanic mountains, filled with the decayed materials which in centuries have smouldered from their craggy sides, furnish a refuge which has hitherto been congenial to the roots of some of the most delicate varieties of grape, now suffering under the *maladie*, after they have obtained a wide celebrity in their products. In the northern parts of France, and in Germany, the banks of the Rhine and the adjacent regions, with their Musselkalk rocks, have been quarried out and built up in terraces to support the fruitful vine, which here approaches its northern limit; but which submits to severer rigors and a stiffer soil in the damp climate of Hungary, where the snow often interferes with the vintage.

The reader must not hence infer that any soil, and any situation will answer for the culture of the grape, although it appears, from this hasty glance, that the cultivation is extended over many kinds of rocks, with their peculiar soils. One axiom may be advanced — the mineral constituents of every plant, must pre-exist in the earth that has produced it; hence, those soils which contain a good share of the elements of any plant, and in a proper state of disintegration, will *cæteris paribus*, be

found to be the best adapted for the production of that plant ; now the analysis of the grape-vine and of its fruit, demonstrates the existence of a large proportion of *potash* — granitic and volcanic soils furnish this material, and may be assumed as the most favorable for the vine — this assumption is supported by observation. But in the preparation of the surface of the earth, immense attrition, denudation and transport of the different rocks have occurred, resulting in a happy variety of the several ingredients, more or less thoroughly mixed in most soils. In this portion of our own country, we do not find a very large proportion of this very valuable and important ingredient ; hence, the *a priori* conclusion respecting the culture of the grape, would have been adverse to its introduction ; but we find a sufficiency of the necessary potassa to furnish luxuriant growth and well ripened fruit, and we have intelligence enough to add successive supplies, as a special manure, when we shall find a deficiency indicated by failing crops — this application has already been made to some vineyards with happy results, as will be shown in a future number.

SOIL AND POSITION.

Some diversity of opinion exists among those who plant the vine, as to the most favorable exposure — each has his peculiar notions, often founded upon preconceived views brought from a distant country, not similarly situated, and with a different climatic constitution from our own, or drawn from the dogmas and experiences of writers and planters in other lands. From these various views, preconceived and practical, I shall endeavor to deduce some data, which are the results of a very extended series of observations made in hundreds of localities, with every variety of exposure.

Low lands, river bottoms and valleys, should generally be avoided, as unsuited, on many accounts, for the grape culture ; chiefly for the following reasons ; they are very subject to late vernal frosts, which are often disastrous to the tender young shoots of the vine ; they are also obnoxious to early frosts in the autumn, unless where protected by fogs ; they do not enjoy so free a circulation of air as is desirable for the vine ; the

soil is apt to be too rich in vegetable matter, and, if not underlaid by gravel, the subjacent moisture will be injurious. The early vine-planters at Vevay, Indiana, committed this mistake, and were soon driven to the hill-sides, or discouraged, and relinquished the culture to such an extent that the products of that whole region is now quite insignificant.

Hill-sides are generally preferred, and the majority select those with a southern exposure — those sloping eastwardly to meet the early sunshine, and those with a western declivity, to receive the health-giving zephyrs, are also much preferred by some close observers, who claim for either circumstance, quite as much value as for the full meridian rays of our summer sun, while others, consider a northern slope still more advantageous, because of the greater immunity from the spring frosts, where the buds are not forced so early as in more sunny situations. These hill-sides are generally so precipitous as to render benching or terracing necessary, and where the horizontal layers of limestone are freely mixed with the soil, these stones are used for the construction of walls, to support the earth of the terraces; when absent, the benches are constructed of the turf or sods, and they are preserved by the growth of the grass. The presence of small loose stones is much valued by some vignerons.

Hill tops, on account of their elevation and free exposure to sun, and especially to the stirring breeze, are, in my opinion, decidedly the best positions for the vineyard. Here we have much less liability to vernal frosts — perfect exposure to the sun and air, for the dissipation of too abundant moisture, and an almost complete immunity from fogs, which may be very valuable to protect the deeper valleys from a late frost, but which are exceedingly injurious to the swelling grape, in the heats of June, the most critical period with this fruit. Upon these hill tops we often find an abundant natural drainage, and a soil of peculiar excellence and adaptation to the vine — a deep, rich, sandy or friable loam, with clay enough in its composition to give it a proper tenacity, but not enough to render it heavy, — and indicating a richly varied list of constituents — in such a soil, found especially upon the ridges of our river hills, there is

a smaller proportion of lime, and a large amount of organic matter; in this the grape is found to flourish remarkably.

I shall, therefore, conclude by recommending an elevated position, well exposed to both sun and wind, and a rich, friable soil, of varied ingredients, rather than the stiff lime, stone clays of the hill-sides.

PREPARATION OF THE SOIL.

Having determined upon the soil and position that promises to be best adapted to the vineyard, the next step will be the preparation of the land. Should the subsoil be tenacious, clayey, and holding water, even in a small degree, it will be advisable to lay drains, but if it should happen that the ground be at all spouty, it will be absolutely necessary to under-drain thoroughly, otherwise it will be a loss of labor to prepare the soil in the usual way, and a loss of plants to set them out upon it; for the grape is as fastidious of a wet foot, and as easily affected as the most delicate invalid.

Of the importance of drainage, as a means of meliorating the soil, most persons are not sufficiently aware—none but those who have witnessed the good effects of this process can properly appreciate its great benefits; for it has been well and truly said, that by draining, the soil is kept from being too wet, and also preserved from the effects of drought—that it is warmed by the summer showers, and escapes the chilling influence of excessive moisture, and is kept from being baked by excessive heat—that it is percolated by currents of the all-pervading air, laden with treasures of food for the plants, while at the same time the cutting blasts of winds pass harmlessly over it without drying out all of the moisture and producing excessive cold by its evaporation. The advocate of draining is thus apparently obliged to blow hot and cold; but these assertions, contradictory as they appear, are all supported by abundant testimony deduced from repeated experiments.

This matter is of so much importance that the reader will excuse the introduction of the following ten reasons urged in favor of this operation—they are sound and philosophical,

though a thoughtless person might at first suppose them somewhat contradictory.

Draining prevents rain-water from resting on or near the surface, and renders the soil dry enough to be worked or plowed at all times.

By rending the soil porous, it can take in water without flooding in time of rain, and give it off gradually in time of drought.

By preventing adhesion and assisting pulverization, the roots can pass freely through all parts of the soil.

By facilitating the mixture of manures through the pulverized portion, are greatly increased in their value and effect.

Water falling on the surface passes downward, carrying with it any fertilizing substance, (such as carbonic acid or ammonia,) until arrested by the soil.

In a similar manner it abstracts the heat contained in falling rains—the soil is thus warmed—for the water discharged by drain-mouths is found to be many degrees colder than ordinary rains.

The increased porosity of the soil renders it a more perfect non-conductor of heat, and the roots of plants are less injured by freezing in winter.

The same cause admits the entrance of air and facilitates decomposition.

By permitting early plowing, or digging, the crops may be sown earlier, and an increased yield will be the consequence.

Draining economizes labor by allowing the tillage to progress, at all times, without interruption from surplus water in springs or from a hard-baked soil in summer.

The directions, then, are repeated to all who would plant a vineyard—drain the soil thoroughly, even if the situation be a steep hill-side; for it is believed that many of the vines so situated have suffered from the retentive subsoil of our hills, even where the declivity would appear to be such as to provide the most perfect surface drainage. For the minutiae of this operation, the reader is referred to essays upon this subject already before the public, especially to those of Messrs. JOHNSON and PARDEE, which were published in the New York Agri-

cultural Transactions, and which have been reprinted in several periodicals.

The principles to be borne in mind are, that as water will find its level, parallel drains, deeply placed, will affect the drainage of the soil on either side to a greater or less distance, according to the tenacity of the soil—practically, the deeper the better, but always below the reach of the deepest culture—the drains, whether of drain-tile, stone, wood, or even brush, should be commenced at or near the summit of the hill, for such places require drainage much more frequently than is generally imagined, and the lower drains can never be so efficient as when the higher ground is first relieved of its surplus moisture.

This primary object having been effected, the next step is to prepare the soil for the noble crop which it is expected to sustain. This being a work destined to last for a life-time, it is all-important that it be well performed. If the vineyard be expected to yield profitable returns, there should be no niggardly expenditure in the arrangement, but the most thorough preparation of the soil is to be effected. The best method of doing this is to trench the land with the spade, digging it two or three feet deep, or as much more as you choose; it has been asserted by some that if the soil were stirred to the depth of ten feet, the crop would be all the better for the operation, and the vines would continue to yield profitably for a longer period.

The article upon the Mode of preparing the Garden by trenching the Soil, which may be found in a late number of the *Western Horticultural Review*, is recommended to the attention of those who expect to prepare a vineyard, if their land be level or gently sloping; but so many persons prefer a slope, often a precipitous declivity, that a somewhat different course will be necessary. In such situations, it becomes advisable to throw the surface into terraces or benches, as they are called, so as to reduce the land to a series of levels, or gentle slopes; this process is called *benching*, and although the object, deep culture, is effected, it is somewhat differently performed from the common business of trenching, and will need a description.

When a piece of land is to be benched for grapes, the first thing to be done is to lay off the work. Commencing as low down the hill as the vineyard is to extend, a row of stakes is set nearly at the same level, but slanting down hill a little at either end, or, if long, at both ends. From these, and as nearly parallel to them as the character of the declivity will permit, and as far up the hill as its slope may require, another row of stakes is to be placed, declining at either end sufficiently to carry off the surface water gently. The distance between these two rows will be the width of the future bench, and must be determined by the steepness of the ground and by your determination to have the general surface of the terrace incline toward the hill or from it; in the former case the distance must be less, in the latter it may be greater, and then the effect will be simply to reduce the slope by raising the lower portion and lowering the upper part. Many prefer narrower benches, so constructed that all excess of water shall be carried toward the hill, to be there received by a gutter, or still better, by a covered drain, which shall carry it to the ends of the bench, or to an open main channel running down the hill. Benches vary from a few feet to several rods in width.

Having determined these points, and set the stakes accordingly, the formation of the terraces next depends upon the material to be used for their construction, for these hanging gardens must be well supported, as they are to stand for a lifetime at least, and it is always difficult to repair breaches, and is much better to provide against accidents in the first place. If stone abound in the soil, it is used for the walls at the lower side of each terrace, and this material gives a substantial character to the work; walls are expensive, however, and, beside, they furnish a harbor for vermin, as the stone should be laid up dry, or without mortar or cement—the height will depend upon the conditions already mentioned, the steepness of the hill, the width of the terrace, and the direction of its slope or surface. It would, probably, not be advisable to purchase, nor to transport stone for this purpose, but if it be at hand, the appearance and the permanence of the work would indicate the propriety of its use.

Commencing, then, at the lowest row of stakes, the ground is excavated to a sufficient depth and width to give the wall a good foundation, in which it is then constructed and carried up to the necessary height; the earth of the land marked off for the terrace is thoroughly trenched, all the surface soil being thrown to the bottom and the subsoil being brought to the top, care being taken to regulate the grade during this operation—a very easy matter to a practiced eye, accustomed to dealing with surfaces. Great care should be exercised in digging, to have the upper portion of the bench deeply stirred, for it is most natural to have deeper soil at the lower part, against the wall; this will require the overseer to watch the laborers closely, especially if the work be done by contract. The upper part of the terrace is finished by an excavation for the foundation of the next wall, the bottom of which may be arranged for the drainage.

If, from absence of stone, or other reason, it be determined not to use walls, a very good substitute, producing, to some eyes, a still prettier effect, is always at hand in the grassy fields usually selected for the vineyard. In the tenacious soils of this neighborhood, the tough sod or turf of green grass (Kentucky blue-grass) forms an excellent material for supporting the terrace, when not too high. The diggers select this in the beginning, and construct their embankment as they proceed, arranging the best sods in a steep slope at the lower side, and throw the best of the earth above it in making the terrace; in this plan it is almost impossible to avoid having too much of the rich surface soil accumulated on this part of the bench. In finishing at the upper row of stakes, the same care before advised should be exercised, to have a sufficient depth to the trenching; and again a foundation is opened for the wall, or bank. The next rows or spaces staked off are then prepared in the same manner until the summit is reached, when trenching alone, without walls, is all that will be required.

These grassy walls or terrace banks are made as steep as they can be sodded without slipping—they generally form an angle of about forty-five degrees, with a vertical line. They answer very well for low embankments, and when the natural

sod of our pastures is employed for this purpose, the effect of these bright green stripes passing horizontally around a hill, when seen from a neighboring eminence, is peculiarly striking. One circumstance must be particularly borne in mind, and will require attention in due season. This blue-grass (*Poa pratensis*) requires peculiar treatment; it is here most favorably situated for making a strong growth, which needs to be mowed with the scythe, and this must be done in due season. This grass shoots forth its spear or spire of inflorescence early in June, hence, often called spear or June grass, and requires to be cut at the time of blossoming, or the turf below will not recover its green appearance for a long time. It should never be allowed to ripen its seed, as its growth, scattered over the terraces, would be very troublesome. The mowing of these grassy walls is done with a common scythe, hung for this purpose in such a way as so apply itself to the surface; the workman stands at the upper side and stoops down to the work. In a small vineyard, the grass is often cut with a Dutch grass-knife, a kind of sickle of German manufacture. When cut it may be removed for feeding, or, better still, left on the ground and applied as a mulching material.

Where the ground selected for a vineyard is not precipitous, but gently sloping, or nearly level, no benches will be required; or, perhaps, one wall or sod bank may be placed at the bottom of the declivity; the latter, in trenching, may be formed from the earth thrown out of the first excavation—it will give a finish to the work and save the wash from above; if built of stone and carried up sufficiently high, the wall may serve as a fence to separate the vineyard from adjoining pasture lands. On a gentle slope not requiring benches, another plan has been suggested and carried out very handsomely by R. BUCHANAN; the cartways between the squares or subdivisions are carefully sodded in a shallow gutter form so as to convey off the surplus rain-water. This author, in his excellent little Treatise, which should be in the hands of every one engaged in wine-culture, alludes to this subject, under the head of draining, in the following words: “Surface draining may be obtained by *concave sodded* avenues of ten feet wide, and intersecting each other

at one hundred, or one hundred and twenty feet, thus throwing the vineyard into squares of that size ; this will do for gentle declivities."

Plowing — Some persons, especially those who have selected a level position, or the summit of a ridge which is nearly level, will feel unwilling or unable to incur the great expense of trenching a large extent of vineyard, at a cost of fifty dollars per acre. Though not generally recommended, plowing may be substituted for spade husbandry, if care be taken to have it very thoroughly done, and, with the aid of modern improved implements, this may be executed with considerable effectiveness. The largest sized plow, drawn by a powerful team, is used to reverse the surface soil to a depth of one foot ; the Michigan double plow may be found better suited to this work than any other, because it may be made to turn a narrower furrow-slice, and at the same time open a deep trench, and thus the work can be adapted to the strength of the team. The next process will be to loosen the deeper earth thoroughly with a subsoil plow drawn by a powerful team, and kept down to its full depth, so as to stir up the soil for a foot or more, leaving it broken but not excavated. If it be desired, a plow with a peculiar mold-board, or the Michigan plow itself, is then introduced, and the loosened earth is thrown out upon the furrow left by the breaking-plow first used. The subsoil plow is then again passed along the furrow. This will require two or three teams and as many plowmen, but will effect the object, of stirring the soil pretty effectually, for the depth of twenty to thirty inches.

Some very fair vineyards may be found that have never been trenched and only prepared with the plow ; but the practice is not sustained by the best vignerons, and apprehensions are entertained that such superficial preparation will not be followed by enduring vines ; many of the vineyards of Europe, however, have had no better preparation.

Another method prevails among a portion of the German vine-dressers—it is called the bed or ridge system, and is adapted only to level land, or to gentle slopes. It consists of the construction of ridges about a rod in width, well trenched,

and having wide gutters left open between them; the chief advantages appear to be thorough surface drainage and deeper tilth.

LAYING OFF — PLANTING.

After the ground has been thoroughly prepared, as previously advised, whether by the plow or the spade, an important and rather nice operation is to be performed before proceeding to plant the vines; this is called *laying off* the vineyard, and should be done with some degree of accuracy, since much of the appearance and snugness of finish of the place, will depend upon the correctness with which this is effected. A sufficient number of little sticks should be prepared; these are best made by sawing a straight inch pine board, into lengths of a foot or fifteen inches; these pieces are then to be split, and pointed, so as to enter the ground easily.

In the spring, these are taken to the field, and used to mark the spot where the vines are to grow, and there they remain during the first season, to aid the vine-dresser in finding the young tender thing, which is often very inconspicuous at first, though eventually destined to become a great vine. The distance at which these sticks are to be placed, will depend much upon the nature of the ground, its exposure, and also upon the manner in which it has been prepared, whether it be in benches or otherwise. The rows may be set closer on narrow terraces, than on wider levels, because of the more open exposure of the former.

Different views exist among planters, as to the proper spacing, and certainly different distances should be allowed for rampant and for slender growing varieties of the vine. Having stretched a line along one side of the space to be planted, a measuring stick is prepared, of the length determined, and with this the little sticks are set with accuracy, at the proper distances; the line is next moved to the width of the rows, and the same measuring stick is again used, in setting the stakes; great accuracy is required in these first two settings, because they will be used as guides to prove the remainder, so long as they remain in sight.

The very common distance, in most vineyards, is four feet each way, for the Catawba and other grapes, most cultivated, but the Herbemont, and some others, require more space, while the Missouri would answer equally well, as it grows here, if crowded more closely. The vine-sticks are often set $3\frac{1}{2}$ by 4 feet, and 4 by 4, or 4 by $4\frac{1}{2}$, occasionally wider, say 3 by 5, or even 3 by 6. Mr. BUCHANAN recommends, for steep hill-sides, $3\frac{1}{2}$ by $4\frac{1}{2}$, or 3 by 5, but, for gentle slopes, $3\frac{1}{2}$ by 6, he says, is close enough, and for level land, 4 by 7, which will admit sun and air, to mature the fruit, and leave space enough for the roots; he refers, of course, to the vigorous, native sorts, chiefly cultivated, and which are remarkable for their long, healthy canes, and exuberant foliage.

The number of plants wanted per acre, will depend upon the distance chosen; $3\frac{1}{2}$ by 4 feet, will require 3,112 vines; 4 by 4, 2,762; 4 by $4\frac{1}{2}$, 2,420; 3 by 5, 2,904; $3\frac{1}{2}$ by $4\frac{1}{2}$, 2,766; $3\frac{1}{2}$ by 6, 2,075; 4 by 7, 1,556; 3 by 8, 2,815; 6 by 8, 908. If cuttings be planted double, these numbers will be required.

Planting.—After the ground has been properly laid off, the next procedure is planting the slips, or vines, whichever may have been determined upon. There are advocates for both plans, and there may be reasons why one or the other should be preferred, for different localities, and under different circumstances, depending upon the distance the young plants have to be carried, and the convenience of transportation. In some attempts which were made in Arkansas, owing to the irregularities in the navigation, and perhaps, also, a want of sufficient care in packing, the young vines nearly all died before reaching their destination—in such a case, the cuttings would, probably, succeed much better. Young plants are always to be preferred to old ones, and many prefer even to set out the cuttings, where they are to stand, and thus avoid the difficulty of transplanting altogether, nor incur the check and risk of removal. Tender as it is, however, the yearling vine, with its slender rootlets, will suffer less in transplanting, than an old vine; indeed, an experienced vigneron, will hardly accept such as a gift, preferring rather to wait until healthy

young plants shall develop themselves, in the places where they are to stand.

If rooted plants are used, whether yearlings, or two-year old vines, holes should be dug in the trenched land, after it has become quite warm and dry, in the spring, say in April; these holes should be made beside the sticks set out at the laying off—and they must be large enough to accommodate all the roots of the young plants, without crowding; one foot by eighteen inches will generally be sufficient, and a foot deep. Few of the plants should be exposed at once, and they must be wrapped up in a damp cloth, to prevent them from drying; the vine should then be placed in the hole, and the roots carefully spread out, so as to come into a natural position, the stem being inclined to the stick at one side of the hole, and brought to the general level of the ground; the best loose earth is filled in among the roots carefully, and a cavity is left above them to retain moisture until toward midsummer, when it is filled.

The plan of making a vineyard from the cuttings set out in the field, is now obtaining many advocates among our most intelligent cultivators, although it is ranked among the innovations of modern practices. The holes are dug the width of the spade, and extending a foot or eighteen inches beyond it, on either side, in the direction of the rows. Two cuttings, duly prepared, as will be indicated in another paragraph, are then set in each hole, bent somewhat as seen in the cut and inclined, so that their upper ends, or points shall come together, or cross one another, near the stick, beside the hole. These points are brought up to the level of the earth, and the best and most mellow soil filled in, and pressed gently against them with the foot, the points being covered about an inch. Here, again, some recommend that each end of the hole be but partially filled up, for a month or two, so as to collect moisture from the rains, and also to allow the vernal sunshine, to heat the earth, for even common farmers, and dull vine-dressers, now begin to appreciate the necessity and value of earth-heat, or bottom-heat, for springing vegetation, better than the Horticultural writers of a half a century ago; what was

then looked upon as a mystery, is now well understood, since it has been explained upon physiological principles. The object in covering the crown of the cutting, is to protect it and its young buds from injury, by exposure, and especially to avoid the evaporation which would ensue, if it projected above the naked surface of the ground, with nothing to shield it from the bright sunshine and drying winds of spring. I am not aware that the "French method" of setting cuttings has been practiced in the vineyard; this plan consists of immersing both ends of the slip in the ground, spring the upper end somewhat, so as to throw it beneath the surface, where a good bud is exposed, to make the shoot.

CUTTINGS.

Cuttings will have been made during the winter, when the vines were trimmed, and they should be prepared as soon as the branches are removed from the old vines, either in the field, the barn, or in the cellar; the latter is preferable, as they may be kept more safely from the effects of the wind, and may be cut up in rainy weather. The vine-dressers' shears are chiefly employed for this purpose, but a sharp, keen-edged knife, will leave a much smoother surface. In preparing the cuttings, all lateral and tendrils are first removed from the shoots of last year's wood; only such stalks are selected as are perfectly healthy, and well developed, and with short joints; a portion of the older wood, about two inches long, is left as a button, at the lower end, and the first cutting is made by applying the knife or shears midway between two eyes, about fifteen or eighteen inches above the base; thus each cutting will have four or five buds; if the branch be stout and sound, it may still furnish one or more cuttings, which should be of similar length and proportions, but, having no older wood, to form the button, they must be cut off close below a bud. Some persons select their cuttings as they are made, believing that those cut from the base of the shoot, and having a portion of older wood, are preferable; these command a higher price.

The cuttings should be snugly tied up with long willow

withes, in bundles of one hundred or two hundred, according to the size of the shoots, and fancy of the operator. They may be set up on end, in a damp cellar, with a portion of soil about their base, or better still, buried in a trench in the open ground, in a horizontal position, and left covered with earth until planting time. In the first position, if properly secured, they will keep very well, and will be accessible at any time, when wanted for sale; in the latter, they will be entirely secured from evaporation, and if they have previously become partially dried, they may be restored before planting, or if not restored, they will have turned brown, and thus show that they are not worth setting out, and should be rejected immediately. Another method of protecting the cuttings is to bury them partially, in an upright position—throwing the earth up about them, but leaving the upper ends exposed to the sun and air. If the bundles are large, they are apt to become dried in the centre, and there is a consequent loss.

Those who bury their cuttings as a preparation for planting, often allow them to remain undisturbed until the buds have swollen, or even burst, before removing to the vineyard ground for setting; this plan will require occasional examination of the cuttings, lest they advance too far, which should be checked by disturbing, and then shading them. At planting, the greatest care must be exercised to prevent breaking off the buds, which may have started, and which are very brittle; few are to be taken at a time, and they should be kept covered with a damp cloth—the young shoots at the points of these cuttings, are not to be left exposed, when set, but must be covered with a little mellow earth, or they will surely die.

TREATMENT.

The young vines will need very little attention during the first season—the ground should be lightly hoed about the plants, and all weeds are to be promptly destroyed; every twig and every leaf should be left undisturbed, because of the important functions, that of forming roots, which devolve upon the new plant, which is now setting up an independent establishment for itself, and must, in future, depend upon its

own resources. Should both these cuttings grow, in the vineyard stations, one of them must be removed in the autumn, either by cutting it off below the surface with a sharp knife, or by digging it up carefully; in order to appropriate it to some vacancy that may have occurred in the plantation, for new plantings, or for sale.

NURSERY OF CUTTINGS.

The Nursery of Cuttings, is an important part of the vineyard, or attache to it—in which the unsold cuttings are placed; its objects are the production of young plants for future extensions of the vineyard, and for filling vacancies, or for sale. In selecting a site for this purpose, it is best to choose a rich, deep, sandy mold, if in grass, so much the better. If the land has been drained, and so situated as to retain a good degree of moisture during the summer, the prospect of a successful “stribe” will be much enhanced. In addition to all this, the recommendation of the old Roman COLUMELLA, is worthy of imitation; he advised cuttings to be dipped into a mixture of cow-manure, before planting.

As deep tillage will conduce to the last-mentioned quality, immunity from drought, it will be best to trench the ground, and the cuttings should be set as the digging proceeds—therefore, this operation is to be commenced across the plat appropriated, and so soon as the second trench is opened, and the edge of the loose dirt is brought to a straight, even surface, by dressing it to a line, the cuttings are set, in a slanting direction, about four or five inches apart, and their points, coming to the surface of the earth—the top soil is then dug and thrown upon the bases of the cuttings, after being mellowed, it is slightly pressed against them, and the lower soil, is placed on top, covering the shoots about an inch deep. The ground will settle and leave the upper eyes projecting, by the time they have begun to grow. The next row should be placed about eighteen inches from the first, and so on to the end of the plat.

During the summer, the young vine-plants will require very

little attention, beyond the removal of weeds, unless the too heavy nature of the soil should cause it to bake, in which case, it must be stirred with the hoe, or spading fork. If not removed the following winter, when they are called yearlings, the soil should be well stirred the next spring, to encourage a thrifty growth in the second summer.

In digging up these young plants, great care will be required to avoid injuring the roots. The row last planted, will be that which must be dug first, and the vines should be covered from the air as soon as lifted, tied up in bundles of fifty or a hundred, and immediately buried, as the long, naked, fleshy, fibrous roots, are very easily injured by exposure, and the vitality of the plants is thus materially affected; indeed, it may be assumed, as an axiom, that no roots should ever be allowed to become dry, if success is desired after transplanting. Too much care cannot be bestowed upon these operations to prevent exposure to the sun and winds.

All cuttings received from a distance are better for being buried, as described above, as a compensation for the drying and exposure incident to transportation, especially, when they have not been packed in tight boxes, which should always be called for by persons ordering grape-cuttings from nurserymen. It may be here observed, that rooted plants require still more care, in transportation, the boxes, in which they should always be ordered, need not, however, be so tight, but the roots should be well packed in damp moss.

From the Western Horticultural Review.

PRUNING AND TRAINING THE GRAPE.

BY DR. J. A. WARDER, CINCINNATI, OHIO.



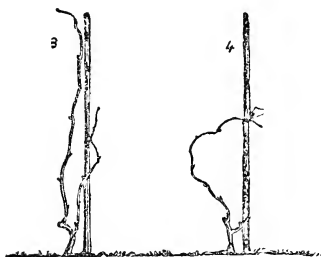
METHOD OF PLANTING AND TRIMMING LAYERS.

A considerable difference of opinion prevails among our vignerons, as to the proper time for winter pruning ; some persons urge the performance of this operation just before the sap starts in the spring ; others advise it to be done in the autumn, after the wood has fully ripened ; while others recommend that it be performed during any *fine* weather through the winter. All, however, agree that it should *not be done* when the wood is frozen.

As a good deal of tact and judgment are necessary in this process, general rules only can be laid down, and every one must be guided by his own discretion. In trimming the vineyard, the first thing is to loosen the vine from the stakes, by cutting the old ties. Supposing that the stakes have been set in the vineyard, and the vines are of bearing age, they must be pruned according to the soil and the strength of the wood, and this will require the strength of the exercise of good judgment ; if feeble, cut back the lowest branch very close, and remove all others, and thus endeavor to secure strong shoots for the next year, but of course you must expect few or no bunches of grapes ; if strong and healthy, select the largest and stoutest shoot, coming out as low down on the stock as may be, trim off all lateral and old tendrils neatly, and cut it off at six, eight, or ten eyes or buds above its origin ; be sure not to leave a

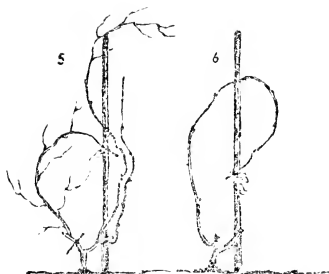
joint too much, as the results of over-bearing are very injurious to the vine, and indeed seldom furnish well-ripened berries.

The lowest and next best shoot is then to be selected for the *spur*, and it should be as low as possible; cut it back two or three eyes, which are to furnish the canes for the next year; let the old wood of the last year's crop, and all extraneous shoots, be then cut off smoothly and close to the stock. See figures 3 and 4, which represent the trimmed vine.



These directions are brief and concise, but as before observed, great judgment is required, or the stock will become too long, as is represented in figure 9, where the summer pruning has been neglected the previous season. Better lose the crop now, on any vine, than incur the risk of losing two or three crops by allowing the vine to become too high, which will require it to be cut back to the ground, or layered, before it can be again restored to a good shape.

These wood-cuts represent vines that have been winter-pruned as before directed. In figure 3, the canes have been freed from the stake, and all tendrils and laterals have been removed, and they have been shortened-in, but the weaker of the two has not been cut off for the spur. In figure 4, the spur is cut to its proper length, and the cane has been bent and tied into the form of the bow, the use of which is well understood by the vine-dresser, but may require an explanation here. The object is to cause the buds to break evenly, by equalizing the force of the sap.



These figures are given to illustrate the winter pruning, and its dependence upon judicious summer pruning of the previous summer. Figure 5 shows a bow of the previous year, which had been properly subordinated, by judicious pinching-in of the fruit-bearing shoots, so that the whole wood-making force of the plant was directed to the two canes that issued from the spur; these are represented as being strong and vigorous, and devoid of lateral shoots. The straight line drawn across the base of the bow, is intended to indicate the point at which it is to be cut off, for upon the renewal system, adopted generally in our vineyards, the fruit-bearing wood is annually removed and as often renewed. Of the two canes, one is to be cut short for a spur, and the other of a suitable length to make a bow, as represented in figure 6, where, however, the drawing indicates that too much wood has been left in the bow, unless the root be very strong.

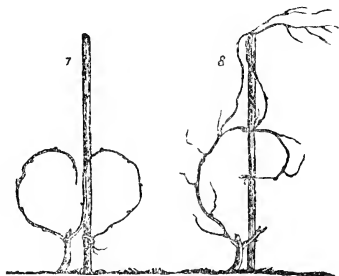
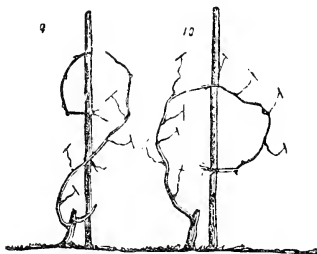


Figure 7 is intended to represent another form, called the double-bow; it is a copy of a European method frequently adopted with strong vines; this plan is not so often seen as the single bow, and it is not recommended for general use; indeed, it should only be permitted in strong old stocks, as it is almost inevitably followed by too great a show of fruit.

Figures 8, 9, and 10, are given to show the result of neglect in the summer pruning, and the mode of correcting the difficulty when trimming in the winter, if the vine be strong and the owner is unwilling to lose the season by cutting back the stock to force out new and strong canes for future use. These cuts are intended to be representations of the same vine: 8 shows that the buds at the top of the bow had been allowed to retain the mastery in their shoots, which arose from their superior situation, they being forced into top buds, and as their excessive growth was not properly checked, they grew strongly at the expense of the other branches, and especially to the detriment of the canes that should have been produced from the spur. Such a vine is very frequently met with in the winter pruning, for few persons realize the importance of early attention to the process of pinching-in, which is recommended in this paper to give especial care.

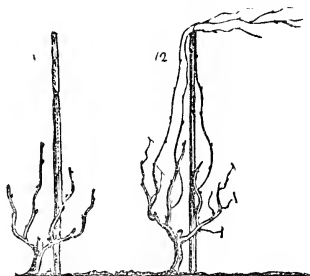


Two plans may be pursued, as represented in figures 9 and 10; in the first, all the laterals are trimmed in to a single eye, and a portion of the strong shoot is retained as a new cane, making a combination of cane and spur, and the whole is used to construct the new bow, and bent so as to bring it within

proper limits ; the old spur is also cut in boldly, and great care is exercised to encourage vigorous renewal shoots or canes, for future use as bows the next season. The other plan is, at once to give up the renewal system for a while, and adopt the spur method ; this may sometimes be found most advisable. In adopting it, the old bow is retained, and the side branches are cut back every year to a single eye. The objections to the system are, that it requires great watchfulness and care to preserve an equable vitality in the shoots, so that the foliage and fruit may be spread evenly ; and beside this, the old wood is not generally so well adapted to the production of fruit as the vigorous young canes ; then, again, it is necessary to lose a season whenever it may be found necessary to reproduce the bow, or main shoot as it would here be considered, for the bow or horizontal system of training should still be adopted. It should be recollected that these directions are particularly applicable to the vineyard culture of the Catawba grape to which they are known, by long experience, to be adapted. Different plants, with various habits, often require very different treatment and pruning. We have already discovered that the Isabella grape does not succeed well, as a general rule, under the treatment here advised ; so, also, with the Herbemont, and some other very rampant growers, it has been observed that they need long pruning to realize their greatest excellence and heaviest crops.

Figures 11 and 12 are given to illustrate quite another style of pruning, which is sometimes called the distaff or bush method. This is perhaps the most difficult of all, and requires the greatest exercise of good clear judgment in its management, and is, consequently, very seldom met with in vineyard culture. 11 is a view of the vine after it has received its winter pruning ; the bush of nearly equal shoots produced the previous summer, has been thinned out to three or four of the strongest, and these are cut back, according to their strength, to two, three, or even six eyes, which gives the plant a sturdy appearance, and avoids the necessity of much tying to the stake. During the ensuing summer, great care is requisite, and the exercise of good judgment is called into play, in the

management of the young shoots, which will be almost sure to spring strongest from the highest buds, and thus speedily make confusion in the distaff. These will need to be curbed and the lowest branches encouraged and tied to the stake for support — figure 12. By a proper management of this style of pruning, a good supply of leaves is secured, and an abundant crop of well-ripened and well-distributed fruit; but the necessary care and treatment are so difficult to describe, and depend in each case so entirely upon the judgment of the operator, that it is almost impossible to instruct a common workman in the details, and the too frequent result will be a tall, straggling bush of naked and unproductive branches, with a constant tendency to extension upward, instead of the snug and tidy appearance of well grown bow and spur pruning, which is remarkable for its simplicity, and may be understood by all who have once seen it properly performed.



Training and Tying of the vines is an important operation, and should be performed at the end of March, or the beginning of April. After trimming, the canes are to be securely tied to the stakes, which should have been firmly driven in the ground before it settles too closely. The usual method is to bring the main stock against the stake, and secure it with an osier; the bow or loop is then bent and tied where it passes the stake above, and if long enough, it should be brought back toward the stock, and there secured. Some train horizontally, whether on trellises, wires, or by simply tying the ends of the

canes to the adjoining stake. It should also be observed, that a damp or wet day must be selected for this process, because the strain upon the branch even in careful hands, will otherwise endanger the vines breaking where it is bent, and an experienced vigneron will give the cane a very gentle twist as he is bending it, and thus avoid the accident apprehended. Various modifications of training might be suggested, but these are left for the genius of each to suggest as he progresses in the work; security is the great desideratum, and is best attained by good tough willows.

The young shoots are rich in promise of fruit for this year, and wood for the next; therefore the vine-dresser should be especially jealous of every intrusion, and provident against all injuries. To this end he must exclude all boys and dogs from the grounds, but he will frequently pass through the vines with the wisp of damp rye straw, cut into lengths of about twenty inches, and as fast as the shoots grow, he will tie them up to the stakes. This operation should be repeated every week or two; for the union of the new and old wood is so feeble at this stage of growth, that the least force will rupture the connection, and sacrifice the rich prospect. He will, therefore, constantly watch the protruding shoots, and secure them with the straw bands, which, like the osiers, are really twisted rather than tied.

During July, the long canes for next year will require to be trained from one stake to another. In this process, the advantage of closer planting in wider rows, say six feet apart, by three in the row, will be apparent. The trellis, particularly that made of stout wire, will also be very convenient in attending to this duty, as the canes need only be laid along the top wire or rail of the trellis, with a little twist to sustain them until the clasping tendrils may secure their firm embrace. The fruit branches will also sometimes require support, as their burden increases in weight; though it is no disadvantage to the branches to let them lie even upon the ground. The rot is seldom found in fruit so situated, and it has been observed that such are often the earliest ripened bunches, which may depend upon the greater warmth at the surface sheltered by leaves.

RUBBING OUT AND PINCHING.

The vigor of many of our native vines forces out an exuberant growth of the buds; three and more, often break out from each joint; as this would diffuse and weaken the growth, all but one, the strongest, should be rubbed off with the finger before they exhaust the vine too much. This should, therefore, be done so soon as the promise of fruit is sufficiently developed to be a guide in thinning the shoots. It will very soon be discovered that the topmost eyes or buds, having started earlier than the others, and receiving the greatest flow of sap, will be taking the lead, at the expense of their followers, as represented in fig. 8. On account of the difficulty in winter pruning, this must not be allowed, and is to be counteracted by early pinching off their points; but this must not be done too closely, for it is necessary always to leave at least two or three of the young leaves beyond the last bunch of grape-buds, or "seed," as they are called by the vignerons; many persons advise leaving four or more leaves. At the same time, these, and all the shoots that are growing freely, should be tied to the stake with dampened rye straw, as already advised, to secure them from injury by wind, as they are very easily torn away from the stock.

If the wire trellis should be used, no ties will be necessary but those provided by nature in the vine itself; the young branch is gently turned around a wire in such a way that its own elasticity preserves its position until the tendril has time to clasp the wire. Another plan is occasionally adopted, to save a long shoot, when the vine-dresser does not happen to be provided with suitable ties; it is, to cut an oblique slit on one corner of the stake, and insert the tendril, which thus secures the vine very well; but this practice is not recommended except as a substitute for the straw band, and to be used in an emergency, for the vigneron should ever have watchful eyes, and must secure the young straggler, whether he be provided with ties or only his knife.

If the tender-hearted, or those who were anticipating hailstorms and other injuries, failed to attend to the duty of thinning-out the superabundant shoots during May, let them see to

their vines, ere the whole force of the season shall have been diffused among a great number of weak shoots, or for want of guidance and direction, some of them shall have taken a lead in the wrong direction. As may have been inferred from the remarks upon winter pruning, this summer treatment of pinching is a very important matter ; and much of the future success will depend upon judicious management of the vines in this particular. At the first examination of the vineyard, before the blossoming, rub out all weak shoots, and such as have no "seed" or prospect of fruit ; also, remove the weaker, where duplicates appear ; but observe specially to provide thrifty wood for the next season, and so arrange your summer pruning that two good shoots shall grow out from the lower part of the bow and stocks, and endeavor to have these well balanced, one on either side. If, from any accident, your bow-shoots are deficient, or if the stock, from previous neglect, have become too tall, now will be a good time to select the strongest shoot among those commonly called winter sprouts, which often come out from near the ground, and which should otherwise be entirely removed ; this may be grown and encouraged for forming the *spur* in next winter's pruning. This method has been adopted with the happiest effect in an old vineyard, where, from neglect, the stocks had become tall, crooked, and ugly, and the result, at the end of a couple of years, has been an entire renewal of the vines, the old stems having been cut off below the surface.

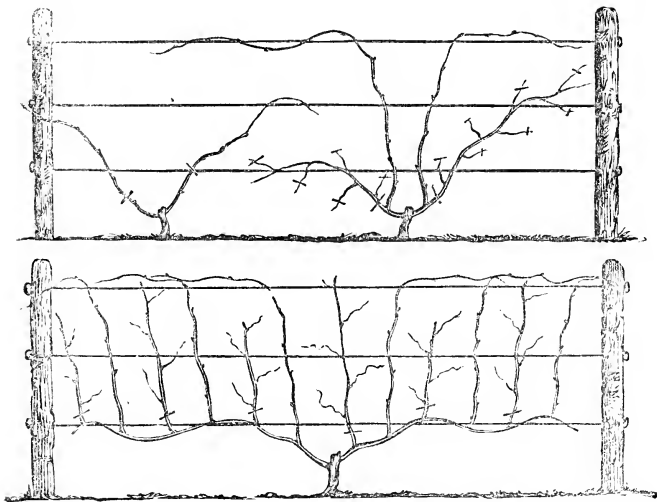
Pinching-in is recommended for May, but must be continued through the season. If this process has been neglected before, or more especially, if it has been too severely practiced, the greater care will be necessary afterward, as in the latter case, the force of the vine will be throwing out laterals, to make up for the shortening at the points. This is a waste and misdirection of the strength, and may also be followed by injury to the vines. Do not, however, be too severe in your treatment of these laterals, and by no means break them out, as has been recommended by some. Shorten them into one or two leaves, rather than to tear them out ; the growing fruit needs shade and healthy leaves to elaborate the sap, and if the first crop of laterals be destroyed, the dormant bud will often be forced to start.

On the canes it has been advised to remove all laterals from the length of the wood that is wanted to be used next year ; but it is considered best to leave all grow beyond this point, and never shorten in the long canes, as it is not necessary in our climate to secure the ripening of the wood of our native grapes. True, it has been and is still the practice of many to shorten-in these branches, during the summer, but some intelligent persons have been pursuing a different course, running into the other extreme, having observed, as they supposed, the injurious effect of too close summer pruning. Now there is reason in this policy, which commends itself to the favorable consideration of all vine-dressers, who, being students of nature, begin to realize that there is really a *function* to be performed by the leaves of a plant, beyond the mere ornament and shade they provide ; and close observers are also aware of the injuries that may happen to the first leaves from hail, the ravages of insects, and simple maturity ; hence the policy of leaving more foliage upon the vines, to aid in the elaboration of the sap for the growing crop. There may be a time, in some situations, however, when it will be advisable to pinch-in the ends even of the growing canes of wood that have been laid in to supply bows for the next year's crop ; supposing that *excess* of shoots and laterals have been broken out during the season, as before advised. The object of this pinching-in is to ripen the wood, if it continues to grow very late, and also to keep it from blowing about. At the same time the canes are to be tied to the stakes, to keep them in their places, as they may be much injured and broken by the wind, if loose.

The *early* summer pruning by shortening of the vines, has been already urged, but its importance must be the excuse for reiteration. No one should neglect attending to this important element of summer pruning, in its proper season, before the blossoming ; for by such neglect the strength of the vine will have been uselessly expended upon many a shoot that must be sacrificed, or, at least, which will have been lost by not having been properly directed. The extreme end of the shoot may be easily removed with the thumb-nail, and a change in the direction of the flow of sap is at once effected towards the canes

destined for the next year, while the bearing shoots will receive an abundant supply for their own leaves to elaborate for the fruit. All vine-dressers are not, however, agreed upon this early pinching-in. The blossoming is, by many, considered a critical period; and such persons advise that no work be done in the vineyard while it lasts, and especially they will advise that the bearing shoots be not shortened-in, as is too often done, close to the bunch. It is agreed, as stated above, that two or more leaves should always be left beyond the fruit.

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There is reason in this caution. If the shoot be vigorous, and have grown a couple of feet, it must have a considerable amount of sap flowing into it, and directed to the leaves above, which is thus suddenly thrown in upon the fruit, when the upper portion has been broken off too closely. If the summer pruning have been neglected to the time of flowering, it is recommended, by some, to wait until a couple of weeks after the blossoms have set, and then to attend to thinning the redundant wood, and especially to avoid leaving too much fruit.

FARM DIARIES, FARM ACCOUNTS, AND AGRICULTURAL REGISTERS.

 BY BEN. PERLEY POORE, NEWBURYPORT, MASS.

Agriculture has at length become *fashionable*. Octogenarians, who have acquired fortunes in cities, return to the homesteads which they despised in early life; and resolute young men, finding little hope of success in the professions or in commerce, look — as did their ancestors — to the ample bosom of Nature for their support. Politicians, who generally contrive to own at least a garden, are ever ready to descant upon the dignity of agricultural labor; while scientific book-worms cultivate potatoes, in order to experiment upon the practicability of increasing their growth by electric currents, or to try the virtues of magnetic hoes, in drawing out the rot.

Our Republic cannot boast of many private collections of paintings or of statuary; a very insignificant fraction of her sons keep race-horses or pleasure-yachts; and even the “pomp and circumstance” of militia honor has sadly dwindled into disrepute. But in the environs of every city — near the busy manufacturing village, and in many a secluded spot, trim fences enclose “Fancy Farms,” and buildings of quaint yet fair proportions proclaim the wealth, eccentricity, or exotic taste of the amateur husbandman. Many of these gentlemen, by the judicious employment of their capital, and by importing choice stock, confer benefits, (directly or indirectly,) upon the neighbor-farmers — while others, who madly rush into every new theory, practically illustrate the folly of “sowing spanish dollars, and reaping four-pence-ha’pennies.”

Then we have the great body of yeomanry — so graphically described by Quincy, as “men, who stand upon the soil and are identified with it; for there rest their own hopes and the hopes of their children. Men, who have, for the most part, great

farms and small pecuniary resources ;—men, who are esteemed more for their land, than for their money ; more for their good sense than for their land ; and more for their virtue than for either. Men, who are the chief strength, support and column of our political society, and who stand to the other orders of the State, in the same relation which the shaft bears to the pillar—in respect of whom, all other arts, trades and professions are but ornamental work—the cornice, the frieze, and the corinthian capital.” Whatever tends to stimulate and direct their industry, spreads prosperity over their fields, or carries happiness to their homes, merits careful consideration, for it strengthens the foundations of our public renown.

Generally speaking, we find few farmers, either “ practical ” or “ fancy,” who have a proper conception of their occupation. The mysteries of husbandry are considered but as the lesson of a day ; and every man, the moment he becomes the occupant of a farm, is allowed to style himself a competent farmer. “ Is there nothing in agriculture,” said Columella the Roman, “ which requires to be studied ? Is there nothing to reward research ? For myself, when I take an enlarged view of this noblest of all pursuits, and survey it on all sides, and consider what it embraces that it would be profitable to know, I fear I shall see the end of my days before I shall become a thorough master of all its mysteries.”

As it was in Rome, so is it in Massachusetts. We have our public men, who, like Cincinnatus, Denatus, and Regulus, retreat from the cares and toils of State to the pure and unalloyed joys of agriculture and horticulture. Our poets and our historians, like Virgil, will leave behind them many a token of their devotion to rural pursuits. And our Legislators, by repeated grants of money, have shown their appreciation of Washington’s declaration, that “ in no way can more real and important services be rendered to a country, than by improving its agriculture.” All this flatters the amateur farmer and encourages the hard-working yeoman—it elevates the common calling of each in the social scale ; but it does not make either “ a thorough master of all its mysteries.”

And what is the lot of a young man who has come from the

city to be a farmer, and invested his capital in land, stock and tools. He has heard Cattle Show orators eloquently descant upon the "independence" of his new pursuit, and implicitly believes Franklin's assertion that "the farmer has no need of popular favor, nor of the favor of the great — the success of his crops depending only upon the blessing of God upon his honest industry." But he soon finds that industry must be well directed in order to be profitable, and he is often at a loss to know how and when to labor. Agricultural works and periodicals are generally so interlarded with individual speculations, that he turns from them in despair. Even the valuable reports of Agricultural Societies, which embody so much valuable information, only detail individual cases. They chronicle the management of the best farms in favorable seasons — the product of superior beasts — the fruit produced by extra attention, and the mammoth rarities of the garden. The "art" of husbandry may be gleaned from many a library, but the student-farmer may commit to memory scores of works on Agriculture, and yet, like the Roman, "see the end of his days before he becomes a thorough master of all its mysteries."

These "mysteries" are not, after all, *mysterious*. The young farmer who expects to enrich his land by some magical process, will be as much disappointed in his expectations, as he is ignorant of the process of improvement. A mere theory, even if clearly defined, is idle and useless if unattended with practical observations; and the more practical information a young farmer can acquire, the deeper versed he becomes in the mysteries of his profession — the magical secrets which enable his more experienced neighbors to bring money from market. The lawyer finds the "mysteries" of his profession in almost innumerable volumes of Digests and Reports — the mariner is guided by the science of previous navigators as laid down in books and on charts — the soldier learns how to manœuvre large bodies of men by reading accounts of successful campaigns — the statesman gleans wisdom from volumes of debates — and the editor seeks the "mysteries" of catering for the public taste in old files of popular journals. But where can the young farmer go for dates and details. He may pick up

an old almanac, containing a few memorandums of the domestic life of the writer's cows, the time his goose commenced her incubation, and the advent of the baby's first tooth. And these meagre details convince him, that a Diary kept by any practical farmer in his vicinity would be more valuable than Loudon's gigantic Encyclopedias.

Mr. Malcolm, an eminent Scotch agricultural writer, expatiates on the utility of Farmer's Diaries, and asserts that they are indispensable. Proof of this recently occurred in this county, where a large farm was worked for several years by foreign laborers, directed by a mere lad, who was placed in charge by the proprietor during his absence. The boy had no experience, and his judgment was of course limited, but he found counsel and guidance in the Diaries which had been accurately kept on the same farm for nearly twenty years. Selecting the records of what had been done in years of similar temperature, he not only managed the work creditably, but left none of the minor details undone.

Would it not be beneficial to agriculture, if the Societies instituted for its advancement gave a certain sum for every well kept Diary of a farm situated within their respective localities, with premiums for those which displayed the most industry and ability on their pages? By requiring them to be written on paper of a uniform size, several volumes might be annually added to the Library, and from them might be condensed a history of each year. Valuable, to the young farmer, would be such a chronicle, and he would use it as a constant text-book, while seldom more than one perusal is given to the "Reports of Committees."

Farm Accounts are of equal importance to individuals, although they are not of the same public value as Diaries, unless when questions come up relative to the comparative profit of different soils, or of different applications of the same soil. "There is not a single step," says Mr. Young, in the twenty-eighth volume of his *Annals of Agriculture*, "in the life of a farmer, that does not prove the advantage of his keeping regular accounts — and yet there is not one in a thousand that keeps any. This is one, among the many instances, which in

the unenlightened situation of the practicers of the art, is the evident reason for the backwardness in which the art is found, by any man who searches for the principles deducted from a practice, which ought to give it the regularity of a cultivated science."

A few rough memoranda or figures, to yield a gross account of the general receipts or payments, usually constitutes the entire financial record of our farmers, even those who amass large sums of money. In every other pursuit in life, the advantages of clear accounts are so obvious that book-keeping, by the Italian mode of double entry, is an essential branch of public education. Business men who are not regular in their accounts, are always rated as unsafe customers by the prudent portion of merchants — nor is there a greater reproach to a commercial house, short of insolvency. But agriculture is destined to be, in all its detail, an exception to every thing else. Men engage in it without previous education, or even study, or inquiry ; — and they conduct large concerns in it, without those accounts known to be necessary in every other pursuit.

Would it not be of great utility to every farmer to have before him a correct statement of his stock, farm, crops, and implements, taken at the close of the preceding year? From such certain documents, he would be able to proceed on his business in a more regular and methodical way, and consequently, with greater assurance of success, than if every thing, as is too frequently the case, were left to custom, chance, or the exertion of the moment.

To keep a Diary and Farm Accounts a farmer must occupy some of his time, but he will improve his mind which demands the same constant cultivation as his land. And the recording what he has done, may stimulate him to improvement and future exertion. Youth cannot have more profitable employment, as it not only tasks their mental capabilities, but fosters an attachment to their parental acres, and demonstrates the profit of well directed agricultural labor.

To the student of political economy, or of history, as well as of agriculture, a volume of Diaries kept at the same time in different sections of a county, could not be destitute of value

the next year — in a century it would be invaluable, for agricultural information is always read with interest. What farmer has not wished for more precise accounts of Noah's vineyards and of Solomon's orchards which bore "all kinds of fruit" — of the cattle of Uzziah, who "loved husbandry," and of the operations of Elisha, who was found "plowing with twelve yoke of oxen." We read in the journal of the Pilgrims, among the interesting events which occurred in March, 1620, that "Monday and Tuesday proved fayre dayes, so we digged our grounds and sowed our garden seeds" — a matter of no marvellous importance in itself, but worthy of remembrance as the commencement of those beautiful gardens which now adorn New England.

Let us then have Agricultural Registers, compiled from the daily notings of practical farmers. They will not only systematize and benefit the Agriculture of the present day, but they will constitute a valuable inheritance for those who may hereafter be placed upon the soil we now occupy, "to dress it and to keep it."

"Order is Heaven's first law."

Indian Hill Farm, Mass.

THE PRESENT ASPECT OF AGRICULTURE.

BY H. C. VAIL, NEWARK, N. J.

AT no time, within our recollection, has Agriculture presented a more favorable aspect than it did at the beginning of the current year. Farmers were elated with the idea of receiving ample reward for the anticipated toil of the ensuing season. Speculators were keenly alive to their own interests, and endeavored to lay the ground-work for a speedy fortune. Merchants, manufacturers and mechanics, alike expected to receive much assistance from the new impulse given to our farming community;—more tools, special manures and clothing would be required to till the enlarged area, and to cover the forms of the increased number of laborers, or to gratify the tastes of the enriched husbandman.

The broker, too, expected to reap some benefits, as loans of money would be required to enable farmers to carry out their enlarged schemes.

In short, all prospects were flattering in the extreme, up to the occurrence of the devastating storm in the latter part of April, which continued for many hours; submerging fields, gullyng hill-sides, sweeping away bridges, and destroying many miles of our most important railways—thus cutting off means of transportation, and rendering it utterly impossible to distribute the fertilizers required for spring use. Thousands of acres of land, flooded with excessive amounts of water, could not be tilled until a month later than the proper period. The after-culture of many crops was thrown into the season of harvest, hence they suffered materially from neglect. Winter grain was injured by the hundred acres, and the grass crop materially lessened in yield by this storm.

Besides all these accidents, the soil was rendered more compact by the falling of so much water, and thus prevented from receiving full benefits from being permeated by the atmosphere and gasses. While one field was rendered barren, from the removal of the fine fertile portions of the surface soil, another was almost ruined by the reception of this material.

Notwithstanding the loss of fruit by the severities of the Spring weather, together with the losses detailed above, the crops looked well in June, and appeared to be in as fine condition as could be expected under the circumstances, and farmers again began to be cheered, feeling sanguine that all would yet end well, when they were visited by a drought, more universal and more severe than any before experienced. Although the crop of hay was fair, oats about the same, wheat medium, and all secured; yet fears were justly entertained for the corn, potatoes and summer market crops — as cabbages, beans, etc.

The drought has passed, and we have not been disappointed in regard to the later crops generally; but there have been many sections where the drought has not injured crops so materially as was anticipated. In particular localities, the potato crop is finer than it has been for many years; while other crops have been almost destroyed.

Those districts, in which the soil is of a sufficiently pulverulent character to admit of the free ingress of atmosphere, and which is naturally underdrained by a porous stratum of gravelly soil, have escaped much injury, while in the very heart of country, which has suffered to the greatest extent, where *thorough* culture has been pursued, whole fields and farms have escaped from the evils of drought.

Each day brings new instances of the good effects arising from superior modes of cultivation. In many instances increasing the depth of plowing only three or four inches, has proved of great benefit, while subsoiling has proved its value, beyond a doubt. So great have been the differences between ordinary soils, and those rendered deep by sub-soiling and underdraining, that the person residing on the latter could scarcely believe that a drought had really occurred. Indeed the past season has fully demonstrated the entire efficiency of

sub-soiling, thorough draining, and active surface-culture, during seasons of the greatest drought. We must recollect, in this connection, that previous seasons when excessive quantities of water have fallen, the same means have proved to be equally valuable and for obvious reasons. Hence when we are expending money for preventing damage from accidental seasons of dry weather, we are also prepared to ward off dangers of an opposite character. Hereafter, we hope to hear nothing said by *practical farmers* against thorough modes of culture.

From various causes, unnecessary to be mentioned here, the commercial world received a shock of a serious character during the past season. The difficulties arising from this, it was expected, would be entirely alleviated by the time the results of the summer crops were realized. But the time has passed, and we have been disappointed. Although there is enough for all to subsist upon, until another harvest, yet there is probably no superabundance.

Farmers are now permitted to see the extent and influence of the agricultural interest; they should embrace the present opportunity to learn lessons, which will be of the greatest service to them in future years. The present moment is the proper time to note the means of rendering their results more certain, and also to take a stand in defiance of all political leaders, schisms, or parties, for the maintainance of their rights. Now is the proper time to consider the propriety of demanding that the many millions of dollars annually spent by Congress in purchasing useless territory, and making unnecessary appropriations, be set aside for the establishment of an AGRICULTURAL DEPARTMENT, for the better providing for the dissemination of useful and reliable information on agriculture, for the formation of funded associations, under Government, for the drainage, improvement and settlement of worn-out lands,—for the institution of scientific investigations to develop the truths of Agriculture,—in short, to put Agriculture on a footing with commerce, manufactures, and the arts generally. Let not the tillers of the soil take part in the movements of the “hards” or “softs,” the “Know Nothings,” or any

other party, until they are fully satisfied that their interests now will not be neglected.

Such, then, are the present aspects of Agriculture. By a peculiar combination of circumstances, the inhabitants of our favored country are less successful than heretofore ; business is almost stagnated in consequence, and full opportunity offered for deliberation upon ways and means of avoiding, in future, a like calamity.

A large proportion of farmers will not have enough to carry their stock comfortably throughout the winter. Many thousands of cattle, unfit for market, will be slaughtered, thus the supply of butter, cheese and milk will be lessened, while the means of increasing the stock of the country will be diminished and the ratio of animal to vegetable food reduced for the two or three succeeding years. The amount of farm-made manures will be less than usual, and although it is true that not so much has been removed from the soil in crops, as would have been, in a good season ; yet we may fairly anticipate no great consequent increase in the crop of next year. We fear that the temptation, which great prices hold out, will cause farmers to part with too much of their better class of seed wheat, corn, &c. It is very probable that the purchase of special manures will not be so fully indulged in, as would have been the case in a season of plenty ; although there is every reason for increasing the amount used, and also of spending more money in mechanical cultivation.

Heavy clayey soils should be treated to a coating of long manures, and thrown up into steep ridges this fall. If this cannot be done the land should be roughly plowed and the subsoil plow run into the bottom of every furrow. Drains should be laid and everything done to facilitate spring work, and to favor the rapid growth of crops. Manures should be more carefully housed, divided with muck, charcoal, dust, or other absorbent material, and thus increase the bulk and save gaseous portions, which would otherwise be lost. Corn stalks and hay should be cut and moistened before being fed, and all grain ground, and for all stock, except horses, soaked or boiled previous to being presented to the animal. In short, economy

must be rigidly practised, and we have no doubt of the results. Vegetables must enter more largely into the list of articles of food for a time sufficiently long to allow the production of animals fit for the butcher ; as the former can be produced in one year or less, and the latter require a longer time, therefore we hope to see the best vegetables grown and preparations made to increase the amount of fruit.

The prospects of the farmer are far from being gloomy, and we will be sadly disappointed in our expectations if agriculture does not receive a new impetus. It now commands the attention of all classes ; and men of the first talent are engaged in furthering its interests.

Newark, N. J., December, 1854.

OBSERVATIONS ON THE IMPROVEMENT OF VEGETABLE CROPS
AND THE INTRODUCTION OF NEW KINDS.

BY B. MUNN, NEW YORK.

The great problem, which the farmer, who would be prosperous, has to solve, is, “ *What can be grown to yield the greatest profit?*” But this inquiry, to be correctly answered, involves much more than the simple question, “What will, for the *present* year, give the greatest return?” The farmer, to be successful, must look ahead; and whilst he is careful not to leave a stone unturned, which will contribute to his present success, he must be constantly pressing forward with the view to still more advantageous results.

The ways in which such results should be sought are numerous. Of late the attention of farmers has been urgently directed to the introduction of more scientific systems of manuring. The benefits to be derived from that source will, at no distant period, be such as will startle the most incredulous amongst the opponents of those systems. Drainage is another still more important subject, the value of which is beginning to be understood. But these are not all, nor a tithe, of the channels into which the energies of the farmer should be directed.

There is another subject, of no less importance than those above alluded to, which I propose to offer to the consideration of farmers, *who think*; and I trust in these days that class embraces the larger portion of the whole farming interest. But here, again, *thinking* is not all that is necessary. Experiment and observation must follow the train of thought; or the grain, good in quality though it be, will produce no harvest.

The subject that I propose to submit for consideration is, the improvement of the products of the farm, by the introduction of new descriptions of crops, and by the cultivating of the vegetable products of other countries.

By the term acclimating, I do not, however, intend that fruitless and useless attempt to induce any particular exotic species of the vegetable kingdom to become accustomed, by time, or care in its first culture, to the climate of another country to which its constitution and vital powers are unsuited. Nothing can be more utterly wasted than the time and money expended in such attempts; for reasons to which I shall presently allude. The only system of acclimating which can, with probability of success, be resorted to is, that which consists in the endeavor by raising new varieties of different vegetable families from seed, either in its simple state or hybridized with other indigenous kinds of the same family, to obtain individual plants of the desired kind but with stronger constitutions. In that direction a very large field of wealth lies unexplored.

Most farmers are now fully alive to the value of the improvements, that have been introduced into the various breeds of cattle, by the attention that has, for many years past, been given to the selection of the stock, and the crossing of various breeds, so as to neutralize gradually the defects of the one, and to bring forth and encourage the development of the good and more valued qualities of another.

To some extent the same thing has taken place in the vegetable kingdom, but so far as the farmer is concerned in it, the thing has not been pursued with the vigilance that has attended the improvement of cattle. In turnips, cabbages, and some few other instances, the value of the subject has been proved; and that should convince the most prejudiced mind that the probability is great that equal success would reward exertions in the same direction, in a multitude of other crops.

But the question, to one who has some experimental acquaintance with vegetable physiology, is not one of probability in the aggregate, but of certainty. The laws, within which change can take place in reference to the alteration of the relative parts of a plant, by the cross impregnation, are so far ascertained as to direct the experimentalist in his efforts at improvement; and consequently, it is no longer the theoretical assumption of the inquirer merely, but the scientific experience of the man of science, that guides his hand.

That this is so can be demonstrated, by the daily practice of the florist. It is now every day practice with him, to select and cross-impregnate particular flowers, belonging to the same family, for the especial object of producing a shape, or a color, which he is anxious to possess. And it would astonish those, who have never witnessed such experiments, to see how nearly the florist frequently arrives at the desired result. This branch of his art has, of course, been ascertained only by a long series of experiments, and it must ever be attended with many failures; but it is not the less philosophical in principle, or the less valuable in practice, on that account. For if the florist, can apply this practice to his dahlias and his geraniums, the farmer has only to avail himself of the knowledge which the florist has thus hunted out, and apply it to those families of the vegetable world, in which he is interested; and if his experiments are directed by intelligence in the selection of his subjects, he will undoubtedly be rewarded by success in a greater or less degree.

This being so, let us endeavor to apply the principles involved, and see how they may be turned to advantage by the farmer.

The distribution of plants over the surface of the globe, and their adaptation to particular climates, is one of the subjects which have much puzzled the observers of nature. One thing, however, is certain, that whilst very many are by their constitution limited to a comparatively narrow tract of country, there are many thousands which are by no means confined to a particular latitude, altitude, or hemisphere. Some plants are found in most parts of the world, and appear to be able to adapt themselves to almost any vicissitudes of temperature, without material alteration; and it is possible that this circumstance has led to the opinion, so generally entertained, that *all* plants, to some extent at least, have the property of adapting their vital powers *gradually* to other climates. Whatever may be the case in reference to the human constitution under similar circumstances, the idea of the possession of such powers by the vegetable world is fallacious. But let me not be misunderstood. The powers of endurance, as regards extremes of temperature, whether of heat

or cold, of drought, and of moisture, as well as of the periods of time for which such trials can be borne, vary immensely in plants of different families, and also in *varieties* in the *same* families; and it is this latter quality that calls forth those advantages which it is one object of this paper to point out. But every plant has a specific, fixed constitution, as regards the *extent* of its powers of resistance to those external relations which are antagonistic to its well-doing; and *whatever that extent* is, (which can only be first known by experiment), *it cannot be altered* or extended by the operation of time.

The prevalence of a contrary opinion has arisen in many instances from a disregard of other causes than those under consideration, and which have operated favorably in another direction. For example, suppose two exotic plants of equal strength, age, and size to be planted at the same time in neighboring grounds, and the one to be carefully guarded from excessive heat during the first summer, or extreme cold in the first winter after they were planted, and the other not: the one plant may live, the other die; but there is no *acclimating* in this. The same thing happens continually with common plants and vegetables around us, according as they are valued and cared for, or otherwise; and it arises simply from the more favorable circumstances for growth under which the successful plant was placed while it was young and newly planted, but which, as soon as it had acquired some strength and become firmly rooted in its new situation, and had the power to take up and assimilate its nourishment, no longer required protection or care. The difference of aspect alone will be sufficient in many instances to make the difference between the capability of a plant to endure the extremes of winter temperature. In a northern aspect, many of the more tender evergreens will stand unhurt by frost, that would be killed in the same garden, if planted in a southern exposure. The reason is evident; for it is known that many plants, when in a dormant state, can endure much frost, that suffer immediately, if, when once they are excited from that state by warmth, they are again subjected to it. In a northern aspect, the plant remains quiet, with its internal organization undisturbed till the spring; but in a southern, (if

it be of a kind that is speedily acted upon by warmth,) the same plant becomes aroused by a few mild days from its dormancy, and cannot endure the return of the ordinary winter temperature which has not yet passed away but merely been withdrawn for a short period. We are all familiar with these effects in respect of a late frost in spring and the destruction of our fruit crops. The same thing precisely takes place in regard to the wood-buds of plants and trees of a tender description during winter; in many instances, simply induced by a difference of aspect only.

It will be perceived, therefore, that the question of the adaptability of an exotic plant to a particular country is one which can only be known by experience; and further, that much care, and a repetition of many experiments must be made before the fact can be ascertained with any precision. The principle objects in making those experiments should be, to take care that the plants experimented upon are of a good strength and age to give them a fair chance of success; that, when planted, the soil in which they are placed, as well as the situation, as to aspect, moisture, &c., is as nearly like that of their native habit as circumstances permit; that, after being planted, they are properly protected until they have their roots well established, and have so acquired the power of drawing their own nourishment; and that they are duly looked after as regards, water, tillage, &c., as other plants require to be to enable them to succeed.

If, after these experiments have been fairly and fully tried, it is found that from any cause the plant will not live, it may be assumed, that *no lapse of time merely* can vary the constitution of that plant so as to alter the conditions on which its vitality depends; and consequently, that there is no means by which it can be "acclimated," or made to grow.

But it may, nevertheless, frequently occur with plants that the difference of a few miles even, with a changed condition of the face of the country, may suffice to make all the alteration requisite, and to render the growth of the plant both possible and easy of attainment. And it is this that I would again press upon the attention of the reader, as the point to be remembered in these experiments.

Assuming then that it is found that a particular plant cannot be acclimated, and will not endure the climate of a country or district to which it is introduced, the question arises, can nothing be done, and must the hope of gaining a valuable acquisition be abandoned? In the case of the transport of strictly tropical Endogenous plants to temperate climates, generally speaking, the attempt is useless; but in a very large proportion of Exogenous plants from mountainous or elevated tropical districts, and from the generality of situations out of the tropics, very much may be done; and the possibility of this, and the manner of effecting it, we will now consider.

We assume, therefore, that the constitution of any individual plant is fixed and unalterable. Not but that it may be found capable of bearing greater degrees of heat or cold, of drought or moisture, than it is ordinarily subjected to in its native habitat, for the converse of that is every day seen, both with exotic and indigenous plants; but it is fixed as regards a certain *limit*, which limit being once ascertained by experiments upon plants of mature growth, no length of time will operate a change of that limit, as to its extent. But although this is so, it is found that whilst with some plants their offspring raised from seed invariably inherit a constitution and habit precisely like that of the parent, in very many others, although the specific character of the parent family is preserved, the constitution of the seedling is found to vary in diverse particulars; and that the seedling can endure degrees of frost or of heat, of drought or of moisture, that would have been fatal to its parent. Moreover it is further found that as well as in constitution, so also in form and size both of stem, root, leaf, flower and seed, will the seedling differ from its parent. And again by the cross impregnation of plants of the same species these results may often, one or other of them at will, be promoted with an approximation to *certainly*. Because although the desired alteration cannot always be relied upon in each individual seedling, yet experience has so far taught us to direct the course of our experiments as to give a *frequent* approximation in the right direction; and perseverance is *only* necessary to perfect the operation.

To the floricultural world all this is familiar; and it is not

unknown to agriculturists ; but it is too little attended to, and I fear also it is looked upon by many farmers, if not as a chimerical notion, at least as too uncertain and vague practically to be available for useful purposes. This idea it is, that I wish to combat, and to urge every farmer to devote a few rods of ground to the purpose of well directed experiment. These experiments should embrace two objects — the one, the improvements of the different crops now forming the usual produce of a farm ; the other, the introduction of new vegetable agricultural crops.

The improvement of crops at present cultivated is not perhaps now altogether neglected, but is practised by comparatively few individuals, and without sufficient attention to care in impregnation for hybridizing. This is the key to success. By carefully saving seed from plants remarkable for their good qualities, and by cross impregnation of fine varieties with each other, great improvements may be made in all vegetable produce. A gentleman well known to the writer, many years ago by attention to turnips improved a particular kind so much as to command from the seed trade a price for his turnip seed equal to a hundred per cent. beyond the ordinary market price. His system was to walk over a piece of turnips and select a few that possessed particularly good shaped roots, and transplant them by themselves at a distance from all crops of a similar nature. The seed from these he sowed, and again repeated his selection. In this way in three years he obtained a strain of seed so fine in quality, that it was easy to discriminate between a piece sown with it, and one of ordinary seed. It admits of no doubt that every farmer who will enter upon a like course of experiments with almost any crop will at an early day find his account in the success of his efforts.

With respect to the introduction of new kinds of agricultural crops, the object should be twofold ; the one, to seek out and obtain the new things that every year are brought forward through the enterprise of Agriculturists and Horticulturists, and ascertain by actual experiment whether they are suited to the location of the experimenter ; and the other, where he finds they are valuable, but do not prove to have a constitution

adapted to his locality he should attempt by raising seed from the plant, (with the aid of artificial protection,) to ameliorate the habit and condition of the plant in its progeny. In some cases this process may be aided by cross impregnation with native species, if such exist.

As to the introduction of new kinds of crops, it may be said with truth perhaps by many that they know not where to look for them. Our friends in Belgium and France are probably the most enterprising in that direction, and every year produces something from their efforts. I will mention two or three that are at present occupying attention there, premising that I have no personal knowledge of their merits, as they are not yet, I believe, in this country, but they could doubtless be readily obtained through Thorburn & Co., of New York, or of any leading seedsmen having correspondents with the seed trade, in Europe, and as the expense would be trifling, the experiment would be well worth making; for it must be remembered that the greater heat of summer here, renders it extremely probable that many things that may prove valueless in those parts of Europe for agricultural produce, may become nevertheless valuable here.

A tall reedy grass has recently been introduced into France, which promises to become valuable in temperate climates as a substitute for the sugar cane. It was sent to France by M. de Montigny, the French Consul at Shanghai, who forwarded seeds of it, labelled, "Sugar Cane of the North of China." Monsieur L. Vilmorin, the well known horticulturist of Paris, thus describes the qualities of the plant, which is named *Holcus Saccharatus* :—

"One stem, weighing 6944 grains, gave on the first trial, October 13th, $23\frac{1}{2}$ grains of limpid juice, with no other flavor but that of sugar and water. The juice from the whole stem yielded 10.8 per cent of its weight of sugar. Another trial made November 28th, gave results varying from 14.6 to 13.8 per cent of sugar. In poor garden soil, there were about 17 stems per square yard grown of sufficient weight for extracting the juice, or about 27,180 pounds to the acre. And estimating the quantity of sugar at ten per cent of the juice, the produce would be 2718 pounds of sugar, which is much more than the usual produce of beet root. The plant bears much analogy to the maize or Indian corn, and is similarly cultivated."

The French distillers have been investigating the qualities of the sugar, which is found to be very rich, and the juice of extraordinary purity. It is highly probable that as this plant flourishes in the north of China, it would also thrive in the middle and some of the Northern States, and if so, its value requires no argument to commend it to the notice of the farmer.

A new variety of wheat has recently been introduced into England, by Mr. John T. Harradine, of Needingworth, St. Ives, Huntingdonshire; who states that it is a foreign variety, and that being sown in the proportion of four pecks to the acre, it has yielded 30 per cent. over the best varieties in use. He refers to gentlemen of respectability who have grown it, and it appears worthy of experiment. He states that it has not been sold until the present winter.

Much interest is now taken in Europe in researches for some vegetable product applicable to the manufacture of paper. The ordinary raw material for the better description of paper, it seems, has been gradually diminishing in supply as compared with the demand for it, until the paper-makers are considerably embarrassed to obtain anything like a sufficient quantity; and premiums have been offered, for the discovery of any efficient substitute for the usual article. There can be little doubt but that this want will be supplied at an early date; for there must be numberless descriptions of vegetable fibre, beside that now used, which are adapted to the purpose. Until the discovery is made, of course the only suggestion to be given to those willing to enter upon the investigation, is to direct their attention to those families of plants whose fibrous substance bears some analogy in character to that of flax. Enormous profits must reward the successful competitor for this desideratum, far beyond any premium which is put forth as a stimulant to experiment.

That the other course of experiment suggested, namely, the attempt by propagation from seed of many vegetable products which in their primitive state are not suited to this climate, is judicious, a well known case will illustrate. The pomologists of this country have raised several native varieties of apples and pears of great excellence, and which flourish here admirably

from seed of European kinds, which latter do not succeed, nor sustain their natural character on this continent. And this has occurred, both in reference to the quality of the fruit, and the hardiness or otherwise of the tree.

Wherever it is found, as is frequently the case, that the vital powers of a particular plant although not equal to bear the extremes of temperature are only affected when those extremes are most excessive, there is much reason to expect that seed from such a plant may be sown with a fair expectation of a variation in the constitution of some of the seedlings which would repay the labor bestowed. When however this does not so turn out, the experiment should not nevertheless be abandoned, but the seedlings should themselves be seeded, and *their* seed sown again.

It was by perseverance in this plan of sowing seed of successive reproductions that the Belgian Pomologist, Dr. Van Mons, made the extraordinary improvements in Pears, which earned for him world-wide renown; and which improvements are carried on in the same way by his worthy friend and successor now settled in this country, L. Berckmans, Esq., of Plainfield, New Jersey, from whose experience, and intelligent mind, we may look forward at an early day to still farther advances in the same direction.

It is to the diligence of such men as these in scientific researches that the civilized world owes obligations that it seldom repays until time has ceased *for them*, and eternity begun! But though this be so, the character of benefactors to their fellow-men is not the less justly their due; and if they have the consciousness that the merit of their exertions is usually slow in acquiring its reward, they may feel the satisfaction of believing that, when obtained, the meed of praise, with gratitude for their labors, will attach to their memory for many a long year!

If, therefore, farmers, self-interest cannot stimulate you to exertion, let the more noble sentiments of your nature take hold upon your energies, and improve your talents for *YOUR COUNTRY*, though you be careless for yourselves.

New York, Jan. 1855.

BRIEF HISTORY OF VETERINARY SCIENCE.

BY GEORGE H. DADD, VETERINARY PRACTITIONER, BOSTON.

This science, like that which is adapted to our race, was first called into existence by necessity. It was discovered that domestic animals were subject to various forms of disease, identical with those of man; and that for want of the requisite knowledge for the treatment of the same, they generally terminated fatally. The sword of pestilence, also, in the form of epizootics, was continually at work among the flocks and herds, sweeping all before it.

With a view of preventing these evils, a few master spirits invoked the aid of science. It was not, however, until the year 1761, that a regular veterinary school was established, although the dissection of animals had, from the time of Hippocrates to this period, been prosecuted with considerable ardor. This school was ushered into existence at Lyons, under the patronage of the French Government, and the liberal and scientific men of that period readily embarked in the novel enterprise. By unflinching perseverance they overcame every obstacle, and uprooted long cherished prejudices. Four years after the endowment of this school, a similar one was established at Alfort, which also met with great encouragement and success. Other nations were watching the proceedings with considerable interest, and the practicability of the undertaking once established, they were not slow in following the example.

Similar schools rapidly sprung up in Holland, Prussia, Denmark, and in various other States; and their success was not inferior to that attending the French schools; for each adopted a regular system of medical tuition, creditable alike to the institutions and pupils; while it gave the agriculturists a guarantee against empiricism and imposition, which had so long been practised upon them and theirs, by ignorant quacks.

In the year 1788, a Frenchman, named *St. Bel*, undertook to arouse the English nation who were then in the same relative position toward the science and its collateral branches, as the people of this country are at the present day. Furnished with letters of introduction from eminent Frenchmen to Sir Joseph Banks and other influential individuals, he met with a warm reception, and was encouraged to commence the good work. He immediately published proposals for establishing a veterinary school, which excited but little attention; consequently, during the first year, little else was accomplished than merely making known his object. In the following year, he read lectures on the science, and thus gave the agriculturists an opportunity to judge of the new project, but still he met with little success.

His failure was attributed to various causes, and it may be proper for us to notice them; for we sincerely believe, that the same are now in operation, diverting American skill and intelligence from embarking in a cause so worthy the attention of a nation of husbandmen. It was then in consequence of the miserable attainments of those who presumed, without authority or qualification, to practice the art, that Englishmen refused to accept the proffered boon; that country had not escaped the evils already alluded to — their horses and cattle were subject to various forms of disease, the cause and pathology of which were entirely unknown; this state of things had opened a field for adventurers and quacks, whose barbarous system of medication generally resulted in the death of their patients. The people formed an estimate of the value of this art in exact ratio to the success of these self-styled *Farriers*; and they argued that if the practice of veterinary medicine required no higher order of talent than these men were wont to display, it was no science at all, and therefore beneath the dignity of a gentleman or scholar to have anything to do with it.

St. Noel assigns a reason for his failure in the following language:—"The opulence of England offered a wide field for impostors of foreign origin, by whom the nation was daily imposed on, and repeated experience of such impositions naturally excited distrust towards foreigners in general; and because honesty

of views was not written on my face, patience and perseverance became my only resources." At this stage of affairs St. Noel fortunately made the acquaintance of a gentleman, who had a decided taste for the art, he bid the professor not despair, assuring him that the people only needed to have the matter set before them in its right light, when success would soon crown his efforts. This assurance, coming from the lips of a man of influence, inspired St. Noel with new hopes; he immediately issued a pamphlet, entitled, "*Plan for establishing an institution to cultivate and teach the Veterinary art.*" The pamphlet was well received, and several agricultural societies conferred on him honorary distinction.

During the year 1790, several meetings took place between members of agricultural societies and gentlemen favorable to the cause; till at length active measures were adopted for promoting its object. The result was, an institution was endowed, called the "*Veterinary College of London*," to which St. Bel was appointed Professor, but unfortunately he had scarcely the chair one year, ere a sudden and brief illness terminated his earthly career. Notwithstanding this sad calamity, the college was left in a flourishing condition, the Duke of Northumberland had contributed for its support a sum, equal in our currency, to twenty-five hundred dollars, and the enterprise numbered among the staunch supporters, such men as the Earl of Grosvenor, Mr. Penn, Earl Morton, Drs. Hunter and Crawford, and subsequently that distinguished surgeon, Sir Astley Cooper.

Although the college had been but a short period in existence, its pupils had gained sufficient knowledge of the theory and practice to distinguish themselves, and they have left, as a legacy to all the world, a record of their labors, which even in this enlightened age, serve as useful guides to the young aspirant for veterinary fame.

The vacant professorship was finally conferred on Mr. Coleman, who had previously distinguished himself in physiological research. A medical committee was now appointed, consisting of some of the most eminent practitioners in the country, by whom the candidates for graduation were examined, and when found to have acquired sufficient knowledge for practice, certi-

ificates were granted accordingly. History informs us that this committee was composed of men who held professorships in the medical department of one of the London universities, and they admitted veterinary students to their lectures free of charge.

Through the agency of Prof. Coleman, the patronage of the British Government was secured, the strings of the public purse were loosened, and Parliament voted a sum of money to be paid annually for the support of the college; and the reigning monarch, George the Third, granted the rank of commissioned officers to veterinary graduates who desired to serve in cavalry regiments; and the Hon. East India Company, so soon as they observed the good effects produced by appointments, followed the example of their monarch, and appointed veterinary surgeons to serve with their army in India. Veterinary surgeons are now to be found in most of the cavalry regiments of the old world, and their numbers are still increasing.

The advantages under which students can now acquire the principles of the art in England, France, and Germany, are not inferior to those of our most favored Universities; and such astonishing discoveries, through the aid of microscopic and chemical inventions, are now being made, and so splendid are the achievements in surgery, that the sons of *Esculapius* — our brethren of the human school — must look to their laurels, or we shall rival them.

Such is the brief history of this science. Much interesting matter might be added in view of enlisting the sympathy of Americans, but we shall reserve such for a future number of this Journal, feeling assured that the day is not far distant when the American people will follow the example of their brethren in the old world, and establish similar institutions for the good of both man and brute.

HEDGES.

 BY A. H. ERNST, CINCINNATI, OHIO.

MORE than fifty years ago, owing to the growing scarcity and increasing cost of wood, the public attention was directed to the importance of hedging (where stone does not abound on the surface.) During this period, large amounts of money and time have been expended in the effort to substitute them for the wooden structures of farm inclosures. More recently, a new impetus has been given to this subject, by the settlers of our *Western Prairies*, where the entire absence of all fencing materials has *forced* on them the necessity of its adoption. The practice and experiments in the older parts of our country have proved almost an entire failure, amounting to an abandonment for all practical farming purposes. And the success in the West has not been very flattering, nor likely to meet the wants of the farmer.

Much has been written and said of the various modes of forming hedges, during this time. Every periodical in the land, having any pretensions to a connection with agriculture or horticulture, in this age of progress, teems with instructions on the subject, as diverse as the writers are numerous. It may, therefore, seem presumptuous for me to thrust myself among the list of instructors in a field already so fully occupied, — a field in which the *fancy* and *poetical genius* has been so fully brought to bear. Still, as I shall confine my remarks to my own practice and observations, and as our soil and climate differ, so we may be permitted to differ on results; and as no good fruits have yet been produced from the general practice in use, there can be no objection to going back to first principles, and make a right start from that point. Let me not be understood as speaking disparagingly of much that has been said: that is not my feeling.

I will not here consume time to more than refer to some of the prominent mistakes as the causes of failure ; leaving them to be discussed as I progress. It is as much my object, however, to point out a bad or wrong practice, as that of a correct one. Among these are, The use of improper plants ; Improper cultivation ; Too much haste and impatience to make a fence in height, without proper regard to the base or bottom ; Wide planting ; Neglect to replant where gaps have occurred by the death of plants, with general inattention to trimming and keeping the border clear of weeds and other rubbish, and obstructing the free circulation of air and light on the side of the hedge, by the near growth of other plants or trees.

It is presumed all-sufficient by most persons to put the plants (no matter how) in the rows, cut them down once or twice, and then let them take their course, without stopping to reason on the result. All look well to them when the foliage is on ; when, however, deprived of this covering, its deformity and worthlessness is exposed, it is found full of gaps and irregular growth, with abundant openings at the bottom to accommodate rabbits and pigs with free passage, and very soon animals of larger growth. The wider the plants are set apart in the row, the more defective will it be found in this respect. This I shall show before I get through : there is no practice more mischievous in its effect than this.

