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[E.A. Holders.] Souvenir. National grange in Michigan. 1902.

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Dedicated to the Grange the Order of Orders for the Farmer and his Family, than which there is none with more influence and power for good.

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Prefatory

In undertaking the preparation of this booklet it was any though to provide something that would extend the notice of the National Grange Meet in Michigan and at the same time be a Souvenir of that occasion—something that delegates and visitors will take with them to their homes and keep in remembrance of their visit in the capital City of the Lake State.

Its aim is to bring to the reader's attention some of the facts pertaining to one of the grandest States in the Union, its resources, its industries and its institutions; to give a brief résumé of the Grange in Michigan, and to acquaint the visitor with our fair city.

The illustrations, it is hoped, will proved interesting and instructive while the portraits will bring the reader face to face with some of the leading personages in State and City affairs and State Grange work.

The assistance of Brother H. R. Pattengill, Brother K. L. Butterfield, Sister Sanborn and others is gratefully acknowledged. For the State write-up we are all indebted for financial assistance to the many open-hearted and patriotic citizens who contributed for that purpose. Below are given the names of those contributors that we may credit where credit is due. E. A. HOLDEN.

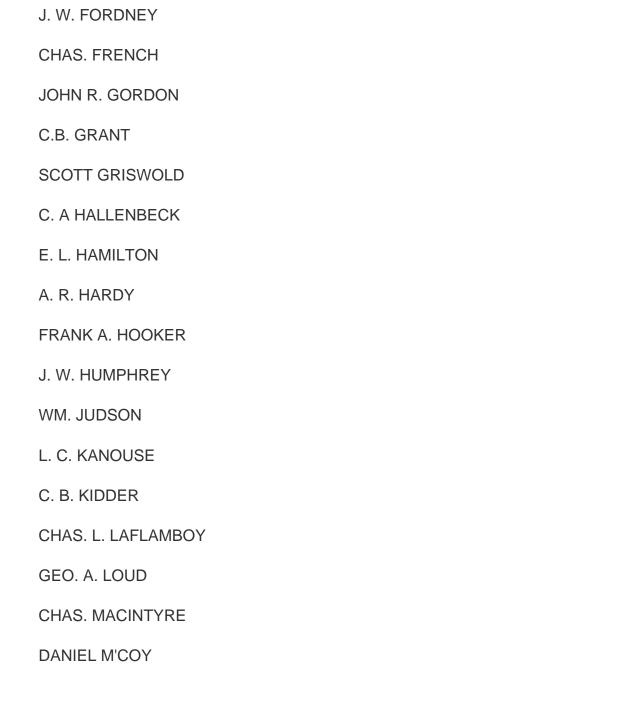
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EDGAR WEEKS

H. O. YOUNG

VIEWS IN LANSING

5

OUR COMMONWEALTH

From Maumee bay to Keweenaw, Michigan, my Michigan! A richer land one never saw; Michigan, my Michigan! Thy farms are famous world around, Rare woods are in thy forests found, Thy rocks with richest ores abound, Michigan, my Michigan!

There is no other equal area of God's good earth that comprises in its domain so many and varied, rich and powerful factors of civilization as does that portion of Uncle Sam's big farm known in history as the Northwest Territory. Its fertile soil, its famous forests and farms, its mines so rich, its gas, oil and salt its lakes and rivers, its healthful climate, copious and well distributed rainfall, its cities and villages, its industrious, enlightened, progressive people, its educational and religious institutions; in short, everything that enters into the proper upbuilding of the State may be found within its borders.

Among the five states that comprise this famous Northwest Territory, Michigan takes no mean rank. In area, 58,915 square miles, she is the largest state save one east of the Mississippi. Nestled amid the great lakes her climate is such that the choicest of fruits can be grown almost to her northern straits. Her situation is such that the markets for her products are most favorable. So that while not concentrating her forces on any one great crop, she ranks well to the front in many. There are few states, indeed, with resources so varied, and at the same time so rich.

Surely we have a goodly heritage. It has been thought interesting and profitable in this connection to compile and put in handy shape for reference a résumé of Michigan's factors

in civilization. It is true that to many, figures are somewhat dry, but the information found in the following tables can be had nowhere else in so compact convenient form, and every lover of his state will sooner of later have occasion to refer many times to the valuable data herewith presented.

STATE DEPARTMENTS.

It has been thought best to give in compact form a description of the duties of the several parts of the state government, and accordingly, so far as they are centralized in Lansing, they are herewith given:

State Officers.— The State Capitol, Agricultural College, Industrial School for Boys, and the Michigan School for the Blind are located here. The elective state officers are the Governor, Lieutenant Governor, Secretary of State, State Treasurer, Auditor General, Commissioner of the State Land Office, Superintendent 6 of Public Instruction, Attorney General, Members of the State Board of Education, Regents of the University and Judges of the Supreme Court.

The appointive state officers whose chief offices are located here are the Commissioner or Railroads, Commissioner of Insurance, Commissioner of Banking, State Librarian, Adjutant General, Quartermaster General, Inspector General, Commissioner of Labor, Dairy and Food Commissioner, Board of State Tax Commissioners, State Board of Corrections and Charities and State Board of Health. There are a number of commissions and boards in addition to the appointive officers above enumerated whose duties are such that they are not centralized in Lansing.

Governor. —The Governor is the commander-in-chief and chief executive officer of the state.

Lieutenant Governor. —The Lieutenant Governor's duties are chiefly to preside over the deliberations of the Senate and to act as chairman of the State Board of Equalization at its

regular meeting in August of every fifth year, and in case of the death or disability of the Governor, or in his absence from the state, to perform the duties of the Governor. There are four employes attached to the executive office.

Secretary of State. —Among the duties of the Secretary of State is the passing upon all articles of incorporation authorized by the laws of the state, having charge of the publication of the acts passed by the legislature, the editing and publication of the legislative manual. He also has charge of the building and loan department of the state, the agricultural statistics, the taking of the state census, the compiling and editing of the results of the statistics taken by the enumerators which he appoints every tenth year. He is, by virtue of his office, chairman of the Board of State Auditors. The number of employes in his office is thirty-nine.

State Treasurer. —The State Treasurer has the custody of the money collected by taxation and from all miscellaneous sources. He is charged upon the books of the auditor general with all money that comes into his possession, and no receipt issued by him is valid unless it is countersigned by the Auditor General. He can disburse money from the state treasury only upon warrants signed by the Auditor General. The State Treasurer is, by virtue of his office, a member of the Board of State Auditors. He is, by law, charged with a number of additional responsibilities of a minor character. There are five employes connected with his office.

State Land Office Commissioner. —The Commissioner of the State Land Office has charge of the sale of state lands, the collection of interest from the holders of part-paid certificates of purchase. He also has charge of the trespass agents who are looking after the interests of the lands whose feet is still in the state. 7 The Land Commissioner is also a member of the Board of State Auditors. There are sixteen employes in his office.

Auditor General. —The Auditor General is the auditing officer of the state. All accounts where state money is disbursed are reviewed and audited by him. The duties of the

Auditor General extend to the collection of the revenue of the state as well as to the guarding of the disbursements from its treasury. The general tax laws of the state are administered through his department and all lands upon which taxes are not paid to the local treasurers within a reasonable time after their levy are returned to his office and the enforced collection upon these delinquent lands, in one form or another, is conducted by him. The inheritance specific tax law is also administered through his department. The accounts with every state institution and board are kept by him and at least once a year a special examination is made of the financial condition of each institution somewhat after the method of bank examinations. There are one hundred and twenty-five employes in his department.

Superintendent of Public Instruction. —The Superintendent of Public Instruction has charge of the general educational interests of the state which includes the obtaining of educational statistics throughout the state, the determining of the basis of distribution of the primary school money throughout the several school districts and general supervision of the institutes held for teachers in the several counties of the state. He is, by virtue of his office, the secretary of the State Board of Education. There are three members of this Board, one of whom is elected at each general election for a six year term. These three officers, together with the Superintendent of Public Instruction, have full control of the normal schools of the state, consisting now of three, one at Ypsilanti, one at Mr. Pleasant, and one at Marquette. There are eight employes in the Superintendent of Public Instruction's office.

Attorney General. —The Attorney General, as the name implies, has charge of the legal business of the state and is the legal adviser of all the state officers, and other subdivisions of the state administration. There are eight employes in his office.

Supreme Court Judges.—There are five Judges of the Supreme Court, who, under the present law, are required to reside in Lansing. They are elected at the spring election for a ten year term. There are eleven employes connected with the court.

Commissioner of Railroads. —The Commissioner of Railroads has charge of the state's interests in railroad supervision, excepting that, under the present law, the Board of State Tax Commissioners has charge of the assessment of the property. The number of employes is seven.

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Commissioner of Insurance. —The Commissioner of Insurance has charge of the insurance interests of the state. The number of employes is five.

Commissioner of Banking. —The Commissioner of Banking has charge of the examination and safe-guarding of the state banks. National and private bankers are not included in his supervision. The number of employes is seven.

Generals. —The Adjutant General, Quartermaster General and Inspector General have charge of the military forces of the state, subject to the order of the Commander-in-chief. There are eleven employes in this branch of the service.

Commissioner of Labor. —The duties of the Commissioner of Labor are indicated by the title of his office. Included among his duties are those of mining and factory inspection. The number of employes is twenty-eight.

Dairy and Food Commissioner. —The Dairy and Food Commissioner's duties are also indicated by his title. The Dairy and Food department is comparatively a new department organized and established largely through the earnest efforts and demands of the Grange, and its beneficent work has exemplified its value. It has driven adulterated foods from the markets and improved the dairy products of our commonwealth. There are eleven employes in this department.

State Librarian. —The State Librarian has charge of the large public library of the state and of the popular circulating libraries that have recently been instituted. There are ten employes in this department.

State Tax Commissioners. —The present Board of State Tax Commissioners consists of five members appointed by the Governor and confirmed by the Senate. Under the present laws governing this Board, in connection with its other duties, it has charge of the assessment of taxes upon railroads and other corporate property which previous to this year paid specific taxes. The constitutional amendment, however, still preserves the revenue derived from taxation upon classes of corporations that were paying specific taxes at the date of the adoption of this amendment for the benefit of the primary schools of the state. There are thirty-two employes in connection with this Board.

State Board of Health. —The State Board of health consists of six members appointed by the Governor. The Secretary of the Board has general charge of the work in connection with the Board. The nature of the work is now quite generally understood, as the Michigan State Board of Health is recognized as one of the pioneers in this line of service. The work of the Board stands exceptionally high among scientists throughout the United States for its effective efforts in restricting and preventing the harmful effects of contagious diseases. The public health of Michigan owes much to the labors of its efficient Board. Not the least 9 of its efforts has been that of education. Over 20,000 teachers' sanitary bulletins are sent monthly to the teachers and superintendents of Michigan. There are seventeen employes connected with the office.

State Board of Correction and Charities. —The State Board of Correction and Charities has an oversight of the county houses, prisons and various reformatory institutions for certain purposes. It also passes upon the various estimates made by the several state institutions as to needed appropriations and advises the legislature as to its conclusions. Before the Auditor General can draw his warrant upon the Treasurer in favor of an institution for building purposes it is necessary for him to have a certificate from the

secretary of the Board to the effect that the contemplated building can be completed within the appropriation. The Board employs a secretary and one clerk.

State Board of Auditors. —The employes of the State Board of Auditors all told number fifty-three. The duties of the Board of State Auditors are provided both by the constitution and by statutes. Their constitutional duty is to audit claims against the State which are not otherwise provided for, in which cases their decision is final. By statute they are charged with auditing of certain accounts for the several State departments, the letting of contracts for State printing and binding, stationery and fuel, and the care of the State capitol. The annual allowances of the Board for the last fiscal year were \$440,000, which is about the average for the last four years.

State Institutions and Commissions. —There are thirty-two state institutions and commissions which draw money from the treasury for their partial or entire support. Below are the names and locations of these institutions with the valuation of the grounds, buildings, etc. as given in the inventory for the biennial period ending June 30, 1900, on file in the Auditor General's office; also their total cost to the State up to June 30, 1902, and the number of students or inmates according to the last report. See table on next page.

The value of the Capitol, grounds, state office buildings, library, furniture and military equipment, at that time, was thought to be, at a conservative estimate, \$2,273,749.16, making a total for the several institutions, Capitol, grounds, etc., of \$12,782,443.69.

The inventories for the biennial period ending June 30, 1902, have not been received from all the State institutions so that the exact figures of the value of the State property at that date cannot be given, but judging from the disbursements made during the two years mentioned for building and special improvements, it is safe to conclude that the present value of the State property enumerated above is not less than \$14,200,000.

The disbursements for these various institutions do not include the disbursements for the State Capitol grounds, State office buildings, library, furniture and

10 Name and Location Appraise Value Total cost to State up to date Number of students or inmates at last report Educational— University, Ann Arbor \$2,158,725 29 \$6,097,419 33 3,712 Agricultural College, Lansing 571,268 68 1,959,738 92 689 State Normal College, Ypsilanti 336,813 52 1,696,661 47 1,290 Central Michigan Normal School, Mt. Pleasant 79,813 40 214,500 00 500 Northern State Normal, Marguette 49,999 57 114,131 00 210 Mich. College of Mines, Houghton 278,940 64 777,483 34 146 State Library, Lansing Teachers' Institutes Total \$3,475,561 10 \$10,859,934 06 Asylums— Soldiers' Home. Grand Rapids \$252,540 57 \$1,599,696 60 749 Home for Feeble Minded and Epileptic. Lapeer 169,650 68 566,173 42 453 Educational: State Public School, Coldwater 248,520 79 1,236,450 53 168 School for Deaf, Flint 643,974 52 2,634,229 32 419 School for Blind, Lansing 148,747 42 713,070 66 130 Total \$1,463,433 98 \$6,749,620 53 For Insane: Michigan Asylum, Kalamazoo \$1,079,493 09 \$4,697,817 02 1,433 Eastern Michigan Asylum, Pontiac 937,927 82 3,409,463 50 1,170 Northern Michigan Asylum, Traverse City 838,028 43 2,919,728 45 1,132 State Asylum, Ionia 247,639 82 852,919 34 283 U. P. Hospital for Insane, Newbury 307,425 23 733,666 84 432 Total \$3,410,514 39 \$12,613,595 15 Reformatories— State Prison, Jackson \$908,113 85 \$1,613,529 25 686 Michigan, Reformatory, Ionia 404,226 43 1,617,869 53 366 Branch Prison U. P., Marquette 287,148 86 713,561 09 252 Industrial School for Boys, Lansing 308,806 86 2,258,145 59 660 Industrial Home for Girls, Adrian 202,895 71 1,009,848 55 362 Total \$2,111,191 71 \$7,212,954 01 Miscellaneous— Fish Commission, Detroit \$47,993 35 Care of Insane at other than State Asylums \$365,795 27 State Board of Pharmacy. Detroit Quarter-Master General, Lansing Naval Brigade, Lansing State Pioneer Society, Lansing Michigan Dairyman's Society Flint Soldiers and Sailors Monument, Detroit Board Examiners or Horseshoers, Detroit Mackinac Island State Park Commission, Adrian Grand Total \$10,508,694 53 \$37,801,899 02 11

military equipment. Of the amounts given \$1,496,915.24 of the University expense came from interest on trust funds and \$141,178.48 of the State Normal College item and \$758,841.91 of the Agricultural College item came from the same source. In addition to the above items of expense there have been paid to the primary schools of our State as interest upon our land grant \$9,044,159.84, and as surplus specific taxes under Section 1, Article 14, State Constitution, \$14,092,-945.29, making a total paid to the primary schools

by the State of \$23,137,105.13, which added to the aggregate payments to the several State institutions just preceding makes a grand total of \$60,939,004.15.