Here let me remark to those who flatter themselves that it is a trifling or light matter to form a perfect hedge, and set about it with this feeling, in the language of one of the best writers of his day on this subject—“ I would advise such to hold fast by the *post and rail*, and not to lose time in doing more harm than good.” There is nothing more beautiful and ornamental in the landscape of a well ordered farm than a well formed hedge ; but hardly anything more out of place than one that has been neglected ; it fails to meet the object for which it was intended, occupies room, and is an unsightly nuisance rather than an ornament.

We are accustomed to look to Europe ; but more especially to England, for examples to follow in our agricultural pursuits ;—so with hedging, and with great propriety we may ; but it is to

be regretted that there, as with us, it is not all as it should be. According to the testimony of reliable writers and others, many of their hedges are exceedingly slovenly — mere skeletons “for the protection of the game,” “covers for partridges and foxes.” Here we want something different, and for a better purpose. In a country like ours, where stock of every description is permitted at large to prowl on society, more care and greater security is required as a barrier against intrusion. Notwithstanding the length of time that the public attention has been turned to the importance of hedging, but few of our farmers have realized its importance, and a less number have had opportunity to inform themselves correctly on the mode of operation from any practical example to which they might resort, but have relied on the *too often* fanciful instructions of writers for periodicals, who themselves often write without experience.

The want of knowledge as to plants that are adapted to this purpose in our climate, in the first instances, was a fruitful source of disappointment. The hawthorn of England — the great hedge-plant there, and even our native thorns, experience proves will not endure the clipping and consequent exposure to our hot and dry weather and brilliant sun. The introduction, however, of the buckthorn, and more recently, of the osage orange *maclura*, (which latter is perhaps the best plant in the world for hedging,) has removed the first difficulty. We, therefore, may go to the work of hedging with the confident assurance of success, if we begin right and persevere in right doing. The path to this I will endeavor to point out, after a few remarks on the principle of vegetation and growth; from which the reasonableness will be apparent of the mode for growing hedges that I am about to present. In this I present no new discovery, but simply re-introduce an old principle; and without its observance, all effort will prove abortive.

It is a principle in vegetable growth to spend itself upwards, and only horizontally, or in an inclination from a perpendicular direction, as it is forced, either from an exuberance of vegetative force or the forcible inclination of the plant, from an upright position. It does not seek a different direction voluntarily.

Hence the feebleness of the laterals, especially the lower ones, to the more favored ones near the top of the plant, or tree. It is true, that there is in some plants a tendency to grow more dwarfish and bushy than others, as there are some with a pendent habit; but this does not change the general principle,—it is not of the character that will apply to hedging. From this it will be seen how important it is to check the upright growth in hedge-plants, in order to secure the expansion and growth at or near the ground—to change its upright character and force the plant in a different attitude from its natural one. The simple cutting down and forcing out the laterals does not fully accomplish the object. It will answer for an inside division, where hogs are not permitted at large, but will hardly prove sufficiently tight at the base for an outside protection. In cutting back, we simply cause a greater number of shoots to proceed from the same point, some of which are forced into the lateral positions, while others seek the upright direction. These last always secure to themselves the chief growth; and though these are again cut back, still the main struggle is to resume its natural upright position, and the expenditure of the sap is exhausted to form growth in that direction, leaving only for the lower laterals what cannot be consumed there.

I am thus particular that the mind of the reader may be prepared to see the objections to *wide planting*, and also to an upright growth, however carefully cut back, to form a base and an impervious outside hedge. When speaking of wide planting, I wish to be understood as meaning any distance, in a single row, over six inches; and for a double row in a hedge, any distance over eight inches. All beyond this I heartily repudiate.

The chief principles on which hedging rests are, To force the plant out of its natural habit; To dwarf that which usually grows to a tree; To divert the concentration of strength in a few plants; Not to rely on a few *absorbents* from the soil, requiring long extent of root to supply its top, interfering with and dividing the nourishment of the soil within the inclosure they are designed to protect; To diffuse this strength by dividing it among a number of plants, thus to secure *independent*,

individual absorbents, with diminished roots, confined to a narrow belt in their stretch for food, of less luxuriant growth, less liable to overgrowth, to the injury of the next plant, and in the case of the death of one, not to leave an irreparable gap.

It matters not how carefully the cutting back is attended to, and how wide the base is formed, if the plants are not set close in the rows. The first impetus of growth, in laterals, is more or less in an upright direction, and only becomes horizontal or drooping by the weight or crowded state of other shoots above. This applies where there is no resistance below to prevent. Of course, this will be at right angles from the line of the hedge; not so between plants. A little observation will show this. The laterals there are rather forced upward than otherwise, as they approach each other from plant to plant, and are supported in that position by each other as they come in contact, forming an archway for the free passage of small animals. This will be found invariably the case with all such hedging, when critically examined, with the foliage off. The wider apart the plants are set in the row, the more defective will it be found. Such has been the result of my observations, more recently fully confirmed in the opportunity afforded by the kind invitation of the Committee of the Ohio State Board of Agriculture to accompany them in their examination of hedging. There are defects which never can be cured, in wide planting, by any process of pruning or trimming, nor can the space between be filled with other plants. It is a well-known principle in vegetation that the stronger plants always absorb the nourishment from the soil to the exclusion of the younger, or weaker ones, until they die from starvation. Of course, none will grow there.

Having quite fully explained the principle of growth, and the results of a neglect to regard this principle, with the effect of a bad practice in hedge growing, I will now briefly point out three modes for forming a hedge, which experience has proved to be such as reliance can be placed on, with the hope of success. After having thoroughly prepared the ground for the line of hedge by deep plowing or digging, of four feet wide, always raising the ground in the middle of the border, with a slope each way from the line of the plants, (which should be planted

in the middle of the border,) for the purpose of admitting a free circulation of air to the bottom of the hedge, that the laterals may not be choked or smothered there,—too much care cannot be taken in this, as the future health and durability of the hedge depends on it. When thus prepared, the plants should be inserted, either with a dibble, or in a trench made with the spade; either mode will do, (but the latter is the best,) if the plants are small. Four to five inches for a single row, or six to eight inches for a double row, is as far apart as they should be set. This work may be performed at any time between the time the leaves are off in the fall, and before the expansion of the buds in the spring, when the weather is not frosty. When planting is completed, they should be cut back, leaving not over one inch of the top above the ground. In planting, care should be taken to cut back the top root to eight or ten inches, and also to assort the plants so that those of the same size may be planted together. They will grow more uniform in this way.

The first summer, the plants only require to be kept clear from weeds and grass. The next spring they must be again cut down within two inches of the ground, and treated in the same way the coming summer. Care must always be observed to re-plant where any have died out; and this should always be with plants as large and old as those in the hedge-rows; for this purpose there should always be a supply reserved in the nursery department.

We have now arrived at the point where a decision must be made as to the fence we want; and in this decision we shall naturally be governed by the pressure to be brought against it. If for an inside division, where hogs are not permitted at large, the upright form will answer. If, however, for an outside protection, where we have no other than a common control as to what shall come in contact with it to test its power of resistance, the only safe plan is *plaiting* or *plashing*. If the hedge is to be on the upright principle, it is necessary to again cut it back the third time, within three inches of the last cutting, leaving all the laterals, or horizontal shoots below this point. The plants will now have formed a strong nucleus, from which

quite a number of vigorous shoots will put out — some forced into the lateral position, but with the usual tendency to an upright growth. In June, they must be again cut back within five or six inches of the last cutting, again carefully preserving the laterals below this point; and in July or early in August, this process must be repeated, within five or six inches of the last cutting. The next summer, the same process must be continued, until the hedge is the required height; the base should not, in the meantime, be permitted to grow slovenly and carelessly, but should have such shoots as are disposed to grow irregular or rampant, shortened in, so as to have a uniform and regular, even surface. It will not do to crowd the forming of the hedge faster than this, or it will not be worth the trouble it has cost.

The best form for a hedge is the *hog-back* shape. What is meant by this form, is a straight line on either side of the hedge from the bottom of the base to a point of intersection at the top. This exposes, in the best aspect and beauty, the greatest surface to light, air, rain and the dews of night, — very essential points to the health and durability, as also the best form to check a top growth to the neglect of the base. In the growth of the hedge, this form should always be kept in view. *Plaiting* is the mode adopted with excellent success in forming the hedge inclosing “Spring Grove Cemetery,” at Cincinnati. This course commences in precisely the same practice as above pointed out, up to the third season; when the plants, instead of being cut down, are only partly so, and at various heights. Having first secured a good growth for a base, all the upright shoots are cut down to near the ground, except at intervals of four inches. Then stakes are put down in the line of the hedge, eight feet apart and four feet high, on which two slats are fastened horizontally — the first one foot from the ground, the other at the top. When thus prepared, all the shoots not cut down, are bent over alternately, in opposite directions, and crossing each other at right angles, so as to form a web-work, like a sieve, and should be similarly woven, which is easily done if commenced at the bottom; one half, or the alternate shoot, is cut off at the first slat, the remainder are

continued to the upper slat, and fastened there. They are fastened by yellow willow ties to each slat, and at each crossing; this keeps it firm to its place, until the growth has become so intermixed that nothing short of cutting it down can remove it. In this form of hedge, the shoots not cut off are all forced into an inclined position, whereby the ascent of the sap is impeded, the dormant buds below, and all along the shoots are brought into action, and soon form a complete, impervious barrier to man and beast.

Most of this hedging is planted in double rows, eight inches apart, and the plants eight inches apart in the row, and these are set opposite to the open space in the other line — which is equivalent to four inches in the single row. Part of it is, however, set in single rows, plants four inches apart, and is doing quite well. This form of hedge is very beautiful, well adapted to ornamental grounds, as perfectly in keeping with such, but is *too* costly to be adopted for general farming purposes.

The third, and last mode for the forming of a hedge which I shall describe, — that which the farmer must adopt, as suited to his wants and means, if he hedges at all for an outside protection, — is *plashing*. This is a very simple process, but in this, as in the last, the same practice must be pursued up to the third year as described in the first. In describing this mode, I do not know that I can do better than to give the substance of a writer on Horticulture, who possessed much practical knowledge on this, as other branches of the science; and though not of recent date, I have found great benefit in consulting in my practice. In plashing, it is best that the upright shoots should be permitted to grow to a good length. This the osage orange will do in one summer, in good soil, after it has been cut down three times.

In all cases of cutting the hedge, it is necessary for the operator to provide himself with a good strong pair of leather gloves, pruning-saw, and a hedge-hook — that is, a heavy instrument with a long and sharp edge, and a sort of a hook on the lower part of the back, by which the operator can draw the shoots to where wanted. “Thus prepared, he will proceed by selecting some of the main, upright stems, at distances in pro-

portion to the general growth of the hedge, (from three to four feet,) to serve for stakes, which are to be cut off to two, three, or four feet, in proportion to the thickness and strength of the plants to be plashed, or laid between them. Where no stems are found strong enough, other stakes must be driven down; the distance apart must be determined by the length of the shoots that are to be plashed and layered." As the object of these stakes is to secure the work when completed, the operator will find no difficulty to determine this. "The hedge is then to be thinned by cutting down to near the ground, leaving only a sufficiency of the best and longest shoots, at regular distances of eight inches. The operator will then proceed to lay down the shoots, first lopping off any stiff, unmanageable, or straggling side branches, taking care not to cut them more than is absolutely necessary to lay and weave them between the stakes, almost to a horizontal position, all laying one way. Such shoots as do not yield readily to the desired position should be brought to it by a sloping cut near the ground, taking care that this is not more than is necessary to effect the object." This process, it will be seen, brings the shoots one on the other, each with a shorter lop as the work advances. "When the hedge is thus plashed, finish the top with some of the largest shoots, first cut; divesting them of all their side branches, working two together, plying round and over one another, between each stake." — that is, thrusting the end in below, and bringing it across in opposite directions, lengthwise between the stakes; then with two others in the same way, taking care to secure the ends of the last in the grip, so as to secure them in their places. Thus proceed until the whole is completed. This forms a finish somewhat like the rim of a willow basket. "When this is finished, proceed with the hedge-bill to lop off any irregular, straggling shoots or branches on the side; then this part of the work is finished."

Here we have a base that nothing can get through; every plant that has been cut off will throw out a number of shoots, and all the dormant buds along the shoots, laid down, will burst and grow, making a complete web of an intermixed growth, presenting a strength that may bid defiance to in-

truders. If this process of plashing is repeated in a year or two, it will be the better ; otherwise, it must be cut back on it, and treated as directed in the first case, until the hedge has attained the desired height. I have practised plashing on the Washington thorn with the desired success, and feel confident the osage orange and buckthorn will do better.

Old, neglected hedges can be made valuable, if the gaps are not too large, by cutting them down, and plashing as above directed.

For trimming a hedge, nothing is better than a common Dutch grass-sickle in the hand of an active man. He will pass over a great length of hedge in a day ; all that is necessary is a little practice, when, with a quick stroke upwards, he will make a clear cut from the bottom to the top. This operation must be often repeated, in order to keep the hedge in a neat and tidy condition, and the body in a vigorous and healthy growth. If this is not attended to, the inside will soon become open and ragged, from the exclusion of light and air, by the long and irregular shoots on the outside.

From the above it will be seen that a continued *vigilance* and *care* is *absolutely essential* to the *forming* and *after preservation* of a hedge. And, as before observed, those who cannot afford time and patience to practice on the principles laid down in the above essay, had better not undertake it. They will only by their defeat discourage others of more perseverance from attempting it, and thus do great harm in preventing this addition of ornament and beauty to our rural landscapes.

Seeing everywhere the great evil growing out of bad practice, the perfect waste of time and money which has, and is being employed, especially just at this time, when the agricultural community all over the land, but especially on our Western Prairies is exclusively embarking in this mode of fencing, — in the hope that I may elicit a right action, is my apology for placing the result of my observations and practice before you. In this I have endeavored to be as brief as a comprehensive undertaking would admit of. Much more might profitably be said on the subject, which is necessarily excluded. It is a beautiful subject, in which the poetical and ingenious mind finds

a field of capacious dimensions, where it may revel without the fear of exhaustion. This, though pleasant, does not meet the farmer's wants. It is a plain, common-sense practice that will suit him best.

So much has been said — and correctly — on the mode and practice of growing the plants from seed, that it is presumed unnecessary to take up time by repeating it here. The same general rule applies to this as it does to all fruit seed. They must be exposed to the natural operation of the elements, to dissolve the glutinous substance of the hull enveloping the germ, or it will not vegetate. If deprived of nature's laboratory to produce this, an artificial one must be resorted to. Soaking the seed in warm water at the season of vegetation in the spring, until the germ is set free to vegetate, is the usual mode practiced with good success. The treatment afterwards is as with other seed.

Spring Garden, Cincinnati, Feb. 3, 1855.

AMERICAN POMOLOGY.

STATE FRUIT REPORTS.

By the kindness of the government of the American Pomological Society, we are enabled to present some valuable and entirely reliable information upon the subject of fruits—a subject of great and growing interest to the farmer.

Horticulture is but a department of agriculture; yet there are too many farms without other than chance-grown fruit trees within their limits—trees bearing a small quantity of inferior fruit; while on the same ground could as well be grown full-bearers of the choicer varieties.

To show that, when men make the proper effort, “some things can be done as well as others,” we extract freely from the Fruit Report from Maine, prepared by Mr. Henry Little, of Bangor, and from the Mississippi Report, presented by Mr. John C. Jenkins, of Elgin, near Natchez.

Bangor is situated at the head of navigation on the Penobscot river, in the State of Maine, in latitude $44^{\circ} 47'$ North. Natchez is located on the Mississippi river, in latitude about 31° N. Bangor naturally grows forests, for timber, and ice for exportation; while Natchez is a home of the palmetto and the orange tree, and its wharves are piled with cotton—the growth of its back country. The thermometer in the southern city once astonished the people by descending to 14° above zero; when it often accomodates the inhabitants of Bangor by registering 30° below zero. The two cities are distant from each other about eighteen hundred miles. And yet the Maine Committee are confident that there is no way, by which the lands of Maine can be used, that will pay a greater per centage per acre, than by the cultivation of the *finer varieties* of fruits; while in Mississippi it appears that the pear and other fruits succeed equally well as in the Northern and Middle States—that many varieties which at the North are small and of inferior quality, are there

grown in great perfection and attain to great size and weight ; and varieties which are not in eating in New England until October or November, are ripe in Mississippi in June.

Without further preface, we present a portion of the

FRUIT REPORT FROM MAINE.

A degree of cold equal to 31° below zero, coming upon an autumn, warm and unusually late, and consequently acting upon much imperfectly ripened wood, and in too many cases upon trees weakened by overbearing, might well be feared.

To show that the disasters of the past winter were not wholly owing to the severity of the cold, it may be well to mention the fact, that of about eighty pear trees planted by one of your committee, about the fifteenth of October last, and to which the leaves adhered firmly, and were removed by hand to check the farther flow of sap, not one tree was lost ; while in the nursery rows, from which the trees were taken, a considerable proportion were killed.

In consequence of the severe drought of the past summer, which was more severe than since 1841, (no rain having fallen for seventy-five days previous to the first week in September,) the fruit crop of the present year has consequently been very light, and less opportunity has been afforded than was desired, for testing many new varieties, and the more so, as on many trees not apparently otherwise injured, the blossom buds were so much injured as to fall without opening.

Yet they are not the less confident, in regard to the ultimate profit and general success of fruit culture in Maine, if judiciously managed in the matter of the selection of suitable varieties, and of subsequent cultivation. As to the adaptation of varieties to soil and climate we know something ; but much remains to be learned. Of the necessity of thorough cultivation, we already know more than we practice.

Allow us to press this point, and urge all who propose to plant trees, to invest in the operation some money, care, and labor, say one dollar's worth in all for each young tree, to purchase, plant and care for it the first year, and fifty cents for each year afterwards. This would suffice, and would not be

extravagant. Should this be faithfully done, it would be reasonable to anticipate a good profit on the investment. In a few years each tree would probably yield as much as the interest of one or two hundred dollars, and will continue to do it for many years.

The Committee are confident that there is no way by which the lands of Maine can be used that will pay a greater per cent. per acre, than by the cultivation of the finer varieties of fruits which are suited to the climate of the State. They therefore recommend the extensive cultivation of the choicest and long-keeping varieties. The winter apples of Maine possess a much sharper and a higher flavor, and a more crispy and finer texture than those of the same varieties grown in other States, in a warmer climate, and a longer season. They also decidedly possess better keeping qualities. This gives our cultivators an advantage when large quantities are grown for exportation. The fact that our long-keeping fruits may be successfully carried to nearly all parts of the world, is calculated to allay the fears of any who may apprehend that the extensive planting of fruit trees would result in overstocking the market, for that is out of the question.

Maine is largely interested in shipping; our ice crop never fails, and immense quantities are annually shipped to foreign countries; and *our fruit and ice can go well together*. The Baldwin and other long-keeping apples have been carried with ice to Calcutta, and there sold at high prices, weeks and even months after our stock of apples at home has been exhausted.

FRUIT REPORT FROM MISSISSIPPI.

A Report upon the subject of fruit growing in the State of Mississippi, should properly be prefaced with a few remarks upon the soil and climate.

SOIL.—My locality is six miles south of the city of Natchez, between the thirty-first and thirty-second degrees of north latitude. The surface soil is a rich, black, vegetable mold, about eighteen inches in depth, resting upon a strata of hard clay, underlaying which is a yellow loam filled with fresh water shells. This great loamy formation, elevated about two hun-

dred and fifty feet above the level of the sea, extends along the right bank (ascending) of the Mississippi River, from the thirty-first degree of north latitude, as far up as Vicksburg, (thirty-two and one-half degrees north latitude,) and runs horizontally eastward from the river, a distance of twelve to fifteen miles, at which point a marine and fresh water deposit, with recent sea shells, crops out, followed by the eocene formation of geologists.

Upon the first belt of soil next the river, (the richest upland in our State,) porous in its texture, abounding in phosphate, and the underlaying strata of loam in the carbonate of lime, the native forest trees grow luxuriantly, and attain a majestic size. The magnolia, the tulip tree, the sassafras, the black walnut, and several species of the oak, are found eighty to one hundred feet in height, and having a diameter of from three to five feet near their base.* In so rich a soil, the growth of all fruit trees is much more rapid and vigorous than upon the Atlantic slope, and consequently the trees are a longer time in coming into a bearing state.

CLIMATE.—Our winters are generally mild and open—snow seldom falls, or if so, melts away under sunshine in a few hours. We never experience so great a degree of cold as to kill fruit trees. The thermometer has been known to fall as low as fourteen degrees above zero, but this is very unusual. Our winters are cold enough to give deciduous fruit trees a sufficient period of rest to recruit for another summer's fruit bearing ; and this, followed by a spring and summer of so high a temperature as to mature the latest kinds of fruit early in the fall, is all that is wanted, as regards climate, to bring fruits to perfection. The temperature during the months of May, June, July, August, and September, is almost torrid. The thermometer rarely falling under eighty degrees, and often rising to ninety and ninety-five degrees. Spring frosts occur, but rarely destroy the fruit crop. Long droughts are prevalent during our summer and fall months.

Before noticing the varieties of fruits which follow, I must

*See additional Notes.

premise that aspect is of high importance with us, and that the best exposure for an orchard is a northern one. I would also state that my ground was well prepared before I planted out the trees—that the specific mineral manures, especially for the apple and the pear, were incorporated in a well decomposed compost, and this spread over the surface of the orchard two inches in depth. The ground was then trench plowed, followed by a sub-soil plow; and after planting, the trees kept well mulched during the summer months, and the soil every year cultivated in root crops.

PEACHES AND NECTARINES.

No region of country upon the globe, can exceed ours in the perfection to which these delicious fruits attain, our burning sun developing the saccharine qualities of the peach to the highest degree. Even the yellow fleshed varieties are with us, sweet and sugary, with only so much acid as to be grateful to the taste. I cultivate about one hundred varieties of the peach, and six of the nectarine. Although the northern varieties are sometimes cut short by frosts, from their habit of late blooming, still the peach may be considered a sure crop in this region. In a period of ten years past, I have never failed in securing a crop. Our State exports largely of this fruit to the New Orleans market. All northern varieties ripen with me in June and July.

PEARS.

This fruit has only been recently cultivated to any extent in our State. I learn there are trees yet growing, (supposed to have been planted by the early French and Spanish colonists,) upon the Bluffs, south of Natchez—and known as the Cliffs pear—an indifferent table fruit, and only suitable for cooking; although in times past it was so rare a sight to see a pear tree in the fruit orchards of this region, now that southern nurseries have been successfully established, thousands and tens of thousands of pear trees are being annually planted, and our State will, without doubt, in ten to fifteen years from this date, export largely of this fruit to the West Indies and the northern cities.

The intense heat of our summers, maturing the pear fully two months earlier than ten degrees north of us, it will enable our fruit growers to supply northern markets with finest varieties during months of July and August. I cultivate over one hundred varieties of the pear. The greater number dwarfed upon the quince on this stock, trees six and seven years from the bud, have grown from twelve to twenty feet in height, and have a diameter in trunk of six to eight inches. Native or acclimated trees are greatly to be preferred over imported ones.

Madeleine or Citron de Carmes—on quince.—Trees six years old from bud; fifteen feet high; bore heavy crops for first time this year; fruit double the size figured by Downing; flavor juicy, and sprightly; quality second rate; ripe fifteenth of May, and continues in eating one week.

Julienne, [an inferior pear in Mass., and of small size.—Ed.] This pear I think the most desirable for general cultivation in this State of all the summer varieties; has fruited with me both on standard and quince. On quince stock, my trees, six and seven years from bud, have a trunk eight inches in diameter and fifteen feet high; vigorous and healthy wood. Trees this year loaded down with fruit; had to thin out, leaving about three hundred specimens on each tree; will ripen in fruit cellar, if taken from the tree, from middle of June to end of July, and continue in eating to 20th of August: fruit large size; most of my specimens weighed half a pound, and not unlike Bartlett in shape; ripen in fruit cellar beautifully, turning from green to a rich lemon yellow; surface shining, waxy, and looking as if varnished; flesh melting, buttery, and rich, and having a most delicate perfume; quality best. Fearing I might be over-estimating this variety, I invited to my house a number of gentlemen who were familiar with best fruits north and south. I had in eating, at the same time, White Doyenne, Bartlett, Beurre Bosc, Beurre Diel, Golden Beurre of Bilboa, Duchesse d'Angoulême, and some other varieties, but the Julienne bore off the palm, without a dissenting voice, for beauty in color, for its melting qualities, and for delicacy of flavor.

Bartlett—on quince and standard—fruit large, many speci-

mens weighing fully one pound ; ripens admirably in fruit cellar, long before ripe on trees ; is in eating during all July and August ; quality best. This pear and the Julienne I consider best varieties for market culture in our State.

Beurre Diel—on quince and standard—my trees on quince stock, seven years from bud, large and vigorous growers ; bears heavy crops ; trees this year thined out, leaving one hundred and fifty specimens on each tree ; fruit attains to a much larger size than at the north. Some of my specimens weighing one and one-half pounds, and few less than one pound ; ripens finely in cellar ; turning from green to rich golden yellow ; flesh rich, sugary, buttery, and melting ; quality best ; ripe all July and August.

Duchesse d'Angouleme—on quince.—This noble pear, in our rich warm soil and burning climate, attains its highest perfection. Trees on quince vigorous and rapid growers, six years from bud, twenty feet and over in height ; with me a prolific bearer ; had this year to thin out fruit, leaving about one hundred specimens on each tree. Fruit very large, but few specimens under one pound in weight, and many one and one-half ; ripens admirably in cellar, and is in eating during all July and August ; flesh buttery and very juicy, with a rich agreeable flavor ; quality, very good to best.

This variety is a desirable one for market culture in our State. I have taken specimens unripe from trees latter part of July, and carried them by steamer to New York, where they opened sound and ripe tenth of August.

Fondante d'Automne, or Belle Lucrative—on quince standard—not so large in size as at the north, but is with us a delicious pear, *not exceeded by the Seckel* for high aromatic flavor ; quality best ; ripens last of August.

Chaumontel—on standard.—This capital old variety, in our rich warm soil, is a highly desirable pear ; fruit very large, some specimens weighing one pound ; flesh buttery, sugary, and melting, with slight perfume ; ripe in October and November.

I have had a few specimens of some of the recently introduced Flemish winter pears, but desire a longer experience

before noticing their good or bad qualities in this climate. I would remark, in closing the subject of pears, that the early and summer ripening varieties are more successfully grown in this climate than the winter varieties. The liability of the pear to rot here, as it approaches maturity, may have been one reason why this fruit has been so long neglected in this State. This defect I have, in a great measure, obviated by gathering the different varieties so soon as they have grown to full size, and before they soften on the tree, and ripening them in a cool cellar. My cellar is an inside one; dark, but well ventilated, and having double walls. The fruit should be suspended by the stem, and not rest on shelves. Another difficulty: the larger and heaviest pears are apt to drop from the trees before maturity, and especially during a period of drought. I have this year remedied this by placing barrels filled with soap-suds over the roots of the trees, and allowing the liquid to escape by drops through a small orifice near the lower end of the barrel. I have no doubt, too, that the soap-suds and a handful of guano being put into the barrel has added to the size of the fruit, and kept the tree in high health during the hot months.

ADDITIONAL NOTES.

I cannot doubt that the cause of the gigantic vegetable growth upon the formation alluded to in the foregoing report, is due, in great measure, to the lime in the loamy formation, the strata being filled with shells partly decomposed, and containing, also, in many places, the bones of extinct orders of the mammalia.

I had occasion, a few years ago, to dig off six to eight feet from a few acres of ground in front of my dwelling house, in order to make a level lawn. This exposed the loamy formation, (the strata of black mold and clay above not averaging over four feet in depth.) Upon this loam I planted the live oak, the magnolia, and other of our forest trees. They have grown rapidly, and have all a most healthy foliage. Deodar cedars, set out in the spring of 1851, when small, say one foot high, are, to-day, by measurement just made, ten and eleven feet in height; and *cryptomeria japonicas*, planted at the same date, do not fall much, if any, below them.

I wished to have said something, in my report, upon the acclimation of the varieties of temperate latitudes to a region so far south as this; but I feared it might be misplaced and uncalled for. The pear, introduced here more than one hundred years ago, by the French, is a late variety, vigorous in growth, and the specimens sound and healthy, hanging well on the tree until approach of winter. The White Spanish Reinette apple, also a long time since introduced, is marked by many excellent qualities. I am, therefore, induced to believe, that these fruits, being thoroughly acclimated or rehabilitated to our climate, is one cause of their high health. I am now grafting standard pears with two varieties, upon each tree, and from the seeds of these fruits hope to obtain new and improved varieties, better adapted to the climate than exotic sorts.

In regard to the Julienne pear, from the high rank as to quality I have given it in my report, you may be led to think I am deceived in the variety. I am confident I cannot be mistaken. The source from which I originally procured the variety, and my familiarity with the wood and fruit of the pear, (recognising them as readily as I would the faces of my children,) convince me I have the Julienne of the books. Corroborative of my opinion as to the quality of Julienne, I enclose a letter I received 20th August last, from Hon. G. W. Sargent, one of my neighbors, and a zealous pomologist, whose long residence at the north, (Boston and Philadelphia,) enabled him to judge of the merits of fruits here.

PRODUCTION, PRESERVATION, AND RIPENING OF FRUIT.*

BY HON. MARSHALL P. WILDER, PRESIDENT OF AMERICAN POMOLOGICAL SOCIETY.

PRODUCTION OF NEW VARIETIES.

MY next suggestion relates to *the production, from seed, of new varieties of fruits, adapted to particular localities, or to general cultivation.*

The immense loss to American cultivators, from the importation of foreign varieties, in many instances not well adapted to the countries from which they come, and often still less adapted to our soil and climate, suggests the importance of raising from seed, native sorts which, in most instances, possess peculiar advantages. It is now generally conceded that the trees and plants of a given country, like its aboriginal inhabitants, will flourish better at home than in most foreign localities.

We rejoice that public attention has been turned to this subject by some of our horticultural journalists, and that many cultivators and amateurs are engaged in this interesting and promising department. The success which has crowned their exertions affords great encouragement to perseverance. Witness, for instance, thirty or more varieties of the cherry, by Dr. Kirtland, of Ohio, which appear adapted to our eastern climate, and some of them of superior excellence. Witness the numerous varieties of the raspberry, by Dr. Brinckle, Ex-President of this Society, of which, some have endured, without covering, the severities of the last winter in the New England States, and which also promise to be valuable contributions to

* We cannot resist the temptation of transferring to our pages the following extracts from the address of the President of the American Pomological Society. They will be found of great interest and value.—ED.

American pomology. In addition to these, how many new varieties of the apple, the pear, the plum, and the grape have recently been added to the list of American fruits. How many new and excellent varieties of the strawberry have appeared since the introduction of Mr. Hovey's Seedlings.

These are sure indications of the success which will reward future efforts to obtain valuable native varieties of fruit; and they point to the fulfilment of the prediction of the celebrated Van Mons, "that the time will come when our best fruits will be derived from seedlings." He gives the following sage counsel to his correspondents, to whom he had sent trees: *Sow your seed and persevere without interruption, and you will obtain even better fruit than mine."*

Among pioneers in this department, I am happy to notice a gentleman,* (now residing among us) the pupil and friend of Van Mons, one who has adopted our country as his future home, and who has already transplanted to our soil many thousands choice seedlings of the pear, which have come into his possession from the collections of that gentleman and the celebrated Esperen.

As to the best method of producing fine varieties from seed, the opinions of distinguished pomologists are not uniform.

DUHAMEL, among the French, from causes which seem to us irreconcilable with nature and experience, entertained serious doubts of the practicability of any method for obtaining new and valuable varieties from seeds, especially of the pear, because he had tried various experiments without success, for fifty years.

DR. VAN MONS, of Belgium, instead of saving the seed of the *finest* varieties, selected those of inferior sorts, upon the principle that a kind having arrived at the highest state of perfection must deteriorate, while an inferior one would improve by successive reproductions. He also held that hybridization tended to degeneracy and imperfection. Thus he assumes the doctrine that a perfect variety necessarily deteriorates, and also overlooks the fact, observed by other distinguished men, that the

* L. E. Berckmans, of Plainfield, New Jersey.—[Ed.]

improvement or deterioration of which he speaks, may result from natural impregnation by the pollen of other varieties conveyed by the air or insects, and therefore that the seed of a good variety may produce either a better or a worse, and that of a bad either a worse or a better.

Mr. Knight's system of obtaining new and improved varieties, depended entirely on hybridization, or artificial impregnation, so lightly esteemed by Dr. Van Mons. This is somewhat difficult to practice on account of natural fertilization by insects and the wind; but it has the merit of depending on a truly philosophical principle, and with very particular attention may yet prove as available for the improvement of our fruits as it has for the production of fine varieties in the vegetable and floral kingdom, or as the corresponding principle has in the crossing of the breeds of domestic animals.

The results of Mr. Knight's experience disprove the tendency to degeneracy, inasmuch as many of his fruits, obtained by hybridization, are among the most durable and hardy varieties, as the Eyewood and Dunmore Pears; the Black Eagle, and other Cherries.

Many cultivators, as Esperen, Bivort, Berckmans, and others, both in this and foreign countries, have sown seeds in variety, and have obtained some valuable sorts. But I am confirmed in the opinion, that the best means of producing new and excellent varieties, suited either to general cultivation or to particular localities, is to *plant the most mature and perfect seed of the most hardy, vigorous, and valuable sorts*; on the general pathological principle that "like produces like," and upon the conviction that immature seed, although the embryo may be sufficiently formed to vegetate, yet not having all its elements in perfection, it will not produce a vigorous and healthy offspring. Dr. Lindley, commenting upon this practice, justly remarks—"All experience shows that in every kind of created thing, be it man or beast, or bird, the mysterious principle, called life, remains during the whole period of existence what it was at first. If vitality is feeble in the beginning, so it remains. Weak parents produce weak children, and their children's children are weaker still, as imperial dynasties have sadly

shown." With him, we believe this theory as applicable to the vegetable as to the animal kingdom. May not a disregard of this doctrine account for the great number of feeble, sickly, early defoliated trees often found in our grounds by the side of those that are vigorous, healthful, and persistent in foliage? Is not the theory we advocate as important in the production of fruit trees, as in the raising of cereal grains? The skilful agriculturist saves the best seed of his various crops, and selects the best animals from his flocks and herds for breeders. Why should not this law of reproduction regulate the practice of the pomologist as well as of the farmer? Has the All-wise and Infinite enacted several laws, where one would subserve the purpose?

To the doctrine of Van Mons, and other distinguished, writers, respecting deterioration by age, and after a variety has reached its perfection, there seem to be some exceptions. From the accounts of oriental travellers, may we not believe that the grapes of Eschol are as perfect now, as when the chiefs of Israel plucked their rich clusters three thousand years ago? —and that the same variety of the fig, the olive, and the pomegranate are as perfect in Syria, to-day, as in the period of David and Solomon? It is worthy of inquiry whether the native grapes, on the banks of our rivers, have deteriorated since the day when the red men of the forest refreshed themselves with fruit from those vines, and whether the orange, the lemon, the banana, and the fruits of southern latitudes evince any more signs of decay than they did centuries ago? In a word, whether this doctrine of deterioration is as applicable to the native, as to the foreign fruit of a country?

Why may we not expect to obtain natural varieties of the apple and other fruit, as durable and far more valuable than those which have passed their second centennial, as the Endicott and Stuyvesant Pears? From meteorological or other causes, which we do not at present understand, particular varieties may deteriorate in a given locality, for a season, and afterwards revive; or, they may show signs of decay in one locality and flourish well in others not very remote—as the White Doyenne which has been considered, for many years, by

some in this vicinity, on the decline, while it is perfect in several places in Maine, New Hampshire, Vermont, and other States. Fruit-bearing may exhaust the vital energy of the tree and hasten decay, but still the variety may remain. We have, among fruit trees, no example of longevity equal to that of the new *Taxodium*, found in California, supposed to be three thousand years old. Our object is not to controvert the opinions of those who believe in the running out of varieties, whether their duration be limited to one hundred or one thousand years; but to enforce the importance of raising new varieties from seed, especially adapted to our own location.

PRESERVATION AND RIPENING OF FRUIT.

Much progress has been made in this art within a few years, and important results have been attained. The principle has been settled that the ripening process can be controlled. Autumnal fruits have been kept and exhibited the succeeding spring. We have seen the Seckel, Bartlett, and Louise Bonne de Jersey pears, in perfection in January, and even later. The maturity of fruits depends on saccharine fermentation. This is followed by other fermentations, as the vinous and ascetous. To prevent these, and preserve fruit in all its beauty, freshness, and flavor, the temperature must be uniform and kept below the degree at which the fermentation or the ripening process commences. Our remarks, like our experience, have special regard to the apple and the pear, though the principle is doubtless susceptible of a more extensive application. Fruits, designed to be kept for a considerable time, should be gathered with great care some days before the ripening process commences, especially summer pears. A summer pear ripened on the tree is generally inferior. In respect to the latter, Mr. Barry, Editor of the *Horticulturist*, has so aptly expressed my own sentiments, that I use his language. "The process of ripening on the tree, which is the natural one, seems to act upon the fruit for the benefit of the seed, as it tends to the formation of woody fibre and farina. When the fruit is removed from the tree, at the very commencement of ripening, and placed in a still atmosphere, the natural process seems to

be counteracted, and sugar and juice are elaborated instead of fibre and farina. Thus, pears which become mealy and rot at the core when left on the tree to ripen, become juicy, melting, and delicious when ripened in the house." Various fruit houses have been built both in this country and in Europe; and experience shows that their object can be attained only by a perfect control of the temperature, moisture, and light. Hence, they must be cool, with non-conducting walls, or with exterior and interior walls, or a room within a room. Thus the external atmosphere, which either starts the saccharine fermentation or conveys the agents which produce it, can be admitted or excluded at pleasure. It is possible, however, to preserve the temperature at so low a degree and for so long a time as to destroy, especially with some varieties of the pear, the vitality, and therefore all power ever to resume the ripening process. Experience proves that for the common varieties of the apple and pear, about forty degrees of Fahrenheit is the temperature best suited to hold this process in equilibrium.

The proper *maturing* of fruit thus preserved, demands skill and science. Different varieties require different degrees of moisture and heat, according to the firmness of the skin, the texture of the flesh, and the natural activity of the juices. Thus, some varieties of the pear will ripen at a low temperature and in a comparatively dry atmosphere, while others, as the Eastern Beurre, are improved by a warm and humid air.

Some varieties of the pear, ripening with difficulty, and formerly esteemed only second rate, are now pronounced of excellent quality, because the art of maturing them is better understood.

But so many experiments have been tried, or are in progress, and so much has been written on this branch of our subject, that I need not enlarge except to say that the art of preserving and ripening fruit in perfection, involves so much scientific knowledge as to require great attention and care; and, until its laws are more fully developed, must be attended with considerable difficulty. I therefore commend it to your special attention, as second in importance only to the raising of new varieties.

THE RECOMMENDED AND THE REJECTED VARIETIES OF FRUITS.

THE cultivation of fruit has been proved to be profitable from the head waters of the Penobscot to the mouth of the Mississippi. There is no reason why every farmer should not also be a horticulturist; but, on the contrary, every reason that he should. Good, well ripened fruits are not only a luxury, everywhere so esteemed; but, as well, a healthful article for ordinary consumption.

No farm can be considered perfect and well balanced, without its fruit orchard or garden. Most farmers, at the north, have their apple orchard—as necessary a portion of the farm, they think, as the meadow or pasture land; nearly all plant a few cherry trees here and there, in their kitchen gardens; one may find a few quince trees thriving in spite of neglect, beside the boundary wall; and a few currant-bushes—perhaps also, a raspberry or two—struggling with the weeds against death by suffocation; but why should not every farmer have his select varieties of the peach, the plum, and of the rich and juicy pear! Why not?

That they may be guided in their selection—those that are wise enough to heed a hint, by the best advice obtainable, we subjoin a list of those fruits which have been recommended by the American Pomological Society for *general cultivation*; as also a list of those newly introduced varieties, that *promise well*; and, that the cultivator may not uselessly expend his money in the purchase of disappointment, by buying a tree with naught but a high-sounding name for a recommendation, we add the list of those *rejected* by that Society.

FOR GENERAL CULTIVATION.

APPLES.

| | |
|---------------------------|----------------|
| American Summer Pearmain, | Melon, |
| Baldwin, | Minister, |
| Bullock's Pippin, | Porter, |
| Danver's Winter Sweet, | Red Astrachan, |

| | |
|-----------------------|--------------------------------|
| Early Harvest, | Rhode Island Greening, |
| Early Strawberry, | Roxbury Russet, |
| Fall Pippin, | Summer Rose, |
| Fameuse, | Swaar, |
| Gravenstein, | Vandervere, |
| Hubbardston Nonesuch, | White Seck-no-Further, |
| Lady Apple, | William's Favorite (except for |
| Ladies' Sweet, | light soils,) |
| Large Yellow Bough, | Wine Apple, or Hays, |
| | Winesap. |

P E A R S .

| | |
|------------------------------|---------------------------------|
| Ananas d'Etè, | Lawrence, |
| Andrews, | Louise Bonne de Jersey, |
| Belle Lucrative, or Fondante | Madeleine, |
| d'Autonne, | Manning's Elizabeth, |
| Beurré d'Anjou, | Paradise d'Automne, |
| Beurré d'Aremburg, | Rostiezer, |
| Beurré Diel, | Seckel, |
| Beurré Bosc, | Tyson, |
| Bloodgood, | Urbaniste, |
| Buffum, | Uvedale's St. Germain (for bak- |
| Dearborn's Seedling, | ing,) |
| Doyenne D'Etè, | Vicar of Winkfield, |
| Flemish Beauty, | Williams's Bon Chretien or |
| Fulton, | Bartlett, |
| Golden Beurré of Bilboa, | Winter Nelis. |

FOR CULTIVATION ON QUINCE STOCKS,

P E A R S .

| | |
|-------------------------|---------------------------------|
| Belle Lucrative, | Napoleon, |
| Beurré d'Amalis, | Nouveau Poiteau, |
| Beurré d'Anjou, | Rostiezer, |
| Beurré d'Aremberg, | Beurré Langelier, |
| Beurré Diel. | Soldat Laborcur, |
| Catillac, | St. Michael Archange, |
| Duchesse d'Angoulême, | Triomphe de Jodoigne, |
| Easter Beurré, | Urbaniste, |
| Figue d'Alencon, | Uvedale's St. Germain, or Belle |
| Glout Morceau, | Angevine, for Baking, |
| Long Green of Cox, | Vicar of Winkfield, |
| Louise Bonne de Jersey. | White Doyenne. |

PLUMS.

| | |
|----------------------|------------------------|
| Bleecker's Gage, | McLaughlin, |
| Coe's Golden Drop, | Purple Gage, |
| Frost Gage, | Purple Favorite, |
| Green Gage, | Reine Claude de Bavay, |
| Jefferson, | Smith's Orleans, |
| Lawrence's Favorite, | Washington, |

CHERRIES.

| | |
|-------------------|------------------------------|
| Belle Magnifique, | Elton, |
| Black Eagle, | Early Richmond, for cooking, |
| Black Tartarian, | Graffion, or Bigarreau, |
| Downer's Late. | Knight's Early Black, |
| Downtown, | May Duke. |

APRICOTS.

| | | |
|--------|--------------|-----------|
| Breda, | Large Early, | Moorpark. |
|--------|--------------|-----------|

NECTARINES

| | | |
|-----------|---------------|---------|
| Downtown, | Early Violet, | Elruge. |
|-----------|---------------|---------|

PEACHES.

| | |
|-------------------------------|--------------------|
| Bergen's Yellow, | Early York, large, |
| Cooledge's Favorite, | George IV., |
| Crawford's Late, | Grosse Mignonne, |
| Early York, <i>serrated</i> , | Morris White, |
| Old Mixon Free. | |

UNDER GLASS.

GRAPES.

| | |
|-----------------------------|-----------------------------|
| Black Hamburg, | Chasselas de Fontainebleau, |
| Black Frontignan, | Grizzly Frontignan, |
| Black Prince, | White Frontignan, |
| White Muscat of Alexandria. | |

OPEN CULTURE.

| | | |
|----------|--------|-----------|
| Cawtaba, | Diana, | Isabella. |
|----------|--------|-----------|

RASPBERRIES.

| | |
|-----------------|-----------------|
| Fastolf, | Knevet's Giant, |
| Franconia, | Red Antwerp, |
| Yellow Antwerp. | |

STRAWBERRIES.

| | |
|----------------------|-------------------|
| Boston Pine, | Hovey's Seedling, |
| Large Early Scarlet. | |

NEW VARIETIES WHICH PROMISE WELL.

APPLES.

| | |
|----------------|--|
| Autumn Bough, | Ladies' Winter Sweet, |
| Benoni, | Monmouth Pippin, |
| Coggswell, | Mother, |
| Genesee Chief, | Primate, |
| Hawley, | Smoke House, |
| Jeffries, | Winthrop Greening, or Lincoln Pippin, |

PEARS.

| | |
|-----------------------|------------------------------|
| Adams, | Howell, |
| Alpha, | Jalousie de Fontenay Vendée, |
| Beurré Clairgeau, | Kingsessing, |
| Beurré Giffard, | Kirtland, |
| Beurré Sterkman, | Limon, |
| Beurré Superfin, | Lodge [of Penn.,] |
| Brande's St. Germain, | Nouveau Poiteau, |
| Brandywine, | Onondaga, |
| Chancellor, | Ott, |
| Charles Van Hooghten, | Pius IX. |
| Collins, | Pratt, |
| Comte de Flanders, | Rouselette d'Esperin, |
| Doyenne Boussock, | Sheldon, |
| Doyenne Goubault, | St. Michel Archange, |
| Duchesse d'Orleans, | Steven's Genesee, |
| Beurré St. Nicholas, | Striped Madeleine, |
| Duchesse de Berri, | Theodore Van Mons, |
| Epine Dumas, | Van Assene, or Van Assche, |
| Fondante de Malines, | Walker, |
| Fondante de Noel, | Zepherin Gregoire, |

CURRANTS.

| | |
|-----------------|--------------|
| Black Naples, | Red Dutch, |
| May's Victoria, | White Dutch, |
| | White Grape. |

GOOSEBERRIES.

| | |
|----------------------|-------------------------|
| Crown Bob, | Iron-Monger, |
| Early Sulphur, | Laurel, |
| Green Gage, | Red Champagne, |
| Green Walnut, | Warrington, |
| Houghton's Seedling, | Woodward's White Smith. |

BLACKBERRIES.

Lawson's New Rochelle.

PLUMS.

| | |
|----------------------------|-----------------------|
| Ive's Washington Seedling. | Prince's Yellow Gage, |
| Munroe Egg, | River's Favorite, |
| St. Martin's Queteche. | |

CHERRIES.

| | |
|-----------------------|-----------------------------|
| American Amber, | Governor Wood, |
| Belle d'Orleans, | Great Bigarreau of Downing, |
| Bigarreau Montrose de | Hevey, |
| Bavay, | Kirtland's Mary, |
| Black Hawk, | Ohio's Beauty, |
| Coe's Transparent, | Reine Hortense, |
| Early Purple Guigue, | Walsh's Seedling. |

GRAPES.

Concord.

RASPBERRIES.

| | | |
|---------|---------|---------|
| Erench, | Orange, | Walker. |
|---------|---------|---------|

STRAWBERRIES.

Walker's Seedling.

FOR PARTICULAR LOCALITIES.

APPLES.

| | |
|---------------------|----------------|
| Canada Red, | Newton Pippin, |
| Esopus Spitzenburg, | Northern Spy, |
| Yellow Bellflower. | |

PEARS.

| | |
|---------------|----------------|
| Grey Doyenne, | White Doyenne. |
|---------------|----------------|

PEACHES.

Heath Cling.

PLUMS.

Imperial Gage.

STRAWBERRIES.

| | |
|------------------|--------------------|
| Burr's New Pine, | Jenney's Seedling. |
|------------------|--------------------|

FOR NORTHERN LOCALITIES.

APPLES.

Ribstone Pippin.

FOR GARDENS.

APPLES.

Garden Royal.

REJECTED FRUITS.

A P P L E S .

| | |
|-------------------------|-------------------------|
| Beachamwell, | Kirke's Lord Nelson, |
| Caroline (English), | Large Red Sweeting, |
| Cathead, | Marmalade Pippin, |
| Cheeseboro' Russet, | Muscovio, |
| Dodge's Early Red, | Pennock, |
| Egg Top, | Pigeonnette, |
| Fenouillet Rouge, | Priestly, |
| Gloucester White, | Red Doctor, |
| Golden Reinette, | Red Ingestrie, |
| Grand Sachem, | Red or Royal Russet, |
| Gray French Reinette, | Rowland's Red Streak, |
| Henry's Weeping Pippin, | Salina, |
| Hoary Morning, | White Ingestrie, |
| Irish Peach, | Woolston's Red Streak, |
| | Woolston's White Sweet. |

P E A R S .

| | |
|--------------------------|--------------------------------|
| Admiral, | Bezi Vaet, |
| Ah ! Mon Dieu, | Bishop's Thumb, |
| Alexander of Russia, | Blanquet a Longne Queue, |
| Angers, | Blecker's Meadow, |
| Apple Pear, | Bon Chrétien d'Eté, |
| Armudi, | Bon Chrétien d'Hiver, |
| Autumn Bergamot, | Bon Chrétien Bruxelles, |
| Autumn Superb, | Bon Chrétien Spanish, |
| Aston Town, | Bonequia, |
| Beauty of Winter, | Bouquet, |
| Belle d'Aout, | Brougham, |
| Belle de Bruxelles, | Bruno de Bosco, |
| Belmont, | Brugman's Birne, |
| Bergamotte d'Automne, | Burgomaster, |
| Bergamotte Fortuneè, | Caillot Rosat, |
| Bergamotte Sylvange, | Calebasse, or Pitt's Prolific, |
| Bergamotte Zappa, | Cassolette, |
| Buerré Adam, | Chair a Dame, |
| Buerré Audusson, | Charles Van Mons (old), |
| Buerré d'Anglaterre, | Chat Brule, |
| Buerré of Bolwiller, | Citron of Bohemia, |
| Buerré Colmar of Autumn, | Citron de Sierenz, |
| Buerré Coloma, | Clapp, |
| Buerré Kenrick, | Clara, |
| Buerré Knox, | Clinton, |
| Buerré Seutin, | Columbus d'Hiver, |
| Buerré Van Mons, | Compte de Fresnel, |

Copea,
 Crassane,
 Crawford,
 Croft Castle,
 Cuvelier,
 D'Amour,
 Dearborn of Van Mons,
 Deschamps (new late,
 Downton,
 Doyenné Doré,
 Doyenné Mons,
 Dubossury,
 Dumbarton,
 Duquesne d'Eteè,
 Elton,
 Endicott,
 English Warden,
 Famenga,
 Fantasie Van Mons,
 Figue Extra,
 Forme des Delices,
 Forme Urbaniste,
 Foster's St. Michael,
 Frederic of Prussia,
 Franc Real d'Hiver,
 French Iron,
 Garnstone,
 Gendeseim,
 Girardin,
 Great Citron of Bohemia,
 Green Catharine,
 Green Chisel,
 Green Sugar,
 Green Yair,
 Grise Bonne,
 Gros Blanquet,
 Gros Rousselet,
 Hativeau,
 Hawthorne's Seedling,
 Hays,
 Hericart,
 Hessel,
 Horticulture,
 Huguenot,
 Ipswich Holland,

Jacob,
 Jalousie,
 Jargonelle (of the French),
 John Monteith,
 Jubin,
 Kramelsbirne,
 Lansac,
 Lavallo,
 Lederbirue,
 Lincoln,
 Locke,
 Louise Bonne,
 Louise of Bologne,
 Mabillo,
 Madame Vert,
 Madotte,
 Marcellis,
 March Bergamot,
 Marie Louise Nova,
 Martin Sec,
 Marquise,
 Michaux,
 Miller's Seedling,
 Moorfowl Egg,
 Navet,
 Oak Leaf, (Imperial,)
 Orange,
 Orange Rogue,
 Orange Tulipée,
 Pailleau,
 Passans de Portugal,
 Passe Long Bras,
 Phillips,
 Pitfour,
 Petit Muscat,
 Pitt's Marie Louise,
 Platt's Bergamotte,
 Pomme Poire,
 Pope's Quaker,
 Pope's Russet,
 Pope's Scarlet Major,
 Prince's Portugal,
 Princess of Orange,
 Queen of the Low Countries,
 Queen Caroline,

| | |
|----------------------------|---------------------------------|
| Qulletette of Manning, | Summer Thorn, or Epine d'Etaté, |
| Rameau, | Suerfondante, |
| Reine d'Hiver, | Supasse Meuris, |
| Reine des Piores, | Swan's Egg, |
| Rousselet d'Hiver, | Swiss Bergamotte, |
| Rousselette de Rheims, | Tillington, |
| Rousselette St. Vincent, | Thompson (of New Hampshire,) |
| Royale d'Hiver, | Trucherdy Dutle, |
| Rushmore's Bon Chretien, | True Gold of Summer, |
| Sabine (Flemish), | Tueker's Bon Chrétien, |
| Sans Pepins, | Tucker's Seedling, |
| Sapianski, | Verte Longue Panaché, |
| Shobden Court, | Wellington, |
| Souveraine, | Whitfield, |
| St. Bruno, | Winter Crassane, |
| Striped Madeleine, | Winter Orange, |
| Sugar Pear of Hoyerswerda, | Winter Quince, |
| Summer Bergamotte, | Wurzar d'Antemne, |
| Summer Rose, | Yutte. |

REPORT ON SOME OF THE DISEASES AND INSECTS AFFECTING FRUIT TREES AND VINES.

BY THADDEUS WILLIAM HARRIS, PROFESSOR OF ENTOMOLOGY OF THE
MASSACHUSETTS HORTICULTURAL SOCIETY.

SWOLLEN BRANCHES OF THE APPLE TREE.

On the 31st of May, the Hon. M. P. Wilder sent to me some pieces of the limbs of an apple tree, which were singularly enlarged in diameter to the extent of several inches. He found the disease to prevail on the north side of the tree, while the south side was almost entirely free from it. The specimens were carefully examined by Prof. Asa Gray and myself, without insects, their punctures, or their tracks being found therein. One of the branches, measuring two and a half inches in circumference immediately below the swollen part, was enlarged above this spot to four inches in circumference, and the enlarged portion was eleven inches in depth. The outer bark seemed perfectly healthy. When sawn transversely, the pith was not found in the centre of the piece, but nearer to one side than the other, where the layers of wood were thicker, and looser in texture. It was also evident that the thicker layers followed a spiral direction around the limb. When the bark was raised, the wood presented a singularly irregular surface, caused by numerous depressions and furrows, which were filled by corresponding elevations of the inner bark. The disease was evidently a diseased formation and irregular deposit of woody matter. It belongs to the province of the vegetable physiologist to explain the cause of this preternatural and diseased formation.

WARTS OR EXCRESCENCES ON PLUM TREES.

These have been attributed by many persons to the punctures or to the presence of insects therein. I have not been able to

find either the one or the other in the incipient warts, or in their immediate vicinity. It was only when these excrescences were well grown and were approaching to maturity, that insects were discovered in them, and not always even in this stage. Some of the twigs, containing incipient warts, were enclosed in a tight vessel in May, and were examined in August, when they were entirely free from the vestiges of iusects, although the tumors when cut open, presented the porous and cancellated structure peculiar to them when dry. The insects to be found in the warts in the course of the summer are of sundry kinds; such as the grubs of the plum-weevil, borers similar to those that attack peach and cherry trees, and the worm-like caterpillars of minute moths. The last seem to be the most abundant and the most common. Their presence is made known by the castings or grain-like fragments thrown out of their burrows upon the surface of the warts. These tumors also afford nourishment to certain vegetable parasites, the little black grains, half immersed in the surface, to which, when mature, they give a deep black color. These little grains are fungi, which have been described under the name of *Sphæria morbosu*. But neither to them, nor to the various insects before named, is the origin of the warts to be ascribed. The incipient warts can be detected, before the outer bark is ruptured, by the swollen appearance and spongy feeling of the surface. They seem to be the result of diseased action in the inner bark and new wood, while these parts are in a state of rapid formation. Upon examination, the cells of the tissues are found to be surcharged with fluid, and distorted in shape and arrangement. The plum tree has been called a gross feeder. It may imbibe fluids by its roots faster than it can exhale the superfluous moisture from its leaves; or the function of the latter may be checked by such sudden changes in temperature and in the hygrometric state of the atmosphere as are common in the spring. In either case, there would be likely to ensue an accumulation of fluid in the branches, and particularly in the tender tissues of the new wood, where warts are most commonly developed.

From experiments made upon my own trees, I have reason to believe that the growth of these tumors may, in great measure,

be prevented by severe root-pruning, stimulating the bark in the spring, or before the buds expand, by washing it with soft soap, and by cutting off the warts as soon as formed, and applying salt or brine to the wounds.

CURL OF THE LEAVES OF THE PEACH TREE.

This affection, to which the tree is subject during the month of May, and by which it often loses all its first leaves, has been commonly attributed to the punctures of insects, such as *athides* and the *thrips*. It is, however, very doubtful whether these insects are the real cause of that diseased change in the texture and form of the leaf which is called the curl, because the insects in question are rarely seen on the affected leaves, and never in such numbers as sufficiently to account for the extensive injury sustained. The surface of these leaves is swollen into irregular and crisp tumors, often of a reddish color, and of a spongy texture, formed of thickened and succulent cellular tissue. These tumefactions present some analogy to the warts of the plum tree, and may have a similar origin. The affection has often been observed to follow a cold storm in May, whether connected therewith or not. If sudden cold and moisture have a tendency to check evaporation from the leaves, fluids will accumulate therein, and may thus bring about the changes by which they become blasted. It is confidently stated that soaping the limbs of the trees early in spring, or washing them with a solution of sulphur and potash, will prevent them from suffering from the curl. Peach trees on plum stocks seem to be nearly exempt from this affection, perhaps because the supply of nourishment from the roots and the exhalation from the leaves are more nearly balanced in them; for the plum stocks makes fewer or smaller roots than the peach on its own stock.

THE YELLOWS.

For the first time in eleven years the symptoms of this disease have appeared in my garden. It is confined to two branches on the north side of one peach tree, the fruit on which is becoming some red some three or four weeks too soon, while

a few wiry shoots, clothed with diminutive and pale leaves, have sprouted upon these branches. Neither *borers* nor the *Tomicus liminaris* have been discovered in the tree; and the cause of the disease remains as much a mystery to me as to other cultivators. I propose cutting off the diseased branches, and dressing the soil around the tree with ashes and urine, as an experiment towards checking the further development of the disease. In former years peach trees have rarely suffered from the yellows in this neighborhood, where now many trees are affected with it. Has the severe drought of the present season had any influence in producing the disease?

INSECTS OF THE APPLE TREE.

My remarks will necessarily be confined to a very few of the numerous insects infesting fruit trees and vines; there being nothing new or particularly interesting to be stated concerning the greater part of them.

Canker-worms. — There are some parts of the country in which these insects have never appeared: in other parts their visitations occur several years in succession, are then suspended for an uncertain term of years, after which they recur again as before. Thus, in the vicinity of Boston, these insects prevailed from 1831 to 1840, increasing yearly in numbers till the last date, after which they disappeared almost entirely till 1847, when they began again to attract attention, and have become more numerous every year till the present time. Their ravages during the past summer, in Cambridge and in some of the adjacent towns, have been very serious, but have not yet reached the height they attained in 1839 and 1840. Canker-worms are generally found upon the buds and leaves of the trees before or about the middle of May, and disappear before or about the middle of June, their depredations lasting nearly or quite four weeks. The parent insects, consisting of winged males and wingless females, ascend from their burrows in the ground in the latter part of October, and during the month of November, and again in the spring from the middle of March to about the tenth of April. Their spring rising is sometimes retarded and prolonged a week or more by the backwardness of the season.

In mild winters a few of the insects may ascend at various times between the periods for the ordinary autumnal and spring risings. It is during these same periods that our trees require to be protected against the ascent of the females. Soft tar, seasonably applied around the trunks of the trees, and frequently renewed, is the remedy which has been longest and most relied upon for this purpose. Various other expedients have been tried to prevent the insects from ascending the trees and depositing their eggs upon the branches. Those most worthy of confidence are circular leaden troughs, containing cheap oil or gas-tar, secured in a horizontal position around the trunks of the trees, and the glass rings, lately invented by Mr. George Everett, of Roxbury, the efficacy of which, however, has not yet been sufficiently tested. Canker-worms are very injurious to cherry and plum trees, and to elms and maples, all of which will have to be secured from their anticipated depredations in the same way as apple trees.

Palmer-worms.—In the second edition of Dr. Deane's "New England Farmer and Georgical Dictionary," published in 1797, there will be found the following article, under the article *Insect* :

"The *Palmer worm*, a wanderer, as its name signifies, is a small worm, about half an inch in length, with many legs, and extremely nimble. It appears at different times in different parts of the country. I have seen them only on apple trees and oak trees, in any great abundance. They give the trees the same appearance that the canker-worm does. They appeared in the County of Cumberland, [Maine], in the year 1791, about the middle of June, eating off the covering of the leaves on both sides, and leaving the membranous part entire. The following year there were none to be seen, and I have not known them in any place two years in succession. The seeds of them may be constant, wanting only a particular state of the weather to produce them. The spring which preceded their appearance had been remarkably dry, both in April and May. The history of this insect is so little known, that I will not undertake to say how they may be successfully opposed. I made smokes under the fruit trees, without any apparent effect.

As they let themselves down by threads, they may be thinned by shaking the trees and striking off the threads. Their ravages had not any lasting effects, for the orchards, that had been visited by them, bore plentifully the following year."

During the month of June, 1853, a small worm, or naked caterpillar, whose history accords, in every particular, with the foregoing account, was observed in great numbers on apple, cherry, and plum trees, and on oaks, throughout the greater part of New England and in the valley of the Hudson in New York. In some places, orchards suffered from these insects as much as from the ravages of canker-worms; and not only the leaves, but also the fruit was injured or destroyed by them. By many persons they were mistaken for canker-worms. The latter disappeared here about the tenth of June, at which time the palmer-worms were just beginning their depredations. These worms differed from the former in having sixteen legs, in being much more active in their motions, and in creeping without looping or arching up their backs at every step. They were also smaller and differently colored. Towards the end of June, they came to their growth and left the trees, their disappearance, in many places, coinciding with the heavy showers which fell about the same date. Some of the insects which were secured, covered themselves with little transparent silken webs or cocoons, in which they took the chrysalis form immediately, and came forth as moths between the 8th and 25th of July. About the same time they were seen in the moth state in orchards, and in great numbers among the grass under fruit and forest trees. They soon entirely disappeared, nor have they been observed under any form since that time. In an article printed in the "Cambridge Chronicle," for July 23d, 1853, I gave to this insect the scientific name of *Rhinosia pometalla*, the little Rhinosia or snout-moth of the orchard, with a scientific description of it in all its stages. That article, and another in the "Journal of the New York State Agricultural Society," for October, 1853, and also Dr. Fitch's account in the same Journal for September, 1853, may be consulted for further particulars.

The New York Weevil. — In some of the Western States,

apple trees, and occasionally pear, plum, and cherry trees, have been injured by a large weevil, specimens of which, taken from these trees in Michigan and Wisconsin, have been sent to me. This is the biggest weevil known in the United States, measuring half an inch or more in length. It is of a grey color, striped with white, and dotted with black spots on the back. The celebrated naturalist and voyager, John Reinhold Forster, first described it in 1771, under the name of *Curculio Noveboracensis*, the New York weevil. It belongs to the modern genus *Ithycerus*, and has also been described by Mr. Kirby under the name of *Pachyrhynchus Schonherri*. According to Mr. A. H. Hanford, of Waukesha, Wisconsin, and Mr. T. E. Wetmore, of North Cannon, Michigan, this weevil attacks the buds and young shoots of the trees, gnawing them to the very pith, so that they break off, or wither and die. Mr. Wetmore informs me that their numbers are greater this year than heretofore, and apprehends great injury from them should they continue to increase. They are found on the trees in May and June; appear to be active during the night, and drop off by day when the trees are suddenly jarred. I have taken them in June and July on oaks and maples, but never met with them on fruit trees. Though not a very abundant species in Massachusetts, it is by no means rare, and has a wide range through the country, being found in most of the New England, Middle, and Western States, in Canada, and in Newfoundland. There is an account and figure of it in the "Horticulturist," for August, 1853, page 386. The "Journal of the New York State Agricultural Society," for September, 1853, may be also be consulted for notices of it by Dr. Fitch and myself.

Apate Bicaudatus. — This is the scientific name given by Mr. Say to a little beetle, whose injurious habits have lately been observed in Michigan and Wisconsin. Professor S. P. Lathrop, of Wisconsin University, and Mr. T. E. Wetmore have sent specimens to me, with accounts of the depredations of the insects, which are found burrowing in the pith of the young branches of the apple tree, during the spring. The branches above the seat of attack soon die. These beetles are from one quarter to more than three-tenths of an inch long, cylindrical,

dark chestnut brown, roughened like a grater, on the fore part of the thorax, with short spines pointing backwards, and armed, in the males, with an incurved spine, near the tip of each wing cover. Besides those sent to me from Michigan and Wisconsin, I have specimens from Ohio, Pennsylvania, and North Carolina ; but have not met with any in New England.

The Oak-pruner (*Stenocorus putator*) occasionally attacks the small branches of the apple tree ; and the blight beetle, *Scolytus*, or *Tomicus Pyri*, whose perforations blast and kill the branches of the pear tree, has also been found equally injurious to those of the apple tree.

Dr. William Le Baron, of Geneva, Illinois, has contributed some interesting observations on the *Bark-Lice*, or scale insects of the apple-tree, to the "Prairie Farmer," for June, 1854. He finds that there is only one animal brood of these insects, that they are hatched in May, and that the females often produce from seventy to one hundred eggs. He thinks that remedies for the destruction of the insects should be applied soon after the hatching season.

PEAR-TREE INSECTS.

Those most injurious to this tree are the *Slug-worms*, which destroy the trees, the *Scolytus* or *Tomicus*, referred to in a preceding paragraph, and *borers*, which make their attacks on the stocks of dwarf trees that are grafted upon the quince. Pear trees likewise suffer occasionally from *bark-lice*. Within a few years, a new and probably introduced insect has made its appearance in great numbers on pear trees in the western parts of Connecticut and of Massachusetts, particularly in the valley of the Housatonic, and in the adjacent counties of Dutchess and Columbia in New York. This is

The *Psylla*, or jumping louse, which is probably identical with the same species that infests the pear tree in Europe. Some account of it has been given in the second edition of my "Treatise ;" but the history is professedly incomplete, and further particulars have been hoped for from Mr. T. Glover, of Fishkill Landing, whose opportunities for observing the habits of the insects are greater than mine have been. In some of its

forms it is found on pear trees from May to October; and probably two or more broods are produced every year. These little insects live by suction, and obtain their food by puncturing the bark of the young shoots, mostly in the vicinity of the buds. They defile the shoots with the fluid which they discharge in large quantities, and which soon forms a blackish crust on the bark. The best remedy that occurs to me is a wash of strong soap suds and sulphur, applied with a brush to the branches in the spring, before the buds expand. A solution of whale-oil soap, thrown upon the trees, will kill the insects, but will have to be repeated at intervals during the summer.

PLUM TREE INSECTS.

The Plum Weevil, Curculio, or Conotrachelus Nenuphar, continues to baffle all attempts to exterminate it. Cherries, apples, pears, and peaches, and even the succulent warts of the plum tree, provide for it abundant resources, in default of plums, its most appropriate food. We may save a crop of plums by covering the trees with fine netting, or perhaps by coating the fruit with whitewash; but the other fruits above named will suffer all the more for our pains, and will furnish a numerous brood of depredators for the following year. Nothing short of *killing the insects*, in some of their forms, will ever prove an effectual remedy.

The Slug-worm, Tenthredo, or Selandria (Blennocampa) Cerasi, which destroys the leaves of the cherry and of the pear, is also injurious to those of the plum. It is easily killed by dusting ashes or lime upon it, or by throwing upon the leaves a solution of whale-oil soap.

CHERRY TREE INSECTS.

Those which attack the leaves are chiefly *canker-worms* and *slug-worms*, already referred to, and *rose-bugs*, which in some seasons are very injurious to them. The latter, as well as *May-bugs*, or *Melolonthæ*, may be gathered by hand on small trees, or may be beaten off with poles and caught in sheets spread beneath the trees. The best time for doing this is in the evening or very early in the morning, when the insects are

sluggish, and readily fall if disturbed. A large proportion of the fruit is spoiled every year by the grubs of the *plum-weevil*. The incautious eater doubtless does something towards checking the increase of the insects; but a remedy less repugnant to good taste remains to be discovered.

PEACH TREE INSECTS.

The Tomicus Liminaris, which lives under the bark of diseased peach trees, and has been supposed by Miss Morris to be the cause of the yellows, has not appeared in my own trees, nor do I hear of its being found in others in this vicinity. Miss Morris's communication upon it may be seen in Downing's *Horticulturist*, Vol. IV., page 502.

The Peach Tree Borer, (*Ægeria Exitiosa*), an entirely different insect from the apple tree borer, and operating in a different manner, namely, between the bark and the wood, is more injurious to this tree than any other insect. Great care is necessary to prevent the tree from being girdled at the root by these pernicious borers. Frequent applications of urine and ashes, and of hot soap-suds, around the trunk, seem to have a good effect, being not only offensive to the fly when about to deposit her eggs, but also destructive to the young borers. After any lurking borers and the earth adjacent to the trunk have been carefully removed, a covering of strong paper around the base of the tree, tied above with a string, and secured at the bottom with a bed of mortar, has proved an effectual preventive against the attacks of the insects. I believe that peach trees on plum stocks are never injured by these borers.

INSECTS OF THE GRAPE VINE.

The vine is subject to the attacks of a very great variety of insects, differing also from each other in their operations and in the amount of injury done by them. Most of them have been noticed in my "Treatise" on injurious insects; but there are others claiming the attention of the cultivator and of the naturalist.

Grape Vine Borer.—The roots of cultivated grape vines in the Southern States have been observed by Dr. F. J. Kron, of

Albermarle, North Carolina, to be so much injured by borers as to prevent the ripening of the fruit, and finally to cause the decay and death of the vines. The insects do not spare even the native varieties, all of which, except only the *scuppernong* or *masculine*, are found to be attacked by them. Taking advantage of the foregoing exemption, Dr. Kron has been successfully engrafting and cultivating the best foreign and native grapes on stocks of the wild muscadine, probably the true *vitis vulpina* of Linnæus, and of Sir J. E. Smith, in Abbot's "Insects of Georgia," and identical with the *Vitis rotundifolia* of Michaux and of Elliott. He has also favored me with samples of injured vine-roots, and specimens of the insects in all their stages, together with an account of his observations and experiments upon them. This account, and a scientific description of the insects, written by me at the request of Dr. Kron, have been published in the Raleigh Register for the 5th of April, 1854. The insects belong to the genus *Ægeria*, and are allied to the borers of the peach tree, and to those that destroy the roots of pumpin and squash vines. In their winged form they strikingly resemble certain wasps called *Polistes*; hence I have given to this species the name of *Ægeria polistiformis*. According to Dr. Kron, they are found about the vines and on the wing from the middle of June till the middle of September, during which time they couple and lay their eggs. These insects are of a dark brown color, more or less tinged with a tawney orange on the sides, and banded with bright yellow upon the edge of the second ring of the hind-body. The thorax and shoulder-covers, and the fourth ring, are more faintly edged with yellow or with tawny orange. The feelers, antennæ beneath, and legs are also orange-colored. The fore-wings are dusky; the hind-wings transparent, but veined and edged with black. The female has a little orange-colored tuft on each side of the tail, and the males have two tufts on each side, the middle pair longer than the others. The males are more numerous, more active, and smaller than the females; they measure from five to six-tenths of an inch in length, and their wings expand from one inch to one inch and three-twentieths. The body of the female varies from six to nine-tenths of an inch in length, and

her wings expand from one inch to one inch and a half. These insects lay their eggs near the roots of the vines, and the whitish grubs, hatched therefrom, of various sizes, will be found boring into the bark and wood of the roots during the summer. When fully grown, these grubs measure from one inch to one inch and three-quarters in length. They undergo their transformations in oblong oval pods, formed of a gummy kind of silk, covered with fragments of wood, bark, and dirt, which will be found within or adjacent to the injured roots. The insects take the chrysalis form at various times during the summer. The rings of the chrysalis are surrounded with minute teeth, which assist the insect in coming forth from its pod or cocoon when about to be changed to a moth.

Eight-Spotted Sphinx, or Alypia octomaculata. — There are two insects, occasionally found on the grape vine, which in their caterpillar state closely resemble each other in form, size, color, and habits. One of these is the beautiful *Eudryas*, described in my "Treatise;" the other is the *Sphinx* or *Alypia*, above named. This *Alypia*, though common and occasionally so numerous as to be quite hurtful to the vine in some parts of the United States, is very rare in New England. I never saw it in Massachusetts until the summer of 1853, when a few specimens were discovered on my grape vines; and during the past summer they have appeared in greater numbers on the same vines. At first they were mistaken for the caterpillars of the *Eudryas*, from which, however, they are to be distinguished by having a conspicuous white spot on each side of the hinder part of the body. These caterpillars are white, passing into blue, transversely banded with narrow black lines, with a broader orange colored band, dotted with black, on the middle of each ring. The head and feet are also orange, dotted with black. The black dots on the body produce a few short whitish hairs. They were found eating the leaves of the vine in the latter part of June and beginning of July. Full grown specimens measured one inch and a quarter, or more, in length. Before the 16th of July, they left the vines, and concealed themselves in a loose web upon the surface of the ground, and soon took the chrysalis form. One of them was transformed to a moth on the 10th

of August ; others remained in the chrysalis state through the winter, and came forth winged in May and June. The winged insects are black, with two large yellow spots on each of the fore-wings, and two white ones on the hind-wings. Their shanks are clothed with orange-colored hairs. Their wings expand from one inch to one inch and a half. Abbot has figured this insect in his "Insects of Georgia ;" but has colored the caterpillar incorrectly.

Grape-vine Flea-Beetle or Haltica.—The depredations of this insect upon the grape vine seem first to have been observed in the year 1831, by the late Judge Darling, in Connecticut, and by Mr. David Thomas, in New York. An account of them by the latter gentleman was published in 1834, in the 26th volume of Silliman's "American Journal of Science." The beetles were found to destroy the fruit buds in the spring, and their young, in the form of chestnut-colored grubs, destroyed the leaves in summer. These grubs have never been fully described. In a recent excursion to New Hampshire, I was struck by the condition of the leaves of the black alders (*Alnus serrulata*) which, through a long extent of country, were destroyed in the same way as the leaves of fruit trees are by canker-worms. Upon examination, the authors of all this mischief were found to be certain dark colored grubs, great numbers of which were still remaining on the leaves on the second of August, while others had already completed their transformations, and had come forth in the beetle form. The beetles were identical with the above-named depredators of the grape-vine, and were feeding upon the few green leaves still remaining on the alders. The grubs, when fully grown, measured about half an inch in length. They were of a livid brown color above, and paler beneath, with a black head, black feet, and a double row of minute acuminate black warts, each producing a very short hair, on every ring. The body was nearly cylindrical ; the feet were six in number, situated beneath the fore part of the body ; and there was a little fleshy propleg beneath the last segment. It may be added that the beetles were rather more than threetwentieths of an inch in length, of a brilliant greenish blue

color above, and that they leaped with the agility of fleas. The discovery of these insects in such immense numbers on the alder, and the extensive ravages committed by them on this shrub, seem to indicate that the natural food of this species is obtained from the alder, rather than from the vine ; and that its resorting occasionally to the latter, may be owing to the want of the former, or to the extraordinary multiplication of the insects, in certain seasons, in the vicinity of the grape vine.

Cambridge, Mass., Sept. 5, 1854.

M A N U R E S .

BY LEVI BARTLETT, WARNER, N. H.

IN our intercourse with the farmers of this section of the country, we find the lack of manure to be a standing complaint with a large majority of them. In some measure to remedy this, many of them, for the two past seasons, have purchased, and experimented more or less, with guano, ground bones, superphosphate of lime and some others purchased manures. In some instances, these manures have added much to the crops, in other cases their use has been attended with a loss. No doubt, this last result has been owing, in a great measure, to the severe droughts of the two past seasons. In some instances guano has been misapplied by being too much in contact with the seed. In other experiments, it has been strewn, broad-cast, and left too much upon the surface of the ground, and much loss occasioned by the escape of the ammonia into the air.

Good Peruvian guano, crushed bones, superphosphate of lime, and many artificially prepared manures, are annually used in England in enormous quantities; and this proves, beyond all cavil, that they possess an intrinsic money value for manurial purposes; and doubtless they possess a similar value for the American that they do for the English farmer, with the exception of our greater liability to summer and autumnal droughts. But however valuable these purchased manures may be, the great body of New England farmers must depend principally for this indispensable requisite to feed their growing crops, (and to keep up or increase the fertility of their fields,) upon that made from the stock kept upon the farm, and from such other materials as are found upon it, and in its vicinity.

Notwithstanding the universally acknowledged importance of manures for raising good crops and successful farming upon most of our New England soils, there is, with a large portion of our farmers, a great lack of due care in the management of the manure derived from their farm stock, and a culpable neglect in not collecting, from various sources within their reach, suitable materials for increasing the amount and value of the composit heap.

We have recently made several excursions among the farmers of this vicinity, and have particularly noticed the way in which different farmers manage the winter-made manure of their cattle, sheep, horses, &c. Many — yes, a vast majority of our farmers, throw their cattle manure from their hovels, under the droppings of unspouted roofs, exposed for months together to washing rains and melting snows, as though it were as insoluble as granite ; while that from the horse-stable is thrown in heaps, where it soon heats and fire-fangs.

Such farmers do not seem to be aware that a valuable portion of manures can escape in the form of steam and gases, generated by the heat and decomposition of animal and vegetable matters ; or that a valuable portion — the more soluble parts — of the manure can be washed out by rain and snow-water : and the urine is considered of so little worth that most of it is lost by passing through a leaky hovel floor.

Some one has truly said that “manure is the life-blood of successful farming.” Therefore every farmer should make it a leading object to guard, as much as possible, against the losses above named ; and to effect this, the barn-cellar is probably the best place yet devised ; for here large quantities of peat, muck, with other valuable absorbing materials, can be stored in summer and autumn, for daily mixing with the fresh dung during winter. The temperature of the whole mass can be easily regulated, so as to guard against loss by excessive fermentation. The muck, &c., absorbs and saves the urine, and no drenching rains wash out the soluble portions of the contents of the cellar, but all is saved in the best possible condition to be carted out, and plowed into the soil when needed.

But as few farmers, compared with the many, have cellars

under their barns and stables, in order to make the most of their means, they must resort to some other course. I know a farmer whose barns are so situated that he cannot have a cellar under them, in consequence of the low and flat situation of the ground about his buildings; the water in his wells, a portion of the year, being within two feet of the surface of the ground.

The farmer alluded to has two barns, one of them 50 by 30 feet. On the south side of this, extending the whole length, is a hovel, in which sixteen head of cattle can be tied up; they stand on a raised platform, and the manure falls into a water-tight gutter in the rear of the cattle. The hovel is daily littered with a few quarts of ground-plaster, and about half a bushel of swamp muck to each animal, over which is a bedding of refuse hay, leaves, &c. The cattle are kept, most of the time, tied; but turned out twice each day to drink — the water being in the yard. The manure is daily thrown into the basement story of the other barn, which is 25 by 30 feet, and 10 feet high. The horse-stables and hog-pen are so arranged that the manure from each — as also the droppings of the poultry — is easily thrown with that of the cattle, and duly mixed. The floors of all his hovels, stables, &c, are double planked, and spiked down to the sills and sleepers; so that none of the urine is lost, but all absorbed by the muck and litter. A moderate degree of heat is kept up in the mass, but not so great as to fire-fang the litter. As the manure does not freeze, a part of it is sledded out during the winter, and placed in large, compact heaps, near where it will be wanted for use, — thus saving much heavy cartage over muddy roads and across soft fields in the busy season of spring.

We have no doubt this man's method of treatment triples the value of his manure over that of some other farmers who keep an equal amount of farm stock. He has a more distant hovel in which a few young cattle and cosset sheep are kept; the droppings of which are daily removed, by the use of a wheelbarrow, to the place of general deposit.

For the storage of muck, there is a shed, partially walled up

and otherwise made tight. The muck, stored in autumn, is well covered with forest leaves, so that the muck does not freeze.

Some may object to this farmer's course, saying there is too much like *hard work* about it. To be sure, there is some labor in the thing; but we believe most farmers had better expend a portion of their labor in thus increasing manure for the benefit of their crops and farms.

NATIONAL CATTLE SHOW,

HELD BY THE U. STATES AGRICULTURAL SOCIETY, AT SPRINGFIELD, OHIO.

THE Executive Committee of this Society having decided to accept the invitation of the citizens of Springfield, Ohio, to hold an Exhibition of cattle at that place, the arrangements therefor were entered upon in good season ;— the President and Secretary being authorized to act for the Society, and Messrs. J. T. Warder, C. M. Clark and Chandler Robbins, of Springfield, acting as the Local Executive Committee. The preliminaries being settled by correspondence, a meeting of the Joint Committee was held at Buffalo, N. Y., when the premium list was agreed upon, and the Boards of Judges appointed.

About six thousand dollars were offered in premiums ; and the gentlemen selected to award them, were among the best judges of cattle in our country.

The 25th, 26th, and 27th days of October were fixed upon for the Show ; when it was, accordingly, held.

The arrangements made by the Local Committee were excellent, and on a generous scale. The citizens of Springfield did all that warm hearts could suggest and willing hands perform, to welcome and care for the crowd of visitors ; and if one individual departed, dissatisfied or disappointed in the general appearance or the details of the exhibition ; he must belong to the genus “ hard to please.” *

It is deemed an act of simple justice to add, that the whole amount of funds (\$10,000) for the payment of expenses and premiums was guaranteed and paid by the twenty individuals and firms hereinafter named ; who, for no selfish end, but in the most public spirited manner, subscribed \$500 each :—

* That the arrangements for the transportation of passengers and stock made with the officers of Rail Road Companies were not carried out on *their* part, was no fault of the Springfield Committee or of this Society.—ED.

Names of Association.—C. M. Clarke, J. T. Warder, W. D. Pierce, Jacob Pierce, Clarke County Agricultural Society, A. I. Paige, Hunt & Cassily, Absalom Foley, Moler, Howel & Field, L. B. Sprague, J. Mattinson, Yeazle & Swope, Hervey Cogier, J. F. Whiteman, J. M. Benson, Robbins & Claypoole, A. Waddle, Jonathan Cheney, P. Stewart, R. Q. King, H. P. Harris.

The following Committees were appointed for the purposes named :—

LOCAL OFFICERS.

Local Executive Committee.—J. T. Warder, C. M. Clarke, C. Robbins.

Committee of Arrangements.—Wm. Hunt, W. S. Field, Jno. Howell, J. F. Whiteman, E. B. Cassily.

Committee of Reception.—J. S. Goode, Mayor of the City, J. T. Claypoole, Rodney Mason, A. Waddle, Dr. R. Rodgers.

Chief Marshal.—Col. W. H. H. Taylor, North Bend, Ohio.

Assistant Marshals.—1st, W. T. Dennis, Richmond, Indiana; 2d, J. K. Green, Carthage, Ohio; 3d, J. Klinefelter, Springfield, Ohio; 4th, E. M. Doty, do.; 5th, A. Foley, Harmony, Ohio.

SUPERINTENDENTS.

Durham bulls.—A. I. Paige, Springfield.

Durham Cows.—L. B. Sprague, Harmony.

Devons.—S. G. Moler, Springfield.

Herefords.—E. B. Cassily, Moorefield.

Ayrshires.—J. M. Benson, Springfield.

Jerseys.—E. Swope, Springfield.

All other classes.—George Watson, Harmony.