Of nothing should Michigan be prouder than of the fine record she has made concerning her charitable, penal and reformatory institutions. All are at the forefront in equipment and management. They serve as patterns for other states. Our State Public School at Coldwater was the first of its kind in the world. Space will not permit even a brief sketch of each institution, but the above table will give somewhat of an idea as to the extent of the work.

To give in comprehensive form a better idea of our activities, we herewith present some data concerning our manufacturing, agricultural, mineral and commercial industries.

R. M. MONTGOMERY Associate Justice of Supreme Court

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MANUFACTURING INDUSTRIES

[From the U. S. Census of 1900.]

Michigan ranked second in lumber and timber products; third in cars, steam railroads, not including operations of railroad companies; furniture, factory product; and lumber, planing mill products, including sash, doors, and blinds; and fourth in carriage and wagons; and chemicals.

Lumber and Timer Products. —The manufacture of lumber and timber products is the most important manufacturing industry in the State. The 1,705 establishments reported in 1900 gave employment to 26,199 wage-earners, or 16.1 per cent of the wage-earners employed in the State, and the products were valued at \$54,290,520 or 15.2 per cent of the total value of the products of the State. In 1890 there were 2,124 establishments, 54,308 wage-earners, and products valued at \$83,121,969. The decrease in the value of

products during the decade was \$28,831,449 or 34.7 per cent. The decline in the industry is the inevitable penalty the State has been obliged to pay for the extravagant and wasteful exploitation of its forests.

Flour. —The manufacture of flouring and grist mill products ranks second among the industries of the State, with 765 establishments, 1,423 wage-earners, and products valued at \$23,593,991.

Foundries. —There were 364 establishments engaged in 1900 in the manufacture of foundry and machine shop products, the industry third in rank, with 13,502 wage-earners, and products value at \$20,615,864. In 1890 there were 260 establishments, 7,892 wage-earners, and products valued at \$13,363,030.

Furniture. —There were 124 establishments engaged in the manufacture of furniture in 1900, with 11,870 wage-earners, and products valued at \$14,614,506. In 1890 there were 116 establishments, 8,688 wage-earners, and products valued at \$10,767,038. Michigan is world famous in the manufacture of fine furniture, and doubtless no city in this country equals Grand Rapids in its fame as a furniture center. Thousands of buyers from every portion of the United States gather semi-annually in the Valley City at the time of the furniture sales.

Shipbuilding. —Michigan ranks first in ship-building. The extensive ship-yards along the Detroit and St. Clair rivers and at Bay City turn out the largest and finest freight and passenger boats that ply the lakes. Few people appreciate the immensity of our lake commerce. The tonnage that passes Detroit in a single year is greater than that of London and Liverpool combined. The commerce of our great lakes is greater in amount than that of the foreign commerce of the United States.

Planning Mills. —There were 235 establishments engaged in the manufacture of planing mill products in 1900, with 5,281 wage-earners, and products valued at \$12,469,532. The increase in the value of products during the decade was \$2,461,929, or 24.6 per cent.

While the manufacture of lumber and timber products has decreased, the manufacture of planing mill products has increased.

Carriages and Wagons. —There were 299 establishments engaged in the manufacture of carriages and wagons in 1900, with 4,890 wage-earners, and products valued at \$11,205,602. The increase in the value of products during the decade was \$5,505,661, or 96.6 per cent. The nearness of 13 this industry to raw materials, as compared with vehicle manufacturing centers of some of the other states, an increasing local and neighboring market, and excellent shipping facilities have influenced its growth and localization.

Agricultural Implements. —There were 59 establishments engaged in the manufacture of Agricultural implements in 1900, with 1,944 wage-earners, and products valued at \$6,339,508. The increase in the value of products during the decade was \$2,384,202. or 60.3 per cent.

Tanneries. —There were 27 establishments engaged in the tanning, currying, and finishing of leather in 1900, with 1,427 wage-earners, and products valued at \$6,015,590. In 1890 there were 20 establishments, 337 wage-earners, and products valued at \$1,743,760. The increase in the value of products during the decade was \$4,271,830, or 245 per cent. This large increase is due chiefly to a radical change in the industry, the hides being transported from centers like Chicago to the place of the tanning bark in Michigan, instead of the bark to the hides.

Iron and Steel. —There were 10 establishments engaged in the manufacture of iron and steel in 1900, with 1,972 wage-earners, and products valued at \$5,902,058. In 1890 there were 19 establishments, 1,427 wage-earners, and products valued at \$5,829,843. The increase in the value of products during the decade was \$72,215, or 1.2 per cent. In spite of this slight increase in the value of products, there has been a marked decrease in the number of establishments, which is explainable by the insufficiency of the coal supply. The

high-grade iron ores of the Lake Superior district are available, but iron manufacturing has always shown a tendency to localize near the fuel rather than near the ore.

Chemicals.—There were 51 establishments engaged in the manufacture of chemicals in 1900, with 2,897 wage-earners, and products valued at \$5,364,724. In 1890 there were 4 establishments, 1,315 wage-earners, and products valued at \$3,380,388. The increase in the value of products during the decade was \$1,984,336, or 58.7 per cent. This is an industry of growing importance.

Meat Packing. —There were 29 establishments engaged in slaughtering and meat packing in 1900, with 456 wage-earners, and products valued at \$5,337,417. The increase in the value of products during the decade was \$1,338,439, or 33.5 per cent. Prior to 1890 this industry was inconsiderable, but it has had a favorable development during the last decade.

Railroads. —There were 42 establishments engaged in car construction and general shop work of steam railroad companies in 1900, with 3,938 wage-earners, and products valued at \$4,332,927. The increase in the value if products during the decade was \$1,687,613, or 63.8 per cent.

Paper and Pulp. —There were 27 establishments engaged in the manufacture of paper and wood pulp in 1900, with 2,014 wage-earners, and products valued at \$4,217,869. The increase in the value of products during the decade was \$1,298,703, or 44.5 per cent. The increasing publishing and book-making industries furnish a good market, and the completion of the Sault Ste. Marie Power Canal, near the source of raw material, and now in process of construction, will offer greater advantages for pulp manufacturing at that point.

Beet Sugar. —This important new industry will be full and completely treated in a separate article.

AGRICULTURE

While Michigan is rich in lumber and minerals and has extensive manufacturing interests, and is second to no other state in the Union in the extent and amount of its commerce, its chief wealth is in its farms. As will be seen from the following statistics, Michigan ranks first in the Union in the production of beans, sugar beets, peppermint and chicory, and ranks well up in many other crops.

Orchards and Vineyards. —Michigan fruit has world wide fame. Western Michigan all along the Lake Michigan shore is one continuous fruit farm, while the interior of the state is well adapted to the culture. Peaches, plums, cherries, pears, berries, and apples grow in profusion and of the rarest quality. Immense apple orchards can be found at Cheboygan, and fair, firm, luscious fruit of the north is rapidly winning its way into eastern markets. This year 1,000,000 bushels of peaches is the estimated shipment from the Grand Rapids alone.

Value of all orchard products in 1899 \$3,675,845

Trees. Bushels. Apple 10,927,899 8,931,569 Apricot 8,663 730 Cherry 895,375 194,541 Peach and Nectarine 8,104,415 339,637 Pear 1,187,110 170,702 Plum and Prune 1,378,952 213,682 Unclassified orchard fruits 28,141 9,001

Barrels of Cider, 72,875; barrels of Vinegar, 13,796; pounds of dried and evaporated fruits, 143,330.

Grape Vines and Products. —Value of grapes, wine, raisins, etc., \$503,268; number of vines, 5,232,450; pounds of grapes, 41,530,369; gallons of wine, 134,859.

Small Fruits. —The total value of small fruits in Michigan for 1899 was \$1,680,249; distributed as follows:

Acres. Quarts. Blackberries and Dewberries 4,383 5,324,110 Currants 2,286 2,721,070 Gooseberries 559 673,360 Raspberries and Loganberries 10,193 12,119,400 Strawberries 10,837 18,384,340 Unclassified small fruits 787 821,610 Cranberries 150 3,884

Estimated value \$1.25 per bushel.

Potatoes. —Michigan potatoes, especially those of the central and northern part of the state, are so mealy, white, fair and toothsome that they win favor everywhere.

Acres, 311,963; bushels, 23,476,444; value, \$6,759,343.

Value per bushel, \$0.29.

Michigan ranked third in the United States in this industry in 1900.

Beans. —Acres, 167,025; bushels, 1,806,413; value, \$2,361,020.

Average price per bushel, \$1.31.

Michigan ranked first in the United States in this industry in 1900.

Peas. —Acres, 71,376; bushels, 1,134,431; value, \$689,133.

Michigan ranked second in the United States in this industry in 1900.

Onions. —Acres, 2,611; bushels, 783,948; value, \$345,310.

Value per bushel, \$0.44.

Chicory. —Acres, 2,823; pounds, 19,876,970; value, \$64,640.

Value per 100 pounds, \$0.33.

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Michigan ranked first in the United States in this industry in 1900.

Peppermint. —Acres; 7,648; pounds of oil 164,177; value, \$123,444.

Three-fifths of the oil of peppermint consumed in the world is produced in Michigan. In 1895 there were from 12,000 to 15,000 acres in this state devoted to the crop, and the product was, in round numbers, 150,000 pounds. In 1899 the tendency toward still lower prices was generally noted by those interested in the crop. Notwithstanding the marked are depended in acreage, the annual production appears to be in excess of home requirements, and foreign markets are depended upon the utilize the surplus. There it comes in direct competition with the cheaper product of Japan, and the price seems to have been permanently lowered since the new competition became so pronounced.

Sugar Beets. —See page 70.

Wheat. —Acres, 1,925,769; bushels, 20,535,140; value, \$12,921,925.

Michigan ranked tenth in the United States in the industry in 1900.

Rye. —Acres, 174,096; bushels, 2,130,870; value, \$1,033,416.

Michigan ranked fourth in this industry in the United States in 1900.

Oats. — Acres, 1,019,438; bushels, 36,338,145; value, \$9,264,385.

Michigan ranked ninth in this industry in the United States in 1900.

Corn. —Acres, 1,501,189; bushels, 44,584,130; value, \$17,798,011.

Michigan ranked fourteenth in the United States in this industry in 1900.

Buckwheat. —Acres, 55,669; bushels, 605,830; value \$306,311.

Michigan ranked third in this industry in the United States in 1900.

Barley. —Acres, 44,965; bushels, 1,165,288; value, \$494,994.

Michigan ranked eleventh in this industry in the United States in 1900.

All Hay and Forage. —Acres, 2,328,498; tons, 2,926,694; value, \$21,792,987.

Exclusive of Corn Stalks valued at \$2,703,214.

Michigan ranked sixth in the United States in this industry in 1900.

DAIRY PRODUCTS.

Dairy Cows, June 1, 1900, and Dairy Products in 1899.

Cows 563.905

Total value of Dairy Products \$16,903,087

Consumed on Farms \$7,005,471

Sold 9,897,616

Milk (Gallons Produced 309,617,046

Average per cow 549

Milk (Gallons sold) 55,635,108

Received from Sales \$4,643,577

Cream (Gallons Sold) 231,139

Received from Sales \$124,802

Butter, pounds made 60,051,998

Butter, pounds sold 34,335,641

Butter, received from sales 5,009,679

Cheese, pounds made 331,176

Cheese, pounds sold 316,207

Cheese, received from sales \$29,558

Pounds of Butter made in factories 7,820,712

Value of Butter made in factories \$1,564,142

(Estimated at 20 cents per pound.)

Pounds of Cheese made in factories 10,422,582

Value of Cheese made in factories \$938,032

(Estimated at 9 cents per pound.)

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MINERAL RESOURCES OF MICHIGAN

As before intimated the unique position of Michigan, in the center of the distributing system of the Great Lakes adds to the worth of all her resources. In no respect is this more noticeable than in connection with our mineral resources. The iron ores of her three great ranges, the Gogebic at the west end, the Marquette in the center, and the Menominee in the southern part of the Upper Peninsula are thus brought close to the Pennsylvania coal. The bulk of the output is shipped by lake, to-wit;

From Marquette, Marquette Range, in 1901, tons 3,254,680

From Escanaba, Menominee Range, tons 3,605,449

From Gladstone, tons 117,089

From Ashland, Gogebic Range, tons 2,938.155

Total tons 9,380,293

To this must added that shipped by rail and used in making the 160,000 tons of charcoal iron produced in the state, say 500,000.

Iron and Copper. —The iron ore of Michigan is largely of Bessemer quality, and the State ranks as high in quality as in quantity. The same is true of copper. The State's output of copper is about 14,000,000 pounds annually and lake copper commands a premium over other kinds, but is not all equally good. The producing copper mines lie on Keweenaw Point, extending from the Phoenix mine to the Ontonagon river.

Silver and nickel are but by-products of copper. Gold and manganese exist but are not actively exploited. The total output of gold has been nearly \$800,000.

Coal. —The coal basin of about 11,000 square miles, in the central part of the Lower Peninsula, and heavily covered with drift, has been until recently backward in its development for the lumber industry has furnished cheap fuel. The output in 1901 was 1,241,241 tons.

Limestone and Marl. —There is a large amount of limestone quarried. In 1901 \$562,203 worth of all qualities, for its multifarious uses, in the manufacture of sugar, cement, bromine, soda, glass, acetate of lime, quicklime, road metal, etc. Important centers are the Sibley quarries near Detroit Alpena, Petoskey, Bayport, Omer, Bellevue, Grand Rapids,

Portland and Manistique. Of marl and shale clay, the raw materials of Portland Cement, there exist very large quantities. Michigan has a larger supply of marl than any other state in the Union; enough it is estimated to supply the capacity of the Portland cement mills —20,000 barrels per day for more than 100 years. The 19th annual report of the Labor Bureau, 1901, states that ten large factories were then in operation, with a capacity of 8,300 barrels per day, and five other factories in course of construction whose estimated capacity would make the daily output of the state nearly 20,000 barrels. The factories are situated at Alpena, Jonesville, Union City, Bronson, Newaygo, Elk Rapids, Coldwater, Quincy, Wyandotte, Bay City, Baldwin, Fenton and Holly. The plants at Alpena and Wyandotte use limestone, but all the others use marl. The use of Portland cement is yet in its infancy, but its growth is so rapid, and its possibilities so apparent and so great that it is within bounds to say that within a comparatively few years Michigan's marl beds will be a greater source of wealth than were ever our great forests.

Board of Geological Survey for 1902

Hon. A. T. BLISS, President

Hon. PATRICK H. KELLEY

Hon. DELOS FALL, Sec'y

Geological Map of Michigan

Scale: 1 in. equals 56 miles.

GREAT SEAL OF THE STATE OF MICHIGAN A.D.MDCCCXXXL

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COMPILED AND REVISED BY **ALFRED C. LANE State Geologist**

EXPLANATIONS (Nearly equivalent names in)

FORMATION. Pattern

ARCHEAN— Precambrian

Laurentian, Basement complex, and granitic rocks. Granite, serpentine; gold, and other veins

Muroniac, Lower Algonkian, Iron-bearing rocks. Iron ores, graphite, slate, jaspilite, etc.

Lower Keweenawan, *Copper-bearing rocks,* native copper, nickel and copper ore, porphyry, metaphyre and conglomerate, road metal.

Line between Cambrian and Archean uncertain

Upper Keweenawan, and Lake Superior Sandstone. Postdam: Brownstone and redstone

SILURIAN

Calciferous, Lower Magnesian and St. Peters. Sand dolomites.

Treaton, including also Birdseye and Chazy Dolomite and limestone somewhat oilbearing.

Lorraine and Utica, Hudson and Cincinnati. Blae and black shales, with some limestone

Niagara, including Guelph and probably Clinton White dolomites and limestone, gas(?)

Monroe, including *Waterlime, Salina, Onondaga.* Dolomites with rock salt, gypsum, glass-sand, strontium minerals, brines and mineral waters.

In Monroe County the full line indicates the course of the Sylvania sandstones, the dotted line a bed of oölite

DEVONIAN

Dundee, Carniferous. Upper Helderberg Mineral (Sulphur) water, oil and gas signs, limestone for chemical uses **Traverse,** Hamilton and Marcellus. Some pure limestone is reefs, some dolomite, much blue argillaceous limestone, shales, cement material, oil and gas signs.

Autrim, *Ohio, New Albany, Genesee, Portage* and Mainly black-shale, often bituminous and cause of vain efforts for coal, oil and gas.

CARBONIFEROUS

Berca Grit, marked by line between Coldwater and Antrim. Sandstone, good brines, and signs of oil and gas.

Coldwater, Waverly and Berca, Cuyahega. Shales, valuable for Portland cement and brick.

Marshall, *Kinderhood,* , *Logan.* Fresh water, brines, and bromine, sandstone and grindstone.

Grand Rapids, *Maxville, St Louis* above, *Augusta, Ken* below. Limestone above, gypsum, shales and hydraulic limestone below

Saginaw formation— *Pottsville, Millstone Grit* Coal, paving brick, clays and shales, sandstones, etc.

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Salt and Bromine. —The greatest resource of the Lower Peninsula is doubtless salt. Rock salt beds lie under most of it, in places hundreds of feet thick. Besides this there are strong pure brines in two or three sandstones, and other brines which contain such a variety of salts as to be of chief use as mineral water. The output in 1901 was 7,729,641 barrels of 280 pounds. An important by-product of the brines is the manufacture of bromine. At Midland, about half the product of the United States is produced.

Building Stones and Grindstones.—Beside limestone there is a wealth of other building stone laying undeveloped.

The brown stones and red stones of Lake Superior are widely used. The Portage Entry quarries shipped from 131,525 cubic feet of block stone and 6,776 cords of rubble in 1900. There are important quarries in Carboniferous sandstone at Waverly and Ionia and at the tip of the Thumb, where it is mainly used for grindstone, \$138,115 worth, as much as all the rest of the sandstone output.

Gypsum. —Gypsum is used mainly for making various patent will finishes and is extensively quarried and mined at Grand Rapids and Alabaster. The output is about 185,150 tons, worth about \$300,000.

Graphite Slate and Other Stones. —About nine miles south of L'Anse are two mines quarrying graphite slate used in making paint. The total output is about 1,500 tons a year and similar slates are widespread in the region. Feldspar, marble, serpentine, granite and other ornamental stones exist especially in the Upper Peninsula but have been little developed, and the shale clays of the Lower Peninsula, though now used for paving brick, sewer pipe, Portland Cement, and other grades of fire brick and high grade brick have not been used as much as they will be. A surface clay near Rockland is exported as a slip clay, and the glass sand of Monroe County is of the very finest quality.

State Geological Map. —Through the courtesy of Dr. Lane, our State Geologist, we are able to present in this connection a very comprehensive geological map of Michigan.

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EDUCATION IN MICHIGAN

At the foundation of our strength, growth, prosperity and happiness lies the work of our schools. As well, perhaps, as any of her sister States, Michigan has carried out the letter and spirit of the educational article in the great charter, The Ordinance of 1787: "Religion, morality and knowledge, being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged." While we glory in our riches or mines and farms, of commerce and factory, yet we appreciate the truth that, "The riches of our commonwealth Are free, strong hands and hearts of health; And more to us than gold or grain, Are cunning hand and cultured brain."

By the Ordinance of 1787, and subsequent legislation, Congress made provision for the support of public schools in this part of the Union. The sixteenth section of every organized township was set apart for the creation of a permanent school fund, of which only the interest was to be used from year to year. This we now call the primary school interest fund. The income from this fund at the present time amounts to over \$300,000.00 annually.

After the enabling act for the admission of Michigan as a State one of the first steps was the appointment of a Superintendent of Public Instruction. Governor Mason selected for this important office the Rev. John D. Pierce, a Congregational clergyman then engaged in missionary work among the pioneers of Central Michigan. Father Pierce, as the founder of the Michigan school system is reverently called, desired first of all to place the public schools within reach of every child in the State, and also to establish a State University.

The plan which was drawn up by Superintendent Pierce and passed by the act of the Legislature in 1837, contained most of the essential features of the present system. His plan included: first, the organization of the University, for which he recommended a Board of Regents to superintendent and manage its affairs.

The system of primary schools was organized quite closely upon the Prussian system, with which Mr. Pierce was thoroughly familiar. He included in the Prussian plan some of the points of excellence which he had discovered in the Massachusetts and New York systems. The principal features of the primary school system were as follows:

First. Each school district was to be a body corporate, having power to govern and manage its own affairs, with no provision made for delegating any authority to any school board. All authority was exercised by the people and executed by the board.

Second. Provision for a township board of school inspectors who were to be elected and qualified as other 19 township officers and who should have general supervision of the schools of the township.

Third. Under the constitutional provision for libraries recommendations were made as to township libraries only. No district libraries were recommended.

Mr. Pierce presents in his annual report a model plan for a schoolhouse, constructed after the plan of schoolhouses then in existence in Prussia. The house was to be 58 feet long and 35 feet wide, with desks provided to that five pupils could be seated at each desk, the boys on the side of the room and girls on the other.

A recommendation was made that any county containing one thousand inhabitants should be entitled to an academy of the highest grade as a branch of the University. This recommendation was not acted upon by the Legislature, but a few years later, in lieu of it, the State Normal College was established.

He then proceeded to give the duties of district officers, township officers and of the Superintendent of Public Instruction, which were, in nearly all cases, practically the same as they are to-day. When it is remembered that Father Pierce was the first State Superintendent of Public Instruction in the United States, or in the world, we are better prepared to appreciate the wisdom and foresight of the founder of the Michigan schools.

The first provision for the establishment of the University was the appropriation of one township of land to be selected in the State. Afterwards, certain other tracts of land were set apart from whose sale the University should derive a permanent fund, and finally the University was established at Ann Arbor. Succeeding this, Michigan has established the following educational institutions:

The State Normal College of Ypsilanti in 1849.

The Central Normal School at Mt. Pleasant in 1895.

The Northern Normal School at Marquette in 1899.

The Agricultural College at Lansing in 1855. (This was the first Agricultural College established in the United States.)

The College of Mines was established at Houghton in 1885.

In providing for general education, Michigan has not been unmindful of the unfortunate. The following institutions have been established:

School for the Blind, at Lansing.

School for the Deaf and Dumb, at Flint.

State Public School for Dependent Children, at Coldwater.

Home for the Feeble Minded, at Lapeer.

Industrial School for Girls, at Adrian.

Industrial School for Boys, at Lansing.

In these institutions the young people receive sound training, many of them becoming good members of society.

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All these educational institutions are in a flourishing condition. The Michigan State University has become one of the leading educational institutions of America and is the greatest State University in the United States. Our Normal Schools are second to none of this country. In them our young people receive professional training as well as academic learning. The teaching force of the State is being constantly reinforced by a strong body of educators who are in demand abroad as well as at home.

Besides the State educational institutions we have nine denominational colleges incorporated under the general laws. As these reach all classes of society and stand for private and public morality they have a positive place among our educational forces and are doing a noble work for the direct benefit of the State.

In addition there are nineteen Private Schools or Academies, seven Professional Schools, and fifteen Business Colleges, all incorporated institutions. Of these the State is justly proud.

Previous to 1859 no schools had been established for higher training of the young people except the Normal Schools and the University, but in that year the Legislature passed as act authorizing any school district containing one hundred or more children of school age to organize as a graded or union school district, providing that when so organized they should proceed to grade the school and establish a high school. Under this law 633

graded school districts have been organized, and in a majority of these graded school districts high schools have been established whose graduates are admitted to our Normal Schools and University without examination. Thus Michigan has built up one of the most complete systems of education.

The following statistics will indicate the growth of our educational sentiment and our educational system. The first table is taken from the first report of the Superintendent of Public Institution, presented to the Governor and Legislature in 1837. It is not known just how many school districts were in existence at that time but it is probable that there were between four and five hundred schools. Superintendent Pierce states that he sent out five hundred blanks for reports, but on account of the poor facilities for mail carriage many of them were not received. He received reports from 55 districts and these were from the counties now composing the four lower tiers of the Lower Peninsula. These statistics were taken from the school reports for the year 1836:

Number of districts reporting 55

Number of children between five and sixteen years of age 2,334

Total number of teachers employed 55

Average number of months 61/2

Largest number of months in any district 12

Smallest number of months taught 1

Number of children enrolled in all schools 2,337

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Total amount paid for teachers' wages \$3,535.32

Average wages per month \$800

Estimated valuation of property of the districts \$6,000.00

The following branches were taught: Reading, writing, arithmetic, geography, English grammar, and, in a few instances, history and natural philosophy.

Text books used: Webster's Elementary speller, Olney's geography, Kirkham's grammar.

These statistics comprise the first statistical report of the Superintendent of Public Instruction of Michigan.

The following statistics are taken from the report of the Superintendent of Public Instruction for the year 1901:

Total number of districts in state 7,171

Number of graded school districts 633

Total number of children between ages of 5 and 20 730,701

Total number of children enrolled in public schools 510,031

Valuation of school property \$20,404,388.00

Total number of teachers employed 16,054

Total wages for teachers \$4,736,779.14

Average monthly wages for all schools \$38.90

Average number of months' school 8 1/5

Total expenditure for public schools \$7,965,700.21

Number of township libraries 400

Number of school district libraries (estimated) 4,000

Number of volumes in district libraries 800,000

Total number of graduates from state institutions 1,219

Number of graduates from denominational colleges 160

Number of graduates from academies and private institutions 131

Number of graduates from city and village schools 2,640

Number of graduates from eighth grade of rural schools 4,400

The item in regard to city and village schools is not complete as 11 cities made no report on this item and 118 villages did not report, consequently the figures given do not show the entire number of graduates from graded schools.

A comparison of the foregoing figures for the year 1836 and the year 1901 will give an idea of the immense growth and development since the modest beginnings of pioneer days. It is to be hoped that this educational system which was established by the founders of Michigan, and has been nurtured by generations of patriotic citizens, will be cherished in the future as the chief safeguard of our great State.

"Then blessings on thee, Michigan, We wave thy banners gay, And wish thee many glad returns, Of this thy natal day; We'll govern thee in coming years, By laws both true and just, And progress shall our watchword be, In God our hope and trust."

STATE OFFICERS

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STATE OFFICERS GOVERNOR.

Aaron T. Bliss, of Saginaw, elected governor of Michigan in 1900, was born May 22nd, 1837, in Smithfield, Madison county, New York, of Puritan parentage. His early life was spent on the farm and clerking in a store. He enlisted as a private in Company D, Tenth New York Cavalry; was commissioned Captain by Governor Seymour for gallant conduct on the field of battle; served nearly three and a half years in the service. In 1865 he settled in Saginaw and began his successful career as lumberman and has expanded his business until it now embraces, besides the manufacture of lumber and salt, banking, mercantile and farm enterprises. In 1868, Mr. Bliss was married to Allaseba M. Phelps, of Solsville, N. Y. Mr. Bliss represented his district, the 25th senatorial, in the State Senate, and the eighth representative district in the 51st Congress.

LIEUTENANT GOVERNOR.

Orrin W. Robinson, of Chassell, Michigan, was born in Claremont, New Hampshire, August 12th, 1834. At the age of nineteen years he moved to Ontonagon, Michigan. Mr. Robinson has been engaged in the lumber and mining business. He was a member of the Michigan House of Representatives for the years 1895-6 and was elected to the Michigan Senate of 1897-8. In November 1898 Mr. Robinson was elected Lieutenant Governor and re-elected in 1900.

SECRETARY OF STATE.

Fred M. Warner, of Farmington, Oakland County, was born in Hickling, Nottinghamshire, England, July 21, 1865, and removed with his parents to this country when three months of age. Mr. Warner received his education in the Farmington High School, and the Michigan Agricultural College. He is a farmer, merchant, banker and one of the most

successful cheese manufacturers in the state. Mr. Warner was president of Farmington village five times, represented the 12th Senatorial district, in the Senate of 1895-6 and 1897-8. He was unanimously nominated to the office of Secretary of State in 1900, and in like manner was re-nominated to the same office for a second term. In 1888 he was united in marriage to Miss Martha M. Davis of Farmington and four children have come to brighten the home and bless their marriage.

STATE TREASURER.

Daniel McCoy, of Grand Rapids, was born in Philadelphia, Pennsylvania, July 17, 1845, ad removed to Michigan in 1867. Mr. McCoy was engaged in the grain and in the lumber business for several years. In 1883 he removed to Grand Rapids where he organized the Edison Light Company in 1886, and the State Bank of Michigan in 1892, and has been President of both these institutions since their organization. Mr. McCoy was elected State Treasurer for the term of two years, November, 1900.

AUDITOR GENERAL.

Perry F. Powers, of Cadillac, Michigan, was born in Jackson County, Ohio, September 5, 1858, where he learned the printer's trade. Mr. Powers has been engaged in printing business in Ohio, Iowa, Illinois and Michigan, and now owns and publishes the Cadillac News and Express. Mr. Powers was elected a member of the State Board of Education in 1887 and re-elected in 1894, and in 1900 was elected Auditor General.

LAND COMMISSIONER.

Edwin A. Wildey was born in 848 in Paw Paw Township, Van Buren County, where he has lived upon a farm all his life. He received his education in the common schools with the exception of one year in the State Normal College, Ypsilanti. He has been a member of the Grange in good standing since the 80's; has been Supervisor of Paw Paw Township; a member of House from '93 to '95, when he served as a member of Ways and Means

Committee, chairman of Special Committee on Taxation, and chairman of Committee on Local Taxation. It was largely through Mr. Wildey's efforts that the office of State Statistician was created, a measure earnestly advocated by the Grange. He is at present serving his first term as Commissioner of the State Land Office.

ATTORNEY GENERAL.

Horace Mann Oren, of Sault Ste. Marie, was born in Oakland, Ohio, February 3, 1859. He is a graduate of the Indianapolis High School and the Michigan University. Mr. Oren edited the "Soo News" for three years and then took up the practice of law in 1883. He has held the office of Circuit Court Commissioner, Prosecuting Attorney, and was elected Attorney General of Michigan in 1898 and re-elected in 1900.

SUPERINTENDENT OF PUBLIC INSTRUCTION.

Delos Fall, of Albion, Calhoun County, was born at Ann Arbor, January 29, 1848, graduating from the University of Michigan in 1875. Mr. Fall was principal of the Flint High School for three years, becoming a member of the faculty of Albion, College, and still holds his position in that institution. For twelve years he was a member of the State Boar of Health and was elected Superintendent of Public Instruction in 1900.

UNITED STATES SENATORS.

Julius C. Burrows, of Kalamazoo, was born in North East, Erie County, Pennsylvania, January 9, 1837, and came to Michigan in 1859 and commenced the practice of law at Kalamazoo, in 1860. He served as Captain of the 17th Michigan Infantry from 1862 to 1864. He has been Prosecuting Attorney of Kalamazoo County, represented his district in the 43d, 46th, 47th, 49th, 50th, 51st, 52d, 53d and 54th Congresses, and was chosen United States Senator to fill vacancy in 1895 and re-elected for full term in 1900.