SCHEDULE OF PREMIUMS.

| | |
|--|-------|
| For the best bull and five cows or heifers, of one year and upward, from any one herd, | \$500 |
|--|-------|

DURHAM BULLS.

| | |
|--|-------|
| Best three year old and upward, | \$300 |
| Second best three year old and upward, | 200 |
| Third best three year old and upward, | 100 |

| | |
|--|-------|
| Best two year old, and under three years, | \$200 |
| Second best two year old, and under three years, | 150 |
| Third best two year old, and under three years, | 75 |
| Best one year old, and under two years, | 150 |
| Second best one year old, and under two years, | 100 |

DURHAM COWS.

| | |
|--|-------|
| Best three year old and upward, | \$200 |
| Second best three year old and upward, | 150 |
| Third best three year old and upward, | 100 |
| Best two year old, and under three years, | 150 |
| Second best two year old, and under three years, | 100 |
| Third best two year old, and under three years, | 50 |
| Best one year old, and under two years, | 100 |
| Second best one year old, and under two years, | 75 |

DEVON BULLS.

| | |
|--|-------|
| Best three year old and upward, | \$100 |
| Second best three year old and upward, | 75 |
| Best two year old, and under nine years, | 80 |
| Second best two year old, and under three years, | 60 |
| Best one year old, and under two years, | 55 |

DEVON COWS.

| | |
|--|-------|
| Best three year old and upward, | \$100 |
| Second best three year old and upward, | 75 |
| Best two year old, and under three years, | 75 |
| Second best two year old, and under three years, | 50 |
| Best one year old, and under two years, | 60 |

HEREFORD BULLS.

| | |
|--|-------|
| Best three year old and upward, | \$100 |
| Second best three year old and upward, | 75 |
| Best two year old, and under three years, | 80 |
| Second best two year old, and under three years, | 60 |
| Best one year old, and under two years, | 75 |

HEREFORD COWS.

| | |
|--|-------|
| Best three year old and upward, | \$100 |
| Second best three year old and upward, | 75 |
| Best two year old, and under three years, | 75 |
| Second best two year old, and under three years, | 50 |
| Best one year old, and under two years, | 60 |

AYRSHIRE BULLS.

| | |
|--|-------|
| Best three year old and upward, | \$100 |
| Second best three year old and upward, | 75 |
| Best two year old, and under three years, | 80 |
| Second best two year old, and under three years, | 60 |
| Best one year old, and under two years, | 75 |

AYRSHIRE COWS.

| | |
|--|-------|
| Best three year old and upward, | \$100 |
| Second best three year old and upward, | 75 |
| Best two year old, and under three years, | 75 |
| Second best two year old, and under three years, | 50 |
| Best one year old, and under two years, | 60 |

JERSEY BULLS.

| | |
|---|-------|
| Best three year old and upward, | \$100 |
| Best two year old, and under three years, | 80 |
| Best one year old, and under two years, | 75 |

JERSEY COWS.

| | |
|---|-------|
| Best three year old and upward, | \$100 |
| Best two year old, and under three years, | 75 |
| Best one year old, and under two years, | 60 |

MISCELLANEOUS.

| | |
|---|------|
| Best single yoke of work oxen, | \$50 |
| Best fat bullock, | 50 |
| Best fat cow, | 50 |
| Best milch cow, | 50 |
| Best steer, | 50 |
| Best bull calf under one year of any breed, | 50 |
| Best heifer under one year, of any breed, | 50 |
| Discretionary premiums for other breeds or grade stock, | 200 |

LIST OF ENTRIES OF STOCK.

- Class A. is Sweepstakes.
 Class B. is Durham Bulls.
 Class C. is Durham Cows and Heifers.
 Class D. is Devons.
 Class E. is Herefords.
 Class F. is Ayrshires.
 Class G. is Jerseys.

Class H. is Miscellaneous—consisting of yoke oxen; fat bullocks; fat cows; milch cows; steers; bull calves, of any breed, under one year; heifers, under one year, of any breed; and such entries of grade stock as may be presented.

- No. 1. Symmetry, class B, 3 years; owned by J. G. Duñ & Co., Madison County, O.
- No. 2. Colonel, class B, 2 years; owned by same.
- No. 3. Lord Eglinton, class B, 1 year; owned by D. Wilson, Cin., O.; for sale.
- No. 4. White Rose, class C, 3 years; owned by same.
- No. 5. Dandy 2d, class F, 3 years; owned by P. Melendy, Hamilton County, O.
- No. 6. Ducas, class F, 2 years; owned by same.
- No. 7. Belle, class 7, 3 years; owned by same.
- No. 8. Lassie, class F. 3 years; owned by same.
- No. 9. Alice, class F, 2 years; owned by same.
- No. 10. Steer, class H; owned by Wm. Palmer, Fayette County, O.
- No. 11. Steer, class H; owned by same.
- No. 12. Grade Cow, class H; owned by same.
- No. 13. Imported Cow, class C, 3 years; owned by same.
- No. 14. Jake, class D, 2 years; owned by E. Merrit, Clerk County, O.
- No. 15. Lafayette, class B, 2 years; owned by J. M. Sherwood, Auburn, N. Y.
- No. 16. General Montgomery, class B, 3 years; owned by Adam Fisher, Greensburgh, Pa.
- No. 17. Matchem, class B, 2 years; owned by John Eichar, Greensburgh, Pa.
- No. 18. Durham Bull, class B, 3 years; owned by S. Howell, Selma, Clark County, O.
- No. 19. Durham Bull, class B, 5 years; owned by J. Cunningham, Winchester, Ky.
- No. 20. Durham Bull, class B, 1 year; owned by same.
- No. 21. Molton, class D, 2 years; owned by Lewis F. Allen, Buffalo, N. Y.
- No. 22. Countess, class D, 4 years; owned by same.
- No. 23. Sappho 4th, class D, 3 years; owned by same.
- No. 24. Murat, class B. 4 years; owned by Wm. Cushman, N. Braintree, Mass.
- No. 25. New Englander, class H, under one year; owned by same.
- No. 26. Massasoit, class H, under one year; owned by same.
- No. 27. Josephine, class H, cow; owned by same.
- No. 28. Locomotive, class B, 2 years; owned by Brutus J. Clay, Bourbon County, Ky.
- No. 29. Lady Stanhope, class C, 6 years; owned by same.
- No. 30. Daisy, class C, 8 years; owned by same.
- No. 31. Diana, class C, 4 years; owned by same.
- No. 33. Clarinda, class C, 4 years; owned by same.

- No. 34. Laura, class C, 2 years ; owned by same.
- No. 35. Butterfly, calf, class H ; owned by same.
- No. 36. Six head of the foregoing, class A ; owned by same.
- No. 37. Flattery, class C, 2 years ; owned by W. R. Duncan, Clark County, Ky.
- No. 38. Louan 2d, class C, 19 months ; owned by Jeremiah Duncan, Paris, Ky.
- No. 39. Perfection, class B, 5 years ; owned by Edwin G. Bedford, Paris, Ky.
- No. 40. Lexington, class B, 1 year ; owned by same.
- No. 41. Paris, class H, calf ; owned by same.
- No. 42. Belle of the West, class C, 1 year ; owned by same
- No. 43. Beauty, class H, calf ; owned by E. Gwyn, Springfield, Ohio.
- No. 44. Brother Jonathan, steer, class H, 5 years ; owned by J. J. Jones, Madison County, O.
- No. 45. Dudu, grade heifer, class H, 3 years ; owned by same.
- No. 46. Lord Nelson, class B, 4 years ; owned by J. L. Meyers, Bloomingsburg, Fayette County, O.
- No. 47. Bull calf, class H, 6 months ; owned by Josephus Luse, of Clark County, O.
- No. 48. Eclipse, class D, 4 years ; owned by M. & T. Cooper, Glendale, O.
- No. 49. Daisy, class D, 6 years ; owned by same.
- No. 50. Duchess, class D, 4 years ; owned by same.
- No. 51. 1 yoke of oxen, class H, 6 years ; owned by same.
- No. 52. Curly, class E, 3 years ; owned by Thos. Aston, Elyria, O.
- No. 53. Duchess, class E, 4 years ; owned by same.
- No. 54. Defiance, class E, 1 year ; owned by same.
- No. 55. Victoria, class E, 3 years ; owned by John Humphries, Ridgville, O.
- No. 56. Bull calf, class E, 1 year ; owned by same.
- No. 57. Giantess, class H, milk cow, seven years ; owned by John W. Brock, North Petersburg, Highland County, O.
- No. 58. Marquis, class B, 3 years ; owned by J. Fullington, Union County, O.
- No. 59. Starlight, class B, 3 years ; owned by C. Phillis, Madison County, O.
- No. 60. Strawberry, class C, 2 years ; owned by J. Fullington, Union County, O.
- No. 61. Victory, class C, 3 years ; owned by same.
- No. 62. Miss Hilton, class C, 2 years ; owned by C. Phillis, Madison County, O.
- No. 63. Lady Jane, class C, 2 years ; owned by D. Watson, Union County, O.
- No. 64. Yoke of Oxen, class H ; owned by same.
- No. 65. Steer, class H ; owned by C. Fullington, Union County, O.
- No. 66. Yoke of oxen, class H ; owned by same.
- No. 67. Bull calf, class H ; owned by J. Fullington, Union County, O.
- No. 68. Bull calf, class H ; owned by C. Phillis, Madison County, O.

- No. 69. King Cyrus, class B, 1 year; owned by Geo. M. Bedford, Paris, Ky.
- No. 70. Doris, class C, 12 years; owned by Wm. Harrold, Madison County, O.; South Charleston, P. O.
- No. 71. Letitia, class C, 2 years; owned by same.
- No. 72. White Rose, grade cow, class H, 2 years; owned by Jacob Van Meter, Urbana, O.
- No. 73. Arabella 3d, class C, 7 years; owned by Dr. A. Watts, Chillicothe, O.
- No. 74. Strawberry, class C, 6 years; owned by same.
- No. 75. Bessie Belle, class C, 2 years; owned by same.
- No. 76. Mary Grey, class C, twin sister of Bessie Belle; owned by same.
- No. 77. Lavender, class C, 3 years; owned by same.
- No. 78. Medalist, class B, one year; owned by same.
- No. 79. Whittington, class C, 2 years; owned by same.
- No. 80. Lord Stanwick, class B, 1 year; owned by A. Waddle, Clark County, O.
- No. 81. Zealous, class C, 5 years; owned by same.
- No. 82. Zenobia, class C, 1 year; owned by same.
- No. 83. Mary, class C, 4 years; owned by same.
- No. 84. Delialie, class C, 2 years; owned by same.
- No. 85. Daisy, class C, 2 years; owned by same. (The foregoing six animals entered for sweepstakes.)
- No. 86. Bombazine, class E, 5 years old; owned by Wm. H. Sotham, Owego, New York.
- No. 87. Pretty Maid, class E, 7 years; owned by same.
- No. 88. Bright Eyes, class E, 2 years; owned by same.
- No. 89. Mystery, class E, 2 year old bull; owned by same.
- No. 90. Fat Bullock, class H, 7 years; owned by B. Stedman, Cleveland, O.
- No. 91. Patty 4th, class G, 3 years; Roswell & Colt, Patterson, N. J.
- No. 92. Dun, class G, 7 years; owned by same.
- No. 93. Jersey, class G, 2 years; owned by same.
- No. 94. Patty, class G, 1 year; owned by same.
- No. 95. Olive, class C, 8 years; owned by J. W. Wane, Fayette, County, Ky.
- No. 96. Clarinda, class C, 8 years; owned by same.
- No. 97. Model, class H, 4 years; owned by same.
- No. 98. Kentucky Bell, class H, 4 years; owned by same.
- No. 99. Moddle, class H, 4 years; owned by same.
- No. 100. Yoke Oxen, class H, 4 years; owned by same.
- No. 101. Dolly, class D, 2 years; owned by C. M. Merriweather, Todd Co., Ky.
- No. 102. Harold 2d, class B, 4 years; owned by H. A. Pendegrass, Chataouque Co., N. Y.
- No. 103. Wellington, class B, 2 years; owned by J. G. Coulter & Co., Clinton Co., O.
- No. 104. Warrior, class B, 4 years; owned by same.

- No. 105. Maid of Oakes, class H, 5 years ; owned by J. P. Brown, Madison Co., O.
- No. 106. Queen Victoria, class C, 5 years ; owned by J. B. H. Ren-
nick, Pickaway Co., O.
- No. 107. Duchess, class C, 4 years ; owned by William Palmer,
Fayette Co., O.
- No. 108. Jenny Lind, class H, 5 years : owned by same.
- No. 109. Yoke Oxen, class H ; owned by same.
- No. 110. Wallace 2d, class F, 2 years ; owned by T. W. Barber,
North Paris, Preble Co., O.
- No. 111. Herod, class D. 10 years ; owned by L. G. Collins, Mont-
gomery Co., Ind.
- No. 112. Nameless, class D, 2 years ; owned by same.
- No. 113. Priam, class D, 1 year ; owned by same.
- No. 114. Frances, class D, 8 years ; owned by same.
- No. 115. Daisy, class D, 1 year ; owned by same.
- No. 116. Bull Calf, class H, 5 months ; owned by same.
- No. 117. Bull Calf, class H ; owned by same.
- No. 118. Heifer Calf, class H, 5 months ; owned by same.
- No. 119. Bull Calf, class H, 10 weeks ; owned by D. M. Creighton,
Madison Co., O.
- No. 120. Aylesby Lady, class C, 6 years ; owned by A. I. Paige,
Springfield, O.
- No. 121. Czar, class B, 1 year ; owned by same.
- No. 122. Bull Calf, class H, 6 weeks ; owned by same,
- No. 123. Heifer Calf, class H, 8 months ; owned by J. R. Surface,
Johnson Co., Ia.
- No. 124. Lalla Rookh, class C, 2 years ; owned by Wm. Scott,
Greene Co., O.
- No. 125. Comet, class B, 1 year ; owned by J. L. Caldwell, Rush
Co., Ia.
- No. 126. Miss Allen, class H, 4 months ; owned by W. W. Thresher,
Fayette Co., Ia.
- No. 127. Favorite, class B, 4 years ; owned by Col. S. Meredith,
Wayne Co., Ia.
- No. 128. Clara Fisher, class C, 4 years ; owned by same.
- No. 129. White Rose, class C, 4 years ; owned by same.
- No. 130. Lady Albert, class C, 3 years ; owned by same.
- No. 131. May Clay, class C, 2 years ; owned by same
- No. 132. Adelaide, class C, 1 year ; owned by Geo. Davidson, Wayne
Co., Ia.
- No. 133. America, class H, 4 months ; owned by same.
- No. 134. Daisy, class H, 5 months ; owned by Col. S. Meredith,
Wayne Co., Ia.
- No. 135. Fat Cow, class H, 4 years ; owned by Geo. Davidson, Ia.
- No. 136. Sweepstakes, class A ; owned by Col. S. Meredith, Ia.
- No. 137. Sheffield, class B, 3 years ; owned by J. W. Robinson,
Madison Co., O.
- No. 138. Fashion, class C, 2 years ; owned by J. Steddom, Warren
Co., O.

- No. 139. Milk Cow, class H, 9 years ; owned by E. K. Glenn, Champaign Co., O.
- No. 140. Belmont, class B, 4 years ; owned by Caldwell & Co., Fayette Co., Ia.
- No. 141. Yoke Oxen, class H, 6 years ; owned by John Reddish, Springfield, O.
- No. 142. New Years's Day, class B, 1 year ; owned by Charles M. Clarke & Co., Springfield, O.
- No. 143. Easter Day, class C, 1 year ; same.
- No. 144. Buckingham, class B, 2 years ; owned by W. D. Pierce, South Charleston, O.
- No. 145. Bull Calf, class H, 3 months ; owned by same.
- No. 146. Moss Rose, class C, 6 years ; owned by same.
- No. 147. Lancaster, class C, 2 years ; owned by same.
- No. 148. Roan Lady, class C, 2 years ; owned by same.
- No. 149. Venus, class C, 1 year ; owned by same.
- No. 150. Heifer calf, class H, 6 months ; owned by same.
- No. 151. Five of the foregoing, and Hippodrome, a heifer of 1 year, class A ; owned by same.
- No. 152. Jack Downing, calf, class H, 8 months ; owned by Samuel Pyla, Clinton Co., O.
- No. 153. Polly Hopkins, heifer calf, class H, 4 months ; owned by same.
- No. 154. Donna Bola, bull calf, class H, 6 months ; owned by Jonathan Hadley, Clinton Co., O.
- No. 155. Cow, class D, 2 years ; owned by M. W. Smith, Lebanon, O.
- No. 156. Know Nothing, class D, 3 years ; owned by same.
- No. 157. Grade cow, class H, 5 years ; owned by D. Heiskill, South Charleston, O.
- No. 158. Bull calf, class H, 7 months ; owned by G. Shickadany, Clark Co., O.
- No. 159. Steer calf, class H, 8 months ; owned by same.
- No. 160. Alderman, class B, 5 years ; owned by Jacob Pierce, South Charleston, O.
- No. 161. Roman, class C, 5 years ; owned by same.
- No. 162. Dahlia, class C, 6 years ; owned by same.
- No. 163. Diana, class C, 5 years ; owned by same.
- No. 164. Juno, class C, 1 year ; owned by same.
- No. 165. Roselle, class C, 5 years ; owned by same.
- No. 166. The foregoing six entered for sweepstakes ; owned by same.
- No. 167. Queen, heifer calf, class H, 9 months ; owned by same.
- No. 168. Heifer calf, class H, 5 months ; owned by M. B. Webb, Scott Co., Ky.
- No. 169. Yoke Oxen, class H, 4 years ; Kinsley & Bohn, Clark Co., O.
- No. 170. Bull calf, class H, 6 months ; Henry Stickney, Clark Co., O.

THE AGRICULTURAL BANQUET.

In the afternoon one of the great features of this great exhibition took place — the National Agricultural Banquet — the first ever given in the West. It was set beneath a mammoth pavilion, large enough to seat comfortably at the table one-thousand persons. Distinguished and active agriculturists from eighteen different States, and from Canada, were present as guests. Among those at the table were about two hundred ladies, who imparted a brilliancy to the scene. A table was spread crosswise the pavilion, at the northern end ; at the center of which was seated Hon. Marshall P. Wilder, the President of the U. S. Agricultural Society. On his right, were Gov. Wright of Indiana, and his young and lovely bride, Col. Williams of Kentucky, and other distinguished guests from Michigan, Indiana, Illinois, New York, and Canada. On his left sat Mrs. Warder of Springfield, Ohio — a noble lady of the old school, Cassius M. Clay, Dr. Arthur Watts, Brutus J. Clay, and other prominent gentlemen.

The tables were all filled, and in the open borders of each side, a large concourse of ladies and gentlemen were assembled — to feast on the “flow of reason,” if not on the good things upon the table.

A brass band was stationed at the lower end of the pavilion and at intervals enlivened the company by playing patriotic airs. The scene was a brilliant one.

The table was loaded with the “fat of the land,” but no beverage was used save that which God gave to man, — pure sparkling water.

After the company were all seated, the President invited the Rev. Mr. White, to invoke the blessing of Heaven. The entire assembly arose at once, and so remained, while the Throne of Grace was addressed.

The banquet was leisurely partaken of, and it was not until all had satisfied the “inner man,” that the President arose and delivered the following opening address : —

ADDRESS OF COL. WILDER.

Friends of Agriculture and Fellow Citizens :—In behalf of the United States Agricultural Society, under whose auspices this exhibition is held—in behalf of the citizens of Springfield, by whose liberality we are here assembled—and in my own behalf, I present you cordial salutations, and bid you welcome to this our festive board.

Come ye from the Pilgrim shores of New England, from the plantations of the sunny South, from the great valley and fertile fields of the West! Come ye from the walks of professional life, from the halls of legislation, from the marts of business, or from the high places of power, from whatever section of our fair land, from whatever station in society, *welcome*—a right hearty WELCOME—to the joys and pleasures of this occasion.

We have suspended our ordinary cares, toils and conflicts of business, and come up to this thriving city from our different and distant homes, to give expression to a common and important sentiment—the love of Agriculture!

We meet here for no sinister motive, no sectional object, no partisan purpose. We stand here upon a platform broader, deeper and firmer than that of any politician or partisan; a platform upon which those may stand, side by side with the noble yeomanry of our country, honoring them and honored by them. We are here for the promotion of that great art, upon which, more than any other, depend individual happiness and national wealth, prosperity and power; an art which is the parent of every other industrial pursuit, and to which the special blessing of Heaven is vouchsafed.

I congratulate you upon the great interest awakened, in our age and country, in the cause of Agriculture; an interest manifested by the multiplication of societies and periodicals throughout the land. I congratulate you upon the wonderful improvement which science has recently made in the implements of husbandry, and in the art of cultivation—upon the facilities for the transportation of agricultural products to the great markets of the world—and especially upon the improvement of

our domestic animals, and the laudable enthusiasm which many of our worthy citizens have manifested in the importation of best breed of cattle.

It was the latter that suggested the idea of this exhibition, and it was deemed suitable by the Executive of the United States Agricultural Society to encourage this praiseworthy enterprise, and to accept the generous invitation of its proprietors, approved as it was by the Ohio State Board of Agriculture.

This is the first National Exhibition of Cattle ever held in America; and I do but express the common sentiment of this assemblage, when I say that it has more than realized the anticipations of all concerned. It has been eminently successful, and alike honorable to the citizens of Springfield, to the State of Ohio, and to this great Republic.

There have been about two hundred entries at this show. Among them we have seen such samples of the Durhams, the Herefords, the Devons, the Ayrshires, the Jerseys, and grade animals, as it has seldom or never been the happiness of man to behold in one show; and larger premiums have been offered for the encouragement of that department of American husbandry than ever before excited competition.

Among so many specimens of rare excellence, no wonder that the judges have found it difficult to decide upon their respective merits. Our only regret is that premiums cannot be awarded to each competitor. But there is one honor which seems sufficient to satisfy the ambition of any one, the honor of adding to the interest of that exhibition, and of thus promoting a pursuit second to no other in the country.

The report of these proceedings will occupy an important place in the transactions of this Society, and will go down to posterity honorably associated with the history of this place, and of American agriculture.

And here permit me to tender our most cordial thanks to the donors whose liberal contributions have supplied the funds for this exhibition, to its Board of Officers and Managers to whose skill in designing, and whose energy in execution, we are so much indebted for the order, convenience and taste, which have

characterized these proceedings, to the judges, on whom has devolved the onerous duty of awarding premiums ; to the contributors, who have so nobly endured the risk and expense of placing their valuable animals on exhibition. Especially do we present our heartfelt acknowledgments to our distinguished guests who have honored us by their presence, and who, we trust, will instruct and encourage us by their speeches ; to the good citizens of Springfield and vicinity, whose large hospitality we have enjoyed ; and last, but first in our affections, to the ladies, whose presence adds so much interest and beauty of this banquet, and whose approving smiles encourage us in all the laudable pursuits of life.

Friends and Fellow-Citizens :—In conclusion, permit me to extend to you the right hand of fellowship, and to invoke your aid in favor of the cause we seek to promote. While the nations of the Old World seek for glory in war and the acquisitions of the sword, let us cultivate the arts of peace, and let us ever remember that the history of a prosperous people is inscribed, not on the star spangled banner of military fame, or of political preferment and power, but it is seen in the peaceful triumphs of the plow, in fields of waving grass and grain, in thriving flocks and herds, in highly cultivated farms and gardens, in the refined arts of rural life and cultivated taste, and in the grateful incense which rises from the altars of an industrious, intelligent and virtuous yeomanry.

Mr. Wilder's remarks were received with interruptions of applause, and demonstrations of high approbation rent the welkin as he sat down.

The scene was for a few moments enlivened with some music, when the President read the regular toasts :

1. *The State of Ohio*,—It was her mission to *lead* in the march of Western civilization and improvement. Well has she executed the high trust ! Long may she gather the rich harvest of her planting.

The President stated that the Governor of Ohio was expected to be present to respond to the toast, but he was not. He

asked whom they would have, when loud calls were made for Hon Lewis D. Campbell. Mr. C. immediately responded.

Regretting that the Governor was not present, and that one more competent was not called upon to respond to the complimentary toast, he said, that in agriculture he was emphatically a Know-Nothing. [Applause.] His ignorance was the more culpable, as he had had the honor of representing one of the greatest agricultural districts in the world, and had been receiving his eight dollars a day and roast beef. [Laughter.]

There was one point, however, upon which he would dwell, viz.: the encouragement of Agriculture by the National Government. Too much indifference had been manifested by the people, in this respect, and while Congress appropriated its millions for the protection of commerce, it has done but little for Agriculture. A better feeling on this subject is gaining ground, and all that is necessary now is, for the people to speak, and Agriculture will soon receive proper encouragement from the federal government. He exhorted greater interest in this matter, and closed with a happy tribute to the enterprise and industry of the people of Ohio.

2. *The City of Springfield*,—Springfield in Massachusetts, and Springfield in Ohio—renowned in the history of American Agriculture; the mother for giving birth to the first National Show of horses—the daughter, for giving birth to twins—the first National Cattle Show, and the first National exhibition of Babies!

Responded to by R. Mason, Esq., who gave as a sentiment:

Our Country,—Her interests will always be safe, in the hands of her native born sons.

3. *The Ohio State Board of Agriculture*,—The uniform friends of agriculture and rural economy—the annals of our nation attest the value of their labors. May they never lack the sunshine of popular patronage, or an abundant harvest of well earned renown.

Responded to by Gen. Worthington, of the State Board, who warmly welcomed all to the banquet spread upon Ohio's soil.

4. *The Great Western Valley*,—The great granary of Uncle Sam's farm. Like the storehouses of Egypt, let years of plenty fill it to overflowing, and may it never lack a Joseph, wisely to dispense of its abundance.

The President said he was glad to know that a Joseph was present, and it afforded him pleasure to introduce Governor Wright, our "Brother Joseph" of Indiana. [Cheers.]

Gov. Wright arose, and happily alluded to the brilliant scene before him. We appear, he said, to live in a day of bank failures, but this gathering was an offset to such disasters. After alluding to the little relief Agriculture needed from Government, he said that politicians taught the people only two ideas—Washington City and the Penitentiary. [Laughter and cheers.] One great evil of the present time is, that the attention of the people is taken from their homes, their fields and their workshops, to the Capitol. They forget themselves in the discussion of political projects. He was glad to see them awakening to the true interests of the country—the greatest of which is agriculture. He advised them hereafter if they had a great man among them to make him constable; if they had a sensible man to make him county commissioner; and if they had one with only half sense, to send him to Congress. [Cheers.] The people had been clipping at the tree tops long enough, by sending all their great men to Washington. It is now time for them to dig at the roots, by making those great men work at home.

The Governor spoke about twenty minutes, being frequently interrupted with cheers, and concluded by offering the following sentiment:

The First United States Agricultural Banquet—A Union this day of the citizens of eighteen States. May these associations continue to increase and multiply until we shall meet at these annual festivals the citizens of each State, District, and Territory of this Republic, and greet each other, not as members of different sections of the country, but as citizens, known and recognized by the prouder and higher name, AN AMERICAN CITIZEN.

Also responded to by J. N. Brown, Esq., President of the Illinois Agricultural Society, and Mr. Moore, of Michigan.

5. *The State of Kentucky*.—Renowned for the valor of her sons, and the profound wisdom of her great statesman. Among her illustrious yeomanry, whom we cordially welcome to our board, we are happy to recognize her Brutus and Cassius, nobler than their name-sakes in Roman history.

This was received with deafening applause, and responded to most happily, by Cassius M. Clay, of Kentucky who spoke as follows:—

Mr. President, and Gentlemen of the Agricultural Society: I feel a diffidence in appearing here to answer for a State, great in herself and illustrious in this Union, for that State and I have the honor to differ on some points. It is an honest difference of opinion, but in consequence of it, Kentucky thinks Cassius a little crazy, and I think that it is Kentucky that is crazy. But I begin to find that in this quarrel I have the advantage, for the world is coming out on my side. [Applause.] I will not, however, pursue the subject, nor will I follow the example of the boy, in the State of your worthy President, who knocked his daddy down because he stood so fair. On the contrary, I would rather be the means of benefiting my native State—would rather serve Kentucky, than praise her.

I subscribe to the remark made by your worthy President, that agriculture is the mother of all the arts and sciences; but would not have it stop there; for she has brothers and sisters, and it is only when united with commerce and manufactures, that she can secure the perfect development of the man and of the State. And here let me claim in behalf of the State I represent, that the means of communication, which have brought us all together, on this occasion, were not introduced into the West by the pioneer State of Ohio; but by Kentucky. I believe I am right in stating (if I am not, there are gentlemen present who can correct me) that the first railroad in the West was laid down between Frankfort and Lexington, in that State. [Several voices, "It's true."]

And here, I would say to your distinguished and worthy President, (and perhaps I am the only man in this assembly that dare say it,) that notwithstanding the fuss they make about their factories of nutmegs and other notions, in Massachusetts,

they haven't got every thing down there. It has been said by somebody, no matter who, for it is a truth acknowledged by the world that he who makes two blades of grass to grow where only one grew before, is glorious among God's creatures. I haven't got the language, but I've got the idea. [Laughter and applause.] Now, who has carried out this idea better than Kentucky? We not only make two blades grow, where only one grew before, but we make them very long blades at that. The next man is he who makes two pounds of beef grow, where there was only one before, and I think when we consider these things properly, that Massachusetts has no right to crow over us.

Our object in living in this world should be to advance both it and ourselves;—to be great and happy, and to assist to render others so; and in order to do this, it is necessary that we come into the world at intervals reasonably long, and stay in it as long as we can. By coming too fast there might be too many mouths to eat your beef. We find in Kentucky that they come fast enough now.—You have no need to offer a premium for any such things as that down there.

It is to be regretted that we cannot, as a State, meet here on an equality with you to-day; that we are excluded from a participation to any extent in your manufactures and commerce. Yet that does not separate us, either in feeling or in interest. As I walked in the procession to this Banquet, preceded by the music, and overshadowed by the Star Spangled Banner, I felt that as a people, we are one. There is but one party on this subject in Kentucky. I will never go with her to trample on the rights of other States, but she shall always find me leal to her—ready to stand up for her rights, and to redress her wrongs.

In conclusion, I will give you the sentiment of my heart, in the well-known language of one of Massachusetts' noble sons, "Liberty and Union—now and forever—one and inseparable."

6. *The True Conqueror*,—He defends the soil, and renders it more and more worthy; but he is the most useful and glorious of all conquerors, who subdues a stubborn soil, and who, by enriching and deepening it, adds to our country a better domain, than he who merely enlarges its surface.

Colonel Williams, of Kentucky, was invited to respond to this toast, which he did eloquently. He paid a happy tribute to his State, alluded to the prejudices of the South against the North, gave demagogues and political editors a trouncing for their degeneracy, and declared that he believed that notwithstanding the fanatical appeals of demagogues and editors, the great American heart was yet right in behalf of our common country. He resumed his seat amid enthusiastic applause.

7. *The British Colonies in America and the United States*,—Closely bound together by rural pursuits—brought nearer by the wonderful achievements of science, and held together by the golden links of commerce and reciprocity. One in origin, one in interest, one in destiny.

This toast was received with unbounded applause, and was responded to with inimitable humor, by Mr. Askew, of Windsor, Canada West.

He asked to excuse himself in one particular. He came from the north of England, where the accent was peculiar, and as he understood some reporters were present, he hoped they would be careful of his h's and hex's. [Laughter.] He was happy in attending this exhibition, and he hoped he would attend many more like it. A gentleman who met him on the grounds had called him a half-brother. He did not know as that was exactly right. He was sure that the Governor of Canada and the Honorable Secretary of the States had united, in the reciprocity treaty, the two in marriage and though he did not like to use ecclesiastical terms, he would say if "any of ye know why the two should not be united in marriage, speak, or forever hold your peace." [Loud cheering.] He thanked the association for their cordial invitation and hearty welcome, and spoke of the happy effect of all such exhibitions. As to the present show, he had never seen it equalled either in Canada or Great Britain. He gave some important information as to stock raising, and concluded by offering :

"Health and happiness to the ladies of the States and Canada."

Before taking his seat, he extended his right hand to the President, which being returned, he declared the consummation of the "Reciprocity Treaty." The act was received with tremendous cheering.

The President stated, that application had been made to have the next National Show in Kentucky. He would present it to the officers of the Association, where it would receive respectful attention. He then read the next regular toast :

8. *The State of New York*,—The Empire State of the National brotherhood,—the entrenched ground for the protection of American Agriculture.

Col. Allen, of Buffalo, New York, was called upon to respond. He said he came there to work, not to talk. He was highly gratified with the exhibition, and gave some important items relative to stock raising, and the commercial interests of the State.

9. *The State of Delaware*,—Although one of the smallest States in the Union, she sends us one of her sons, who is not only able to speak for himself, but also for her and his country.

Mr. Holcombe, Vice President of the National Society, responded briefly. One of Delaware's jewels, he said, was her agricultural department to her university, where her sons, not only received a classical but an agricultural education. He complained that the commercial interests, over-rode those of the agriculturists continually.

Mr. Brown, editor of the Ohio Farmer, was called out, and responded briefly, closing with a sentiment complimentary to Massachusetts.

Massachusetts,—Famous in history as the battle-ground of freedom ;—famous at present as the abode of taste and refinement, and equally famous for the energy, intelligence and enterprise of her sons

This called up the President, who replied briefly in behalf of his State.

Afterwards Colonel James, of Urbana, and Colonel Saunders, of Kentucky, addressed the company ; after which the following resolution was offered and adopted :

Resolved, That the thanks of this assembly be rendered to the Local Board of Mangers, to the Marshals and other officers, to the editors and reporters of the press, and to the citizens of Springfield, for the worthy part which they have respectively taken in this magnificent exhibition, and in the excellent accommodations for those who attended it.

The company then separated, and soon the Fair grounds were deserted for the day.

REPORTS OF JUDGES.

SWEEPSTAKES.

Board of Judges.—Lewis F. Allen, Black Rock, N. Y., *Chairman*; Paoli Lathrop, South Hadley Falls, Mass.; Jeremiah Duncan, Paris, Ky.; John M. Sherwood, Auburn, N. Y.; Col. Williams of Ky.; and three others.

The Committee on Sweepstakes report to the Executive Committee of the Society, that, after a deliberate examination and long discussion of the stock referred to them, and various votes for a decision upon the merits of the several herds of animals submitted to them, they are unable to agree, and respectfully ask to be discharged from further duty.

LEWIS F. ALLEN, *Chairman*.

[The Committee on Sweepstakes, (a premium of \$500 for the best herd of a bull and five cows, or heifers, of any breed,) were unable to agree, after a thorough examination and full deliberation. The entries were five in number, all of them superior herds. When they reported their disagreement, the hour was late, and the sales of stock had commenced;—it was found impossible to call a new Committee, and the first one declined to have any additions made to their number. The officers of the Society did everything that could be honorably done to lead to an award of the Sweepstakes, but without effect. It was an important feature of the show, and of the utmost importance to those who presented their fine herds for competition; it is therefore to be regretted that a different result was not arrived at.] — Ed.

DURHAM BULLS.

Board of Judges.—Jos. A. Wright, of Indiana, *Chairman*.

[It is to be regretted that Gov. Wright took with him the Judge's book, containing, among other things, the names of this Committee, for the purpose of making a full report, which has not yet come to hand.]—ED.

THREE YEARS OLD AND UPWARD.

1st Prem., \$300, to Perfection, bred by Jeremiah Duncan, owned by Edwin G. Bedford, both of Paris, Ky.

2d prem., \$200, to Sheffield, owned by J. W. Robinson, of Madison county, O.

3d prem., \$100, to Belmont, owned by Caldwell & Co., Fayette county, Ind.

TWO YEARS OLD.

1st prem. \$200, to Locomotive, owned by Brutus J. Clay, Paris, Ky.

2d prem., \$150, to Colonel, owned by R. G. Dun & Co., Madison county, O.

3d prem., \$75, to Lafayette, owned by J. M. Sherwood, Auburn, N. Y.

YEARLINGS.

1st prem., \$150, New Year's Day, owned by Charles M. Clarke & Co., Springfield, O.

2d prem., \$100, King Cyrus, owned by Geo. M. Bedford, Paris, Ky.

A report will be furnished the President, hereafter, upon the Durham Bulls thus decided.

JOS. A. WRIGHT, *Chairman*.

DURHAM COWS AND HEIFERS.

Board of Judges.—Lewis Saunders, Grass Hills, Ky.; Felix W. Renick, South Bloomfield, O.; Jas. N. Brown, Berlin, Ill.; W. H. Sotham, Owego (Tioga Co.,) N. Y.; M. Clark; Woodson Thrasher, Fairville, Ind.; A. Y. Moore, Schoolcraft, Mich.

The Committee on Durham Cows respectfully report to the President of the United States Agricultural Society, that they proceeded to act, in discharging the duty assigned to them, as

a Committee on Durham Cows, at Springfield, Ohio, on Thursday-
Oct. 25, 1854: —

Twenty-four cows, of three years old and upwards, were entered with the Secretary of the Society by competitors for the Society's premium of \$200. Eighteen of this number were exhibited in the ring for the examination and inspection of the Committee. We take much pleasure in saying, emphatically, that it was an array of grand and splendid animals, such as is rarely if ever seen together. Their beautiful and perfect forms, most pleasing and variegated colors, their fine, healthy condition, and great weight, averaging 1514 pounds, (eleven were weighed,) — with their fine heads, and small bones, — when brought to the shambles, would, we think, make them yield at least sixty-eight per cent. of good beef.

The Committee were duly impressed with the importance of their position; they critically examined each animal, and had much difficulty and perplexity in coming to a conclusion; considerable yielding of preferences was made. After mature and deliberate consideration, the Committee unanimously award premiums as below.

The Committee on two year old Durham heifers, appointed by the Society to award the Society's first premium of \$100 for that class, assembled at the Fair grounds, in Springfield, Ohio, Oct. 26, 1854, and proceeded to perform the duties assigned to them.

Eight heifers were entered with the Secretary of the Society, to compete for this premium.

Six beautiful animals were led into the ring, with forms most perfect, fine size, and most pleasing colors. A majority of the Committee, after due deliberation, award premiums as below.

The Committee named by the Society to award premiums for one year old heifers, met on the Fair grounds, on Thursday, Oct. 26. 1854, and proceeded to perform the duties assigned to them.

Eight heifers were entered with the Secretary of the Society, and were exhibited for the inspection and examination of the Committee.

After careful and minute examination, the Committee unanimously award premiums as below: —

THREE YEARS OLD AND UPWARD.

1st Prem., \$200, to Lady Stanhope, owned by Brutus J. Clay, Paris, Ky.

2d prem., \$150, Duchess, William Palmer, Fayette county, O.

3d prem., \$100, Clara Fisher, S. Meredith, Cambridge, Ia.

TWO YEARS OLD.

1st prem., \$150, Fashion, J. Steddon, Warren county, O.

2d prem., \$100, Laura, Brutus J. Clay, Paris, Ky.

3d prem., Mary Clay, \$50, S. Meredith, Cambridge, Ia.

YEARLINGS.

1st prem., \$100, Louan, Jeremiah Duncan, Paris, Ky.

2d prem., \$75, Easter Day, Charles M. Clarke & Co., Springfield, O

LEWIS SAUNDERS, *Chairman.*

MINORITY REPORT ON TWO YEAR OLDS.

I exceedingly regret to differ so widely in judgment from the majority of my Committee, on two year old short-horns. The discrepancy in quality of the premium heifer No. 139, belonging to J. Steddon, of Warren county, Ohio, and the white heifer Flattery, owned by W. R. Duncan, Paris, Ky., was so glaring that it was impossible to be overlooked. The premium heifer, although *loaded with flesh* and of beautiful symmetry, was *hard* in her *handling*, and, with that, of miserable quality; her hide was stretched over her, as if tightened with a pair of pincers. Such a quality of beef, in my opinion, is no better than bull-beef; in which estimate I think I can be endorsed by all *first-class butchers* in Smithfield and London, as well as all large cities in this Union.

Nor have I in the whole course of my life met with an animal with such kind of handling, that produced a good quality of milk; it is generally as *blue as the beef*.

The white heifer was a quality of handling rare to be excelled; and with such handling, rich milking is invariably connected; and her size and symmetry was about equal to the premium heifer; still she did not even obtain third premium. She was, in my opinion, a very choice animal, and deserved the first; and I here *declare* the best animal in that class.

WM. H. SOTHAM, Owego, (*Tioga Co.,*) NY.

Springfield, Oct. 28, 1854.

DEVONS.

Board of Judges.—Jas. M. Brown, North Bloomfield, Ohio ; H. A. Pendergast, Ripley, N. Y. ; Isaac Askew, Windsor, Canada West ; J. W. Barber, New Paris, Ohio ; James Walker, Staunton, Virginia.

DEVON BULLS.

Three years old.—1st prem., \$100, Know Nothing, N. W. Smith, Warren co., O.

2d prem., \$75, Herod, L. G. Collins, Montgomery co. Ia.

Two years old.—1st prem., \$80, Moulton, L. F. Allen, Buffalo, N. Y.

2d prem., \$60, Jake, E. Merritt, Clark co., O.

Yearlings.—1st prem., \$50, Priam, L. G. Collins, Ia.

DEVON COWS.

Three years old.—1st prem., \$100, Sappho, L. F. Allen, Buffalo, N. Y.

2d prem., \$75, Frances, L. G. Collins, Montgomery co., Ia.

Two years old.—1st prem., \$75, Dolly, E. M. Merriweather, Todd co., Ky.

2d prem., \$50, Devon, N. W. Smith, Warren co., O.

A yearling heifer of L. G. Collins was commended.

AYRSHIRES.

Board of Judges.—John Brooks, Princeton, Mass. ; Gen. Desha, Kentucky ; Arthur Watts, Chillicothe, Ohio ; S. Warren, Tennessee ; Abiel S. Lewis, Framingham, Mass.

REPORT OF THE COMMITTEE OF JUDGES.

The Ayrshire breed of cattle was imported into this country from the county of Ayr, in Scotland, where it originated.

The climate of this county is moist, and the soil with its products are calculated to render it a fine dairy country.

Aiton, in describing this breed of cattle says, “the head must be small, but rather long and narrow at the muzzle ; the eye small, smart and lively ; the horns small, clear, crooked, and their roots at considerable distance from each other ; neck long and slender, tapering towards the head with no loose skin below ; shoulders thin ; fore quarters light ; hind quarters large ; back straight broad behind ; joints rather loose and open ; carcase deep, and pelvis capacious, and wide over the hips, with

round fleshy buttocks ; tails long and small ; legs small and short with firm joints ; udder capacious, broad and square, stretching forward, and neither fleshy, low hung, or loose ; the milk veins large and prominent ; teats short, all pointing outward, and at considerable distance from each other ; skin thin and loose ; hair soft and wooly. The head bones, horns and all parts of least value small, and the general figure compact and well-proportioned."

Aiton also informs us, that the Ayrshire farmers prefer their dairy bulls, according to the feminine aspect of their head and neck ; and wish them not round behind, but broad at the back bones and hips, and full in the flank. The Ayrshire is believed to possess more good qualities for the dairy than any other cow in this country. She has hardiness, a good constitution, a good degree of life and spirit, and is docile when well used, but when ill-treated is somewhat wild. She yields a large quantity of milk and that of a butyraceous and caseous quality, and after becoming too old for the dairy feeds well and fats easy, and the fat and lean of the beef being well mixed or marbled, renders it quite as desirable for the table as that of any other breed. The ancestry of the Ayrshire breed of cattle is not well known but is probably a mixture of the old native Ayrshire stock, with the Teeswater and Alderney. Some of the first importations into this country were made by the Trustees of the Massachusetts Society for promoting Agriculture, about the year 1837, and by J. P. Cushing, Esq., of Watertown, Massachusetts, some few years earlier. These importations have both proved successful ; the stock raised from them maintains a high character both for the yoke and for milking properties. They are better for the dairy in proportion to size than any other breed known, yielding more milk, and making as much butter and cheese and of as good quality as any other stock. They are smaller and more hardy than either the Durhams or Holderness, and therefore better adapted to short pastures or light feed and vigorous climates, and will give the small farmer a larger income for the same outlay than any other breed known to the committee. A good Ayrshire cow will yield six or seven hundred gallons of milk in

a year, which will make from two hundred and fifty to three hundred pounds of butter, or from five to six hundred pounds of cheese, and this beside rearing her calf to six weeks old.

It is well known to the committee, that some persons express doubts as to the success in this country of this breed of cattle. The importations have not been numerous, and the specimens imported in some instances may not have been well selected. Add to this the desire of some to sustain purity of blood by in and in breeding, and size by high feeding, there may have been in this, as in other imported breeds, occasional disappointment. It is believed, however, by the committee, that all who have given them a fair trial, are well pleased with their success. The descendants of those imported by the Massachusetts Society for promoting Agriculture, and also those imported by J. P. Cushing, of Watertown, and Capt. Randall of New Bedford, Massachusetts, and the stock of E. P. Prentice, of Albany, and R. L. Colt, of New Jersey, all sustain a high character for milk, for the yoke, and for the shambles.

The committee would here remark, that close, or in and in breeding, should be carefully avoided; its tendencies are to weaken the constitution, reduce the milking properties, and destroy, to a great extent, the powers of procreation, and the stock grower who may practice it, will fail to produce a healthy, vigorous stock of animals.

The committee of Judges have adopted the following list of points to enable them to judge of the excellence of this breed of animals. It is the same adopted by some of the Agricultural Societies in this country, and is substantially the same as that used in Great Britain :

POINTS OF AN AYRSHIRE COW.

| | |
|---|---|
| The head small, the face long and narrow; muscle and nose variable, | 4 |
| The eye placid and not strikingly large, | 2 |
| The horns small, tapering, with an outward and upward turn, and set on wide apart, the face somewhat dishing, | 2 |
| The ears of full size, and of an orange color within, | 4 |
| The neck of medium length, clean in the throat, very light throughout, and tapering to the head, | 4 |

| | |
|---|----|
| The shoulders lying snugly to the body, thin at their top, small at their point, not long in the blade, nor loaded with muscle, | 6 |
| The chest must retain sufficient width and roundness to insure constitution. The lightness of the fore quarters, and the "wedge shape" of the animal from the hind-quarters forwards, arising more from a small, flat and thin shoulder, than from any undue narrowness of the chest, | 12 |
| The crops easily blend in with so thin a shoulder, and prevent all hollowness behind, | 4 |
| The brisket not over-loaded the fore-end, but light, | 4 |
| The back should be straight, and the loin wide, the hips rather high and well spread, | 8 |
| The pelvis roomy, causing a good breadth at what is termed the "thurl or round-bone," and between the points of the rumps, | 4 |
| The quarters long, tolerably muscular, and full in their upper portion, but moulding into the thighs below, which should have a degree of flatness, affording thus more space for a full udder. The flanks well let down, but not heavy, | 6 |
| The ribs behind, springing out very round and full, affording space for a large udder, which by Ayrshire breeders is considered very essential to secure the milking properties; the whole carcass thus acquiring increased volume towards its posterior portion, | 8 |
| The rump nearly level with the back projecting but little, | 4 |
| The tail thin in its cord, of full length, light in its hair, and set somewhat farther into the back than would be admissible with some other breeds, | 1 |
| The legs delicate and fine in the bone, inclining to be short, and well knit together at the joints, | 3 |
| The udder in this breed is of more special importance, as the Ayrshires have been bred almost exclusively with reference to their milking properties. The great feature of the udder should be capacity, without being fleshy. It should be carried squarely and broadly forward, and show itself largely behind. As it rises upward it should not mingle too immediately with the muscle of the thighs, but continue to preserve its own <i>peculiar</i> texture of skin—thin, delicate and ample in its folds. The teats should stand wide apart, and be lengthy, but not large and coarse, | 12 |
| The handling will show the skin to be of medium thickness only, moving freely under the hand, and evincing a readiness in the animal to take on flesh, when a drain on the constitution is no longer made by the milk-pail, | 6 |
| The hair soft and thick, in the phraseology of the country, woolly, | 4 |

| | |
|---|-------|
| Color varies, a dark red, a rich brown, a liver color, or mahogany, running into almost a black; those very much spotty and broken at the edges on a white ground are the favorite colors at the present time. The light yellow is, however, a color; sometimes found on very good cows; but these pale colors are objected to from an impression that such belong to animals of less constitution, | 1 |
| Carriage should be light, active, and even gay; this latter appearance is much promoted by the upward turn of the horn, | 1 |
| | <hr/> |
| | 100 |

POINTS OF THE AYRSHIRE BULL.

“As regards the male animal, it is only necessary to remark that the points desirable in the female are generally so in the male, but must be attended by that masculine character which is inseparable from a strong, vigorous constitution. Even a certain degree of coarseness is admissible, but then it must be so exclusively of a masculine description as never to be discovered in the female of his get.”

“In contra-distinction to the cow, the head of the bull may be shorter, the frontal-bone broader, and the occipital flat and stronger, that it may receive and sustain the horn—and this latter may be excused if a little heavy at the base, so its upward form, its quality and color be right. Neither is the looseness of the skin, attached to, and depending from the under jaw, to be deemed other than a feature of the sex, provided it is not extended beyond the bone, but leaves the gullet and throat clean and free from dewlap? The upper portion of the neck should be full and *muscular*, for it is an indication of strength, power and constitution. The spine should be strong, the bones of the loin long and broad, and the whole muscular system wide and thoroughly developed over the entire frame?”

The Committee award the following premiums:—

| | |
|--|-------|
| The Bull Dandy, No. 5, three years old, having seventy nine of above points, (enough to constitute him a first class animal), the Committee award him the Society's first premium, | \$100 |
| The Bull Wallace 2nd, No. 111, two years old, having twenty six points, (enough for a first class animal in his class,) the Committee award him the Society's first premium of | 80 |
| The Bull Ducas, No. 6, one year old, having seventy-eight points, the Committee award him the Society's first premium of | 75 |

| | |
|--|-------|
| The Cow Lassie, No. 8, three years old, having ninety-six points, the Committee award her the Society's first premium of | \$100 |
| The Cow Bell, No. 7, eight years old, having eighty-seven points, the Committee give her the Society's second premium of | 75 |
| The Cow Alice, No. 9, two years old, with a calf by her side, having eighty-three points, the Committee award her the Society's first premium of | 75 |

JOHN BROOKS, Mass.

AYRSHIRE BULLS.

Three years old.—1st prem., \$100, Dandy, P. Melendy, Hamilton County, O.

Two years old.—1st prem., \$80, Wallace, T. W. Barber, New Paris, O.

One year old.—1st prem., \$75, Ducas, P. Melendy.

AYRSHIRE COWS.

Three years old.—1st prem., \$100, Lassie, P. Melendy,

Two years old.—1st prem., \$75, Alice, P. Melendy.

HEREFORDS.

Board of Judges.—Moses Newell, of West Newbury, Mass. ; Robert Rome, Genessee, N. Y. ; John Jones, Middleton, Del. ; Cassius M. Clay, Whitehall, Ky. ; Charles L. Flint, Boston, Mass. ; Dr. Stevenson, Indiana.

The Committee on Hereford Cattle report the following awards :—

HEREFORD BULLS.

Three years old.—1st premium, \$100, Curly, Thos. Aston, Elyria, Ohio.

Two years old.—1st premium, \$80, Mystery, W. H. Sotham, Tioga Co., N. Y.

One year old.—1st premium, \$75, Defiance, Thos. Aston, Elyria, Ohio.

HEREFORD COWS.

Three years old.—1st premium, \$100, Bombazine, W. H. Sotham, Tioga Co., N. Y.

2d premium, \$75, Duchess, Thos. Aston, Elyria, Ohio.

Two years old.—1st premium, \$75, W. H. Sotham.

JERSEYS.

Board of Judges.—Jas. T. Worthington, Chillicothe, Ohio ; Henry W. Clapp, Greenfield, Mass. ; J. C. Holmes, Detroit, Michigan.

The Committee on Jersey Cattle report the following awards :—

JERSEY BULLS.

Three years old—1st premium, \$100, Pat 4th, R. L. Colt, Paterson, N. J.

JERSEY COWS.

Three years old.—1st premium, \$100, Dun, R. L. Colt.

One year old.—1st premium, \$60, Patty, same.

MISCELLANEOUS.

Board of Judges.—Train Caldwell, Bentonville, Ind. ; Geo. W. Crawford, Clins Mill, Augusta Co., Va. ; James C. Hall, Atwater, Portage Co., Ohio ; Isaac B. Loder, Raleigh, Ind. ; W. Freeman, Canada.

The Committee submit the following awards :—

1st premium, work oxen, \$50, C. Fullington, Union Co., O.

2d premium, fat ox, \$50, B. Stedman, Cleveland, O. ; weight 2,500 lbs.

3d premium, fat cow, \$50, J. W. Ware, Fayette Co., Ky. ; weight 2,240 lbs.

4th premium, milk cow, \$50, J. W. Brock, N. Peterbsurg, O.

5th premium, \$50, steer, J. W. Ware, Fayette Co., Ky.

6th premium, \$50, bull calf, W. D. Pierce, Clark Co., O.

7th premium, \$50, heifer calf, W. W. Thrasher, Fayette Co., Ky.

REPORTS OF STATE AGRICULTURAL SOCIETIES.

Commissioners, to attend and report upon each of State Agricultural Societies, were appointed by the Executive Committee of this Society; but, unfortunately, a few, only, of such reports have been received in time for publication. This is, on all accounts, to be regretted; as the information, thus derived, of the working systems of the various societies, and the peculiarities of each, could not fail to be interesting and instructive.

It is to be hoped that the Commissioners to be appointed for the coming year will be more prompt in their reports.

VERMONT STATE AGRICULTURAL SOCIETY.

BY SIMON BROWN, EDITOR NEW ENGLAND FARMER.

THE Fourth Annual Exhibition of the Vermont State Agricultural Society, took place at Brattleboro,' September 12, 13, and 14, 1854. The weather was all that could be desired — if it had been “made to order,” or cast in a mould of exquisite pattern, it could not have been better. The mornings were cool, with an elastic and invigorating atmosphere; health and buoyancy were in every limb and countenance; and the hills and valleys poured forth tides of living beings, full of joyous anticipations of the events of the coming day.

The Society had made the most convenient and liberal preparations for the occasion. The grounds contained nearly forty acres, and were enclosed by a board fence nearly ten feet high. Convenient offices were erected for the transaction of every branch of business appertaining to the occasion, whether it were to be conducted on or off of the grounds. In a spacious tent, purposely erected, the roll of committees was called,

where the members were introduced to each other, and from whence they proceeded to the discharge of their duties. A building was erected for the Floral Department, and dedicated as "*Floral Hall*." This was filled with things "beautiful to behold," and with persons who added a new grace and beauty to every thing around them.

There was another building appropriated to the *Department of Mechanics*. It would require much space to enumerate the fine works of the mechanical skill here exhibited. Among them were specimens of the handy-work of Henry Partridge, of Medfield, Mass., in steel forks, rakes, &c., and a great variety of implements from the Agricultural Warehouse of Ruggles, Nourse, Mason & Co., of Boston.

The left centre of the ground was occupied by a mammoth gallery, furnished with seats sufficient for at least 2000 persons, and built with special regard to substantiality. To this gallery a charge of twelve-and-a-half cents was asked for admission, and was paid by thousands.

This stand commanded a view of the trotting course, which lay to the extreme left of the arena. The course was of an oval form, and carefully prepared for the use for which it was designed, by grading, watering, and rolling its surface. It was half a mile in circumference, and the whole circuit could be taken in at a single glance.

Water was plentiful on the grounds, both for man and beast, brought in pipes 160 rods, forced up by pumps, acted on by an ingenious contrivance of an over-shot wheel. Halliday's Patent Wind Engine, was erected in the centre of the field, and was an attractive feature.

Among the stock we particularly noticed the imported *Devon* bull, Comet, owned by Isaac Stickney, of Grafton. He is 6 years old, and a very fine animal—one worthy to be recommended to the breeders of that stock. Messrs. W. R. Sanford, of Orville, Daniel Davis, of Springfield, and S. D. Walbridge, of Bennington, and some others, presented stock of this blood.

Of *Durhams*, or Short Horns, the bull *Ajax*, exhibited by Sylvester Smith, of Wilmington, was decidedly the finest ani-

mal of that breed on the grounds. He is 4 years old, weighs 2,290 pounds, and is made up so as to please the critical eye. Messrs. A. L. Bingham, of West Cornwall, E. D. Hubbell, of Bennington, J. C. Lawrence, of Brattleboro,' E. J. Barrington, of Whitingham, and others, also had stock of this breed.

There were few *Alderneys*. Mr. J. Bird, of Greenfield, Mass., had a fine bull, 2 years old, and 2 cows, a heifer, and a calf. The cows were small and thin, but were undoubtedly pure.

Of *Herefords*, the only representations were a cow and calf, shown by A. L. Bingham, of West Cornwall.

Working Cattle.—The exhibition of this class was imposing. The number of entries exceeded 200 yoke. The Brattleboro' team, 48 yoke, passed in review as a single team. Among them could be seen tinges of the blood of the Durhams and Devons with our mixed breeds.

Of *Fat Cattle*, a pair driven in by Mr. Fairbanks, of Springfield, Mass., weighing *six thousand pounds*, and were much admired.

Of *Swine* there were a few specimens. A Suffolk boar and sow, presented by Isaac Stickney, of Boston, were models of their kind. The boar was made up as near the pattern of perfection as we shall seldom be likely to see. We have seen as fine a shaped sow, but not often. A pair of the improved Essex swine, the only ones on the field, were presented by Solomon W. Jewett, of Weybridge. They were black, and possessed fine proportions.

The *Sheep*, included several varieties,—Spanish, French, Silesian, Saxon, with all manner of crosses. Spanish merinos, were exhibited by Messrs. A. L. Bingham, N. A. Saxton, of Vergennes, Victor Wright, of Cornwall, Jesse Hinds, of Brandon, S. Stickney, D. & G. Cutting, and J. T. & V. Rich, of Shoreham, C. D. Sweat, of Bennington, and Mark Crawford and Samuel Wheat, of Putney. A few Leicesters were exhibited by A. V. Stockwell and George Winterbottom. Smyrna and Native, by H. S. Walbridge; and Silesian, French, and Spanish, by George Campbell, of Westminster.

Fruits and Vegetables were not numerous, though some fine samples in each department were exhibited. We noticed

a fine basket of *Sweet Potatoes*, and a variety of grapes, by A. Dutton, of Dummerston. There was a squash, weighing 180 pounds, and a cousin about as large. Apples, pears, peaches and plums, were not largely represented.

The Address was delivered by Charles Theodore Russell, of Boston, and a Reporter says, like all his productions, bore the stamp of eminent ability in conception and expression. Its subject was "*The Enfranchisement of Labor.*"

Capital charcoal sketches of the Black Hawk and Morgan horses were framed and elevated, one on each end of the spectator's gallery. They were by Mr. Larkin G. Mead, of Brattleboro', and a young artist of great promise.

The grand feature of a Vermont State Fair is its *Horses*. We cannot speak of these in detail — lovers of the noble animal must go themselves and see. They were trotted in imposing parade round the moist and level course, and thousands of bright eyes gazed on them as they passed the immense gallery. The procession was headed by a true son of the old Woodbury Morgan, and followed in order by the Woodburys, Bulrushes and Shermans — the latter being by far the most numerous.

But the crowning glory of the Show was in its excellent arrangements — nothing that could add convenience or comfort was omitted. The place for the Address was chosen and prepared with good taste. The officers were attentive and polite to every body, and every body had their best bow for the officers. Ladies, in great numbers, joined in the festivities of the occasion, and gave a new grace and charm to the whole. Mr. Holbrook, the President, mingled everywhere with the throng, and had a kind word for all. We *could* speak of the hospitalities of his mansion, and of the distinguished guests we met there ; but, as that would not be strictly agricultural, and might be considered an invasion of the sanctities of private life, we forbear. All were eloquent in praise of the mode in which the exhibition was managed, and the facilities which had been furnished for its enjoyment.

It was estimated that 25,000 persons visited the Show, and out of that vast number, not an ill-behaved or intoxicated person did we see.

MICHIGAN STATE AGRICULTURAL SOCIETY.

THE Fifth Annual Fair of the Michigan State Agricultural Society came off at Detroit, on the last days of September, (1854.) It was an occasion of great gratification to every member of the Society present, and to numberless visitors from abroad. From a *very* small beginning, five years ago, the Society has grown to a strong, vigorous organization, and now wields an influence—every year widening and strengthening—which must, surely, effect incalculable advantages for the productive industry of the State. Under the working of its fostering provisions, the introduction and increase of *fine stock* has been remarkably rapid.

Horses.—The number of *good* horses in the show-rings, the present year, exceeded the entries at previous exhibitions, though, we believe, there were *more entries*, taking good and inferior together, last year. Good animals thus crowd out the mongrels from competition, and by-and-by, we hope to see none but the “magnates of the stud,” tread the proud circle. It is well enough that these long-backed, high-rumped, big-shinned, blunt-noses, should go to the plow, where they can do the country a better service. The importance of breeding horses of a superior description is not well considered by farmers,—they are usually content to bring into requisition any old broken-constituted brute, that can carry and rear a foal, hence the scarcity of good horses through the country.

Cattle.—Short Horns were the chief feature, though the Devons made no inconsiderable show. One herd of these latter, seventeen in number, drew more eyes, perhaps, than any other herd on the ground. There is one defect in our Durhams,—they are too *coarse* in limb and outline, generally—altogether inferior to the fine specimens seen at the New York Show of this year. A very few pure Ayrshires were on the ground, and no Herefords. There is a perceptible increase of good working oxen.

Sheep.—The farmers of this State are devoting much care and attention to the growing of fine wool ; this branch of husbandry having increased with great rapidity within the past three years. There were exhibited, therefore, many choice lots of French and Spanish Merinos, and Saxony sheep. Long-wools and South-downs were also there. There is a growing feeling, among sheep men, in favor of the Spanish sheep, chiefly on account of a greater *hardiness* claimed for them.

Swine were out in small numbers, though there are many of the improved breeds in the State.

Dairy.—The Society never before called out so fine a display of Dairy produce. Giant cheeses by the cwts., loaded the tables, rivalling the far-famed Hawburghs ; and they were accompanied by “scores of crocks of yellow rolls.” The belt of timbered land, bordering Detroit River and Lake St. Clair, is by nature adapted to grazing, the soil being heavy and moist, and farmers here, are every year becoming more and more interested in this branch of husbandry.

The products of mechanical industry were mostly of foreign manufacture. Michigan has heretofore sought, in New England and New York, the most of her plows and other farm implements, embracing agricultural machinery of all kinds, wheel carriages to a great extent, stoves, &c. Of late, however, several manufactories of plows and other farm tools have sprung up, and in different parts, which are well patronized, as they should be. The show of farming tools was not as good as last year—a circumstance much regretted by all, inasmuch as our success as farmers, so greatly depends upon these powerful, though lifeless things.

Fruit and Floral Hall.—Our State is gaining celebrity for its fine fruit. The shelves in Floral Hall were well loaded with apples, pears, and grapes, currant wine and vegetables ; but what shall we say for the flowers ? there was a *dearth* !—no Dahlias worth sighing for ; the drouth was so severe, they would not bloom, but to be parched, for all the fairs in Christendom ; so the fruit and vegetables and the *Hall of Fine Arts*, got a more thorough examination. The latter building, was more than creditably filled and adorned. One variety of apple exhi-

bited, we feel bound to notice—the *Benoni*. It was exhibited by Mr. Daniel Cook, (nurseryman) of Jackson. It is a late summer fruit, and possesses a quality which no other summer fruit does—that of retaining its freshness and flavor for a comparatively long time. It has a firm texture and handsome appearance, and is rich. The Society procured a canvass tent, eighty feet in diameter, for Floral Hall, which proved very satisfactory.

On the whole, we consider the Fair of 1854, to have surpassed either of those previously held by the Society, not only in the *spirit* of exhibitors and visitors, but particularly in the *excellence* of everything shown. Among the distinguished visitors present were Lord Elgin and Malcolm Cameron, of Canada. The first-named, after viewing the exhibition, gave us a short speech, delivered in a very happy manner, which was received with much enthusiasm and good will.

CHAS. BETTS,
A. Y. MOORE,
S. M. BARTLETTE.

ILLINOIS STATE AGRICULTURAL SOCIETY.

Hon. M. P. Wilder:

DEAR SIR,—It is my duty, as well as my privilege, by the appointment of the President of the Illinois State Agricultural Society, to furnish you with a brief account of the transactions of our State Society. Our worthy Corresponding Secretary, Dr. Jno. A. Kennicott, as my associate, has furnished you with a history of our organization, and the details of our first annual Fair. It only remains for me to give my attention to the Fair of our Society, held at Springfield, Illinois, in October, 1854.

In consequence of the prevalence of the cholera it was feared that there would be a failure, but although the country had for some months suffered from drought, the exhibition in

many respects was much better than that of the previous year. and the attendance about double that of the former Fair. The expenditures for premiums and other purposes at this Fair amounted to \$7085.76.

The whole number of articles and stock entered for exhibition at this Fair was 1067.

The number of premiums awarded for Illinois short horn

| | |
|--|----|
| Cattle, were | 38 |
| For foreign Cattle. (Stock from other States.) | 7 |
| “ Steers, work Oxen and fat cattle, | 10 |

In the cattle pens were found Durhams, Devons, and native stock. There were a few fine Durham bulls and cows; some excellent specimens of work oxen, and the few fat cattle were decidedly good. The rich and luxuriant growth of grass upon our prairies furnish the means to our citizens to sustain and bring to full perfection the fine cattle which for a few years past have been imported into our States.

The number of premiums awarded for Horses, Jacks and

| | |
|-----------------------------|----|
| Mules of our own State were | 61 |
| From other States, | 2 |

Of horses, the exhibition was superior, surpassing any thing ever previously witnessed in our State. It is gratifying to witness the increased attention given to the rearing of this useful animal; and particularly to obtaining animals of the best blood.

The number of premiums awarded for Sheep of various

| | |
|--------------------------|----|
| kinds were | 20 |
| And for Shepherd's dogs, | 2 |

Our soil and climate is better adapted to the producing sheep for mutton than for fine wool, yet at this exhibition there were some fine woolled sheep that probably cannot be surpassed by any in the United States.

The premiums awarded for swine numbered 14

The collection of swine was not numerous, but there was several of fine proportions which did credit to their keepers, there was none that I saw of entire purity, of any blood.

The number of premiums awarded for various kinds of poultry were 10

Sixteen premiums were awarded for various farming implements.

Four premiums for butter, one for cheese, one for ham.

Ten for flour, bread and cereal food.

Seven for Illinois honey, sugar, pickles, &c.

Five for Illinois grain.

Fifty-two for household fabrics of Illinois manufacture.

Six premiums for designs and models.

One premium for vehicles.

Thirteen premiums for furriers, curriers, trunk makers, saddlers and shoe-makers products.

Three premiums for flowers. Professional list.

Five " " " General list.

Nine " " Fruits.

Five " " Vegetable roots.

Five " " Illinois cider and wine.

Thirty-five discretionary premiums.

In the exhibition hall the fruits and vegetables were not as abundant as the previous year, owing to the drought of the previous summer.

One of the most interesting and attractive features of the exhibition was the handiwork of the ladies of our State. The most beautiful yarns, stockings, quilts, carpetings, and fancy works of various kinds, were exhibited.

In conclusion, we furnish the proceedings of our Biennial Meeting, and a list of the officers elected for the ensuing two years:

Wednesday Evening, Jan. 3, 1855.

The Biennial Meeting of the Society was held in the Representative Hall.

The President, Hon. J. N. Brown, called the meeting to order at half-past six o'clock. The president then addressed the Society, stating that it might be expected of him, as he was about to retire from his position, he would present a brief history of the proceedings of the Society during the last two years.

On motion of E. N. Powell, Esq., 500 copies of the address of the President were ordered to be printed.

Mr. Mills, of Marion, moved an amendment to the Constitution of the Society, which, after discussion, was laid on the table.

Members were invited to renew their membership, and other gentlemen to become members of the Society. Seventy-one persons signed the Constitution and paid their annual fee of one dollar each.

The Society then, on motion, proceeded to the election of officers for the next two years, by ballot.

Hon. Harvey C. Johns, of Platt county, was elected President, and the following named gentlemen, Vice-presidents :

| | |
|--------------------------|--------------------|
| For 1st Cong. district — | John Gage, |
| 2d do. | Lewis Ellsworth, |
| 3d do. | Wm. Strawn, |
| 4th do. | Smith Fry, |
| 5th do. | Wm. Ross, |
| 6th do. | Fr. Arenz, |
| 7th do. | Jas. M. Blackburn, |
| 8th do. | Cyrus W. Webster, |
| 9th do. | Pleasant Ward. |

J. A. Kennicott was elected Corresponding Secretary.

Simeon Francis was elected Recording Secretary.

N. E. Powell, Esq., moved that the business be suspended for the introduction of an amendment to the Constitution, which would go into immediate effect.

Mr. P. then offered the following amendment to the Constitution : —

“ That, in all elections for officers of this Society, where there is but one person put in nomination, the election may be had by a *viva-voce* vote.”

The amendment to the Constitution was adopted.

John Williams was then nominated for Treasurer, and elected by an unanimous vote.

On motion of Mr. Army, a committee was appointed to examine the report of the Treasurer.

Mr. Army, Mr. Powell, and Mr. Warren were appointed that committee.

Mr. Army then offered the following resolutions, which were unanimously agreed to:—

Resolved, That the executive Board of the Illinois State Agricultural Society, be instructed to correspond with the executive Board of the United States Agricultural Society in relation to the national Fair, for the year 1855, and that our Board be requested to have the same held in our State, provided satisfactory arrangements can be made to that effect.

Resolved, That this Convention recommend to the Boards of County Agricultural Societies to address their Representatives in Congress, from their respective districts, requesting them to use their utmost endeavors to secure a liberal appropriation by Congress for the establishment of a national agricultural department to be placed upon a permanent basis,—under such management as will disseminate practical Agricultural knowledge throughout the entire Union, thereby promoting the general interest of the age.

Resolved, That this Society endorse and recommend to the confidence and patronage of the farmers of Illinois the "Prairie Farmer" published in Chicago.

Dr. Kennicott offered the following resolution:

Resolved, That this Society, in view of the eminent services of Hon. J. N. Brown, late President of the Illinois State Agricultural Society, tender him their unfeigned thanks for his efficient and useful labors in its behalf.

All of which is submitted by,

Respectfully yours, W. F. M. ARMY.

Burlington, *M Lean Co.*, Ill., Jan. 13, 1855-

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JOURNAL
OF THE
UNITED STATES
AGRICULTURAL SOCIETY,
FOR 1855.

EDITED BY W. S. KING,
SECRETARY.

WASHINGTON, D. C.

1855.

9

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OFFICERS
OF THE
UNITED STATES AGRICULTURAL SOCIETY,

ELECTED FOR A.D. 1855.

PRESIDENT,
MARSHALL P. WILDER, of Massachusetts.

VICE-PRESIDENTS,

JOHN D. LANG, Maine.
H. F. FRENCH, N. H.
FRED. HOLBROOK, Vt.
B. V. FRENCH, Mass.
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J. L. HAYES, Utah.
Mr. GIDDINGS, Nebraska.

EXECUTIVE COMMITTEE,

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JOHN WENTWORTH, Ill.

BEN: PERLEY POORE, Mass.
ARTHUR WATTS, Ohio.
JOHN JONES, Del.

SECRETARY,
WILLIAM S. KING, Boston, Massachusetts.

TREASURER,
B. B. FRENCH, Washington, D. C.

THIRD ANNUAL MEETING

OF THE

United States Agricultural Society.

THE Society met on the morning of Wednesday, the 28th day of February, in the East Room of the Smithsonian Institution, at Washington. A large number of members were present, representing twenty-six different States, and there was a full attendance of delegates from State and County Agricultural Societies. After the reception of credentials by the Secretary, HON. MARSHALL P. WILDER of Massachusetts, President of the Society, took the chair, and delivered the following

A D D R E S S .

Gentlemen of the Society, and Friends of Agriculture :

TO-DAY occurs the third anniversary of the United States Agricultural Society. Common usage requires its Executive to submit some account of its transactions for the past year, and to make such recommendations in reference to the future as experience may suggest. In the progress of business, Reports are expected from various Committees on subjects previously assigned ; and it is hoped that the same harmony which has characterized our proceedings from the beginning will continue to preside over our deliberations, and that all

our discussions and transactions may subserve the great cause of American agriculture, and promote the welfare of the American Union.

Most sincerely do I congratulate you upon the increasing interest manifested throughout our country in this worthy object, — an interest which is both the reward of our toil and the encouragement of our hope. It proves that we labor not alone, that other hearts beat in unison with ours, and that other hands are employed in the same noble work. The public mind has been profoundly moved, and the current now sets in the right direction.

Many Agricultural Societies and Boards have been recently formed in Counties and States where none previously existed, while older organizations have acted with renewed energy and success. Among these faithful guardians of this most important department of human industry and of national prosperity, we recognize New York, with her State Society and more than fifty auxiliaries, and with her able Secretary at the seat of her government ; Ohio, with her efficient State Board, and a still larger number of auxiliaries ; Kentucky, with her several powerful district societies ; Missouri, with her State Society, of recent origin ; Indiana, Illinois, Michigan, Wisconsin, and youthful Minnesota, with other Western States and Territories, each associated and vigorously at work under the most favorable auspices ; Maryland, with her State Society and auxiliaries ; Delaware, with her County Societies, both renowned for enterprise and stability ; New Jersey, just entering the field in freshness and vigor ; Virginia, with a State organization more richly endowed than any other within our knowledge ; the Southern Central, and other Societies, promising important results in that section of the country ; Pennsylvania, with her ancient Philadelphia Society for the Promotion of Agriculture, and her more recent flourishing State Society ; Massachusetts, with her venerable State Association, and her present State Board (a department of the government) ; and around her each of the New England States laboring, within

its respective district, for the promotion of our common cause with a praiseworthy zeal; and California, that young and hopeful member of our national confederacy, with a thriving State Society, and with a soil yielding agricultural products quite as remarkable as the precious metals of her mines, — these, by their numerous and constantly increasing auxiliaries, by their various officers, exhibitions, libraries, periodicals, lectures, discussions, and farmers' clubs, — all these are co-operating with us for the advancement of the cause we seek to promote. Our national Society has contributed its share toward awakening and diffusing this interest; though, from the embarrassments which ordinarily attach to the early history of great enterprises, from the want of funds to support a permanent Secretary devoted entirely to its business, and from other causes which will be hereafter specified, it has not accomplished all which we anticipated and desired.

EXHIBITIONS.

The Society has held two exhibitions; the first in Springfield, Mass., in 1853, which was restricted to that noble animal, the horse. It was eminently successful, and was reported in the Transactions of that year.

The Executive Committee, to whom were referred, at the last annual meeting, the applications requesting this Society to hold national shows in the States of Ohio, Massachusetts, and Vermont, after much deliberation adopted the following order :—

In Executive Committee, February 25, 1854: on motion of W. S. King, *Resolved*, That the application of inhabitants of Springfield, Ohio, for the holding an Exhibition at that place, under the auspices of this Society, be referred to the President, to be governed by the terms of the following resolution: *Resolved*, That no Exhibition be held within the limits of any State where a State Agricultural Society, holding Exhibitions, is in existence, without first obtaining the assent and approval of the State Board, or of the Executive Committee of such State Society.

The terms of the latter resolution having been complied with by the State Board of Ohio, an Exhibition, confined to neat cattle, was held, under the direction of this Society, at

Springfield, in that State, on the 25th, 26th, and 27th days of last October. Funds to the amount of *ten thousand dollars*, for the payment of expenses and premiums, were guaranteed and paid by twenty public-spirited individuals and firms, whose names appear in our Transactions, and who, in the most patriotic manner, subscribed *five hundred dollars* each for this purpose.

The weather was exceedingly propitious, and the Exhibition in the highest degree creditable to all concerned, especially to the liberality and hospitality of its projectors and patrons, to the skill and enterprise of stock breeders, and to the wisdom and patience of its judges.

Whatever may be said of the *quantity* of stock on exhibition, the *quality* was doubtless superior to that of any other Cattle Show ever held in the United States. All public reports agree in the statement that the Exhibition was the finest, in point of excellence, ever held within the limits of our republic; and several gentlemen, who were present from foreign lands, and who were familiar with similar exhibitions there, testified that they had never seen it surpassed in any transatlantic country.

Of the great utility of such Exhibitions in removing sectional jealousies, in smoothing the asperities of party, in promoting a more cordial intercourse among American agriculturists, even upon subjects on which they may honestly entertain different opinions, I have no doubt. These Exhibitions disseminate general intelligence, awaken a spirit of emulation among our intelligent yeomanry, encourage the local associations where they are held, build up, upon a firm and enduring basis, our own institution, and strengthen the bonds which we trust will forever unite, as in one flourishing and happy family, all the members of our national confederacy.

In consequence of the holding of this Show of Cattle in Springfield, Ohio, the contemplated exhibition of Horses, at Springfield, Mass., and the Show of Sheep, in Vermont, were omitted.

Applications are now in the hands of your Executive, requesting the Society to hold similar exhibitions in several other States. I commend them to your consideration and action.

JOURNAL.

In accordance with the suggestion made in the last annual Address, the Society's Journal has been issued in one octavo volume, and awaits distribution to such members as have not previously received a copy. It contains the Society's Transactions for the last year, with reports of committees, essays and dissertations, together with sundry extracts from a kindred association, the American Pomological Society. The latter have been published in this volume, with the consent of the government of that body, the purpose of which is to advance an important branch of American agriculture, and which is now in successful operation throughout the country.

This portion is of permanent value, on account of its list of fruits adapted to general cultivation and to particular localities; and also on account of its Reports, which embody the experience of the best cultivators in the country, not to speak here particularly of its able essay on entomology, and other pomological information. The importance of this branch of terraculture cannot be exaggerated, forming as it does one of the most delightful and profitable branches of husbandry. Comparatively little attention has been devoted to it by American farmers; but those who have engaged in it have found a ready market at home, and an increasing demand for exportation to foreign markets.

This volume, however, contains but few Reports from the Agricultural Societies of the States and Territories, because but few of these, or those of the Commissioners appointed to visit the Exhibition, were received in season for insertion, an omission which has reduced its size, and which, it is hoped, greater diligence will hereafter prevent.

DIPLOMA.

The design for the Society's Diploma, which was presented and adopted at the last annual meeting, has been executed, and I now have the pleasure of presenting a copy to each member who has not previously received it. I repeat here a word of explanation for those who were not present at the adoption of this design.

It represents, at the top, Ceres, the goddess of Agriculture, seated in a car drawn by a pair of oxen, and attended by farm laborers. On her right hand sits Science; on her left, Art; before her lie the fruits of the earth, and various implements used in its cultivation. The front of the car is decorated with reliefs of the four quarters of the globe. She is accompanied also by the Seasons of the year.

On the right side of the design is Pomona, the goddess of Fruits, and on the left, Flora, the goddess of Flowers. Groups of horses, cattle, sheep, &c., form the back-grounds to these figures.

At the base, in a cartouche, is a view of Mount Vernon, surmounted by the national emblems, and supported on either side by a farmer and a gardener, with appropriate scenes in the distance.

I also herewith submit impressions of an engraving for the heading of receipts, letters, and other business documents of the Society. This is a *fac-simile* of a sculptured mantel-piece in Washington's mansion, at Mount Vernon, presented to him by Mr. Vaughan of London, in 1785.*

FUNDS AND MEMBERSHIPS.

The Treasurer's Report, it is expected, will be submitted in the progress of business, and will exhibit the condition of the Society's finances. I regret to state, however, that these are now locked among the assets of the Exchange Bank of this city, and are therefore not immediately available, though

* Sparks' Life and Correspondence of Washington, Vol. IX. p. 90.

I am informed by the Treasurer and other gentlemen appointed to judge of their condition, that the Society will probably suffer no loss by their deposit in that institution. These have been principally procured by the agency of your presiding officer, who will spare no exertion to preserve them from depreciation and diversion from their legitimate objects.

I had hoped at this meeting to report accessions, by bequest, to our funds, of an amount sufficient, by the income thereof, to support a permanent Secretary, and to meet all the other necessary expenses of the Society; and although that hope has been deferred, yet it has been so far encouraged by several wealthy benefactors of public institutions, as to justify the belief that it will yet be realized.

Most of the outstanding bills of the Society had been paid previously to the time of the assignment of these funds; but there now remains due from Society the expenses incurred by the publication of the Transactions for 1854, the engraving of the Diploma, and a few other small bills.

The income of the Society from memberships during the year has been less than was anticipated, owing, in part, to the difficulty of obtaining agents to solicit them. This applies particularly to annual memberships, the fee being so small that the per centage to the agent makes it no object to put forth the requisite exertions, either for collecting the annual dues or to obtain new members. It is therefore worthy of your consideration whether our Constitution should not be so amended as to reduce the fee for life membership to ten dollars. This, it is believed, would multiply agents, increase their energy, and add materially to the funds of the Society. My own efforts in this and some other departments during the past year have been necessarily limited by the number and severity of my personal and domestic afflictions. But in these, it has been no small comfort to know that I have shared so liberally in the kind sympathies of many whom I see around me.

REPORTS.

POTATO DISEASE.

Your Executive Committee, to whom was referred at the last annual meeting the communication of Mr. Joel Hitchcock, of Lawrence, New York, on the subject of the potato disease, with instructions to report at this meeting, have instructed me to state that they have given it their attention. Experiments have been tried by themselves and others, according to his directions, and although it may not prove a universal preventive against the disease, yet his method seems to be based upon true philosophical principles, and to have the merit of restoring and preserving from degeneracy the original qualities of this invaluable esculent. The Committee, therefore, recommend him to give his method publicity, that it may be subjected to a more thorough and general trial.

CURCULIO.

The Committee, of which your President was Chairman, to which was referred the paper on the destruction of the Curculio, by the Hon. James Mattheson, Coschocton, Ohio, have given the subject attention. Experiments have been made in different parts of the country with various degrees of success. In view of the importance of the topic, and of variety in the result, and also in view of the thorough investigations which are now in progress in regard to insects injurious to vegetation, and in accordance with the judgment of the discoverer, the Committee recommend a further trial before the remedy be made public.

UNIVERSAL EXHIBITION AT PARIS.

It is probably well known to all of the members of this Society, that France has resolved upon an Exhibition of the Industry of all Nations, to commence in the capital of her empire in the month of May next, and has invited the co-operation of other countries. I accordingly recommend that

a delegation of one member or more be appointed to represent this Society, in that National Fair, provided that such delegation be without expense to this Association.

LECTURES AND DISCUSSIONS.

Your Committee on Lectures, I am happy to inform you, have invited several gentlemen to address you in the course of the present meeting, on various subjects pertaining to agriculture, whose names will appear upon the programme of business. I would also recommend that as much time as practicable be allowed for public discussions, after the manner of Farmers' Clubs, for the purpose of giving free expression to the wisdom and experience of practical cultivators in different parts of the country; and that the Committee on Lectures be requested to open a docket, upon which any member may enter subjects for discussion. One of the gentlemen who addressed us at our last annual meeting, the Rev. Charles Fox, Lecturer on Agriculture in the University of Michigan, and author of the American Text Book of Practical and Scientific Agriculture, has fulfilled his earthly mission and entered upon his reward, and, by his departure, has admonished us of the uncertainty of life, and of the necessity of doing speedily and with our might, the work assigned us here below. This gentleman was ardently devoted to the cause of agriculture, and did much to promote it by his writings, his instructions, and example. His memory will long be cherished for his public services and private virtues.

Other afflictions have interrupted the various circles of our friendship, and have cast many bitter ingredients into our cup of earthly bliss. But our hearts still cling with strong attachment to surviving friends with whom we have acted, and still hope to co-operate, in this and other great benevolent enterprises of our age and country.

I will not, however, prolong these remarks. My object has been simply to give you a brief report of what has been

done during the past year, and also an intimation of some things which it is desirable to attempt in the future. To many of these I have called your attention in previous communications ; but here, as in the beginning of other great associations, additional time is requisite for their full accomplishment, and for the realization of our hopes.

In conclusion, gentlemen, allow me, in a word, to advert to some peculiarities in the present condition of American agriculture—to the vastness of its resources, appearing in the extension of our public domain, and in the variety of our climate and soil—to the rapid increase of cultivators and consumers, aiding production and creating ready markets at home—to our remarkable facilities for transportation by our lakes, rivers, and canals and by our railroads, threading our country in every direction, and rapidly extending from ocean to ocean—to the improvement in agricultural implements, by which machinery performs, for the farmer, the labor of days in a single hour—to the agency of the press, in the application of science to the arts of cultivation, and in the diffusion of general intelligence, in the publication of lectures, and the reports of exhibitions and discussions in all parts of our republic—and, above all, to the rise in the price of lands, and also of crops, for the latter of which demand has increased as steadily as their quantity.

These, and similar congratulatory considerations, evince the prosperity of our beloved land, and illustrate the dependence of the States of our national confederacy upon each other ; — *not one of them liveth to itself*—dismemberment or disseveration is death—the ruin of agriculture, and, therefore, of commerce and manufactures. For instance : New England, with all her intelligence, machinery, and capital, cannot live alone ; she must depend upon the South for her cotton and rice ; upon the Middle and Western States for much of her beef and pork, for wheat and wool ; while, in return, she will send her sister States the fabrics and other products of her skill and industry.

This reciprocal action and mutual dependence cannot be destroyed, and should be turned to the highest practical account. Whose heart does not respond to the sentiments of our illustrious statesman — “I would gladly see the United States independent of all foreign nations for all the necessities of life, clothing as well as food ; but I do not desire to see the separate States independent of each other : first, because climate, soil, geographical position, and physical condition, designate them for different departments of industry, and their own highest prosperity will be subserved by following nature ; and, second, because these mutual wants and mutual dependencies are among the strongest bonds of our blessed Union, and give the best guarantee that it shall endure for ever.”

Gentlemen, in this sentiment I heartily concur ; and it is my earnest prayer that it may animate all our hearts, and encourage our endeavors to advance the objects of this Association — to strengthen the bonds of the American Union, and add to the prowess and glory of these United States.

On motion of Mr. Hall of Georgia, a copy of the President's Address was solicited, for publication in the Society's Transactions.

On motion of Mr. John A. King of New York, the President appointed a committee of one from each State and Territory represented, to nominate a Board of Officers for the ensuing year.

A letter was read by the President from Mr. Wm. Selden, Treasurer of the Society, resigning his office, and asking a Committee to investigate the value of the stocks which he tendered as security for the funds.

On motion of Mr. Tayloe of the District of Columbia, Messrs. Wager of New York, Calvert of Maryland, and Worthington of Ohio, were appointed, and Mr. Selden's papers were placed in their hands.

Mr. Holcombe of Delaware made a few eloquent remarks, protesting against the injustice shown to the large majority of Americans who compose the Agricultural interest, and offering the following resolution :

Resolved, That we object to the doctrine of free-trade for Agriculture;—to the distinction that lets in the foreign grain-growers, and keeps out the foreign manufacturers;—that gives the exclusive right to American ship-owners to carry all coastwise American produce, and refuses all protection to American producers; we object to being restricted to purchasing only American fabrics, or freighting our produce only in American ships, unless these interests are willing for a *home* “reciprocity,” and consent to be fed by American producers; if we are not to have an equality of benefits, we must insist upon an equality of another sort; benefits not generally given should be generally withdrawn.

Mr. Kennedy of Pennsylvania, moved to lay the resolution on the table as foreign to the legitimate objects of the Society.

Mr. Calvert expressed a hope that the principles embraced in the resolution would be freely discussed, and was followed by Mr. Kimmel, who considered the subject one of vital importance to Agriculture. By consent of Mr. Holcombe, the resolution was made the order of the day for the next morning, at 10 o'clock.

On motion of Mr. Wager of New York, the President was authorized to appoint a committee of five, to receive and report upon proposed amendments to the Constitution.

The President appointed Messrs. Wager, Kennedy, Proctor of Massachusetts, Stedman of Ohio, and Jones of Delaware.

Mr. King of New York suggested that it might be advisable for the Society to meet elsewhere than at Washington, where politics overshadow all other subjects.

Mr. Kennedy stated that he was commissioned by the Philadelphia Society for the promotion of Agriculture to extend a cordial invitation to the Society to hold its next meeting at Philadelphia.

Mr. Elwyn of Pennsylvania assured the Society that a cordial welcome awaited them, and advocated the change of place of meeting.

Mr. Kimmel, Mr. Calvert and other gentlemen disapproved of any change in the place of annual meeting, as the Society is a national one, and, on motion of Mr. Jones of Delaware, the subject was laid upon the table.

The President read letters from the Kentucky Agricultural and Mechanical Association, and from the Illinois State Agricultural Society, inviting the Society to hold national Exhibitions in those States. After a brief discussion, the invitation from Pennsylvania was taken from the table, and all the invitations, with any others that may be received, were referred to the Executive Committee.

On motion of Mr. Elwyn, the Executive Committee were instructed to nominate Delegates to attend the coming Industrial Exhibition at Paris.

On motion of Mr. Calvert, seconded by Mr. Underhill of New York, Messrs. Peck of Maryland, and Mr. Underhill were appointed a Committee to urge upon Congress the following resolution, which was unanimously passed:

Resolved, That Congress appropriate means to employ Mr. Townsend Glover to obtain information on the fruits of the United States, and on insects injurious to vegetation, and to procure drawings and models of the same, as far as practicable,—said information to be embodied in an Annual Report.

The subject of Agricultural education was briefly discussed by Messrs. Kimmel and T. G. Clemson of Maryland; but no action was taken thereon by the Society.

Mr. Calvert of Maryland, offered the following preamble and resolutions, which he supported in an able and eloquent manner, deprecating all applications to Congress, and urging political action on the part of agriculturists, as calculated to *command* success.

Whereas, The prosperity of a country is in proportion to the improvement of its agriculture, therefore

Resolved, That agriculture should be the first interest considered in legislating for the general welfare, and that such legislation should be had as will foster and protect this interest, which is paramount to all others.

Resolved, That the time has arrived for the agriculturists of the whole

country to meet in convention, and determine for themselves what legislation is necessary for their protection.

Resolved, That such a convention, to be composed of delegates from each State of the Union, be earnestly recommended by this Society, in order that an agricultural platform may be established, which will meet the views of, and be sustained by, the whole body of agriculturists as a profession.

Mr. H. F. French of New Hampshire followed Mr. Calvert, and supported his opinion that it was only necessary for Agriculturists to insist upon a proper attention to their wants, in order to obtain it.

Mr. Dyer of Connecticut, urged primary organizations, as the best calculated to carry out a great national movement. He offered a resolution, but withdrew it, and Mr. Calvert's resolutions, with his consent, were put on the next morning's order of the day.

Mr. Jones of Delaware, read an able paper on the effect of Tariffs upon the prices of Agricultural Produce, which, on motion of Mr. King of New York, was ordered to be printed in the Society's Transactions.

Mr. Davis of New Hampshire, exhibited a patent "Corn-Planter," which was examined with interest.

Mr. Chas. Cowley of Massachusetts, submitted specimens of "Wire Fence," manufactured by the Lowell Wire-fence Company.

Mr. Kimmel, (at the request of Mr. Shaw of Tennessee,) stated his experience in raising potatoes. Mr. Kimmel said that he thought he had accidentally discovered, not only an avoidance of the "POTATO ROT," but what he should more properly term a preventive. The philosophy of it he could not explain; but he would give the facts. He stated that he had, attached to a farm dwelling unoccupied, a garden containing about an acre of land in parallelogram form, ten perches wide and sixteen perches long, inclining lengthwise to the south-east of about five degrees descent, regarded as being very rich in original soil, highly manured and well limed, which he deemed capable of producing a double crop—corn and potatoes. With that view, he ploughed the

garden in its two lands, (it having been for years divided lengthwise by a grassed avenue,) each land he ploughed with a left-hand plough, striking into the middle and through the furrow to the centre. Having thus finished both lands with a large heavy plough, the land thus laid for two days for the operation and effect of the sun and atmosphere, then lightly harrowed and laid off lengthwise with a large single shovel plough, into furrows two and a half feet apart; planted two or three cuts or sections of potatoes in hills, each cut with two or three eyes, about two feet apart, and into each hill *two grains of Indian corn*, and covered the hills with an ordinary depth of earth; cultivated the potatoes with shovel ploughs and the hoe, as is usually done in the Middle States, only lengthwise of the garden. When the corn was about one foot high, he let remain but one corn-stalk in each and every hill. In some of the hills the corn had missed.

Upon the gathering of the potato crop, he found the rot had seized the hills where no corn was growing. Where the corn had consecutively missed, he found the rot complete; but where the potato-hill had corn growing, there was no rot.

Mr. King said, that on Long Island, the farmers found that the great safeguard against rot lay in early planting and high cultivation—but he considered it impossible to produce so large a crop as was raised ten years ago.

Mr. Underhill thought that Mr. Kimmel's plan might be successful, and gave the result of his own observation of the rot.

Mr. Newton of Pennsylvania, stated that eight or nine years since he planted alternate rows of corn and of potatoes, dropping a few pumpkin seeds with the corn. The produce per acre was 72 1-2 bushels shelled corn, 55 bushels potatoes, and 17 loads of pumpkins.

Mr. Poore of Massachusetts, said that he had thus planted corn and potatoes in alternate drills, but the potatoes had nevertheless rotted.

Mr. Hamilton of New Jersey considered shade a preventive of rot, and gave his reasons, based on his experience.

Mr. Kimmel then spoke of the manner in which he ploughs his corn-land, forming thousands of small dams to retain the water, instead of channels to convey it off. He thus prevented any washing of the soil, and retained the moisture where it fell. Mr. Kimmel said, that as a general maxim in corn-making in his section, if the planter has plenty of rain the corn crop will be large and abundant; therefore the question is, to make much water out of little rain—which he proposed to commend, after many years' trial. For illustration, he supposed a square of ten acres, the sides of which are *north and south, east and west*, with a surface inclination of three degrees to the south—the corn rows planted 3 1-2 feet apart, the cross rows the same distance apart, and the planting of the corn east and west. The double shovel plough is so wide that the ploughing back and forward in each land between two rows would cut and cover the land between these two rows.

1st. Begin on the west edge and plough out two lands north and south, leaving third land untouched.

2d. Begin on the north edge, and plough out two lands east and west, leaving third land untouched.

3d. Begin on the west edge, and plough out the land left after the first plough.

4th. Begin on the north edge and plough out the land left after the second ploughing; then the field is finished.

By which you will find numerous small *dams*, to retain the excess of water, which otherwise would be lost in a heavy shower.

The manner of ploughing corn in his country is old, and its tendency is to *carry off the rain*. This plan is new and his own, and he had practised it with great success for several years. It ought to be varied according to the surface inclination, so as to suffer no water to pass off, and according to the discernment of the farmer, as the little dams would retain the excess which otherwise would pass off.

G. E. Waring, Jr., of New York, said that the cross-fur-

rowing of corn, in the manner described by Mr. Kimmel, although doubtless a good means to prevent washing by rains, is not the *best* means, for the reason that it causes water to remain *on the surface* of the soil. Now the reason why this surface water is prejudicial to the perfect growth of the crop, is, that the evaporation of this water abstracts a large amount of *heat* from the soil. Any means of preventing washing which shall at the same time overcome this objection, must be an improvement. The only available method for accomplishing this object, is by opening the *lower* soil for the admission of water. This places the soil in a spongy condition, thus causing it to absorb all water of rains, retaining it more efficiently, preventing its passage over the surface, and consequently the washing away of fertilizing material.

Mr. Underhill opposed some of Mr. Waring's views ; and a discussion upon the upward or downward tendencies of fertilizers followed, in which Messrs. Davis, Hamilton, Clemson and King joined.

Mr. Tayloe presented a polite invitation from Lieut. Maury, addressed to the President, and "inviting him, (and through him the members of the Society,) to visit the Naval Observatory at any time that it may suit their convenience."

Mr. Elwyn, at the request of Professor Bache, tendered "an invitation to the members of the Society to visit the Coast Survey office, where he would be in attendance to receive them."

On motion of Mr. King of New York, the thanks of the Society were presented to Lieut. Maury and Prof. Bache, and it was suggested that the members visit the Observatory that evening, and the Coast Survey office the next morning, at nine o'clock.

At four o'clock, the Society adjourned its business session until the next morning.

In the evening, the Society and the citizens of Washington filled the large lecture-room of the Smithsonian Institution. After the national airs had been performed by a fine band of

music, the President introduced the orator of the evening—a Vice President of the Society—the venerable George Washington Parke Custis. His eloquent narrative of the illustrious “Farmer of Mount Vernon” was listened to with marked attention by a large audience, and was warmly applauded.

After the lecture a large number of ladies and gentlemen were introduced by the President to the orator.

The same evening, the officers and committees were elegantly entertained at the National Hotel, by Mr. C. B. Calvert, the proprietor of “Riversdale.” A sumptuous repast graced the festive board, and the festivities were prolonged until a late hour.

SECOND DAY.

MARCH 1, 1855.

The President called the Society to order at 10 o'clock. Reports from committees were in order, and—

Mr. King of New York, from the Committee on Nominations, reported the following ticket, which was unanimously elected by ballot.

OFFICERS FOR 1855.

PRESIDENT.

MARSHALL P. WILDER, of Massachusetts.

VICE-PRESIDENTS.

| | |
|---------------------------|--------------------------|
| JOHN D. LANG, Maine. | J. T. WORTHINGTON, Ohio. |
| H. F. FRENCH, N. H. | B. GRATZ, Ky. |
| FRED. HOLBROOK, Vt. | M. P. GENTRY, Tenn. |
| B. V. FRENCH, Mass. | JOS. ORR, Ind. |
| JOS. J. COOKE, R. Island. | J. A. KINNICOTT, Ill. |
| JOHN T. ANDREW, Conn. | THOS. ALLEN, Mo. |

| | |
|-------------------------|-------------------------|
| HENRY WAGER, N. Y. | T. B. FLOURNOY, Ark. |
| ISAAC CORNELL, N. J. | J. C. HOLMES, Mich. |
| ISAAC NEWTON, Pa. | JACKSON MORTON, Fla. |
| C. P. HOLCOMBE, Del. | T. G. RUSK, Texas. |
| H. G. S. KEY, Md. | J. W. GRIMES, Iowa. |
| G. W. P. CUSTIS, Va. | B. C. EASTMAN, Wis. |
| HENRY K. BURGWIN, N.C. | J. M. HORNER, Cal. |
| JAMES HOPKINSON, S. C. | JOS. H. BRADLEY, D. C. |
| D. A. REESE, Ga. | S. M. BAIRD, New Mex. |
| A. P. HATCH, Ala. | H. H. SIBLEY, Minn. |
| A. G. BROWN, Miss. | JOSEPH LANE, Oregon. |
| J. D. B. DE BOW, La. | J. L. HAYES, Utah. |
| GEN. WHITFIELD, Kansas. | Mr. GIDDINGS, Nebraska. |

EXECUTIVE COMMITTEE.

| | |
|-------------------------|--------------------------|
| JOHN A. KING, N. Y. | BEN: PERLEY POORE, Mass. |
| CHARLES B. CALVERT, Md. | ARTHUR WATTS, Ohio. |
| ALFRED L. ELWYN, Penn. | JOHN JONES, Del. |
| JOHN WENTWORTH, Ill. | |

SECRETARY.

WILLIAM S. KING, Boston, Mass.

TREASURER.

B. B. FRENCH, Washington, D. C.

On a report of the Executive Committee, Messrs. Elwyn of Pennsylvania, Wager of New York, Morton of Massachusetts, Kimmel of Maryland, and Flint of Massachusetts, were appointed delegates to attend the coming Industrial Exhibition at Paris. The Report was accepted, and the nominations confirmed.

Mr. Wager of New York submitted a report on the proposed amendments to the Constitution, which was discussed by Messrs. Fay and Waters of Massachusetts, Cooke of Rhode Island, King of New York, Hamilton of New Jersey, Calvert of Maryland, and Worthington of Ohio. The Report was par-

tially accepted, and the following amendments were passed by the constitutional vote, "fifty members voting thereon."

SECTION II. In the last clause, strike out *twenty-five* dollars, and insert *ten* dollars, so that it shall read: "Ten dollars paid at one time shall entitle any person to the privilege of Life Membership, and exempt him from any annual taxation."

SECTION IV. Strike out after the word "held" in first line, and amend so as to read: "The annual meeting of this Society shall be held in Washington, on the second Wednesday in January, in each year."

Mr. Peck reported that the committee appointed to urge Mr. Glover's appointment, had presented the subject to the Senate Committee on Agriculture, who had promised that their efforts would be directed to the accomplishment of the Society's desires. The report was accepted.

Prof. Henry, in behalf of the committee to whom a specimen of "chess in wheat" had been referred, reported that it had been placed in the hands of a gentleman well qualified to examine it.

The following letter gives the result of his investigations.

CAMBRIDGE, MASS., MARCH 16, 1854.

MY DEAR SIR,

Your favor of March 7th, accompanying a specimen said to be wheat and chess growing on the same head, upon which my opinion is desired, came duly to hand, and should have been earlier answered, but for an accident.

The specimen consists of a fruiting head of genuine wheat, to all appearance in a perfectly natural condition, and of five separate, loose florets of what appears to be chess. Now I have no evidence that the latter grew on the same stalk with the former, nor, indeed, have I, antecedently to the evidence, any belief, or grounds rendering it probable that they did. I have never seen any specimen that gave any probability to such a view, though I have heard of such things.

If there is, in your possession, or reach, any specimen which exhibits such florets as the loose ones on a wheat-stalk, you will greatly oblige me by sending the specimen, which I will duly return after examination.

That you may see all the evidence now supplied to me, I return to you the whole, enclosed—merely putting the chess florets in a separate envelope.

I remain, very respectfully and truly yours,

ASA GRAY.

PROFESSOR HENRY, *Secretary Smithsonian Institution.*

The committee to whom specimens of the "Oregon Pea" had been referred, reported that in this case, also, the committee had placed the matter in the hands of Professor Henry. That gentleman had sent the peas to the latitude where it was said they would thrive the best, and had received the following statement of their product :

SAVANNAH, GEO., DEC. 12th, 1854.

PROF. HENRY,

Dear Sir,—In June last, I received two papers of the "Oregon Pea," kindly sent from the Smithsonian Institution, accompanied by a request that the results should be reported. On the 9th of June I planted on soils varying considerably in character, twenty-eight seeds, all of which germinated. The season was favorable to their growth, and in two months they attained a height of from three to four feet, branching freely and covered with dense foliage, resembling very much, at a short distance, a luxuriant cotton-plant. At this stage of their growth, a light gust of wind occurring, several were destroyed by the splitting of the stalk at the point of branching, just above the ground; a few days afterwards several more were destroyed in a similar manner from a like cause, the wind in neither instance being sufficient to injure any other vegetation in my garden. On the 14th of August the first blossoms appeared, which were rapidly succeeded by a general bloom and development of pods. On the 8th of September we were visited by a gale of great violence, which entirely prostrated them. I gathered a considerable quantity of the seed, which were matured, merely as a matter of curiosity, as I had previously arrived at the conclusion that it was not desirable as an article of cultivation either for fodder or for seed; for the stalks were unfitted from their hardness for food for cattle, and the leaves in a green state were refused by horses and oxen; nor was the yield of grain sufficient to warrant its introduction into our field culture. However well adapted it may be to other sections of the country, I am satisfied it is utterly worthless for this.

I am, Sir, very respectfully, your obedient servant,

CHAS. GRANT.

Mr. Poore, from the Committee on "Agricultural Archives," requested an extension of time before reporting. Granted.

Mr. Holcombe's resolution in relation to the Reciprocity Treaty was then taken from the table, and discussed by the mover, by Mr. Jones, and by Mr. Peck, who moved to lay the whole subject upon the table.

Mr. Calvert objected, and urged the immediate consideration of the subject.

Mr. King of New York moved to refer the resolution to a committee, which motion was carried after a spirited debate. The President appointed Messrs. Holcombe, Kimmel, Worthington, Fay of Massachusetts, and Custis of Virginia.

On motion of Mr. Wager, Mr. Holcombe was excused from serving on the Committee; and Mr. Fay, on motion of Mr. Waters of Massachusetts, was also excused. Mr. Kimmel likewise declined serving.

On motion of Mr. Elwyn, the reference to a committee was reconsidered, and the resolution again brought forward for discussion.

Mr. Kennedy opposed it, as only calculated to advance the interest of the Middle States, and not an expression of opinion from the whole agricultural interest of the Union.

Mr. Stedman of Ohio moved to strike out all after the word "interests," which amendment was carried.

Mr. Jones demanded the previous question, and the resolution was passed as amended, viz. :

Resolved, That we object to the doctrine of free trade for agriculture and protection for other interests.

Mr. Calvert's resolutions recommending an Agricultural Convention, were then discussed, Messrs. Kennedy, Jones, King of New York, Cowley, Waters, Peck and French taking part in the debate. They were finally carried, and subsequently the following resolution was added :

Resolved, That the first Friday after the next Annual Meeting of this Society be fixed for the assembling of an Agricultural Convention, and that the press be requested to urge the importance of the subject.

Mr. Poore offered a resolution for facilitating the preliminary organization of this proposed Convention, but, as many members feared that it might implicate the Society, he withdrew it, and no further action was taken.

Mr. Bradley of District of Columbia, presented a resolution passed by the managers of the Metropolitan Mechanics' Institute, inviting the Society to visit their Exhibition. Invitation accepted.

Mr. D. J. Brown presented an invitation to the Society to visit the Agricultural Rooms at the Patent Office under his supervision. The invitation was accepted.

The President read a letter from the Hon. Geo. P. Marsh, accepting an invitation to lecture in the evening before the Society.

Mr. Kimmel of Maryland presented the following resolution, which was unanimously adopted :

Resolved, That the thanks of the United States Agricultural Society are due, and are most gratefully tendered, to the "Venerable Sage of Arlington," the protégé of the immortal Father of his Country, for the beautiful life-drawn delineations of the "Farmer of Mount Vernon," in his lecture of last evening before the Society and the large audience. And that he be assured that his devotion to his vocation, and to the great cause of agriculture, are highly regarded by the farmers of our model republic.

On motion of Mr. Elwyn, the President was requested to obtain a copy of Mr. Custis's address, for publication in the next volume of the Transactions of this Society.

On motion of Mr. Cooke of Rhode Island, the Executive Committee were empowered to fill all vacancies in their own body, or in the other offices of the Society.

The President presented certified statements of large crops of oats, raised by E. M. Bradley of Ontario County, New York. Referred to Executive Committee.

Mr. Morton presented a paper on "Alderney Cattle." Mr. Calvert, without questioning the accuracy of the statements advanced, hoped that they would not be published unless accompanied by similar papers from those partial to other breeds of cattle. The whole subject was referred to the Executive Committee.

Mr. Kimmel presented a pamphlet written by Mr. Holcombe of Delaware, "on the Agricultural interests as affected by the Reciprocity Treaty," and requested its publication in the Transactions of the Society. Referred to Executive Committee.

Mr. Warder of Cincinnati exhibited over thirty different

varieties of Western apples, which he described with his wonted accuracy.

On motion of Mr. Waters of Massachusetts, the President appointed Messrs. Berckmans of New Jersey, Dyer of Connecticut, and Pierce of the District of Columbia, a Committee to examine and report upon the Western apples exhibited by Mr. Warder.

Mr. Custis exhibited a sample of "Monument Wheat," so called because it had been grown by Mr. Robert Dick, from a few grains found in the straw packed around Crawford's Statue of Washington.

Mr. Dick of Maryland, stated that he had thought highly of the wheat at first, but that he had found it too tender for the climate, and unworthy of general cultivation.

In the evening, the Hon. Geo. P. Marsh addressed the Society and the public in the Lecture Room of the Smithsonian Institute, on "the Rural Economy of Continental Europe."

The lecture was listened to with great interest, embodying, as it did, a great amount of original information, and its publication will constitute a valuable addition to agricultural literature.

Mr. Warder followed, with an interesting lecture on hedges, in his familiar and happy style.

THIRD DAY.

MARCH 2, 1855.

The Society met at 10 o'clock, and passed an hour in familiar conversation on agricultural subjects. Mr. Kimmel exhibited the surveyor's compass used by Gen. Washington in the surveys of his estate at Mount Vernon, when he divided it into fields of convenient size for a rotation of crops, and which was by him presented to Samuel Duval, the County Surveyor of Frederick county, Maryland, and the agent for the sale of the confiscated lands in the county, after the Revolution; upon whose death, and the consequent sale of his

personal property in 1810, it was purchased by William Hobbs, Esq., for his son, William Hobbs, of Frederick county ; by whom it was sold to Capt. George Riner, from whom it passed into the hands of its present exhibitor, who holds it dear as a sacred relic of the immortal Father of his Country. It is a substantial looking instrument, made by David Rittenhouse, and hopes were expressed that it may soon be used in surveying the lands of a National Agricultural College.

Mr. Kimmel also read the following curious extract from the Maryland Gazette, of September 8, 1747, showing that "cattle shows" were established at Baltimore in that year.

"Whereas, There is a Fair appointed by act of Assembly, to be held in Baltimore Town on the first Thursday, Friday, and Saturday in October, yearly, the Commissioners of said town hereby give notice that whoever brings to the said Fair, on the first day thereof, the best steer, shall receive eight pounds current money for the same ; also, a bounty of forty shillings over and above the said eight pounds. The said steer, afterwards, on the same day, to be run for by any horse, mare, or gelding, not exceeding five years old, three heats, a quarter of a mile each heat, not conained to carry any certain weight. The winning horse to be entered to said steer, or to eight pounds in money, at the option of the owner.

"On Friday, the second day of said Fair, will be run for the sum of five pounds current money, any horse, mare, or gelding, the same distance, not confined to carry any certain weight. Also, a bounty of forty shillings will be given to any person that produces the best piece of yard-wide country-made white linen, the piece to contain twenty yards.

"On Saturday, the third day, a hat and ribbon will be cudgelled for ; a pair of pumps wrestled for ; and a white shift to be run for by negro girls.

"All persons are exempted from any arrests during the said Fair, and the day before and the day after, except in case of felony and breaches of the peace, according to the tenure of the above-mentioned act."

On motion of Mr. Waters of Massachusetts, it was unanimously

Resolved, That the thanks of the Society be proffered to the Hon. Geo. P. Marsh, for the very beautifully written and exceedingly interesting lecture, pronounced before the Society last evening, and that Professor Henry be requested to wait on him and request a copy for publication.

On motion of Mr. Calvert of Maryland, it was unanimously

Resolved, That the thanks of this Society be presented to Dr. Warder, for his interesting lecture on the cultivation of hedges, and that he be requested to present a copy of the same for publication in the transactions of the Society.

Mr. Wager, from the Committee appointed to examine the Treasurer's accounts, submitted the following Report, which was accepted, and ordered to be printed in the Transactions of the Society.

REPORT ON THE FUNDS OF THE SOCIETY.

To the President of the U. S. Agricultural Society.

The committee appointed to examine the Treasurer's accounts, of which I have the honor to be chairman, beg leave to respectfully report: That they have examined the accounts and vouchers of the Treasurer, and found that the amount in his hands at our last annual meeting was \$2,114.52. The subsequent receipts and expenses leave the balance in bank at date, \$2,149.13, and that our Treasurer has furnished satisfactory vouchers for all moneys paid out by him. The funds of the Society were some time since deposited in the Banking House of Selden, Withers & Co., by direction of the Executive Committee, and your Committee are satisfied that our Treasurer has in all respects discharged his trust with fidelity.

Your committee are assured that the funds of the Society will all be paid in a short time by the aforesaid bank. But our Treasurer, with great magnanimity, proposes to place in the hands of a proper committee, \$3,000 of the first mortgage bonds of the "Alison Manufacturing Company" as collateral security for the amount due the Society by Selden, Withers, & Co., which security your committee believe to be good; and in justice to our Treasurer, feel bound to state that, in their opinion, Col. Selden has in all respects discharged his trust with honor to himself and fidelity to the Society. And whereas Col. Selden has thought proper to tender his resignation as Treasurer of our Society, your Committee recommend its acceptance, tendering him the thanks of the Society for his gratuitous services.

All of which is respectfully submitted.

HENRY WAGER, CHAIRMAN.

Mr. Dyer, from the Committee appointed to test the apples offered by Mr. Warder on behalf of the "Cincinnati Horticultural Society," made the following;—

REPORT ON WESTERN FRUIT.

The committee respectfully report, that from frost and other accidents of transport as well as from the lateness of the season, the specimens offered

were not of a character to do justice to the varieties. They unanimously agree that the relative character of the apples is as follows.

First. Rawle's Janet, Newtown Pippin, Ortley, Northern Spy, Yellow Bellefleur, Rambo, Esopus Spitzenberg, Buchanan's Seedling.

Second. Smith's Cider, Wine Sap, Jersey Black, White or Titus Pippin, Canadian Reinette, Old Nonesuch.

Third. Willowleaf, Rock or Hoop apple, Gilpin, Lansinburg, Virginia Greening, Lacquer, White Winter Pearmain, Pennock, Small Black.

HENRY A. DYER.

JOSHUA PEIRCE.

The Society, at 12 o'clock, visited the Exhibition in the large lower hall of the Smithsonian Institution. On their return to the East-room, and after the President had taken the chair, Mr. King of New York offered the following resolution, which was unanimously passed :

Resolved, That the thanks of this Society be presented to the officers of the Metropolitan Mechanics Institute, for their polite invitation to attend their Exhibition, which we have visited and examined with great pleasure.

Judge Mason, Commissioner of Patents, entered the room, and was invited by the President to take a seat upon the platform.

The following motion, offered by Mr. Kimmel, was discussed by several gentlemen, and referred to the Executive Committee.

Resolved, That the Commissioners to the Paris Industrial Exhibition be also the Representatives of the United States Agricultural Society to the Royal Agricultural Society of Great Britain, and to all others in Europe during the year 1855 ; and that the proper officers of this Society prepare their testimonials.

Mr. Holcombe of Delaware offered the following resolutions, which were debated and adopted :

Resolved, That the National Agricultural Society recognizes, with just satisfaction, the zealous efforts of the press throughout the United States, to diffuse useful information upon agricultural subjects.

Resolved, That in the opinion of this Society, the time has arrived when, if our agricultural press, that has so well and ably advocated agriculture,

were to take a more extended range of discussion, following our farmers from their fields into their markets, and giving some consideration to agricultural political economy, it would be likely to meet the approbation of their patrons. All of which, however, is respectfully submitted to the sound discretion and judgment of the conductors of the agricultural press.

Mr. Tayloe of the District of Columbia expressed his satisfaction at seeing agriculturists alive to their own interests. That this predominant occupation had been neglected by politicians he would not deny, but he was happy to state that there were exceptions. They should receive due credit for their praiseworthy conduct, and he offered the following resolution:

Resolved, That the thanks of the United States Agricultural Society be presented to the Hon. Mr. Morton of the United States Senate, for his able report upon the establishment of an Agricultural Department.

Mr. H. K. Burgwyn of North Carolina, and Mr. King of New York coincided with Mr. Tayloe, and the resolution was adopted.

The President, in behalf of the Executive Committee to which a "remedy for the curculio" had been referred at the last annual meeting, asked for further time before reporting. Granted.

The President, from the same committee, to whom was referred, at the last annual meeting, the communication of Mr. Joel Hitchcock on the subject of the potato disease, reported that experiments had been tried according to Mr. Hitchcock's directions, which resulted favorably, and that the Committee had recommended to him to give his method publicity.

Mr. Stearns of Massachusetts gave an interesting account of his experience in conveying water through wooden pipes, which he prefers to iron or lead.

On motion of Mr. Poore, it was unanimously

Resolved, That the thanks of the United States Agricultural Society be presented to the Regents of the Smithsonian Institution, for the facilities

afforded for holding this session. The utility of this Institution, in thus serving as a nucleus around which all useful associations can rally, at the capital of our Republic, is exemplified by the present joint occupation of the spacious halls.

Mr. Warder made some brief remarks upon the American grape as compared with the European. Papers upon this subject, and upon the culture of flax, were requested for publication in the Society's Transactions.

On motion of Mr. King, of New York, it was unanimously

Resolved, That the Thanks of this Society be tendered to Hon. Marshall P. Wilder, President of the Society, for the ability, the impartiality, and thy courtesy with which he has presided over its deliberations during its present session.

Resolved, That the thanks of this Society be tendered to W. S. King, Esq., for his services as Secretary here and elsewhere, as well as for his editorial supervision of the Society's Transactions.

On motion of Mr. Calvert, the thanks of the Society were tendered to Mr. Poore, of the Executive Committee, for the preparation of a record of the proceedings.

And the Society, after an interchange of congratulations upon the full attendance, lectures and discussions of the session, adjourned *sine die*.

EXTRACTS FROM THE
PROCEEDINGS OF THE EXECUTIVE COMMITTEE.

Resolved, That an abstract of the proceedings of the Third Annual Session of the Society be published immediately, for distribution among the members, and the Agricultural press—reserving the “papers” referred to the Executive Committee until the publication of Part II. of the Transactions.

Resolved, That Part II. of the Transactions for the present year be issued in July next, containing the programme of the Society’s Fall Exhibitions, with the time and place of holding State and County Exhibitions throughout the Union, so far as it may be practicable to ascertain them. Societies are respectfully requested to furnish this information, together with a list of their officers for the present year.

Resolved, That no exhibition be held by this Society within the limits of any State, where a State Board of Agriculture, or a State Agricultural Society, holding Exhibitions, is in existence, without first obtaining the assent and approval of such Board, or the Executive Committee of such Society.

Resolved, That the applications which have already been made, or which may be made the present year, for the holding of National Exhibitions in the various States, be referred to the President to make such arrangements, as to time and place, and other matters, as he may deem best for the interest of the Society.

DIPLOMAS.

A large and beautiful Diploma has been prepared, and is now ready for distribution. Annual members will please take notice that the terms of Life Membership have been reduced. A remittance of Ten Dollars to the Treasurer, or its payment to any authorized Agent of the Society, will entitle any one to the privileges of Life Membership, and to one of the Diplomas, itself an elegant allegorical specimen of art.

THIRD EXHIBITION
OF THE
UNITED STATES AGRICULTURAL SOCIETY,

HELD AT BOSTON,

October 23d, 24th, 25th, 26th and 27th, 1855.

At a meeting of the Executive Committee, held in Washington, D. C., on the 27th day of January, 1855, the President was authorized "to make such arrangements, as to time and place, and other matters," for the holding of an Exhibition of the Society, "as he should deem best for its interests."

For various sufficient reasons, the city of Boston was selected as the locality for the exhibition; and, early in the month of August, the following circular was issued:

UNITED STATES AGRICULTURAL SOCIETY.

Office 292 Washington Street, Boston.

A Grand National Exhibition of Stock—Cattle, Horses, Sheep and Swine—open to competition to all the States of the Union, and to the British Provinces, will be held by the United States Agricultural Society, in the city of Boston, on Tuesday, Wednesday, Thursday, Friday and Saturday, October 23d, 24th, 25th, 26th and 27th.

The city of Boston has generously granted to the Society, for present use, a fine public square of fifty acres, at the South End, bounded by Harrison Avenue, Chester, Albany and Brookline Streets. Twenty Thousand Dollars have been guaranteed by patriotic gentlemen of Boston and its vicinity to defray the expenses; and Ten Thousand Dollars will be offered in Premiums, in the various departments.

The previous Exhibitions of this Society—at Springfield, Mass., in 1853, and at Springfield, Ohio, in 1854—were eminently successful, and no efforts will be spared to make the present Show, (combining, as it does, the Four Great Departments of Farming Stock,) superior to its predecessors.

The Premium List, with the Rules of the Exhibition, and all required information, will be furnished, by addressing the Secretary, at his office, No. 292 Washington street, Boston.

It is earnestly hoped that all breeders, and owners of Fine Stock, will feel it to be a duty, as it certainly is for their interest, to contribute to the Show.

The list of Entries, Exhibitors, and award of Premiums, and all the proceedings of the Exhibition, will be published in the Journal of the Society, for 1855. Annual Members of the Society, who desire to receive the Journal, should remember to renew their subscriptions.

MARSHALL P. WILDER, President.

WILLIAM S. KING, Secretary.

Boston, August, 1855.

The Executive Committee, at a special meeting, held in Boston, selected the following gentlemen to assist in the field management of the Exhibition :

CHIEF MARSHAL.

GEN. JOHN S. TYLER, BOSTON.

MARSHALS.

| | |
|-----------------------------------|----------------------------------|
| Col. FRED. W. LINCOLN, Canton. | Capt. JONAS H. FRENCH, Boston. |
| Col. THOMAS ADAMS, Roxbury, | OTIS KIMBALL, Esq., Boston. |
| Col. GEO. DWIGHT, Springfield. | Maj. P. E. KINGMAN, Newton. |
| Col. JOHN C. BOYD, Roxbury. | Col. T. E. CHICKERING, Boston. |
| Maj. L. W. TAPPAN, Boston. | CHAS. F. LOUGEE, Esq., Boston. |
| Col. J. L. DIMMOCK, Watertown. | GEORGE H. FOLGER, Esq., Boston. |
| Maj. C. H. APPLETON, Boston. | E. WEBSTER PIKE, Esq., Boston. |
| Col. J. M. THOMPSON, Springfield. | Col. A. O. BREWSTER, Boston. |
| Maj. M. G. COBB, Dorchester. | T. M. WALKER, Esq., Springfield. |
| Col. N. A. THOMPSON, Boston. | ELISHA G. TUCKER, Esq., Boston. |
| Maj. HENRY C. BROOKS, Boston. | Col. FRANCIS BOYD, Boston. |
| IVES G. BATES, Esq., Boston. | JOHN ADAMS, Esq., Boston. |

COMMITTEE OF RECEPTION.

Hon. J. V. C. SMITH, Mayor of Boston; Lieut. Gov. SIMON BROWN, of Concord; GEO. M. ATWATER, Esq., of Springfield; Gen. B. F. EDMANDS, of Boston; CHARLES L. FLINT, Esq., Secretary of the Massachusetts Board of Agriculture, Boston; and GEO. BLISS, Jr. Esq., of Springfield.

BOARD OF SUPERINTENDENTS.

MOSES NEWELL, W. Newbury, Mass., } Supt's of Cattle Department.
 RICHARD P. WATERS, Salem, " }

WESLEY P. BALCH, Boston, Mass., Sup't of Horse Department.

CHARLES MORRELL, Ludlowville, N. Y., Sup't of Sheep Department.

EBEN WIGHT, Dedham, Mass., Sup't of Swine Department.

WM. H. GARDINER, Boston, Mass., Sup't of Seats.

AMASA WALES, Dorchester, Mass., Sup't of Grounds and Forage.

JOHN R. HALL, Boston, Mass., Architect.

Dr. GEO. H. DADD, Boston, Mass., Veterinary Surgeon.

ASSISTANT SECRETARIES.

HENRY A. DYER, BROOKLYN, CONNECTICUT.

EDWARD L. KEYES, DEDHAM, MASS.

The Regulations and Premium List, which follow, were also agreed upon and adopted.

REGULATIONS
OF THE
THIRD NATIONAL EXHIBITION
OF THE
United States Agricultural Society,
AT BOSTON,
OCTOBER 23d, 24th, 25th, 26th, and 27th, 1855.

GENERAL ARRANGEMENTS.

THE SHOW GROUNDS are located on Harrison Avenue, (which runs parallel to Washington Street,) about one mile from the head of State Street. Omnibuses, furnished with flags for the occasion, will convey passengers, at a charge of six cents.

The gates will be opened for the admission of the public, on Tuesday, Wednesday, Thursday, Friday, and Saturday, the 23d, 24th, 25th, 26th, and 27th, from 8 A. M. until sundown, of each day.

The Marshals and the Superintendents of the various classes will meet at the President's Marquee, at 8 o'clock A. M., on Tuesday, 23d, to perfect arrangements for the day.

SUPERINTENDENTS.

The Superintendents are required to take particular charge of all animals in their respective departments, and see that they are arranged, as near as may be, in numerical order, for easy approach and examination.

A Superintendent will accompany each set of Judges, and point out the different animals to be exhibited. They will also see that the animals are provided with halters, and suitably arranged for the exhibition of each day.

THE JUDGES.

The Judges are requested to report themselves at the business office of the Secretary, on the north-west corner of the grounds, (corner of Harrison Avenue and Brookline Streets,) where cards of admission, etc., etc., will be furnished to them.

Vacancies will be filled by the Executive Committee, at 1 o'clock, at the Committee Rooms, on Tuesday, when the books of entries will be delivered.

The Judges, Marshals, Superintendents, and Invited Guests, will dine with the Officers of the Society, daily, at 1 o'clock, at the Committee Room building, on the north-east corner of the grounds.

The Judges will, at their discretion, appoint a time for *the examination* of animals in their stalls, of which due notice will be given, through the Superintendents, to exhibitors; the *exhibition*, in the cattle rings or on the track, will take place punctually at the hours hereinafter specified.

The Judges will report not only the animals entitled to premiums, but also those next in merit, in each class, to meet the contingency of any objection which may arise to the awards, and also that they may receive suitable commendation. Any animal which, in the opinion of the Judges, deserves a special commendation, will be so reported to the Executive Committee.

Discretionary Premiums may be awarded with the previous permission of the Executive Committee, expressed through the Secretary.

Regard will be had to the purity of blood, as established by pedigree, symmetry, size, and general characteristics of the several breeds; and the Judges will make proper allowance for age, feeding, and other circumstances. *They are*

expressly required not to give encouragement to over-fed animals in the breeding classes.

If not satisfied as to the regularity of the entries in their respective classes, they will apply to the Secretary for information ; and, should there still be any doubt, after examination, or, if any animal is of such a character as not to be entitled to exhibition in competition, they will report the facts to the Secretary, for the consideration of the Executive Committee, that such course may be adopted as the case may require.

No person who is an exhibitor can act as a Judge on the class in which he exhibits. And, during the examinations of the Judges, if any person interferes with them, by letter or otherwise, he will be excluded from the competition. But exhibitors, when requested, are expected to make verbal or written statements concerning their stock.

As one great object of the Society is to collect valuable information upon the subject-matter of the exhibition, the several committees are requested to gather all the information possible from exhibitors in their classes, and to make their reports *as full as time and circumstances will permit*.

When there is but one exhibitor, although he may show several animals in the same class and order, only one premium will be awarded ; that to be first or otherwise, as the merits of the animal may be adjudged ; and when the animal is not deemed worthy of a premium, the judges will, at their discretion, withhold it. An animal entered for exhibition in one class cannot compete for premium in any other, but cattle in other classes are not prohibited from competing for the HERD PREMIUM.

The Reports of the Judges, (except on the trial of trotting horses, on Friday and Saturday mornings,) must be handed to the Secretary on Thursday afternoon, that Diplomas may be prepared, in season, for the successful competitors.

The awards will be announced at the Banquet, on Friday afternoon ; and Judges are requested not to declare their decisions previously, except on the trials of speed.

The Reports of Judges will be published in the Journal of the United States Agricultural Society, which is furnished to all members of the Society, without other expense than postage.

EXHIBITORS.

Entries of stock may be made at the office of the Secretary, on the grounds, until 9 o'clock, A. M., on Tuesday, when the books will be closed.

The exhibition of stock in the rings and on the track will take place *precisely at the times specified* in the subjoined arrangement; and animals not prepared at the proper time and place, may, at the discretion of the Judges, be ruled out of competition.

Stock will be marked with cards furnished by the Secretary, designating the class and number of entry; and during the exhibition, stock must be placed entirely under the management of the Officers of the Society.

Authentic pedigrees of BLOOD STOCK of all kinds will be required.

Arrangements will be made for the trial of draught horses and oxen, by testing their strength, docility, etc., at a load.

A half-mile track, (measuring from the middle of the track,) for the trial of horses, has been prepared, and commodious seats for spectators are furnished at a small charge.

No horse will be allowed a premium unless he be sound.

For any exhibitors who may wish to dispose of their stock, the services of an auctioneer have been secured, and the use of the grounds given for Saturday, at 2 o'clock, P. M., and the Secretary will give notice of such sale if entry is made with him to that effect.

The Executive Committee will take every possible precaution for the safe keeping of Stock on Exhibition, after its arrival and arrangement upon the grounds, but will not be responsible for any damage that may occur. They desire exhibitors to give personal attention to their animals, and, at the close of the Fair, to attend to their removal.

Exhibitors must see to the delivery of their animals upon the Show Grounds ; and the Society cannot, in any case, make provision for their transportation, or be subjected to any expense therefor, either in their delivery at or return from the grounds ; but all the expenses connected therewith must, as heretofore, be provided for by the exhibitors.

For the convenience of exhibitors, stalls and covering will be provided for the Stock ; and forage, consisting of hay and straw (for litter), with water, will be supplied without charge ; so that animals, on their arrival, may be driven to the Show Grounds, and need not be removed till the Exhibition is closed. Grain will be furnished for Swine. Grain for other Stock will also be upon the Ground, and will be furnished to those who desire it at the market price.

RAILROAD ARRANGEMENT.

Arrangements have been effected for the *return* of such stock as may be exhibited, *free of expense*, over the following railroads: To New York by all the routes. Over the New York and Erie. To Chicago, via Albany, Suspension Bridge and Detroit. Also over the Connecticut River ; Fitchburg ; Vermont and Massachusetts ; Cheshire ; Rutland and Burlington ; Boston and Lowell ; Nashua and Lowell ; Concord ; Boston, Concord and Montreal ; Northern ; Passumpsic ; Vermont Central ; Vermont and Canada ; Ogdensburg ; Eastern ; and Boston and Maine. Similar arrangements will probably be made over all the other New England roads.

PRICES OF ADMISSION.

The charges for admission to the grounds, will be as follows:

| | | | | | |
|--|---|---|---|---|--------|
| Single admissions to the grounds, | . | . | . | . | \$0.25 |
| No Season Tickets will be issued. | | | | | |
| Members of the Society, | . | . | . | . | Free. |
| Admittance to the stand an extra charge of | . | . | . | . | 25 |
| Tickets to the Banquet, | . | . | . | . | 1.00 |
| Fees for Annual Membership, | . | . | . | . | 2.00 |
| do. Life do. | . | . | . | . | 10.00 |

☞ VISITORS cannot be admitted to the grounds in carriages or other vehicles.

ENTRANCE FEES FOR STOCK.

The Entrance Fees for Stock, (except Trotting Horses,) will be :

| | | | |
|---|---|---|---------|
| For competition for premiums of \$200, and over, | . | . | \$10.00 |
| “ “ “ \$100, and under \$200, | . | . | 5.00 |
| “ “ “ under \$100, | . | . | 3.00 |
| “ “ “ for Sheep and Swine, | . | . | 1.50 |
| Trotting Horses, competing for premiums of \$200, | . | . | 20.00 |
| “ “ “ “ \$300, | . | . | 30.00 |

PREMIUMS.

Premiums will be paid in silver plate or money, at the option of successful competitors, who must become members of the Society ; and the beautiful Diploma of the Society will be presented to every Exhibitor to whom a Premium is awarded.

Premiums will not be paid on animals removed from the exhibition, unless such removal has the special approval of the Executive Committee ; and premiums not claimed within thirty days after the award, will be considered as forfeited.

The Treasurer will pay premiums at the business office, on the ground, during the last day, and at the office of the Society, No. 292 Washington street, during the week following ; or will forward any premium not so paid, in such manner as the person entitled to the same may direct.

The fees of Subscription Members of the Society, are two dollars a year. The payment of ten dollars constitutes a Life Member.

ONE THOUSAND DOLLARS have been set apart by the Executive Committee, to be awarded in Discretionary Premiums, should objects of *special interest*, not provided for in any of the classes, be presented.

GUESTS.

The following-named gentlemen constitute the Committee for the Reception of Guests : Hon. J. V. C. SMITH, Mayor of Boston ; His Honor, Lieut. Gov. BROWN ; Maj. Gen. B. F. EDMANDS ; GEO. M. ATWATER, Esq., of Springfield ; CHAS. L. FLINT, Esq., Secretary of the Board of Agriculture.

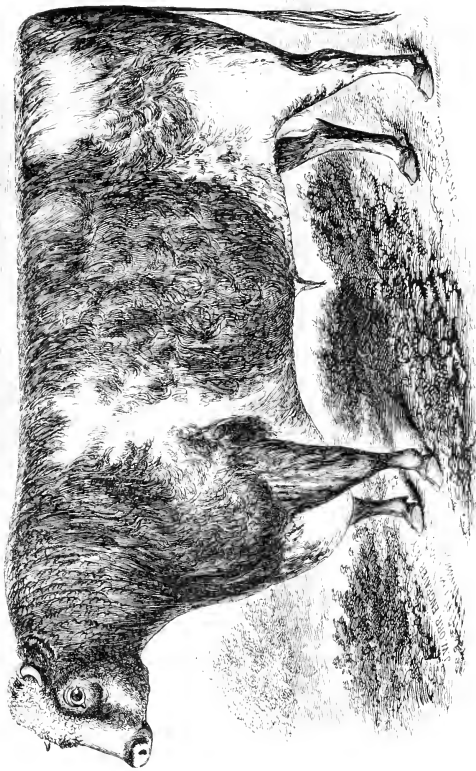
The Invited Guests of the Society will please report themselves, on their arrival, at the President's Marquee; where the Committee of Reception will be in session, and will extend to them every attention.

For the greater convenience of editors and reporters for the press, a tent has been specially set apart for their use, and every facility will be afforded them to obtain and transmit information. A Committee of Reception, from the Boston press, will receive their brethren from abroad, on the field, and further the purposes of their coming. They are requested to announce themselves on arrival, and to present their names or credentials at the Secretary's office, at the north-west corner of the grounds, on the corner of Harrison Avenue and Brookline Street, when they will be furnished with cards of admission, etc., etc.

REFRESHMENTS.

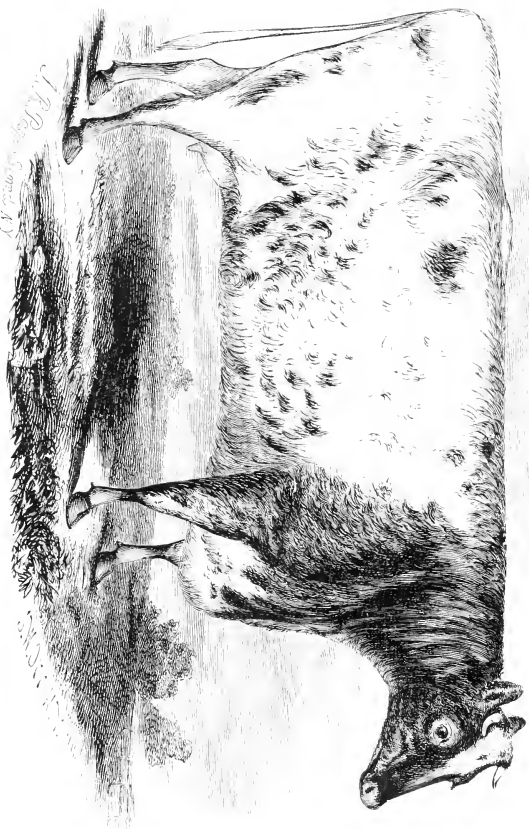
Refreshments for visitors, will be furnished on the field, at a moderate charge, at the southern extremity of the field.

A SALOON FOR LADIES is arranged, with a withdrawing room for their accommodation, with female attendants. Ices, Oysters, Coffee, etc., etc., will be supplied by a prominent confectioner.



ROMEO (13619).

Roan Short-horn Bull, five years old; the joint property of L. G. Morris and N. J. Becar; winner of the 1st Prize at the Fair of the United States Agricultural Society, held at Boston, in October, 1855; he also gained the 1st Prize at the New York State Fair, in 1853, and 1st Prize at the Show of the American Institute the same year. He was bred by the Marquis of Exeter, Burghley House, Stamford; got by Columbus (10063); dam, Juliet, by Fairfax Royal (6957); g. d. Miranda, by Bellerophon (3119); gr. g. d. Perfection, by Sillery (3131); gr. gr. g. d. Matilda, by Champagne (3317); gr. gr. g. d. Cowslip, by Favorite (255); gr. gr. gr. g. d. by Gibson's Sampson.



IRIS.

Roman Short-horn Cow, five years old; the joint property of L. G. Morris and N. J. Beear; winner of the 1st Prize at the Fair of the United States Agricultural Society, held at Boston, in October, 1856. She was bred by James C. G. Duff, Esq., Aberdeenshire, and gained the 1st Prize at Banff, in 1851, and 1st Prize at Aberdeen, in 1852. She was calved June 5th, 1850. Sire, Lomus (170) (1838); dam, Ladye Laver, by Lord Warden (7107); gr. d. Bellina, by Rannentus (2470); gr. d. Sylla, by Sir Walter (2827); gr. gr. d. by Holespur (1117); gr. gr. gr. d. by Coxcomb (92); gr. gr. gr. d. by Midus (455); gr. gr. gr. gr. d. by Sir R. (155); gr. gr. gr. gr. d. by Mr. R. Colling's Son of Favorite (352); — by Son of Favorite (352); — by Hubble (313).

SCHEDULE OF PREMIUMS.

PREMIUMS will be paid in silver plate or money, at the option of successful competitors, who must become members of the Society ; and the beautiful Diploma of the Society will be presented to every Exhibitor to whom a Premium is awarded.

CLASS I. CATTLE.

No. 1.—THE HERD PREMIUMS.

For Best Durham Bull and four Cows, or Heifers, belonging to any one person, - - - \$100

Next Best, - - - Diploma.

Board of Judges—The Committees on Durham Bulls and Cows.

For best Devon Bull and four Cows, or Heifers, belonging to any one person, - - - \$100

Next best, - - - Diploma.

Board of Judges—The Committees on Devon Bulls and Cows.

For best Ayrshire Bull and four Cows, or Heifers, belonging to any one person, - - - \$100

Next best, - - - Diploma.

Board of Judges—The Committee on Devon Bulls and Cows.

For Best Hereford Bull and four Cows, or Heifers, belonging to any one person, - - - \$100

Next best, - - - Diploma.

Board of Judges—The Committee on Hereford Bulls and Cows.

For best Jersey Bull and four Cows, or Heifers, belonging to any one person, - - - \$100

Next best, - - - Diploma.

Board of Judges—The Committee on Jersey Bulls and Cows.

For best Bull and four Cows, or Heifers, (not full blood,) belonging to any one person, - - - \$100

Next Best, - - - Diploma.

Board of Judges—The Committees on Grade, and Native Cows.

NO. 2.—DURHAM BULLS.

Board of Judges—E. P. Prentice, Albany ; Ralph Wade, Jr., Coburg, C. W. ; Thomas H. Rutherford, Eastchester, N. Y. ; Samuel Jaques, Somerville, Mass. ; Samuel W. Bartlett, E. Windsor, Conn.

Three years old and upwards, 1st premium, \$100

do. do. 2d do. 50

do. do. 3d do. Diploma.

Two years old and under three years, 1st premium, \$50

do. do. 2d do. 25

do. do. 3d do. Diploma.

One year old and under two years, 1st premium, \$25

do. do. 2d do. 10

do. do. 3d do. Diploma.

DURHAM COWS AND HEIFERS.

Board of Judges—Jonathan Thorne, N. Y. ; David Christie, C. W. ; Arthur Watts, Chillicothe, Ohio ; Henry Whitney, New Haven, Conn. ; William F. Arney, Bloomington, Illinois.

Three years old and upwards, 1st premium, \$100

do. do. 2d do. 50

do. do. 3d do. Diploma.

Two years old and under three years, 1st premium, \$50

do. do. 2d do. 25

do. do. 3d do. Diploma.

| | | |
|-----------------------------------|--------------|----------|
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 3.—DEVON BULLS.

Board of Judges—Horace M. Sessions, South Wilbraham, Mass.; Isaac Newton, Philadelphia, Penn.; Isaac Askew, Windsor, C. W.; James Mills, Girard, Penn.

| | | |
|--------------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under three years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

DEVON COWS AND HEIFERS.

Board of Judges—John T. Andrew, Cornwall, Conn.; William H. Sotham, Owego, N. Y.; Paoli Lathrop, South Hadley Falls; Lewis H. Delano, Hardwick, Mass.; John D. Lang, N. Vassalboro', Me.

| | | |
|--------------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under three years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 4—AYRSHIRE BULLS.

Board of Judges—E. P. Prentice, Albany, N. Y.; Lemuel Hurlburt, Winchester, Conn.; David Lee, Barre, Mass.

| | | |
|--------------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under three years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

AYRSHIRE COWS AND HEIFERS.

Board of Judges—Same as on Bulls.

| | | |
|--------------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under three years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 5.—HEREFORD BULLS.

Board of Judges—William Evans, Montreal, Canada; Harvey Dodge, Sutton, Mass.; William G. Lewis, Framingham, Mass.

| | | |
|--------------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under three years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

HEREFORD COWS AND HEIFERS.

Board of Judges—Same as on Bulls.

| | | |
|--------------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under three years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 6.—JERSEY BULLS.

Board of Judges—John A. Taintor, Hartford, Conn.; A. L. Bingham, Williston, Vt.; William S. Lincoln, Worcester, Mass.; M. C. Remington, Sennet, N. Y.; Geo. H. French, Andover, Mass.

| | | |
|--------------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under three years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

JERSEY COWS AND HEIFERS.

Board of Judges—William C. Wilson, Maryland; Charles Chapin, Brattleboro', Vt.; Henry W. Clapp, Greenfield, Mass.; W. W. Billings, New London, Conn.

| | | |
|------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |

| | | |
|--------------------------------------|--------------|----------|
| Two years old and under three years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 7.—GRADE COWS.

Board of Judges—Seth Sprague, Boston, Mass.; John Jones, Middleton, Del.; William Buckminster, Framingham, Mass.; John Plumer, Goffstown, N. H.; John Whittlesey, New Britain, Conn.

| | | |
|-----------------------------------|--------------|----------|
| Three years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under 3 years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 8.—NATIVE COWS.

Board of Judges—John W. Proctor, Danvers, Mass.; S. P. Benson, Wint'rop, Me.; William Parkhurst, Petersham, Mass.; Josiah H. Stickney, Watertown, Mass.

| | | |
|-----------------------------------|--------------|----------|
| Three years old and upwards | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Two years old and under 3 years, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | Diploma. |
| One year old and under two years, | 1st premium, | \$25 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 9.—MILCH COWS.

Board of Judges—John Brooks, Princeton, Mass.; W. R. Booth, Gates, N. Y.; John Porter, Hartford, Vt.

| | | |
|---------------------------------|--------------|-------|
| Five years old and over, | 1st premium, | \$100 |
| do. do. | 2d do. | 75 |
| do. do. | 3d do. | 50 |
| do. do. | 4th do. | 25 |
| Three years old and under five, | 1st premium, | \$75 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | 25 |
| do. do. | 4th do. | 15 |

No. 10.—WORKING OXEN.

Board of Judges—Aaron D. Weld, West Roxbury, Mass.; J. R. Lawton, G. Barrington, Mass.; John Dean, Dedham, Mass.; J. Munson Hill, Wallingford, N. H.; James W. Hill, Chemung, Ill.; J. L. Cilley, Nottingham, N. H.; D. Adams, Newbury, Mass.

| | | |
|-----------------------------|--------------|-------|
| Four years old and upwards, | 1st premium, | \$100 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | 25 |

No. 11.—STEERS.

Board of Judges—John Preston, New Ipswich, N. H.; E. Sheldon, New York; H. N. Hunt, Readfield, Me.

| | | |
|-------------------------------|--------------|------|
| Two years old and under four, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | 15 |

No. 12.—FAT CATTLE.

Board of Judges—Jas. Wadsworth, Geneva, N. Y.; J. N. Francis, Providence, R. I.; Thomas Devoe, N. Y.

| | | |
|--------------|--------------|------|
| Fat Bullock, | 1st premium, | \$75 |
| do. | 2d do. | 50 |
| do. | 3d do. | 25 |
| Fat Cow, | 1st premium, | \$50 |
| do. | 2d do. | 25 |
| do. | 3d do. | 15 |

CLASS II. HORSES.

No. 13.—THOROUGH-BRED STALLIONS AND MARES.

Board of Judges.—John A. King, Jamaica, N. Y.; Robert Patterson, Philadelphia, Penn.; George H. Dadd, Boston, Mass.; Wm. T. McCoun, N. Y.; Chas. M. Wood, Boston.

| | | |
|------------------------------------|--------------|----------|
| Stallions 4 years old and upwards, | 1st premium, | \$200 |
| do. do. | 2d do. | 100 |
| do. do. | 3d do. | 50 |
| do. do. | 4th do. | Diploma. |
| Mares 4 years old and upwards, | 1st premium, | \$150 |
| do. do. | 2d do. | 100 |
| do. do. | 3d do. | 50 |
| do. do. | 4th do. | Diploma. |

No. 14.—STALLIONS AND MARES—(ROADSTERS.)

Board of Judges.—Tristram Burges, Providence, R. I.; James D. Ladd, Richmond, Va.; Thomas Parsons, Brookline, Mass.; William B. Bacon, Jamaica Plain, Mass.

| | | |
|------------------------------------|--------------|----------|
| Stallions 3 years old and upwards, | 1st premium, | \$200 |
| do. do. | 2d do. | 100 |
| do. do. | 3d do. | Diploma. |
| Mares three years old and upwards, | 1st premium, | \$150 |
| do. do. | 2d do. | 100 |
| do. do. | 3d do. | Diploma. |

Colts and Fillies of less age than the above, will be provided for by discretionary Premiums.

No 15.—STALLIONS FOR GENERAL USE.

Board of Judges.—Charles Cummings, Middlebury, Vt.; Dr. Levi Bartlett, Kingston, N. H.; Dr. Joseph N. Bates, Barre, Mass.; S. M. Burroughs, Medina, N. Y.

| | | |
|-----------------------------|--------------|----------|
| Four years old and upwards, | 1st premium, | \$200 |
| do. do. | 2d do. | 100 |
| do. do. | 3d do. | 50 |
| do. do. | 4th do. | Diploma. |

No. 16.—STALLIONS FOR GENERAL USE.

Board of Judges—John Wadleigh, Meredith, N. H. ; Jos. H. Billings, West Roxbury, Mass. ; Cornelius Delano, Northampton, Mass. ; Charles Sager, Portland, Me. ; Moses Lyman, Goshen, Conn. .

| | | |
|---------------------------------|--------------|----------|
| Three years old and under four, | 1st premium, | \$150 |
| do. do. | 2d do. | 75 |
| do. do. | 3d do. | 50 |
| do. do. | 4th do. | Diploma. |

No. 17.—STALLIONS FOR GENERAL USE.

Board of Judges—M. B. Wildes, Boston, Mass. ; S. Atwood, Franklin, Mass. ; James D. Ladd, Richmond, Ohio ; Charles W. Bathgate, Fordham, N. Y. ; Wm. Forbes, Sheffield, Conn.

| | | |
|--------------------------------|--------------|----------|
| Two years old and under three, | 1st premium, | \$50 |
| do. do. | 2d do. | 25 |
| do. do. | 3d do. | 15 |
| do. do. | 4th do. | Diploma. |
| One year old and under two, | 1st premium, | \$30 |
| do. do. | 2d do. | 20 |
| do. do. | 3d do. | Diploma. |

No. 18.—BREEDING MARES AND FILLIES.

Board of Judges—Daniel C. Bacon, Jamaica Plain, Mass. William H. Ladd, Richmond, O. ; Ezra Penniman, Braintree, Mass. ; Hiram Fuller, Hancock, N. H. ; John B. Clarke, Manchester, N. H.

| | | |
|--------------------------------|--------------|----------|
| Mares 4 years old and upwards, | 1st premium, | \$150 |
| do. do. | 2d do. | 100 |
| do. do. | 3d do. | 50 |
| do. do. | 4th do. | Diploma. |

| | | |
|--------------------------------------|--------------|----------|
| Fillies, three years old, | 1st premium, | \$75 |
| do. do. | 2d do. | 50 |
| do. do. | 3d do. | Diploma. |
| Fillies, two years old, | 1st premium, | \$50 |
| do. do. | 2d do. | 20 |
| do. do. | 3d do. | Diploma. |
| Fillies, one year old and under two, | 1st premium, | \$30 |
| do. do. | 2d do. | 20 |
| do. do. | 3d do. | Diploma. |

No. 19.—MATCHED HORSES.

Board of Judges—Joshua Seward, Boston, Mass.; Russell Jarvis, Claremont, N. H.; Zorister Bonney, Buffalo, N. Y.; Erastus Hubbard, Montpelier, Vt.; Horatio Sargeant, Springfield, Mass.

| | | |
|--------------|-----------|-------|
| 1st premium, | | \$100 |
| 2d do. | | 75 |
| 3d do. | | 50 |
| 4th do. | | 25 |

No. 20.—FANCY MATCHED HORSES.

Board of Judges—Francis Boyd, Boston, Mass. J. M. Butterfield, Utica, N. Y.; Portus Baxter, Derby, Vt.; Dr. E. D. Miller, Dorchester, Mass.; Moses Call, Newcastle, Me.; E. R. Jennings, Vt.

| | | |
|--------------|-----------|----------|
| 1st premium, | | \$75 |
| 2d do. | | 50 |
| 3d do. | | Diploma. |

No. 20½.—PONIES.

Board of Judges—Solon Robinson, New York city; John R. Blake, Boston, Mass.; Sheldon Leavitt, Gt. Barrington, Mass.

| | | |
|----------|-----------|------|
| Matched, | | \$25 |
| Single, | | 20 |

No. 21.—FAMILY HORSES.

Board of Judges—J. S. F. Huddleston, Cambridge, Mass ; Charles Jones, Moscow, Liv. Co., N. Y. ; R. R. L. Oakley, White Plains, N. Y. ; Henry Keyes, Newbury, Vt. ; Charles H. Childs, Providence, R. I.

| | | | | | | | |
|--------------|---|---|---|---|---|---|-------|
| 1st premium, | . | . | . | . | . | . | \$100 |
| 2d do. | . | . | . | . | . | . | 75 |
| 3d do. | . | . | . | . | . | . | 50 |
| 4th do. | . | . | . | . | . | . | 25 |

No. 22.—DRAFT HORSES.

Board of Judges.—Ezra Forristall, Boston, Mass. ; Ezra J. Glidden, Unity, N. H. ; N. B. Maine, N. Sparta, N. Y. ; Benjamin Thurston, Lowell, Mass ; Frederick Fletcher, Burlington, Vt.

| | | | |
|-----------------------|-----|--------------|----------|
| Matched Draft Horses, | | 1st premium, | \$100 |
| do. | do. | 2d do. | 50 |
| do. | do. | 3d do. | 25 |
| Single Draft Horses, | | 1st premium, | \$50 |
| do. | do. | 2d do. | 25 |
| do. | do. | 3d do. | Diploma. |

No. 23.—TROTting HORSES.

ON TUESDAY AFTERNOON, OCTOBER 23D.

A trial of speed will be held, open to all horses that have never trotted for money. Exhibitors to drive, and to be persons who have never driven for money. Mile heats, in harness, best three in five.

Board of Judges—David Leavitt, Great Barrington, Mass. ; Lewis B. Brown, New York city ; R. H. Libby, Bangor, Me. ; Anson Livingston, New York City ; Paran Stevens, Boston, Mass.

| | | | | | | | |
|--------------|---|---|---|---|---|---|-------|
| 1st premium, | . | . | . | . | . | . | \$200 |
| 2d “ | . | . | . | . | . | . | 100 |

ON THURSDAY, AFTERNOON, OCTOBER 25TH.

A trial of speed, open to all horses that have never trotted for money. Free to all drivers. Conditions same as on Tuesday.

Board of Judges—Lewis B. Brown, New York City; Wm B. Bacon, Boston, Mass.; Samuel Jarvis, Claremont, N. H.; Thomas Parsons, Boston, Mass.; J. R. Perle, Boston, Mass.

| | | | | | | | | |
|--------------|---|---|---|---|---|---|---|-------|
| 1st premium, | . | . | . | . | . | . | . | \$200 |
| 2d do. | . | . | . | . | . | . | . | 100 |

ON FRIDAY MORNING, OCTOBER 26TH,

A grand trial of speed, free for all trotting horses and all drivers.

Board of Judges—Wm. H. Gardiner, Providence, R. I.; Frederick Johnson, New York city; Albert Daily, Providence, R. I.; Edward H. White, New York, N. Y; George Bacon, Boston, Mass.

Other conditions same as on preceding days.

| | | | | | | | | |
|--------------|---|---|---|---|---|---|---|-------|
| 1st premium, | . | . | . | . | . | . | . | \$300 |
| 2d “ | . | . | . | . | . | . | . | 100 |

No. 24.—TROTting STALLIONS.

ON SATURDAY MORNING, OCTOBER 27TH, AT 10 O'CLOCK.

A grand trial of speed, open to all Stallions.

Board of Judges—Tristram Burgess, of Providence; Thos. Parsons, of Brookline; S. E. Sprague, of Boston.

| | |
|---|-------|
| For Stallions 6 years of age and over, 1st premium, | \$300 |
| do. do. 2d do. | 150 |

ON SATURDAY, AT 12 O'CLOCK, M.

Board of Judges—John B. Clarke, Manchester, N. H.; M. B. Mead, Providence, R. I.; L. B. Brown, N. Y.

| | |
|--|-------|
| For Stallions under 6 years of age, 1st premium, | \$200 |
| do. do. 2d do. | 100 |

CLASS III. SHEEP.

No. 25.—LONG-WOOLED BUCKS.

Board of Judges—Henry Olmstead, East Hartford, Conn.; George Hartshorn, New York; John Wilkinson, Great Barrington, Mass.

| | | | |
|-------------------------|-----|--------------|----------|
| Two years old and over, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| Under two years, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

LONG-WOOLED EWES—NOT LESS THAN FIVE IN NUMBER.

| | | | |
|-------------------------|-----|--------------|----------|
| Two years old and over, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| Under two years, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

No. 26.—MIDDLE-WOOLED BUCKS.

Board of Judges—John McDonald McIntyre, Albany, N. Y.; Solomon W. Jewett, Weybridge, Vt.; C. W. Bement, N. Y.

| | | | |
|-------------------------|-----|--------------|----------|
| Two years old and over, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| Under two years, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

MIDDLE-WOOLED EWES—NOT LESS THAN FIVE IN NUMBER.

| | | | |
|-------------------------|-----|--------------|----------|
| Two years old and over, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |

| | | | |
|------------------|-----|--------------|----------|
| Under two years, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

No. 27.—SAXON BUCKS.

Board of Judges—Nathan Cushing, Woodstock, Vt.; James M. Ellis, Syracuse, N. Y.; Hiram Brown, Manchester, N. Y.

| | | | |
|-------------------------|-----|--------------|----------|
| Two years old and over, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| Under two years, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

SAXON EWES.

| | | | |
|-------------------------|-----|--------------|----------|
| Two years old and over, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| Under two years, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

No. 28.—SILESIAN MERINOS.

Board of Judges—Jonathan Talcott, Rome, N. Y.; John Giles, Woodstock, Conn.; Obadiah Howland.

BUCKS.

| | | | |
|-------------------------|-----|--------------|----------|
| Two years old and over, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| Under two years, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

EWES—NOT LESS THAN FIVE IN NUMBER.

| | | |
|-------------------------|--------------|----------|
| Two years old and over, | 1st premium, | \$25 |
| do. do. | 2d do. | 15 |
| do. do. | 3d do. | Diploma. |
| Under two years, | 1st premium, | \$20 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 29.—FRENCH MERINOS.

Board of Judges—J. R. Lawton, Great Barrington, Mass. ; Edmund Hammond, Middleton, Vt. ; Leonard Clift, Croton Falls, N. Y.

BUCKS.

| | | |
|-------------------------|--------------|----------|
| Two years old and over, | 1st premium, | \$25 |
| do. do. | 2d do. | 15 |
| do. do. | 3d do. | Diploma. |
| Under two years, | 1st premium, | \$20 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

EWES—NOT LESS THAN FIVE IN NUMBER.

| | | |
|-------------------------|--------------|----------|
| Two years old and over, | 1st premium, | \$25 |
| do. do. | 2d do. | 15 |
| do. do. | 3d do. | Diploma. |
| Under two years, | 1st premium, | \$20 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 30.—SPANISH MERINOS.

Board of Judges—Same as for No. 27.

BUCKS.

| | | |
|-------------------------|--------------|----------|
| Two years old and over, | 1st premium, | \$25 |
| do. do. | 2d do. | 15 |
| do. do. | 3d do. | Diploma. |

| | | | |
|------------------|-----|--------------|----------|
| Under two years, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

EWES—NOT LESS THAN FIVE IN NUMBER.

| | | | |
|-------------------------|-----|--------------|----------|
| Two years old and over, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| Under two years. | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

CLASS IV. SWINE.

No. 31.—SUFFOLK BOARS.

Board of Judges—Charles B. Clark, Concord, Mass.; J. L. Lovering, Queechy Village, Vt.; F. H. North, New Britain, Conn.

| | | | |
|----------------------------|-----|--------------|----------|
| Two years old and upwards, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| One year old and upwards, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

SUFFOLK SOWS.

| | | | |
|----------------------------|-----|--------------|----------|
| Two years old and upwards, | | 1st premium, | \$25 |
| do. | do. | 2d do. | 15 |
| do. | do. | 3d do. | Diploma. |
| One year old and upwards, | | 1st premium, | \$20 |
| do. | do. | 2d do. | 10 |
| do. | do. | 3d do. | Diploma. |

No. 32.—ESSEX BOARS.

Board of Judges—Eben Wight, Dedham, Mass.; Isaac Newton, Philadelphia, Pa.; S. B. Halliday, Providence, R. I.

| | | |
|----------------------------|--------------|----------|
| Two years old and upwards, | 1st premium, | \$25 |
| do. do. | 2d do. | 15 |
| do. do. | 3d do. | Diploma. |
| One year old and upwards, | 1st premium, | \$20 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

ESSEX SOWS.

| | | |
|----------------------------|--------------|----------|
| Two years old and upwards, | 1st premium, | \$25 |
| do. do. | 2d do. | 15 |
| do. do. | 3d do. | Diploma. |
| One year old and upwards, | 1st premium, | \$20 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 33.—BOARS OF OTHER BREEDS.

Board of Judges—Allen W. Dodge, Hamilton, Mass.; Samuel Hill, Jr., Iowa; Charles B. Abbott, Maine; Charles Hall, Manton, R. I.

| | | |
|----------------------------|--------------|----------|
| Two years old and upwards, | 1st premium, | \$25 |
| do. do. | 2d do. | 15 |
| do. do. | 3d do. | Diploma. |
| One year old and upwards, | 1st premium, | \$20 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 34.—SOWS OF OTHER BREEDS.

Board of Judges—Same as for No. 33.

| | | |
|----------------------------|--------------|----------|
| Two years old and upwards, | 1st premium, | \$25 |
| do. do. | 2d do. | 15 |
| do. do. | 3d do. | Diploma. |

| | | |
|---------------------------|--------------|----------|
| One year old and upwards, | 1st premium, | \$20 |
| do. do. | 2d do. | 10 |
| do. do. | 3d do. | Diploma. |

No. 35.—PIGS.

NOT LESS THAN SIX IN A LITTER.

Board of Judges—Same as 33 and 34.

| | | |
|---------------------------|--------------|------|
| Ten months old and under, | 1st premium, | \$15 |
| do. do. | 2d do. | 10 |

LIST OF ENTRIES.

CLASS I. CATTLE.

DURHAMS.

No. 1. Milch Cow, weight 2630 pounds, owned by William Shepherd, Manchester, N. H.

No. 2. Bull, 5 years old, weight 2000 pounds, owned by Charles B. Demoud & Co., Westboro', Mass.

No. 3. Bull, 1 year old, owned by S. T. Tabor, Dover Plains, N. Y.

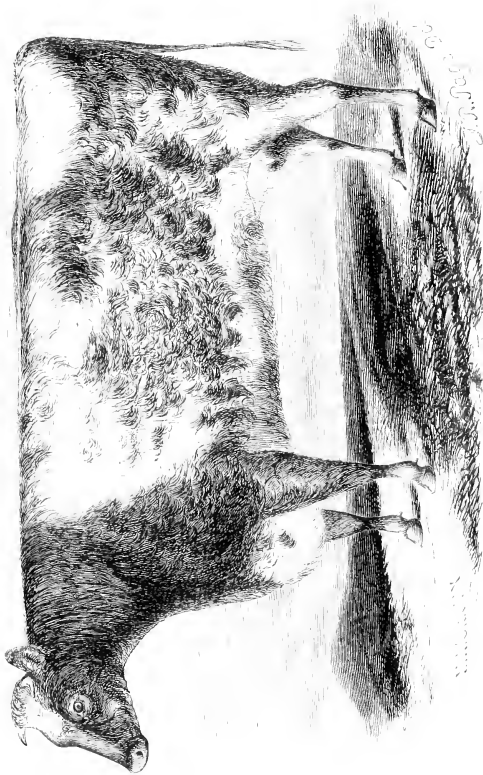
No. 4. Yoke of Steers, 3 years old, owned by Luther S. Butler, Lenox, Mass.

No. 5. Bull Calf, owned by Simeon Leland, New Rochelle, New York.

No. 6. Bull "Duke." 10 years old, owned by Calvin Sanford, Barre, Mass.

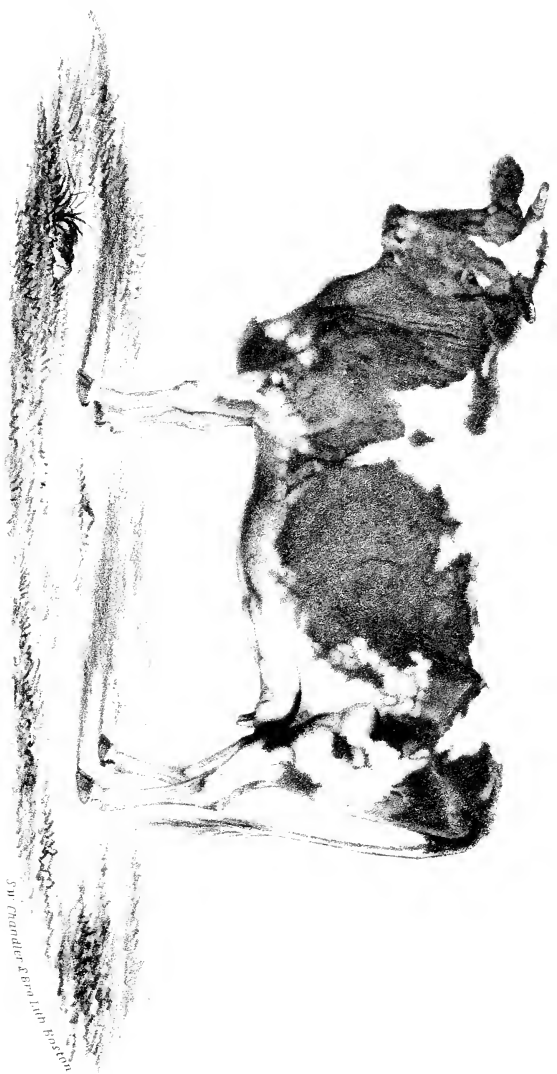
No. 7. Bull, 5 years old, owned by Paoli Lathrop and George M. Atwater, South Hadley Falls, Mass.

No. 8. Cow, 5 years old, owned by same parties, South Hadley Falls, Mass.



MISS BELVILLE.

Ross Short-horn Heifer; the property of Noel J. Decar, Smithtown, L. I.; winner of the 1st Prize in the class of two years old, at the Fair of the United States Agricultural Society, held at Boston, in October, 1855. She was bred by J. M. Hopper, Esq., Yorkshire, England; got by Belville (5778); dam, Carnation, by Goldsmith (10277); g. d. Crocus, by Patriarcha (7239); gr. g. d. Violet, by Forester (3535); gr. gr. g. d. by Son of Fleetham (2025); gr. gr. g. d. from the herd of Mr. Whittaker, of Greenholme.



BUTTERCUP.

In the Jersey Herd that won the first premium at the National Exhibition at Boston 1855. Owned by General Perchaw Procknor, Mass & imported by him
MAY 1850.

No. 9. Heifer, 2 years old, owned by same parties.

No. 10. Bull, 1 year old, owned by Samuel T. Tabor, Hempstead Branch, N. Y.

No. 11. Steers, 2 years old, weight 2960 pounds, owned by D. W. Haynes, Readfield, Me.

No. 12. Bull, 15 months old, owned by Enoch Train, Dorchester, Mass.

No. 13. Bull Marmion, 3 years 4 months old, owned by Thomas G. Ayerigg, Passaic, N. J.

No. 14. Bull, 18 months old, weight 1300 pounds, owned by C. H. & C. A. Smith, Vergennes.

No. 15. Cow, 7 years old, owned by Charles Shepherd, Manchester, N. H.

No. 16. Bull, 3 years old, weight 1820 pounds, owned by W. W. Sherman, New Haven, Vt.

No. 17. Heifer, 2 years old, weight 1076 pounds, owned by W. W. Sherman, New Haven, Vt.

No. 18. Bull, Sir Robert Peel, 2 years old, owned by W. B. De Wolf, Bristol.

No. 19. Bull, 5 years old, owned by Sylvester Smith, Wilmington, Vt.

No. 20. Heifer, 2 years old, owned by H. D. Pierce, Hillsborough, N. H.

No. 21. Heifer, 2 years old, owned by H. D. Pierce, Hillsborough, N. H.

No. 22. Bull, 4 Cows, and Heifers, owned by Morris & Becar, Fordham, N. Y. (For Herd premium.)

No. 23. Bull Romeo, 4 years old, owned by Morris & Becar, Fordham N. Y.

No. 24. Cow Minerva 2nd, 4 years old, owned by Morris & Becar, Fordham, N. Y.

No. 25. Cow Iris, 3 years old, owned by Morris & Becar, Fordham, N. Y.

No. 26. Heifer Minerva 4th, 2 years old, owned by Morris & Becar, Fordham, N. Y.

No. 27. Heifer Victoria 26th, 2 years old, owned by Morris & Becar, Fordham, N. Y.

No. 28. Heifer Surprise, 1 year old, owned by Morris & Becar, Fordham, N. Y.

No. 29. Heifer Victorine, 1 year old, owned by Morris & Becar, Fordham, N. Y.

No. 30. Bull, 4 Cows and Heifers, owned by Noel J. Becar, Smithtown, L. I. (For Herd premium.)

No. 31. Bull Tallyho, 2 years old, owned by Noel J. Becar, Smithtown, L. I.

No. 32. Bull Echo of Oxford, 1 year old, owned by Noel J. Becar, Smithtown, L. I.

No. 33. Cow Maid of Oxford, 3 years old, owned by Noel J. Becar, Smithtown, L. I.

No. 34. Heifer Miss Belville, 2 years old, owned by Noel J. Becar, Smithtown, L. I.

No. 35. Cow Romelia, 3 years old, owned by L. G. Morris, Fordham, N. Y.

No. 36. Cow Bloom, 3 years old, owned by L. G. Morris, Fordham, N. Y.

No. 37. Bull, 3 years old, owned by Drake & Son, Rye, N. H.

No. 38. Cow, 6 years old, owned by J. A. Clarke, Granby.

No. 39. Cow, 6 years old, owned by John E. Brown, Roxbury.

No. 40. Bull Calf, 11 months old, owned by John C. Ray, Dunbarton, N. H.

No. 41. Cow, 7 years old, owned by A. S. Lewis, Framingham.

No. 42. Bull Farnley, 20 months old, weight, 1410 pounds owned by Simeon Leland, New Rochelle, N. Y.

No. 43. Bull and 5 Cows, owned by Paoli Lathrop, South Hadley Falls, Mass. (For Herd Premium.)

DEVONS.

No. 43. Cow, 5 years old, owned by Harvey Dodge, Sutton.

No. 44. Cow, 8 years old, owned by William Buckminster, Framingham, Mass.

No. 45. Cow, 5 years old, owned by William Buckminster, Framingham.

No. 46. Cow, 5 years old, owned by William Buckminster, Framingham.

No. 47. Cow, 5 years old, owned by William Buckminster, Framingham.

No. 48. Cow, 5 years old, owned by William Buckminster, Framingham.