Russell A. Alger, appointed by Gov. Bliss to U. S. Senate to fill vacancy caused by death of James McMillan, was born February 27, 1836. Left an orphan at eleven years of age, he worked on a farm summers, going to school winters at Richfield Academy; was admitted to bar in 1859; gave up law on account of poor health 1861 and entered Second Michigan Calvary from Grand Rapids the same year. He took part in 66 different battles and skirmishes, and was breveted Brigadier-General and Major-General "for gallant and meritorious service in the field." In 1865 he moved to Detroit and engaged in the lumber business. General Alger held the office of Governor in 1885-6, was appointed Secretary of War by Wm. McKinley, which position he resigned August 1, 1899.

REPRESENTATIVES IN CONGRESS.

John B. Corliss was born in Richford, Vermont, June 7, 1851. He graduated from the Columbia Law College at Washington, D. C. in 1875 and came to Detroit in the same year and commenced the practice of law. He was City Attorney in 1882-1885, and was elected to the 54th Congress and has continued in that body ever since.

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Henry C. Smith, of Adrian was born at Canadaigua, New York, June 2, 1854. Mr. Smith came to Michigan in 1860. He was admitted to the bar September 25, 1880. Mr. Smith was elected to the 56th Congress of the United States and re-elected to the 57th Congress.

Washington Gardner, of Albion, was born in Marrow County, Ohio, February, 1845. He served in the Union army three years during the Civil war. He has been Secretary of State and is at present representing his district in the 57th Congress.

Edward La Rue Hamilton, was born in Berrien County, Michigan, in 1857. He was admitted to the bar in 1884. Mr. Hamilton was elected to the 55th and 56th Congresses and reelected to the 57th Congress of the United States.

William Alden Smith, of Grand Rapids, Michigan, was born in Dowagiac, Cass County, Michigan, May 12, 1859. He commenced his career as a newsboy and messenger in the State Legislature. He studied law and was admitted to the bar in 1882 and commenced to practice law in Grand Rapids, Michigan. He has represented his district in the Congress of the United States for the past ten years.

Samuel W. Smith, of Pontiac, Michigan, was born in Oakland County, Michigan, August 23, 1852. He was admitted to the bar in 1877, graduating from the law department of the University of Michigan. Mr. Smith was Prosecuting Attorney of his County, member of the State Senate in 1884 and elected to the 55th and 56th Congresses and re-elected to the 57th Congress of the United States.

Edgar Weeks was born at Mt. Clemens, August 3, 1839. Mr. Weeks served his state loyalty and was repeatedly promoted for his gallant service during the Civil War. He was admitted to the bar in 1861. He was elected to the 56th Congress of the United States and re-elected to the 57th Congress.

Joseph W. Fordney, of Saginaw, Michigan, was born in Blackford County, Indiana and came to Saginaw in June, 1869. Mr. Fordney is a lumber-man and was elected to the 56 and re-elected to the 57th Congresses of the United States.

R. P. BISHOP

Roswell P. Bishop, of Ludington, was born in Sidney, New York, January 6, 1843. Mr. Bishop served his country during the struggle to preserve the Union and lost his right arm in the service. In 1875 he was admitted to the bar

MICHIGAN IN CONGRESS

27 and engaged in the practice of law at Ludington, Michigan. Mr. Bishop has been Prosecuting Attorney of his County which he represented in the State Legislature 1883-4,

1893-4; and he was elected to the 54th Congress of the United States and re-elected to every Congress since.

Henry H. Aplin, of West Bay City, Michigan, was born in the township of Thetford, Genesee County, Michigan. In 1861 Mr. Aplin enlisted as a private in Company C., 16th Michigan Infantry, serving until the close of the war. He was made a Second Lieutenant in 1865. In 1865 he engaged in the mercantile business in Wenona, now West Bay City. Mr. Aplin has been postmaster of his city, and in 1886, was elected Auditor General. On the decease of Rousseau O. Crump, who had been re-elected to the 57th Congress, Mr. Aplin was elected at a special election, called to fill the vacancy in October, 1901.

Archibald B. Darragh, of St. Louis, Gratiot County, Michigan, was born in Monroe County, Michigan, December 23, 1840. Mr. Darragh served his country gallantly during the Civil War. He has been engaged for years in the banking business at St. Louis, Michigan. He has held the office of County Superintendent of Schools and County Treasurer, and was elected to the 57th Congress of the United States.

Carlos D. Sheldon, of Houghton, was born in Walworth County, Wisconsin, June 10, 1840. By trade Mr. Sheldon is a machinist, but for the past twenty years he has been engaged in the Real Estate and in the Steamboat business. He served in the war in the 23d Michigan Infantry. He has been a member of the Michigan House and Senate. He was elected to the 56th United States Congress and re-elected to the 57th.

JUSTICE OF THE SUPREME COURT.

Chief Justice Frank A. Hooker, Joseph B. Moore, Claudius B. Grant, Charles Dean Long (deceased), and Robert M. Montgomery constitute the Supreme Court of Michigan.

Chief Justice Hooker was born in Hartford, Connecticut, January 16, 1844. He graduated from the Law Department of the Michigan University in 1865. After practicing law at Bryan, Ohio, one year, he came to Charlotte, Michigan, where he practiced law until his election

to the Supreme Bench in 1892. Mr. Hooker has held the office of Superintendent of Schools, Prosecuting Attorney of Eaton County, and Judge of the Fifth Judicial Circuit.

Justice Joseph B. Moore was born at Commerce, Oakland County, Michigan, November 3, 1845. Mr. Moore moved to Lapeer in 1868 and began the practice of his profession. He held the office of Judge of the Sixth Judicial Circuit for eight years, was member of the State Senate in 1879, Prosecuting Attorney of Lapeer County two terms, and elected Justice of the Supreme Court of Michigan in 1895.

Justice Claudius B. Grant was born at Lebanon, Maine October 25, 1835. He graduated from the University of Michigan in 1859. Mr. Grant served his country in the Civil war and rose to the position of Lieutenant-Colonel. He was admitted to the bar in 1866 and began, at Ann Arbor, the practice of law. He has held the office of Recorder and Postmaster of Ann Arbor, Regent of the University of Michigan, Prosecuting Attorney of Houghton, County, and Judge of the Twenty-fifth Judicial Circuit. He was elected Justice of the Supreme Court of Michigan in 1889 and re-elected in 1899.

Justice Robert M. Montgomery was born at Eaton Rapids, Michigan, May 12, 1849. At the age of eighteen years he entered the law office of F. J. Russell, Hart, Michigan, remaining 28 there three years. During the war he enlisted and was mustered in the 7th Mich. Cavalry. At the age of twenty-one he was admitted to the bar and began the practice of his profession at Pentwater, moving to Grand Rapids in 1877. Justice Montgomery has held the office of Prosecuting Attorney and Judge of the Seventeenth Judicial Circuit. He was elected to his present position in 1891 and re-elected in 1901.

Chief Justice F. A. Hooker Supreme Court Associate Justice C. B. Grant Supreme Court Associate Justice J. B. Moore Supreme Court

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MICHIGAN STATE NORMAL COLLEGE.

The oldest Normal School in the west—was organized March 29, 1849. Celebrated the fiftieth anniversary of its dedication the sixth day of October of the current year. Has a faculty of fifty five professors and assistants. Has twelve distinct departments. Enrolls thirteen hundred students and graduates two hundred and fifty persons annually.

THE NORMAL COLLEGE YEAR IS MADE UP OF THREE QUARTERS OF TWELVE WEEKS EACH WITH A SUMMER TERM OF SIX YEARS.

SIX COURSES ARE OFFERED

- (1) A Preparatory (second grade certificate)—one year.
- (2) A Five Year Certificate Course—three years.
- (3) A Drawing Course—one year.
- (4) A Life Certificate Course—four years.
- (5) A Life Certificate Course for High School Graduates—two years.
- (6) A Degree Course (for High School Graduates)—three years.

THE HUNDRED OF ITS GRADUATES AND UNDER-GRADUATES GO INTO THE SCHOOLS OF THE STATE ANNUALLY, AS TEACHERS, FROM THE KINDERGARTEN THROUGH THE HIGH SCHOOL.

THE NORMAL CONSERVATORY OF MUSIC, was organized in 1881 by authority of the State Board of Education in order to give thorough training in musical art and methods in teaching.

Five three year courses and three two year courses are offered, the completion of either of which entitles the student to teach in the public schools of the stature.

For Year Book or further information send to L. H. JONES, President.

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THIS BEAUTIFUL CAMPUS CONTAINS NEARLY 100 ACRES ON WHICH ARE 55 COLLEGE BUILDINGS.

The Michigan State Agricultural College.

Seven Hundred Students Registered in 1901-1902.

Courses of Four and Five Years each in Agriculture and in Mechanical Engineering for Men, and in Domestic Economy for Women.

Agricultural Course Gives a good course in Mathematics, Literature, History, and an exceptionally strong Course in the Sciences.

Mechanical Course Gives a complete course in Mechanical Engineering and allied subjects.

Women's Course Gives thorough instructions in Cooking, Household Economy, and Sewing, besides the Cultural Branches.

Special Courses are offered during the winter in Home Dairying, Creamery Management and Buttermaking, Live Stock Husbandry, Horticulture and Beet Sugar Production.

College Buildings open to inspection any week day.

Write for Catalog.

The demand for M. A. C. graduates exceeds the supply.

School Year Opens in September.

Take Michigan Avenue Car to College Grounds.

J. L. SNYDER, A. M. BROWN, President. Sec'y.

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This College is located three miles east of Lansing and is connected with the City by an electric railway. It is the oldest College of its kind in America, having been opened for students in 1857. It has been well endowed by the National Government and the State of Michigan, having an income of over \$100,000 from the General Government and an income of \$100,000 from this Commonwealth.

The attendance has increased very rapidly during the last few years. There are over 700 students in attendance at present, which, together with the Special Course Students, will make the attendance during the year nearly 900.

The College is proud of its alumni. They are numbered among the faculty members of nearly every large institution in the country. A number of each class are employed at once by the Department of Agriculture at Washington. No worthy graduate of this institution need be long idle.

It offers special advantages to worthy young men and young women. Expenses are exceptionally low and the surroundings healthful and inspiring.

A VERY CORDIAL INVITATION is extended to all persons attending the National Grange, to spend a few hours at the College.

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THE UNIVERSITY OF MICHIGAN THE STATE UNIVERSITY

Which was founded in 1837, contains seven Departments, i.e., (1) Literature, Science and the Arts; (2) Engineering: Civil, Mechanical, Electrical and Marine; (3) Medicine and Surgery; (4) Laws; (5) Pharmacy; (6) Homoeopathic Medicine; (7) Dentistry.

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THE FEES REQUIRED OF STUDENTS are, for Michigan students, for admission, \$10.00; for annual fees from \$30.00 to \$35.00. The students from other states, admission, \$25.00; annual fees, \$40.00 to \$45.00.

The total number of students last year, including those in the Summer School, was 3,709. Of these about forty per cent were the children of farmers and mechanics. A considerable number of the students pay their way in whole or in large part by employment in Ann Arbor. The requirements for admission are met by the completion of a good high school course. Persons of twenty-one years of age or over may be admitted as special students, if they are prepared in English.

Large and Commodious Hospitals are Connected with the Medical Schools

They furnish gratuitous medical and surgical aid to about 4,200 patients annually, of whom about 1,000 are farmers or farmers' wives. The patients pay Six Dollars a week for board. The Hospitals are in effect a great public charity, through which many persons who would otherwise become a charge upon the countries are restored to health.

About 30,000 students in all have been for a longer or a shorter time enrolled in the University. Every state from Michigan to the Pacific and from North Dakota to Texas has established a university largely modeled on the University of Michigan.

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CENTRAL STATE NORMAL SCHOOL MT. PLEASANT MICHIGAN

FALL TERM BEGAN TUESDAY, SEPTEMBER 30, 1902

THE FOLLOWING COURSES OF STUDY ARE OFFERED:

Rural School Course.

Graded School Course.

English, Latin and German Four Year Courses.

A Two Years' Kindergarten Course.

Public School Music Course.

Music and Drawing Course.

TUITION. —For those preparing to teach in the rural schools of the state tuition is FREE. For all other courses, the tuition is \$3.00 per term of twelve weeks.

SUMMER SCHOOL. —Each summer a summer school of six weeks' duration is conducted by the Normal School Faculty. Credits earned in the summer school can be applied on any of the regular courses. THE SUMMER TERM OPENS THE FIRST MONDAY IN JULY.

For further information in regard to courses of study, expenses, etc., address **CHARLES T. GRAWN**, *Principal*.

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Northern State Normal School,-Marquette, Mich.

The Northern State Normal School at Marquette was established in September 1899, and is therefore only three years old. The invigorating surroundings of the Upper Peninsula have proved well suited to its growth. And to-day the school is a on substantial foundation. The school buildings—two handsome structures situated in commanding position

overlooking the lake—are constructed of the famous Marquette sandstone, and equipped throughout with the latest educational appliances. The Science Building, the last of the two to be completed, in its arrangement and equipment is without doubt one of the most complete in the Northwest.

There is also a Dormitory in connection with the school, which was erected at a cost of \$25,000.00 by Messrs. Longyear and Ayer, for the exclusive use of the school. This makes an ideal home for the students. The building is lighted by electricity and heated with steam. The living rooms are large, well lighted and pleasant, and the dining-room is spacious, with a seating capacity for one hundred fifty persons.

From the beginning it has been the aim of the administration to procure instructors, not only of high scholarship, but of enthusiastic sympathy for their professional work; and to-day the faculty is counted by those who know the school an exceedingly able one.

The advantages of the school are many. In the first place, it is the natural training school center for the teachers of the Upper Peninsula. Again, being of recent origin, the school is fully abreast with modern pedagogical methods and purposes.

The courses of the school are varied. There are special courses for teachers; courses which lead to the Life Certificate; to the Three Year Certificate; and to the Rural School Certificate.

The students also have the benefits of careful supervision in the Training Department, and successful work here counts for fully as much as good academic work.

At the present time the library numbers five thousand volumes, all of recent selection; and in addition seventy-five periodicals, to keep the students in touch with current literature and professional information.

The total attendance for the school year 1901-1902 was 210, with a graduating class of 31; 15 gaining the Life Certificate, 2 the Rural School Certificate, and 14 the Three Year Certificate.

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HILLSDALE COLLEGE

IN AN EDITION OF THIS KIND, it is important that an institution so widely known and well equipped as Hillsdale College should have a prominent mention. The corner stone of the old College Building was laid in Hillsdale on July 4, 1853, and the school was opened Nov. 7, 1855, with Dr. Edmund B. Fairfield as President. Since that time, the work has been carried on continuously with a gratifying attendance. On March 6, 1874, the first building was destroyed by fire, and the present group of buildings was erected immediately to take its place. The present group consists of six buildings well located and admirably equipped for the work. These buildings are located upon a Campus of twenty-five acres, well kept and beautifully adorned with shade trees and flowers. Since the opening of the school, it has always been the aim of the institution to provide the best possible courses of study in both the College and Preparatory Departments at a very low cost. The expenses of the school are moderate in comparison with other schools, and are exceptionally low in comparison with the advantages enjoyed. Nearly one thousand students have graduated from the institution, and it has had an aggregate attendance of about ten thousand.

The present year marks a new era in the history of the institution in the fact that Joseph William Mauck, A. M., LL. D., was elected to the presidency of the College, and accepted the office July 1, 1902. Dr. Mauck is a man of broad culture and great executive ability, and under his leadership it is confidently expected that the future of the College will be even brighter than the past.

Three Collegiate Courses of Study are offered leading respectively to the degrees of Bachelor of Arts, Bachelor of Philosophy, and Bachelor of Literature. A State Teachers'

certificate is granted by the State Board of Education to every graduate of the Collegiate Department who has taken the prescribed work in Pedagogy during his collegiate course.

In Connection with the Literary Department, Hillsdale College also offers courses in the School of Theology, the School of Music and the School of Oratory. Students in these departments are enabled to broaden their education and enjoy a more liberal culture by being brought into contact with the students in the Literary Departments. In the near future, it is expected that a School of Art will be established offering instruction in painting and kindred subjects as well as the course in drawing.

Moderate Incidental Term Fees are charged all students in the Literary and Theological Departments, and students in the special departments pay prescribed fees for the same. Hillsdale College is a co-educational school, and has a Woman's Dean who looks after the physical training and welfare of the young ladies, and also is Professor of History. The College was the first institution in Michigan to erect a gymnasium, and has always looked carefully to the physical development of her students.

Particular questions in regard to the work of the College may be addressed to the President or the Secretary of the Institution, and the catalogue and all circulars will be gladly furnished by the Secretary of the College, Hilldale, Mich.

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The Detroit Homeopathic College C. C. MILLER M. D., Pres, S. H. KNIGHT, M. D. Secy.

THE COLLEGE WILL OCCUPY NOW FOR THE SECOND YEAR ITS NEW, SUBSTANTIAL AND COMMODIOUS BUILDING, CORNER LAFAYETTE AVENUE AND THIRD STREET, DETROIT, MICH. IT HAS Unsurpassed Clinical Advantages. A Large Modern Hospital. A Four Years Graded Course. Men and Women Admitted.

A new large DISPENSARY, in which are treated Free the poor cases of a large manufacturing district, furnishes many interesting cases for the instruction of students. Hospital accommodations furnished in Grace Hospital, Detroit, for Medical and Surgical cases. Indigent patients, willing to appear before the class of students, will be treated by the Professors of the College, upon paying the Hospital rates of six dollars per week. Prospective patients should write the Secretary for terms. No college offers better opportunities for a medical education at a low rate of pers. Each Professor a Specialist in active practice. Send for announcement and information. Address D. A. MacLACHLAN, M. D., Dean. J. M. GRIFFIN, M. D., Registrar, 106 Miami Ave., Detroit.

THE FERRIS INSTITUTE A GREAT PRIVATE SCHOOL

Because for Eighteen Years it has fully met the Demands of both the Rich and the Poor

Sixteen departments: College Preparatory, Normal Elocution, Physical Culture, Vocal Music, Kindergarten, Civil Service, Telegraphy, English, Pharmacy, Business, Drawing, Shorthand, Typerwriting, Penmanship, Professional Preparatory.

Board and Room, \$2.00 to \$2.25 Per Week

Increase in attendance for year beginning Sept. 1, 1902, is more than 25 per cent. *For Annual Catalog, address* **W. N. FERRIS, Pres, 'Ferris Institute, Big Rapids, Mich.** 39

THE MICHIGAN STATE GRANGE

A Brief Account of the History and Achievements of the State Grange, with an Outline of Leading Features of its Work and Sketches of Some Prominent Patrons.

The history of the Grange in Michigan is not different in many respects from the general history of the Grange movement. It started with a rush, suffered a decline, underwent a

revival, and is to-day in the most flourishing condition of its history. This is the story. But it may be worth while to mention a few events that may be said to have distinguished Grange work in Michigan.

The first Subordinate Grange in the State was organized at Burnside, Lapeer Co., Jan. 10, 1872. The State Grange was organized April 15, 1873, with nineteen Subordinate Granges. S. F. Brown was elected Master, and J. T. Cobb, Secretary. Bro. Brown served as Master for two years, and Bro. Cobb continued as Secretary until 1890.

The first State Grange meeting was at Kalamazoo in January, 1874. About 190 Granges were represented by delegates. The second meeting was in Grand Rapids in January, 1875, and the Grange had grown so fast that the great number of delegates made it almost impossible to do business. At this session Bro. J. J. Woodman was elected Master. The representation of Subordinate Granges was cut down, and it may be said that the general work of the Grange in its present form began.

In 1875 the State Grange held its third annual meeting (the second meeting having been in January of that year) in Representative Hall in the Capitol at Lansing and has met in this room every year since with the exception of 1885 and 1900. At this session of 1875 the Master reported 611 Granges. The treasury was in good shape, but even at this time it was seen that many had joined the Grange under a misapprehension, looking more to financial and political advantage than to the real objects of the Order. In 1876 the Grange had a contract for plaster with two members of the Order and bought the first year some 7,000 tons valued at about \$18,000. The plaster combine offered plaster to Granges at half price, but to no avail. The Patrons stood together and won first blood for cooperation. In 1879 the famous contest over the sliding gate patent was fought out to a successful conclusion, and in 1881 the driven-well contest began and the patent men were finally routed by the firm attitude of the Grange.

Cyrus G. Luce was elected Master in 1880 and served for seven years. He was followed by Thomas Mars in 1887 who served five years or until 1892. During these twelve years the history of the Grange on the side of its membership was somewhat checkered. An 40 examination of the Secretary's reports shows that a decline in the amount of fees and dues had already begun in 1876 and continued until 1880. Then for three or four years they remained about stationary; for the next three or four years there was another decline, and it may be said that in 1886, judging from fees and dues received, the Michigan Grange had about two-thirds the strength that it had in 1876. But in another sense, the Grange was really stronger than in earlier years. Most of the members were those who had stood by it through dark days as well as bright days. They understood what it was for; they believed in its teachings; they had faith that it was possible to organize farmers; they never gave up hope in the ultimate success of the Grange. We find indeed that for the three years following 1886 these hopes seemed about to be realized, for the Grange made some little gain. But unfortunately another period of serious decline set in which did not end until 1896.

In 1890 J. T. Cobb retired from the Secretaryship and Jennie Buell, the present Secretary, was elected. In 1892 Geo. B. Horton was elected Master, and is now completing his tenth year of service in this capacity.

THE GREAT AWAKENING.

It may be said that the years from 1893 to 1896 were the darkest days that the Michigan State Grange has known. The financial depression made the farmers

J. J. WOODMAN

41 discouraged. The membership fell off. It was almost impossible to organize new Granges. The income decreased, expenses exceeded receipts, and Grange work in Michigan seemed to have reached a critical stage. But the ship was manned with a crew that could not endure defeat. The captain possessed perfect courage, untiring

perseverance, and an indomitable will. Plans for progress were laid. For instance in 1894 the present deputy system was organized, the existing plans of trade contracts were begun, and the August picnics started. In 1895 the Legislative work was thoroughly organzied. These things, however, did not bear fruit until 1896. The reports that year showed twenty new and reorganized Granges, eight of which were in Lenawee, Bro. Horton's home county. And while there was still a deficit in Grange finances, it was less than for several years before. From this time on the record has been one of marvelous growth. And this growth is substantial. It is merely stating an actual fact to assert that the Grange in Michigan is stronger today in every respect than at any previous time in its history. The receipts from fees and dues in 1902 will exceed by nearly 50 per cent the amount of fees and dues for any previous year, including even the early prosperous years. The State Grange at its next session will find itself the possessor of nearly \$20,000 surplus funds. There were never so many lines of activity as there are today, and the Michigan State Grange faces the future with all the hope and vigor of a renewed youth.

Other details of the Grange story will appear in the general description of our Grange work and in the sketches of our workers. Following is a table prepared by Worthy State Secretary, Jennie Buell, which shows better than language can describe the progress of the Michigan Grange revival:

Year No. Gr. Reporting No. Gr. New and Reorganized Paid up memb'rs Receipts Expenditures 1891 261 \$4,559 35 \$4,723 22 1892 248 9,347 5,390 41 5,768 30 1893 226 3 8,929 5,917 62 5,991 18 1894 221 7 8,094 4,710 79 5,485 64 1895 213 17 7,507 3,503 53 4,099 54 1896 236 20 7,618 3,642 17 3,986 45 1897 232 18 8,442 4,039 39 3,911 54 1898 256 32 9,517 5,089 97 4,159 23 1899 328 76 13,753 7,700 80 5,286 51 1900 415 96 14,924 10,693 72 6,700 79 1901 476 76 25,591 11,580 75 8,169 71 1902* (Sept. 15.) 540 84 30,000 * Estimated.

Altogether 1,014 Granges have been organized in Michigan. At present there are Granges in 65 counties, including all in the Lower Peninsula except Arenac, Leelanau and Roscommon.

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FEATURES OF MICHIGAN GRANGE WORK.

We shall try to describe as briefly as possible some of the plans and methods which are in vogue in our State Grange work. They may or may not be better than those used in other states, but they at least serve to show the scope and nature of the work.

ORGANIZATION AND SUPERVISION.

Deputy Work. —The present plan of organized deputy work was begun in 1894. It consists in the appointment by the State Master of from one to four or five competent deputies in each county. Substantial pay is given for actual work performed in organizing Granges. The plan of general deputies has also been encouraged, and several have covered a wide territory in their work. In 1901 very liberal prizes were offered to deputies who secured the largest number of Granges, in addition to the regular allowance. Bro. Theo. Guyer of Antrim county won the first premium with the record of 26 new and reorganized Granges. The State Master keeps in constant communication with deputies, supplying them with detailed suggestions and plans.

Summer Rallies. —These meetings, which are the same as the "field meetings" of New England, were first begun in an organized form in 1894, and they have grown in interest and number ever since. At present they are systematically organized by the State Master, who, after finding out the wishes of the County Granges as to place and time of the rally in each county, assigns the dates and the State Grange speaker. The County Grange arranges the rest of the program, bearing all local expenses and also a portion of the expenses of the State Grange speaker. This systematic work results in a great saving of money and of wear and tear of speakers. Occasionally a Subordinate Grange will manage the rally, but as a rule the Pomona looks after it. An attempt is made to secure a large attendance of farmers who are not Patrons and to have the teachings and achievements of the Grange clearly and forcefully set before them. The past summer about 45 Rallies were held under State Grange auspices.

Winter Conferences. —In 1900 the State Master inaugurated a series of meetings in a large proportion of the Grange counties, to which he invited patrons generally but particularly the leading officers of the Subordinate Granges, and at which he went over every important detail of Grange work, explaining the best methods and urging officers to correctness, promptness, and new energy. This feature of supervision has been enlarged and the past winter they were organized on the same general plan as the summer rallies. Some six or eight Patrons of experience were deputed to attend

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each a series of conferences, usually in consecutive counties. The meetings were often held with some of the weaker Granges, but all Granges within driving distance were asked to send delegates. The program of each meeting was about the same as has been described. Last winter nearly 125 of these conferences were held.

Communication with Granges. —As a means of keeping up interest in Grange work, of explaining new plans, of calling attention to serious errors, and in general of keeping in touch with Subordinate Granges, Worthy Master Horton has from the first followed the plan of frequently mailing printed circular letters to Subordinate and Pomona Granges. This plan has undoubtedly fostered uniformity of work, inspired new effort, and enabled the Grange forces to march forward as a united army.

The Prize Desk. —A good example of some of the methods which have been successfully used to increase Granges and membership is the following: Early last spring the State Grange through Worthy Master Horton offered a substantial and neat Secretary's desk to every Subordinate Grange in the State which should make during the quarter ending June 30, a net increase of twenty in its paid-up membership. One hundred and forty Granges won the desk, and the net membership of these 140 Granges was increased by 3,400, while the additions among Granges not winning the desk easily brought the gain in membership in the State up to \$4,000.

BUSINESS COOPERATION.

Cooperative Purchasing. —In the early days Michigan Granges did considerable purchasing. The plaster contract has already been noted. A number of Grange stores were started; some of them fairly successful. Considerable purchasing of machinery and groceries were carried on. But this line of work gradually fell off and by 1885 there was scarcely any of it practiced. One of Bro. Horton's first recommendations as State Master was the forming of contracts between the State Grange and various manufacturers and jobbers for cooperative purchasing on the part of the Granges. In 1894 the first of these contracts was entered into. The work has been of a slow but substantial growth, and at present the Grange enjoys about 40 separate contracts and can purchase binder twine, phosphates, salt, lumber, all kinds of farm machinery, nails, wire fence, furniture, stoves, clothing, etc., etc. During 1901 the records of State Grange show that not less than \$50,000 worth of goods were purchased through these contracts. The present year the purchases of binder twine alone amount to more than that sum. In addition to the above, Subordinate Granges frequently make local contracts.

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Grange Insurance. —This phase of business cooperation was inaugurated early in 1897, by the organization of the Patron's Fire Insurance Company of Lenawee county. The plan was practically the New York Grange plan. The following table shows the extent of Grange insurance in the state, Dec. 1, 1901:

County No. Members Amount of Policies in Force Allegan 252 \$398,699 00 Antrim 90 109,286 66 Barry 37 58,605 00 Branch 105 150,754 50 Cass 58 96,480 00 Genesee and Shiawassee 264 450,830 43 Hillsdale 193 368,858 00 Ingham, Clinton and Eaton 462 805,259 00 Lapeer 217 340,880 00 Lenawee 828 1,519,325 94 Monroe 158 314,170 00 Montcalm 138 178,697 00 Oakland 118 267,770 00 Sanilac 395 469,903 00 Kent and Ottawa 135 200,679 00 St. Clair and Macomb 131 197,552 00 Van Buren and Cass 98 146,387 00 Newaygo and Muskegon 362 583,890 00 Totals 4,613 \$7,508,026 00

The present calendar year a company has been organized for Gratiot Co., and one for Wexford, Missaukee and Osceola Cos. Also a State Company, intended

CYRUS G. LUCE

45 to cover territory not likely to organize by counties. It is probable that the amount of policies in force Sept. 15, 1902, is not less than \$10,000,000.

LECTURE WORK.

For nearly twenty-five years the work of State Lecturer was largely that of organizing or encouraging Subordinate Granges. It was practically all field work. While the Lecturer's hour in the Subordinate Grange has always had a place in Michigan Grange work, and constantly grew in importance, there was until recently no vital connection between the Subordinate Lecturer and the State Lecturer. This condition of lecture work in the Grange was true all over the country as well as in Michigan. And it is only in very recent years that the new conception of lecture work and especially of the State Lecturer's work has been established. A very brief outline of the present plans and methods of Sister Saunders, the Worthy State Lecturer, will show that Michigan is well at the front in Grange lecture work.

In the first place the importance of the lecture hour is urged upon all Patrons, and every Subordinate Grange is constantly entreated to give one full hour of sixty minutes at every regular meeting to the literary program in charge of the Lecturer. To stimulate, advise, and assist Subordinate Lecturers, the State Lecturer issues a monthly Bulletin of four pages which is sent free to the Lecturer of every Subordinate Grange in the State. This Bulletin includes an outline for two programs a month; in one program the principal topic for discussion suggested is that which the National Lecturer sends out; for the other program a subject selected by the State Lecturer. In addition to this the outline contains suggestions for discussing Grange extension work and also current events. Special day programs appropriate to the season are suggested. All these subjects are introduced by a special article in the Bulletin, references to books are given, hints on current events are

offered, the special programs are fully outlined with minute details as to decorations, etc. Every effort is made to furnish all possible suggestions, so that even new Lecturers may use the best methods and so that the work all over the State will have as much uniformity as possible. At the same time Lecturers are given to understand that all this is purely advisory and they are at perfect liberty to get up such programs as they see fit. Every effort is made, however to encourage better work.