No. 49. Cow, owned by William Buckminster, Framingham.

No. 50. Cow, 6½ years old, weight 960 pounds, owned by B. V. French, Braintree.

No. 51. Cow, owned by Edward G. Faile, West Farms, N. Y.

No. 52. Heifer, 2 years old, owned by Joseph Burnett, Southboro'.

No. 53. Heifer, 3 years old, owned by William Buckminster, Framingham.

No. 54. Heifer, 2 years old, owned by William Buckminster, Framingham.

No. 55. Heifer, 2 years old, owned by William Buckminster, Framingham.

No. 56. Heifer, 2 years old, owned by William Buckminster, Framingham.

No. 57. Heifer, 2 years old, owned by William Buckminster, Framingham.

No. 58. Heifer, 1 year old, owned by William Buckminster, Framingham.

No. 59. Bull Calf, owned by William Buckminster, Framingham.

No. 60. Bull Calf, owned by William Buckminster, Framingham.

No. 61. Bull Calf, owned by William Buckminster, Framingham.

No. 62. Heifer Calf, owned by William Buckminster, Framingham.

No. 63. Heifer, 2 years old, owned by Edward G. Faile, West Farms, N. Y.

No. 64. Heifer, 1 year old, owned by Edward G. Faile, West Farms, N. Y.

No. 65. Bull, 6 years old, owned by Jacob N. Blakeslee, Watertown, Conn.

No. 66. Bull, 4 years old, owned by Jacob N. Blakeslee, Watertown, Conn.

No. 67. Bull, 3 years old, owned by Jacob N. Blakeslee, Watertown, Conn.

No. 68. Bull, 2 years old, owned by Jacob N. Blakeslee, Watertown, Conn.

No. 69. Heifer, 1 year old, owned by Jacob N. Blakeslee, Watertown, Conn.

No. 70. Heifer Calf, owned by Jacob N. Blakeslee, Watertown, Conn.

No. 71. Bull Calf, owned by Jacob N. Blakeslee, Watertown, Conn.

No. 72. Bull Calf, owned by Jacob N. Blakeslee, Watertown, Conn.

- No. 73. Bull, 4 years old, owned by Daniel Davis, Springfield, Vt.
- No. 74. Bull, Alexander Patterson, $3\frac{1}{2}$ years old, weight 1240 pounds, owned by Samuel Chandler, Lexington.
- No. 75. Bull, 3 years old, owned by Joseph Burnett, Southboro'.
- No. 76. Bull, 4 years old, owned by Nathaniel Dodge, Sutton.
- No. 77. Bull, 2 years old, owned by Harvey Dodge, Sutton.
- No. 78. Bull Calf, owned by Nathaniel Dodge, Sutton.
- No. 79. Bull Calf, owned by Harvey Dodge, Sutton.
- No. 80. Bull Calf, owned by Harvey Dodge, Sutton.
- No. 81. Bull, North Devon, 8 years old, owned by William Buckminster, Framingham.
- No. 82. Bull, North Devon, 1 year old, owned by William Buckminster, Framingham.
- No. 83. Bull, $2\frac{1}{2}$ years old, weight 955 pounds, owned by B. V. French, Braintree.
- No. 84. Bull, 4 years old, weight 1400 pounds, owned N. M. Tribou, Middleboro', Mass.
- No. 85. Cow, 8 years old, owned by Franklin King, Dorchester.
- No. 86. Bull, 2 years old, owned by John G. Morse, Francestown. (Sutton.)
- No. 87. Heifer, 3 years old, owned by John G. Morse, Francestown. (Queen Anne.)
- No. 88. Heifer Princess, 2 years old, owned by John G. Morse, Francestown.
- No. 89. Heifer Fancy, 1 year old, owned by John G. Morse, Francestown.
- No. 90. Cow, 8 years old, owned by Joseph Burnett, Southboro'.
- No. 91. Bull Winchester, 3 years old, owned by J. N. DeForest, Dover, Duchess Co.
- No. 92. Cow, owned by S. Anderson, Petersham.
- No. 93. Bull, 16 months old, owned by J. C. Blasdell, Lexington.
- No. 94. Cow and Calf, Jenny and Barnum, 5 years old, owned by M. Morse, Francestown, N. H.
- No. 95. Bull May Boy, 5 years old, owned by C. S. Wainwright, Rhinebeck, N. Y.
- No. 96. 2nd Cow Helena, 4 years old, owned by C. S. Wainwright, Rhinebeck, N. Y.
- No. 97. Cow Kate Kearney, 4 years old, owned by C. S. Wainwright, Rhinebeck, N. Y.

No. 98. Cow Moss Rose, 6 years old, owned by C. S. Wainwright, Rhinebeck, N. Y.

No. 99. Heifer Donna, 2 years old, owned by C. S. Wainwright, Rhinebeck, N. Y.

No. 100. Heifer Linda, 4 years old, owned by C. S. Wainwright, Rhinebeck, N. Y.

No. 101. Helena 4th, 1 year old, owned by C. S. Wainwright, Rhinebeck, N. Y.

No. 102. Bull Tecumseh, 1 year old, owned by Edward G. Faile, West Chester Co., N. Y.

No. 103. Bull Blucher, 2 years old, weight 1204 pounds, owned by W. R. Sanford, Orwell, Vt.

No. 104. Bull Red Rover, 1 year old, owned by W. R. Sanford, Orwell, Vt.

No. 105. Cow Gilliflower, 11 years old, weight 1200 pounds, owned by W. R. Sanford, Orwell, Vt.

No. 106. Cow Jilby, 7 years old, owned by W. R. Sanford, Orwell, Vt.

No. 107. Heifer Jessamine 2nd, 17 months old, weight 535 pounds, owned by B. V. French, Braintree.

No. 108. Heifer Van Rensselaer 2nd, 16 months, weight 455 pounds, owned by B. V. French, Braintree.

No. 109. Bull John, 3 years old, owned by James Howe, Dennis.

No. 110. Bull, 8 years old, owned by Wm. Buckminster, Framingham.

No. 111. Bull, 1 year old, owned by Wm. Buckminster, Framingham.

No. 112. Cow, 8 years old, owned by Wm. Buckminster, Framingham.

No. 113. Cow, 5 years old, owned by Wm. Buckminster, Framingham.

No. 114. Cow, 5 years old, owned by Wm. Buckminster, Framingham.

No. 115. Cow, 5 years old, owned by Wm. Buckminster, Framingham.

No. 116. Bull, 3 years old, owned by Wm. Steele, Sharon, Vt.

No. 117. Heifer, 2 years old, owned by Oliver Clifford, East Medway.

No. 118. Heifer, 2 years old, owned by Oliver Clifford, East Medway.

No. 119. Heifer, $2\frac{1}{4}$ years old, owned by C. M. Vinson, Jamaica Plain.

No. 120. Bull, 4 years old, owned by Moses B. Ives, Providence, R. I.

No. 121. Bull and 4 Cows, owned by L. G. Morris, Fordham, N. Y.

No. 122. Cow Birthday, 10 years old, owned by L. G. Morris, Fordham, N. Y.

No. 123. Cow Edith, 7 years old, owned by L. G. Morris, Fordham, N. Y.

No. 124. Cow Fuschia, 3 years old, owned by L. G. Morris, Fordham, N. Y.

No. 125. Bull Frank Quartly, 4 years old, owned by L. G. Morris, Fordham, N. Y.

No. 126. Heifer Lily, 2 years old, owned by W. R. Sanford, Orwell, Vt.

No. 127. Heifer Cherry 2nd, 8 months old, weight 602 pounds, owned by J. T. Andrews, West Cornwall, Conn.

AYRSHIRES.

No. 128. Bull Wachusett, 2 years old, owned by John Brooks, Princeton, Mass.

No. 129. Bull, 2 years old, owned by Richard Richardson, Medway, Mass.

No. 130. Cow and Calf, owned by Stephen S. Cummins, Stratham, N. Y.

No. 131. Cow Alice, 12 years old, owned by John Brooks, Princeton.

No. 132. Bull Logan, 2 years old, weight 1000 pounds, owned by Wm. A. White, Lancaster, N. H.

No. 133. Bull, owned by George W. Coffin, Amenia, Dutchess Co., N. Y.

No. 134. Bull, owned by James Smith, Montreal, Canada.

No. 135. Bull.

No. 136. Bull Kilburn, 4 years old, owned by Hungerford, Brodie & Converse, Ellisburg, N. Y.

No. 137. Cow Mary Gray, 5 years old, owned by Hungerford, Brodie & Converse, Ellisburg, N. Y.

No. 138. Heifer Lady Ayr, 2 years old, owned by Hungerford, Brodie & Converse, Ellisburg, N. Y.

No. 139. Heifer Lady Gowan, 2 years old, owned by Hungerford, Brodie & Converse, Ellisburg, N. Y.

No. 140. Heifer Flora, 1 year old, owned by Hungerford, Brodie & Converse, Ellisburg, N. Y.

No. 141. Heifer Bessie, 1 year old, owned by Hungerford, Brodie & Converse, Ellisburg, N. Y.

No. 142. Bull, 2-3 Ayrshire and 1-3 Durkam, 1 year 3 months old, owned by J. Gass, West Cambridge.

No. 143. Bull, 3 years old, owned by George W. Barrett, Concord.

No. 144. Cow, 5 years old, owned by George W. Barrett, Concord.

No. 145. Cow, 8 years old, owned by Stephen Scammon, Stratham, N. H.

No. 146. Cow Jessie, 6 years old, owned by R. Battell, Norfolk, Conn.

No. 147. Heifer Jessie 2nd, 2 years old, owned by R. Battell, Norfolk.

No. 148. Bull, 1 year old, owned by A. L. Lewis, Framingham, Mass.

HEREFORDS.

No. 149. Heifer, 1 year old, weight 700 pounds, owned by Charles B. Clark, Concord.

No. 150. Cow Lilla, 12 years old, owned by Wm. H. Sotham, Owego, Tioga County, N. Y.

No. 151. Cow Pretty, 7 years old, owned by Wm. H. Sotham, Owego, Tioga County, N. Y.

No. 152. Cow Myrtle, 4 years old, owned by Wm. H. Sotham, Owego, Tioga County, N. Y.

No. 153. Cow Bombazine, 7 years old, owned by Wm. H. Sotham, Owego, Tioga County, N. Y.

No. 154. Bull Defiance, 3 years old, owned by William H. Sotham, Owego, N. Y.

No. 155. Cow Lady, 2 years old, owned by William H. Sotham, Owego, N. Y.

No. 156. Heifer Blendy, 1 year old, owned by William H. Sotham, Owego, N. Y.

No. 157. Cow, half Hereford, half Native, 5 years old, owned by William H. Sotham, Owego, N. Y.

No. 158. Cow Bell, three-fourths Hereford, 12 years old, owned by same person.

No. 159. Cow Fanny, 8 years old, owned by C. B. Clarke, Concord.

No. 160. Bull Cronkill, 3 years old, owned by David Goodell, Brattleboro', Vermont.

No. 161. Cow Milton, 5 years old, owned by the State Farm, Westboro', Mass.

No. 162. Heifer Cora, 8 months old, owned by the State Farm, Westboro', Mass.

No. 163. Heifer Susan, 2 years old, owned by C. B. Clarke, Concord.

JERSEYS.

No. 164. Cow and Calf, 7 months 4 years old, owned by Jonathan French, West Roxbury, Mass.

No. 165. Cow, 2 years old, owned by S. R. Spaulding, West Roxbury, Mass.

No. 166. Cow, 2 years old, owned by S. R. Spaulding, West Roxbury, Mass.

No. 167. Cow and Calf, owned by Joseph Burnet, Southboro', Mass.

No. 168. Heifer, 16 months old, owned by C. L. Cunningham, Milton, Mass.

No. 169. Bull, 2 years old, owned by Joseph Burnet, Southboro', Mass.

No. 170. Bull, 1 year old, owned by John Washburn, Swampscot, Mass.

No. 171. Bull, 2 1-2 years old, owned by C. L. Cunningham, Milton, Mass.

No. 172. Heifer, 1 year old, owned by Joseph Burnet, Southboro', Mass.

No. 173. Bull Major, 3 years old, owned by Thomas Motley, Jr., West Roxbury, Mass.

No. 174. Bull Captain, 3 years old, owned by Thomas Motley, Jr., West Roxbury, Mass.

No. 175. Bull Don Juan, 1 year old, owned by Thomas Motley, Jr., West Roxbury, Mass.

No. 176. Cow Flora, 6 years old, owned by Thomas Motley, Jr., West Roxbury, Mass.

No. 177. Cow Susy, 5 years old, owned by Thomas Motley, Jr., West Roxbury, Mass.

No. 178. Cow Flirt, 3 years old, owned by Thomas Motley, Jr., West Roxbury, Mass.

No. 179. Cow Dalby, 3 years old, owned by Thomas Motley, Jr., West Roxbury, Mass.

No. 180. Cow, 7 years old, owned by George H. French, Andover, Mass.

No. 181. Heifer, 3 years old, owned by George H. French, Andover, Mass.

No. 182. Heifer, 2 years old, owned by George H. French, Andover, Mass.

No. 183. Heifer, 1 year old, owned by George H. French, Andover, Mass.

No. 184. Heifer, 1 year old, owned by George H. French, Andover, Mass.

No. 185. Bull Sailor, 5 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 186. Cow Buttercup, 7 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 187. Cow Daisy, 10 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 188. Cow Daphne, 7 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 189. Cow Daphne 2d, 3 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 190. Cow Violet, 3 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 191. Cow Mignonette, 2 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 192. Bull, 2 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 193. Bull, 2 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 194. Bull, 2 years old, owned by Samuel Henshaw, Brookline, Mass.

No. 195. Bull Prince, 4 years old, owned by R. P. Waters, Beverly, Mass.

No. 196. Heifer Rosa, 2 years old, owned by R. P. Waters, Beverly, Mass.

No. 197. Bull, 2 years old, owned by Richard S. Rogers, Salem, Mass.

No. 198. Bull, $1\frac{1}{2}$ years old, owned by A. D. Weld, West Roxbury, Mass.

No. 199. Cow, 3 years old, owned by A. D. Weld, West Roxbury, Mass.

No. 200. Cow, 3 years old, owned by W. T. G. Morton, West Needham, Mass.

No. 201. Bull Victor, $3\frac{1}{3}$ years old, owned by W. A. Harris, Boston, Mass.

No. 202. Bull Diamond, $1\frac{1}{4}$ years old, owned by W. A. Harris, Boston, Mass.

No. 203. Bull Napoleon, 18 months old, owned by Davis & Flint, Boston, Mass.

No. 204. Heifer, 18 months old, owned by Davis & Flint, Boston, Mass.

No. 205. Bull, 18 months old, owned by A. W. Taylor, Boston, Mass.

No. 206. Bull, 19 months old, owned by Edward King, Dorchester, Mass.

No. 207. Heifer, 15 months old, owned by C. M. Vinson, Jamaica Plains, Mass.

No. 208. Bull, 3 years old, owned by John Giles, South Woodstock, Ct.

No. 209. Heifer, 3 years old, owned by John Giles, South Woodstock, Ct.

No. 210. Heifer, 3 years old owned by John Giles, South Woodstock Ct.

No. 211. Cow, 3 years old, owned by William B. Bacon, Jamaica Plains, Mass.

No. 212. Heifer, 1 year old, owned by William B. Bacon, Jamaica Plains, Mass.

No. 213. Cow Alice, 5 years old, owned by the State Farm, Westboro', Mass.

No. 214. Bull Calf, 16 weeks old, owned by the State Farm, Westboro', Mass.

No. 215. Cow, owned by A. L. Lewis, Framingham, Mass.

[Also, several superior Jersey animals, which were sent by the Massachusetts Society for the Promotion of Agriculture, for exhibition only.]

NATIVE AND GRADE.

No. 216. Cow, Native, owned by Josiah L. Bassett, Bridgewater, Mass.

No. 217. Bull, Native, 2 years old, owned by Josiah L. Bassett, Bridgewater, Mass.

No. 218. Cow, Grade, 6 years old, owned by Charles B. Clarke, Concord, Mass.

No. 219. Bull and four Cows, Native, owned by Asa G. Sheldon, Wilmington, Mass.

No. 220. Heifer, Grade, $2\frac{1}{2}$ years old, owned by William Spencer, Lowell, Mass.

No. 221. Bull, Hercules, owned by the City of Boston, Mass.

No. 222. Cow, Mary, Grade, 4 years old, owned by John Brooks, Princeton, Mass.

No. 223. Heifer, unknown, 1 year old, owned by William W. Watson, Princeton, Mass.

No. 224. Cow, Milch, Grade, 6 years old, owned by William W. Watson, Princeton, Mass.

No. 225. Bull and four Cows, Paoli Lathrop, South Hadley Falls, Mass.

No. 226. Milch Cow, Native, 3 years old, owned by Asa G. Sheldon, Wilmington, Mass.

No. 227. Cow, Grade, 5 years old, owned by Asa G. Sheldon, Wilmington, Mass.

No. 228. Cow, Grade, 3 years old, owned by Asa G. Sheldon, Wilmington, Mass.

No. 229. Milch Cow, Native, 9 years old, owned by Asa G. Sheldon, Wilmington, Mass.

No. 230. Cow, Native, 3 years old, owned by Asa G. Sheldon, Wilmington, Mass.

No. 231. Cow, Grade, 5 years old, (had four calves,) owned by Francis Twichell, Petersham, Mass.

No. 232. Cow, Grade, 7 years old, owned by John W. Hollis, Brighton, Mass.

No. 233. Cow, Grade, $2\frac{1}{3}$ years old, owned by John W. Hollis, Brighton, Mass.

No. 234. Heifer, Grade, 21 months old, owned by Charles H. Keith, Malden, Mass.

No. 235. Cow, Grade, 8 years old, owned by Thomas Payson, Dorchester, Mass.

No. 236. Cow, Grade, Twin calves, 7 years old, owned by John Fussell, Roxbury, Mass.

No. 237. Cow, Grade, 3 years old, owned by John Fussell, Roxbury, Mass.

No. 238. Cow, Grade, 3 years old, owned by A. D. Weld, West Roxbury, Mass.

No. 239. Cow, Grade, 2 years old, owned by A. D. Weld, West Roxbury, Mass.

No. 240. Heifer, Grade, 1 year old, owned by A. D. Weld, West Roxbury, Mass.

No. 241. Heifer, Grade, 1 year old, owned by A. D. Weld, West Roxbury, Mass.

No. 242. Heifer, Grade, 1 year old, owned by A. D. Weld, West Roxbury, Mass.

No. 243. Cow, Native, 6 years old, owned by Charles R. Damon, Cohituate, Mass.

No. 244. Cow and Calf, Grade, 5 years old, owned by Robert Whitaker, Saugus, Mass.

No. 245. Cow, Hornet, Grade, 6 years old, owned by Davis & Flint, Boston, Mass.

No. 246. Cow, Fanny, Native, 9 years old, owned by Davis & Flint, Boston, Mass.

No. 247. Milch Cow, Mystery, 6 years old, owned by Davis & Flint, Boston, Mass.

No. 248. Milch Cow, Nonesuch, 6 years old, owned by Davis & Flint, Boston, Mass.

No. 249. Milch Cow, Blossom, Grade, 4 years old, owned by Davis & Flint, Boston, Mass.

No. 250. Milch Cow, Grade, 4 years old, owned by O. Howland, Auburn, N. Y.

No. 251. Cow, Native, 5 years old, owned by O. Howland, Auburn, N. Y.

No. 252. Cow, Native, 4 years old, owned by O. Howland, Auburn, N. Y.

No. 253. Heifer, Native, 2 years old, owned by O. Howland Auburn, N. Y.

No. 254. Cow, Grade, 5 years old, owned by Josiah Bennett, Westmoreland, N. H.

No. 255. Heifer, Grade, 3 years old, owned by Josiah Bennett, Westmoreland, N. H.

No. 256. Bull and four Cows, Grade, owned by Samuel Ellsworth, Barre, Mass.

No. 257. Cow, Grade, 8 years old, owned by Samuel Ellsworth, Barre, Mass.

No. 258. Milch Cow, Ayrshire, and Native, 8 years old, owned by Samuel Ellsworth, Barre, Mass.

No. 259. Bull Calf, Grade, 8 months old, owned by Samuel Ellsworth, Barre, Mass.

No. 260. Heifer, Grade, 1 year old, owned by John T. Ellsworth, Hardwick.

No. 261. Cow, Devon and Creampot breed, 7 years old, weight 1165 pounds, owned by B. V. French, Braintree, Mass.

No. 262. Cow Julia, Devon and Creampot breed, 7 years old, owned by B. V. French, Braintree, Mass.

No. 263. Cow, Grade, 15 years old, owned by William Eames, Worcester, Mass.

No. 264. Milch Cow, 6 years old, owned by William Eames, Worcester, Mass.

No. 265. Milch Cow, 4 years old, owned by William Eames, Worcester, Mass.

No. 266. Cow, Grade, 5 years old, owned by William Eames, Worcester, Mass.

No. 267. Cow, Native, 7 years old, owned by George W. Barrett, Concord.

No. 268. Milch Cow, Grade, 8 years old, owned by George W. Barrett, Concord.

No. 269. Cow, Grade, 4 years old, owned by George W. Barrett, Concord.

No. 270. Heifer, Grade, 18 months old, owned by C. M. Vinson, Jamaica Plains, Mass.

No. 271. Cow, Native, 7 years old, owned by David Higgins, Malden, Mass.

No. 272. Heifer, Grade, 1 year old, owned by Harvey Dodge, Sutton.

No. 273. Cow Jessica, Grade, 10 years old, owned by S. J. Capen, Dorchester, Mass.

No. 274. Heifer, Native, 2 years old, owned by Henry D. Pierce, Hillsborough, N. H.

No. 275. Heifer, Native, 2 years old, owned by Henry D. Pierce, Hillsborough, N. H.

No. 276. Milch Cow, Native, 5 years old, owned by Josiah L. Bissett, Bridgewater.

No. 277. Bull Calf, Grade, 5 months old, owned by Gorham Butler, Union, Me.

No. 278. Heifer Lily, Native, 2 years old, owned by A. & T. Jerome, Bloomfield, Conn.

No. 279. Bull Calf Victor, Grade, 4 months old, owned by A. & T. Jerome, Bloomfield, Conn.

No. 289. Milch Cow Fanny, 10 years old, owned by S. J. Capen, Dorchester.

No. 281. Heifer, Native, 20 months old, owned by A. W. Copenhagen, Dorchester.

No. 282. Heifer, Grade, 3 years old, owned by E. Sheldon, Cayuga Co., N. Y.

No. 283. Heifer, Grade, 1 year old, owned by E. Sheldon, Cayuga Co., N. Y.

No. 284. Milch Cow, 9 years old, owned by C. Bramhall, Dorchester.

No. 285. Milch Cow, Grade, 7 years old, owned by A. M. Carlton, Chicopee.

No. 286. Bull, Grade, 3 years old, weight 1550 pounds, owned by F. F. Hoyt, Concord, N. H.

No. 287. Heifer Calf, Grade, 6 months old, weight 511 pounds, owned by F. F. Hoyt, Concord, N. H.

No. 288. Cow Milker, Native, 14 years old, owned by A. & T. Jerome, Bloomfield, Conn.

No. 289. Bull, Grade, 3 years old, owned by Daniel Davis, Springfield, Vt.

No. 290. Cow, Grade, $5\frac{1}{2}$ years old, owned by Samuel Jacques, Somerville.

No. 291. Heifer, Grade, 7 months old, owned by Samuel Jacques, Somerville.

No. 292. Milch Cow, 6 years old, owned by C. M. Hubbell, Cambridge.

No. 293. Cow, Grade, 6 years old, owned by A. L. Lewis, Framingham.

WORKING OXEN AND STEERS.

No. 294. Working Oxen, owned by G. Howland Shaw, Brookline, Mass.

No. 295. Working Oxen, Native, weight 2800 pounds, owned by Nathan B. Read, Berlin.

No. 296. Working Oxen, 7 years old, owned by Alanson Park, Milbury.

No. 297. Working Oxen, Holderness, 6 years old, owned by Wm. F. Wheeler, Grafton.

No. 298. Working Oxen, owned by John D. Williams, Raynham.

No. 299. Working Oxen, Grade, Half Durham and Native, 6 years old, 3450 pounds, owned by Anson Warren, Westboro'.

No. 300. Working Oxen, Grade, Devon and Native, 7 years old, owned by Harvey Dodge, Sutton.

No. 301. Working Oxen, Grade, 5 years old, 3940 pounds, owned by Stephen A. Coburn, Lowell.

No. 302. Working Oxen, Devon and Native, owned by William Buckminster, Framingham.

No. 303. Working Oxen, North Devon, 6 1-2 years old, 3480 pounds, owned by B. V. French, Braintree.

No. 304. Working Steers, owned by John D. Hudson, Oxford.

No. 305. Working Oxen, 1-4 Devon, owned by Elijah L. Case, Grafton.

No. 306. Working Oxen, 1-2 Native, 1-2 Holderness, 4 years old, 3100 pounds, owned by Simon Carpenter, Charlton.

No. 307. Steers, Creampot and Native, 3 years old, 2800 pounds, owned by Simon Carpenter, Charlton.

No. 308. Steers, owned by Jacob N. Blakeslee, Watertown, Conn.

No. 309. Working Oxen, Native, 6 years old, owned by J. B. Moore, Concord.

No. 310. Steers, 2 years old, owned by Wm. W. Watson, Princeton.

No. 311. Working Oxen, Durham, 5 years old, weight 4000 pounds, owned by Addison G. Cole, Buckfield, Me.

No. 312. Steers, Durham, 3 years old, weight 3200 pounds.

No. 313. Working Oxen, 4 years old, weight 4500 pounds, owned by Ozias Decaster, Buckfield, Me.

No. 314. Working Oxen, Mixed Breed, 4 years old, weight 3200 pounds, owned by Horace Sheldon, Wilmington.

No. 315. Working Oxen, owned by Nathaniel G. Giddings, Exeter, N. H.

No. 316 Working Oxen, Devons, 8 years old, weight 3800 pounds, owned by James Lawrence, Boston.

No. 317. Working Oxen, owned by Josiah Quincy, Quincy.

No. 318. Working Oxen, Durham and Ayrshire, 8 years old, owned by B. P. Poore, West Newbury.

No. 319. Working Oxen, 4 years old, owned by Josiah Quincy, Quincy.

No. 320. Working Oxen, Native, 6 years old, weight 2600 pounds, owned by John B. Newcomb, Norton.

No. 321. Steers, Grade, 2 years old, owned by O. Howland, Auburn, N. Y.

No. 322. Working Oxen, 4 years old, weight 3456 pounds, owned by Geo. Harvey, Marlboro.'

No. 323. Working Oxen, 6 years old, weight 4240 pounds, owned by G. K. Rice, Keene, N. H.

No. 324. Twin Oxen, 5 years old, weight 3800 pounds, owned by C. H. & C. A. Smith, Vergennes, Vt.

No. 325. Steers, Native, 2 years old, weight 2600 pounds, owned by Jos. Kittredge, North Andover.

No. 326. Twin Working Oxen, Native, 4 years old, owned by Oliver Newman, Carthage, Me.

No. 327. Twin Working Oxen, Native, 4 years old, owned by Oliver Newman, Carthage, Me.

No. 328. Working Oxen, Native, 4 years old, owned by Jos. Longfellow, Newbury.

No. 329. Working Oxen, Native, 5 years old, weight 3000 pounds, owned by B. F. Jenkins, Buckfield, Me.

No. 330. Working Oxen, Native, 5 years old, weight 3000 pounds, owned by B. F. Jenkins, Buckfield, Me.

No. 331. Twin Working Oxen, Grade, 6 years old, weight 4200 pounds, owned by J. M. Drinkwater, Cumberland, Me.

No. 332. Twin Working Oxen, Grade, 4 years old, weight 3200 pounds, owned by J. C. Sanborn, Westboro'.

No. 333. Working Oxen, 6 years old, weight 4640 pounds, owned by Moses D. Richardson, Leominster.

No. 334. Working Oxen, 4 years old, weight 3600 pounds, owned by Samuel Swallow, Buckfield, Me.

No. 335. Working Oxen, 5 years old, owned by Samuel Swallow, Buckfield, Me.

No. 336. Steers, Grade, 2 years old, owned by A. N. Winslow, Putney.

No. 337. Working Oxen, Native, 5 years old, weight 2500 pounds, owned by John D. G. Williams, Raynham.

No. 338. Working Oxen, Grade, 5 years old, owned by E. Sheldon, Cayuga Co., N. Y.

No. 339. Working Oxen, Grade, 5 years old, owned by H. Sheldon, Cayuga Co., N. Y.

No. 340. Working Oxen, Grade, 7 years old, owned by F. F. Hoyt, Concord, N. H.

No. 341. Working Oxen, Grade, 5 years old, owned by E. Munson, Auburn, N. Y.

No. 342. Working Oxen, Grade, 6 years old, owned by Moses D. Richardson, N. Leominster.

FAT CATTLE.

No. 343. Bullock, owned by Samuel S. Stebbins, Conway.

No. 344. Pair of Cattle, owned by William Wadleigh, Exeter, N. H.

No. 345. Oxen, 5 years old, owned by James Eddy, Swanzey.

No. 346. Oxen, owned by Seth Bush, Westfield.

No. 347. Pair of Cattle, Native, 6 years old, weight 5000 pounds, owned by Leavitt & Hunt, South Wolfborough, N. H.

No. 348. Oxen, Grade, 5 years old, owned by Seth Bush, Westfield Mass.

No. 349. Oxen, Grade, 5 years old, owned by Luke Bush, Westfield, Mass.

No. 350. Oxen, Grade, 7 years old, weight 2200 pounds, owned by W. S. Grant, Farmingdale, Me.

No. 351. Bullock, Durham, 3 years old, owned by E. Sheldon, Cayuga Co., N. Y.

No. 352. Cow, Durham, 3 years old, owned by E. Sheldon, Cayuga Co., N. Y.

No. 353. Oxen, Durham, 4 years old, owned by H. Sheldon, Cayuga Co., N. Y.

No. 354. Cow, Durham, 4 years old, owned by H. Sheldon, Cayuga Co., N. Y.

No. 355. Oxen, Durham, 4 years old, owned by E. Munson, Auburn, N. Y.

CLASS II. HORSES.

STALLIONS.

No. 1. Stockbridge Chief, Black Hawk breed, 8 years old, 1150 pounds, 16 hands, owned by P. W. Bishop, Chatham Four Corners, N. Y.

No. 2. Wild Air, Black Hawk breed, 5 years old, owned by J. N. Sawyer, Salisbury, N. H.

No. 3. America's Trump, Morgan breed, 1100 pounds, 16 hands, owned by D. T. Hall.

No. 4. Comet, Sherman Morgan breed, 10 years old, 1050 pounds, 14 1-2 hands, owned by Hiram Woods, Hancock, N. H.

No. 5. Morgan, French and English breed, 17 months old, owned by Charles Howe, Marlboro'.

No. 6. Empire State, Black Hawk and Messenger breed, 850 pounds, 14 1-2 hands, owned by S. O. Richardson, South Reading.

No. 7. Duke of Norfolk, Messenger and Duroc breed, 2 years old, 830 pounds, owned by Samuel Bradstreet, Dorchester.

No. 8. Morgan and English breed, 11 years old, 1000 pounds, owned by Galen Gates, Worcester.

No. 9. Morgan, 3 1-4 years old, owned by George C. Durkee, Littleton.

No. 10. Gray Eagle, Messenger breed, 8 years old, 1000 pounds, 15 1-2 hands, owned by Franklin Biggs, Dorchester.

No. 11. Ethan Allen and Long Island breed, over 1 year old, owned by Ezra Trull, Watertown.

No. 12. Young St. Lawrence, St. Lawrence breed, 4 years old, 900 pounds, 14 hands, owned by Charles Boynton, Georgetown.

No. 13. Colt, Trustee breed, 1 year old, G. Howland Shaw, Brookline.

No. 14. Trustee, Thoroughbred, owned by Mortimer De Motte, New York.

No. 15. Morgan, owned by Charles C. Whitehouse.

No. 16. Roadster, 6 years old, 1000 pounds, 14 hands, owned by John Bullard, Stockbridge.

No. 17. Logan, Thoroughbred, 5 years old, owned by J. B. Monnot, New York.

No. 18. Thoroughbred, 2 years old, owned by David Leavitt, Great Barrington.

No. 19. Sherman, Morgan breed, owned by A. T. Congdon, Lancaster, N. H.

No. 20. Black Hawk, 4 years old, owned by John A. Richardson, Templeton.

No. 21. Three years old, owned by Thomas Sawyer, Boxford.

No. 22. Martin Kimball, Kemble Jackson breed, 3 years old, weight 1000 pounds, 16 hands, owned by Wm. T. Hanchett, Natick.

No. 23. Messenger and Duroc breed, 2 years old, owned by Charles Waite, Cambridge.

No. 24. Duroc and Morgan breed, 4 years old, weight 1000 pounds, owned by R. Kelren, South Boston.

No. 25. 8 years old, owned by Daniel Cate.

No. 26. Lion, Norman breed, 12 years old, weight 1150 pounds, 16 hands, owned by F. Whittaker, South Malden.

No. 27. Fanny Coburn, Black Hawk and English breed, 4 years old, owned by J. S. Carr, Winchester.

No. 28. Peter, Morgan breed, 2 years old, weight 1025 pounds, owned by Patrick Cahill, Lexington.

No. 29. Young Chester Lyon, by Chester Lyon imported, 6 years old, weight 1400 pounds, 16½ hands, owned by W. Ellis, Middlebury.

No. 30. Black Hawk, 4 years old, weight 850 pounds, 15 hands, owned by Daniel Wilson, Billerica.

No. 31. C. M. Clay and Gipsy breed, 3 years old, owned by James M. Thorndike, New England Village.

No. 32. John Anderson and Gipsy breed, 2 years old, owned by James F. Thorndike, New England Village.

No. 33. French & Morgan breed, owned by W. E. McIntyre, Salem.

No. 34. Black Hawk, 1 year old, owned by Levi T. Ballou, Cumberland, R. I.

No. 35. Iron Duke, C. M. Clay breed, 3 years old, owned by Timothy T. Jackson, Jamaica, L. I.

No. 36. Black Eagle, Black Hawk breed, 2 years old, owned by Timothy T. Jackson, Jamaica, L. I.

No. 37. Driving Cloud, Black Hawk breed, owned by Timothy T. Jackson, Jamaica, L. I.

No. 38. Owned by Timothy T. Jackson, Jamaica, L. I.

No. 39. Messenger and Duroc breed, 6 years old, owned by Frederick Leonard, Hanover.

No. 40. Young Arthur, Black Hawk breed, 6 years old, weight 800 pounds, 15 hands, owned by Daniel Butterfield, Pepperell, Mass.

No. 41. Rainbow, Morgan and Tricolor breed, 14 months old, weight 750 pounds, owned by Arthur W. Austin, West Roxbury.

No. 42. Hamilton, 3 years old, owned by H. Colby, Dorset, Vt.

No. 43. St. Patrick, Trustee breed, 14 months old, weight 750 pounds, 14½ hands, owned by Joseph H. Billings, West Roxbury.

No. 44. Young America, Messenger breed, 19 months old, weight 950 pounds, 15 hands, owned by Samuel J. Capen, Dorchester.

No. 45. Daniel Webster, Black Hawk breed, 3 years old, owned by Calvin Sanford, Barre.

No. 46. Robert Ray, Black Hawk breed, 2 years old, owned by Calvin Sanford, Barre.

No. 47. Bob Logic, Thoroughbred, owned by James R. Hutchins, Montreal, Canada.

No. 48. Hunton Horse, Messenger breed, 12 years old, weight 1225 pounds, 16½ hands, owned by A. Farrer, Buckfield, Me.

No. 49. Grey Eagle, Messenger breed, 4 years old, weight 1050 pounds, 16 hands, owned by A. Farrer, Buckfield.

No. 50. Morrill Horse, Bullrush-Morgan and Messenger breed, 11 years old, weight 1200 pounds, 16 hands, owned by F. Morrill, Danville Vt.

No. 51. Andrew Jackson, Black Hawk breed, 3 years old, owned by Harrison Bacon, Barre.

No. 52. Emperor, Morgan breed, 6 years old, weight 2000 pounds, owned by Harrison Bacon, Barre.

No. 53. 2 years old, owned by S. C. Oliver, Lawrence.

No. 54. Morgan, owned by J. F. Davis, North Springfield.

No. 55. Henry Clay, Black Hawk and Messenger breed, 6 years old, weight 1075 pounds, 15¾ hands, owned by Rogers & Callender, Albany.

No. 56. North Star, English and Morgan breed, 6 years old, owned by Henry Olmstead, East Hartford, Conn.

No. 57. Tricolor, Black Hawk and Messenger breed, 7 years old, 16½ hands, owned by Samuel Blodget, Brandon, Vt.

No. 58. Tricolor, Thorough breed, 7 years old, 15½ hands, owned by Frederick Boyden, Topsfield.

No. 59. Tippo, Half breed, 16 hands, owned by Frederick Boyden, Topsfield.

No. 60. Billy Hews, Black Hawk and Trustee breed, 2 years old, owned by John Welsh, Jr., Methuen.

No. 61. Romeo, Black Hawk and Morgan breed, 3 years old, owned by John Fussell, Roxbury.

No. 62. Wind, Black Hawk and English breed, 2 years old, owned by R. S. Denny, Clappville.

No. 63. Ethan Allen, Black Hawk breed, 6 years old, 15 $\frac{1}{4}$ hands, owned by O. S. Roc, Cambridge.

No. 64. Black Hawk Selim, Black Hawk breed, 11 years old, weight 1100 pounds, owned by Jeremiah Gilson, West Cambridge.

No. 65. Morgan Rattler, Morgan and French breed, 4 years old, owned by Daniel A. White, Dorchester.

No. 66. Billy, Morgan breed, 3 years old, weight 800 pounds, owned by William H. Whittemore, West Cambridge.

No. 67. Morgan, 3 years old, owned by Willis & Fay, New Ipswich.

No. 68. Farmer's Beauty, 4 years old, owned by D. M. Taggart, Goffstown, N. H.

No. 69. Morgan Hunter, Woodbury Morgan breed, 5 years old, weight 1100 pounds, 15 $\frac{1}{4}$ hands, owned by L. D. Harlow, Brandon, Vt.

No. 70. Matchless, thorough bred, 10 years old, weight 1066 pounds, 15 $\frac{1}{2}$ hands, owned by William B. De Wolf, Bristol, R. I.

No. 71. Morgan Empire, Morgan breed, 11 years old, weight 1100 pounds, owned by G. W. Chamberlain, Waltham.

No. 72. Boston Boy, Black Hawk breed, 2 years old, weight 1026 pounds, 15 $\frac{1}{2}$ hands high, owned by Adams Carpenter, Providence.

No. 73. Frank, Black Hawk breed, 2 years 2 months old, weight 900 pounds, owned by J. C. Blasdel, Lexington.

No. 74. Black Hawk, 12 years old, owned by J. E. Maynard, Lowell.

No. 75. American Eagle, Andrew Jackson breed, 6 years old, 16 hands, owned by Jackson Nichols, Flushing, L. I.

No. 76. American Star, Long Island Black Hawk breed, 5 years old, owned by Alexander Townsend, Glen Cove, L. I.

No. 77. Flying Scud, Black Hawk breed, 1 year old, owned by Edward W. Mott, Manhasset, L. I.

No. 78. Black Hawk and Morgan breed, 2 years old, owned by Elisha Goodwin, Boston.

No. 79. State of Maine, Messenger and Morgan breed, 7 years old, weight 1250 pounds, 16 hands high, owned by John Moody, Lincolnville, Me.

No. 80. White Mountain, Morgan and Messenger breed, 3 years old, weight 900 pounds, 14 $\frac{1}{2}$ hands, owned by S. H. Edgerly, Manchester, N. H.

No. 81. Echo, Empire breed, 3 years old, owned by B. W. Worley, West Roxbury.

No. 82. Sherman Morgan, Black Hawk breed, 10 years old, weight 1100 pounds, 15½ hands high, owned by Samuel North & D. Warren, Boston.

No. 83. Gen. Washington, Sherman Morgan breed, 5 years old, weight 950 pounds, 15 hands, owned by Addison Belknap, Framingham.

No. 84. Young Trustee, Trustee and Maubriano breed, 4 years old, weight 1100 pounds, 16 hands, owned by C. D. Ireland, Patterson, N. J.

No. 85. Prince Albert, Norman French breed, 2 years old, 16 hands, owned by George Williston & Co., Brunswick, Me.

No. 86. State of Maine, Morgan Messenger breed, 6 years old, weight 1075 pounds, 16 hands, owned by George Williston & Co., Brunswick, Me.

No. 87. Murat, Morgan breed, 3 years old, owned by George C. Durkee, Littleton.

No. 88. Sherman, 5 years old, owned by Levi Smith, Ashby, Mass.

No. 89. Morgan, 3 years old, owned by Miller & Fox, New Ipswich, N. Y.

No. 90. Pet, Roadster, Morgan and Messenger breed, 8 years old, weight 1040 pounds, owned by W. P. Balch, Boston.

No. 91. King Philip, Black Hawk and Abdallah breed, 1 year old, owned by J. F. DeWolf, Bristol, R. I.

No. 92. Leather Stocking, Kemble Jackson and Messenger breed, 2 years old, weight 920 pounds, 15 3-4 hands, owned by S. & D. Leavitt, Jr., Great Barrington.

No. 93. Dandy Jack, Black Hawk breed, 3 years old, owned by Amos Bigelow, Stanstead, Lower Canada.

No. 94. Yankee Doodle, Abdallah and Messenger breed, 5 years old, weight 1125 pounds, 15¾ hands, owned by S. Hayes, Natick.

No. 95. Anglo-Saxon, Black Hawk breed, 5 years old, weight 1100 pounds, owned by William Peters, North Andover.

No. 96. Young Morrell, Bullrush Morgan breed, 7 years old, weight 1150 pounds, owned by Town & Trow, Barre, Vt.

No. 97. Granite State Morgan, Flint Morgan breed, 8 years old, weight 950 pounds, 15 hands, owned by Charles C. Whitehouse, Farmington, N. H.

No. 98. Middlesex, Black Hawk and Morgan breed, 2 years old, weight 950 pounds, 15 hands, owned by Jno. Osmer, Concord, Mass.

No. 99. Bony, English breed, 3 years old, weight 890 pounds, 15 hands, owned by Charles Nicholson, Leominster.

No. 100. Lion, French and Morgan breed, 7 years old, weight 1200 pounds, 15 hands, owned by L. B. Fulsom, Roxbury.

No. 101. Wild Deer, Tippee and Wild Deer breed, 7 years old, weight 1200 pounds, 16 hands, owned by Dean & Merrill, Fabius, N. Y.

No. 102. Ashuelot Morgan, Woodbury Morgan breed, 10 years old, weight 1320 pounds, 16 hands, Uberto Bowen, Richmond, N. H.

No. 103. Young Morgan, Bullrush Morgan breed, 9 years old, owned by John Banfill, Bradford, Vt.

No. 104. Young Morgan Eagle, Morgan and English breed, 1 year old, owned by Joseph L. Bassett, Bridgewater.

No. 105. Young Tiger, Norman French breed, 8 years old, owned by Moses Call, Newcastle, Me.

No. 106. Black Hawk, 2 years old, owned by H. M. Pettigrew.

No. 107. Governor, French and Messenger breed, 10 years old, 16½ hands, owned by R. H. Libby, Norway, Me.

No. 108. Lone Star, Black Hawk breed, 7 years old, weight 1054 pounds, owned by Sylvanus Tuttle, Newmarket, N. H.

No. 109. Poston, English and Morgan breed, 15 years old, weight 1000 pounds, 15 hands, owned by W. Lawrence, Portland.

No. 110. Black Hawk Boston, English and Black Hawk breed, 3 years old, weight 910 pounds, 16 hands, owned by W. Lawrence, Portland, Me.

No. 111. Ashuelot, 8 years old, owned by Uberto Bowen, New Ipswich.

No. 112. Black Hawk Chief, Morgan breed, 6 years old, owned by D. Edgar Hill, Bridport, Vt.

No. 113. Black Hawk Defiance, $\frac{3}{4}$ Black Hawk and Morgan breed, 1 year old, owned by D. Edgar Hill, Bridport, Vt.

No. 114. Big Dick, English and Messenger breed, 5 years old, weight 1150 pounds, owned by S. L. Bradley, Friburg, Me.

No. 115. American Eagle, Black Hawk and Morgan breed, 3 years old, weight 1065 pounds, owned by Joshua Sanderson, Petersham.

No. 116. Bay State, Morgan breed, 6 years old, weight 1070 pounds.

No. 117. Royal Defiance, Morgan and English breed, 5 years old, weight 1200 pounds, owned by E. C. Brooks, Dedham.

No. 118. Flying Morgan, Morgan breed, 5 years old, weight 970 pounds, owned by Benjamin M. Glives, Byfield.

No. 119. Columbus, French and English breed, 21 years old, owned by Walter Smith, Orwell, Vt.

No. 120. Colt Olater, Sherman Morgan breed, 2 years old, owned by C. B. Clarke, Concord.

No. 121. Oseeola, Morgan breed, 1 year old, owned by C. B. Clarke, Concord.

No. 122. Prince Albert, Empire State breed, 16 months old, owned by C. B. Clarke, Concord.

No. 123. Abderahman, Arabian breed, 1 year old, owned by David Dunn, Portland, Chatham Co., N. Y.

No. 124. Defiance Black Hawk, Black Hawk breed, 3 years old, owned by B. F. Dix, Lowell.

No. 125. Young Prince, Morgan and English breed, 8 years old, owned by Daniel Cate, Manchester.

No. 126. Morgan Comet, Morgan breed, 5 years old, weight 800 pounds, owned by H. Billings, Cumberland, Me.

No. 127. Star of Empire, Empire State and Duroc breed, 2 1-2 years old, owned by James Huckins, Roxbury, Mass.

No. 128. Coburg Champion, English breed, 7 years old, weight 1650 pounds, 17 hands, owned by James M. Thompson, Springfield.

No. 129. Abel Lyman, Baltimore Morgan breed, 5 years old, owned by A. Lyman, West Randolph.

No. 130. Green Mountain, Jr., 4 years old, owned by A. Lyman, West Randolph.

BREEDING MARES AND FILLIES.

No. 131. Lady Sutton, owned by G. Howland Shaw, Brookline.

No. 132. Arabian Spot, weight 1100 pounds, owned by H. M. Reed, Lexington.

No. 133. Belle of Lexington, 17 months old, weight 800 pounds, owned by H. M. Reed, Lexington.

No. 134. With colt, 3-4 Morgan breed, 8 years old, owned by Asahel Hatch, Jr., Alstead, N. Y.

No. 135. With colt, owned by Trumbull Bull, Harvard.

No. 136. With colt, 10 years old, weight 1114 pounds, owned by Daniel E. Williams, Berlin.

No. 137. Jenny Lind, Black Hawk breed in part, 10 years old, weight 925 pounds, owned by J. G. Wood, Milbury.

No. 138. Fanny and colt, Messenger breed, weight 1100 pounds, owned by J. M. Maston and Co., Roxbury.

No. 139. Nella, Black Hawk breed, 4 years old, weight 1000 pounds, 15 hands, owned by Charles B. Clark, Concord, N. H.

No. 140. Kate and colt, Messenger breed, 9 years old, weight 1100 pounds, 15 hands, owned by B. P. Williams, West Roxbury.

No. 141. 10 years old, weight 1100 pounds, 15 hands, owned by John Ballard, Stockbridge, Vt.

No. 142. 9 years old, owned by Elijah Kimball, Clappville.

No. 143. 5 months old, owned by Elijah Kimball, Clappville.

No. 144. Mary, Long Island Blood breed, 8 years old, owned by Ezra Trull, Watertown.

No. 145. By Ethan Allen, 16 months old, owned by Ezra Trull, Watertown.

No. 146. Kate, Morgan breed, 14 years old, weight 1194 pounds, 15 1-2 hands, owned by Arthur W. Austin, West Roxbury.

No. 147. Fanny Walter and colt, Sir Walter and Canadian Mare, 7 years old, weight 1034 pounds, 15 hands, owned by Arthur W. Austin, West Roxbury.

No. 148. Young Joice, Messenger and Abdallah breed, 11 years old, weight 1050 pounds, 15 3-4 hands, owned by Jos. H. Billings, West Roxbury.

No. 149. Lady Morris, Trustee breed, 5 years old, weight 910 pounds, 15 hands, owned by Jos. H. Billings, West Roxbury.

No. 150. Lady Fremont, Trustee breed, 3 years old, weight 940 pounds, 15 1-2 hands, owned by Jos. H. Billings, West Roxbury.

No. 151. Lady Orange and colt, Messenger breed, 8 years old, weight 1120 pounds, 16 hands, owned by Samuel J. Capen, Dorchester.

No. 152. Mayflower, and 4 months colt, St. Lawrence breed, 8 years old, weight 1000 pounds, owned by John Dugan, Somerville.

No. 153. Sally Jenkins, and 5 months colt, Messenger breed, 12 years old, owned by Harrison Bacon, Barre.

No. 154. Massachusetts Maid and colt, Black Hawk breed, 8 years old, owned by R. S. Denny, Clappville.

No. 155. Fannie Morgan, Morgan breed, 7 years old, owned by Henry Olmsted, East Hartford, Ct.

No. 156. Fanny and colt, 4 months, Morgan breed, 5 years old, owned by J. J. Carr, Quincy, Mass.

No. 157. Fanny and colt, Morgan breed, 22 years old, owned by John Fussell, Roxbury.

No. 158. Fill Fanny, Black Hawk and Morgan breed, 2 years old, owned by John Fussell, Roxbury.

No. 159. Ethan Allen and English breed, 7 years old, weight 1500 pounds, owned by John N. Kent, Newbury, Mass.

No. 160. Leaping Fawn, Indian breed, owned by Stillman W. Ellis, Providence, R. I.

No. 161. Red Colt, Hamiltonian breed, 10 years old, weight 1050 pounds, 15 1-2 hands, owned by J. H. Hathorne, Boston.

No. 162. Fanny, Empire and Morgan breed, 3 years old, weight 890 pounds, 15 hands, owned by Jos. L. Brigham, Roxbury.

No. 163. Messenger, 12 years old, weight 1100 pounds, 15 1-2 hands, owned by Adams Carpenter, Providence.

No. 164. Netty McKee, Black Hawk breed, 2 years old, weight 900 pounds, 15 hands, owned by Adams Carpenter, Providence.

No. 165. Soto, Thoroughbred, 9 years old, owned by J. J. Adams, Boston.

No. 166. Fanny Kemble, Sherman and Black Hawk breed, 3 years old, weight 890 pounds, 15 hands, owned by Thomas Goddard, Boston.

No. 167. Wild Maggie, Black Hawk breed, 1 year old, weight 700 pounds, 14 3-4 hands, owned by E. S. Stowell, Cornwall, Vt.

No. 168. One-Eyed Mary, Trustee breed, 3 years old, owned by Jackson Nichols, Flushing, L. I.

No. 169. Flying Mary, with colt, Hamiltonian breed, 7 years old, owned by S. T. Frost, Somerville.

No. 170. Julia, Messenger breed, 11 years old, owned by J. F. DeWolf, Bristol, R. I.

No. 171. Filley, Empire State breed, 3 years old, owned by James Glover, Jr., Boston.

No. 172. Jenny Lind, Black Hawk and Morgan breed, 9 years old, 15½ hands, owned by C. W. Sherman, Vergennes, Vt.

No. 173. Lady Johnson, Messenger breed, 5 years old, owned by S. K. Johnson, North Andover.

No. 174. Kate Hayes, Green Mountain and Morgan breed, 4 years old, weight 1185 pounds, owned by Samuel Wheat, Putney, Vt.

No. 175. Jessie, Empire State breed, 3 years old, owned by Jas. W. Haskins, Roxbury.

No. 176. Lady Pingree and Colt, Thoroughbred, 6 years old, weight 900 pounds, 15¼ hands, owned by Walter Smith, Orwell, Vermont.

No. 177. French, 7 years old, owned by Isaac Field, Waltham, Mass.

No. 178. Messenger, 8 years old, weight 1040 pounds, 16 hands, owned by Ira Warren, Boston.

No. 179. Lady Humphrey, Morgan breed, 10 years old, owned by John Oliver, Concord, Mass.

No. 180. Mary Morgan, Morgan breed, 9 years old, weight 1300 pounds, owned by Amos Felch, Limerick.

No. 181. Black Maria, Messenger breed, 15 years old, weight 900 pounds, 14 hands, owned by Charles Nicholson, Leominster.

No. 182. Filly, Black Hawk breed, 4 years old, weight 1000 pounds, 15½ hands, owned by Charles Nicholson, Leominster.

No. 183. Duchess, Hambletonian breed, 11 years old, weight 1000 pounds, 15½ hands, owned by C. M. Vinton, Jamaica Plains, Mass.

No. 184. Fashion and Foal, Thoroughbred, 21 years old, owned by L. G. & F. Morris, Fordham, N. Y.

No. 185. Etiquette, Thoroughbred, 2 years old, owned by L. G. & F. Morris, Fordham, N. Y.

No. 186. A la mode, Thoroughbred, 1 year old, owned by L. G. & F. Morris, Fordham, N. Y.

No. 187. Nella, $\frac{3}{4}$ Sherman Morgan breed, 5 years old, 15 hands, owned by C. B. Clarke, Concord, N. H.

No. 188. Polly Roe, with Colt, Hamiltonian breed, 11 years old, owned by Samuel Henshaw, Brookline.

MATCHED AND FANCY MATCHED HORSES.

No. 189. Span of Horses, 7 years old, owned by David Leavitt, Great Barrington.

No. 190. Draft, owned by Page & Noyes, Boston.

No. 191. Sired by Root and Cream Horses, 7 years old, weight 2100 pounds, owned by O. S. Saunders, Boston.

No. 192. Black Hawk, 7 and 8 years old, weight 1004, and 1005 pounds, owned by Geo. P. Reed, Roxbury.

No. 193. Mares, owned by P. K. Osgood, Rutland, Vt.

No. 194. 3¼ years old, owned by J. A. Harwood, Littleton.

No. 195. Mares, Lyon and Messenger breed, 6 years old, weight 1050 pounds, 16 hands, owned by C. F. Whitecomb, Boston.

No. 196. 5 and 6 years old, owned by Paran Stevens, Boston, Mass.

No. 197. 8 years old, weight 1050 pounds, owned by Thomas Adams, Roxbury.

No. 198. Messenger, 8 and 9 years old, weight 2268 pounds, 16½ hands, owned by Edward Leary, Boston.

No. 199. Blucher, and Blood Mare, 4 and 5 years old, owned by Samuel Twichell, Jr., Buffalo.

No. 200. Fancy matched, 6 years old, owned by G. Twichell, Boston.

No. 201. Ponies, 7 years old, owned by F. Lyon, Niagara Falls.

No. 202. 7 years old, owned by James Harris, Brookline.

No. 203. Morgans, 6 and 7 years old, owned by Thomas Adams, Roxbury.

No. 204. Lion and Raven, Black Hawk and Morgan breed, 7 years old, weight 1000 and 1000 pounds, owned by Ives G. Bates, Boston.

No. 205. Morgans, 5 years old, weight 900 and 900 pounds, 15 hands, owned by D. W. Prince, Brandon, Vt.

No. 206. Owned by C. W. Pierce, Boston.

No. 207. Hamiltonian, 7 and 8 years old, weight 1950 pounds, owned by J. W. Wolcott, Roxbury.

No. 208. Fancy, 5 and 6 years old, owned by David McCulley, Boston.

No. 209. Messenger, 8 and 9 years old, weight 1157 and 1167 pounds, owned by C. S. Butler, Dorchester.

No. 210. Black Hawk, 6 years old, owned by N. E. Nimms, Boston.

No. 211. 6 years old, weight 2400 pounds, 16 hands, owned by N. E. Nimms, Boston.

No. 212. Morgan, 9 years old, owned by F. T. Cordis, Longmeadow.

No. 213. Duke and Commodore, 6 years old, 16 hands, owned by Horace Sargent, Springfield.

No. 214. Topsy and Dandy, 7 years old, weight 1156 and 1181 pounds, 16½ hands, owned by David Sanderson, Somerville.

No. 215. Owned by Joseph Ricketson 3d, New Bedford.

No. 216. Tom and Charley, English and Morgan breed, 3 years old, weight 1010 and 1010 pounds, owned by J. A. Harwood, Littleton.

No. 217. Owned by D. Leavitt, Great Barrington.

No. 218. Morgan, 8 and 9 years old, owned by Henderson & Ball, Keene, N. H.

- No. 219. Owned by R. G. Holmes, Westboro'.
- No. 220. Ponies, owned by Rufus Claflin, Milford.
- No. 221. Trotters, Tippo's full brothers, 6 and 7 years old, weight about 2100 pounds, 15 $\frac{3}{4}$ hands, owned by Joseph Wright, Waterloo, N. Y.
- No. 222. Mares, weight 850 pounds each, 14 $\frac{1}{2}$ hands, owned by George Greig, Boston.
- No. 223. Own Sisters, French and Morgan breed, 4 and 5 years old, weight 1140, and 1180 pounds, owned by Henry D. Pierce, Hillsborough, N. H.
- No. 224. Morgan, 7 years old, owned by N. E. Nims, Boston.
- No. 225. 5 and 6 years old, owned by Samuel Thompson, Somerville.
- No. 226. Fancy, Hamiltonian and Black Hawk breed, 6 and 7 years old, owned by J. L. Mitchell, Albany.
- No. 227. Fancy, 5 and 6 years old, owned by D. Daw, Fredericton, N. Y.
- No. 228. Black Hawk and Morgan breed, 6 and 7 years old, owned by Clapp & Sharp, Hartford, Conn.
- No. 229. Sir Henry, 6 years old, owned by Clapp & Sharp, Hartford, Conn.
- No. 230. Ponies, 5 and 6 years old, owned by E. Osgood Libby, Portland, Me.
- No. 231. Major and Colonel, Messenger breed, 6 years old, weight 2450 pounds, 16 hands, owned by C. Fonda, Clifton Park, N. Y.
- No. 232. Morgan, 7 years old, weight 2300 pounds, owned by Wm. G. Ladd, Jr., Watertown.
- No. 233. Hamiltonian Horse, and Black Hawk Mare, 6 years old, weight 2120 pounds, owned by Sabin and Mortimer, Williamstown.
- No. 234. Morgans, Black Hawk breed, 6 years old, weight 1900 pounds, owned by A. S. Webster, Boston.

PONIES.

- No. 235. Topsy, Mare, 7 years old, owned by Robert B. Forbes, Milton.
- No. 236. Gen. Washington, 7 years old, weight 700 pounds, owned by Thomas Montgomery, Boston.
- No. 237. English Mare Kitty, imported, 8 years old, weight 675 pounds, owned by E. L. Ryder, Boston.

No. 238. Bengal, 6 years old, weight 280 pounds, owned by Capt. Frank Dale, Boston.

No. 239. Billy Miles, 10 years old, owned by W. S. Evans, Boston.

No. 240. Ned, 11 years old, owned by John Curry, Boston.

No. 241. Tom, 9 years old, weight 730 pounds, owned by John Hogan, Boston.

No. 242. Owned by Ebed Hanchett, Natick.

No. 243. 8 years old, owned by J. Clapp, Dorchester.

No. 244. Julia, $\frac{1}{2}$ Morgan and French breed, 10 years old, owned by L. E. Pope, Roxbury.

No. 245. Willie, Shetland breed, 9 years old, weight 450 pounds, owned by J. Willie Boyd, Boston.

No. 246. Jenny, English breed, 8 years old, weight, 620 pounds, owned by E. L. Ryder, Boston.

No. 247. Jenny, 6 years old, weight 825 pounds, 12 $\frac{1}{2}$ hands, owned by John McDonald, Marlboro'.

No. 248. 7 years old, owned by Benj. Merriam, Roxbury.

No. 249. Cham, Shetland breed, 5 years old, weight 250 pounds, owned by George Miller, Roxbury.

No. 250. Owned by D. P. Matthews, East Boston.

No. 251. Twins, Indian breed, 3 years old, owned by Austin Lord, Ashtabula, Ohio.

No. 252. Linda, Mexican breed, 4 years old, weight 550 pounds, owned by J. D. Richards, East Weymouth.

FAMILY HORSES.

No. 253. Jenny, Morgan breed, 6 years old, weight 945 pounds, owned by Thomas H. Sweetser, Reading.

No. 254. Gelding, 2 $\frac{1}{4}$ years old, weight 1074 pounds, owned by Daniel E. Williams, Berlin.

No. 255. Mare, Messenger breed, 10 years old, owned by Charles Waite, Jr., Cambridge.

No. 256. Morgan, 9 years old, weight 1000 pounds, 16 hands, owned by Daniel Wilson, Billerica.

No. 257. Bruno, 6 years old, weight 1270 pounds, owned by T. H. Leavitt, Boston.

No. 258. Daniel Webster, Messenger breed, 9 years old, weight 1050 pounds, 16 hands, owned by James Mattison, Boston.

No. 259. Sancho, 9 years old, owned by Paran Stevens, Boston.

No. 260. Frank Pierce, 9 years old, owned by Geo. B. Holmes, North Bridgewater.

No. 261. 6 years old, weight 925 pounds, owned by S. S. Rowe, Boston.

No. 262. Owned by B. S. Buckley, Fairhaven.

No. 263. 5 years old, owned by Jacob N. Blakeslee, Watertown, N. Y.

No. 264. Tiger, Morgan breed, 9 years old, weight 1050 pounds, owned by Edmund Boynton, Boston.

No. 265. 11 years old, owned by William Spence, Lowell.

No. 266. Owned by Charles G. Adams.

No. 267. Bell-founder and Morgan, 7 years old, owned by Joab Hapgood, Shrewsbury.

No. 268. Morgan, 9 years old, weight 1050 pounds, owned by Edmund Boynton.

No. 269. Billy Gray, Black Hawk breed, 6 years old, weight 800 pounds, 15 hands, owned by J. E. Butterfield, Pepperell, Mass.

No. 270. Messenger, 7 years old, weight 1025 pounds, 15 $\frac{3}{4}$ hands, owned by Jos. H. Billings, West Roxbury.

No. 271. Clara, Messenger breed, 8 years old, weight 900 pounds, 13 hands, owned by John A. Lowell, Boston.

No. 272. Golden Farmer, 5 years old, weight 1270 pounds, 17 $\frac{1}{2}$ hands, owned by A. Farrar, Buckfield, Me.

No. 273. Bullrush, Morgan & Messenger breed, 5 years old, weight 1100 pounds, 16 hands, owned by F. Morrill, Danville, Vt.

No. 274. Clifford, Morgan and Eclipse breed, 6 years old, owned by G. Twichell, Boston.

No. 275. Fanny, 8 years old, owned by G. Howland Shaw, Brookline.

No. 276. Morgan, 8 years old, owned by John E. Cheney, Boston.

No. 277. Billy, 6 years old, weight 1100 pounds, owned by J. B. Dinsmore, Charlestown, N. H.

No. 278. North Star, Bulrush breed, 8 years old, weight 1300 pounds, 17 hands, owned by Adams & Co., Boston.

No. 279. 6 years old, weight 1075 pounds, owned by L. M. Clark.

No. 280. Kate, Messenger breed, 5 years old, weight 1156 pounds, owned by H. N. Hunt, Readfield.

No. 281. Messenger, 5 years old, weight 1000 pounds, owned by S. C. and G. Fiske, Boston.

No. 282. White Stockings, 10 years old, weight 1000 pounds, 15 hands, owned by William Brown, Boston.

No. 283. Mare, 4 years old, owned by Luther S. Butler, Lenox.

No. 284. The Scates Maid, Morgan breed, 9 years old, weight 940 pounds, owned by D. Scates, Boston.

No. 285. Contocook, Black Hawk breed, 6 years old, weight 900 pounds, owned by D. A. Johnson, Chelsea.

No. 286. Charlie, Trustee and Morgan breed, 6 years old, weight 1100 pounds, 7 hands, owned by Marston & Co., Roxbury.

No. 287. Jerry, Morgan breed, 8 years old, weight 1000 pounds, owned by D. H. Bailey, Boston.

No. 288. Fanny, Morgan breed, 5 years old, weight 925 pounds, owned by Edward Gleason, Dorchester.

No. 289. Charlie, Black Hawk breed, 4 years old, owned by W. E. Coffin & Co., Boston.

No. 290. Charlie, Morgan breed, 7 years old, owned by F. T. Bush, Boston.

No. 291. Whitefoot, 7 years old, weight 990 pounds, owned by P. N. Pear, Roxbury.

No. 292. J. B. Glover, Boston.

No. 293. Jim, owned by A. S. Pond, Utica, N. Y.

No. 294. F. Sweetser, Boston.

No. 295. Gray Eagle, Messenger breed, 9 years old, weight 1100 pounds, 16 1-2 hands, owned by N. B. Sides, Portsmouth, N. H.

No. 296. Mayfly, Messenger and English breed, 6 years old, weight 1020 pounds, 16 hands, owned by E. Swan, Worcester.

No. 297. Hamiltonian, Messenger breed, 6 years old, weight 1125 pounds, 17 hands, owned by John M. Davenport, Grafton.

No. 298. Billy, Gelding breed, 3 years old, owned by W. E. Coffin, Boston.

No. 299. Billy, Messenger breed, 6 years old, weight 1000 pounds, 15 1-2 hands, owned by Stephen Clark, Boston.

No. 300. Jesse Maynard, Boston.

No. 301. Patrick Greeley.

No. 302. Hardroad, Abdallah breed, 7 years old, weight 950 pounds, 15 hands, owned by E. Harnden, Lowell.

No. 303. Lady Messenger, Messenger breed, 5 years old, owned by J. E. Sweetzer, Boston.

No. 304. Green Mountain Maid, Morgan and Black Hawk breed, 6 years old, weight 1000 pounds, owned by Potter & Whitecomb, Boston.

No. 305. Kate, English breed, 7 years old, weight 1050 pounds, 15 1-2 hands, owned by H. L. Richardson, Brookline.

No. 306. Lilla, Morgan and Messenger breed, 7 years old, weight 1000 pounds, owned by M. C. Kenney, Cambridge.

No. 307. Prince, Morgan and French breed, 4 years old, owned by Nahum Ward, Roxbury,

No. 308. Charlie, Morgan breed, 9 years old, owned by Wm. Pope, Boston.

No. 309. Pacer, Messenger breed, 7 years old, owned by John Clark, Framingham.

No. 310. Billy, Morgan breed, 8 years old, owned by James Dennie, Jr., Boston.

No. 311. Mahomet, Abdallah breed, 7 years old, weight 1167 pounds, 16 hands, owned by S. G. Reed, Boston.

No. 312. 7 years old, owned by J. F. Richardson, Jamaica Plains.

No. 313. Black Hawk, 8 years old, owned by G. H. Abrahams, Chelsea.

No. 314. Lady Kate, Comet breed, 6 years old, 16 hands 3 in., owned by Jacob S. Williamson, Clover Hill, N. J.

No. 315. Messenger and English, 4 years old, weight 850 pounds, owned by Amasa Pray, Dorchester.

No. 316. Peacock, English breed, imported, 11 years old, weight 1025 pounds, owned by Jesse H. Smith, Grafton.

No. 317. John Lloyd, English breed, 5 years old, owned by Jas. W. Ebbett, Grafton.

No. 318. Sleepy Kate, 5 years old, weight 950 pounds, 15½ hands, owned by Jos. J. Fuller, Danvers.

No. 319. Nelly Bligh, Morgan breed, 7 years old, weight 900 pounds, owned by Jos. A. Rogers, East Boston.

No. 320. Kitty Clover, 10 years old, owned by J. H. Henshaw.

No. 321. Bay Jack, Morgan breed, 7 years old, weight 1040 pounds, owned by Henry Stetson, Pawtucket.

No. 322. Star Gazer, 7 years old, weight 1040 pounds, owned by Eben Flagg, Worcester.

No. 323. Morgan, 7 years old, weight 900 pounds, owned by Geo. M. Walker, Newtonville, Canada.

No. 324. Tiger, 8 years old, owned by David S. Benjamin, Lexington.

No. 325. Nelly, Messenger breed, 6 years old, owned by D. H. Blaney, East Boston.

No. 326. Peacock, Messenger breed, 6 years old, owned by Jas. L. Green, Norwich, Conn.

No. 327. 7 years old, owned by Robert Cunningham, Dorchester.

No. 328. French and English breed, 4 years old, owned by Amasa Clapp, Dorchester.

No. 329. Troubadour, 5 years old, owned by William Barnard, Franklin, N. C.

No. 330. Morgan, 6 years old, weight 950 pounds, $15\frac{1}{2}$ hands, owned by James Murphy, Boston.

No. 331. Messenger, 7 years old, weight 1000 pounds, $15\frac{1}{4}$ hands, owned by D. H. Bacon, Natick, Mass.

No. 332. 11 years old, weight 1000 pounds, 16 hands, owned by B. S. Buckley, Fairhaven, Mass.

No. 333. Mike, 6 years old, weight 950 pounds, $15\frac{1}{2}$ hands, owned by B. S. Buckley, Fairhaven, Mass.

No. 334. Gipsey, Roadster, St. Lawrence breed, 7 years old, weight 925 pounds, 15 hands, owned by H. K. White, Boston.

No. 335. Grey John, Messenger breed, 7 years old, weight 950 pounds, 15 hands, owned by Webster & Bartlett, East Boston.

No. 336. Morgan, 6 years old, weight 1050 pounds, 15 hands, owned by David Nelson, Holliston.

No. 337. Fox, Drew breed, 7 years old, weight 950 pounds, 15 hands, owned by Jas. E. Simmons, Exeter, Me.

No. 338. Tib, Morgan breed, 9 years old, weight 870 pounds, 14 hands, owned by T. G. Whytal, West Roxbury.

No. 339. Norman, Half breed, 5 years old, weight 1000 pounds, 17 hands, owned by John Sweeney, Boston.

No. 340. Young Ethan, Roadster, Ethan Allen and Hamiltonian breed, 17 months old, weight 650 pounds, owned by C. M. Vinson, Jamaica Plain.

No. 341. Nig, French and Morgan breed, 7 years old, weight 800 pounds, owned by W. W. Bartlett, Woburn.

No. 342. Lady Cass, Carson and Morning breed, 8 years old, owned by Stephen Thomas, West Farley, Vt.

No. 343. Owned by Dr. Peabody, Worcester.

No. 344. Messenger, 8 years old, owned by N. A. Farwell.

No. 345. Wild Prairie, 6 years old, weight 1125 pounds, owned by Benjamin Pease, Wareham, Conn.

No. 346. 8 years old, owned by John Leet, Roxbury.

No. 347. Robert, Morgan Bullrush breed, 6 years old, weight 1130 pounds, 14 hands, owned by W. A. Humphrey, Brookline, Mass.

No. 348. Mark, Messenger breed, 6 years old, weight 1109 pounds, owned by Levi Bliss, Boston.

No. 349. Fanny, Morgan breed, 5 years old, weight 800 pounds, owned by Harvey Rogers, Chelsea.

No. 350. Go Ahead, Morgan breed, 6 years old, weight 900 pounds, 15½ hands, owned by G. A. B. Shaw, Salisbury.

No. 351. Black Hawk, 8 years old, owned by E. A. Hammond, Boston.

No. 352. Mare, Black Hawk breed, owned by H. N. Clarke, Canada.

No. 353. Morgan, 8 years old, weight 1250 pounds, owned by S. P. Irwin, Southbridge.

No. 354. Black Hawk Belle, 7 years old, owned by David Ellis, Cambridge.

No. 355. Morgan Bellfounder, 7 years old, owned by J. Hapgood, Shrewsbury, Mass.

No. 356. Morgan, 6 years old, owned by William Elwell, Gardiner, Me.

No. 357. Morgan, 6 years old, owned by J. G. Adams, East Cambridge.

No. 358. Tippo, 6 years old, owned by H. Blakesly, East Cambridge.

No. 359. Apollo, 7 years old, owned by City of Boston.

No. 360. Morgan and Messenger breed, 7 years old, owned by R. Shurtleff, Bellows Falls.

No. 361. Young Mack, Messenger breed, 6 years old, owned by Weston Merritt, Boston.

No. 362. Dan, Morgan and English breed, 6 years old, weight 1180 pounds, owned by R. M. Abbe, Enfield, Conn.

No. 363. Lucy Long, Morgan breed, 5 years old, owned by Dr. Peabody, Palmer.

No. 364. Ben Franklin, 6 years old, owned by D. P. Matthews, East Boston.

No. 365. Montepool, Highlander breed, 5 years old, owned by Wm. A. Forbes, Gt. Barrington.

No. 366. Messenger, 6 years old, owned by Stephen White, North Cambridge.

No. 367. Mayflower, Morgan breed, 4 years old, weight 950 pounds, owned by Jno. Robie, Ware, N. H.

No. 368. Morgan, 5 years old, owned by Darling & Buffum, Rockingham, Vt.

No. 369. Black Hawk, 8 years old, owned by E. Moulton Boston.

No. 370. James F. Clarke, Boston.

No. 371. Stranger, Morgan breed, 5 years old, weight 800 pounds, owned by H. Billings, Cumberland, Me.

No. 372. Kitty Clyde, St. Lawrence breed, 8 years old, owned by A. D. Briggs, Springfield.

No. 373. Julia Dean, Abdallah breed, 7 years old, owned by A. D. Briggs, Springfield.

No. 374. Patriot, Patriot breed, 3 years old, owned by Austin Lord, Ashtabula, Ohio.

No. 375. Lady Macbeth, Morgan breed, 8 years old, weight 900 pounds, owned by S. G. Bean, N. Andover.

No. 376. 9 years old, weight 1150 pounds, owned by N. Y. Britnall, Boston.

No. 377. Black Harriet, 7 years old, owned by Wm. H. Rhodes, Providence.

No. 378. Fanny, Morgan breed, 7 years old, weight 1050 pounds, owned by C. M. A. Twichell, East Boston.

No. 379. Lizzie, 6 years old, weight 1000 pounds, owned by J. M. Barnes, Boston.

No. 380. Lilly, Messenger breed, 7 years old, weight 900 pounds, owned by J. Hanford, East Boston.

No. 381. Black Hawk, owned by Edward Wyman, Roxbury.

No. 382. 10 years old, weight 1000 pounds, owned by L. A. Bigelow, Boston.

No. 383. Owned by Ruel Howard, Waterville, Me.

No. 384. Flying Morgan, Gelding, Morgan and English breed, 5 years old, weight 900 pounds, $14\frac{1}{2}$ hands, owned by Sewall Blood, Waltham, Mass.

No. 385. Tom, 9 years old, owned by B. A. Smith, Boston.

DRAFT HORSES.

No. 386. Pair Dark Grey, 6 years old, weight 1340 and 1400 pounds, owned by Russell, Harrington & Co., Boston.

No. 387. Pair White, 8 years old, weight 1330 and 1260 pounds, owned by Russell, Harrington & Co., Boston.

No. 388. Pair Bay, 9 and 10 years old, weight 1200 and 1175 pounds, owned by Russell, Harrington & Co., Boston.

No. 389. Pair, owned by Russell, Harrington & Co., Boston.

No. 390. Pair, owned by Russell, Harrington & Co., Boston.

No. 391. Owned by Page & Noyes, Boston.

No. 391. 6 years old, weight 1090 pounds, 16 hands, owned by Alexander Dickinson, Cambridge.

No. 393. Quebec, Morgan breed, 8 years old, owned by Adams & Co., Boston.

No. 394. Dick, 9 years old, weight 1370 pounds, 17 hands, owned by Terence F. McHugh, Boston.

No. 395. Diligence, Stallion, French breed, 5 years old, owned by Edward Harris, Norristown, N. J.

No. 396. 7 years old, weight 1250 pounds, owned by Moses Emerson, Boston.

No. 397. 8 years old, owned by East Boston Sugar Refinery, E. Boston.

No. 398. 8 years old, owned by East Boston Sugar Refinery, E. Boston.

No. 399. Owned by F. S. Carruth & Co., Boston.

No. 400. Pair, owned by Robert Cowdin, Boston.

No. 401. Pair, owned by Robert Cowdin, Boston.

No. 402. 9 years old, weight 1400 pounds, 17 hands, owned by Caleb Thurston, Boston.

No. 403. Frank, 8 years old, weight 1100 pounds, owned by M. W. Goodell & Co., Boston.

No. 404. Aleck, English breed, 7 years old, owned by Hubbard Pierce, Boston.

No. 405. Coburg Champion, English breed, 8 years old, weight 1700 pounds, 17 hands, owned by James M. Thompson, Springfield.

No. 406. Pair, 8 years old, weight 1300 pounds, owned by M. L. Kirtland, Vernon, N. Y.

TROTting HORSES.

- No. 407. Owned by W. S. Blackington, North Adams.
- No. 408. Eastern Colt, 6 years old, weight 950 pounds, owned by Ephraim Hayes, Boston.
- No. 409. Patapsco, owned by B. S. Buckley, Fairhaven.
- No. 410. Chicago Jack, owned by William T. Hanchett, Natick.
- No. 411. Grey Eagle, 7 years old, weight 1050 pounds, $16\frac{1}{2}$ hands, owned by Wm. Rand, Weston.
- No. 412. Owned by Barnard Howe, North Brookfield.
- No. 413. Genesee, 6 years old, owned by Anson Livingston, New York.
- No. 414. Owned by George Wood, Bangor, Me.
- No. 415. Young America, 6 years old, owned by Henry T. Sissons, Providence.
- No. 416. Lady Litchfield, 9 years old, weight 900 pounds, $15\frac{1}{4}$ hands, owned by Daniel Mace.
- No. 417. Yankee, 6 years old, owned by A. Farrar, Bucksfield, Maine.
- No. 418. Owned by N. Norton, Farmington, Me.
- No. 419. Tom Hyer, Stallion, Morgan breed, 5 years old, weight 1000 pounds, $15\frac{1}{2}$ hands, owned by Jona J. Bowen, Bethel, Vt.
- No. 420. Guiding Star, Duroc breed, 8 years old, weight 1000 pounds, owned by Leander Curtis, East Abington.
- No. 421. Jenny Lind, 8 years old, owned by Charles Keener, Dorchester.
- No. 422. Eastern Maid, 7 years old, weight 870 pounds, $14\frac{1}{2}$ hands, owned by S. N. Thompson, Roxbury.
- No. 423. Invincible, Morgan and Messenger breed, 5 years old, weight 900 pounds, owned by C. A. Marston, Mt. Vernon, Me.
- No. 424. Magnolia, 7 years old, owned by W. W. Springsteed, Albany.
- No. 425. Ned, Pony, 7 years old, owned by D. H. Staunton, Albany.
- No. 426. Lexington, Morgan breed, 6 years old, owned by Daniel S. Benjamin, Lexington.
- No. 427. Medley, Messenger breed, 8 years old, weight 900 pounds, $15\frac{1}{4}$ hands, owned by S. B. Lawton, Roxbury.
- No. 428. 7 years old, weight 900 pounds, 15 hands, owned by J. Smith, New Bedford.

No. 429. Jerry, Eaton breed, 5 years old, 16 hands, owned by George Stearns, Bangor, Me.

No. 430. Rockland, Morgan breed, 6 years old, weight 900 pounds, 15 hands, owned by W. G. Berry, Rockland, Me.

No. 431. Morgan, 7 years old, owned by John Banfill, Bradford, Vermont.

No. 432. Lady Lawrence, owned by Jackson Nichols, Flushing, Long Island.

No. 433. Fanny Sherman, 9 years old, weight, 765 pounds, owned by J. F. Sherman, East Wareham.

No. 434. White Mountain Morgan, 7 years old, weight 1000 pounds, owned by Robbins & Co., Boston.

No. 435. Young Ripton, 8 years old, weight 1000 pounds, 15½ hands, owned by Wm. Barnard, Boston.

No. 436. Vermont Boy, Hamilton breed, 5 years old, weight 1000 pounds, owned by E. H. & F. Gilman, Montpelier, Vt.

No. 437. 6 years old, weight 1025 pounds, owned by F. Perley, Danvers.

No. 438. Kate Miller, owned by Daniel Mace.

No. 439. Columbus, Stallion, 24 years old, owned by Walter Smith, Vt.

No. 440. Stockbridge Chief, Stallion, 8 years old, weight 1150 pounds, owned by P. W. Bishop, Chatham Four Corners, N. Y.

No. 441. Harlow, Stallion, Morgan breed, 5 years old, owned by L. D. Howe, Brandon.

No. 442. Sherman, Black Hawk breed, 10 years old, owned by Samuel Nash and Dura Warren.

No. 443. White Mountain, Morgan and Messenger breed, 3 years old, weight 900 pounds, 14½ hands, owned by S. N. Edgerley, Manchester.

CLASS III. SHEEP.

LONG-WOOLED.

No. 1. Buck, 1 year old, owned by Elihu Norton, Chelsea, Vermont.

No. 2. Buck, 1 year old, owned by Elihu Norton, Chelsea, Vermont.

No. 3. Buck, 4 years old, owned by Henry D. Pierce, Hillsborough, N. H.

No. 4. Buck, 3 years old, owned by Henry D. Pierce, Hillsborough, N. H.

No. 5. Buck, 18 months old, owned by Henry D. Pierce, Hillsborough, N. H.

No. 6. 5 Ewes, 4 years old, owned by Henry D. Pierce, Hillsborough, N. H.

No. 7. 5 Lambs, 6 months old, owned by Henry D. Pierce, Hillsborough, N. H.

No. 8. Buck Hector, New Oxfordshire breed, 2 years old, weight 290 pounds, owned by J. T. Andrew, West Cornwall, Conn.

No. 9. 3 Sheep, New Oxfordshire breed, 2 years old, weight 290 pounds, owned by J. T. Andrew, West Cornwall, Conn.

No. 10. Buck, 2 years old, owned by D. B. Haight, Dover Plains, N. Y.

No. 11. Buck, 1 year old, owned by D. B. Haight, Dover Plains, N. Y.

No. 12. Buck, 1 year old, owned by D. B. Haight, Dover Plains, N. Y.

MIDDLE-WOOLED.

No. 13. Buck, 2 years old, owned by Richard S. Fay, Lynn.

No. 14. Buck, 1 year old, owned by Richard S. Fay, Lynn.

No. 15. 5 Ewes, 2 years old, owned by Richard S. Fay, Lynn.

No. 16. 5 Ewes, 2 years old, owned by Richard S. Fay, Lynn.

No. 17. 5 Ewes, 2 years old, owned by C. Howland, Albany.

No. 18. Buck, 4 years old, owned by Henry D. Pierce, Hillsborough, N. H.

No. 19. Buck, Southdown breed, 1 year old, owned by George Hartshorne, Rahway, N. J.

No. 20. Buck, Southdown breed, 4 years old, owned by L. G. Morris, New York.

No. 21. Buck, Young York, 1½ years old, owned by L. G. Morris, N. Y.

No. 22. 6 Ewes, Southdown breed, over 2 years old, owned by L. G. Morris, New York.

No. 23. 6 Ewes, Southdown breed, 1 year old, owned by L. G. Morris, New York.

No. 24. Buck, Southdown breed, 3 years old, owned by D. B. Haight, Dover Plains, N. Y.

No. 25. Buck, Southdown breed, 1 year old, owned by D. B. Haight, Dover Plains, N. Y.

No. 26. 5 Ewes, Southdown breed, 2 years old, owned by D. B. Haight, Dover Plains, N. Y.

No. 27. 5 Ewes, Southdown breed, 1 year old, owned by D. B. Haight, Dover Plains, N. Y.

VARIOUS BREEDS.

No. 28. Bakewell breed, owned by B. H. Lawton, Wickford, R. I.

No. 29. Buck, Cotswold and Leicester breed, 1 year old, owned by George Fox, N. Ipswich, N. H.

No. 30. Buck, Southdown breed, 2 years old, owned by A. S. Lewis, Framingham.

No. 31. Buck, Southdown breed, 1 year old, owned by A. S. Lewis, Framingham.

No. 32. 3 Ewes, Southdown breed, owned by A. S. Lewis, Framingham.

No. 33. 6 Ewes, Leicester breed, 1 year old, owned by Hungerford, Brodie & Converse, Ellisburgh, Jefferson Co., N. Y.

No. 34. Buck, Leicester breed, 2 years old, owned by Hungerford, Brodie & Converse.

No. 35. Buck, Leicester breed, 3 years old, owned by Hungerford, Brodie & Converse.

No. 36. Buck, 2 years old, owned by Albert Kelly, Auburn, Mass.

No. 37. 5 Ewes, 2 years old, owned by Albert Kelly, Auburn, Mass.

No. 38. Buck, Cotswold breed, 2 years old, owned by John Giles, So. Woodstock, Conn.

No. 39. Buck, Leicester breed, 2 years old, owned by John Giles, S. Woodstock.

SILESIAN MERINOS.

No. 40. Buck, 2 years old, owned by Chamberlain & Campbell, Red Hook, N. Y.

No. 41. Buck, 1 year old, owned by Chamberlain & Campbell, Red Hook, N. Y.

No. 42. 5 Ewes, 2 years old, owned by Chamberlain & Campbell, Red Hook, N. Y.

No. 43. 5 Ewes, under 2 years, owned by Chamberlain & Campbell, Red Hook, N. Y.

No. 44. Buck, 2 years old, owned by George Campbell, Westminster, Vt.

No. 45. Buck, 1 year old, owned by George Campbell, Westminster, Vt.

No. 46. 5 Ewes, owned by George Campbell, Westminster, Vt.

No. 47. 5 Ewes, under 1 year, owned by George Campbell, Westminster, Vt.

FRENCH MERINOS.

No. 48. Buck, 2 years old, owned by Chamberlain & Campbell, Red Hook, N. Y.

No. 49. Buck, under 2 years, owned by Chamberlain & Campbell, Red Hook, N. Y.

No. 50. Ewes, 2 years old, owned by Chamberlain & Campbell, Red Hook, N. Y.

No. 51. Ewes, under 2 years, owned by Chamberlain & Campbell, Red Hook, N. Y.

No. 52. Buck, 2 years old, owned by Kimball & Chamberlain, Rutland, Vt.

No. 53. Buck, 1 year old, owned by Kimball & Chamberlain, Rutland, Vt.

No. 54. Pair of Ewes, 2 years old, owned by Kimball & Chamberlain, Rutland, Vt.

No. 55. Pair of Ewes, 1 year old, owned by Kimball & Chamberlain, Rutland, Vt.

SPANISH MERINOS.

No. 56. Buck, 2 years old, owned by W. R. Sanford, Orwell, Vt.

No. 57. 5 Ewes, 1 year old, owned by W. R. Sanford, Orwell, Vt.

No. 58. Buck, 2 years old, owned by W. R. Sanford, Orwell, Vt.

No. 59. Buck, 1 year old, owned by W. R. Sanford, Orwell, Vt.

No. 60. Buck, 2 years old owned by J. N. Blakeslee, Watertown, N. Y.

No. 61. 5 Ewes, owned by J. N. Blakeslee, Watertown, N. Y.

No. 62. 5 Ewes, 1 year old, owned by J. N. Blakeslee, Watertown, N. Y.

No. 63. Buck, 2 years old, owned by George Campbell, Westminster, Vt.

No. 64. Buck, under 2 years, owned by George Campbell, Westminster, Vt.

MIXED MERINOS.

No. 65. Buck, 2 years old, owned by George Campbell, Westmoreland, Vt.

No. 66. Buck, under 2 years, owned by George Campbell, Westmoreland, Vt.

No. 67. 5 Ewes, 2 years old, owned by George Campbell, Westmoreland, Vt.

GOATS.

No. 68. He-goat, South American breed, owned by J. I. Caldwell.

No. 69. She-goat, Asiatic breed, owned by J. I. Caldwell.

CLASS IV. SWINE.

SUFFOLK BREED.

No. 1. Boar, owned by B. V. French, Braintree, Mass.

No. 2. Sow, owned by B. V. French, Braintree.

No. 3. Sow, owned by James Miller, Somerville.

No. 4. Sow and 5 pigs, and Native, $2\frac{1}{4}$ years old, owned by Charles R. Damon, Cochituate.

No. 5. Boar, 1 year old, owned by Joseph Batchelder, Roxbury.

No. 6. Boar, improved, 3 years old, owned by Josiah & Isaac Stickney, Boston.

No. 7. Sow, 2 years old, owned by Josiah & I. Stickney, Boston.

No. 8. Sow, 3 years old, owned by Josiah & I. Stickney, Boston.

No. 9. Boar, 1 year old, owned by G. W. Wilson, Malden.

No. 10. Boar, owned by Nathan Robbins, West Cambridge.

- No. 11. Boar, 1 year old, owned by Joseph Kittredge, North Andover.
- No. 12. Sow, 2 years old, owned by Joseph Kittredge, North Andover.
- No. 13. Boar, $2\frac{1}{2}$ years old, weight 455 pounds, imported, owned by B. V. French, Braintree.
- No. 14. Sow, $2\frac{1}{2}$ years old, weight 288 pounds, imported, owned by B. V. French, Braintree.
- No. 15. Boar, 16 months old, owned by Abner Haven, Framingham.
- No. 16. Sow, 15 months old, owned by A. Haven, Framingham.
- No. 17. Boar, 1 year old, owned by James A. Stearns, Manchester, N. H.
- No. 18. Boar, Romeo, 18 months old, owned by G. W. Hildreth, Greenfield.
- No. 19. Boar, 4 years old, owned by Lonsdale Company, Smithfield, R. I.
- No. 20. Boar, 2 years old, owned by Davis & Flint, Boston.
- No. 21. Sow, 4 years old, owned by Davis & Flint, Boston.
- No. 22. Boar, 2 years old, owned by M. C. Hayle, South Dedham.
- No. 23. Sow, $2\frac{1}{2}$ years old, owned by L. B. Morse, Boston.
- No. 24. 2 Sows, $4\frac{1}{2}$ months old, owned by G. F. Darling, West Needham.
- No. 25. 4 Boars, 4 months old, owned by G. F. Darling, West Needham.
- No. 26. Sow and Pigs, Suffolk and Mackay breed, owned by Joshua A. Sawyer, Boston.

ESSEX SWINE.

- No. 27. Sow and pigs, owned by Charles B. Clarke, Concord.
- No. 28. Boar, owned by B. V. French, Braintree.
- No. 29. Boar, 2 years old, imported, owned by C. A. Stetson, N. Y.
- No. 30. Sow, $1\frac{1}{2}$ years old, owned by B. V. French, Braintree.
- No. 31. Boar, 1 year old, owned by C. B. Clarke, Concord.
- No. 32. Sow, 1 year old, owned by C. B. Clarke, Concord.
- No. 33. Sow, 2 years old, owned by C. B. Clarke, Concord.
- No. 34. Sow, 2 years old, owned by C. B. Clarke, Concord.

- No. 35. Boar, 1 year old, owned by Wm. A. Harris, Newton.
- No. 36. Sow, 2 years old, owned by Wm. A. Harris, Newton.
- No. 37. Boar, 4 years old, owned by L. G. Morris, New York.
- No. 38. Boar, 1 year old, owned by L. G. Morris, New York.
- No. 39. Sow, 2 years old, owned by L. G. Morris, New York.
- No. 40. Sow, 1 year old, owned by L. G. Morris, New York.
- No. 41. Sow, owned by George Bacon, Brookline.

OTHER BREEDS.

- No. 42. Hog, owned by J. L. Dimick, Boston.
- No. 43. Sow, mixed breed, owned by Joshua Sawyer, Bolton.
- No. 44. Sow, 2 years old, owned by Charles R. Daman, Cochituate.
- No. 45. Sow, 2 years old, owned by Joseph Tuttle, Dorchester.
- No. 46. Sow, 15 months old, owned by Joseph Tuttle, Dorchester.
- No. 47. Boar, Yorkshire breed, 2 years old, owned by Hungerford, Brodie & Converse, Ellisburg, N. Y.
- No. 48. Sow, Mixed breed, 2½ years old, owned by James A. Stearns, Manchester, N. H.
- No. 49. Sir Robert, Boar, Berkshire breed, 4 years old, owned by L. G. Morris, N. Y.
- No. 50. Master Burke, Boar, Berkshire breed, 4 years old, owned by L. G. Morris, N. Y.
- No. 51. Boar, Berkshire breed, 1 year old, owned by L. G. Morris, N. Y.
- No. 52. Sow, Berkshire breed, 1 year old, owned by L. G. Morris, N. Y.
- No. 53. Sow, Berkshire breed, 1 year old, owned by L. G. Morris, N. Y.

PIGS.

- No. 54. 8 owned by Joshua Sawyer, Bolton.
- No. 55. 6 Suffolk breed, 5 weeks old, owned by Isaac Stickney, Boston.
- No. 56. 8 Suffolk breed, 4 months old, owned by Isaac Stickney, Boston.
- No. 57. 12 ½ Suffolk ½ Mackay breed, owned by Wm. S. Ward, Watertown.
- No. 58. 8 Suffolk breed, 6 months old, owned by Davis & Flint, Boston.

No. 59. 1-2 Suffolk, 1-2 Mackay breed, owned by Nathan Robins, West Cambridge.

No. 60. 7 Suffolk breed, 10 weeks old, owned by Abner Haven, Framingham.

No. 61. 2 mixed breed, 5 months old, owned by James A. Stearns, Manchester, N. H.

No. 62. 7 Essex breed, 3 months old, owned by C. B. Clarke, Concord.

No. 63. 9 Suffolk breed, 13 1-2 weeks old, owned by G. W. Hildreth, Greenfield.

No. 64. 8 Suffolk breed, owned by M. C. Hoyle, S. Dedham.

The grounds selected for the show were located on Harrison Avenue, between Brookline and Chester streets, and contained about thirty acres:

The first object that attracted the attention of the passer by, was a fine gateway, of imposing appearance, designed by John R. Hall, architect to the society. Two noble towers, each forty feet in height, supported a splendid arch, that spanned the whole width of the street. These towers contained the treasurer's office, with twelve windows upon the avenue front for the sale of tickets. Upon their summits were displayed the American ensigns. To one entering the field, was presented the novel and excellent feature of a vast area, graded to a perfect level. It was clothed in a most May-like mantle of green—the oats, which were sowed on the land about a month previous, being well up. This served not only an ornamental purpose, but a very useful one, in keeping down the dust that the myriads of feet and hoofs would otherwise have created.

Nearly in the centre of the field appeared a fine track for the trial of horses, describing, in its elliptical circuit, an exact half mile. Midway on "the home stretch," a pagoda-like tower, of beautiful proportions, rose to the height of seventy feet; and above it floated the American flag, thirty feet in length by

twenty feet in width. The first story of the tower was designed as a gathering ground for the officers of the society, marshals and invited guests ; the second story accommodated the judges ; and the third answered as a good lookout for those privileged to enter it.

On the west side of the track, seats for six thousand spectators were erected, in the most secure manner, capable of sustaining ten times the pressure to which they were subjected. These seats were constantly crowded with occupants, and, thus filled, formed by no means the least attractive feature of the show.

In the centre of the grounds was spread a mammoth tent, capable of seating three thousand persons at the grand agricultural banquet, held on the afternoon of Friday, 26th. To the north of this, a little in advance, was the President's tent, where the guests of the society were received and introduced to its presiding officer.

Still further north was placed another beautiful tent for a Ladies' Saloon, where ices and other refreshments might be obtained. Connected with this saloon was a Withdrawing Room, where, with the assistance of an officiating maid, bonnets, and collars, and curls could be becomingly adjusted, if disarranged amid the throng.

For the greater convenience of the reporters for the press, a tent was specially set apart for their use, and every facility afforded them, to obtain and transmit information. A committee of reception, from the Boston press, received their brethren from abroad, on the field, and spared no pains to further the purposes of their coming.

At the southeastern extremity of the field, preparations on a grand scale were made to feed the congregated hungry thousands, so that, in search of the staff of life and its usual concomitants, no person had occasion to leave the grounds.

The Society's Committee Rooms were established in the handsome wooden building on the northeast corner. Here were arranged tables with stationery and other conveniences

for every Committee ; and here the judges and the guests of the Society partook of the noon-tide meal.

More than three thousand feet of stalls were prepared, and covered with a canvas roof, with festooned curtains in front. Additional accommodations were arranged for sheep and swine at the north end ; and for neat stock at the opposite extremity. At these points, several ranges of tents, about one hundred feet long by twenty feet wide, were stretched, affording adequate protection from sun and cold to the animals, and presenting a picturesque appearance to the observer.

The field-management of the Exhibition was entrusted to Major General TYLER, Chief Marshal, with twenty-four assistants ; who appeared in an appropriate and becoming uniform. In addition, a force of one hundred and fifty police-men, under the immediate direction of the chief, and assistant chief, was constantly on duty. The manner in which their difficult and delicate duties were performed by the marshals, and by the police under their direction, may be inferred from the fact, that, during the five days' continuance of the Exhibition, not a single breach of the peace occurred within the limits of the enclosure, nor a single serious accident ; although, at times, more than fifty thousand excited people were there congregated.

One of the large Platform Scales, for weighing cattle and other stock on exhibition, was, by permission of the Executive, set up on the grounds by the Messrs. Fairbanks, of Vermont. It was built in the most thorough manner, with iron levers and steel bearings, and so constructed as to combine extreme nicety of operation with great strength and durability. It was of a size suitable for weighing stock, or loaded wagons, and could easily be placed in the farmer's yard, or barn floor. By using such a scale, the farmer could readily, and without expense, ascertain the weight of all produce designed for the market, or for feeding ; and, by weighing his stock at intervals, he might satisfy himself as to the relative utility of different modes of feeding. In various other ways, which will at once occur to the intelligent farmer, such a scale might be

made serviceable ; and we are glad the use of them is becoming more common.

The Messrs. Fairbanks manufacture farmer's scales of two tons to ten tons' capacity, and varying in price from \$100 to \$200. Their long experience and ample facilities enable them to furnish a good article at a reasonable price.

PROGRAMME.

TUESDAY, OCTOBER 23D.—FIRST DAY.

AT 10 O'CLOCK, A. M. Grand Cavalcade of all the horses on Exhibition.

AT 11 O'CLOCK, A. M. Examination in the Cattle Rings, at the south end of the field, of Durham Bulls, Cows, etc.

ALSO. Exhibition of Stallions, Mares, etc., (Roadsters,) with trials of Speed against time on the track.

AT 12 O'CLOCK, M. Examination of Grade, Native and Milch Cows, in the Rings.

ALSO. Exhibition of Breeding Mares, Fillies, etc., (No. 17,) on the track.

AT 2 O'CLOCK, P. M. Examination of Ayrshire and Hereford Bulls, Cows, etc., in the Rings.

ALSO. Exhibition of Ponies on the track.

AT 3 O'CLOCK, P. M. Grand Trial of Speed, open to all horses that have never trotted for money. Exhibitors to drive, and to be persons who have never driven for money. Mile heats, in harness, best three in five.

WEDNESDAY, OCTOBER 24TH, SECOND DAY.

AT 9 O'CLOCK, A. M. Grand Cavalcade of all the Horses on Exhibition.

AT 10 O'CLOCK, A. M. Examination of Devon Bulls, Cows, etc., at the south end of the field.

ALSO. Exhibition of Stallions for General Use, 4 years old and upwards ; with trials of their speed on the track.

AT 12 O'CLOCK, M. Examination of the Stock entered for the HERD PREMIUMS, in the Rings.

ALSO. Exhibition of Stallions for General Use, 3 years old and under 4 ; with trials of speed on the track.

AT 2 O'CLOCK, P. M. Examination of Jersey Bulls, Cows, etc., in the Ring.

ALSO. Exhibition of Thoroughbred Stallions and Mares, with trials of speed on the track.

AT 3 O'CLOCK, P. M. Grand trial of speed open to all horses that have never trotted for money. Free to all drivers.

THURSDAY, OCTOBER 25TH.—THIRD DAY.

AT 9 O'CLOCK, A. M. Procession and Trial of Draft Horses.

AT 10 O'CLOCK. Examination and Trial of Working Oxen.

AT 11 O'CLOCK. Examination of Fat Cattle and Steers, at the south end of the field.

ALSO. Exhibition of Matched and Fancy Matched Horses.

AT 2 O'CLOCK, P. M., (and during the afternoon,) Exhibition of Family Horses, with trials of speed on the track.

FRIDAY, OCTOBER 26TH.—FOURTH DAY.

AT 10 O'CLOCK, A. M. Grand Cavalcade of all the Horses on Exhibition.

AT 11 O'CLOCK. Grand trial of speed, free for all trotting horses and all drivers.

AT 1 O'CLOCK. Agricultural Banquet in the great tent ; at the close of which the awards of Premiums will be declared.

The procession will form at 1 o'clock, precisely, in front of the President's Marquee. Ladies, as well as gentlemen, are expected to join in the festivities.

SATURDAY, OCTOBER 27TH.—FIFTH AND LAST DAY.

AT 10 O'CLOCK, A. M. Trial of speed, open to all trotting stallions six years old and over.

AT 12 O'CLOCK, M. Trial of speed open to all trotting stallions, under six years of age.

AT 2 O'CLOCK, P. M. Auction Sale, by Samuel Hatch, of Boston, of all Animals registered for that purpose.



SW Chaudet & Bro Lith Boston

DAPHNE.

In the Jersey Herd, that won the first premium, & winner of the second premium for Jersey Cows, at the National Exhibition, at Boston 1855. Owned by Sam^l Henshaw Brookline, Mass.



The Champion & First Prize

THE ST.

The *St.* breed had won the first prize at the National Exhibition at Boston 1883. Reported by a prize-winning of the highest Merit. August 1883.

Easton Normal Academy.

Instruction in German, English, Bookkeeping, Arithmetic &c.
L. H. Handford and J. M. Payson, Principals.

The study of German is taught at this Academy, as such
has not been adapted to mercantile purposes and is under the
control now of W. Payson, the author of "Payson's German"
and his
where is a fair sample of the German taught at this Academy.



Opening of the Exhibition.

TUESDAY, OCTOBER 23d. FIRST DAY.

At precisely 10 o'clock, the hour announced in the programme for the opening of the Exhibition, the bugle sounded the call for the grand cavalcade ; and, ten minutes thereafter, the chief marshal announced to the President that the procession was formed, and ready to move.

The President then proclaimed as follows :—

FELLOW CITIZENS :—I have the pleasure to announce that the Third Annual Exhibition of the United States Agricultural Society is open, and will continue during the week. The band will give the customary salute, and the cavalcade will move on, to the music of the National Air.

The announcement was received by the spectators with hearty cheers ; the national air was spiritedly performed by the band, and the cavalcade, preceded by Gen. Tyler, with three of his aids, moved on in the following order :—1. Thoroughbred Stallions and Mares. 2. Stallions and Mares, (Roadsters.) 3. Stallions for general use. 4. Breeding Mares and Fillies. 5. Matched and Fancy Matched Horses. 6. Ponies. 7. Family Horses. 8. Draft Horses. 9. Trotting Horses.

EXHIBITION OF STALLIONS, (ROADSTERS.)

At eleven o'clock, the Bugle sounded the call for the Stallions (roadsters) to appear on the track, and exhibit their good qualities and their speed. They were driven round the track twice ; the first time slowly, the second at the top of their speed.

Mares were exhibited at the same time, and appeared on the track in goodly numbers.

On the second time round, some fine trotting was exhibited. The quickest time made was 1:24, (distance 1-2 mile ;) this was made by Black Hawk Chief. Others made the half-mile in 1:25, 1:34, and 1:36.

The Exhibition of Breeding Mares followed. Many of them had their colts with them, and the gambols of the little fellows, as they moved round the track, gave much amusement to the crowd of visitors.

THE SOCIETY'S DINNER.

At precisely one o'clock, a procession was formed at the President's tent, consisting of the officers of the Society and invited guests, and proceeded to the committee rooms, where an excellent and substantial dinner was in waiting, provided by Mr. John Wright, caterer for the Society. This dinner is a most excellent feature of the Society's arrangements—one peculiar to itself, and one which evinces the liberality of its managers. Between two and three hundred gentlemen availed themselves of the Society's hospitality. The dining hall was ornamented with several beautiful oil paintings of cattle, landscape views, etc. After the dinner, the list of committees was called, and, as far as possible, the vacancies were filled.

THE EXHIBITION OF PONIES,

As set down in the Programme, took place at 2 o'clock.

TRIAL OF SPEED.

The following report was prepared by Anson Livingston, Esq., of New York, Chairman of the Board of Judges.

On Tuesday, Oct. 23, 1855, a trial of speed for horses that had never "trotted for money," to be driven by persons who had never "driven for money,"—first premium, \$200, second, \$100. The entries were as follows:—

| | | | | | | | |
|-------------------------|---|-------|------|---------|----|--------------------|----------------|
| Vermont Boy, b. g. | 5 | years | old, | entered | by | E. H. & F. Gilman, | Montpelier. |
| Young Ripton, b. g. | 8 | " | " | " | " | Wm. Barnard, | Boston. |
| Lexington, s. g. | " | " | " | " | " | D. S. Benjamin, | Lexington. |
| Chestnut gelding, | " | " | " | " | " | John Smith, | New Bedford. |
| Gray Eagle, g. g. | " | " | " | " | " | Wm. Rand, | Weston. |
| Yankee, b. g. | 6 | " | " | " | " | A. Farrar, | Buckfield, Me. |
| Jenny Lind, bl. m. | 8 | " | " | " | " | Charles Keene, | Dorchester. |
| Eastern Maid, b. m. | 7 | " | " | " | " | S. M. Thompson, | Roxbury. |
| Invincible, b. g. | 5 | " | " | " | " | C. A. Marston. | |
| Magnolia, ch. g. | 7 | " | " | " | " | W. W. Springstead, | Albany. |
| Medley Messenger, b. g. | " | " | " | " | " | J. B. Lawton, | Roxbury. |
| Jemmy Eaton, s. g. | 5 | " | " | " | " | George Stearns, | Bangor. |
| Rockland Morgan, b. g. | " | " | " | " | " | W. G. Berry, | Rockland, Me. |
| Lady Lawrence, ch. m. | " | " | " | " | " | Jackson Nichols, | Flushing. |
| Fanny Sherman, | 9 | " | " | " | " | F. J. Sherman, | E. Wareham. |
| White Mountain Morgan, | " | " | " | " | " | Robins & Coney, | Boston. |
| Perley Roan Colt, r. g. | " | " | " | " | " | F. Perley, | Danvers. |
| Norton, br. m. | " | " | " | " | " | B. V. French. | |
| Tom Hyer, b. g. | " | " | " | " | " | John J. Bowers. | |

The track was in fine order, but from its having been measured from the centre, instead of three feet from the pole, two rounds would fall short of a mile about 200 feet—the weather was fine, and, after some deliberation, the unprecedented field of competitors was arranged to start five abreast, in four rows, from a standing start. After one false start, they got off, but, as trotting horses are never started in this manner, some had got nearly half way round the track before others had got fairly settled to their work. The "John Smith" horse came in ahead, in 2m. 45s.; more than half the number were distanced, but, as it was impossible for the committee to decide positively upon the distanced horses, it was determined to start them five at a time—"John Smith" came in ahead in the first party of five, performing the mile in 2:42—he was closely followed by "White Mountain Morgan;" in the second five, "Vermont Boy" was the leader in 2:40; "Lexington" was the victor of the third lot of five, in 2:40 1-2, "Young Ripton" coming out in 2:42; "Grey Eagle" won in the fourth lot in 2:51.

The committee now called up the five horses which had made the best time, and after finding that such arrangement would be agreeable to the drivers, started them for the final decision of the matter, in mile heats, best two in three; the horses in this trial of speed were, "Vermont Boy," "Lexington," "John Smith," "White Mountain Morgan," and "Young Ripton."

"Vermont Boy" won in two straight heats performing the first mile in 2:40, and the last in 2:36; "Lexington," "John Smith," and "Young Ripton," coming in second, third and fourth. As, however, it was subsequently proved, by undoubted testimony, to the perfect satisfaction of the committee, that "Lexington" and "John Smith" had "trotted for money," the second premium was awarded by them to "Young Ripton," owned by Wm. Barnard.

Thus ended the most extraordinary contest of untried horses, not only as to their numbers, but as to their speed, which has ever taken place in this country. The contest lasted three hours. The committee had an arduous task, and, although they are well aware, that it is impossible to satisfy all parties, they trust that the premiums have been awarded to those strictly most deserving of them.

This closed the exhibition for the day, and the crowd immediately retired from the ground. Everything through the day passed off in the most satisfactory manner. The attendance for the first day was very large.

WEDNESDAY OCTOBER 24.—SECOND DAY.

The elements appeared to have entered into a combination to see how uncomfortable and dreary a time they could make for the second day of the great exhibition. The storm, which commenced on Tuesday evening, continued almost uninterruptedly through the night, and through the entire day, Wednesday. The rain fell in torrents, and at times the wind blew a gale. Under these circumstances, the entire programme assigned for Wednesday was postponed until Thursday. Dur-

ing the day there were no visitors on the ground except exhibitors and gentlemen serving on committees. A few more adventurous committee men made their examinations ; but the most of them postponed this duty until they could have more favorable weather.

During the forenoon, Wednesday, the officers of the society and the committees met in the committee rooms, where the vacancies on the committees were filled.

At one o'clock, the officers and their guests, with the committees, dined together. After dinner, Mr. WILDER, the president, briefly expressed his regrets at the unpropitious state of the weather, which rendered it necessary to postpone the programme for the day. But he urged all to keep up good courage, and, said he, "we shall come out right yet. We are here, and we mean to stay here and have a good time and fair weather before we get through." This announcement was received with much applause.

THURSDAY, OCTOBER 25th. THIRD DAY.

Fortune again favored the exhibition. The rain, which descended on Wednesday, ceased in the evening, and during the night the moon shone brightly. The sky, however, became overcast again before morning, and at daybreak the indications were about equal for rain and fair weather. The wind, after a while, got round into the northwest, and blew a smart gale, which was anything but comfortable to those who were exposed to it. It however rolled away the clouds, and before noon the sun was out bright and clear. The ground was found to be in a much better condition than was expected after the severe storm. The track was entirely clear of water, and in a good condition for use.

The gates were opened at eight o'clock. For a half hour previous to that time every omnibus running to the ground was filled with people, and thousands could not be thus accommodated, and were obliged to foot it. During the most of the day the streets and the walks were completely filled

with people, either going to or returning from the exhibition. It reminded one of the crowd returning from the Common on a Fourth of July night after the fireworks. This stream was flowing on towards the grounds during the whole day, a fact which will render more probable the statement that there were on the ground during the day more than fifty thousand persons. A very fair proportion of these were ladies, who occupied the seats, and with their rich dresses and bright shawls, presented a very pretty contrast with the black-coated gentlemen who attended them. Everybody seemed to wonder where the people came from in such numbers. It was enough, however, that they were there.

CAVALCADE OF TRUCKMEN.

At ten o'clock, the truckmen came upon the track over six hundred strong, and made a splendid appearance. They were headed by Col. Peter Dunbar, as chief marshal. Then came his aids, six in number, all mounted on splendid chargers. Then the Boston Brass Band, in a large wagon, drawn by six splendid black horses. The truckmen followed in sections, six deep. Those mounted on light grey horses came first; then the iron greys; then the bays, and then the blacks. By actual count, as they passed the Judges' stand, they numbered *six hundred and seventeen*, and we run no risk in stating that a finer display of horses of that class was never seen in this or any other city in the United States. The riders were dressed in white frocks and black hats, and were as fine, stalwart a set of men as one could wish to see. The cavalcade passed round the track twice, and then retired. Every body spoke of it in terms of the highest praise.

EXHIBITION OF WORKING OXEN.

At half past ten, the working oxen were driven over the track. There were about twenty yokes of them. (These were about *one* third of those on the ground)—and they were generally fine animals. There was no attempt to show their

“speed,” though some acted as though they would like to try how near they could come to 2:40.

EXHIBITION OF STALLIONS.

At eleven o'clock, the stallions three years old and upward were exhibited. This display was very fine.

Then came the exhibition of three years old and under. Of these there was a great number—between thirty and forty. A few more years will bring them before the public as competitors for the honors of the turf. They give promise of maintaining the fair fame of their predecessors. After this class had passed over the track, an opportunity was given for such as desired, to try their speed. There were a number of smart trots in the following order:—

VOLUNTEER TRIALS OF SPEED.

The first contest was between the “Morrell” horse and one of his colts. The young horse won it, doing his mile in 2:48.

The next match was between “Stockbridge Chief,” a well known horse, and “Columbus,” a horse twenty-four years old. The well known speed of these horses created much interest in the match. “Stockbridge Chief” was the favorite, but he was beaten. “Columbus” came in about a length ahead, in 2:46.

American State and American Eagle tried next; the latter beat in 3:07. Wild Deer and Tiger; Flying Morgan and Morgan Rattler; Boston Boy and Anglo-Saxon, and Lone Star and Henry Clay, each had a “brush,” in the order in which we have named them. None of them, however, came down lower than three minutes, which, in these days, is by no means considered “fast.” We therefore omit the details.

A NOVEL RACE.

While the stallions were on the track, a good deal of fun was occasioned by the appearance of a monster Devon bull,

astride of which was an adventurous individual, who was urging the "lord of the pasture" forward at the top of his speed. He bolted from the track without going the rounds. A very fair race might have been made between him and some of the horses last named above.

THE SOCIETY'S DINNER.

At precisely one o'clock, dinner was served again at the committee rooms. The tables were full. Among the guests were His Honor the Mayor, Hon. John A. King, of New York, and a large delegation from the Pennsylvania State Society, several gentlemen from Canada and New Brunswick, and others from distant parts of our own country. Several ladies also graced the occasion with their presence. The table was twice filled, and yet there was abundance for all.

EXHIBITION OF STOCK IN THE RING.

During the forenoon, the committees on stock had their examinations. The animals were led out by their keepers, and their fair proportions shown to the judges and to the visitors.

The exhibition of the Devons when in the ring, was a most pleasing sight. Their plump appearance, rotund forms, deep red color, and docile dispositions, were the theme of all. The Committee said that, at no exhibition, had they been excelled. The strong hold which this blood has in the affections of the farmers will, in no way, be lessened by the present exhibition.

The Durhams also attracted much attention. It was generally conceded that, for the barrel, this blood might be superior to the Devons, but doubts were expressed by some as to its adaptation to the climate of New England. Many stock breeders were present, viewing with great care those on exhibition.

The Jerseys also received much attention from the dairy-men. Some of the cows which, from their thinness, elicited

invidious remarks from many city-bred gentlemen, were carefully examined by clear-headed and calculating farmers from the country. There were some superior milch cows among this blood. There were some fine Ayrshires present, and also Herefords.

Taken as a whole, the show of stock probably never has been excelled in this country. It will do much towards improving the stock in this section. The farmers have the opportunity to judge of the qualities of the different bloods by comparison, and, by this means, are enabled to form correct opinions.

AFTERNOON PROCEEDINGS.

TRUSTEE, LOGAN AND FASHION ON THE TRACK.

The first matter of interest after dinner was the exhibition on the track of the famous blood horses "Trustee," "Logan," "Fashion," "Matchless" and "Tricolor." The horses were led out and stripped, and were paraded before the Judges' stand. To say that they were admired greatly, is but a faint expression of the pleasure which the vast concourse experienced. It was the first, and probably the last, time that most of them will ever see such a gathering of blood horses as were here seen. "Fashion" was attended by her three fillies—the youngest of which was a perfect picture of herself. It was a very pretty family—one which any man might be proud to own. To show "Logan" to all the people, his owner put a rider upon him, and galloped him round the track two or three times. The crowd would have been glad to have seen his rider "let him out," but he did not.

EXHIBITION OF BROOD MARES.

The next exhibition was of Brood Mares, twelve of which appeared upon the course, some in harness and some to saddle. The first time round was at a slow speed, a trial of motion; the second heat, one of speed.

TRIAL OF SPEED.

Open to all horses that have never trotted for money, and free to all drivers. Mile heats to harness, best three in five.

1st premium \$200.

2d premium \$100.

REPORT OF JUDGES.

The following report was prepared by Lewis B. Brown, Chairman of the Board of Judges.

Anson Livingston, of New York, entered black horse Genesee, six years old, sired by Henry Clay, he by Andrew Jackson, who was the sire of the celebrated Long Island Black Hawk. Genesee's dam was a Mambrino mare.

Henry Sisson, of Providence, entered grey gelding, Young America, six years old.

Daniel Mace, of Boston, entered bay mare, Kate Miller, seven years old.

Ephraim Hayes, of Boston, entered sorrel gelding, Eastern Colt, six years old.

Leander Curtis, entered brown gelding, Guiding Star, eight years old, of Duroc stock.

J. H. Stanton, entered brown gelding, Ned, seven years old.

J. F. Sherman, of East Wareham, entered bay mare, Fanny Sherman.

REVIEW OF THE TRIAL OF SPEED.

Guiding Star had the pole, Kate Miller next, Eastern Colt next. They went off with a good start, Kate Miller leading and keeping the lead until the last turn. Genesee had evidently, from his careless manner of travelling, been trailing, when, at the turn, he pulled for the lead of his gallant competitor, and, coming up the straight side, passed her inch by inch, coming in nearly a length ahead, winning the heat in 2:38. Guiding Star and Fanny Sherman distanced.

Second Heat.—Kate Miller took the lead and kept it for

nearly the first half mile. Genesee then began his brush and passed her, retaining his position during the remainder of the heat, winning by almost one length in 2:35 1-2. Young America was third. The balance distanced.

Third Heat.—Kate Miller, Genesee, and Young America were the only horses starting for this heat, the mare as usual leading, Genesee trailing with his nose to the mare's wheel. He did not make his brush until the last turn of the mile, and evidently made it a trifle too late, and as they came down the stretch neck and neck, it was one of the most exciting bursts of speed that has probably ever been exhibited by horses not much trained to the track.

After a little consultation, it was decided that Kate Miller had won the heat in 2:37 1-2, by a distance of less than the length of her nose. An accident occurring to Young America, he withdrew; leaving the fourth heat to be contested by Genesee and Kate Miller.

Fourth Heat.—The horse losing the last heat, his driver (Frederick Johnson,) concluded it was time to go to work, and with a beautiful start away they went, the horse leading the mare after a few yards, and she never lapped him in the mile, he winning the heat with perfect ease in 2:40; beating the mare some three or four seconds. Thus was added another laurel to the old Messenger trotting stock, and another proof that, for bottom, that stock is losing none of its justly celebrated character.

The first premium was therefore declared to Genesee. The second to Kate Miller.

SUMMARY.

Mr. Livingston's black gelding, Genesee, 1 1 2 1

Mr. Mace's bay mare, Kate Miller, 2 2 1 2

Mr. Sisson's grey gelding, Young America, 3 3 3 withdrawn.

All others distanced.

Thus ended one of the most beautiful trials of speed, witnessed by more people than perhaps were ever before congre-

gated together to see a trot, and it is with extreme satisfaction that your committee report that during the day the most perfect order was maintained, and that we neither saw or heard of an improper or disorderly act. We think it our duty further to state that, in our judgment, your several marshals deserve great credit for the calm, cool, and dignified manner in which they performed their duties. Having undertaken the responsible and delicate task of pleasing and maintaining order in an assemblage of forty to sixty thousand people from all parts of the Union, we take pleasure in offering our testimony that in no instance did we perceive any one of the officers to lose his temper. These facts are to us indisputable testimony that gentlemen can meet together for the purpose of pleasure and to improve the beast in his various uses without reducing the character of themselves.

Had your committee been timely notified what horses were entered for the premiums, we should have endeavored to trace out (as we think should always be done) the various stocks of the animals, and placed them before your readers. We believe much benefit can be done by your Society, both to the farmer who raises stock for his livelihood, and for the gentlemen of fortune who raises for pleasure, and both need the information.

We cannot close this report without adding our testimony to that of thousands who have done so before us, of the great pleasure we have derived from attending this meeting, and of the very general good management exhibited in every department, and we ask of you to continue your good work. You are doing the country great service, and if your Society continues to be conducted as it has been, and we believe it will be, it must ere long become one of the most important in the Union, an ornament to the country, and a great pleasure to its officers.

Very truly yours,

LEWIS B. BROWN, *Chairman.*

NEW YORK, December 10, 1855.

FRIDAY, OCT. 26. — FOURTH DAY.

The bright sun and clear sky bespoke a pleasant day, and early in the morning, the congregating thousands gave evidence that a large crowd would be in attendance to witness the proceedings. Early in the morning the track was taken possession of by those who desired to exhibit their horses, and a most animating spectacle ensued. Some in light gigs swept round the course like the wind ; others, in wagons and carriages, equally desirous of distinguishing themselves and their horses, got on with commendable speed. It was a lively scene.

At nine o'clock, the working oxen were marshalled in line opposite their quarters, for the benefit of the Committee. This was a pleasing sight. Their stalwart forms, fair proportions, and honest countenances, were fine to behold. They, as well as their drivers, seemed to feel a conscious pride in thus being the cynosure of thousands.

While this was taking place, in the northern section of the inclosure, matched carriage horses and stallions were coursing, in curves and direct lines, showing off their motion, according to the fancy of the various drivers. Much pleasure was afforded to the admiring crowd by these movements.

CAVALCADE.

At ten o'clock, a grand cavalcade came off upon the course. This was a magnificent and imposing spectacle. First came the marshals, in their grey uniforms, then the brood mares and their colts, followed by the young stallions, led by their grooms ; next came horses of all work, harnessed to carriages of every description — gigs, sulkies, buggies, and chaises ; then followed the matched horses, forty-eight in number, with coaches and fine carriages, in which were seated gentlemen and ladies ; after these came the trotters, followed by a splendid draft team, consisting of four large and noble bay horses, attached to a large wagon. The whole number of horses was two hundred and seventy-seven.

It is no easy task to portray the scene at this hour, as viewed from the upper balcony of the Judges' stand. The movement of the cavalcade — completely filling the course in its whole length — the immense crowd which lined the course and filled the seats, variegated by the many-colored silks and shawls of the ladies — the living tide of humanity pouring in at the gates, and across Franklin square, where in the sunlight the bright fountains glistened, the heavily laden trains steaming across the railroads in sight, were bringing other thousands to the scene — the waving banners — the white tents — the long line of cattle still marshalled beside the track — the spirit-stirring strains of "Yankee Doodle" swelling up from the Brigade Band — and the bright sun shining upon all, rendered it a scene of surpassing beauty — one long to be remembered by the beholder.

DRAWING MATCH.

At eleven o'clock, there was a drawing match by the working oxen in the east section of the field, which was witnessed by a large crowd. The oxen were attached to a cart loaded with 6100 pounds weight, which they were required to draw forward several rods, and also to back it to its original position. It was done by most of them with great ease. The farmers especially took much interest in this part of the proceedings.

TRIAL OF SPEED BY MATCHED HORSES.

At half past eleven o'clock, there was a grand trial of speed on the part of fancy matched horses.

TRIAL OF DRAFT HORSES.

At one o'clock, a trial of draft horses was had on the ground east of the Pavilion. This was attractive, and afforded much gratification to those who could not, from the press of the crowd, obtain a good view of the trotting.

The noble animals, seemingly as intelligent as the drivers

themselves, at the slightest word or whisper from those whose commands they had been accustomed to obey, brought their shoulders to the work, and accomplished their allotted task with great ease. They exhibited great docility and careful *education*, for it is in reality a course of education which produces such results as were exhibited.

THE BANQUET.

The great feature of the day, the BANQUET, took place at two o'clock, beneath the grand tent, erected in the centre of the field. The procession was formed at the President's tent a few moments before two, and marched to the tent, passing, as they entered, beneath an arch inscribed, "SUCCESS TO AGRICULTURE." The tables were spread for over two thousand people, and every plate was occupied, and others who desired to enter could not find room. The scene in the pavilion was one of great beauty. On the south side, opposite the centre, was the President's seat, and those for guests, elevated above the others, and in the centre, extending the length of the pavilion, ten other tables were stretched across the tent, which were abundantly loaded with a repast provided by Mr. John Wright.

In the centre of the tables were gas fixtures of various forms, to light when the shades of night should gather. In rear of the President's chair the stars and stripes were gracefully gathered in folds, while high above, spread out in all their amplitude, were the national flags of England, France, Belgium, Turkey, and other countries. When the company had been seated, the spectacle was imposing and sublime. The vast audience of ladies and gentlemen—their smiling, happy countenances—the distinguished guests, renowned in the pulpit, at the bar, in the halls of legislation, and in the various walks of life—the respected President of the Society, through whose exertions, more than any other person, the Society received its existence, its continuance to the present, and its success—and over all the flags of the great powers

of the earth, flooded by the golden rays of the declining sun—the occasion itself, emblematic of the kingdom of peace which is yet to dawn upon the earth, all combined to render it one of the noblest spectacles ever beheld in the country.

The following named gentlemen were among the guests and delegates present:—

PENNSYLVANIA.—*Philadelphia Society for the Promotion of Agriculture*—David Landreth, President; Morton McMichael, Esq., Gen. Robert Patterson, Dr. Alfred L. Elwyn, Dr. Alfred L. Kennedy, Algernon S. Roberts, Esq., Maj. P. R. Freas, Owen Jones, Esq., John McGowan, Esq., Wm. G. Warder, Esq., and Isaac Newton, Esq.

NEW YORK.—*New York State Agricultural Society*—Hon. John A. King, Luther Tucker, Esq., Robert Ennis, Esq., and Charles Morrell, Esq.

American Institute—Robert S. Livingston, Esq., and George E. Waring, Jr., Esq., also from New York; J. N. Holmes, Esq., Anson Livingston, Esq., Lewis B. Brown, Esq., L. G. Morris, Esq., N. J. Becar, Esq., E. G. Faile, Esq., C. S. Wainwright, Esq., Dr. R. T. Underhill, Jos. Harris, Esq., Z. Bonney, Esq., J. Butterfield, Esq., W. R. Booth, Esq., Chas. H. Richmond, Esq., and Edward Munson, Esq.

OHIO.—*State Board of Agriculture*—Wm. H. Ladd, Esq., Dr. Arthur Watts, Thos. Brown, Esq., Editor Ohio Farmer, C. M. Clark, Esq., and James D. Ladd, Esq.

BRITISH PROVINCES.—*Board of Agriculture, Montreal, L. C.*—Col. Thompson, President; Wm. Evans, Esq., Secretary; Isaac Askew, Esq., and Hugh Wade, Esq.

St. Johns, N. B., Agricultural Society—Messrs. Jardin and Cuming.

RUSSIA.—Dr. Duhamel.

MASSACHUSETTS.—His Excellency Gov. Gardner, His Honor J. V. C. Smith, Mayor of Boston, Hon. Simon Brown, Ex-Gov. Briggs, Ex-Gov. Washburn, Hon. E. D. Beach,

Hon. Joel Parker, Wm. S. Lincoln, Esq., David Leavitt, Esq., G. M. Attwater, Esq., Paoli Lathrop, Esq., and a large number of distinguished citizens, and of the clergy.

State Agricultural Society—Hon. J. C. Gray, Hon. Edward Everett, and Hon. Robert C. Winthrop.

MAINE.—J. D. Lang, Esq., Hon. S. A. Benson, and other distinguished gentlemen.

NEW HAMPSHIRE.—Hon. Anthony Colby, Hon. G. W. Nesmith, Hon. John Preston, Gen. John Wadleigh, Levi S. Bartlett, Esq., and many others.

VERMONT.—Hon. Russell Jarvis, Dr. Samuel G. Jarvis, Chas. Chapin, Esq., Nathan Cushing, Esq., and Solomon W. Jewett, Esq.

CONNECTICUT.—Ex-Gov. Chas. H. Pond, Lemuel Hurlburt, Esq., John F. Andrews, Esq., Samuel W. Bartlett, Esq., Moses Lyman, Esq., Henry A. Dyer, Esq., F. H. North, Esq., and W. W. Billings, Esq.

RHODE ISLAND.—His Excellency Gov. Hoppin, Hon. W. B. Lawrence, Jos. J. Cooke, Esq., Geo. Hallett, Esq., E. B. Potter, Esq., Samuel P. Halliday, Esq., Wm. H. Gardiner, Esq., and Chas. T. Keith, Esq.

NEW JERSEY.—L. E. Berckmans, and Edward Harris, Esqrs.

DELAWARE.—John Jones, Esq., Hon. John Wales, Chas. H. Gordon, and Geo. Pepper Norris, Esqrs.

MARYLAND.—*State Agricultural Society*—Wm. H. Wilson, Esq., and other citizens.

DISTRICT OF COLUMBIA.—B. B. French, and Thos. Blagden, Esqrs.

ALABAMA.—J. M. Field, Esq.

ILLINOIS.—*State Agricultural Society*—H. C. Jones, Esq., President ; Wm. F. M. Arney, Esq.

MICHIGAN.—*State Agricultural Society*—J. C. Holmes, Esq., Secretary, and F. W. Backus, Esq.

CALIFORNIA.—Judge Campbell, and J. Q. A. Warren, Esq.

IOWA.—E. C. Davis, and D. F. Brigham.

At half past two o'clock, Mr. WILDER arose and said :

LADIES AND GENTLEMEN :—It is suitable on all occasions to acknowledge our dependence on Him whose are “the cattle on a thousand hills,” and who “openeth his hand and supplieth the wants of every living thing.” Will you join the Rev. Dr. LOTHROP in imploring the benediction of Heaven on us, and on our feast.

Rev. S. K. LOTHROP, D. D., of Boston, was then invited to invoke the divine blessing upon the feast, which he did in the following language :

INVOCATION.

Almighty God, we adore thee as the author of all life, and the giver of every good gift.

We thank thee for this broad, and beautiful, and fertile earth, which thou hast given us for our present dwelling-place.

We thank thee for all that it yields from its bosom, and all that it bears upon its surface, for the use and convenience, the comfort and enjoyment of man.

We thank thee, oh God, that when thou didst create man, thou didst endow him with wisdom and power, and understanding and strength, and make him the lord of the earth, and give him dominion over every living thing moving upon earth.

Oh God, wilt thou impress all men everywhere with a deep conviction of the responsibleness which rests upon them in the possession of this power and dominion.

May they remember that “the Lord careth for oxen,” that he appointed his holy Sabbath, in part, that the beasts of the field might have rest, and that not a sparrow falleth to the ground without his will.

Grant, therefore, we entreat thee, that all men may use this power, and exercise this dominion over all the lower orders of animals, for the wise and benevolent purposes for which it was bestowed, and not abuse it by cruelty, oppression and wrong, for the gratification of selfish passions, or to secure unrighteous gain.

To this end, wilt thou command thy blessing upon this National Agricultural Society here gathered before thee. Grant, we entreat thee, that it may be made by thee an instrument of great good. Cause that it may tend to diffuse knowledge, and stimulate to the care and culture by which a knowledge and a progress in agriculture may be promoted, and all the orders of domestic animals be improved, and better fitted for their various uses. And while, oh God, it thus promotes and advances the specific objects it has in view, cause, we entreat thee, that, through thy blessing, it may exercise high moral and social influences, and be a means of uniting the hearts of all people throughout the land, one to another, by kind and social ties, and thus lend its aid, and promote the best prosperity and the union of these United States.

Almighty God, let thy blessing be upon us at this hour. May we receive and partake of the fruits of thy bounty with grateful hearts, and may all that is said and done here tend to promote thy glory, by promoting the good, the progress and the affections of men.

We ask and offer all things in the name of him who came to manifest thy love, even Jesus Christ, the Shepherd and Bishop of our souls, to whom be glory in his church, for ever. Amen.

At the close of the dinner, the President called upon Rev. Dr. KIRK to return thanks, who did so in the following language :

THANKS.

Almighty God, the bounteous giver of every good and perfect gift, we thank thee for this festive occasion ; that thou art calling us to honor the industry that cultivates the soil ; that thou art calling us to recognize thy bounteous hand in the gifts that we enjoy. And we thank thee, O God, that we have now partaken of those blessings that call us to look back to thee as their source. Wilt thou crown this institution with thy blessing continually. Grant that we may, more and more, understand the laws that thou hast impressed upon all nature, and that we may, more and more, recognize thee in the operations of thy hands, and the gifts of thy bounty, and above all, in the grace that is manifested in the saving of our souls. Let thy blessing rest upon us in the exercises before us, and accept our grateful acknowledgment of thy paternal kindness, through our Lord and Savior Jesus Christ. Amen.

The President then arose, and was greeted with enthusiastic applause. When it had subsided, he addressed the large audience substantially as follows :

PRESIDENT WILDER'S ADDRESS.

BROTHER FARMERS, AND FELLOW CITIZENS :

Your presence, on this occasion, affords me unfeigned pleasure, for it gathers around me the friends and patrons of agriculture. Most sincerely do I rejoice with you in the lively interest which is manifested by all classes in our exhibition, especially in the presence of our honored guests, whose attendance gives importance to our meeting, and whose voices are ever grateful to the ears of their fellow citizens. [Cheers.]

It is also particularly gratifying to meet, at this festive board, so large a representation of the mothers and daughters of our land, who have come up here to cheer us by their approving smiles, and to honor the primeval pursuit of man. Ladies, we greet you with a most cordial welcome. [Loud applause.] Nothing can be more appropriate than your presence. Nor is

it a new thing in this Pilgrim city for *women* to be engaged in industrial exhibitions. More than a century ago, three hundred of your patriotic mothers assembled on Boston Common, each with her spinning wheel and distaff, to advance a branch of domestic industry, which has long since been supplanted by the progress of invention.

One of the most interesting incidents of this exhibition relates to the spot on which it is held. This whole territory is land redeemed from Neptune's dominions. Here modern enterprise has literally fulfilled the words of Scripture, and has said to the surrounding hills, "Be ye plucked up and cast into the sea," and they have moved in obedience to its command. Here, where but yesterday rolled the ocean's wave; here, in the middle of the nineteenth century, and in the midst of this populous and flourishing city, the National Agricultural Society has come up with its flocks and herds, pitched its tents, and invited you to unite in celebrating the triumphs of art over nature, and to witness the achievements of science in a most important department of husbandry.

In behalf of those whom I have the honor to represent, and in my own behalf, I tender the grateful acknowledgments of this Association to the municipal authorities of Boston, for their prompt and hearty cooperation in the preparation for this exhibition. [Applause.]

Our thanks are also due to the patriotic citizens of this metropolis and vicinity, for their private munificence in the creation of a guarantee fund, to insure the success of this enterprise. Nor would we be unmindful of our obligations to the Massachusetts Society, a pioneer among the agricultural associations of our country, and to other benefactors, for the aid afforded us by their liberal donations, and timely exertions. We are also under great obligations to the contributors who have placed their valuable stock on exhibition, at no small risk and expense—to the marshals, judges and others, who have aided in carrying forward this enterprise to its present happy consummation. [Cheers.]

Fellow Associates—I congratulate you upon the complete success which has crowned another exhibition of this Society. The present has surpassed those that preceded it in interest and utility, and awakens the most pleasing anticipations of those which are to succeed. The record of these proceedings will constitute an important chapter in the history of American agriculture. A very large number of entries have been made. But our principal object has been *quality*, and not quantity; and it is believed, that, for points of excellence, this exhibition holds the preeminence among those of our own and other lands.

All other productions of agriculture and the arts have been excluded from this exhibition, in order to concentrate the attention of the public upon a department deemed of paramount importance to the farmer, and to afford our fellow citizens the most favorable opportunity to examine the best domestic animals which have been obtained by gentlemen devoting to this specific object, their time, talents and fortunes.

Another prominent object has been to awaken in the public mind a just appreciation of their labors, and a stronger love for agriculture and rural life. How delightful the occasion! How salutary its influences! Here the rough animosities of party strife, the asperities of political discussions, and the bitterness of sectional jealousy, are merged and lost in the love of a common pursuit, and a common country; and in proportion as we act in concert and harmony, for the advancement of the great industrial arts of life, we cement and strengthen the bonds of our glorious Union. [Enthusiastic cheering.] Here we witness an illustration of the power of voluntary associations, the grand characteristic of our age, the great engine which propels the car of modern enterprise.

The time is within the recollection of some who now hear me when the first agricultural society in this country was established. This honor belongs to Philadelphia, whose society for the promotion of agriculture is honorably represented at this board by a large delegation. A subsequent year witnessed

the organization of the Massachusetts Society for the Promotion of Agriculture, also here represented by worthy and illustrious members. Others soon followed, and now they are numbered by hundreds, extending from Maine to California, from the British Provinces to the Gulf of Mexico, whose delegations we are happy to meet on this occasion, and whose annual exhibitions have become the great gala days of the people.

Ladies and gentlemen, on this third anniversary of the United States Agricultural Society, it affords me peculiar pleasure to welcome you to this commercial metropolis, and to the pleasures of this festive and intellectual entertainment.

We, of New England, cannot boast of a luxuriant soil like that of the prairies and valleys of the West, nor of a genial climate like that of the sunny South, but industry constrains our reluctant soil to yield its increase ; and though prominent among our exports are granite and ice, yet these are no indications of the hardness of our hearts, nor of the coldness of our affections. No ! No !! We extend to you our friendly greetings and our most cordial salutations. [Cheers.]

Come ye as the representatives of sister States, or as the delegates of kindred associations ; come ye from the provinces which lie upon our borders, from whatever town or city, commonwealth or country you hail, we extend you a hearty welcome. We bid you, one and all, welcome ! welcome !! [Prolonged cheering.]

At the close of the President's eloquent and appropriate remarks, the vast audience arose and gave him three hearty and earnest cheers.

The President then arose and said :

LADIES AND GENTLEMEN : I shall now proceed to offer a few sentiments with a view to elicit speeches from our distinguished guests. After this the premiums will be announced, with the names of the successful competitors ; and while we

congratulate them upon the attainment of the object of their ambition, we cheerfully render to all others the praise of sustaining a competition alike honorable to themselves, useful to their fellow-citizens, and serviceable to the cause we seek to promote.

The President then announced the first regular sentiment as follows :

Massachusetts—Her first men were her best Farmers : they planted the Tree of Liberty, beneath whose grateful shade their children now repose in peace and prosperity.

The band played "Hail Columbia," at the conclusion of which, the President said : It affords me great pleasure to introduce to you the Governor of Massachusetts. [Prolonged cheering.]

SPEECH OF GOVERNOR GARDNER.

MR. PRESIDENT, AND LADIES AND GENTLEMEN :

You said, just now, sir, that your purpose was to offer a few sentiments in order to call forth speeches from persons who sat near you. Now, sir, I wish to enter my *carcat* in advance against calling for any speech from me. It is my duty—and a pleasant and grateful duty, too, Mr. President—to welcome the members of your Society, and the ladies and gentlemen who are here present on this occasion, to Massachusetts. Right glad are we to have within our own boundaries this unparalleled, this unprecedented exhibition, and we in Massachusetts feel proud of the agricultural productions of our sister States,—proud to have them exhibited here in our own midst.

Mr. President, Massachusetts was settled by farmers. Agriculture was the entire pursuit of our fathers until within the memory of some of those who hear my voice. It is true, as you say in the toast you have just uttered, that our fathers were farmers, and, in connection, sir, it is also true that liberty is the tree which they planted, and which has flourished until the present day. Go where you will, all history teaches that,

in agricultural communities, you will find the deepest devotion to the spirit of liberty. [Applause.]

Now, sir, I am glad, I am right glad, that while all other classes in the community have had their exhibitions of varied kinds, the farmers, the agriculturists, can come together here on occasions of this kind, to their own exhibition of their own productions. Why, sir, long ago, centuries, decades of centuries ago, we read of the Hippodromes of Greece and Rome, where the farmers of those days exhibited their kine, and compared the pace of their roadsters. We are modernizing that ancient practice ; we are but reviving it after the lapse of centuries ; and the exhibition now within our borders this day has been to some extent a parallel to those ancient exhibitions of Greece and Rome.

I conclude, sir, as I commenced, with expressing the gratification of the citizens of Massachusetts at seeing a meeting of the National Agricultural Society held within her borders, and their thanks and hearty welcome to its members ; and I will give you a sentiment which every citizen of Massachusetts will most cordially respond to :

Prosperity and happiness to the officers and to the members of the United States Agricultural Society. [Cheers.]

THE PRESIDENT.—Ladies and Gentlemen : I have now the pleasure of introducing to you a distinguished official, who has coöperated most heartily in the preparations for this exhibition. I allude to his honor, the Mayor of Boston. I give you as a sentiment :

The City of Boston—We rejoice in her prosperity, and share in the pride awakened by the contemplation of her history. Her government and her citizens must be good farmers, for they have made more soil than any town in the Commonwealth. [Laughter and applause.]

SPEECH OF MAYOR SMITH.

MR. PRESIDENT: It did not occur to me, when you and I were little boys in a country village, remote from this great city, that we should ever meet on an occasion so imposing as this; neither did I consider that circumstances would ever make it important that I should be associated, in any manner, in an effort to carry out a scheme so grand and so important as this. But such is the fact; and I am gratified to say, in behalf of the city government, that there was the most cordial feeling, on the part of every member, towards aiding in every official manner they could, in order to prepare this ground in the manner in which you see it, that you might have an exhibition of that branch of industry which is so important to the national interest, that should meet your entire approval, and that of your associates. Sir, Boston is always ready to second any movement which has in view the prosperity of the people of this country. [Applause.]

Mr. President, a thought has been flitting across my mind, while I have been sitting here, which I wonder yourself or some one else has not alluded to. Your fine cattle and fine horses are grand sights to us who live in the city; but to see these fine men, these beautiful ladies—and so many of them too—[applause]—it is a grand sight to us all, and adds wonderfully to the character and attractions of this exhibition. [Laughter and applause.]

It was thought by some, when this ground was about to be prepared for the use of the Society, that it was a useless expenditure. Here was a large tract of territory which many of the citizens of Boston, even, knew nothing about; and, like magic, it has been converted into its present attractive condition, and become the centre of interest, not only to our own population, but to all the inhabitants of the Commonwealth. This, sir, has contributed to enhance the value of the public lands of the city; and thus, in trying to benefit this Society, we have actually benefited the whole municipality. [Applause.]

Now, sir, the great object I have in standing here, is to wel-

come all this great concourse of people to the city of Boston. Come to see us oftener: you do not understand us yet! [Laughter and applause.] If our streets are crooked, the people are straight—[renewed applause]—and they will always keep an open way for you.

Mr. President, I could occupy the time you have had the kindness to allot to me much longer than I dare to; but after making you welcome, I wish to say that the best part of this entertainment is yet to come; for you will hear men speak to-day, of whom the citizens of Boston, of this Commonwealth, and of the whole country, are proud. [Applause.] Look on my right, and see who are to address you! Men who have occupied the whole thought of the nation! But I must bring these observations to a close, to give way for those who will entertain you in a manner most acceptable and agreeable.

As this body is essentially a body of agriculturists, the sentiment I have to offer refers to them. Gentlemen, may you have—

Farms without mortgage, garner all filled,
Good crops, a clear conscience, and land that's well tilled,
Large oxen, fast horses, Durham cows, and fat swine,
Agricultural feasts when your friends come to dine;
The plough and the hoe, fair maids, and sweet milk,
Instead of pianos, street yarn and fine silk—
A true source of content, independence and wealth,
Of happiness, virtue, and excellent health.

[Loud and prolonged cheering.]

THE PRESIDENT—Ladies and gentlemen, it affords me great pleasure to announce to you that we have here to-day the Chief Magistrate of a sister state. I offer you now this sentiment:

Rhode Island—The Napoleons of the earth have commonly been small in stature, and the most famous of Grecian Republics was not larger than Little Rhody. [Applause.]

His Excellency Gov. HOPPIN, of Rhode Island, rose to respond, and was received with the most hearty applause. He spoke as follows:

SPEECH OF GOV. HOPPIN, OF RHODE ISLAND.

MR. PRESIDENT, LADIES AND GENTLEMEN :

That excellence does not consist in size may be illustrated by partaking of the apple which has been exhibited to you by the President, as coming from the great State of Illinois. To my taste, large as it is, it is not equal to the Rhode Island *Greening*. (Applause.) And, ladies and gentlemen, great as Napoleon was, he never was so great, in the estimation of American citizens, as that man who did so much for American liberty—Gen. NATHANIEL GREENE, of Rhode Island. [Loud cheers.]

But, Mr. President, the announcement in the papers that addresses might be expected from His Excellency Gov. Gardner, Gov. Everett, Gov. Clifford, and other distinguished men, was the attraction which brought me here ; and, gentlemen, no doubt it did others ; and it expelled from my mind any intention of participating, other than as a silent spectator, on this occasion. If, occasionally, at home, among my own friends, and on familiar subjects, I have addressed my fellow-citizens, the city of Boston, where eloquent men abound, and where the best models of modern eloquence live, is the last place where I should venture to try my powers of oratory. It is not for me, sir, who came here to be instructed and electrified by the rich thoughts and stirring appeals of your great men, to consume your precious time. We have travelled far, some of us, and waited patiently ; now, sir, let the occasion be honored, and our feelings gratified, by listening again and again to the voices of those who speak pleasant words, and counsel wisely.

But, Mr. President, I understand why you have called upon me on this occasion. You, sir, and the gentlemen with whom you are associated, have given much time and preparation to this exhibition, and have assumed great responsibilities ; and now, doubtless, you desire to know what we outsiders think of it. You wish to know my opinion of this exhibition, and it is for this reason I have risen. Sir, I am wil-

ling to give an opinion, because, like other men who live in this country, I have an opinion upon this and upon other subjects; and I am thankful that I live in a country where I have a right to express an opinion. [Applause.] Freedom of speech and opinion is the glory and boast of our country, and in no portion of our land is this sentiment more strongly cherished than in the old Bay State. [Excuse me, sir, for having travelled so far from the record.]

Permit me to say, that, from what I have seen, this exhibition is creditable to your Society, creditable to your city, creditable to your State. This may strike you, sir, as faint praise, but I use the term as applied to the highest standard of excellence. *Creditable* in one place may be *discreditable* in another. What might be creditable in Kansas, might not be creditable in Massachusetts, and in the city of Boston. [Cheers.] When we say a thing is creditable in Massachusetts, or in the city of Boston, we mean by that to convey the highest praise; for somehow or other it has got out, and the idea is wide-spread in this country, that they do things in Boston better than in any other city in the Union. [Cheers.] And I believe there is a feeling and a sentiment in Boston, that this impression is true.

I really believe, gentlemen, that, if an attempt was made to dissolve the Union, it would fail, if Massachusetts opposed it, [cheers;] but that it might succeed, if Massachusetts favored it. Then, gentlemen, how important it is that this great and glorious State should throw her influence into the right scale! I could bear to see Lexington and Bunker Hill again the battle-ground of freedom, but never that of civil strife. I cannot make up my mind that there is a probability of such a state of things as should ever break up and dissolve this glorious Union. [Cheers.] The idea of such a thing is treason—its consummation is madness; and, gentlemen, I believe that this sentiment is strong in the hearts of all who glory in the name of New Englanders—and not only in the hearts of the men, but in the hearts of the ladies. These sentiments

which I have uttered, are their sentiments, and before they would relinquish one jot or tittle of these precious principles, I believe that every lady in the city of Boston, and in the State of Massachusetts, would empty her tea canister into Massachusetts Bay. [Laughter and cheers.] This is a feeling which I like to contemplate—and when I speak of the ladies, in their presence, I care nothing about the men, because I know that, if the ladies are right, the men cannot be wrong. [Loud cheers.] Who, sir, shall attempt to speak the praises of the ladies? Who has ever spoken their praises as they deserve to be spoken? To what instrumentalities are we so much indebted for our happiness and prosperity, as to them? What would be the success of the princely merchant without the advice of her who is nearest and closest to him, and whose advice alone is disinterested? And what would be the success of the farmer without the advice of his wife—of her who attends to the domestic arrangements of his household? [Applause.] I do not intend to follow out these ideas, but I do profess to be an admirer and a defender of the ladies on all occasions.

Sir, from my remarks it may be inferred that my politics are peculiar; but, sir, you may call me what you please—you may call me a Whig, or a Democrat, or a Know Nothing—but I go, sir, for endeavoring, by every fair and honorable means, to maintain and preserve the Union of these States [Loud applause]; and never, sir, shall my voice or my influence be given to hasten its end.

Excuse me for the discursive character of my remarks. I suppose that the association of Lexington, and Bunker Hill, and Massachusetts, has caused my mind to diverge from the contemplation of those subjects which more peculiarly belong to this occasion. I hope you will pardon me, sir, if I have not done justice to the noble State which I represent, and in which I take so much pride; and I will close by proposing a sentiment which I think is more applicable to this occasion than the remarks which I have made. I give you, gentlemen—

Fine women, fine men, and fine horses—Always found inseparable from a high state of civilization.

Mr. Wilder then arose and said :

LADIES AND GENTLEMEN :—It affords me pleasure to announce that we have delegations present from various Agricultural Societies. I have already alluded to one from the first Agricultural Society ever established in our country. It may not be possible for me to call upon any more than the two original societies. If, therefore, any delegate is present and is prepared with a speech, he will have the kindness to send it to the Chair.

I wish to call first upon the Philadelphia Society, and then upon that of Massachusetts. I give you now :

The Philadelphia Society for the Promotion of Agriculture--the oldest organization for the advancement of the cause--the parent of all similar institutions in our country. Her children, and her children's children, rise up and call her blessed.

THE PRESIDENT—We are honored, ladies and gentlemen, by a large delegation from the Philadelphia Society, and I call upon the President of that Society to say who shall speak in her behalf.

Mr. DANIEL LANDRETH, President of the Philadelphia Society for the Promotion of Agriculture, then arose and said :

MR. LANDRETH'S SPEECH.

MR. PRESIDENT :—As the chief officer of the Society which you have just complimented in so agreeable a manner, it may, perhaps, be expected I should respond,—if so, I am truly in an awkward dilemma, and, I trust, sir, you will not smile at my simplicity, when I candidly admit, that, though expected to say something, I have really nothing to say.

When a schoolboy, Mr. President, you may probably have read, in an old book, now grown somewhat obsolete, I fear, the story of certain young women—I think there were five of them—who, at a festive convention, were discovered in an unfortunate position. I mean, sir, without oil in their lamps.

Unhappily for myself, I am, on this most interesting occasion, in a similar predicament, worse, indeed, than was theirs, surrounded as I am by brighter intellects, and sparkling eyes, which serve to render my own darkness the more apparent.

It was Addison, I believe, who said, by way of illustrating his inability to speak impromptu, that though he could draw for a thousand pounds, he had but sixpence in his pocket. Still poorer than he am I in ready money, for I am absolutely without a penny. In such condition, sir, what is to be done—in the words of the Irish Ambassador, situated as I am, indeed I may say, circumstanced as I am, you will, Mr. President, permit me to invoke the aid of one better suited than myself to reply to your sentiment, and I therefore call upon Mr. McMichael, the distinguished editor of the *Philadelphia North American*.

Mr. McMichael then arose, and was most heartily cheered ; he spoke as follows :

MR. McMICHAEL'S SPEECH.

MR. PRESIDENT—From the land of the Quaker, to the land of the Puritan—from the city where our national independence was first proclaimed, to the city where its first great labor was performed—we, who have just been honored by the toast you have proposed, have come, not as once we might have come, in awe of stripes, and brandings, and imprisonment ; nor, as again we might have come, burdened with the weight of a gloomy foreboding to share in the perils of a doubtful conflict. No, sir. Happier in this than our forefathers, whether of the earlier or the later time, we have come, assured of hospitable welcome, and bounteous entertainment, to witness the generous rivalries of friendly contestants, and to mingle in the rejoicings which properly belong to the triumphs of peace. And, sir, we feel that it is good for us to be here ; we feel—now that the bitterness of intolerance as between you and us

has forever ceased—now that the privations and dangers of revolutionary struggles for you and for us are forever over ; recalling, as we may with a smile, the follies of the fanaticism by which we were separated, remembering, as we must with a sigh, the trials of the patriotism by which we were united—we feel that it is good for us, men of Pennsylvania, to be here with you, men of Massachusetts ; to engage with you in a common effort to promote an important interest of our common country ; to admire with you the rapid development of that interest ; to exult with you over the unexampled prosperity of that country. Missionaries from our heaped-up granaries, from our prolific mines, from our teeming furnaces, we have entered your industrial establishments—those vast reservoirs of life, and of motion in its seeming intelligence resembling life—and, having seen with our own eyes, and measured with our own judgments, the men and the processes, that, by consuming our corn, and our coal, and our iron, and replacing them with the fabrics that supply the staples of a busy commerce, have made our interests and yours complete and identical, we are ready to cry “ Woe, woe, woe,” unto him that would dis sever us. Sir, bound together as we are, it was not possible we could meet as strangers ; but you have received us as favored brethren ; and, in behalf of my colleagues, and in the name of those we represent, I cordially thank you ; I thank you for the courtesy which has been extended to us ; I thank you for the privilege we have enjoyed of being partakers at the same time of your pleasing duties and your grateful cheer ; I thank you for the opportunity you have furnished us of joining our hands, and our hearts, and our voices, with yours, in the fulfilment of mutual service, in the recognition of mutual kindness, in the utterance of sentiments of mutual good will.

Mr. President : As I looked, yesterday, on the gratifying exhibition made among the triple hills of your beautiful Boston, like his excellency, the Governor, I too was reminded of those ancient days, when, from all the isles of Greece, the

people gathered to a periodical festival, foremost among whose attractions were the achievements of the race-course and the ring. It is true, sir, contrasting the present with the past, that, in your curriculum, no gaudy and glittering chariots, urged by filleted tyrants, have flashed their useless splendor in our eyes; but in their stead you have shown us troops of gallant steeds, stronger of sinew, fleet of foot, and lith of limb than ever champed a bit, or struck a hoof in the Elia circle, and backed by toil-hardened men, who live in the daily practice of a liberty beyond any of which the Greek had even dreamed. It is true, sir, that, within your enclosures, no naked wrestlers or sturdy athletes have tortured their supple joints in degrading encounters; but, better far than these, you have set before us whole droves of cattle preëminently fitted for the dairy, the shambles, or the yoke; whole flocks of sheep, rich in the wool that gives activity to our looms, and the flesh that ministers to the healthy, and tempts even the sated appetite; whole herds of swine, suggestive of that abundance which, out of our surplus, enables us to feed the hungry of the earth; and, all these you have presented so cared for and provided, so pampered and fattened, that while, on the one hand, you have avoided whatever might lower the condition of man, on the other, for his use, and convenience, and enjoyment, you have elevated the condition of the brute. And, Mr. President, if in all things else this anniversary celebration of the United States Agricultural Society had fallen short of the far-famed celebrations of old; if, instead of surpassing them, as it has, in all the manifestations of material superiority connected with the multiplication of human comforts, it had failed to match their meanest efforts; if, instead of the invincible demonstration of progress which every incident of the display has contributed to strengthen, there had been equally unmistakable proofs of stagnation or retrogression; there is one thing in which it has gone so immeasurably beyond them that for that, and that alone, it would be a thousand-fold more entitled to our praise. Mr. President, the

Greek, with all his elegance and refinement ; with all his philosophy and learning ; with all his exquisite appreciation of poetry, and music, and painting, and sculpture, and statuary, had no adequate conception of the true value and just position of woman, and admitted her to no participation, unless in exceptional cases, in his higher pursuits and graver occupations. As part of his general system, she was prohibited, on pain of death, from being present at the ceremonies of the sacred island ; and the reservation in favor of the free-love priestesses of Ceres only attested more significantly the dishonoring character of the exclusion. You, sir, have been guided by a wiser and better influence, and recognizing that social equality of the sexes, which reason and revelation alike teach us, you have thrown your gates wide open to the maids and the matrons of the community, you have given them due precedence as well in the spectacles as at the banquet, and, in the bright, the thoughtful, the eloquent faces which at this moment turn towards me, I perceive the visible tokens of the illimitable advance which our Christian has made over heathen civilization.

Mr. President : In the most glorious era of Grecian rule under the administration of the magnificent Pericles, the wealth and power of that accomplished statesman were directed to the construction of such works as, being immortal themselves, might confer immortality on their authors and projectors. First among these in grandeur, in beauty, in costliness, was the colossal statue of Jupiter, by Phidias. Towering in its pride of place, in the temple on Mount Olympus, gorgeous with gold and ivory, and all manner of precious stones, that transcendent result of genius drew to it all the visitors of the Olympic games, who offered their devotion rather to the conscious presence of a divine art, than to the imaged incarnation of the potent Thunderer, which sat in cold and stately majesty before them. Sir, nearly fourteen centuries have rolled by since that statue—the faith it typified having long before perished—was buried beneath its own

smouldering embers at Constantinople, then the brilliant seat of the Imperial Cæsars. And not alone have the faith and its emblem perished. The classic traveller gropes in vain among the obliterated landmarks of Antililla for traces of the Hippodrome, or vestiges of the Prytaneum. Constantinople, smitten with the plague-spot of a corrupt religion, and emaciated by the long exhaustion of a feeble dynasty, writhes in the death grasp of inevitable dissolution. The Greek himself, enervated alike in language and in spirit, resembles his fathers only in name.

But, Mr. President, on a new continent, under a new dispensation, and a new polity—professors of a purer creed, possessors of a surer heritage—we have to-day commemorated a new Olympiad. From all parts of a republic, mightier in its infancy than Athens in its prime, there have crowded earnest candidates for the honors, valiant strugglers for the prizes you have had to bestow. Nor have the statue and temple been wanting. Beneath the dome of your capitol we have marked the placid dignity of our Pater Patriæ, whose deeds and whose virtues shall survive in the affections of distant generations, when the old mythology, father-god and all, with all its vanities and vices, has sunk into utter oblivion. From the foot of a neighboring eminence, we have gazed on the simple column which crowns the spot consecrated by the blood of the primitive martyrs of American freedom—a column which, simple though it be, is dearer in the associations which cluster around it, than any hoary pile, no matter how venerable in its antiquity, nobler than any modern trophy,

“Built with the riches of a spoiled world.”

And, Mr. President, whatever of pride the cultivated Greek may have felt in contemplating the masterpiece of Grecian skill,—whatever of reverence the pious Greek may have felt in contemplating the master deity of the Grecian Pantheon,—we, who are now assembled from the north and the south, from the east and the west, have felt a loftier pride,

a holier reverence than ever Olympian statue or Olympian temple inspired, as, filled with solemn memories of the past, and jubilant hopes of the future, we have stood before the marble form of our own Washington, or beside the granite monument that records the story of Bunker Hill.

At the close of the eloquent gentleman's remarks, six hearty cheers were given, and at each allusion to him by subsequent speakers, the audience testified their appreciation of his eloquence and genius by hearty applause.

Mr. WILDER here said :

I have already alluded to the generous donation which we have received from the Massachusetts Society for the Promotion of Agriculture. She has dispensed her bounty with a liberal hand ; and she has imported, raised and distributed many valuable specimens of stock ; but her best stock is her illustrious representatives with whom she honors us on this occasion. I have the pleasure of introducing to you Hon. John C. Gray, President of the Massachusetts State Agricultural Society.

SPEECH OF HON. JOHN C. GRAY.

MR. PRESIDENT—It will be impossible, sir, for me to avoid responding to the notice you have so kindly taken of the society which I have the honor to represent ; but I apprehend its chief merit to be that it has, I will not say taught, but led, other societies to surpass itself. The society has now retired from its more active labors ; it rejoices in contemplating and promoting the progress of younger sister societies. Its chief merit, sir, I repeat, is, that it did something at an earlier day to give to our agriculture an impulse not yet exhausted—something to kindle and feed the flame which, in the hands of others, is now burning more brightly and broadly than ever, and which throws such a brilliant lustre and sheds such a genial warmth upon this festival.

But I think this the particular occasion to commemorate what has been done for agriculture by the rulers of our united, and, I trust most devoutly, ever to be united country. I refer, sir, to the information which has been circulated annually by the general government, which has done more to make the inhabitants of these wide-spread States acquainted with each other's agriculture than all others united. What better can these rulers do for our national prosperity than by fostering an art in which all should be interested, and in which all can engage ; which decorates and cheers our dwellings from our trim gardens, and supports our lives from our broad fields ?

What man, Mr. President, or to go further, what lady, ever regarded the hours spent in the field, the garden, or at the flower-table, as time unworthily cast away ? Mr. President, do your splendid fruit and flower borders read you any such lesson ? [Applause.]

Mr. President, I said when I rose that I represented the State Society ; I am most happy in saying I do not hold that position alone, and when I take my seat I hope to resign into your hands the honors with which you have invested me, and to see them transferred, if such be your pleasure, to my friends and associates on my right (referring to Messrs. Everett and Winthrop,) who, I am sure, will do all for our society befitting the occasion, which I may have unaccomplished.

Mr. President, devoutly grateful as we should ever be for the peace and prosperity of our happy land, it is perhaps not becoming, as it certainly is not possible, to forget that fair portion of the earth, where thousands who should be employed in cultivating the surface of the earth, are moistening it with their blood, and where the soil is torn up and furrowed, not by the implements of agriculture, but by the missiles of death. Sir, by your leave, I will conclude with the following sentiment :—

The surface of the earth—the rightful domain of Agriculture—May the whole soon be restored to her peaceful and benevolent sway. [Cheers.]

The President then said :—

Ladies and Gentlemen : I receive with pleasure the intimation of the honored gentleman on my right, who has just sat down, and I will give you, as a sentiment, to introduce our distinguished and illustrious friend, the name of

Winthrop—A name conspicuous in the history of Massachusetts, and honored in the councils of the State and nation. Well does our worthy guest sustain its ancestral renown.

Mr. Winthrop spoke as follows :

SPEECH OF HON. ROBERT C. WINTHROP.

I know of few things, Mr. President, better calculated to take the courage out of a man, than to find himself rising on such an occasion and in such a presence as this, with the full knowledge that he has been advertised, in a hundred bills and broadsides, for a fortnight beforehand, as being relied on to furnish one of the formal addresses for this crowning banquet.

For one, I cannot help feeling that the brute beasts, who are here on exhibition with us, have had something of an unfair advantage over their human yoke-fellows in this respect. They have been permitted to come comparatively unconscious into the field. They have been privileged to exhibit their points and show their paces without any solicitude as to the expectations which they may disappoint or gratify. The most *ruminating* animals among them all have never spent a moment, I venture to say, in considering what sort of a figure they should cut, or what sort of an utterance they should find. They have chewed their cud in undisturbed complacency, even while these uncounted thousands of spectators have been crowding in to gaze upon their qualities. They have, certainly, stood in awe of no reporters. They have pondered no periods—unless, indeed, it be that welcome period which shall put an end to their strange confinement, and send them quietly back to their pleasant pastures or their comfortable stalls. Envidable condition of insensibility and immunity ! Theirs is a sort of Know-nothing party, which I could be well content

to join, even though it should consign me to “a *lodge* in some vast wilderness!” “Where ignorance is bliss, ’t is folly to be wise.”

Sir, this is, indeed, a truly unaccustomed spectacle for this precise locality. So many yokes on Boston Neck, which, in 1775, if I remember right, could not bear even one yoke patiently! It is a novel sight within the limits of any large and populous city,—these flocks, and herds, and droves of cattle by which we are encompassed! One is well-nigh constrained to exclaim, in the words of the old ruler of Israel, “What meaneth, then, this bleating of the sheep in mine ears, and the lowing of the oxen which I hear?” But the question, unlike that which was addressed to the rebellious Hebrews, is happily susceptible of a most innocent and agreeable answer, and one which need involve us in no apprehension of either divine or human displeasure.

This great congress of animals, convened from all quarters of the Union, are here on no errand of insubordination or disorganization. They have come in no partisan or sectional spirit. They have neither assembled to make a platform, nor to nominate a President. No paramount issues disturb their serenity. They have come for the simple purpose of reminding us of the pre-eminent importance of Agriculture among the arts of life, and of the common interests and objects which should unite and animate the farmers of our whole country, from Maine to California. They have come as the chosen representatives of a thousand hills and valleys, to furnish us with a visible type and illustration of the surpassing magnitude of that mighty branch of American Industry of which they are something more than mere honorary members, and to impress upon us all a deeper sense of the claims which it has upon our most careful consideration and attention.

And beyond all doubt, Mr. President, the agriculture of the United States has long ago reached a condition in which nothing less than the collected wisdom of the whole country is required to devise the best means for securing its future

prosperity and welfare. So far, indeed, as mere farming is concerned—so far as relates only to the modes and processes by which the productiveness of the soil may be increased, and the soil itself saved from deterioration—I do not feel sure that much more is to be accomplished by a National Association than by state or county societies. Even in this view, however, I would by no means undervalue the importance of an organization by which so wide a comparison of opinion and of experience may be facilitated, and so much of comprehensive information obtained.

But what I cannot but think the peculiarly important province of a National Agricultural Association, is, to present to the contemplation of the country, and of the farmers and of the statesmen of the country, from time to time, some accurate and adequate conceptions of the condition and of the wants of American agriculture ; to hold up to the view of the people and of the government a just picture of its magnitude as a whole ; to develop and display the mutual relations and dependencies of its different industrial and geographical departments ; to unfold its relations to other arts and to other countries ; and, above all, to give seasonable warning of any dangers, either from overaction or from underaction, which may threaten the prosperity and welfare of those who are engaged in it.

It is never to be forgotten, sir, that, while so many other nations are bestowing attention upon agriculture in order to prevent their population from starving,—our own attention to it thus far is more needed,—I might almost say, is only needed,—to prevent the waste of our soil, and the waste of our substance, and the waste of our labor, in producing more than we can either eat or sell or even give away. And we may do well to remember seasonably the wise monitions of the immortal dramatist, when he tells us that “they are as sick that surfeit with too much, as they that starve with nothing.”

The agriculture of the United States! How much is included in the full significance and import of that phrase! What gigantic harvests! What an army of husbandmen! What a host of housewives and handmaids! What multitudinous swarms of animals! What mountainous heaps of corn and cotton! What myriads of implements! What a measureless breadth of acres!

It is not often that mere arithmetical figures produce any impression or sensation of sublimity.—But what can be grander than some of the items in the statistical tables which set forth the agricultural agencies, capacities and crops of the United States!

Why, sir, two years ago, there were estimated to be, within our limits, more than twenty millions of horned cattle, more than twenty millions of sheep, and more than thirty millions of swine. By the same returns, there were said to have been raised in a single year, one hundred and six million bushels of potatoes, one hundred and ten million bushels of wheat, one hundred and sixty million bushels of oats, sixteen hundred million pounds of cotton, fifteen million tons of hay, and six hundred million bushels of Indian corn! Follow the order of the day, sir, and make a *fusion* of all these, and what a picture of exuberant fertility do they present!

But these figures are many of them far below the estimates of the present season. I have somewhere seen our wheat crop for 1855, set down at not less than one hundred and seventy-five million, and our maize or Indian corn, at from eight hundred to one thousand million of bushels! What mighty aggregates are these, and how do they speak to us of the growing greatness, and importance of American agriculture,—not to ourselves only, but to the whole family of man! How distinctly do they point out to us our destined part in the great economy of human existence! How emphatically do they proclaim our mission to pour out the rich gifts of our exuberant soil over every land,—

—the naked nations clothe,

And be the exhaustless granary of a world!

Certainly, sir, it is quite time for some national association, or some National Board of Agriculture, to take such figures and such facts under their especial charge, and to consider by what arrangements of internal and external exchanges,—by what enlarged facilities of intercommunication, or multiplied divisions of labor,—by what additional supply of mouths and markets,—these enormous harvests may find an adequate consumption at a remunerating price, so that our plenty may never become our disease, nor our land present the picture of the industrious farmer buried up beneath his own luxurious heaps. Foreign wars will not last forever, we trust. European crops will not always be deficient. Peace and plenty will soon be seen renewing their horns, and diffusing their priceless blessings over the other hemisphere, as now over this. All that is temporary and exceptional in the present demand for the products of agriculture will have passed away. And then we shall more than ever feel the want of some better assurance of prosperity for the farmers than any which rests upon the evils and misfortunes of other people.

Sir, I hail the existence and steady progress of this Society as a pledge that the interests of the great body of American farmers shall hereafter be a chosen and cherished theme for the consultation of wise and experienced men in all parts of the Union, and that our American crops shall henceforth be the subject of some careful ascertainment, and of some systematic disposition and treatment,

“A mighty *maize*, but not without a plan.”