The result of this systematic effort carried on for nearly four years is that most of the Subordinate Grange Lecturers look to the Bulletin as their guide and helper, many saying that they could not get along without it. Lecture work is growing in favor, and Lecturers are coming to see the importance of their position. Oftentimes when they do not fully understand 46 their duties they write to the State Lecturer for assistance.

In addition to this main line of work, the State Lecturer occasionally holds Lecturers' conferences in some of the countries, and especially at the State Grange. She has assisted in the movement for organizing Teachers and Patrons' Associations. She is by law called in consultation with the State Librarian in regard to Grange library work.

LEGISLATIVE WORK.

Ever since its organization the Michigan State Grange has used its influence to secure the passage of laws intended to benefit the farmer and the community generally, and to defeat such legislation as was deemed unjust and unwise. The Grange has always possessed as leaders, men of great influence and power and in session after session of the Legislature these men have been heard before the committees, presenting the wishes of the Grange about public affairs. There can be no doubt that the Grange has thus had a steady and constant influence for good.

It may be said, however, that it was not until about 1894 that the Grange organized this work fully. At that time the question of tax reform was beginning to agitate the people of the State. Indeed, it is not too much to say that the Grange really headed the movement.

As early as 1893 Worthy Master Horton had called attention to the injustices which farmers suffered under our tax system. In his address for 1894 he went into the matter very fully and outlined a plan by which there should be appointed a State Tax Commission, whose duty it would be to make a thorough canvass of the methods and results of taxation in order that the people of the State might know the facts in the case before they tried to apply a remedy. It had also become evident by this time that there was dire need for stringent pure food laws. Michigan had become the dumping ground for adulterated food products. Another measure thoroughly discussed at the State Grange of 1894, was that of inaugurating a State-wide system of Farmers' Institutes. The State Grange decided to make these three measures the chief objects of its legislative efforts during the Session of 1895. A Special Committee on Legislation was appointed. Petitions favoring the passage of the bills were solicited and received from a multitude of Subordinate Granges. The Legislative Committee was in frequent session with leading members of the House and with the committees having the bills in charge. Although the result was often in doubt, the outcome was a complete victory for the Grange, for every measure passed the Legislature practically as introduced. This victory is all the more remarkable when conditions are considered. While the subject of taxation was 47

THOMAS MARS

being greatly agitated, the general demand was for some radical action at once. But Bro. Horton's suggestion, about getting at the facts first, prevailed. It must also be remembered that the session of 1895 was held in the midst of the great financial depression, and it was no easy matter to secure an appropriation of \$5,000 a year for Farmer's Institutes, and an appropriation sufficient to organize the equip an efficient Dairy and Food Department.

We have gone into detail about this legislative experience of 1895 because it illustrates so well the methods which the State Grange follows, and which were begun at that time: (1) the concentration of effort upon a few measures; (2) the appointment of a Legislative Committee who can be at the Capitol at least a portion of the time; and (3) the securing

of petitions from Subordinate Granges and of personal letters from influential Patrons, in favor of the bills under discussion.

It cannot be said that the State Grange has always been as successful in getting what it asked for as it was in 1895. Yet, on the whole, the fact that the State Grange favors a matter usually secures its passage sooner or later. And indeed, the Grange has grown so powerful, and its methods have proved so efficient, that its officers are frequently called in consultation by the political leaders, to find out what its attitude will be on certain questions.

The most eloquent testimony as to the efficiency of 48 the Michigan State Grange in legislative affairs is shown by the following list of laws which have been enacted during the past eight years and which have had the approval and assistance of the State Grange in securing their passage: The appointment of state tax statistician; repeal of special railway charters; constitutional amendment permitting, and subsequent law requiring, railroads to pay taxes on the same basis as other property is taxed; the appointment of a Dairy and Food Commissioner, with an appropriation gradually increased to something like \$18,000 a year, and stringent pure-food laws, especially the present law prohibiting the coloring of oleomargarine yellow to resemble butter; an appropriation for a State-wide system of Farmers' Institutes and its increase from \$5,000 to \$7,000 a year; the traveling library system, with an appropriation of \$5,000 a year; a law permitting Granges owning libraries to borrow books from the State library; the building and equipping of a \$100,000 women's building at the Agricultural College, and the increase in the College appropriation to \$100,000 a year. The Grange has also successfully defeated all attempts to inaugurate the township-unit school system.

WOMAN'S WORK IN THE GRANGE.

The first State Grange committee on Woman's Work in Michigan was appointed early in 1889. The plans at first were somewhat indefinite, but time and the earnest thought

of a few brilliant women have finally evolved a most interesting and useful line of work. The committee urges the appointment of similar committees in Subordinate Granges and endeavors to work with these committees. At present the work of the State committee is divided into three parts.

I. Fresh Air Work. —This was begun in 1894. It consists in providing, in the homes of Patrons, a two weeks' summer outing for needy and worthy children, working girls, and working women with babes, from the large cities. Detroit has furnished most of the applicants. Through the efforts of philanthropic people there, a sum has yearly been raised to bear the expenses of sending the applicants to the country. This has recently resulted in the formation in Detroit of the Michigan Fresh Air Society. The railroads have usually assisted by giving full or partial transportation. The Grange on its part, through the committee on woman's work, has secured places in the country for the applicants. The Patrons taking them would meet them at the station, entertain them for two weeks, and place them on board the train for home. The work has come to be regarded as a regular feature of State Grange effort. During the eight years of its existence probably not less than 1,500 people have its beneficiaries and some twenty-five or thirty children have been permanently adopted into farm homes.

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2. School Work. —Every year blanks are sent out by the State Committee to the Master of each Subordinate Grange, asking them to report upon such questions as these: Have you a school visiting committee? What is most needed by rural school? Will you set apart a meeting in the interest of schools? Mention all social features you have. Result of taking Fresh Air guests. Names of those who will receive Fresh Air guests. Masters report on these blanks very generally and a mass of valuable information results. Another blank prepared under the advice of the Superintendent of Public Instruction is sent to the Woman's Work committee of each Grange, and they are asked to report the results of the visiting of district schools in their community, by themselves or by a special committee.

They were also furnished with a little ritual of patriotic teaching and are also urged to form mothers' and teachers' meetings.

3. Social Work. —It has not been possible to organize this work quite so thoroughly as the other lines, but in general an attempt is made to encourage in all possible ways the social phases of the Order. In many Granges the committee on Woman's Work frequently take charge of the Grange socials.

THE GRANGE AND AGRICULTURAL EDUCATION.

Rural Schools. —The Michigan State Grange has always been a promoter of agricultural education. In the matter of rural schools, the Grange has stood for their improvement, for keeping them close to the farmers' life, and for making them serve the needs of the majority. Believing that the township-unit system would not conserve these ends, the Grange has consistently opposed its establishment. But if anyone will examine the reports of the committees on education in the various State Granges, and the resolutions relating to education endorsed by that body, he will see that the Grange has loyally stood for progress. No better illustration of this can be found than the fact that the last State Grange voted to request the Executive Committee to send a delegate, in company with the Superintendent of Public Instruction, to visit those sections of Ohio which are using the system of centralizing and consolidating schools and transporting pupils, and to report his findings.

The Agricultural College. —In regard to agricultural education proper, the record of the Michigan State Grange is also one to be proud of. Nearly every Master's address for twenty-five years contains some reference to the Agricultural College. Its work has been commended. Patrons have been urged to send their children there. And the few criticisms that have been offered have been given kindly and in the spirit of progress. Some of the most influential Patrons have been members of the Board of Agriculture 50 which governs the College: as, J. Webster Childs, E. W. Rising, Henry Chamberlain, Cyrus G. Luce, A. C.

Glidden, and Geo. B. Horton. As early as 1877 the Grange asked that ladies be admitted to M. A. C., and a course provided for them. This matter was frequently referred to in State Grange, and it is due in large part to the Grange attitude that provision was finally made for women in 1896.

Popular Education in Agriculture. —At the State Grange of 1892, Bro. J. Weston Hutchins came up determined to secure if possible the inauguration by the College of a home reading course for farmers. There was then only one in the country, which had just been started by the Pennsylvania State College. Bro. Hutchins found ready help in the Grange, and as the result a Joint Committee of the Grange and College Faculty at once outlined and started such a course. It was called the "Farm Home Reading" Circle." Its management was soon placed entirely in the hands of the College, and it is now a recognized part of the extension work in agriculture. In the proceedings of the State Grange for 1894 will be found a long and exhaustive report of a special committee on education, of which Bro. Hutchins was chairman, outlining a forward movement in Agricultural education. This report presented the plan for Farmers' Institutes already referred to, which afterwards became the present Michigan Institute system. It also made a strong plea for a course for women at the Agricultural College and named some prominent features of such a course. It urged the value of the farm press and asked members to patronize it. It also made an argument for the teaching of Agriculture in the district schools and urged the Agricultural College to take the lead in this work. In spite of the fact that subsequent State Granges endorsed this last recommendation, we regret to say that after the lapse of eight years little progress has been made.

Traveling Libraries. —In 1895 the State Librarian, Mrs. Mary C. Spencer, for several years now a member of our Order, asked the assistance of the State Grange in securing the passage of a law providing for traveling libraries, which could be loaned to small communities and circulated among them. The State Grange favored the plan, worked for the bill, and has since assisted in securing an enlargement of the work. A great many Subordinate Granges have availed themselves of this opportunity of securing at trivial cost

access to the best literature of the time. At present there are some 500 of these traveling libraries in use in Granges, Farmers' Clubs, Women's Clubs, etc. The Legislature of 1901 passed a law which permits Granges already owning a library of 50 books to borrow such books from the State Library as may be desired for special reading or study and not exceeding 50 at any one time. The State Librarian will also assist 51

GEORGE B. HORTON

Granges who wish to purchase books in making wise selections and in securing discounts.

Teachers and Farmers' Meetings. —The Grange has also assisted in the movement for uniting the interests of the educator and the school patron. In 1892 there was organized by Bro. D. E. McClure the Oceana and Newaygo Grangers and Teachers' Association. It was made up of both teachers and patrons. The design was to hold meetings at which both educational and farm topics should be discussed. The idea has grown into what is now known as the "Hesperia Movement," similar organizations have been formed in many other counties and in several other States, and it has received the approval of both educators and farmers.

THE GRANGE PRESS.

The first Master of the State Grange, Bro. S. F. Brown, recommended that the State Grange should issue some sort of publication, by which easy communication could be established between State Grange and Subordinate Granges. Nothing was done, however, until Bro. Woodman took up the matter and recommended a monthly circular to be issued by the Executive Committee. The first number was printed in April, 1875, when it was found that large postage bills could be saved by issuing it as a paper. The May number was therefore issued as a paper and called THE GRANGE 52 VISITOR. Its size was a three column, eight page 9x13 sheet. It was published by the Master and Secretary of the State Grange. In January, 1878, the editorship was given to J. T. Cobb, the State Secretary, the paper was enlarged one-half in size and was issued semi-monthly. The

regular edition was 4,000. In 1880 it was again enlarged 50 per cent, the price remaining 50 cents per year. Finally it became a large size six column paper, and at one time the regular edition was about 8,000 copies. Bro. Cobb had developed from a plain farmer without editorial experience to an able and vigorous writer. The paper took its place among the strong journals of the country, and as a Grange paper was excelled by none.

In 1888 THE VISITOR was removed to Paw Paw and placed under the editorial and business charge of Bro. A. C. Glidden, who had had large experience as a writer upon agricultural topics. Bro. Glidden was faithful in keeping the paper along Grange lines and his editorials were always strong and pertinent.

In 1892 THE VISITOR was again removed, this time to Lansing, and Bro. K. L. Butterfield was made editor and manager. This relation was continued until January, 1896, with the exception of two years when Perry and McGrath of Charlotte, Mich., had business charge and printed the paper. For 20 years THE VISITOR enjoyed the distinction of being the only paper owned and operated by a State Grange. At the date last named the paper was absorbed by THE MICHIGAN FARMER, and has since that time been published as a Grange Department of the paper, with Bro. Butterfield as the editor.

GRANGE CENSUS.

An illustration of the progressive methods of the Michigan State Grange is found in the plan of a census which was taken in 1900 by the State Secretary. It brought out many valuable facts in regard to frequency of meetings, of initiations, the age and sex of the members, attendance, libraries, Grange halls, etc. A similar census of the lecture work was afterwards made and resulted in securing much useful data which served as a guide for many comprehensive plans.

IN CONCLUSION.

A fitting close to this attempt to describe the work of the Michigan State Grange is the use of a few sentences written by Worthy Master Horton. "Our success, as I interpret it, has been the result of establishing system and business methods in all departments of our work. We have gone to work at each detail as a business man would, to promote to success a great enterprise, with the exception that none of us have been permitted to give but a share of our thoughts and efforts to the work."

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OUR WORKERS

An account of Grange work would be sadly incomplete if some mention at least were not made of the men and women who have guided the Grange all these years and who are now responsible for its direction. Michigan has been peculiarly fortunate in its Grange leadership. Its officers have been men and women of unquestioned integrity, of intellectual power, and of unusual capacity. Many of the names of prominent Grange officials have also become household words throughout the State because of their connection with public life as well as with Grange work. At the same time the Grange has been kept absolutely free from the taint of politics. It is impossible in the brief space at our command to give an adequate account of the life and services of even a limited number of these workers, and it is only justice to say that for the same reason it has been impossible to mention many influential Patrons. We shall, however, give very brief sketches of a few who seem to have been peculiarly identified with the more important lines of Grange work which we have been trying to describe.

"THE BIG FOUR."

The three living Past-Masters and the present Master constitute a quartette of men that are largely responsible for the history of the Michigan State Grange. We doubt if any State in the Union can boast the continuous service in the State Master's chair, for twenty-eight

years, of four men of the caliber and standing of J. J. Woodman, Cyrus G. Luce, Thomas Mars, and Geo. B. Horton

J. J. WOODMAN.

J. J. Woodman was elected Master of the Paw Paw Grange in 1874, and at the second session of the State Grange, January, 1875, was elected Master of the State Grange, serving for six years. The same year he was elected Overseer of the National Grange, holding that office until 1879, when he was chosen Master of the National Grange. On retiring from that office in 1885 he was elected a member of the Executive Committee of the National Grange and made its Secretary, a position which he has held ever since. He has attended every session of the National Grange since 1874.

Bro. Woodman has thus been identified with all phases of Grange work, has held the highest offices, and has had an unusual share in shaping Grange policies. When he became Master of the State Grange he found the Order in a chaotic condition. Nearly 600 Granges had been organized in this State under the delusion that the chief object of the Order was to bestow great financial benefit upon its members. Granges were imperfectly instructed, and often with only the constitutional 54 minimum of members. Masters decided that everybody was interested in agricultural pursuits, and pretty nearly everybody was admitted. Some sought admission for political purposes. The Greenback question was rampant at the time, and discord and sometimes destruction was brought to Granges over the discussions of the money question. Members did not understand the aims and purposes of the Order. Bro. Woodman's difficult task was to weed out, consolidate, and reconstruct Granges, to make the members understand the real objects of the Grange, to systematize the work, to enforce obedience to the ritual, to give dignity to the secret work, and in fact, almost to reorganize the Grange. In doing this work Bro. Woodman traveled extensively in this State, and as Master of the National Grange his voice was heard in every part of the Union.

Bro. Woodman has held several positions of honor and influence in public life, conspicuous among his labors in this line being twelve years of consecutive service as a member of the Michigan House of Representatives (1861-1873). He was Speaker pro tem. in 1867 and Speaker in 1869 and 1871. He is a convincing orator, plain-spoken and logical and often eloquent.

CYRUS G. LUCE.