Among the many welcome reflections which the establishment of such an association suggests to us, none is more welcome than that it is the fulfilment of one of the most cherished wishes of the Father of his Country. That great, and good, and eminently wise man—whose character is itself the noblest product which America has ever given to the world, and whose name and fame grow brighter and brighter, and dearer and dearer to us, with the lapse of years—had few things

more warmly at heart, than the establishment of precisely such an institution.

I cannot but wish that his own loved and lovely seat on the Potomac might one day or other become your permanent headquarters, and your experimental farm. The ladies of Virginia, I perceive, are appealing to their sisters throughout the Union, to aid them in purchasing it ; and I would be the last to interfere with any plan of our better halves. But by whomsoever it may be purchased, Mount Vernon must be consecrated to nothing less than a national use, free from all sectional, free from all partisan, taint. And what use is there which so completely fulfils all these requisitions, and which is in such perfect harmony with the career, and the character, and the known wishes of Washington, and with the genius of the place where his ashes repose, as that which I have suggested ? Methinks your Directors would catch something of fresh animation and inspiration for the patriotic work which they have undertaken, if they were gathered from time to time beneath that hallowed roof, and could hold their deliberations around that old chimney-piece, covered with the emblems of agricultural industry ; which you have so appropriately selected as the embellishment of your official letter paper. There, at any rate, in that venerated mansion, and in the breast of its august proprietor, the idea of your association originated.

In one of those well remembered letters of his to Sir John Sinclair, who has been called “the Father of British Agriculture, and the Father of British Statistics,”—in one of those letters of which a fac-simile edition is the richest ornament of so many farmers’ libraries, and of which I had the happiness to present a copy to the son of Sir John, the venerable Archdeacon of Middlesex, (England), on his late visit to America,—Washington says :—

“It will be some time, I fear, before an Agricultural Society, with Congressional aids, will be established in this country. We must walk, as other countries have done, before we can run. Smaller societies must prepare the way for greater ;

but, with the lights before us, I hope we shall not be so slow as older nations have been."

Well, sir, the smaller societies have, indeed, prepared the way, and it is time for the greater to enter into their labors. You have called me up in connection with one of them—"the Massachusetts Society for the Promotion of Agriculture," of which my excellent friend at my side (Hon. J. C. Gray,) is President. That society, founded in 1792, has done much, and is still doing much. Its stock is hardly second to any in your pens this day. Its premiums are, at this moment, stimulating the invention of the whole country to furnish us with even a better *mowing machine* than those which have already been the admiration and wonder of the crystal palaces of both England and France. And I believe we shall have a better. I would be the last to rob this old Society of any of its rightful laurels. But I am afraid I cannot insist on its being called the oldest State Society in the country.

The first American Society of all was undoubtedly the Philadelphia Society, which has just been so nobly represented by my friend, Mr. McMichael, and of which our own Timothy Pickering was the original Secretary. And it is a most agreeable coincidence that this earliest American association, for the promotion of this greatest American interest, had the same birth-place with both the Declaration of Independence and the Constitution of the United States.

This was a city or county society. But, in examining the minutes of this time-honored institution, (as printed in 1854, and kindly sent to me by a Philadelphia friend,) I found somewhat unexpected evidence that a much earlier State society was formed than that of Massachusetts.

The Philadelphia Record of Dec. 5, 1785, sets forth that a letter was received "from the Hon. William Drayton, Esq., Chairman of the Committee of the *South Carolina Society of Agriculture*, inclosing a few copies of their address and rules, and soliciting a correspondence with this Society." This let-

ter was dated Nov. 2, 1785, and leaves no doubt, therefore, that South Carolina had established a State Agricultural Society at least seven years before Massachusetts. It is certainly a striking circumstance, that the year of its establishment was the very year in which the first five bales of cotton ever exported from America, were entered at Liverpool, and were actually seized at the Custom House, I believe, on the ground that no such thing as cotton had ever been grown, or could ever be grown in America! Indigo was then the staple export of Carolina, of which hardly a plant is now found upon her soil, and of which not a pound is exported. Truly, sir, there have been revolutions in the vegetable kingdom, within a century past, hardly less wonderful than those of the civil and political world.

Allow me, Mr. President, in allusion to some of these facts, to propose to you as a sentiment for this occasion:—

Pennsylvania, South Carolina and Massachusetts—The pioneers in the great cause of American agricultural improvement, with WASHINGTON as its especial patron—May common memories of the past, and common interests of the present, and common hopes of the future, ever bind them together in the same glorious brotherhood.

At the close, three cheers were given for Mr. Winthrop.

The President then said:

LADIES AND GENTLEMEN:—Our illustrious guest, who is expected to respond to the sentiment I am about to offer, needs no commendation from me. His long and valuable services have made him known to you, and beloved by you all. I give you,

Our Distinguished Guest—HON. EDWARD EVERETT—Scholar, Diplomatist, Statesman, Patriot. His name is associated with the learning and literature of our country, and his words of wisdom and eloquence shall thrill the heart so long as the English tongue is spoken.

On rising, Mr. EVERETT was received with great applause, after which three cheers were given. He then said:

MR. EVERETT'S SPEECH.

MR. PRESIDENT, AND LADIES AND GENTLEMEN :

My excellent friend, Mr. Winthrop, who has just taken his seat, was good enough to remark that he was waiting with impatience for me to speak. Far different was my feeling while he was speaking.

I listened not only with patience, but with satisfaction and delight, as I am sure you all did. If he spoke of the embarrassment under which he rose to address such an assembly—an embarrassment which all, however accustomed to public speaking, cannot but feel—how much greater must be my embarrassment ! He had to contend only with the difficulties natural to the occasion, and with having to follow the eloquent gentleman from Philadelphia, (Mr. McMichael.) I have to contend with all that difficulty, and with that of following not only *that* gentleman, who delighted us all so much, but my eloquent friend who has just taken his seat.

And when two such gentlemen have passed over the ground, the one with his wide-sweeping reaper, and the other with his keen trenchant scythe, what is there left for a poor gleaner like myself, that comes after them ?

With respect to the kind manner, sir, in which you have been so good as to introduce my name to this company, it is plain that I can have nothing to respond, but to imitate the example of the worthy clergyman upon the Connecticut river, who, when some inquisitive friend, from a distant part of the country, asked him, somewhat indiscreetly, whether there was much true piety among his flock, said, “Nothing in that way to boast of.”

If this were a geological instead of an agricultural society, and if it were your province not to dig the surface, but to bore into the depths of the earth, it would not be surprising if, in some of your excavations, you should strike upon such a fossil as myself. But when I look around upon your exhibition—the straining course—the crowded, bustling ring—the motion, the life, the fire—the immense crowds of ardent youth

and emulous manhood, assembled from almost every part of the country, actors or spectators of the scene—I feel that it is hardly the place for quiet, old-fashioned folks, accustomed to quiet, old-fashioned ways. I feel somewhat like the Doge of Genoa, whom the imperious mandate of Louis XIV. had compelled to come to Versailles, and who, after surveying and admiring its marvels, exclaimed, that he wondered at everything he saw, and most of all at finding himself there.

Since, however, sir, with that delicate consideration toward your “elder brethren,” which I so lately had occasion to acknowledge at Dorchester, you are willing to trust yourself by the side of such a specimen of palæontology as myself, I have much pleasure in assuring you that I have witnessed with the highest satisfaction the proof afforded by this grand exhibition, that the agriculture of our country, with all the interests connected with it, is in a state of active improvement. In all things, sir, though I approve a judicious conservatism, it is not merely for itself, but as the basis of a safe progress. I own, sir, there are some old things, both in nature, and art, and society, that I like for themselves. I all but worship the grand old hills, the old rivers that roll between them, and the fine old trees bending with the weight of centuries. I reverence an old homestead, an old burying-ground, the good men of olden times. I love old friends, good old books, and I don’t absolutely dislike a drop of good old wine for the stomach’s sake, provided it is taken from an original package. But these tastes and sentiments are all consistent with, nay, in my judgment, they are favorable to, a genial growth, progression, and improvement, such as is rapidly taking place in the agriculture of the country. In a word, I have always been, and am now, for both stability and progress; learning, from a rather antiquated, but not yet wholly discredited, authority, “to prove all things, and to hold fast to that which is good.” I know, sir, that the modern rule is “try all things, and hold fast to nothing.” I believe I shall adhere to the old reading a little longer.

But, sir, to come to more practical, and you will probably think more appropriate topics, I will endeavor to show you that I am no enemy to new discoveries in agriculture or any thing else. So far from it, I am going to communicate to you a new discovery of my own, which, if I do not greatly overrate its importance, is as novel, as brilliant and as auspicious of great results, as the celebrated discovery of Dr. Franklin; *not* the identity of the electric fluid and lightning, I don't refer to that; but his other famous discovery; that the sun rises several hours before noon; that he begins to shine as soon as he rises; and that the solar ray is a cheaper light for the inhabitants of large cities, than the candles, and oil, and wax tapers, which they are in the habit of preferring to it. I say, sir, my discovery is somewhat of the same kind; and I really think full as important. I have been upon the track of it for several years; ever since the glitter of a few metallic particles in the gravel washed out of Capt. Sutter's mill-race first led to the discovery of the gold diggings of California; which for some time past have been pouring into the country fifty or sixty millions of dollars annually.

My discovery, sir, is nothing short of this, that we have no need to go or send to California for gold, inasmuch as we have gold diggings on this side of the continent much more productive, and consequently much more valuable, than theirs. I do not of course refer to the mines of North Carolina or Georgia, which have been worked with some success for several years, but which, compared with California, are of no great moment. I refer to a much broader vein of auriferous earth, which runs wholly through the States on this side of the Rocky mountains, which we have been working unconsciously for many years, without recognizing its transcendent importance; and which it is actually estimated will yield, the present year, ten or fifteen times as much as the California diggings, taking their produce at sixty millions of dollars.

Then, sir, this gold of ours not only exceeds the California in the annual yield of the diggings, but in several other

respects. It certainly requires labor, but not nearly as much labor to get it out. Our diggings may be depended on with far greater confidence, for the average yield on a given superficies. A certain quantity of moisture is no doubt necessary with us, as with them, but you are not required, as you are in the *placers* of California, to stand up to your middle in water all day, rocking a cradle filled with gravel and gold dust. The cradles we rock are filled with something better. Another signal advantage of our gold over the California gold, is, that after being pulverized and moistened, and subjected to the action of moderate heat, it becomes a grateful and nutritious article of food; whereas no man, not even the long-eared King of Phrygia himself, who wished that everything he touched might become gold—could masticate a thimble-full of the California dust, cold or hot, to save him from starvation. Then, sir, we get our Atlantic gold on a good deal more favorable terms than we get the California. It is probable, nay, it is certain, that, for every million dollars' worth of dust that we have received from San Francisco, we send out a full million's worth in produce, in manufactures, in notions generally, and in freight; but the gold which is raised from the diggings this side, yields, with good management, a vast increase on the outlay, some thirty fold, some sixty, some a hundred. But, besides all this, there are two discriminating circumstances of a most peculiar character, in which our gold differs from that of California, greatly to the advantage of ours. The first is this :

On the Sacramento and Feather rivers, throughout the *placers*, in all the wet diggings and the dry diggings, and in all the deposits of auriferous quartz, you can get but one solitary exhaustive crop from one locality; and, in getting that, you spoil it for any further use. The soil is dug over, worked over, washed over, ground over, sifted over—in short, turned into an abomination of desolation, which all the guano of the Chincha Islands would not restore to fertility. You can never get from it a second yield of gold, nor anything else, unless,

perhaps, a crop of mullen or stramonium. The Atlantic diggings, on the contrary, with good management, will yield a fresh crop of the gold, every four years, and remain in the interval in condition for a succession of several other good things of nearly equal value.

The other discriminating circumstance is of still more astonishing nature. The grains of the California gold are dead, inorganic masses. How they got into the gravel; between what mountain mill-stones, whirled by elemental storm winds on the bosom of oceanic torrents, the auriferous ledges were ground to powder; by what Titanic hands the coveted grains were sown broadcast in the *placers*, human science can but faintly conjecture. We only know that those grains have within them no principle of growth or re-production, and that, when that crop was put in, Chaos must have broken up the soil. How different the grains of our Atlantic gold, sown by the prudent hand of man, in the kindly alternation of seed-time and harvest; each curiously, mysteriously organized; hard, horny, seeming lifeless on the outside, but wrapping up in the interior a seminal germ, a living principle! Drop a grain of California gold into the ground, and there it will lie unchanged to the end of time, the clods on which it falls not more cold and lifeless. Drop a grain of our gold, of our blessed gold, into the ground, and lo! a mystery. In a few days it softens, it swells, it shoots upwards, it is a living thing. It is yellow itself, but it sends up a delicate spire, which comes peeping, emerald green, through the soil; it expands to a vigorous stalk; revels in the air and sunshine; arrays itself more glorious than Solomon, in its broad, fluttering, leafy robes, whose sound, as the west wind whispers through them, falls as pleasantly on the husbandman's ear, as the rustle of his sweetheart's garment; still towers aloft, spins its verdant skeins of vegetable floss, displays its dancing tassels, surcharged with fertilizing dust, and at last ripens into [two or three magnificent batons like this, (an ear of Indian corn,) each of which is studded with hundreds of grains of gold, every one

possessing the same wonderful properties as the parent grain, every one instinct with the same marvellous re-productive powers. There are seven hundred and twenty grains on the ear which I hold in my hand. I presume there were two or three such ears on the stalk. This would give us 1,440, perhaps 2,160 grains as the produce of one. They would yield, next season, if they were all successfully planted, 4,200, perhaps 6,300 ears. Who does not see that, with this stupendous progression, the produce of one grain in a few years might feed all mankind? And yet with this visible creation annually springing and ripening around us, there are men who doubt, who deny the existence of God. Gold from the Sacramento river, sir! There is a sacrament in this ear of corn enough to bring an atheist to his knees.

But it will be urged, perhaps, sir, in behalf of the California gold, by some miserly old fogey, who thinks there is no music in the world equal to the chink of his guineas, that, though one crop only of gold can be gathered from the same spot, yet, once gathered, it lasts to the end of time; while (he will maintain) our vegetable gold is produced only to be consumed, and, when consumed, is gone forever. But this, Mr. President, would be a most egregious error both ways. It is true the California gold will last forever unchanged, if its owner chooses; but, while it so lasts, it is of no use; no, not as much as its value in pig-iron, which makes the best of ballast; whereas gold, while it is gold, is good for little or nothing. You can neither eat it, nor drink it, nor smoke it. You can neither wear it, nor burn it as fuel, nor build a house with it; it is really useless till you exchange it for consumable, perishable goods; and the more plentiful it is the less its exchangeable value. (Far different the case with our Atlantic gold; it does not perish when consumed, but, by a nobler alchemy than that of Paracelsus, is transmuted in consumption to a higher life. "Perish in consumption," did the old miser say? "Thou fool, that which thou sowest is not quickened *except* it die." The burning pen of inspiration, ranging

heaven and earth for a similitude, to convey to our poor minds some not inadequate idea of the mighty doctrine of the resurrection, can find no symbol so expressive as "bare grain, it may chance of wheat or some other grain." To-day a senseless plant, to-morrow it is human bone and muscle, vein and artery, sinew and nerve; beating pulse, heaving lungs, toiling, ah, sometimes, overtoiling brain. Last June, it sucked from the cold breast of the earth the watery nourishment of its distending sap-vessels; and now it clothes the manly form with warm, cordial flesh; quivers and thrills with the five-fold mystery of sense; purveys and ministers to the higher mystery of thought. Heaped up in your granaries this week, the next it will strike in the stalwart arm, and glow in the blushing cheek, and flash in the beaming eye;—till we learn at last to realize that the slender stalk, which we have seen shaken by the summer breeze, bending in the corn-field under the yellow burden of harvest, is indeed the "staff of life," which, since the world began, has supported the toiling and struggling myriads of humanity on the mighty pilgrimage of being.

Yes, sir, to drop the allegory, and speak without a figure, it is this noble agriculture, for the promotion of which this great company is assembled from so many parts of the Union, which feeds the human race, and all the humbler orders of animated nature dependent on man. With the exception of what is yielded by the fisheries and the chase, (a limited, though certainly not an insignificant, source of supply,) Agriculture is the steward which spreads the daily table of mankind. Twenty-seven millions of human beings, by accurate computation, awoke this very morning, in the United States, all requiring their "daily bread," whether they had the grace to pray for it or not, and under Providence, all looking to the agriculture of the country for that daily bread, and the food of the domestic animals depending on them; a demand, perhaps, as great as their own. Mr. President, it is the daily duty of you farmers to satisfy this gigantic appetite; to fill

the mouths of these hungry millions—of these starving millions, I might say, for if, by any catastrophe, the supply were cut off for a few days, the life of the country—human and brute—would be extinct.

How nobly this great duty is performed by the agriculture of the country, I need not say at this board, especially as the subject has been discussed by the gentleman (Mr. Winthrop) who preceded me. The wheat crop of the United States the present year, is variously estimated at from one hundred and fifty to one hundred and seventy-five millions of bushels; the oat crop at four hundred millions of bushels; the Indian corn, our precious vegetable gold, at one thousand millions of bushels! a bushel at least for every human being on the face of the globe. Of the other cereal, and of the leguminous crops, I have seen no estimate. Even the humble article of hay,—this poor timothy, herds' grass, and red top, which, not rising to the dignity of the food of man, serves only for the subsistence of the mute partners of his toil,—the hay crop of the United States is probably but little, if any, inferior in value to the whole crop of cotton, which the glowing imagination of the South sometimes regards as the great bond which binds the civilized nations of the earth together.

I meant to have said a few words, sir, on the nature of this institution, and its relations to our common country as a bond of union. (Cries of "Go on, go on.")

I have lost my voice and strength, and my good friend, who has treated that topic, never yet left anything to be said by those who come after him. I will only, in sitting down, take occasion to express the great interest I feel in the operations of this association. I see that it is doing, and I have no doubt it will yet do, infinite good.

I beg, in taking my seat, sir, to tender you my most fervent wishes and hopes for its increased and permanent prosperity and usefulness.

Mr. Everett was listened to throughout with the most intense interest, and was very often interrupted with outbursts of applause, which seemed to come forth spontaneously from the large assemblage. At the close, the whole audience gave him six hearty and enthusiastic cheers.

While Mr. Everett was speaking, the gas was lighted, giving to the tent a most beautiful appearance. At the close of his remarks, many of the audience retired.

Mr. Wilder then said :

Ladies and Gentlemen :—We are honored to-day by a delegation from Her Majesty's Provinces, and I give you

Canada—Although Her Majesty has not, in her visits to other countries, set her royal foot upon our soil, yet she honors us on this occasion by worthy representatives of her loyal subjects.

MUSIC—"God save the Queen."

I introduce to you Col. Thompson, President of the Board of Agriculture of Canada West.

COL. THOMPSON'S REMARKS.

Mr. President : I can scarcely hope, at this late hour, to entertain this assembly ; but cold indeed must be that heart which would not feel some enthusiasm on an occasion like this, and seize upon such an opportunity as is here offered for expressing its emotions. After witnessing what it has been my privilege to behold at this exhibition, after meeting with so large an assemblage of brother farmers, and of those who feel a deep interest in the extension of that science, which it is our aim to promote, I feel unwilling to forego the privilege of saying a few words. I have had the satisfaction for several years of witnessing similar exhibitions in Canada. We do not there possess much mineral wealth, but we have that vegetable gold which produces the means of filling our pockets, which we exchange for many of your Boston notions, which are made use of to a great extent in our country.

Within the last year, our relative positions have been very materially changed, by a wise and judicious measure, passed by the legislatures of both our countries, providing for the reciprocal change of products. I am happy to be able to mention a fact that will not astonish people who reflect upon the advantages that result from the immediate intercourse of trade, namely, that within the last year a greater degree of reciprocity of hearts has existed between the sons and daughters of the United States and Canada, than had been known at any time during the previous five years. This is an extremely pleasing state of things ; and I only regret that we did not, five or six years ago, witness in Canada what we have seen here to-day—so many fair and smiling faces as I see before me. I regret exceedingly that there are not hundreds of my young farmer friends of Canada with us here to-day, to witness the interest manifested by the ladies in these proceedings. I am sure that it would fill their hearts with gladness, and induce them to carry out farther that reciprocity. [Laughter.]

Sir, we inhabit a country supposed to be more sterile than it really is. If you consult statistics, you will find that Canada is more productive in the cereals—I refer more particularly to Canada West—than any other portion of America. It produces a greater amount of wheat of prime quality, than any other section of the country inhabited by an equal number of people. The increased intercourse between us by the lakes, growing out of the Reciprocity Treaty, has been of marked advantage, both to ourselves and to our neighbors. This society aims more particularly at the encouragement of another important branch of our business—the improvement of the stock of the two countries. We have had, within the last three or four years in Canada, a great many valuable importations of animals, and, by judicious management in crossing families, there has resulted a great improvement in the brute creation.

The continual advance of agriculture and the rivalry stimulated by our more intimate relations, will have a tendency to

promote our mutual interests. The science to which we are devoted, and which is of the utmost importance to mankind, I hope to see making rapid strides in Canada as well as in this country. There is abundant room for improvement yet. There are few people living in places where it is necessary to resort to all possible means of fertilization, who will not acknowledge that everywhere in this country this statement is applicable. I trust, sir, that we shall go on improving, and while endeavoring to advance our own interests, that we shall not forget those of our neighbors.

In conclusion, I will only say that we shall be most happy, on all similar occasions in Canada, to see more of the people of the United States, to witness the results of our efforts there. They will perhaps see many things that will tend to their advantage, as we find that we are always gainers by visiting exhibitions of this kind in the United States.

For the honor which you have done to Canada, sir, and particularly for the manner in which the name of our beloved sovereign, Queen Victoria, was received, I feel bound to return thanks, and I do so most heartily. We live, sir, under the dominion of a sovereign, who, I believe, stands higher in the estimation of the world this day than any sovereign who has reigned for a century ; and most gladly, while the British throne is filled by one possessed of her attributes, we acknowledge our allegiance to that banner, which, for a thousand years, has braved the battle and the breeze.

It is a mistake to suppose that Canadians have not the control of their own political institutions. We acknowledge the sovereignty of Great Britain, and while the throne is occupied as at present, I do not believe that one in ten thousand of the people of Canada wishes to acknowledge any other allegiance. At the same time we control our own municipal affairs wholly ; and if those placed in authority by us do not give satisfaction, we have it in our power to check them immediately, and put better men in their places. This is our condition, and I trust we shall glory in it for many years.

We desire on all occasions to maintain the most courteous and friendly relations with our neighbors on this side of the line ; and we shall always be glad to meet them either in this or our own country. I beg leave, sir, again to return my sincere thanks for the toast to which I have been called to respond.

Three cheers for Queen Victoria were then called by the President, and heartily responded to.

The President then said :

LADIES AND GENTLEMEN, we are honored, as I have stated, to-day, by delegations, from the British dominions to the Gulf of Mexico, and from Maine to California. It was my hope that I should be able to call upon them ; but there are two states which have control over a great number of county agricultural societies ; I mean states which have state associations. I wish to call upon gentlemen representing them, and it will be all that we shall be able to do before proceeding to the premiums. I now call upon the ex-President of the N. Y. State Agricultural Society, Hon. John A. King.

Hon. John A. King then rose, and was received with applause.

HON. JOHN A. KING'S SPEECH.

MR. PRESIDENT, AND LADIES AND GENTLEMEN :—

I had hoped, at least, that I should escape, after the eloquence which you have heard here to-day. But I have an old friend in that chair, who does not, upon such occasions, spare those even who stand true to him. He makes them perform a portion of the duty, as he has so ably done his part. [Applause.]

I will not fail to respond to the honorable allusion which he has made to the State Society of which I am an humble representative, and of which I was formerly an officer. In that State we began early to take our part in agriculture. The Legislature made liberal and ample provision for the differ-

ent counties of the State. They in turn have done their part; and in New York we have well-established agricultural societies.

I have also the honor to belong to the same society to which your distinguished President belongs—the United States Agricultural Society. I have served with him also in that capacity; and I am here to say, in your presence, and to his honor, that I know no fitter, no abler, more efficient officer for that distinguished post. [Applause.] At home and abroad the same man, the same power, the same vigor, the same intellect, are all brought to bear on the great cause which we are here assembled to celebrate. [Applause.]

I came here to assist in this great celebration; and well have I been repaid for it. I have witnessed a scene upon this made land, such as no man in this country has ever before witnessed. I have seen, not only the most beautiful specimens of animals of all characters, but I have seen the noblest assemblage of the noblest animal—man. I have seen one hundred thousand persons, well dressed, intelligent, and capable of everything that man can be called upon to do—here assembled to witness that which the society, under his administration, has been able to produce before you; orderly, quiet, and requiring no police, no bayonets, but showing the influence and power of education, here, in its greatest stronghold, New England. [Applause.]

I have felt that spirit in me which I have a right to feel, and that influence which belongs to this nation, and to this part of the country; for I, too, boast of some New England blood in my veins, and it is the best part of me. [Applause.] It is the blood of liberty, the blood of freedom. [Three cheers were here given.] I am here, in the very air perfumed with it. Nothing is better, nothing more noble, nothing more stirring, nothing that makes a man feel more proud than to be here, in the sight of this noble city, to honor the profession of the farmer—for I am that; I belong to the land, I live upon it, I thrive by it, and I honor the science of agricul-

ture, and here I come to show my homage to it in your presence. [Applause.]

Mr. President, it is too late to go on. [Cries of "Go on, go on."] You have admonished me, sir, that it is time for the premiums to be announced, that the fortunate competitors for the honors awarded by your society are here to receive. I ought not to delay that announcement. It does not become me to say more. I did not expect to be called on. I thought there was another here to answer for New York, and its society; but, when *you*, Mr. President, made the appeal, it was not in *me* to refuse; [cheers] and it would not become me to do so. Therefore, unprepared as I was, and under the influence of the eloquence which we have heard, in a great measure disqualified, still I have ventured, and I ask your pardon for saying what I have on the spur of the occasion.

Mr. President, I will give a single sentiment, in view of what I feel upon this occasion. It is:

The citizens of Boston: the intelligent and munificent patrons of the Farmers' Festival. [Applause.]

THE PRESIDENT—I regret exceedingly, ladies and gentlemen, that it is out of my power to call upon the distinguished guests who are here as representatives of other states; but we must now proceed to declare the award of premiums.

OLON ROBINSON, of New York—Mr. President, before we close, you will allow us to hear from another gentleman who is present from Canada West. I call for Mr. Isaac Askew; I presume he is present.

THE PRESIDENT—Ladies and gentlemen, we will rescind the order that has just been given. Will Mr. Askew please step forward.

A VOICE—Mr. Askew has retired.

OLON ROBINSON—Is Gov. Colby present? We should like to hear from New Hampshire.

THE PRESIDENT—We should be most happy to hear from Gov. Colby. Is he present?

There being no response, the premiums were then read by W. M. S. KING, Secretary of the Society.

The following speeches were transmitted for publication, in accordance with the invitation extended by the President.

SPEECH OF W. F. M. ARNY, Esq., /

DELEGATE FROM THE ILLINOIS STATE AGRICULTURAL SOCIETY.

MR. PRESIDENT:—It is with much diffidence that I address you, as the representative of a western state, and of farmers and mechanics, it would almost appear presumptuous for me to attempt even a suggestion, after the eloquence with which our ears have been greeted, by “the wise men of the East.” But, Mr. President, there is *one subject* connected with the object of the organization of the United States Agricultural Society, which should occupy, probably, a little more attention than has been devoted to it upon the present occasion.

The gentlemen who have addressed you upon “the golden harvest of our soil,” have shown conclusively, that “we have more wealth in the agricultural products of this nation, than in the vast gold mines of California.”

I have the honor, sir, to represent the prairie state, Illinois, which, it is admitted, “were her capacities fully developed, she would be able to furnish bread and meat for this whole nation;” and, as was shown, “*gold without food* would avail man nothing,” so food without other essentials, would make man nothing more than an animal. Whilst I boast of the state of my adoption, I do not disparage other states. If we cannot raise as good apples as Rhode Island, we know that we can raise more and better corn, pork and beef, than Rhode Island and Massachusetts united. Yet, sir, we are far behind you, in a matter of higher and more vital importance. It is said that one of our western citizens fell in company with a Massachusetts lady, and in conversation remarked that “the soil of your state was unproductive in comparison with the prairies of the west;” and he thought that “your state would

not produce sufficient to feed half your population ; ” and he propounded to her the question, “ What do you raise from your stony soil ? ” Her reply, was : “ You raise on your prairies, bread and meat, we raise men and women to eat it, and school-houses to educate them and you.”

Mr. President, it appears to me, as it did to this lady, that our great mission is *to promote the cultivation of the soil, and the improvement of animals, with the greater object of raising and educating men and women thoroughly.*

The God of Nature, and the planet which he has created, with its products, are *types*, and man, his creature, is an *anti-type*. God, while he is *one being*, is represented, in the Divine Book, as possessing three distinct elements, so to speak, “ *The Father*,” “ *the Word*,” and “ *the Spirit*.” His creation—and his creature, man, like himself, possesses three elements. The golden grain which the eloquent speaker held up to our view, contains three elements, “the germ,” “the substance which gives vitality to the germ,” and “the outer hull.” These three are all necessary to the reproduction of the grain and the perfection of the plant ; but all of these are useless without proper cultivation,

So it is with man. The Creator has given him three “faculties,” the mental, moral, and physical ; all of *which must be fully cultivated in order that we may have a perfectly developed and educated man*. Can these objects be accomplished more readily than by uniting in an effort for the establishment of Industrial Universities, to be located in every State of this Union ? These should be institutions of learning, where farmers and mechanics may receive an education adapted to their pursuits in life. Such institutions, *with a great central institution near the seat of government of this nation*, would certainly, with the aid of the agricultural associations, do more towards the improvement and elevation of man, *mentally, morally and physically*, than all the wealth of Europe and America combined would do, appropriated in any other way. In expressing these views, I may be considered as somewhat

enthusiastic. If so, I shall probably be excusable in the eye of the critic, when I tell you, sir, that they were suggested by what we have heard here in reference to the proper appropriation of the domain of Washington, at Mt. Vernon. I was born and raised within a few miles of that sacred spot, and almost in sight of the last resting-place of "the Father of our country." I therefore felt my heart thrill with joy, when the eloquent speaker alluded to the appropriation of that place to the agricultural interests of this nation. And, sir, it gave me the courage to express, in the presence of this intelligent and vast audience, the imperfect and hasty thoughts suggested upon this subject. And permit me, sir, to detain you a moment longer to express the following sentiment :

May the day be not far distant when the United States Agricultural Society may be enabled to tie the bands of this Union with bonds, more enduring than "a monument of stone reared to the Father of our country," in the appropriation of his domain on earth, to the use dearest to his heart while he lived.

In conclusion, permit me, sir, to express our grateful thanks for the kind attention to the delegation from Illinois, and, especially, for the favorable notice you was pleased to take of the small offering of fruit from our State exhibition, which was on your table at this banquet.*

SPEECH OF B. B. FRENCH, Esq.,

OF WASHINGTON, D. C., TREASURER OF THE SOCIETY.

Mr. President: You did me the honor to intimate, a few days since, that, as I would probably be the only one, officially present from the District of Columbia, a few remarks from me would be acceptable, at this time. You, Mr. President, have only to ask ; it is our duty to comply. I have, therefore, prepared myself somewhat hurriedly to address you.

The District of Columbia is hardly of sufficient size to make

* In allusion to a barrel of splendid apples, sent by the Illinois Society, specimens of which were on the table.

one good farm, therefore I have very little to say of farming in the District. There are, however, some good and well cultivated farms in its immediate vicinity, and perhaps one or two within its boundaries, on which, ten years ago, a half dozen sheep could hardly have picked up grass enough for a living. And I should not do justice to those enterprising gentlemen who have made "the wilderness to blossom as the rose," did I not make honorable mention of their names here, for all of them, save one, have their business places in the city of Washington, and have generously appropriated the means earned there, to the improvement of the soil. The first one who commenced farming outside of the city, in good earnest, was Francis Preston Blair. He purchased a farm called "Silver Spring," several years ago, which was, at the time, worn out, and by a liberal expenditure of money, and unwearied industry, he has made it almost a garden. William M. Morrison, (a native of New Hampshire, and a bookseller in Washington,) is another of our benefactors of the land, who has made an excellent farm out of a barren waste. Darius Clagett, a merchant of Washington, has done the same thing, and he remarked to me last summer, that farmer Clagett still owed merchant Clagett a large sum of money. Judging, however, from my own observation, I should think farmer Clagett was now fast paying the debt. Thomas Blagden, William Hickey, Joseph H. Bradley, a Vice President of this Society, and many others, whose names I do not now recall, are engaged in this glorious enterprise of improving the land in the vicinity of Washington. They are setting an example that I hope will be followed by hundreds hereafter in the vicinity, and let every farmer in the United States bid them God speed.

Twenty-one years ago, I went to Washington for the first time, and I am constrained to say, that, having been born and having resided in New England up to that time, the contrast was such as to lead me to the conclusion that, so far as cultivation was concerned, the land between Baltimore and Washington bore the most God-forsaken appearance that I had ever

beheld, except upon the very summit of Kearsarge mountain. Since that time, the change has been very great, for the better, although there is "ample room and verge enough" still left for improvement.

There is, throughout the District of Columbia, I am happy to know, a deep interest in Horticulture, and Floriculture. We have gardens in the city of Washington that can hardly be surpassed anywhere, and it has become the fashion, the elegant fashion, among the ladies, to cultivate in flowers every patch of land about their dwellings, which has given to our "city of magnificent distances," a life and a beauty, during the season of flowers, that is delightful to all eyes which can appreciate the beautiful in nature. Our bountifully supplied market bears witness to the superior horticulture in and around the city, and the public grounds are now the admiration of all beholders. Such, sir, is at present the aspect of Washington and its vicinity, so far as regards the proper subject of remarks here; and the march there, is, I am happy to say, onward.

There is one thing, however, which, in my opinion, we should have there, that we have not, and that is, *a Department of Agriculture*. I know well, that there are those who have at heart the interests of agriculture, who differ from me in this opinion, but their arguments have failed to convince me. Will any one deny the very beneficial effects upon the farming interests of the United States of the limited encouragement that has been given, by Congress, to it, through the Patent Office? I think not. Then, were there a Department devoted exclusively to this immense national interest, how much more would be done for its benefit!

I have recently read "The Japan Expedition, by J. W. Spalding," and a well written, and most interesting book it is. I was struck with the following description of the appearance of the land on the Wooseng river, in China.

"Nothing," says the writer, "can exceed the closeness and thoroughness of cultivation visible on both sides of this

tortuous stream ; it looks like one great market garden, and the wonderful industry of its cultivators says to the black soil, month in and month out, "Give ! give !" The unremitting toil, and the uninterrupted use of ammoniacal fertilizers, never allow the earth to be weary of well-doing. No wonder agriculture is so fostered by the government, and that once a year the imperial cousin, etc., to the planetary system, should, by holding the plough in the field, attempt the impossibility of adding dignity to the labors of the husbandman."

There, among a people that we almost deem barbarians, Agriculture is fostered, especially by the government, and the Emperor gives, once a year, his example of encouragement, by holding the plough,—while we, who esteem ourselves enlightened beyond many nations of the earth, at least in our farming operations, suffer all the natural encouragement given to, by far the greater interest of the Union, to be—I use the strong language of Professor Mapes—"kept in a well-hole of the Patent Office" !

While our government are, with watchful eyes, looking especially after our foreign affairs, through their Secretary of State ; our finances, through their Secretary of the Treasury ; our military affairs, and our naval affairs, through the respective secretaries having the care of those matters ; our post office affairs, through the Postmaster General ; our law affairs, through the Attorney General, and all our other affairs—*except Agriculture!*—through the Secretary of the Interior, the farmers of the country, who, should they combine to do it, could starve out the government, and all its dependencies, are left to the tender mercies of a fluctuating Congress, who may, or may not, as the notion takes them, make a small appropriation, which, if made, is to be expended under a subordinate officer, in a cellar of the Patent Office !

Mr. President, is this right ?—ought it to be ? I say, no, it ought not ! The farmers of this Union ought to combine, and they ought to say to each candidate for member of Congress, "Sir, pledge yourself to make every effort in your

power for the establishment of a Department of Agriculture, and you can have our votes ; refuse to give us such a pledge, and you never can enter the halls of Congress as our representative." Let the farmers do this, and it will not be long before we shall have added to our governmental departments a department of Agriculture ! And, could I have my way, the head of it should be elected by the farmers of the country. No political feelings should ever pass its threshold, and it should be next to treason to hold a discussion upon party politics within its walls. Give us such a department, with the proper annual appropriations to carry it on liberally and generously, and no one can now tell the immense benefits that would result from it to the nation !

In a nation, extended as ours is, from ocean to ocean, and almost from the equator to the pole, agriculture is, and ever must be, the great interest everywhere. Even California, the land of treasure, where we supposed riches would have been sought beneath, instead of on the surface of its soil, is, to our astonishment, sending her agricultural products to our markets, and promises, ere long, to be one of the best farming states of our Union !

Sir, I have travelled, during the past season, three times, between my present home in the city of Washington, and my former home—the home of my infancy, childhood and youth—in New England. I have had my eyes wide open to the prospects around me, and nothing has given more happiness to my heart than the well-cultivated farms all along the route. I have seen the independent and happy owner of the soil driving his team afield, while the morning sun was casting long shadows westward. I have seen him swinging, with stalwart arm, the scythe, and leaving the heavy swarths behind him, rolled up almost like the waves of the ocean. I have seen him gathering in his abundant harvests—indeed, I have seen him, in nearly all the operations of a farmer's life out of doors, both early and late, with his hosts—probably many of them his own children—about him, and health and happiness were the distinguishing features of every scene !

And what, sir, were my reflections? They were somewhat thus: This is *my* country! Broad, extended, and happy—peace throughout her borders, rich to plethora almost, in all the necessities—aye, and luxuries of life, prospering under a constitution in its formation almost a miracle, and in its continuation indeed one,——and a union of *many in one*, which has, for more than half a century, astonished the world! And now, when Europe is blazing in war, and the tramp of Power is over the bloody battle-field, and the smoking and gore-gorged ruins of what were recently beautiful and peaceful cities, and the husbandman is called, with hardly a moment's notice, from his vine-clad fields, to wield the musket and the sword in slaughter of his fellow-man, and perhaps to lay down his life, and make one in the holocaust of blood offered up from the smoking ruins to the god of rapine and slaughter—I could not but make, in my mind, the vast contrast, and pray to Heaven that the day may never come when our broad and beautiful fields may be made horrid by blood and carnage, and all our happiness be up-rooted by “grim-visaged war.”

Mr. President, is there no danger? I fear none myself, from any foreign source, but I do feel,—and I say it with sadness and with sorrow,—I do feel almost a certainty that our constitution cannot pass intact, through many more such ordeals as it has within the past few years. Our fathers made it—thus far we have supported it; let us still do so! Let not our children curse us, for destroying their patrimony, while descending through us to them! A little care, a little conciliation, concession and prudence, all over the Union, will carry us through this crisis, and years upon years of happiness may still be to us and ours. Farmers, the safety of this Union is in your power; see to it, that you keep it safe!

Mr. President, I will give you this sentiment:

Uncle Sam's Farm—Of which we are all tenants in common; May no one ever petition for partition!

SATURDAY OCT. 27—FIFTH AND LAST DAY.

There was no day thus far, during the autumnal months, which had opened more bright and beautiful than this, the last of the exhibition. Early in the morning a few light and fleecy clouds obscured the sky, but, as the sun ascended the heavens, they were all rolled away or dissolved in air, leaving the clear cerulean bright and lovely as a summer morn. Towards noon, however, there was an unfavorable change, with a few drops of rain.

At an early hour, the tide of human beings began to set towards the exhibition grounds on foot and in carriages. Washington street presented two continuous lines of carriages—one up town and the other down town. The first named were loaded to their utmost capacity, and the already weary omnibus horses, jaded and worn by their labors of the previous days, seemed to shrink from the loads imposed upon them.

THE TRACK.

The course was occupied at an early hour by those who were desirous of exhibiting the good qualities of their animals. Several trials of speed were had but not timed.

The trotting was very good, and here and there were to be seen some very superior animals, which may be heard from in the future.

The National Brass Band were in attendance, and enlivened the scene with some of their sweetest strains.

THE TROTTING.

First Heat.—At ten and a half o'clock, a grand trot came off upon the track between the following celebrated horses: "Columbus," "Stockbridge Chief," "North Horse," and "Ethan Allen."

The horses were arranged in the order in which they were named—Columbus having the inside.

"Columbus,"—twenty-four years of age—is of a chestnut color, weighing about 1000 pounds; "Stockbridge Chief" is

also of a chestnut color, and the heaviest of the four, weighing not far from 1100 pounds. "North Horse" is a beautiful black, and is a splendid horse. "Ethan Allen" is of a fine bay color, well proportioned, and well developed for speed.

The appearance of the horses upon the track animated the crowd to high enthusiasm. After three false starts, the bugle sounded, and they whirled round the course in fine style. Ethan Allen, although on the outside, at once ranged ahead, and before the first quarter was reached, took the lead at a distance so safe, that his driver used no exertions to bring him in on quick time, and amid the huzzas of the crowd, came home in 2:34 1-2. Columbus, although in his twenties, pressed on with remarkable speed, and came in about ten lengths behind. "North Horse" was about two lengths in the rear of Columbus, while "Stockbridge Chief" was distanced.

The first half mile was made by "Ethan" in 1:16.

The trot was an excellent one; the horses, all of them, acquitting themselves finely, none of them breaking except "Stockbridge Chief."

Second Heat.—On the second heat, Stockbridge Chief was withdrawn. The others came up in good condition, and were off the first start. The first quarter was nearly neck and neck, but "Ethan Allen" again ranged ahead and kept it, although for the first half mile "Columbus" pressed him hard. The first half was accomplished by "Ethan" in 1:17. He broke, however, soon after, but recovered and regained his lost ground, and came up in fine style in 2:37. "Columbus" was about the same distance behind as in the first heat.

"North Horse" did exceedingly well, and had he not broke just before reaching the stand, might possibly have won over "Columbus." It was an exciting scene.

The premiums offered were \$300 and \$150 respectively. The Judges were Tristram Burgess, of Providence; Thomas Parsons, of Brookline; S. E. Sprague, of Boston.

Their regulations gave much satisfaction.

SECOND TROT. At 12 o'clock, a grand trial of the speed of Stallions came off for \$200 and \$100 prizes.

The Judges were John B. Clarke, Manchester, N. H.; M. B. Mead, Providence, R. I.; L. B. Brown, New York.

The horses entered were under six years of age.

First Heat.—The horses entered were "White Mountain Morgan," who had the pole; "Morgan Hunter," and "Romeo," who had the outside. After two false starts, the bugle sounded and they were off. "Morgan Hunter" at once broke, and the others passed on, "Romeo" leading off, but well followed by "White Mountain Morgan," who broke at the first quarter and lost ground. He gradually closed up, however, but not sufficiently to win, "Romeo" coming in several lengths ahead, in 2:57. "Morgan Hunter" ran against the rail at the first half, and was taken from the course.

Second Heat.—The horses came on in good condition, "Romeo" especially, who seemed as fast as at the first heat. They were off at the second attempt, "Romeo" leading by a half a length. He soon opened quite a gap between him and his competitor. He broke once, but immediately recovered, and had it all his own way to the end, coming in in 2:58.

The "White Mountain Morgan" did not show as well as he has upon some former occasions. He was not in good condition to take his position in the ring.

THIRD TROT.—*First Heat.*—This was a test between the two celebrated "Morrell" horses, father and son, from Vermont. The "Young Morrell" is owned in Barre, and the "Old Morrell" in Danville.

They were off at the first start, the son leading the sire, and winning the race in 2:42 1-2. The "Old Morrell" broke badly, and came in far behind.

The slight rain and cool wind at this hour had the effect of sending a large number of people from the field. Others, however, kept their position—many of them ladies, much interested in the exciting scenes.

FOURTH TROT.—*First Heat*.—This was a trial of speed for a prize of \$50, horses to saddle, mile heats, best three in five. The horses entered were “Young America,” rode by Wm. Woodruff, “Young Ripton,” rode by Mr. Barnard. “Young Ripton” is a cream-colored horse, and had the inside. The other was a white horse. “Young Ripton” took the lead and kept it to the close without any difficulty, winning the heat in 2:39 3-4. The other heats were nearly in the same style, “Young Ripton” winning both with ease.

THE SOCIETY'S DINNER.

As usual at one o'clock, a most excellent dinner was prepared for the officers, committees, and invited guests, at the committee rooms. The tables were well filled.

COMPLIMENT TO PRESIDENT WILDER.

Before the company left the table, a pleasant incident occurred. MR. ALBERT G. TENNEY, Editor of the Bath Tribune, Me., arose, and, on behalf of the Reporters, in a few brief and appropriate words, thanked the Society for the very excellent arrangements which had been made for the accommodation of the representatives of the Press, and for the many facilities which had been extended to them during the exhibition. These kind attentions, he assured the President, would never be forgotten by the recipients of them. As they left this exhibition ground, they would go breathing heartfelt wishes for the long-continued health and prosperity of the President of the United States Agricultural Society.

MR. WILDER'S RESPONSE.

Gentlemen Reporters—I am taken wholly by surprise by your kind allusions, and I beg to assure you, that I receive them with deep gratitude. We have relied upon you, knowing that you would make such representations as would be just, and might fly on the wings of the wind to every part of the land. I have always felt safe in your hands, and you have

always done me full justice ; you have awarded me greater credit than was due to me. To those of you who have come to our gathering from abroad, permit me to express my sincere wish for your safe return to your homes, and prosperity in life worthy of the services you have rendered this society ; for I am free to say, that much of our present success is due to the favorable notices you have given. [Applause.]

AFTERNOON PROCEEDINGS.

The first matter of interest after dinner, was the grand trial of speed, free to all trotting horses, and all drivers, best three in five. First premium \$300 ; second do. \$100. A great deal of interest was felt in this trial, as was manifested by the crowds which flocked to the seats to get a good view of it. Three horses were entered for it as follows :

| | | | | |
|------------------|---|---|---|------------------|
| Lady Litchfield, | - | - | - | by Dan'l Mace. |
| Chicago Jack, | - | - | - | by John Daniels. |
| Patapseo, | - | - | - | by Mr. Buckley. |

On drawing for the pole, Patapseo got the outside when he was withdrawn. The trot was therefore between the first two named horses, and it was contested with much spirit.

On the first heat, the " Lady " broke up badly several times. Chicago Jack kept steadily to his work and won the heat in 2:36 1-2, the " Lady " being but a length behind him.

They got off again on the second heat after two false starts. The Lady broke up again, and, when not fairly up, went skipping along with a gait which might be called any thing but a trot. The horse as before kept on with a steady trot, and won the heat in 2:33.

On the third heat the horse broke up badly two or three times, and lost so much that the Lady took the heat in 2:37 1-2.

The fourth heat was also won by the Lady.

The horses now stood equal. Each had won two heats, and the next was to decide the race. After one false start, they

got off in good style. The Lady skipped and jumped as usual, and came in ahead. Her driver was cautioned before they started that all she made by such conduct would be deducted from her time. The Judges acted in accordance with this warning, and gave the first premium, of three hundred dollars to Chicago Jack. The Lady takes the second, of one hundred dollars.

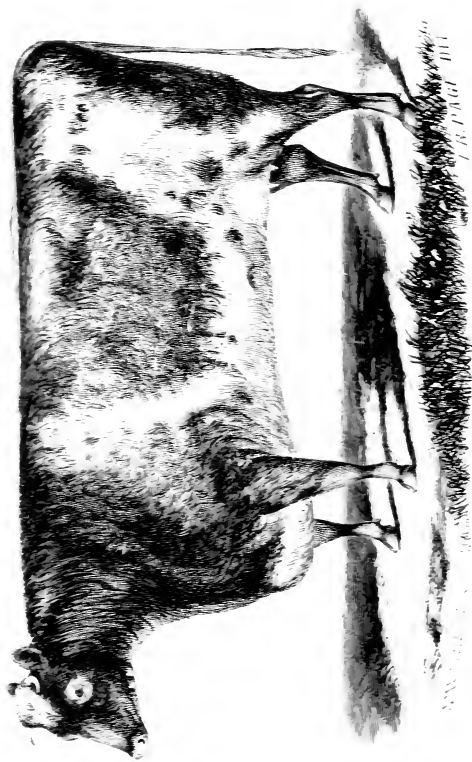
The Judges were William H. Gardiner, of Providence, Frederic Johnson, and Anson Livingston, of New York, and George H. Butman, and George Bacon, of Boston.

OTHER INCIDENTS.

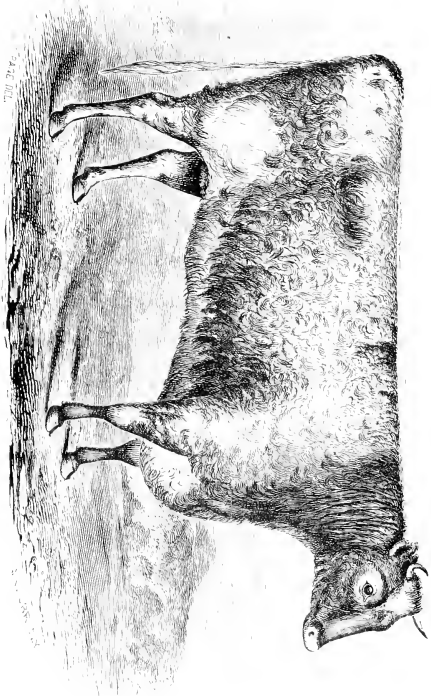
A splendid specimen of horseback riding was given by Master Albert Golden, of Waterville, Maine, who rode a pretty little sorrel mare, a mile in 2:50. He rode most gracefully. The crowd gave him three cheers.

Between the 4th and 5th heats, and after the latter, the famous racer, "Bob Logic," was brought out, and put round the course two or three times at the top of his speed, to the delight of the spectators.

Some other trials took place, for the details of which we have not room, and at about sundown the gates were opened, the audience retired, and the noblest and most successful exhibition ever held in Boston—that of the United States Agricultural Society—was closed.


$$\frac{1}{f} = \frac{1}{f_1} + \frac{1}{f_2} + \frac{1}{f_3} + \frac{1}{f_4} + \frac{1}{f_5}$$

Roum Sheld born Heiler; the joint property of L. G. Morris and N. J. Hoem, winners of the 1st Prize in the election of yearlings at the Fair of the United States Agricultural Society, held at Boston, in October, 1826. She was employed January 2d, 1834, and by Gilday (1839); dam, *Salience*, by Earl of Suffolk (1817); gr. d. Secord, by Duke of Suffolk (1819); gr. d. Secord, by Locomotive (1819); gr. d. Secord, by Short-Tail (1824); gr. gr. d. White Rose, by Gamboa (1816); gr. gr. d. Secord, by Young Weyward (2560); gr. gr. d. Secord, by a bull of Mr. Coddington; gr. gr. d. Secord, by a bull of Mr. Coddington.



MAID OF OXFORD.

Roan Short-horn Cow, three years old; bred by, and the property of, Noel J. Beear, Shilltown, Pa.; one of the four cows who won the 1st Prize herd premium at the United States Fair, at Boston, in October, 1855. She also gained the 1st Prize in her class at the New York State Fair, in 1851. She was calved August 20, 1852; got by Lord of Eryholme (12905); dam, Oxford 13, by 3d Duke of York (10966); gr. d. Oxford 5, by Duke of Northumberland (1940); gr. gr. d. Oxford 2, by Short Tail (2021); gr. gr. d. Matchem Cow, by Matchem (2251); gr. gr. gr. d. by Young Wyndard (2539).

PREMIUMS AWARDED
AT THE
THIRD EXHIBITION
OF THE
United States Agricultural Society,

CLASS NO. I. CATTLE.

No. 1.—HERD PREMIUMS.

Durhams.—First premium, \$100, to N. J. Becar, Smithtown, L. I.; 2d, \$50, Morris & Becar, Fordham, N. Y.

Devons.—First premium, \$100, C. L. Wainwright, Rhinebeck, N. Y.; and \$100 to L. G. Morris, Fordham, N. Y.; 3d, Diploma, Wm. Buckminster, Framingham, Mass.

Ayrshires.—First premium, \$100, Hungerford, Brodie & Converse, Ellisburg, New York.

Herefords.—First premium, \$100, William H. Sotham, Owego, Tioga County, New York.

Jerseys.—First premium, \$100, Sam'l Henshaw, Brookline, Mass.; 2d, \$50, Thomas Motley, Jr., West Roxbury, Mass.

Grades.—First premium, \$100, Sam'l Ellsworth, Barre, Mass.

Natives.—First premium, \$100, A. G. Sheldon, Wilmington, Mass.

No. 2.—DURHAM BULLS.

Bulls three years old and upwards.—First premium, \$100, "Romeo," Morris & Becar, Fordham, N. Y.; 2d, \$50, "Kirkleavington," Paoli Lathrop, South Hadley, Mass.; 3d, diploma, "Duke," Calvin Sanford, Barre, Mass.

Bulls two years old.—First premium, \$50, "Tally-ho," N. J. Becar, Smithtown, L. I.; 2d, \$25, "Sir Robert Peel," W. B. DeWolf, Bristol, R. I.

Bulls one year old.—First premium, \$25, "Warwick," Sam'l T. Tabor, Dutchess County, N. Y.; 2d, \$10, "Farnley," Simeon Le-

land, New Rochelle, N. Y.; 3d, diploma, "Echo of Oxford," N. J. Becar, Smithtown, L. I.

Diplomas of special commendation were awarded to Thomas G. Ayerigg, Passaic, N. J., for bull, "Marmion;" Enoch Train, Dorchester, Mass., for yearling bull; N. J. Becar, Smithtown, N. Y., for a superior bull-calf, "Charlemagne."

DURHAM COWS AND HEIFERS.

Cows three years old and upwards.—First premium, \$100, "Iris," Morris & Becar, Fordham, N. Y.; 2d, \$50, "Bloom," L. G. Morris, Fordham, N. Y.; 3d, diploma, "Maid of Oxford," N. J. Becar, Smithtown, Long Island.

Heifers two years old and under three years.—First premium, \$50, "Miss Belville," N. J. Becar, Smithtown, Long Island; 2d, \$25, "Minerva 4th," Morris & Becar, Fordham, N. Y.; 3d, diploma, "Victoria 26th," owned by the same.

Discretionary Premiums.—P. Lathrop and G. M. Atwater, South Hadley, Mass., for 2 year old heifer, "Yarico 5th."

Heifers one year old and under.—First premium, \$25, "Surprise," Morris & Becar, Fordham, N. Y.; 2d, \$10, would have been awarded to "Victorine," owned by the same parties, but, there being no competition, this could not be done.

Diplomas of special commendation, and a gratuity of \$10, to Noel J. Becar, Smithtown, L. I., N. Y., for superior heifer-calf, "Grace;" to Morris & Becar, Fordham, N. Y., for heifer-calf, "Victorine;" and to Wm. Shepherd, Manchester, N. H., for a splendid cow, 7 years old, weighing 2630 pounds.

No. 3.—DEVON BULLS.

Bulls three years old and upwards.—First premium, \$100, "Winchester," J. W. De Forest, Dover, N. Y.; 2d, \$50, Daniel Davis, Springfield, Vt.; 3d, diploma, "Frank Quartly," L. G. Morris, Fordham, N. Y. A discretionary premium to "May-Boy," owned by C. S. Wainwright, Rhinebeck, N. Y.

Bulls two years old and under three years.—First premium, \$50, "Blucher," W. R. Sanford, Orwell, Vt.; 2d, \$25, Harvey Dodge, Sutton, Mass.; 3d, diploma, B. V. French, Braintree, Mass.

Bulls one year old and under two years.—First premium, \$25, "Tecumseh," E. G. Faile, West Farms, N. Y.; 2d, \$10, "Ploughman," Wm. Buckminster, Framingham, Mass.; 3d, diploma, "Red Rover," W. R. Sanford, Orwell, Vt.

DEVON COWS AND HEIFERS.

Three years old and upwards.—First premium, \$100, "Jenny," E. G. Faile, West Farms, N. Y.; 2d, \$50, "Edith," L. G. Morris, Fordham, N. Y.; 3d, diploma, "Helena 2nd," C. S. Wainwright, Rhinebeck, N. Y.

Diplomas of special commendation to L. G. Morris, Fordham, N. Y.; and to C. S. Wainwright, Rhinebeck, N. Y., for Cow "Kate Kearney."

Two years old and under three years.—First premium, \$50, "Titania," E. G. Faile, West Farms, N. Y.; 2d, \$25, "Donna," C. S. Wainwright, Rhinebeck, N. Y.; 3d, diploma, "Lily," W. R. Sanford, Orwell, Vt.

Diplomas of special commendation to John G. Morse, Francestown, N. H., and Joseph Burnett, Southboro', Mass.

One year old and under two years.—First premium, \$25, "Cleopatra," E. G. Faile, West Farms, N. Y.; 2d, \$10, "Helena 4th," C. S. Wainwright, Rhinebeck, N. Y.; 3d, diploma, "Linda," C. S. Wainwright.

Diplomas of special commendation, two to B. V. French, Braintree, Mass., and one to John G. Morse, Francestown, N. H.

Calves.—Discretionary premium, \$25, J. T. Andrew, West Cornwall, Ct.

No. 4. — AYRSHIRE BULLS.

Bulls three years old and upwards.—First premium, \$100, to "Kelburn," owned by Hungerford, Brodie & Converse, Ellisburg, N. Y.; 2d, \$50, "Major," owned by G. W. Barrett, Concord, Mass.

Bulls two years old and under.—No other premiums were awarded on Bulls, but the Executive, on a statement of facts, awarded a diploma of special commendation to a fine Ayrshire Bull, "Logan," belonging to Wm. A. White, Lancaster, N. H.

AYRSHIRE COWS AND HEIFERS.

Cows three years old and upwards.—First premium, \$100, "Mary Grey," Hungerford, Brodie & Converse, Ellisburg, N. Y.; 2d, \$50, "Jessie," Robbins Battell, Norfolk, Ct.; 3d, diploma, "Alice," John Brooks, Princeton, Mass.

Heifers two years old.—First premium, \$50, "Lady Ayr," Hungerford, Brodie & Converse, Ellisburg, N. Y.; 2d, \$25, "Jessie 2d," R. Battell, Norfolk, Ct.; 3d, diploma, "Lady Gowan," Hungerford, Brodie & Converse, Ellisburg, N. Y.

Heifers one year old. — Messrs. Hungerford, Brodie & Converse, of Ellisburg, N. Y., exhibited two very fine animals under this head, but the Committee, under the rules of the Society, there being no competition, awarded the first premium only (\$25,) to "Bessie," the youngest of the two.

NO. 5. — HEREFORD BULLS.

Bulls three years old and upwards. — First premium, \$100, "Cromkill," David Goodell, Brattleboro', Vt.; 2d, \$50, "Defiance," Wm. H. Sotham, Owego, N. Y.

HEREFORD COWS AND HEIFERS.

Three years old. — First premium, \$100, "Milton," State Farm, Westboro', Mass.; 2d, \$50, "Pretty," Wm. H. Sotham, Owego, N. Y.; 3d, diploma, "Fanny," C. B. Clarke, Concord, Mass.

HEREFORD HEIFERS.

Two years old. — First premium, \$50, "Susan," C. B. Clarke, Concord, Mass.; 2d, \$25, "Lady," Wm. H. Sotham, Owego, N. Y.

HEIFERS.

One year old. — First premium, \$25, "Blondy," Wm. H. Sotham, Owego, N. Y.

NO. 6. — JERSEY BULLS.

Bulls three years old and over. — First premium, \$100, "Major," Thomas Motley, Jr., of Mass.; 2d, \$50, to W. A. Harris, of Boston Mass.

Bulls two years old. — First premium, \$50, Joseph Burnett, Southboro', Mass.; 2d, \$25, R. S. Rogers, Salem, Mass.

Bulls one year old. — First premium, \$25, John Washburn, Swampscott, Mass.; 2d, \$10, Thomas Motley, Jr., Mass.; 3d, Diploma. W. A. Harris, Boston, Mass.

JERSEY COWS AND HEIFERS.

Cows three years old and upwards. — First premium, \$100, "Rose," G. H. French, Andover, Mass.; 2d, \$50, "Daphne," S. Henshaw, Brookline, Mass.; 3d, diploma, "Flirt," Thomas Motley, West Roxbury, Mass.

Heifers two years old. — First premium, \$50, "Duchess," S. R. Spaulding, W. Roxbury, Mass.; 2d, \$25, "Topsey," G. H. French, Andover, Mass.; 3d, Diploma, "Rosa," R. P. Waters, Beverly, Mass.

Heifers one year old.—First premium, C. L. Cunningham, Milton, Mass.; 2d, "Bess," G. H. French, Andover, Mass.; 3d, Diploma, "Buttercup," W. B. Bacon, Jamaica Plains, Mass.

Diplomas of special commendation were awarded for the following animals:— "Flora," Thomas Motley, Jr., West Roxbury, Mass.; "Flora," Jonathan French, Roxbury, Mass.; "Daphne 2nd," S. Henshaw, Brookline, Mass.; "Boswell," C. L. Flint, West Newton, Mass.; "Belle," G. H. French, Andover, Mass.; "Daisy," Joseph Burnett, Southboro', Mass.

The Executive Committee award a diploma of special commendation to a fine Jersey cow, "Alice," owned by the State Farm at Westboro', Mass.

They also commend in the highest terms the fine herd of Jersey cattle entered (for exhibition only), by the "Mass. Society for the Promotion of Agriculture."

NO. 7.—GRADE COWS.

Cows three years old and upwards.—First premium, \$100, "Beauty," Geo. M. Barrett, Concord, Mass.; 2d, \$50, "Genuine," Samuel Ellsworth, Barre, Mass.; 3d, Diploma, B. V. French, Braintree, Mass.

Cows two years old and under three years.—First premium, \$50, A. D. Weld, Roxbury, Mass.; 2d, \$25, J. W. Hollis, Brighton, Mass.; 3d, Diploma, Wm. Spencer, Lowell, Mass.

Cows one year old and under two years.—First premium, \$25, W. H. Watson, Princeton, Mass.; 2d, \$10, C. H. Keith, Malden, Mass.; 3d, diploma, Henry Sheldon, Cayuga County, N. Y.

Three years old and upwards.—Discretionary premium, \$10, Elon Sheldon, Cayuga County, N. Y.

The Committee recommend a gratuity of \$50 to Samuel Jaques, of Somerville, Mass., for his cow and calf, but, on account of considering the cow pure blood rather than grade, they were unable to include it in the latter class, and award it a premium as such. They also award to Col. Jaques a diploma of commendation for his Grade Heifer Calf, "Bountiful," six months old. This Calf is of the celebrated "Cream-Pot" breed, originated by Col. Jaques, who deserves great credit for his skill, perseverance and success, as a breeder.

The Executive Committee, upon the representation of the Chairman of the Committee on Grade Cows, have awarded diplomas of commendation, and a gratuity of \$25, to two half-blood Herefords, owned by W. H. Sotham, Owego, N. Y.

No. 8 NATIVE COWS AND HEIFERS.

Cows three years old and upwards.—First premium, \$100, Davis & Flint, Boston; 2d, \$50, Daniel Higgins, of Malden; 3d, diploma J. L. Barrett, Bridgewater.

Heifers two years old.—First premium, \$50, A. & T. Jerome, of Bloomfield, Ct.; 2d, \$25, Henry D. Pierce, Hillsboro', N. H.; 3d, diploma, Obadiah Howland, Auburn, N. Y.

Under two years old.—First premium, \$25, A. W. Copenhagen, Dorchester.

A diploma of special commendation was awarded to Henry D. Pierce, Hillsboro', N. H., for a fine heifer.

No. 9.—MILCH COWS.

Cows five years old and upwards.—First premium, \$100, W. W. Watson, Princeton, Mass.; 2d, \$75, "Nonesuch," Davis & Flint, Boston; 3d, \$50, A. M. Carlton, Chicopee, Mass.; 4th, \$25, "Fanny," C. M. Hovey, Cambridge, Mass.

Cows three years old and under five years.—First premium, \$75, "Fanny," Wm. Eames, Worcester, Mass.; 2d, \$50, "Dinah," Asa G. Sheldon, Wilmington; 3d, \$25, "Nonesuch," Asa G. Sheldon, Wilmington; 4th, \$15, O. Howland, Auburn, N. Y.

No. 10.—WORKING OXEN.

First premium, \$100, J. M. Drinkwater, Cumberland, Me.; 2d, \$50, Nathaniel G. Giddings, Exeter, N. H.; 3d, \$25, Oliver Newman, Carthage, Me.

The Committee recommend the following

Gratuities.—\$20, Simon Carpenter, Charlton; \$15, Stephen A. Coburn, Lowell; \$15, H. Sheldon, Cayuga County, N. Y.; \$10, C. H. & C. A. Smith, Vergennes, Vt.; \$10, G. H. Shaw, Brookline, Mass.; \$10, Addison G. Cole, Buckfield, Me.; \$5, John B. Newcombe, Norton; \$5 and diploma, E. Munson, Auburn, N. Y.; and diplomas to Nathan B. Reade, of Princeton, for best trained on exhibition; Josiah Quiney, for fine Devons; B. V. French of Braintree, Wm. F. Wheeler of Grafton, Harvey Dodge of Sutton, Wm. Buckminster of Framingham, J. B. Moore of Concord, Mass., Jas. Lawrence of Groton, Geo. Harvey of Marlboro', G. K. Wright of Keene, N. H., J. C. Sanborn of Westboro', Moses D. Richardson of Leominster, Larned Swallow of Buckfield, Me., J. D. G. Williams of Raynham.

No. 11. — STEERS.

First premium, \$50, D. W. Haynes, Readfield, Me.; 2d, \$25, A. M. Winslow, Putney, Vt.; 3d, \$15, A. G. Cole, Buckfield, Me.; discretionary, \$10, Elon Sheldon, Cayuga County, N. Y.

No. 12. — FAT CATTLE.

On Bullocks. — First premium, \$75, Seth Bush, Westfield, Mass.; 2d, \$50, James Eddy, Swansey, Mass.; 3d, \$25, Samuel Stebbins, Conway, Mass.

Fat Cows. — First premium, \$50, E. Munson, Auburn, N. Y.; 2d, \$25, E. Sheldon, Cayuga County, N. Y.

Fat Steers. — Discretionary, first premium, \$50, E. Munson, Auburn, N. Y.; 2d, \$25, E. Sheldon, Cayuga County, N. Y.; 3d, \$15; H. Sheldon, Cayuga County, N. Y.

CLASS NO. II. HORSES.

No. 13. — THOROUGH BRED HORSES AND MARES.

Stallions. — First premium, \$200, "Trustee," M. De Motte, New York; 2d, \$100, "Logan," J. B. Monott, N. Y.; 3d, \$50, "Matchless," Wm. B. De Wolf, Bristol, R. I.; 4th, diploma, "Tricolor," Frederick Boyden, Topsfield, Mass.; diploma of commendation to "Bob Logie," James R. Hutchings, Montreal, Canada.

Mares. — First premium, \$150, "Fashion," L. G. & F. Morris, Fordham, N. Y.; discretionary premium, \$25, "Etiquette," L. G. & F. Morris, Fordham, N. Y.; do., \$25, "A La Mode," L. G. & F. Morris, Fordham, N. Y.

No. 14. — STALLIONS AND MARES. — (ROADSTERS.)

Stallions. — First premium, \$200, "Ethan Allen," O. S. Roe & Co., Cambridge, Mass.; 2d, \$100, "North Horse," Lemuel North; and E. Warren, Boston, Mass.; 3d, diploma, "Boston Boy," A. Carpenter, Providence, R. I., and D. Warren, Boston, Mass.; diploma of commendation, "Black Hawk Chief," E. Hill, Bridport, Vt.

The Executive Committee award a diploma of special commendation, to Frederic Boyden of Topsfield, Mass., for his stallion "Tippo," by accident not examined in his proper class by the judges.

Mares.—First premium, \$150, "Pet," W. P. Balch, Boston, Mass.; 2d, \$100, "Lady Johnson," S. K. Johnson, North Andover.

No. 15.—STALLIONS FOR GENERAL USE.

Four years old and upwards.—First premium, \$200, "Young Morrell," Town & Trow, Barre, Vt.; 2d, \$100, "Henry Clay," Rogers & Callender, Albany, N. Y.; 3d, \$50, "Morgan Emperor," Harrison Bacon, Barre; 4th, \$30, "Ashuelot Morgan," U. Bowen, Richmond, N. H.

The Committee also recommend gratuities of \$20 each to the following horses:—"North Star," Henry Olmstead, E. Hartford, Ct.; "Young Trustee," C. D. Freeland, Patterson, N. J.; "Stockbridge Chief," J. W. Bishop, Chatham 4 Corners, N. Y.; "Old Sherman Morgan," A. J. Congdon, Lancaster, N. H.; "Granite State Morgan," C. C. Whitaker, Farmington, N. H.; "State of Maine," J. Moody, Lincolnville, Me.; "Comet," Iram Wood, Hancock, N. H.; "Duroc," R. Kelram, South Boston.; "Wild Deer," Dean & Merrill, Fabius, N. Y.; "Lion," F. Whitaker, South Malden, Mass.

No. 16.—STALLIONS FOR GENERAL USE.

Three years old and under four years.—First premium, \$150, "Nonpareil," Jas. F. Thorndike, New England Village; 2d, \$75, "White Mountain," S. H. Edgerly, Manchester, N. H. Gratuities of \$50 each were awarded to "Iron Duke," owned by Timothy T. Jackson, Jamaica, L. I., and "Andrew Jackson," belonging to Harrison Bacon, of Barre, Mass.

No. 17.—STALLIONS FOR GENERAL USE.

Two years old and under three years.—First premium, \$50, "Leather Stocking," S. & D. Leavitt, Jr., Great Barrington, Mass.; 2d, \$25, "Silver Cloud," T. F. Jackson, Jamaica, L. I.; 3d, \$15, R. S. Denny, Clapville, Mass.; 4th, diploma, James F. Thorndike, New England Village, Mass.

One year old and under two years.—First premium, \$30, "Flying Scud," E. W. Mott, Manhasset, L. I.; 2d, \$20, "King Philip,"

J. B. DeWolf, Bristol, L. I.; 3d, diploma, "Young Trustee," G. Howland Shaw, Brookline, Mass.

Diplomas of special commendation:—"Abderrahmann," D. Dunn, Portland N. Y.; "Empire State," Dr. S. O. Richardson, S. Reading, Mass.; "St. Patrick," Joseph H. Billings, W. Roxbury, Mass.; "Black Hawk Defiance," D. E. Hill, Bridport, Vt.

NO. 18.—BREEDING MARES AND FILLIES.

Mares three years old.—First premium, \$150, "Jenny Lind," C. W. Sherman, Vergennes, Vt.; 2d, \$100, "Lady Sutton," G. H. Shaw, Brookline, Mass.; 3d, \$50, "Massachusetts Maid," R. S. Denny, Clapville; 4th, diploma, "Sally Jenkins," Harrison Bacon, Barre, Mass.

Gratuities (\$23.23,) amounting in the aggregate to \$140, were awarded as follows: "Kate," belonging to Arthur W. Austin, West Roxbury; "Kate Hays," Samuel Wheat, Putney, Vt.; "May Flower," John Dugan, Somerville; "Fanny Morgan," Henry Olmsted, East Hartford, Ct.; "Julia," J. F. DeWolf, Bristol, R. I.; "Leaping Fawn," S. W. Ellis, Providence, R. I.

Fillies three years old.—First premium, \$75, "Fanny Kemble," Thomas Goddard, Boston. The Ex. Committee, on a statement of facts, have awarded the 2d premium, \$50, to Joseph H. Billings, of West Roxbury, Mass., for his chestnut filly "Lady Fremont," by imported "Trustee."

Fillies one year old.—First premium, \$30, "Wild Maggie," E. S. Stowell, Cornwall, Vt.

Diplomas of commendation were awarded to "Boston Girl," Adams Carpenter, Providence, R. I., and "Mary Morgan," Amos Felch, Limerick.

NO. 19.—MATCHED HORSES.

First premium, \$100, David Saunderson, Somerville, N. J.; 2d, \$75, Joseph Wright, Waterloo, N. Y.; 3d, \$50, Clapp & Sharp, Hartford, Ct.; 4th, \$25, Horatio Sargent, Springfield, Mass., and a diploma to J. A. Harwood, of Littleton, Mass.

The Committee would also recommend the following

Gratuities.—J. N. Randall, Boston, Mass., \$20; D. Leavitt, Gt. Barrington, Mass., \$15; J. G. Bates, Boston, \$10; diploma, each to Geo. P. Reed, Roxbury; N. E. Nimmo, Boston; Samuel Twitchell, Jr., Buffalo, N. Y.

No. 10.—FANCY MATCHED HORSES.

First premium, \$75. J. L. Mitchell, Albany.

No. 11.—PONIES.

Matched Pairs.—The Committee, considering none of the entries under this class to be true ponies, awarded the first premium of \$25 to a pair of young *Windle* horses or Canadian ponies, owned by F. Lynn, Niagara Falls.

Single Ponies.—First premium, \$20. Frank Dale, Boston, Mass.

Distinctionary Premium.—To a grade pony or small horse, owned by J. Willie Boyd, in Boston, \$10.

No. 12.—FAMILY HORSES.

First premium, \$100, to the horse "Cuffard," five years old, owned by Genary Twitchell, Boston; 2d, \$75, to "Tiger," nine years old, owned by E. Dignam, of Lexington; 3d, \$50, to "Frank Pierce," owned by G. N. Holmes, of North Bridgewater; 4th, \$25, to the horse "Black Warrior," owned by W. E. Rhodes, of Providence, R. I.

The Committee recommended to the four following horses the sum of \$20 each: "L. J. Kate," owned by J. S. Williams, of Dover Hill, N. J.; "Messenger," owned by Stephen White, of North Cambridge; "Margaret and Messenger," owned by M. C. Kenny, of East Cambridge; "Bran," owned by T. H. Leavitt, of Boston. Also, to the four following gentlemen, the sum of \$50 each: G. H. Abrams, of Chelsea, Mass.; R. M. Abbe, of Enfield, Conn.; B. M. Hunt, of Ipswich, Mass.; R. Shurtleff, of Bellows Falls, Vt.

Diplomas of special commendation were awarded to the following: H. Blackden, E. Cambridge; Wm. Spencer, Lowell; Joseph H. Billings, W. Roxbury; J. E. Cheney, Boston; Edward Gleason, Boston; A. S. Paul, Utica, N. Y.; J. M. Davenport, Grafton, Mass.; David Newton, Holliston; Dr. Peabody, Palmer; J. E. Adams, East Cambridge; J. H. Smith, Grafton; Dudley H. Bayley, Boston; E. A. Hammond, Boston; S. G. Reed, do; John Robie, Ware, N. H.

The Executive Committee also award a diploma to a horse entered by James Martineau, of Boston, of wonderful powers of endurance and of great speed, having with ease carried two persons in a wagon, six miles in 45 minutes.

No. 22.—DRAFT HORSES.

First premium, \$100, Russell, Harrington & Co., Boston, Mass.; 2d, \$50, East Boston Sugar Refinery; 3d, \$25, Page & Nye, Boston, Mass.

Single Draft Horses.—First premium, \$50, Robert Cowlin, Boston; 2d, \$25, Caleb Thurston, Boston; 3d, diploma, Hubbard Pierce, Boston.

Discretionary premiums.—M. W. Goodell & Co., Boston, \$10; Edward Harris, Moorestown, N. J., \$25.

No. 23.—TROTTING HORSES ON TUESDAY.

First premium, \$200, "Vermont Boy," E. H. & F. Gilman, Montpelier, Vt.; 2d, \$100, "Ripton," Mr. Barnard, Boston.

In regard to the "John Smith" horse and the "Benjamin" horse, the Committee were satisfied that these horses have trotted for money on a public track and for an advertised purse, the proof of which would be laid before the Society, if required.

TROTTING HORSES ON THURSDAY.

First premium, \$200, "Genesee," Anson Livingston, New York City; 2d, \$100, "Kate Miller," Daniel Mace, Boston, Mass.

No. 24.—TROTTING HORSES ON SATURDAY.

First premium, \$300, "Chicago Jack," entered by John Daniels; 2d, \$100, "Lady Litchfield," entered by Daniel Mace.

TROTTING STALLIONS, SIX YEARS OLD AND UPWARDS.

First premium, \$300, to "Ethan Allen," O. S. Roe & Co., Cambridge, Mass.; 2d, \$150, "Columbus," Walter Smith, Orwell, Vt.

TROTTING STALLIONS, UNDER SIX YEARS OF AGE.

First premium, \$200, to "Romeo," Benjamin Thurlow, Lowell, Mass.; 2d, \$100, to "White Mountain Morgan," S. H. Elgerly, Manchester, N. H.

TROTTING HORSES, TO SADDLE.

First premium, \$50, to "Young Ripton," W. Barnard, Boston.

CLASS NO. III. SHEEP.

No. 25.—LONG WOOL SHEEP.

Bucks two years old and over.—First premium, \$25, Hungerford, Brodie & Converse, Ellisburg, N. Y.; 2d, \$15, to the same; 3d, diploma, to J. T. Andrew, West Cornwall, Conn.

Bucks under two years old.—First premium, \$20, D. B. Haight, Dover Plains, N. Y.; 2d, \$10, to the same; 3d, diploma, to George Fox, New Ipswich, N. H.

Ewes under two years.—First premium, \$20, Hungerford, Brodie & Converse, Ellisburg, N. Y.; discretionary premiums, \$15, for three wethers, to John T. Andrew, West Cornwall, Ct.; \$8, or a diploma, at owner's option, for two-year old buck, to D. B. Haight, Dover Plains, N. Y.; \$5, or a diploma, at owner's option, for two-year old buck, Albert Kelley, Auburn, Mass.

No. 26.—MIDDLE WOOL SHEEP.

Bucks over two years.—First premium, \$25, "Young York," L. G. Morris, Fordham, N. Y.; 2d, \$15, D. B. Haight, Dover Plains, N. Y.

Bucks under two years.—First premium, \$20, "Boston," L. G. Morris, Fordham, N. Y.; 2d, \$10, D. B. Haight, Dover Plains, N. Y.; 3d, \$10, and a diploma, Geo. Hartshorn, Rahway, N. J.

Ewes over two years.—First premium, \$25, L. G. Morris, Fordham, N. Y.; 2d, \$15, D. B. Haight, Dover Plains, N. Y.

Ewes under two years.—First premium, \$20, L. G. Morris, Fordham, N. Y.; 2d, \$10, D. B. Haight, Dover Plains, N. Y.

No. 27.—MIXED BREED OF SPANISH AND SILESIAN MERINOS.

Gratuities.—\$15, for a pen of four bucks, Geo. Campbell, Westminster, Vt.; \$15, for a pen of five ewes, to the same.

No. 28.—SILESIAN MERINOS.

Bucks two years old and over.—First premium, \$25, Chamberlain, Campbell & Ladd, Redhook, N. Y.; 2d, \$15, Geo. Campbell, Westminster, Vt.

Bucks under two years.—First premium, \$20, to Chamberlain, Campbell & Ladd; 2d, \$10, to Geo. Campbell.



SOUTHDOWN RAM

"YOUNG YORK" in two positions. The property of L. G. Morris, and winner of the 1st Prize at the United States Agricultural Society, in 1855, as an aged buck; also, the 1st Prize at the New York State Show, in 1854.

Ewes two years old and over. — First premium, \$25, to Chamberlain, Campbell & Ladd; 2d, \$15, to Geo. Campbell.

Ewes under two years. — First premium, \$20, to Chamberlain, Campbell & Ladd.

No. 29. — FRENCH MERINOS.

Bucks two years old and upwards. — First premium, \$25, Chamberlain & Campbell, Redhook, N. Y.; 2d, \$15, Kimball & Chamberlain, Rutland, Vt.

Bucks under two years. — First premium, \$30, Kimball & Chamberlain, Rutland, Vt.; 2d, \$10, Chamberlain & Campbell, Redhook, N. Y.

Ewes over two years. — First premium, \$25, Kimball & Chamberlain, Rutland, Vt.; 2d, not awarded.

Ewes under two years. — First premium, \$20, Chamberlain & Campbell, Redhook, N. Y.; 2d, \$10, Kimball & Chamberlain, Rutland, Vt.

No. 30. — SILESIAN MERINOS.

Bucks two years old and upwards. — First premium, \$25, George Campbell, Westminster, Vt.; 2d, \$15, W. R. Sanford, Orwell, Vt.

Bucks under two years. — First premium, \$20, W. R. Sanford, Orwell, Vt.; 2d, \$10, Geo. Campbell, Westminster, Vt.

Ewes two years and upwards. — First premium, \$25, W. R. Sanford, Orwell, Vt.

Ewes under two years. — First premium, \$20, W. R. Sanford, Orwell, Vt.

CLASS NO. IV. SWINE.

No. 31. — SUFFOLK SWINE.

Boars two years old and upwards. — First premium, \$25, I. & J. Stickney, Watertown, Mass.; 2d, \$15, B. V. French, Braintree, Mass.; 3d, diploma, Lonsdale Co., Smithfield, R. I.

Boars one year old and over. — First premium, \$20, Joseph Kit-

tredge, North Andover; 2d, \$10, G. W. Wilson, Malden, Mass; 3d, diploma, Abner Havens, Framingham, Mass.

Sows two years old and over.—First premium, \$25, I. & J. Stickney, Watertown, Mass.; 2d, \$15, I. & J. Stickney, Watertown, Mass.; 3d, diploma, Joseph Kittredge, North Andover, Mass.

Sows one year old and under two years.—First premium, \$20, I. & J. Stickney, Watertown, Mass.; 2d premium, \$10, Abner Havens, Framingham, Mass.

SUFFOLK PIGS.

First premium, \$15, I. & J. Stickney, Watertown, Mass.; 2d premium, \$10, Abner Havens, Framingham, Mass.

Discretionary premiums.—To G. W. Hildreth, of Greenfield, Mass., for litter of pigs, \$10; to James A. Stearns, of Manchester, N. H., for fine boar, \$10; to G. W. Hildreth, of Greenfield, Mass.; for fine boar, \$10; to B. V. French, of Braintree, Mass., for fine sow, \$10.

No. 32. — ESSEX SWINE.

Boars two years old and upwards.—First premium, to L. G. Morris, New York, for "Fisher Hobbs," \$25; 2d, C. A. Stetson, N. Y., \$15.

One year old and upwards.—First premium to L. G. Morris, New York, for "Uncle Tom, 2nd," \$20; 2d, C. B. Clark, Concord, Mass., \$10; 3d, Wm. A. Harris, Newton, diploma.

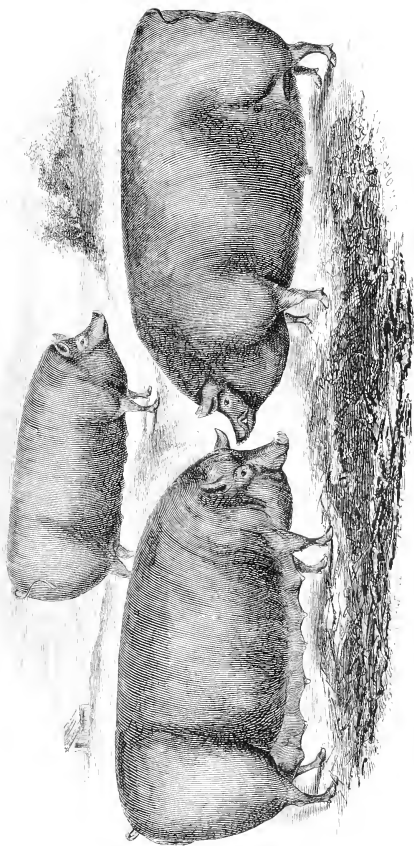
Sows two years old and upwards.—First premium to Wm. A. Harris, Newton, \$25; 2d, "Topsey 2d," L. G. Morris, New York; "Aunt Chloe," \$15; 3d, C. B. Clark, Concord, Mass., diploma.