Bro. Luce became a charter member of Gilead Grange in 1874, immediately after the adoption of the Declaration of Purposes by the National Grange. He became a member of the Executive Committee of the State Grange in 1876 and Master of the State in 1880. He was three times reelected to this office and resigned in 1887 because he felt that he could not do justice to the office of Master while at the same time serving as Governor of the State. During his incumbency as Master what was known as the plaster contest and also much of the patent right litigation was carried on.

Bro. Luce has been very prominent in public affairs. In 1854 a member of the House of Representatives, in 1864 and 1866 a State Senator, in 1869 and 1871 State Oil Inspector, and serving as Governor from 1886 to 1890. It is common knowledge that Gov. Luce's administration is one of the most satisfactory in the history of the State. Everybody knew that the Governor was a man of conviction and they had the most complete confidence in his rugged honesty. It is doubtful if any Governor of the State ever gave as close attention to the actual work of the business of the State as did Governor Luce. He met regularly with the various boards, he knew intimately the conditions and needs of the State institutions, and he was at all times in the closest possible touch with every phase of State government.

A firm believer in the objects of the Grange, Bro. Luce has always adhered to the idea that the fundamental 55 purpose of the Order was to improve the farmer, his wife and his children intellectually, morally, socially, and financially. He also believes that while the

Grange should shun every appearance of partisanship, every member should increase his knowledge of public affairs and seek to increase the farmers' political power. Bro. Luce early began to talk the convictions which he held, and soon developed into one of the most powerful and popular orators that Michigan has ever had. He has addressed his fellow citizens not less than two thousand times, and the majority of these addresses have been along Grange lines. He has talked in nearly every county in the State, in some counties many times, and in many other States of the Union both East and West. Now at the age of 78, no figure is more welcomed at the State Grange and among Patrons everywhere, and he may fitly be called the "Grand Old Man" of the Grange of Michigan.

THOMAS MARS.

Although Bro. Mars is 73 years old, "his eye is not dim nor his natural force abated." Bro. Mars graduated from the log schoolhouse, and then went to work. By untiring labor and energy he carved out for himself a beautiful home, a fine farm, and an independent competence. He joined the Grange at its organization, was Master of his home Grange, Berrien Center, four years and also for four years Master of Berrien County Grange. In 1877 he was elected member of the Executive Committee of the State Grange and with the exception of two years has been a member of that committee ever since, and its Chairman in 1881 as well as in the years since 1899. In 1887 he was elected Master of the State Grange and twice reelected, serving until 1892. While on the Executive Committee he was in the thick of the fight against the plaster combine and the patent sharks. As State Master, he spent nearly all his time in the field, lecturing to both County and Subordinate Granges and visiting nearly every county in the State.

In public life Bro. Mars has been State Senator, a member of the Board of Control of the State Public School, besides holding many minor offices. Bro. Mars' good judgment and great kindness of heart are shown by the fact that for nine years he was County Agent of the State Board of Corrections and Charities, has been the administrator of many and the guardian of orphan children. Indeed it might be said that for many years his chief business

has been helping other folks, especially those who were without their natural protectors. Bro. Mars can always be counted upon to favor with earnestness and enthusiasm every movement forward in agricultural education.

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GEORGE B. HORTON.

The owner of 800 acres of the best of farming land, the largest cheese manufacturer in the State of Michigan, if not in the United States, the builder of one of the most beautiful farm homes possessed by a bona fide farmer, Bro. Horton would be entitled to the position of one of the foremost farmers of the State, even if he had never entered public work. But he started out in life with a willingness to devote his spare time to the benefit of the people. He served for twenty consecutive years as the Master of his home Grange. During this time he had the remarkable record of missing but two regular meetings. He established the first Grange library that he had ever heard of; also the first museum. Bro. Horton 's home Grange, now Fruit Ridge, has a hall containing a large library, a well-arranged museum, an entertaining stage and a degree stage with full scenery. The hall is beautifully decorated and fully equipped. All this represents a value of not less than \$5,000, and no small part of this sum was contributed by Bro. Horton. He served as Master of Pomona Grange for six years and for three or four years as a member of the State Grange Executive Committee.

All these long years of preparation, together with the qualities of his character, fitted him almost ideally for the position of Master of the State Grange, to which office he was elected in 1892 and to which he has been reelected five times since with practical unanimity. The story of the growth of the Grange under Bro. Horton 's administration has already been told, and it is sufficient to say that his part in this growth is practically coincident with the growth itself. He has given the closest attention not only to general plans, but to the minute details of their execution, notwithstanding the fact that he has large business interests constantly calling for his time and thought. The amount of work

that he has successfully accomplished during these years is a constant marvel, even to those who know him best.

Aside from all this Bro. Horton has been President of the Lenawee County Agricultural Fair for twenty-five consecutive years, and has made it one of the most successful fairs in the country. He served for a time on the State Board of Agriculture. He was elected to the State Senate in 1891, but was ousted by a partisan trick. Ten years later he declined another nomination for the same position.

An insight into Bro. Horton's attitude towards farm life may be gained by quoting a few words of his written on one of the few occasions when he talks about himself. "I was born to farm and country life. No place on earth is so homelike, according to my views, so well adapted to the wants of man. I expect to pass my entire days on the farm. I strive to keep my farm premises in a condition that will make them a source 57 of pride. I have tried to lay my furrows smooth and to carry out the lessons taught in our Grange Ritual. I believe in education, and plan to give each one of our children a full college course."

A VETERAN GRANGE FIGHTER.

A generation ago the patent laws as interpreted by the courts made the purchaser or maker of any article or implement secured in good faith for his own use, and even without knowledge of its being an infringement of a patent right, liable to be prosecuted. In those days many farmers had been making and using a cheap slide gate, now seen on every farm. About 1879 a certain firm in Ypsilanti, acting under the laws and decisions referred to, began collecting royalty on these gates at the rate of five cents an acre for each farm where the gate was used. Farmers protested, but threats of prosecution brought the cash. This sort of action aroused the fighting blood of Bro. H. D. Platt of Ypsilanti Grange. He made up his mind that the pretended patent had no legal existence. Under his advice the

farmers quit paying, formed a defense association, and made Bro. Platt agent with power to employ counsel and to defend suits brought to get money on the patent.

The State Grange endorsed this action and secured a substantial fund for expenses. Bro. Platt went ahead, employed counsel, obtained testimony showing that the gate had been in use many years prior to the time the patent was claimed to have been issued, and won the suit. The importance of Bro. Platt's fight can be understood when it is said that it was estimated at the time, computing at five cents per acre upon farms using the gate, the farmers of Michigan alone were saved half a million dollars. But not only that; the fight thus successfully inaugurated was carried on against the whole principle of permitting owners of patents to persecute innocent purchasers. Attempts were made by owners of patents for clover hullers, barb wire, and driven wells to secure money from farmers. But the Grange won after several years of constant fighting, and the whole scheme was practically defeated.

Bro. Platt has served as Master of Ypsilanti Grange for many years; also of Washtenaw Pomona, and for eighteen years was a member of the Executive Committee of the State Grange. He lives on the farm where he was born in 1835, and in addition to farming manages the largest creamery in the State.

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GUARDIAN OF THE GRANGE STRONG-BOX.

E. A. Strong has been Treasurer of the State Grange since 1884. He was a charter member of Brady Grange and its first Master, also first Master of Kalamazoo Pomona. He attended the first session of State Grange and most of the subsequent sessions. Bro. Strong has all the qualities of a model treasury-keeper,—integrity, business sense, accuracy, and promptness.

OUR WORTHY SISTERS.

The farm women of Michigan have done their full share in Grange work, and there is nothing that Michigan Patrons are prouder of than of the multitude of women who are active workers in the beneficent labors of the Order.

MARY A. MAYO.

is clearly entitled to be called the Dean of Woman's Work in the Grange. For twenty years she has been closely identified with the State work of the Order. She has given addresses in nearly fifty counties, on the Grange exclusively. In many counties she has spoken in every Grange, and in some of them repeatedly. She has also talked Grange in California, Kansas, Illinois, Ohio and Indiana. She was the originator of Children's Day in the Grange. And after it was started in Michigan she requested Bro. Luce, then Master, to ask the National Grange to make Children's Day a National affair, which was done.

In 1885 Sister Mayo was engaged as lecturer at Farmers' Institutes, and began at once the holding of women's sections. These proved to be extremely popular, and Sister Mayo continued the work four or five years, visiting practically every county in the State in this work.

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But perhaps the most unique service performed by Sister Mayo is the establishment of the Grange Fresh Air work. In the summer of 1892 she entertained a hard working typesetter, a girl from Chicago, who was completely exhausted. This girl was with Mrs. Mayo two weeks and went back home a new girl. Every year since the Mayo home has had from one to four such guests, each for a two-weeks' stay. The need of this class of workers appealed strongly to Sister Mayo and she concluded that it was a work that the Grange could well take up systematically. The State Grange of 1893 at her suggestion did this, and the work has grown every year since.

Sister Mayo has been prevented for the last three years from engaging in any form of public work, by the prolonged and painful illness of her only daughter, Nellie, and the sympathy of thousands of Patrons has gone out to her sorrow, because they remember not only the many inspiring addresses they have heard from her lips, but perhaps even more the thousands of visits at their firesides, where she cheered the discouraged and raised up the despondent. It is this heart to hear work of hers that has caused her to be called, in affection, "Mother Mayo."

TWO STATE GRANGE OFFICERS.

Mrs. F. D. Saunders, Lecturer of the State Grange for the past four years, had a splendid equipment for

MRS. SAUNDERS

MISS BUELL

her work. A substantial education, an experience of over ten years of teaching, a membership of over twenty years in the Grange, the holding of the offices of Lecturer and Master of the Subordinate Grange and of Lecturer of the Pomona Grange,—all this helped her when elected State Lecturer to plan the advance movement in lecture work which we have already described. Sister Saunders has abundant enthusiasm, tireless energy, knowledge of the needs of farmers, and appreciation of the trials of farm life. Our lecture work as 60 developed by Sister Saunders is on a par with every other phase of Grange work in the State. She has revolutionized the lecture system, and has pointed the way and led the van in its improvement.

Miss Jennie Buell, Secretary of the State Grange since 1890, has been identified with State Grange work for nearly twenty years. For five years she was associated with Bro. J. T. Cobb, when he was both Secretary of the State Grange and editor of THE GRANGE VISITOR. She thus learned thoroughly the details of the Secretary's work and was fully

prepared when chosen to succeed Bro. Cobb in that office. She also secured a valuable newspaper experience, and has been a frequent contributor to the press. Sister Buell has always has her home on a farm, and possesses an intense love of country life. She finds the keenest enjoyment in nature-study, and is especially an intimate and appreciative observer of bird life. This love for the country and its surroundings always shown itself in her Grange addresses. She always pleads for a more intelligent and happier country life.

THE WOMAN'S WORK COMMITTEE.

This work has already been described. Sister Mayo was formerly chairman of the committee, but since she has been unable to give attention to the work, the burden has fallen upon the shoulders of the other two members of the committee:

MRS. WOODMAN

MRS. HINDS

Mrs. Mary Sherwood Hinds has been a member of this committee for over ten years, and has had special charge of the school work. The planning for his work, the getting out of the blanks, and the securing of the reports have cost a great deal of time and effort. Sister Hinds has also been especially enthusiastic in encouraging the teaching of patriotism in the public schools, and her reports to State Grange never fail to emphasize the need of true patriotism. Sister Hinds has for a long time been a member of Stanton Grange, Montcalm County.

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Just as this sketch is ready for the press, word comes that Sister Hinds died at her home in Stanton, October 13. We extend the deepest sympathy of Michigan Patrons to the family. Sister Hinds will be sorely missed in our Grange work.

Mrs. Olivia J. C. Woodman taught school several years and after returning to her county home studied for and was admitted to the ministry, being ordained in 1890. She joined the Grange in 1883, serving as Lecturer of Windsor Grange and Eaton County Pomona Grange for many years. She has been continuously connected with the State Grange in some capacity since 1884. She has long been known as a forceful and eloquent speaker. Her voice has been heard in many Grange halls of Michigan and especially at the Rallies. During the past two seasons she has attended Grange field meetings in Maine, New Hampshire and Vermont. At these meetings she has addressed thousands of farmers, and her work has produced a profound impression. She is a thorough believer in all phases of woman's work in the Grange and gives it a great deal of her thought.

THE EXECUTIVE COMMITTEE.

The Executive Committee of the Michigan State Grange is a very active body, taking an important part in all phases of Grange work. Bro. Thomas Mars is now Chairman of the Committee. The Master and the Secretary of the State Grange are ex-officio members. Short sketches of the remaining members follow:

A. E. Palmer is serving his third term as a member of the Committee. He jointed Boardman Valley Grange in 1886, was delegate to State Grange in 1887, and has attended every session since. He has been especially prominent in legislative work of the Order. He is Master of Kalkaska Pomona. In public affairs he has served as supervisor, Chairman of the County Board of Road Commissioners six years, and the last two years as State Senator. He has done a great deal of work in the Grange lecture field, and is especially well known as a Farmer's Institute lecturer of great influence and popularity.

M. T. Cole helped organize Palmyra Grange in 1874, and has been an active member ever since. He has been Master of Lenawee County Grange, and served for six years as Overseer of the State Grange. He was elected to the Committee in 1900. Bro. Cole

is a veteran of the Civil War, and was mustered out as first lieutenant. He was in the Legislatures of 1886 and 1888, and a member of the Board of Commissioners of 62 EXECUTIVE COMMITTEE, MICHIGAN STATE GRANGE. E. E. Owen E. A. Holden G. B. Horton M. T. Cole Thos Mars, Ohm F. W. Redfern N. I. Moore A. E. Palmer Jennie Buell 63 the Pan-American Exposition in 1901. He makes a specialty of dairying. Bro. Coles's never failing wit makes him a welcome talker at Grange meetings.

- N. I. Moore has been Master of his home Grange and served as Master of Hillsdale County Grange six years. He was elected to the Committee in 1900. During the past few years he has organized fourteen Granges, and last winter conducted Grange conferences in ten counties. Bro. Moore has identified himself very closely, with movements in his home county for rural progress, as president and also as secretary of the Farmer's Institute Society, president of the Patrons' Fire Insurance Company, and president of two picnic associations. Bro. Moore makes specially of thoroughbred sheep and swine.
- F. W. Redfern joined **Essex Grange**, Clinton County, in 1880. He served as Lecturer and as Master, also occupying similar offices in the County Grange, and also representing the Pomona several times at State Grange. He was elected to the Committee in 1885, and has served continuously ever since, thus being the oldest present member of the Committee in point of unbroken service. Aside from minor public officers, Bro. Redfern served in the Legislatures of 1893 and 1895. During the latter session he was Chairman of the Grange Legislative Committee, and took the leadership in the fight for Grange legislation which has already been described.
- E. A. Holden, the youngest member of the Committee in point of years, is, however, one of its most active members. Was Master of Capitol Grange some five or six years, and has been both Master and Lecturer of Ingham County Pomona. He has been a member of the Executive Committee of the State Grange since 1895, and has been especially active as a member of the Legislative Committee. He has also organized the Patrons' Insurance

Company of Ingham, Clinton, and Eaton Counties, has served as its Secretary and is now its President. He is also Secretary of the State Patrons' Fire Insurance Company. He has a lively interest in every moment for improving the schools, and for advancing the educational work of the Grange.

E. E. Owen has been a member of the Order for twenty years, keeping up his membership even when he was living twenty-three miles from a Grange. He is at present a member of Mayfield Grange, Lapeer County. He has held nearly every office in the Pomona, and has been delegate to the State Grange. He was elected to the Committee in 1901. Bro. Owen has a good education, has been a hard worker and successful farmer, and now owns some 400 acres, giving his attention to mixed farming, with potatoes as a leader.