One year old and upwards.—First premium to C. B. Clark, Concord, Mass., \$20; 2d, L. G. Morris, New York, "Topsey 3d," \$10; 3d, to L. G. Morris, diploma.

ESSEX PIGS.

C. B. Clark, Concord, Mass., \$15. Also, a diploma to the sow "Beauty," owned by Geo. Bacon, Brookline, Mass.

Discretionary premium, of \$15, recommended to C. A. Stetson N. Y., for Berkshire boar, entered in this class by mistake.



"AUNT CHLOE."

"OLD TOPSEY."

"FISHER HOBBS."

ESSEX SWINE.

The property of L. G. Morris, N. Y. "Fisher Hobbs" won the 1st Prize at the United States Agricultural Society, at Boston, in 1855, and also the 1st Prize at the New York State Show, at Saratoga, in 1853.



"LADY BEER,"
BERKSHIRES.
"SIR ROBERT"

The property of L. G. Morris, N. Y. "Sir Robert" won the 1st Prize at the United States Agricultural Society, at Boston, in 1850, and also the 1st Prize at the New York State Fair, in 1851.



SUFFOLK SOW, PRIZE.

SUFFOLK BOAR, MOSES WHEELER.

SUFFOLK SWINE.

The above figures were taken from a life portrait by "Marsden," of the imported Suffolk Boar "Moses Wheeler," and the imported Suffolk Sow "Prize," owned by Josiah & Isaac Stearns, of Boston.

They have taken the following premiums and have never been on public exhibition, except on the following occasions, viz:—
 The Boar, first premium on Suffolks, of the U. S. Agricultural Society of 1856, and the first premium of the Vt. State Agricultural Society of 1854.
 The Sow, first premium on Suffolks, of the United States Agricultural Society of 1856, the first premium of the Vermont State Agricultural Society of 1854, and the first premium on the best pair of three, at the Show of the Royal Agricultural Society, at Gloucester, England, in 1853.



No. 33.—BOARS OF OTHER BREEDS.

Two years old and upwards.—The Committee being unable to decide on the respective merits of the Berkshire and Yorkshire breeds, recommend a first premium on each breed, viz:

Boars two years old and upwards.—First premium, \$25, Yorkshire boar, Hungerford, Brodie & Converse, Ellisburg, N. Y.; first premium, \$25, Berkshire boar, "Sir Robert," L. G. Morris, Fordham, N. Y.; 2d, \$15, Berkshire boar, "Master Burke," L. G. Morris, Fordham, N. Y.

Boars one year old.—Only one entry was made under this class, and the Committee therefore award the 2d premium, \$10, Berkshire boar, "Ralph," L. G. Morris, Fordham, N. Y.

No. 34.—SOWS OF OTHER BREEDS.

Two years old and upwards.—First premium, \$25, Joseph Tuttle, Dorchester, Mass.; 2d, \$15, Charles R. Damon, Cochrane; discretionary premium, \$10, J. A. Stearns, Manchester, N. H.

One year old and under two.—First premium, \$20, Joseph Tuttle, Dorchester, Mass.; 2d, \$10, "Diana," L. G. Morris, Fordham, N. Y.

No. 35.—PIGS OF OTHER BREEDS.

The Committee would report that there were no pigs of other breeds presented to them which answered the condition requiring "not less than six in a litter," and therefore make no award.

In cases where no mention is made of second and third premiums, they were not awarded by the committee.

THE AGRICULTURAL INTEREST,

AS AFFECTED BY THE RECIPROCITY TREATY, THE TARIFF, AND THE
COAST-WISE TRADE.

BY CHAUNCEY P. HOLCOMB, ESQ., OF DELAWARE.

[This document was presented at the last annual meeting of the Society, and referred to the executive committee. Whatever opinions may be entertained by others, in relation to the subject of governmental protection, the committee feel, that its publication in the Society's transactions is due to its lamented author, CHAUNCEY P. HOLCOMB, Esq., of Delaware, who was a distinguished member of the Society, and a warm friend of American agriculture.]

THE negotiation of the Reciprocity Treaty is but one of a series of acts in the administration of the government, and in the legislation of Congress, that shows that the agricultural interest of the country is utterly disregarded. It is disfranchised, so to speak, and completely overslaughed by the paramount interest of commerce and manufactures. It is remorselessly sacrificed in any treaty, or in any act of Congress, when it conflicts in the slightest degree with any other interest. Even the President, in his late annual message, seems not to have deemed agriculture of sufficient prominence, in a national point of view, to be entitled to any notice whatever, and does not even *name* it. The powerful control and influence of the commercial press of the country—and of the commercial men of the country—of the capital and numbers of the concentrated population of our large cities, seem to entirely obscure it; nay, more, when they choose, they can overwhelm it; at least, they can burden it, and tax it, and introduce at their pleasure new rivals to share its markets. The representatives from the rural districts in Congress seem paralyzed, and are unable, it would seem, to even protest against the sacrifices their constituents are thus called on to make.

Certain it is, that the merits of this reciprocity treaty came fully before the House of Representatives, on the bill intro-

duced to repeal the duty imposed by the tariff on provincial produce, Canadian wheat, etc., and the passage of which bill was necessary to the validity and operation of the treaty. Yet the agricultural interest appears not to have had one single friend there to rise and defend it against the "hardest single blow" it ever received.

This may admit of explanation. Some legerdemain of the "rules" may account for it; but the facts are undeniable, that no voice was heard in the house resisting this iniquitous, suicidal British treaty—iniquitous, certainly, so far as it sold the markets of the American farmer that he has been charged 30 per cent. upon everything he has worn and nearly everything he has used for the last quarter of a century to build up.

Before examining the merits of this treaty, I wish to call attention to a passage contained in the late message of the President, in reference to it. I think it goes far towards convicting the Chief Magistrate of something very like an attempt to deceive the country. He certainly has used the technical language of the treaty as only a special pleader in a bad cause would be likely to use language, and has submitted a really false issue to the country. The basis of the treaty is not, and never was, what the President, in so solemn a paper as his annual message to the people, would seem to represent it to be. But the farmers had charged him and his administration with having "sold their wheat fields for codfish and mackerel." Listen to the President's statement of the bargain he has made! So far from selling their wheat fields, he got both the inshore fishery and the navigation of the St. Lawrence, for the right ceded to Great Britain to *sell the fish they take on the coast in our market, free of duty!* So he says the treaty "stipulates," and because such a fraud or fiction has been inserted into the treaty by two cunning *Diplomats*, the President justifies himself in holding forth to the country, that it was the real and *bona-fide* consideration, for, as he expresses it, "privileges of the highest importance and value

to the United States." But, not to do the President injustice, let us give the passage entire as it stands in the message :

"So soon as it (the treaty) was ratified, Great Britain opened to our commerce the free navigation of the river St. Lawrence, and to our fishermen unmolested access to the shores, and bays, from which they had been previously excluded on the coast of her North American Provinces : in return for which she asked for the introduction, free of duty, into the ports of the United States, of the fish caught on the coast by British fishermen. *This being the compensation stipulated in the treaty* for privileges of the highest importance and value to the United States, which were thus voluntarily yielded before it became effective, the request seemed to me a reasonable one."

Now this is all a fiction, without one fact to give it countenance, and contradicted by the history of all the diplomacy, negotiation and legislation on the subject from the time General Dix first introduced his bill into Congress in 1849.

The boon they sought, and the boon (the compensation) we gave them was not our markets to sell fish in, which fish they never caught, and probably never will—it was our grain and produce markets for the sale of their agricultural produce. It was not for markets in which to sell fish, that Sir Henry Bulwer sought by every means in his power to get General Taylor's administration to negotiate, and Congress to legislate about this, so miscalled reciprocity matter, and sought in vain ; it was not for this Lord Elgin came on a special mission to this country, and that Washington has been made to swarm for the last two years with Canadian officials and unofficials, but it was to get our home markets for the sale of provincial produce. Everybody knows this. How absurd, and almost ridiculous, then, the attempt to keep the real "compensation" from view ! Nobody will be deceived by it ; but it is mortifying and humiliating to see men in high places, in state papers of the gravest and most solemn import, resorting to such subterfuges, for they hardly deserve a better name. For

the mutual considerations thus named by the President—the right to the inshore fisheries, and the navigation of the St. Lawrence, ceded on the one hand, and the right to sell fish in the American markets on the other, no such treaty could have been formed; not that the privileges thus respectively granted are disproportioned, or that Great Britain would consider she was parting with any real boon whatever, but she would rather keep the difficulty about the fisheries a bone of contention for ulterior ends, than part with her recently asserted rights so cheaply. Indeed, this fishery title was merely revived or asserted after our free use of the disputed grounds for half a century, that it might be used as a pretext to get possession of our markets for the agricultural products of their provinces. But for the consideration really given, almost any and every disputed and unsettled matter would have been yielded up by Great Britain. Our minister at her court is understood to complain that his negotiations have been seriously embarrassed by the too easy relinquishment of the only boon this wise and wily nation sought.

There is no doubt but our government has been entirely overreached in the bargain they have made. The Secretary of State seems only to have taken into view, in his statesmanship, the state of New York, or at most only the fishermen and manufacturers of New England, and the merchants and millers of New York. The interest of New York canals and railroads, the freight, storage, and commissions of New York merchants, and the grists to grind for the Rochester and Oswego millers, have been secured as far as could be done, by Mr. Marcy, who has had these interests in charge before at home, and does not seem to forget them when abroad. That his views have been so limited, and his policy so sectional and local, is a fair inference from the fact that no such treaty was ever before negotiated between two civilized nations. No instance can be found of a nation's throwing wide open its markets, without an equivalent, to another nation or people growing staples and products similar to its

own. All England did, was to let in one or two articles which she could not supply to her starving people. But we have thrown our markets as wide open as though these British provinces were States of this Union—markets which they will seek merely to sell in, receiving only in payment our precious metals, or exchange on England, to pay for the goods they buy of her. Everything they can grow from their soil, produce from their forests or their mines, we shall have to take on these terms.

What do they give us in return besides their river to navigate, which they can't navigate much themselves—being frozen tight six months in the year, and a hazardous navigation the other six—and a right to catch fish where we had always caught them before? What real reciprocity can they offer us in the way of markets? Why, a distinguished Senator from Vermont, when Gen. Dix's bill was before the Senate, in 1849, declared that, from his own personal knowledge, living, as he did, near the line, there was nothing or next to nothing we could send to Canada. How can we expect to send any agricultural products there, when five-sixths of their population are engaged in agriculture? and these Provinces are without large cities, towns or manufacturing villages—Great Britain taking care to do all the manufacturing for them, and to make the Colonies, as far as she can, her exclusive customers.

This reciprocity treaty, in its nakedness, and stripped of its diplomatic pretenses, is simply an assignment, transfer and ceding over of our markets to be used, possessed and enjoyed in common by the farmers of the United States and the subjects of Queen Victoria in her five provinces in British North America, whereby, so it should recite; "It is expected New England manufacturers will get cheaper bread than their thirty per cent. taxed customers, the farmers of the United States, can furnish them, and New York canals more freight, and New York merchants more storage and commissions." This is Mr. Marcy's treaty. This is the substance, the pith

and marrow of it, and the country will soon find out it is so, and that protection has been utterly stricken down, so far as our agricultural interest is concerned.

The grave question now arises, whether the farmers of the Middle States—many of whom, like the writer of this, has stood by protection for a quarter of a century—believing, among other things, that it benefited the country generally, while the home market it furnished was a sort of equivalent for the tax it imposed—now that this home market has been taken away, now that our interest has been deserted by the friends of protection, many of them, if not among those who have directly betrayed us, still enjoying the treason, (and many, indeed, directly participating in it,) whether, I say, we can, with due regard to our interest, or even with due regard to a proper self-respect, stand by the present tariff, is a very grave question. Another in the same category, and of equal import is, whether we can longer consent to give to our commerce a monopoly in our coast-wise trade; a monopoly worth to them, as some estimate it, not less than an average of from twenty-five to fifty per cent. on the tariff of their freights, and which comes directly off from the producer, our commercial marine being allowed, in effect, under the monopoly they enjoy, to blockade the mouth of every river, bay and lake, demanding to receive in American bottoms all freight bound coast-wise, while the foreign trader, who could carry the producer's freight low, goes from one of our ports to another in ballast—goes empty away.

Whoever will take the trouble of casting his eyes upon the map, will discover that the British possessions on this continent are even larger than our own. As a late writer expresses it: "This large British territory contains more than four millions of square miles, more than two thousand six hundred and thirty millions of acres, and is equal to about one-ninth of the territorial surface of the terrestrial globe—nay more," says this British writer, "it owns the supremacy of our sovereign lady, Queen Victoria; and the British possessions in

North America are open to the energy and enterprize of Englishmen."

We are annually assured by the President, in his message, in reiteration of the Monroe doctrine, that we will permit no interference by foreign nations in the affairs or political destinies of this continent. Our policy, the policy of President Pierce and his Cabinet, meantime, must and will result in nothing else than in helping to populate and build up this "huge territory," enabling it, perchance, in less than a quarter of a century, to place an army of a quarter of a million of men in the field, to co-operate with the most powerful naval marine in the world, to decide this question, so complacently stated, and so satisfactorily settled by the President. But this is more of a political view of the subject than I design to take.

But what is the agricultural capacity of these provinces? The two Canadas alone contain, it is said, 242,482 square miles, and 155,183,425 acres, of which 7,300,839 are occupied and cultivated. Their population is stated by their census of 1852 to be 1,842,265; the number of acres of wheat sown, 1,146,311, yielding in Upper Canada sixteen bushels to the acre, and in Lower Canada nine bushels, and thirteen and three bushels *per capita* of the population of each respectively. Some of their further products are 78,000 acres of rye, 329,755 of peas, and 913,356 acres of oats, averaging twenty-four bushels to the acre, 65,656 acres of barley, yielding an average of twenty-one bushels to the acre.

These averages exceed our own production per acre, of the same staples, in any State of the Union, and exceed also our production in the ratio of population to production. There is but one State, as appears by the statistics obtained in connection with our late census, whose wheat crop exceeds nine bushels to each individual, and the average of the best six States is below seven bushels.

In reference to the future of Canada, the writer above quoted, remarks:

“In the ten years ending in 1851, the population of Great Britain increased more than thirteen per cent., and that of the United States more than thirty-five per cent., and that of Upper Canada more than one hundred and four per cent. The land even now occupied in Upper Canada would hold more than eleven times its present population—say 11,000,000 inhabitants.”

Throwing our agricultural markets wide open to the agricultural products of this fine region of country must greatly stimulate production, and rapidly increase their population.

The population that will now move in to swell their numbers, is the same that, to a great extent, would have moved in to people our own States—a valuable class of husbandmen and farm laborers, that we have yet a plenty of room for. The negotiation of this treaty will at once give a direction to emigration to Canada, an object that the English government has all along sought, for they have beheld with jealousy, especially recently, the vast accession to our population of grown up men and women, drawn from their laboring classes. What inducements have these emigrants now to come here? They will have our markets to sell in, and much better ones of their own to buy in. They will have as cheap and as good lands, and those who become proprietors much cheaper labor; they will have everything but our tariff and our taxes, and these will be auxiliary to their success, for they will burthen and cripple those who are to be their competitors.

If we call the average production of wheat in Canada but thirteen bushels to the acre—it is stated at sixteen in Upper Canada, where much the largest breadth is sown—their crop in 1852 must have amounted to 14,672,043 bushels. It is asserted that their crop of 1854 will enable them to export twelve millions of bushels, which is above the annual average of our own exports to all the world in wheat and flour, for the last ten years, exclusive of the last year, and exclusive of the year 1847, the year of the Irish famine, when our exports rose to twenty-five millions, it is far above the average of our annual exports.

This is the formidable rival that our wheat-growers have to enter a common market with, the American producer paying thirty per cent. duty, under a tariff protecting our manufacturers, and which at the same time was professedly to protect his own home market ; still farther taxed in being compelled to ship his coast-wise freight only in American bottoms, he enters his own grain markets to be undersold by the untaxed colonists of Great Britain.

Wheat is but one of their great staples. In reference to barley, they have so much the advantage of us in soil and climate (their climate being particularly adapted to its growth, as its high average of twenty-one bushels to the acre shows,) that they must soon get an entire monopoly of this valuable cereal.

Their new grain markets will stimulate the production of barley in Lower Canada, to as great an extent as the production of wheat will be increased in the Upper Province. Their oat crop, averaging twenty-four bushels to the acre, already amounts to some twenty-three millions of bushels ; and it is only of Canada we are now speaking. There are four other Provinces—New Brunswick, Nova Scotia, Newfoundland, and Prince Edward's Island—embraced in the treaty, and though not as favorably situated for agriculture, and more likely to make their contributions from their forests and their mines, for the most part ; still there is one esculent, the potato, which, as has been truly said, “may be regarded little less important in our own national economy than maize, wheat and rice,” that they are likely, particularly Nova Scotia, to send us in large quantities, and may drive the farmers of New England, as well as those of New York, New Jersey, and Pennsylvania, to a great extent, from the Atlantic markets, though the cultivation of this valuable esculent constitutes at present a very profitable source of income.

The graziers and stock-breeders will be in like manner interfered with, by the horses and cattle that will be brought in, for it is well known that they are much cheaper in the

Provinces than on this side of the line ; and hence horses are often brought in and shipped to the West Indies, the shipper being entitled in such cases to the drawback.

But it is unnecessary to detail further. The proposition is self-evident, that the British Provinces, with their good lands and cheap labor—it is not less than forty or fifty per cent. cheaper than it is with us—almost untaxed for their municipal government, or for any other object, the small revenue duty of some eight per cent. upon their imports, together with the aid they receive in different ways from the mother country being sufficient to defray all expenses ; with five-sixths of their population engaged in agriculture, it is very evident that they can produce cheaper than the American agriculturist, and that the two are unequal competitors in a common market. Why ? Because the American government draws from the people thirty or forty millions annually in the shape of duties on merchandise, a large proportion of which falls upon our agricultural producers, a sum not only sufficient to support an extravagant government, an army and navy, but affording a surplus to buy up annually, or biennially, as the case may be, other States, Territories, and countries.

Nor is this the worst feature of this tax as it bears upon our farmers ; it enables the American manufacturer to bid up for labor, to overbid the farmer ; in short, to buy up and command the labor of the country. The farmer is thus taxed twice ; first in the duties he pays, and then the much heavier tax he pays in having armed the manufacturer to go into the market and monopolize to a great extent the labor of the country, by bidding it up so high that the farmer can only use it, if at all, to a limited extent, and then at such exorbitant rates as to amount to a large per cent. upon the net income from his freehold.

But is it true that our farmers, under all the disabilities they have labored, with a temporary increase of many thousand consumers from recently arrived emigrants, and the armies

of men engaged under the inflated and gigantic system of railroad enterprises, in which the country has been madly engaged, have not fed the country well, and generally cheaply? Great providential afflictions, as a drought, or great national calamities, as a war at home or abroad, that affect production, or affect the prices of the markets, temporarily, are contingencies, that are inevitable, and must be submitted to. The coincidence of short crops in Europe, in 1853, that drew from our markets, in one year, upwards of thirty millions of bushels of wheat, followed by a short crop of our own the present season, when our markets were entirely bare of the old crop, have greatly advanced the price of wheat and flour. But take the average price of wheat for the last half century, and it does not exceed \$1.25 a bushel. Take it for the last quarter of a century, and it little, if any, exceeds one dollar. But upon three occasions, during that time, has it been as high as two dollars, and much of the time below one.

Only three years ago, in 1851, the writer of this sold a beautiful crop of wheat in an Atlantic market, at 80 cents a bushel, and no longer than two years ago, the autumn sales of red wheat in the Baltimore market, were many of them made at 75 and 80 cents a bushel. Let me incidentally add, that, from high prices, such as are now current, it is not always to be inferred, that the farmer is making large profits. The aggregate amount of my own sales of wheat the present year, with an equal breadth in, will be below what they have been for the last three years, the addition to the price not making up the deficiency in the crop.

Nobody has ever doubted but our farmers could feed the country, and feed it well, abundantly, and cheaply. The late census statistics show the crop of wheat of 1849 amounted to 100,503,889 bushels, being a gain of 15,645,378 bushels in the last ten years. But the crop of 1849 was a failure in several of the large wheat districts, and the return was "short crop." The crop of Ohio alone was more than 15,000,000 of bushels below her crop of 1850, as ascertained by the

statistics of that State, the following year; and crediting this addition alone to the annual average, would make the increase of wheat keep progress with the increase of our population. It is fair, at least, to state it at 35 per cent. in the last ten years, which is the increase of population. Even the increase in the old Atlantic States, so long cultivated, so long the nursing mothers of generations of men, was seventeen per cent.

So far from supposing their capacity to feed the country doubted, our agriculturists, who had put forth their best efforts to improve their husbandry, had ditched, and drained, and limed and marled, invoked science, and spent their money freely in purchasing guano and other fertilizers, the objects of commercial traffic—they were prepared to challenge the country for some praise, and to anticipate that their efforts, many of them generous and unselfish, looking as much to a good and high order of farming, as to any immediate profits; they had a right to suppose that their efforts thus to elevate the character of agriculture, and to put it on a footing creditable to the nation, and comparing favorably with the same interests in other countries, would have been promptly recognized, and acknowledged by congratulations “on parts thus well sustained.” And least of all, were they prepared to see a project started, or at least supported, by New England manufacturers, who had solemnly pledged themselves that we should feed them if they were allowed to clothe us, to attempt to get cheaper bread from the Canadians. As little were they prepared to see the commercial interest which they have already helped to “build up,” until, as the President, in his late annual message, tells the country, “our foreign commerce has reached a magnitude and extent nearly equal to that of the first maritime power of the earth, and exceeding that of any other,” that our merchants thus succeeding and thus sustained, should—in their grasping cupidity for more freights, storage and commissions, more rivers to navigate, and more waters for fishing—strike this foul and ungenerous blow at

agriculture, barter away our interest to enhance their own, sell our wheat fields for their fishing grounds—was not only unlooked for, but is “the most unkindly cut of all.” For this administration is not, by any means, culpable as they are for executing the measure, solely responsible for the conception of this British treaty. The power behind the throne, the commercial and manufacturing interest, was probably greater than the throne itself.

But let the respective interests understand each other. Our agriculturists have no objections to Canadian farmers being invoked to feed New England manufacturers, or feed the country ; and they have as little objection to our commerce having the free navigation of every river, and every water that can float a sail, and securing as far as they can their triumphant success, and complete prosperity ; but agriculture claims an equal freedom. It protests in that case, that these manufacturers shall not be allowed to restrict the agricultural community to purchasing from them ; and that in commerce, American bottoms shall not demand their freights in preference to other carriers. If other interests do not require tariffs and navigation laws for their protection, neither does agriculture. Give us free trade if you say so—free trade, complete free trade, even to raising the revenue for the support of government by direct taxation. It was only on your account, and only as we gloried, as American citizens, to see our commerce whiten with its sails, every sea ; only that we rejoice to give our ingenious artisans a chance to show their skill, and render the nation independent of all others, in the construction of her fabrics, that we consented to this tri-party league, in which each surrendered some privileges, and was protected in others. If American manufacturers have nothing to fear from British manufactures, if American commerce has nothing to fear from British commerce, so American agriculture has nothing to fear from British agriculture—home or colonial—nothing whatever. But the manufacturing and commercial interest must not suppose that the agricultural interest will consent to be

taxed for their exclusive benefit and advantage. This they will not agree to, and their resistance to this policy, I venture to say, will be found very soon, and very generally to manifest itself. Neither their good nature, nor their apathy, will make them so non-resistant, as to stand by and see other interests built up by acts of Congress and commercial treaties to the injury and detriment of the great natural paramount interest of the country—its agriculture. Their passive feelings to this extent, I repeat, cannot be counted on, though others seem confidently to have calculated that they could.

It may be thought that the favor this measure is supposed to have received from the commercial and manufacturing interests has been too much taken for granted, and that no sufficient proof that the ratification of this treaty was mainly brought about by New York millers and merchants, and New England manufacturers, has been or can be produced.

The proof, however, is at hand, though some of the evidence, it must be confessed, is rather circumstantial, than direct—the parties—particularly the New England manufacturers—did not care to commit themselves before the country to so open a betrayal of the agricultural interest, having pledged themselves in every shape and form, at every election involving the fate of the tariff, that home markets, which our farmers were thus to be taxed to create, should be exclusively theirs to possess and enjoy.

A short narrative of the order of events will show with whom this reciprocity measure originated, by whom, and by what arguments it was supported, by what votes it was finally carried, and also incidentally, by what means the votes of Southern Senators representing agricultural States was obtained for it.

General Dix, a Senator from New York, specially representing, as well understood at the time, the milling interest of Northern New York, and the commercial interest of the city of New York, and warmly sympathizing in the success and prosperity of New York internal improvements—her canals

and railroads—prepared a bill embracing the substance of the present treaty, which was introduced by his friends into the House of Representatives, during the early part of the session of 1849, and which bill, as Senator Pearce subsequently stated in his place in the Senate, was “unaccompanied by any report, passed without discussion ;” and as he, the Senator, believed, “without any knowledge of a majority of the members of that body.”

It came before the Senate, we are informed, on the same authority, “without any report, and no papers accompanying it.” A brief explanation of the bill was now given by Senator Dix ; but this, so far from satisfying Senators, only sufficed to call their attention to the obnoxious, selfish and local character of the legislation sought.

Senator Pearce attacked it in a masterly speech of great ability, and showed the injustice that would be done to agriculture by thus throwing down all barriers so far as this interest was concerned.

He said: “I think it is a very important measure, a departure from the general revenue policy of the country, involving, in its consequences, direct and remote, a probable and a serious injury to one of the greatest interests of the country—an interest as little or less protected than any other, and quite as much entitled to the benefit of direct or incidental protection as any. The bill proposes to allow the importation into the United States from Canada, free of duty, of wheat and breadstuffs generally, and other products of that colony, upon condition that similar articles, the product of the United States, may be imported into Canada free of duty. Now, sir, there is really no reciprocity in all this: the bill is delusive. If it pass, not a dollar’s worth of all these products will be exported from the United States to Canada. * *

Canada is not and cannot be a market for such products of the United States ; while a direct effect of the bill is to give her a participation in our home market—so that there will be no equivalent afforded to us ; certainly none to the great

grain-growing interest, which is mostly concerned in the legislation on this subject. * * This bill, therefore, may be considered as the first movement towards the withdrawal of all, even incidental, protection to the grain-growers of the United States, while other great interests retain the protection which the tariff of 1846 gives them. I do not think the people interested in the agriculture of the country will be satisfied with this. If they are not to have an equality of benefits, they will insist upon an equality of another sort. Benefits not generally given must be generally withdrawn, and other interests must abandon the protection given to them. Certainly there is no equivalent offered by this measure to the agricultural interest. Whatever benefit is to be derived from it will enure to the millers of Northern New York, to Northern railroads and canals, and to Northern shippers and manufacturers, and to them the profits must be much smaller than the injury to the agricultural class. * * But surely, in a country like ours, that produces a surplus of twenty to twenty-five millions of bushels of wheat, beyond all the wants of our ordinary consumption, we have a right to ask that we may enjoy our home market without competition from other countries, on terms such as apply to no other great interest of the country.

The Senator also forcibly contended that our treaties with other countries, particularly with Prussia, would compel us to admit their produce on the same terms we did the produce of Canada—a position in which he was subsequently sustained by Mr. Hunter.

But Mr. Hunter also ably opposed this bill on its merits, and which bill, be it remarked, *is identical with the treaty, so far as the Senator's objections to it went.* He asked: "Is it fair to take away all the protection afforded to the agricultural interest, while you retain that afforded to the manufacturing interest? * * It would seem as if the agricultural interest were considered a great beast of burden, doomed to bear all

the loads to be imposed upon the productions of this country ; and we tax it freely and without remorse.

“ Now, sir, I am willing, so far as the agricultural interests are concerned, to place them on the footing of free trade, provided all other interests are placed on the same footing. But to allow the manufacturing interest to receive high protection, and to take from the agricultural interest all the protection that is afforded to them—and that much less than is afforded to others—is unfair and unjust.”

Alluding to the act of 1846, by which the Canadians were allowed to send their produce through our ports subject to a drawback, and which law passed Congress, by the bye, as silently and hurriedly, if not as *clandestinely*, as the reciprocity bill did the House of Representatives, “ without a knowledge of the majority of the members of that body,”—Mr. Hunter said :—“ We have thus done all that is necessary to give New York all the profits and advantages arising from the carrying trade between Canada and foreign ports. We have done all that is legitimate for us to do—all that the commercial interest requires—and now they come here and ask that they may be allowed to receive the productions of Canada, free of duty, for home consumption. While the manufacturers of the North and East have the protection that is afforded them under the present tariff, they are to be allowed to receive breadstuffs free of duty from Canada, and probably the Baltic also. Now, sir, this is unequal in more than one point of view—unequal, not only between the agricultural, commercial, and manufacturing interest, but also unequal between different sections of the country. * * *

The commercial and navigating interest have all they can rightfully demand in the act allowing a drawback on Canadian productions shipped from our ports. But they have no right to demand, and surely the manufacturing interest ought not to expect us to injure the agricultural classes by the passage of such a law as this for their benefit. *With these views I am opposed to this bill, and hope the Senate will not agree to its adoption.*”

Thus forcibly the Virginia Senator expressed himself—thus pledged himself before the country.

Hamlet.—If he should break it now—

P. King.—'Tis deeply sworn.

Mr. Hunter was followed by Mr. Downs, Mr. Phelps, Mr. Metcalf, and others, all taking strong ground against Gen. Dix's bill. Its author at once saw that there was no possible chance for its passage, now that its true character and real objects were made known, and never even attempted to take a vote of the Senate upon it while he continued a member of that body. But by way of making a decent retreat, he called it up at a subsequent day, and made a speech in its favor, quoting from Oswego newspapers, and other sources of as veritable authority, and among other things he made the following statement and declaration :—

"If," said he, "the bill becomes a law, I have no hesitation in predicting that vessels will be laden with wheat at Chicago, Green Bay, Detroit and Cleveland, and unloaded at Liverpool. Ship-owners, producers, all, will be greatly benefited by this free commerce, which will have an advantage in avoiding transshipment between the point of embarkation and the sea or the foreign market. If the result is to affect in any way the producers in the Middle States, as Kentucky in the West, and Maryland and Virginia on the Atlantic, it will be to relieve them from competition in our own market, with the wheat-growers of Ohio, Illinois, Michigan and Wisconsin."

The New York Senator thus represents, in effect, that he had brought forward a measure to turn the grain trade of the West to Liverpool, via the St. Lawrence, instead of its coming, as formerly, to New York. He has enumerated all the great grain States of the West as being likely to take this direction with their exports, and suggests that they will do so to an extent to leave our Atlantic markets open to the Middle States, "relieved" of the competition from the West they now meet there. Facilities were thus to be furnished

Western producers, by this bill, introduced by a New York Senator, and politician, to avoid New York canals, and New York railroads, New York shipping ports, and New York shippers, and even the citizens of the city of New York were to pay higher prices for flour to the producers of the Middle States, the produce of the West being thus diverted by Gen. Dix's new route to Europe, and no longer meeting in competition in our New York and other Atlantic markets. This is magnanimous!

One of Mr. Webster's eulogists has claimed for *him* that he dealt little in "assertion or exaggeration!"

The New York Senator, at the very moment he made these declarations, knew that the Canadians themselves were actually taking our route in preference to their own, boasting that they could send a barrel of flour to Liverpool, by New York, fifty cents cheaper than they could by the St. Lawrence, and then as now were taking our route in preference to their own. Such assertions not only bear upon their face their own contradiction, but impeach, in every line, the sincerity of their author. Gen. Dix could not have believed that, to any considerable extent, Western produce would have taken the route he indicated, or he would have been the last man to have brought forward such a measure. It is but too evident, from his whole course and the character of his speech, that he was speaking as an advocate rather than as a statesman—speaking from a brief prepared to argue the cause of Rochester and Oswego millers, and New York shippers, instead of taking a statesmanlike, national view of the subject, or really caring one iota for the interest of those middle States whose opposition he sought to propitiate by such poor sophistry.

But it must be confessed that the New York Senator was ingenious and adroit in managing his case. This very speech had probably much to do in bringing about the ratification of the treaty; and this is my apology for noticing it at such length.

In the course of his remarks, the Senator threw out the following idea:—

“Now, I venture to assert,” said he, “that these impositions,” (alluding to the operations of the tariffs of the two countries,) “will not long be submitted to on either side; and if they are not removed by the two governments, the inhabitants of both countries will look to annexation as the only practical measure of relief.”

Senator Hunter may not, at the time, have regarded these words as prophetic; but, alas! he soon received what he considered a confirmation of them, and from that moment saw only the danger, or fancied danger, to the “peculiar institution.” The wheat fields of the farmer he had so well defended, were at once abandoned; the unreasonable exactions of other interests he had so truthfully and forcibly pointed out, and denounced, he was ready to yield to, and freely comply with, so that those phantom forms of free men, multiplied on free territory, should not haunt him through the vista of a distant future.

Thus it was. On a certain day, some months after this, Sir Henry Bulwer entered the Senate Chamber, (it is well known that this British minister frequently resorted there to play the lobby member, and to electioneer with Senators on this subject,) and taking Mr. Hunter out, a long conversation followed. When the Virginian Senator returned, a gentleman approached him, and said:—

“Well, sir, did Sir Henry make any impression on you?”

The answer was—

“Yes, he did; he represented that five-sixths of this provincial population were engaged in agriculture; that they had no markets; that markets they must have; that, unless they could get them on other terms, they would annex themselves to the United States.”

The trap so cunningly set by the New York Senator, and so successfully sprung by the accomplished British courtier and dexterous diplomatist, caught not only the Virginia Sen-

ator, but nearly every Southern Senator, whig and democrat, except the two Maryland Senators, and Mr. Badger, who, no doubt, believed it all a mere *ruse*, and who were certainly bitterly opposed to the treaty, but the latter was sick and did not vote upon it. On such compulsion the two Virginia Senators consented to sacrifice the great and paramount leading staple of Virginia—her wheat; the two whig Senators of Georgia submissively abandoned the great timber forests and the lumber of that State, and all went for reciprocity, or rather, as they probably conceived, against annexation.

Supposing the fears and apprehensions of these gentlemen to have been really well founded, and that annexation in one event would have followed, and was desirable to the North for political or other reasons, or was desirable to the country, for the immense possessions it would have brought us, we have, by seizing at the shadow, lost the substance; in attempting to secure the navigation of a single river, and a little trade, we have lost an empire—an immense territory, possessing vast resources, and rapidly settling with a good population—indeed already to a great extent covered by such a population.

And now for the evidence that New England manufacturers have deserted protection so far as agriculture is protected. It is to be found in the fact, that *every New England Senator*, except Mr. Foot, of Vermont,

“Faithful found
Among the faithless, faithful only he,”

voted in secret session for the ratification of this treaty.

The remarks of Mr. Winthrop in the House of Representatives, on the occasion of his calling on Mr. McLane, as chairman of a committee, to report a bill on this subject, were at the time regarded as very significant, well known as it was, that Mr. Winthrop might be regarded as a fair exponent of the views of New England manufacturers. The movement of the Massachusetts Representative seemed to anticipate and approve the result which the two Massachusetts Senators ratified in voting for the treaty.

Nor is this the only instance in which New England manufacturers have seemed to chuckle over and rejoice at the withdrawing of protection to agriculture. Mr. Rantoul's construction of Mr. Slade's bill, or law protecting wool, by which the law was almost in effect repealed, and which compelled the farmers, in many instances, to cut the throats of their sheep, was announced by the press of our protection friends of New England, with undissembled satisfaction.

Nor has the manufacturing interest failed to beset every whig Secretary of the Treasury, to abolish the duty on the raw material generally, though this was confessedly not the old tariff doctrine of Henry Clay, Henry Baldwin, John Tod, and other friends of protection. And they succeeded with Mr. Corwin, against all his former acts and declarations. With Mr. Meredith, too, they succeeded, but without involving him, as I am aware, in any inconsistency.

But this is all a short-sighted policy on the part of the manufacturing interest. They are fast losing both the confidence and the sympathy of the rural districts. Their demands seem to be for the exclusive advantages of protection. They are for protection, when they themselves are to be protected, against it when agriculture is to be protected. They claim a monopoly in fabricating, that they may sell high; they refuse a monopoly, or any protection, to others, that they may buy low. Their plan seems to be to have one set of customers to sell to, another to buy from—selling dear and buying cheap is the substance of the political economy of our manufacturing friends.

In reference to the commercial interests, whoever will look at the course of the Commercial Press, and the articles with which it teemed, from Boston to Charleston, in the autumn of 1853, when the suggestion had been thrown out that the administration contemplated treating upon the disputed Fishery question, by offering the British a participation in our coast-wise commerce—as we were already enjoying a free participation in theirs—will see that the Commercial Press, and Commercial men,

were determined to concede nothing. And this stand they took, though the matter in dispute was all about waters to navigate. They insisted, even in such a case, that the consideration should come from the agricultural interest, and any equivalent to be rendered, or sacrifice required to be made, should be made by this interest. They endeavored at least to hedge in the Administration, by operating upon public opinion, in such a way as to prevent them from laying hands on the monopoly so long enjoyed by our merchants. It was nothing to them, free traders, as most of them profess to be, that Great Britain had already thrown wide open her coasting trade, and thus challenged a reciprocity. They wanted nothing to do with reciprocity in commerce—in sailing ships with British merchants, but were for reciprocity in agriculture, of letting American farmers grow grain to send to Canada,—coals to Newcastle—while Canadian farmers sent grain to our markets, which the farmer has been taxed for a quarter of a century to build up, and is now taxed to keep up.

Can the passive endurance, the stolid indifference of this great agricultural community, be counted on to this extent? Will they, under the pretext that it is policy to “build up commerce,” longer consent to the monopoly the American merchant has in carrying all their produce coast-wise—bluffing all other carriers off with the exhibit of an American bottom? The farmers have stood this blockade of the mouths of their rivers and their ports long enough. It is not only to build up commerce, but to build up Merchant Princes, that this huge monopoly is continued. Why should all the producers throughout the great valley of the Mississippi, pay, on all the grain, pork, bacon, lard, hemp, and tobacco, that arrives at New Orleans, and is shipped thence to any northern port, or any port on our continent, two or three cents a bushel more on their grain, fifty cents or a dollar a barrel more for their flour or their pork, than an English, or German, or French vessel would take it for, if permitted to take it at all? The same tax is levied, the same tariff of freights, affects the whole

cotton and sugar crop having a coast-wise destination. It has always been an onerous tax ; continued to this time, it is a downright imposition. In estimating the advantage thus given to the American coast trader, as equal to a tariff of tolls from twenty-five to fifty per cent. above what it could be carried for if the carriers of other nations were allowed to participate in it, I am governed by the opinion of one of the most practical, experienced, and best informed commercial men of the country, who has no interest whatever in the question, and whose sympathies, I believe, are with his former associates.

When this monopoly under which such high and heavy contributions were laid upon all classes of producers was first established, the case was different. Then our commerce was limited ; then our coasting trade was small. Now it employs a tonnage about equal to all other tonnage afloat. It employs 2,312,114 tons. Our foreign commerce but 2,333,891 tons, a small excess, of less than 22,000 tons. To allow this immense fleet to sweep along a coast of thousands of miles, embracing the shores of two oceans authorized by Acts of Congress to blockade the mouth of every river, to close up every port, except as American coast-wise produce is delivered to them on their own terms of freight, is, I repeat, a *monopoly of the most gigantic character*, a restriction of trade and commerce, that it is really amazing, should so long have been submitted to. The powerful influence of the Commercial Press, that so zealously and perseveringly represents this interest, can alone account for it. Its efforts have always been mainly confined to represent and advocate the commercial and manufacturing interest. Take the last quarter of a century, and everything this press has said about agriculture would hardly fill half a column in each yearly issue. I speak of the Commercial Metropolitan Journals. It was not until the present season, when the national calamity of a general drought came upon us, that the press hardly paragraphed the prospect and condition of the crops.

How has its course in this respect contrasted with the English commercial press, where the condition of agriculture, the condition of the crops, the state of the market, are weekly discussed, and the public kept informed of the prospects of this great interest, more intimately connected than any other with the welfare of the people ?

Of our production, our northern commercial press has generally nothing to say beyond a stereotyped paragraph, to the effect, that the Cornucopia is the just emblem at *all times* and in *all seasons* of our rural districts. Then for the condition of the markets, their view is intensely fixed on the *Mark Lane Express*. They look towards the rising sun, for there their customers sell ; seldom towards the golden west or sunny south, where most of what they sell comes from, and when, if it was known in time what there really was in the country to sell, this fact would very naturally have something to do in regulating prices. They are content, however, to report the “news by the last steamer,” and no time is to be lost in giving this out, as it fixes, until another steamer arrives, the value of what we have to sell, whether we are within five hundred barrels of flour of the margin of all we have to part with, or five hundred thousand below it. This is the length and breadth, rather narrow it must be confessed, of the exhibit generally made by our Commercial Daily Press, of our production and our markets. But I am glad to say, that there are a few, especially recently, honorable exceptions to this. Within the last Summer and Autumn especially, some few of the conductors of our daily press have grappled with the subject of production, consumption, markets, etc., and laboriously and ably investigated and discussed it. Nor is the fault all their own that they have not done so earlier, and oftener, before. They have been but following the fashion established by our public men. Agriculture has hardly been named in Congress, in a quarter of a century. It is notorious it is only publicly named, outside of the farmers themselves, in Fourth of July toasts, where, thanks to the patriotism of one day in

the year, it even takes precedence of commerce and manufactures.

Unfortunately, from the days of Alexander Hamilton, down, the effort has been to make the country great in what it naturally was not great. Commerce was to be "built up" and piled up; manufactures were to be established, (all right,) but they were to be protected, indulged, and pampered, until in fabricating we excel the world. These interests were to be first, "the rest nowhere." Such was the fashion of the times, that even the farmers themselves formerly thought the sacrifice too great to confine a "smart" son to agriculture, though it might do for the blockheads, while to enter any of the professions, was equal to obtaining a patent of nobility.

But the public opinion is changing, the fashion is changing, and public men will change, and editors will change, and it will be thought, after all, that we should not lose sight entirely of what brought our fathers here, of what has mainly supported us here, and increased us, and multiplied us, until we have become a great nation, our agriculture!

Our coast-wise commerce, then, I contend, should at once be thrown open to the common carriers by water, of all the world.

The monopoly in ship-building should, in like manner, be thrown open.

Not in a spirit of retaliation merely, for throwing open our grain ports. Not because an American merchant, Mr. J. D. Andrews, our Consul at St. Johns, New Brunswick, prompted and liberally fee'd, as it is understood by merchants on both sides of the line, got up an ingenious and plausible Report to the then Secretary of the Treasury, Mr. Corwin, calculated to effect the object of these merchants, (although even he does not deny that the measure is injurious to the agricultural interest)—nor yet because this interest openly combined with the manufacturing interest, to do this great wrong to agriculture; but because there is now neither necessity, policy, or justice, in restricting our producers to ship in American bottoms.

The merchants will not consent to be restricted to buying only American flour, or American farm products, horses, beef or anything the Canadians can grow. Well, if they will not consume our produce, they certainly ought not to be allowed to prevent our sending it off to our different home markets, as cheap as we can. They have no right to continue to subject us to their monopoly, having refused the farmer any protection whatever, for beyond what has been so unscrupulously taken from him, there is nothing else deserving the name of protection.

Even the remaining duty on wool, I see that a citizen of New York, Mr. David M. Stone, is out in a pamphlet, arguing that it should be taken off. He seems, at least, to have converted one man, Mr. David S. Brown, of Philadelphia, one of the largest manufacturers in the United States ; for this gentleman, as we learn through the press, recently attended a meeting of the Agricultural Society of Philadelphia Co., and after distributing Mr. Stone's pamphlet among the farmers, made a speech in favor of free trade, so far as *wool was concerned*.

I am not a going here to review Mr. Stone's pamphlet. But I answer, that so far as his four columns of figures are concerned, upon which his argument seems to be mainly based, it is a perfect *non sequitur*. Worse than this, if in logic, there can be anything worse, admitting both his premises and conclusion, as he would have the figures to represent them, and they really prove nothing in his favor—nothing one way or the other of any moment.

Mr. Stone declares, in so many words, that wool "is already as low here, as in any market of the world." I cannot attempt to follow him through his paradox, that to make it dearer you must make it more plenty ; take off all duty, and let it come from every part of the world ! But his candor forces him, in the end, that he is a sort of a free trader, but, like his friend Mr. Brown, he is only so for the present, so far as the *farmers are protected*.

"Americans shall govern America," he says, is "now shouted on every wind." And he adds, "Americans shall clothe America," is not behind the other in its declaration of independence. Yes, but why not then exclaim, "Americans shall feed America?" Alas! the word sticks in their throats, they cannot pronounce *Amen*. "Wherefore could I not pronounce amen?"

Somebody represented that Mr. Stone was a wool-grower. I see no evidence of it in his pamphlet, or that he is in any way connected with agriculture. He may have something to do with *fleeces*, but himself and his friend Mr. Brown, are probably content to take these off the farmers themselves, rather than off from the farmer's flock.

Neither should we attack the tariff in a spirit of resentment or retaliation; though, when a man finds out that he has been made the dupe of others, that he has been deceived, and overreached, there is a sore feeling of wounded pride, that is very apt to urge him to resent it. But all the antecedents of the writer of this, all his social and political relations, come in to disarm him from attempting to strike an avenging blow. But, in their self-defence, every farmer, every agriculturist, is now justified in moving in this matter. We must defend ourselves; we shall be forever taxed, oppressed and impoverished, if we do not. They have it now all their own way, and will continue so to have it if we do not organize an opposition, if we do not make ourselves heard in Congress, to put down these selfish monopolies.

But what are likely to be the consequences to manufactures of a repeal, or a great reduction of the tariff? In the first place, it was never contemplated that this protection was to continue forever. The object and intention was, to let our artisans have time to serve an apprenticeship; to learn to manipulate, to invent and construct machinery. Once fairly under way, it was believed they could protect themselves; that their ingenuity, skill and enterprise, need then fear no rivalry. I am of that opinion still, and I believe that time

has come. It is because I believe that our manufacturing interest is so well and firmly established, that the total repeal of the tariff could not break it up, or in the end seriously injure it, at least in those branches that it ought mainly to rely on, and because I see great evils growing out of continuing this policy farther, great injustice to other interests, that I would urge upon my brother agriculturists, to insist upon a modification and great reduction of the tariff. I am satisfied, bold as the assertion may seem, that most descriptions of manufacturing labor, is nearly or quite as cheap here as in England. This is mainly the result of personal investigation, personal inquiries, and an examination at the doors of English workshops. Labor has advanced there more than 30 per cent. within the last three years. Still nominally it is lower than it is with us ; but, for the quantity of work performed, I think it is little or no lower. The dexterity and skill of our artisans, the careful and nimble manipulations of our factory operatives, the advantages of educated labor over uneducated labor ; of operatives coming fresh from their homes in the morning, after a refreshing night's sleep, instead of having passed half the night at gin-shops, or in some other description of debauch, fully makes up any difference in the less *per diem* compensation received by the English operative. Such men as Professor Wilson, one of the British Commissioners to the great New York Fair, and the learned and well-informed William Chambers, the great Edinburgh publisher, have both recently borne their testimony, while visiting our country, to the advantages of our educated labor.

I am satisfied the English manufacturer has a greater advantage over us in his cheap capital than in his cheap labor. We must overcome this by being more economical. To begin with, the country would be cheaper fed. Labor and population would be more distributed ; less congregated in towns and cities. This is a great evil in more ways than one. The cities are far outgrowing the country, as our census shows, which is the direct effect of tariffs and navigation laws.

And what have we recently witnessed in the action growing out of the rivalry among these different cities, protected and pampered as they have been by tariffs and navigation laws? More than twenty thousand miles of railroads have been projected; more than seven hundred million of dollars been invested in these gigantic and mad enterprises, by a country comparatively new, and certainly not rich. The country has been laced and belted even through its wildernesses and vast savannas, and not only where there is no commerce, travel or business, now to support such costly highways, but anticipating such an event by more than half a century. The active capital of the country has thus been all merged and swallowed up. Not only the capital of business men, but the trust funds belonging to wards, to orphans and minors, have been, in many cases, recklessly invested in some of these worse than South Sea bubble enterprises. Nobody believes now that a majority of these roads will ever pay. A vast many will never pay the expense of running them. A careful calculation will show that the gross amount of all the agricultural exports of the country, exclusive of cotton, will not even pay the repairs and running expenses alone. In the case of a single road, and that one of the most popular routes, take the present value of its stock, and the loss on its capital is more than eighteen million of dollars, more than half the capital of the old United States Bank. But this is only one road out of twenty, out of fifty, perhaps. The Rutland road, costing \$2,200,000, was sold for *twenty-two dollars* by the sheriff, or one mill a share. Many of the roads are worth only what the tracks will sell for when taken up, as they will be. Not only have these enterprises, to the hatching and getting up of which, and procuring the means of carrying them on, the services of every one dexterous in such things, from an ex-secretary of the treasury down to the aspirant to a railroad presidency, has been secured, not only has all our ready money been swallowed up, our credit exhausted in Europe, the bonds of States and corporations hawked and

huckstered among their capitalists until they would sell no longer, but every town, county, and State almost in the Union, from Bangor, in Maine, to San Francisco, in California, has been involved in debt, many of them irretrievably in debt. And not only the credit of the country has suffered, but the morals of the country have suffered; fraud, roguery and rascality, seem everywhere to be rife.

Bankruptcies are multiplied until their catalogue could hardly be contained on a mammoth sheet. Ruin to firms, ruin to families, operatives discharged, and taking their chance between the almshouse and street begging; with all these things, we are getting to be as familiar as though they formed part of "our system." They do, or have, but should do so no longer, for it curses the country, and curses the people, destroys credit, and destroys morals, makes existence a state of unrest, and real prosperity only a vision always seen in the future.

But what has all of this to do with navigation laws and tariffs? It has much to do with them. The focus of all these railroad operations, their heart and centre, has been in Wall street, and wherever brokers' boards are established, and where merchants most do congregate. Let me incidentally add, that these establishments are of modern origin. They were unknown in the early healthful and fair transactions of the commercial and financial business of the country. They date back hardly thirty years, when the desire for gain, whetted as the passion for it is in the circles of trade, by the spirit of barter and sale, brought them into existence. Their effect has been, to wonderfully stimulate speculation. Indeed, the votaries that now surround them or resort to them, do so under the influence, to a great extent, that filled, towards the close of the empire, the gambling saloons of Paris with every class of population, from the old Noblesse down to the red republican, all intent on *play*. There is this difference, however. The stakes in Wall street, in one day, exceed those of all the gambling saloons of Paris in a month. In the number of their

victims there may be less difference. If more private distress was inflicted by the latter, no such wide-spread ruin, involving whole communities, resulted, as by the bold play of a Schuyler, or of the whole class of Schuylers.

What is at the bottom of these evils? Too much prosperity, or *apparent* prosperity. The commercial man fancies that his ships, under the protection of navigation laws, must surely enrich him. The manufacturer, so powerfully protected, thinks he may safely extend, not only his business, but take a chance in real estate speculations, city lots, or western lands. The dry goods jobber, estimating the amount of his profits by his long credit sales, already figures up his fortune, and all are ready to go into Wall street, or to identify themselves with some "great enterprise," public or private. The consequences are before us in the beginning of the year Anno Domini, 1855.

Let us come back. Let us take a fair start, and be content to get rich slow. The farmers contend, that they have attended to their own *legitimate business*, feeding the country well, and generally, cheaply, and have had *nothing to do in creating the state of things now so much to be deplored*. While in favor of railroads where they are really required, and willing to lend a helping hand, they have no sympathy with the jealousies and rivalries among the cities, out of which have grown many of these wretched enterprises, in seeking to get up roads to being trade to them from where no trade exists.

Let each and every interest, in future, depend rather upon its good management, economy, industry and skill, for its success, than upon the protection of the government. We are no longer likely to agree, I see, in what proportion such protection shall be extended. The agriculturist has seen that it has been withdrawn with great unanimity, so far as he is concerned. He no longer can, or will agree, under such a state of things, to the protection of other interests out of his earnings.

The cry that importations in such an event would ruin us,

is answered, by simply saying, if we did not *fancy we had money* to buy with, we should not import. And the falling off of the revenue from duties in December, I believe some fifty per cent. in one month, shows that our imports are *regulated by what we deem our capacity to pay, and not by a necessity for consumption.*

Instead, then, of pushing still further the spirit of “enterprise,” as it is called—more properly the spirit of “adventure”; instead of giving away to a wild enthusiasm, our heads constantly full of great schemes for the public, or our own aggrandizement, let us rather return to a cultivation of some of the good “old-fashioned” domestic virtues. Let us practise economy, industry, frugality, and giving up attempts to stride to fortune, and the worse attempt, to play at hazard for it, be content to plod on after it as our fathers did before us, at most, “hastening slowly.”

A MIDDLE STATE FARMER.

PETITION OF A DELAWARE FARMER.

[The following paper was read by John Jones, Esq., and on motion of Hon. John A. King, of New York, was ordered to be printed in the Society's Transactions; being the substance of a petition prepared in the year 1850.]

To the Honorable the Senate and House of Representatives, in Congress assembled.

The memorial of John Jones, late President of the Newcastle County Agricultural Society, in the State of Delaware, respectfully represents: That he is a farmer, engaged in the raising of breadstuffs, principally corn and wheat. He further represents that the tariff of 1846 has had a disastrous effect upon the agricultural, manufacturing and commercial interests, as well as upon the revenues of the country. That it has fallen far short of the purposes most confidently prom-

ised by its authors ; to wit : of furnishing the American farmer with a ready and constant foreign market for all his surplus produce. This fact is abundantly proved by that eminent statist, the Hon. Edmund Burke, late Commissioner of Patents, according to estimates carefully made by him. He stated the amount of *corn grown*, in 1847, over and above what would be required for food for men and animals, and as surplus left for exportation, at 173,654,904 bushels.

Now the actual amount of corn of that crop exported to all the world, as is shown by the Register of the Treasury of 1848, was only 8,147,568 bushels, valued at \$4,645,084 ; being 11,970,722 bushels less, and in \$14,261,462 in value less than the exports of grain the preceding year. This amount of 8,147,568 bushels, when deducted from the 173,654,904, leaves the enormous amount of 165,507,335 bushels to be added to our usual surplus, and to rot on the farmers' hands ; the home markets having been greatly destroyed by the stoppage of the operators who had been profitably employed under the protective tariff of 1828 and 1842, and who in turn had been compelled to become producers at a low rate, instead of consumers of breadstuffs at fair remunerating prices.

During the year 1848, the importation of foreign goods was as great, or nearly so, as in the preceding year, being nearly an average on each of the four leading articles of iron, woollen, cotton and silk, of over fifteen millions of dollars, and of all other products of foreign manufacture, in the same proportion.

The article of Porcelain, which had been manufactured to a considerable extent, and high finish, under the tariff of 1828, has become nearly extinct under the free trade pressure, and is now monopolized by the foreign manufacturer ; \$2,330,000 worth of the article was imported in 1848, and this price, too, founded on *ad valorem* duty, foreign valuation, and often fraudulent at that. Exhaustless quantities of Kaolin, the principal material of which china is manufactured, is found in

the hills of our own Brandywine, but a few miles distant from Wilmington, much of which is sent to Europe, to be there manufactured, and returned to us at more than twenty times the cost of the raw material.

Your memorialist further states, that for more than fifty years of close observation, he has never known *low duties* to increase the exports of corn, or other breadstuffs, or swell the public revenue.

During the tariffs which succeeded the peace of 1815, to 1824, but a trifle of the public debt had been paid. The debt of 1824, being \$95,000,000, was sunk only to ninety millions of dollars in 1828. But in the nine years which succeeded the passage of the Protective Tariff of 1828, we had not only paid off the debt of ninety millions, but had a surplus of forty millions, which was ordered to be distributed among the States. ALL this capital accumulated in nine years—besides supporting the Government, increasing the Navy, building fortifications, light-houses, and making many other National internal improvements, to an extent never equalled in the same extent of time, since the existence of this government—ALL this, too, when our population, extent of territory, and resources, were less than half of what they now are, (in 1853.)

Your honorable body is further referred to one other statement, made by the said Edmund Burke in his Bundelcund letters, to wit: that the cotton crop of 1845 was estimated at seventy-two millions of dollars, twelve millions of which was manufactured at home; which, when thus manufactured under the tariff of 1842, was of the value of eighty-four millions of dollars, being increased seven times the value of the raw material. Now, let us suppose the cotton crop of the present year to amount to three millions of bales, of four hundred pounds each, or twelve hundred millions of pounds, which, at 12 1-2 cents per pound, would give the value of one hundred and fifty millions of dollars, and which, if manufactured at home, and increased thereby at the rate put down by that

eminent statist, Mr. Burke, would give the product of the cotton crop of 1850 a value of *one thousand and fifty millions of dollars*; an amount much greater than the entire value of all crops of every description grown over the whole country the past year, at the present prices.

Your memorialist confidently believes, that, if the Protective tariff of 1828 had been continued till this time, the entire crop of cotton grown in the United States could now have been manufactured at home by American citizens, and mostly in the States in which it is grown; the manufacturers of which would all have been fed with American provisions, and that revenue which would have accrued to the government from duty-paying goods, which would have been consumed by so many well-paid, well-fed American freemen, would have been more than ten times the amount than would be received under any system of Free trade, and that the home market for wheat that would have been required for starch and sizing of such an amount of goods, would have been twice as much as was exported to England, France, Russia and Turkey, in 1841.

For the truth of this assertion, your memorialist begs leave to refer your honorable bodies to the report of the Register of the Treasury for the fiscal year, ending 30th September, 1841. In that year the whole exports of wheat, and flour as wheat, to the world, amounted only to 8,447,085 bushels, and 12,562 bushels of corn. Of the above amount, England took of wheat, 1,894,355 bushels, to the value of \$1,827,526, and the 12,562 bushels of corn.

The three great nations of the world, England, France and Russia, with whom we most traffic, took only 12,562 bushels of corn, of the value of \$7,448, or about one bushel out of every five thousand bushels produced.

By the above it will be seen that England took only 12,562 bushels of corn, 1,894,034 bushels of wheat, to the value of \$1,827,562, notwithstanding the fact that we took \$45,730,000 worth of her manufactured goods. To France we ex-

ported only 9,700 bushels of wheat, to the value of \$6,928, while we took \$22,478,109, (\$16,619,567 of which was duty-free,) the greater part of which was silk, and a large portion of which was zinc. Exhaustless beds of the ore of zinc, eighty per cent. purer metal, is found in Pennsylvania, near navigable water, within seventy miles of our own Wilmington. Protection only is wanted to insure this metal to be extensively worked into the various forms in which it is used, to wit: sheets for roofing and flooring, fine paints, &c.

The whole amount of Imports from all the world in 1841, amounted to \$127,949,127. The exports during the same period amounted to only \$106,382,720, leaving a balance of trade against us of \$21,566,407; this balance in part has to be paid in government and State stocks, the interest of which hangs like a leech upon the vitals of our country.

Your memorialist has demonstrated his position, he trusts, beyond all cavil, that low duties will not induce Europe to take our breadstuffs. There was a fair experiment in 1841, the duties then being at their lowest point under the Compromise, and although we took 32,063,566 duty-free, from England and France, out of an importation of only 68,158,116, yet those two great nations, with Russia to boot, who altogether govern the world, and with whom we most trade, took only 1,875,690 bushels of wheat, and 12,562 bushels of corn, to the value of \$1,901,803.

Your memorialist believes that the statistical facts here set forth, are sufficient to induce your honorable body, to so modify the tariff of 1846, as to give protection to the labor of our country, in all its various employments, as well the manufacturing and agricultural, as commercial, in preference to the foreign labor of England and France, or any other foreign governments, with their offers of free trade. The fact of their exacting such heavy duties, of from one thousand to twelve hundred per cent. on one item of our agricultural production—tobacco—is sufficient evidence of their insincerity.

Your memorialist will cite but a single case, in the State of Delaware, to show the importance of a change of tariff. In 1839, only 150 houses were erected in the entire State, but after the tariff of 1842 went fully into operation, as we trusted, permanently, business increased, and in the years 1844-5-6, an average of 300 houses were constructed in Wilmington alone, many of which were large, and employed for manufacturing purposes. The past year, one hundred houses were not put up, and now, more than two hundred houses are tenantless, their former occupants having been driven from employment by the influx of goods, the handiwork of men in foreign countries.

OATS.

EIGHTY-TWO AND ONE-EIGHTH BUSHELS PER ACRE.

E. M. BRADLEY'S STATEMENT.

ONTARIO COUNTY, ss.—C. C. Murphy, being duly sworn, says he is a surveyor; that he surveyed, with chain and compass, the land upon which E. M. Bradley raised a crop of oats the past season, and that the land was in one contiguous piece, and the quantity is three acres and forty one-hundredths (3 $\frac{41}{100}$) of an acre, and no more.

CHAS. C. MURPHY.

Subscribed and sworn to, the 5th day of February,
1855, before me, JOSIAH PORTER, Justice of
the Peace, in and for said County. }

ONTARIO COUNTY, ss.—E. M. Bradley, being duly sworn, says that he raised a crop of oats, the past season, upon the land surveyed by C. C. Murphy, and that the quantity of grain raised thereon was two hundred and eighty and one-quarter bushels; and that he was assisted in measuring said crop by Edward Hatch, and that the statement annexed, subscribed by this deponent, as to the manner of cultivation, expense, etc., is, in all respects, true, to the best of his knowledge and belief; and that the sample of grain exhibited is a fair average sample of the whole crop.

ELISHA M. BRADLEY.

Subscribed and sworn to, the 5th day of February,
1855, before me, JOSIAH PORTER, Justice of
the Peace, in and for said County. }

ONTARIO COUNTY, ss.—Edward Hatch, being duly sworn, says that he assisted E. M. Bradley in measuring his crop of oats, referred to in the above affidavits, and that the quantity of grain was two hundred and eighty and one-fourth bushels.

EDWIN S. HATCH.

*Subscribed and sworn to, the 5th day of February, }
1855, before me, JOSIAH PORTER, Justice of }
the Peace, in and for said County.*

The field upon which this crop of oats was raised, was, in the spring of 1853, manured with about forty loads of common barn-yard manure to the acre, ploughed and planted to corn, and yielded eighty bushels of shelled corn per acre.

The soil is a gravelly loam, about ten inches deep, and a subsoil of red clay.

The field lies gently sloping to the north, and has some ten apple trees standing upon it.

No manure was applied for this crop.

In the month of November, 1853, the land was ploughed with a single team, to the depth of eight inches.

The second week of April, 1854, the field was thoroughly harrowed, and sowed with about three bushels of the common mixed variety of oats to the acre; the seed well harrowed in, and the ground rolled with a cast-iron roller. No further culture.

The crop was ripe, and cut with a common hand cradle, the first week in August; bound in small sheaves, put in stooks and capped. Allowed to stand until thoroughly dry, when it was hauled to the barn.

Threshed and cleaned with a machine the middle of October, and found to yield two hundred and eighty and one-fourth bushels of good merchantable oats.

The expenses of the crop were as follows:—

| | |
|---|---------|
| Two days ploughing, hand and team, at 16s..... | \$4.00 |
| Two days harrowing and rolling, at 16s..... | 4.00 |
| Ten bushels seed, at 4s., sowing the same, 3s..... | 5.33 |
| Three days cutting and binding, at 12s..... | 4.50 |
| Three-quarters day setting up and capping, at 12s..... | 1.13 |
| Moving to the barn, 16s. Threshing and measuring crop, \$12.60..... | 14.60 |
| Interest on land at seventy-five dollars per acre..... | 17.90 |
| Total cost of crop..... | \$51.51 |

The value of the crop was as follows:—

| | |
|---|----------|
| Two hundred and eighty and one-fourth bushels of oats, at 4s..... | \$140.13 |
| Nine loads of good oat straw, at 16s..... | 18.00 |
| | \$158.13 |
| Deduct cost of crop..... | 51.51 |

Net value of crop.....\$106.62
Equal to thirty-one dollars and fifty-six cents per acre.

ELISHA M. BRADLEY.

POLAND OATS.

69 79-100ths BUSHELS PER ACRE, WEIGHING 39 POUNDS PER BUSHEL.

BEING EQUAL TO 85 1-32d BUSHELS PER ACRE, OF 23
POUNDS TO THE BUSHEL.

E. M. BRADLEY'S STATEMENT.

ONTARIO COUNTY, ss.—C. C. Murphy, being duly sworn, says he is a surveyor; that he surveyed, with chain and compass, the land upon which E. M. Bradley raised a crop of oats the past season, and that the land was in one contiguous piece, and the quantity is two acres and forty hundredths (2 40-100) acres, and no more.

CHAS. C. MURPHY.

Subscribed and sworn to, the 5th day of February,
1855, before me, JOSIAH PORTER, *Justice of*
the Peace, in and for said County.

ONTARIO COUNTY, ss.—E. M. Bradley, being duly sworn, says that he raised a crop of oats the past season upon the land surveyed by C. C. Murphy, and that the quantity of grain raised thereon was one hundred and sixty-seven and one-half bushels, and that he was assisted, in measuring said crop, by Edward Hatch, and that the statement annexed, subscribed by this deponent, as to the manner of cultivation, expenses, etc., is in all respects true, to the best of his knowledge and belief, and that the sample of grain exhibited is a fair average sample of the whole crop.

ELISHA M. BRADLEY.

Subscribed and sworn to, the 5th day of February,
1855, before me, JOSIAH PORTER, *Justice of*
the Peace, in and for said County.

ONTARIO COUNTY, ss.—Edward Hatch, being duly sworn, says that he assisted E. M. Bradley, in measuring his crop of oats, referred to in the above affidavits, and that the quantity of grain was one hundred and sixty-seven and one-half bushels.

EDWIN S. HATCH.

Subscribed and sworn to, the 5th day of February,
1855, before me, JOSIAH PORTER, *Justice of*
the Peace, in and for said County.

The ground on which this crop of oats was raised, was, in the spring of 1853, manured with about thirty loads of common barn-yard manure to the acre, ploughed and planted to corn, and yielded sixty bushels of shelled corn per acre.

The soil is a gravelly loam, from eight to ten inches in depth, and has a subsoil of red clay.

The field lies sloping to the south and east.

No manure was applied for this crop.

In the month of November, 1853, the land was ploughed with a single team, about eight inches deep.

The second week of April, 1854, the ground was thoroughly harrowed, and sowed with about two and one-half bushels of the white Poland or potato oat to the acre; the seed was well harrowed in and the field rolled. No further culture.

The crop was ripe, and cut the last week in July, (being a week or ten days earlier than the common oat.) Cut with a common hand cradle, bound in small sheaves, and set up in stooks and capped.

Let stand until thoroughly dry, and then hauled into barn.

Threshed and cleaned with a machine the middle of October, and found to yield one hundred and sixty-seven and one-half bushels of good merchantable oats, weighing thirty-nine pounds to the bushel; being equal to two hundred and four and one-eighth bushels of thirty-two pounds to the bushel.

The expenses of the crop were as follows:—

| | |
|--|--------|
| Three days ploughing, harrowing and rolling, at 16s..... | \$6.00 |
| Six bushels of seed, at 16s., sowing the same, 2s..... | 12.25 |
| Three days harvesting, at 12s..... | 4.50 |
| Moving to barn, 16s..... | 2.00 |
| Threshing and measuring crop..... | 7.50 |
| Interest on land at seventy-five dollars per acre..... | 12.60 |

Total cost of crop.....\$44.85

The value of the crop was as follows:—

| | |
|---|----------|
| One hundred and sixty-seven and one-half bushels of oats, worth 8s. | |
| per bushel..... | \$167.50 |
| Six loads of straw, at 16s..... | 12.00 |

\$179.50

Deduct cost of crop.....44.85

Net value of crop.....\$134.65

Equal to 56 10-100 dollars per acre.

E. M. BRADLEY.

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| Howard, Flodoardo M. D. | Washington, D. C. |
| Hall, F. M. | Queen Ann (Prince Geo. Co.) Md. |
| Hoyt, Stephen | New Haven, Conn. |
| Hawks, J. W. | Boston, Mass. |
| Hazelton, J. E. | “ “ |
| Harris, Thos. | “ “ |
| Hixon, Timothy M. | “ “ |

| | |
|--------------------------|-------------------------------|
| Holmes, Richard | Boston, Mass. |
| Hart, J. J. | South Scituate, " |
| Hill, William | Boston, " |
| Ham, S. | Danvers, " |
| Hobart, Chas. G. | Dorchester, " |
| Hildreth, G. W. | Greenfield, " |
| Haines, D. W. | Readfield, Md. |
| Howland, C. | Auburn, N. Y. |
| Hovey, C. M. | Boston, Mass. |
| Hobbs, Eben. | Waltham, " |
| Hill, Jr. S. | Ludlow, Iowa. (P. O. Wankon.) |
| Hendley, J. H. | Boston, Mass. |
| Howe, Hall J. | " " |
| Hurd, Jonas | " " |
| Healy, Jas. A. | " " |
| Hildreth, A. W. | Watertown, " |
| Hall, A. G. | Boston, " |
| Hill, J. C. | Athol, " |
| Harris, Edward | Moorstown, N. J. |
| Hinckley, Holmes | " " |
| Hazelton, H. L. | " " |
| Hutchins, James | Montreal, Canada. |
| Jones, L. A. | Boston, Mass. |
| Johnson, S. K. | No. Andover, " |
| Jerome, A. & J. | Bloomfield, Conn. |
| Jones, John | Middleton, Del. |
| Jennison, Wm. | Boston, Mass. |
| Johnson, Thomas | So. Boston, " |
| Jones, Josiah M. | Boston, " |
| Jackson, James A. | Petersham, " |
| Johnson, C. B. | Newton, " |
| Jarvis, C. M. | Boston, " |
| Kimmel, Anthony | Lingamore, Fred'k Co. Md. |
| Kendall, Hartwell | Boston, Mass. |
| Kelren, Robert | So. Boston, " |
| Kimball, H. H. | Boston, " |
| Kennedy, Alfred L. M. D. | Philadelphia, Penn. |
| Kittredge, A. E. | Roxbury, Mass. |
| Kittredge, Joseph | No. Andover, " |

| | |
|----------------------|-----------------------------|
| Kimball, Charles | Boston, Mass. |
| Kittredge, W. P. | Boston, “ |
| Kirkland, J. B. | Vernon, N. Y. |
| Kirkpatrick, A. | Bangor, Me. |
| Kingsbury, Jere | Roxbury, Mass. |
| Kingsbury, Wm. B. | Roxbury, “ |
| Langley, S. H. | Boston, Mass. |
| Lang, J. D. | Vassalboro', Me. |
| Lathrop, Paoli | So. Hadley Falls, Mass. |
| Lovejoy, Joseph | Boston, “ |
| Loring, Caleb G. | Boston, “ |
| Leavitt, Thomas | Boston, “ |
| Lord, W. A. | Great Barrington, “ |
| Lee, Francis L. | Boston, “ |
| Leavitt, T. H. | Boston, “ |
| Litchfield, Edwin | Roxbury, “ |
| Locke, H. B. | Boston, “ |
| Larrabee, S. | Bangor, Me. |
| Lane, John | E. Abington, Mass. |
| Learey, T. H. | Boston, “ |
| Livermore, A. | Roxbury, “ |
| Lamb, James | Athol, “ |
| Leland, Simeon | New York. |
| Lakin, L. B. | Boston, Mass. |
| Mathew, D. P. | East Boston, Mass. |
| Melendy, Peter | Mt. Healthy, Ohio. |
| Miller, W. H. | Moscow, Mich. |
| Meredith, Solomon | Cambridge City, Ind. |
| Moore, Andrew Y. | Schoolcraft, Mich. |
| Marquis, John | Monticello, Pratt Co., Ill. |
| Morton, Dr. W. T. G. | West Needham, Mass. |
| Montgomery, W. C. | Boston, “ |
| Merrill, E. | Boston, “ |
| Maynard, J. W. | Boston, “ |
| Mott, E. W. | Manchester, (L. I.) N. Y. |
| Melzar, A. P. | Boston, Mass. |
| Morrison, William M. | Washington, D. C. |
| Morrison James R. D. | Washington, “ |
| Mulliken, James | Buena Vista, Md. |

| | |
|----------------------|---------------------|
| Mackall, Louis | Georgetown, D. C. |
| Montgomery, G. R. | Boston, Mass. |
| Monnot, John B. | New York. |
| Murdock, A. L. | Boston, Mass. |
| Mackintire, James | Boston, " |
| Malland, Charles | Boston, " |
| Moore, J. B. | Concord, " |
| Merrill, Wm. | Somerville, " |
| McIntire, True | New Gloucester, Me. |
| Mace, Daniel | Cambridge, Mass. |
| Messenger, R. E. | Boston, " |
| Meakin, W. | Boston, " |
| Meritt, J. C. | Boston, " |
| Moulton, S. P. | Petersham, " |
| Miles, James | Girard, Penn. |
| Merritt, J. | Boston, Mass. |
| Merrill, J. C. | Boston, " |
| Mathes, A. R. | Roxbury, " |
| Morse, J. B. | Fair Haven, Conn. |
| Mitchell, T. S. | Dorchester, Mass. |
| Morey, C. H. | Boston, " |
| Newhall, Cheever | Dorchester, " |
| Newhall, Gen. Josiah | Lynnfield, " |
| Newman, Oliver | Carthage, Me. |
| Newton, Isaac | Philadelphia, Pa. |
| Newton, R. W. | Boston, Mass. |
| North, Lemuel | Champlain, N. Y. |
| Newell, C. H. | Boston, Mass. |
| Nevins, G. P. | New York. |
| Neff, Wm. J. | Boston, Mass. |
| Oreutt, Wm. A. | Boston, " |
| Oxnard, H. P. | Boston, " |
| Oxnard, G. D. | Boston, " |
| Osborne, W. T. | Brighton, " |
| Parish, Abram | Naperville, Ill. |
| Pratt, W. H. | Monticello, Ill. |
| Patridge, Adin | Boston, Mass. |
| Pierce, H. D. | Hillsboro', N. H. |

| | |
|----------------------|--------------------------------------|
| Porter, Norman | Berlin, Conn. |
| Prentiss, Benj. | Fitchburg, Mass. |
| Pearl, Chas. L. | Farmington, Del. |
| Peck, O. S. X. | Brownsville, (Wash. Co.) Md. |
| Pierce, Joshua | Washington, D. C. |
| Pierce, Geo. | Boston, Mass. |
| Perrin, W. H. | " " |
| Parks, J. A. | " " |
| Perley, F. | Danvers, " |
| Page, Charles G. | Washington, D. C. |
| Pray, Isaac C. | Boston, Mass. |
| Putnam, J. Pickering | North Andover, Mass. |
| Penniman, Wm. | Brighton, Mass. |
| Peck, D. H. | Boston, " |
| Pope, Wm. | " " |
| Pennock, Abel | Philadelphia, Pa. |
| Pope & Parsons, | Shirley Village, Mass. |
| Prescott, Mrs. | Boston, Mass. |
| Peters, J. H. | Bradford, Vt. |
| Phipps, Sam'l M. | Roxbury, Mass. |
| Phipps, J. L. | Boston, " |
| Presby, H. W. | " " |
| Quimby, J. H. | Belfast, Me. |
| Renick, Felix W. | South Bloomfield, (Fayette Co.) Ill. |
| Randall, J. N. | Roxbury, Mass. |
| Rhodes, W. H. | Providence, R. I. |
| Rowe, O. S. | Ticonderoga, N. Y. |
| Roberts, C. P. | Gorham, Me. |
| Reeves, W. P. | Albemarle County, Va. |
| Rockwell, J. A. | Norwich, Conn. |
| Ryerson, L. L. | Roxbury, Mass. |
| Rich, Seth | Boston, " |
| Robbins, Edwin | " " |
| Ranstead, Chas. | " " |
| Richardson, S. O. | South Reading, Mass. |
| Robinson, T. L. | Boston, Mass. |
| Rice, Geo. T. | " " |
| Richards, W. H. | Dorchester, Mass. |
| Randall, T. | Danville, Vt. |
| Robinson, J. N. | Hardwick, Mass. |

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|----------------------|----------------------|
| Ross, H. P. | Groton, Mass. |
| Reynolds, W. J. | Boston, “ |
| Rice, H. S. | Cambridge, “ |
| Rich, Seth | Boston, “ |
| Russell, S. H. | “ “ |
| Roberts, John | Waltham, “ |
| Richardson, John | Orford, N. H. |
| Sessions, H. M. | So. Wilbraham, Mass. |
| Scott, Robt. W. | Frankfort, Ky. |
| Sanders, Col. Lewis | Grass Hills, Ky. |
| Spaulding, J. R. | Boston, Mass. |
| Smith, Henry | Boston, “ |
| Sprague, Francis | Boston, “ |
| Sprague, William | Boston, “ |
| Stone, C. B. | Roxbury, “ |
| Smith, Walter | Orwell, Vt. |
| Sanford, W. R. | Orwell, Vt. |
| Stearns, J. A. | Manchester, N. H. |
| Stebbins, Sam'l | Conway, N. H. |
| Seldon, Col. Wm. | Washington, D. C. |
| Stedman, B. | Cleveland, Ohio. |
| Stedman, Geo. B. | Cleveland, “ |
| Stearns, Chas. | Springfield, Mass. |
| Saunders, Col. C. J. | Lexington, Ky. |
| Smith, Jos. L. | Washington, D. C. |
| Sumner, Benj. L. | Dorchester, Mass. |
| Sumner, Clarence | Dorchester, “ |
| Sanford, J. | Boston, “ |
| Stone, S. A. | Watertown, “ |
| Sargent, Cyrus | Boston, “ |
| Sprague, Seth L. | Boston, “ |
| Smith, Edwin | Boston, “ |
| Seater, C. S. | Boston, “ |
| Stephens, John P. | New Gloucester Me. |
| Sotham, William H. | Owego, N. Y. |
| Sumner, John H. | Dorchester, Mass. |
| Springer, E. | Windsor, Me. |
| Skiff, B. A. | Freeport, Vt. |
| Stickney, Geo. J. | Charlestown, Mass. |
| Stowell, E. S. | Cornwall, Vt. |

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|------------------------------|---------------------|
| Sherman, C. W. | Vergennes, Vt. |
| Sanderson, G. F. | New York. |
| Stickney, Isaac | Boston, Mass, |
| Spaulding, Rufus W. | Boston, " |
| Sanford, Wm. H. | Boston, " |
| Snow, David Jr. | Boston, " |
| Stevens, N. C. | Boston, " |
| Shaw, G. H. | Boston, " |
| Shurtleff, S. A. | Roxbury, " |
| Sheldon, A. G. | Wilmington, " |
| Severence, R. O. | Boston, " |
| Spaulding, S. R. | Boston, " |
| Shoemaker, Geo. | Georgetown, D. C. |
| Stickney, T. G. | Bangor, Me. |
| Smith, Thos. | Middleton, Mass. |
| Shoals, Denison | Boston, " |
| Smith, Cyrus | Reading, " |
| Stearns, Chas. | Brookline, " |
| Shaw, John | New York. |
| Shedd, James A. | Boston, Mass. |
| Stoddard, G. Y. | Brookline, " |
| Simmons, Thos. | So. Boston, " |
| Stearns, Simeon | Boston, " |
| Shaw, H. L. | Boston, " |
| Smith, F. M. | Boston, " |
| Stone, James | Phillipston, " |
| Steele, John | Stoneham, " |
| | |
| Taylor, Col. Wm. H. Harrison | North Bend, Ohio. |
| Tillotston, Col. Zenas | Marshall, Mich. |
| Taylor, Hon. J. L. | Chillicothe, Ohio. |
| Tappan, J. P. | Boston, Mass. |
| Thatcher, Geo. T. | " " |
| Thurston, Benj. | Lowell, " |
| Tuttle, Jos. | Dorchester, " |
| Tabor, Sam'l T. | Duchess Co. N. Y. |
| Tyler, J. F. | Montgomery, Ala. |
| Tyler, John | West Lebanon, Mass. |
| Thorndike, J. H. | Boston, Mass. |
| Tucker, J. A. | " " |
| Tayloe, B. O. | Washington, D. C. |

| | |
|------------------------|------------------------------------|
| Thompson, Reuben | Plympton, Mass. |
| Thorndike, James F. | New England Village, Mass. |
| Town & Trow, | Barre, Mass. |
| Thaxter, Theodore | Boston, " |
| Towne, A. K. | Boston, " |
| Train, W. G. | Dorchester, " |
| Thayer, E. F. | Boston, " |
| Tilden, W. H. | So. Boston, " |
| Tarbox, E. | Boston, " |
| Tufts, E. T. | Boston, " |
| Travers, S. A. | Roxbury, " |
| Tarell, Albert | So. Weymouth, Mass. |
| Tufts, Otis, Jr. | Boston, Mass. |
| Turner, N. D. | Brookline, " |
| Thayer, F. L. | Bridgewater, " |
| Tompkins, Orlando | Boston, " |
| Townsend, E. | Boston, " |
| Trasdell, Austin | Boston, " |
| | |
| Vanderlin, D. I. | Charlestown, Ill. |
| Vail, Henry C. | Newark, N. J. |
| Valentine, J. E. | Boston, Mass. |
| Viets, C. E. | E. Granby, Conn. |
| | |
| Warder, J. T. | Springfield, Ohio. |
| West, S. R. S. | Olive Branch, (Clarmont Co.) Ohio. |
| Wright, Gov. Joseph A. | Indianapolis, Ind. |
| Wentworth, Hon. John | Chicago, Ill. |
| Webster, C. W. | Boston, Mass. |
| White, Stephen | North Cambridge, Mass. |
| Whittaker, F. | South Malden, Mass. |
| Warsen, E. | Boston, Mass. |
| Winslow, A. M. | Putney, Vt. |
| Waring, Geo. E., Jr. | American Institute, N. Y. |
| Warder, Dr. John A. | Cincinnati, Ohio. |
| Williams, Geo. Clinton | Woodstock, Conn. |
| Willits, Sam'l C. | Philadelphia, Pa. |
| Wager, Hon. Henry | Rome, N. Y. |
| Wheeler, Wm. F. | Grafton, Mass. |
| Webster, W. W. | Malden, " |
| Walker, Nath'l L. | Barre, " |

| | |
|----------------------|----------------------------|
| Willard, Wm. | Boston, Mass. |
| Worthington, Wm. F. | " " |
| Worthington, Jno. H. | " " |
| Wiggin, R. P. | " " |
| Wellington, Winslow | Lexington, " |
| Williams, John | Boston, " |
| Woodside, Franklin | Roxbury, " |
| Wadleigh, E. D. | Dorchester, Mass. |
| Wadleigh, D. E. | " " |
| White, C. G. | Boston, Mass. |
| Watson, G. S. | Newport, R. I. |
| Wilcox, S. J. | Boston, Mass. |
| Wheeler, W. J. | " " |
| Walker, S. H. | Holyoke, " |
| Wellington, B. | Boston, " |
| Wilcox, John D. F. | Roxbury, " |
| Wier, Geo. W. | Boston, " |
| Walker, Jas. A. | " " |
| Webber, Samuel | York, Me. |
| Williams, Isaac | Boston, Mass. |
| Wyman, Edward | Roxbury, " |
| Weller, John | Boston, " |
| Wetherell, John W. | " " |
| Wright, Wm. A. | " " |
| Woodbury, Chas. L. | Portsmouth, N. H. |
| Williamson, Jacob S. | Huntington Co. N. J. |
| Wilson, Hiram | Schroon, (Essex Co.) N. Y. |
| Woods, Iram | Hancock, N. H. |
| Williams, Tillson | Roxbury, Mass. |
| Wood, Chas. M. | Boston, " |
| Welch, Harrison | Somerville, " |
| Welch, Thos. J. | " " |
| White, Wm. A. | Lancaster, N. H. |
| Walker, Joseph | Boston, Mass. |
| Wolcott, J. M. | Roxbury, " |
| Waight, Daniel B. | |
| Young, G. W. | Washington, D. C. |
| York, J. H. | Boston, Mass. |

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