CAPITOL GRANGE IN SESSION

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CAPITOL GRANGE

CAPITOL Grange, No. 540, Lansing Michigan, is on November 30, 1902, three years past the quarter of a century mark. To-day it stands the first Grange in Michigan with a membership of three hundred and eight-six.

Of the seasons of abundant harvest with numerous laborers, also of those seasons when the sowing and the reaping were accomplished by the faithful few,—for we, too, have found times of scarcity as well as plenty in Grange prosperity—of all these we would tell you did not space forbid.

We can only tell you of some of the strong points that have kept Capitol Grange well to the front among her sister Granges.

That the Grange is not an organization for the city, as many have claimed, we have proven to be a false theory. In every city are many retired farmers and their families, students from

the country attending the city schools, people living in the suburbs engaged in farming or gardening, beside the large rural population adjoining the city. Add to these conditions the improved educational advantages in the way of lectures, libraries, etc., and what could be a better environment for a thriving Grange?

From its organization to the present time, sturdy farmers, men of brain as well as brawn, with their wives equally intelligent, have given stanch support to Capitol Grange. It has been the social and educational attraction to them during the winter months and in return they have been willing workers in its behalf.

The annual autumnal fair, though crowded out by other things the last two years, has been a very pleasing feature. No one thing tends more to legitimate rivalry and contest in the producing and exhibiting of superior grains and fruits, besides often adding something to the Grange treasury.

The lecturer's hour is never ruthlessly infringed upon and seldom an evening passes without an attractive and instructive program. No Grange can execplify the Grange principle unless the lecturer's hour be encouraged by a ready response to its demands by all its patrons. To "flunk" is considered a misdemeanor in our Grange.

During the summer months, every other week, for our regular meeting, is substituted an afternoon social or picnic for patrons and their friends. A drawing feature of these socials is a short program, part of which is a little paper, the "Social Observer." This is witty and sometimes sarcastic, but never a word is allowed by the editor that could in any way harm a brother or sister of the Order.

Capitol Grange now has a Juvenile Grange of about thirty members. Think what it means when a whole family may go to the Grange and spend an evening in 66 social and educational entertainment! The suggestion is sufficient and you will admit that no other

organization can be compared with the Grange in promoting the welfare of the family and the home.

In 1887 the National Grange visited Lansing. In the fifteen years between then and now there have been many changes in Capitol Grange. Some of the faces that greeted our National organization at that time will be here to welcome you on November 12, 1902. But though the faces are most of them new, yet the greeting will be as fraternal as in 1887. We shall not entertain you with elaborate banquet or reception, but shall, instead, do what we believe you will enjoy far better, i.e., be at home to you in our hall and parlors every day during the session. Here we invite you to come and rest from the confusion of entertainment and business or to bring your friends where you may enjoy them undisturbed. A committee will be ready to receive you and in behalf of Capitol Grange extend to you every courtesy they are able. In this way we hope to greet many of you who visit the National Grange, and thus add to your enjoyment and comfort.

Patrons—Insure your homes in the Patrons' Insurance Co. Insure your lives in the Massachusetts Mutual. For information concerning either fire or life insurance, write E.A. Holden, Lansing, Mich.

Go to Imes for photographs.

CAPITOL JUVENILE GRANGE

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SUMMARY OF A FEW IMPORTANT EVENTS IN THE EARLY HISTORY OF THE NATIONAL GRANGE, P. of H. By J. J. Woodman.

The National Grange was organized by the seven founders of the Orders at the office of William Saunders, in the city of Washington, D. C., on the 4th of December, 1867, and the permanent organization, as a delegated body, was perfected at what was called the Sixth Annual Session, held in Georgetown, D. C., in January, 1873, with regular delegates

from nine State Granges, representing 1,362 subordinate Granges. Officers were elected and the constitution and by-laws were adopted. The Seventh Annual Session convened in St. Louis, Mo., in February, 1874, with 32 states and two territories represented. Twelve thousand Granges had been organized. At that session the Declaration of Purposes of the Order was prepared, adopted and published, and for 28 years that immortal document has been before the world eliciting admiration and challenging criticism. The following important event took place upon the floor of the National Grange at that session, and will stand as one of the brightest pages in the early history of the Order, B. F. Wardlaw, Master of Florida State Grange, was addressing the Grange on the importance of such a fraternal organization of the agriculturists of our country, and the great good which must result from bringing together such a representative body of men and women from every section of the United States, bound together in fraternity. He emphasized the importance of restoring harmony and friendship between the people of the North and the South, and well knowing the true and earnest desire of the members present from the Southern states, declared that he "was ready then and there upon the floor of the National Grange, to grasp the hand of his brother from Vermont, or that of any other brother from the North, and in behalf of every Southern member, to pledge them and the Order to bury all bitterness and ill-feelings which may have been caused by the unfortunate war, and work together in fraternal unity, harmony and brotherly love." Whereupon E. B. Colton, Master of the Vermont State Grange, rushed to the floor and grasped his Bro. Wardlaw by the hand, each closing with a firm pressure of the Patrons' grip, responded: "In behalf of every member of this body from the Northern states; we reciprocate your pledge and assure you that the desire of fraternal unity and brotherly love is as strong and sincere in our Northern hearts as it can be in the hearts of our Southern brothers and sisters, and we pledge to you that we will use our influence through this fraternal Order, and among our people, to bury all ill-feeling and bitterness between the people of the North and the South; and that our great Order shall from 68 this time enter upon its glorious mission to restore harmony, friendship and prosperity to our united Country." Amen! and Amen! resounded through the hall, and tears of joy filled the eyes of strong men and refined women. A recess was

declared and members from the North and the South upon the floor of the National Grange sealed the pledge, individually, with words of good cheer and the Patrons' grip. There is abundant evidence that the pledges there made have been faithfully kept.

The Eighth Session was held in Charleston, S. C., in February, 1875, with 36 states and territories represented. During the year 1874, 12,000 Granges were organized, and the receipts were \$216,381.02. The balance left in the treasury after paying all expenses. was \$51,213.49. All surplus funds, not needed for current expenses, were invested in government bonds. The amount held was \$60,000. A donation of \$54,815 was made to the State Granges, pro rata to the number of Granges in each state to relieve suffering among members of the Order, caused by floods in the South, and failure of crops of pioneer settlers of the West, donations amounting to over \$15,000 had been made during the year. The secretary's office was moved to Louisville, Ky., in 1875, and the National Grange convened there in November of that year, so that the fiscal year of 1875 was only nine months. As the dues of members to the National Grange had been reduced from ten to five cents a year, reducing the receipts from that source one half, and donations amounting to over \$10,000 had been made, and over 3,000 deputies employed, the balance of receipts over expenditures was only \$6,408.53, and bonds amounting to \$15,000 were ordered sold. Up to that time 24,290 charters had been issued. The climax in the organization of Granges had been reached, and the decrease in State Grange dues indicated that a reaction was taking place. The \$42,902 of State Grange dues received in 1875 had fallen to \$12,319.17 in 1879, and one-half of that amount had been furnished by the National Grange in the readjustment of dues and donations. Over \$100,000 had been refunded and donated to the State Granges up to and including 1879. Only 17 Granges were organized during that year. At that session—the Thirteenth—the retrenchment of expenses commenced at previous sessions was continued with a determination to bring the expenses within the receipts, but that object was not accomplished until the Sixteenth Session, in 1882, when the last sale of bonds was made to cover deficiencies. Since that time the receipts have been adequate to meet all necessary requirements. At the

Nineteenth Session, in 1885, the remaining \$38,000 of bonds were ordered sold, bringing \$50,937.50. Of that amount \$42,000 was loaned on real estate securities, 69 and several thousand dollars appropriated for the work of reviving the Order in the weak and dormant states.

Notwithstanding that liberal appropriations have since been annually made for extending the work of the Order, which has been prosecuted with vigor and crowned with success, and is still going bravely on, the funds of the National Grange have been gradually increasing until the original \$60,000 mark has been passed. It is not the policy of the National Grange to accumulate a large surplus fund, but to maintain a capital stock sufficient to meet any emergency which may arise, and give the Order permanency and ability to accomplish its grand purposes by using only the interest on investments and other receipts in defraying expenses and extending the work and influence of the Order. About twenty years ago the Order emerged from its crucial period and, though numerous other farmer's organizations have since sprung into existence and swept over the land, greatly retarding its growth and progress, yet, it has survived them all, and is now stronger, better organized and more influential than ever before.

The Order of Patrons of Husbandry, with thirty years of experience and a record of achievements such as no other organization of farmers can claim, and gates that swing open to every worthy tiller of the soil, is presented to the American farmers; and its future prosperity and achievements will depend upon the aid and support which they give it.

For board and rooms during National Grange, write or apply to G. W. Jewett or Harry L. Stone, Lansing, Mich. Committee will have headquarters at Capitol during session.

For information concerning transportation write Mayor J. F. Hammell.

Reception Committee.—S. L. Kilbourn. See program on page 94.

For first class photos call on Le Clear, Hollister block.

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BEET SUGAR INDUSTRY Article prepared by J. G. Macpherson.

SUGAR is one of the chief and valuable food staples of the civilized world, and in a measure its production and increased use marks the progress of nations.

It comes from two principal sources, namely, the sugar cane which thrives best in the tropics under nature's endowment, and the beet root which reaches its highest development in northern climates through intelligent labor and skillful methods of husbandry.

The history and growth of the cane sugar industry we need not touch upon, as the interests of our American farmers are interwoven with the sugar beet and with the permanent success of this new star that has lately arisen on the horizon of American agriculture.

The birth, growth and development of the sugar beet in Europe, where it first originated, is an interesting chapter of progress, evolving, as it has, from low conditions, stage by stage, until it now as attained a high state of plant life through the science and skill of man.

In Europe much has been accomplished to improve beets, both in quality and yield. The former has been done through "breeding up" from the seed of the "mother beet." In 1878 beets worked in Germany contained 9.24 per cent sugar, in 1899 the average was 13.34 per cent, and in 1901 as gleaned from European reports, the average was up to 14 per cent sugar in the beet.

The mechanical and chemical development of the beet sugar industry in Germany had doubled the weight of sugar produced from a given quantity of beets in the last fifty years.

Dr. Wiley of the Department of Agriculture, a noted expert, wisely says of the sugar beet that, "it is a plant of the highest agriculture; illustrating more than any other plant what science applied to agriculture can do for the human family."

The beet sugar industry originated in Germany through the experiments and research of the distinguished German chemist, Margraff, and his pupil, Franz Karl Achard. Margraff, in 1747, made known the result of his investigations by declaring that sugar could be extracted from certain varieties of beets. He found that red beets contained 4.6 per cent and white beets 6.2 per cent, sugar. Later, his pupil, Achard, devoted his time especially to the extraction of sugar from beets, with the result of producing sugar on a comparatively large scale in 1799. The efforts of Achard remained fruitless until 1805, when Baron de Koppy took up his ideas and methods of operation and 71 put them into effect by erecting on his estate, near Strehlen, Germany, the first sugar beet factory on record. Soon after, the second factory was erected by Achard on his estate, and later on, schools for instruction in the method of cultivating beets and the manufacture of sugar were founded by the government. The great Napoleon at this time commenced to inquire into these German experiments, resulting under his patronage, in the erection in 1811 of the first beet sugar factory in France. Thus we see that Germany and France were the pioneers in this new field or agriculture, that has since grown in Europe to gigantic proportions, and to-day is acknowledged to be their leading agricultural industry.

The entire beet sugar crop of Europe for the fiscal year or campaign of 1853-4, was 304,000 metric tons, (nearly 2,205 pounds per ton), whereas for the campaign of 1901-2 the production was 6,710,000 metric tons, or an increase of nearly 23 fold, or 2,300 per cent in 48 years.

The world's crop during the same period for both beet and cane sugar, has risen from 1,481,000 to 10,710,000 long tons, or an increase of 637 per cent in the world's production.

Covering this same period of 48 years there has been an increase of 201 per cent in the production of cane sugar, and an increase of 3,263 per cent in the production of beet sugar.

Beets in 1840 supplied 4.35 per cent of the total sugar product of the world, and in 1901 over 64 per cent, the greater portion of which was produced in Europe, in fact all of it, excepting 184,000 short tons furnished by the United States.

The value of the beet sugar crop for 1901, at \$75 per ton, was over five hundred million dollars, which amount went mostly to swell the coffers of Europeans.

From these figures we can readily see the magnitude of the beet sugar industry in Europe, and the constant source of wealth it is to her people.

BEET SUGAR INDUSTRY IN THE UNITED STATES.

Until 1879 the history of the American beet sugar industry was a record of failures.

The first experiments in extracting sugar from beets were made in Pennsylvania in 1830, with no record of sugar manufactured.

In 1838-9 David Lee Child conducted small works at Northampton, Mass., and made 1,300 pounds of sugar, but ceased to manufacture on account of cost.

Similar experiments were tried during the '60s and '70s in some of our Western States, resulting in failures from one cause or another.

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In 1888 Alamedo County, California, possessed the only sugar factory in operation in America. Its capacity was 90 tons beets daily, and its sugar output for that year was 1,910 tons.

In 1890 after the passage of the McKinley bill, Nebraska built her first factory, which was the second or third one in this country.

In 1891 there were three factories in California and two in Nebraska, five in all for the United States.

Ten years later, or in 1901, there were in operation 38 factories and three rasping stations, distributed through eleven States of the Union, having a daily working capacity of 26,200 tons of beets, and representing an invested and working capital of over thirty million dollars. At the present time, for thee campaign of 1902-3, there will be in operation 44 factories and three rasping stations, combining a nominal daily capacity of 30,200 tons and representing an investment of thirty-four million dollars.

These factories, providing they have the beets, can, during a full run of 120 days, slice more than three million tons of beets, grown on 350,000 acres, and of a value to the farmer of sixteen million dollars. To harvest this crop will require at intervals, 160,000 farmers with helpers, this estimate from Michigan results.

With an approximate yield of one ton of sugar from an acre of beets, these 44 factories now operating in this country can produce, under favorable results, 350,000 short tons of sugar, or about one-seventh of our present consumption, having a market value of thirty-one million dollars. With an actual labor cost or farmers' pay-roll of \$35 per acre, the work on 350,000 acres will amount to over twelve million dollars. This amount will furnish 60 days, employment to 163,000 farmers at \$1.25 per day, or one day's employment to 9,800,000 men.

With an actual labor cost of \$13 for every ton of sugar produced, the factories will pay out in wages and salaries for 350,000 tons sugar manufactured four and one-half million dollars.

This amount expended furnishes employment to nearly 13,000 workmen and skilled operatives for 180 days at \$2 per day, or one day's work to 2,275,000 men, at \$2 per day.

THE BEET SUGAR PRODUCT OF THE UNITED STATES.

Campaign 1892-3, 6 factories, 12,018 tons (2,240 lbs. each), (per Willett & Gray).

Campaign 1895-6, 6 factories, 29,220 tons (2,240 lbs. each), (per Willett & Gray).

Campaign 1897-8, 9 factories, 40,399 tons (2,240 lbs. each), (per Willett & Gray).

Campaign 1900-1, 34 factories and 3 rasping stations, 76,859 tons (2,240 lbs. each), (per Willett & Gray).

Campaign 1901-2, 39 factories and rasping stations, 184,606 tons, (2,000 lbs. each).

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Campaign 1902-3, 44 factories and rasping stations, (estimated 300,000 tons, (2,000 lbs. each).

The above figures mark the progress of the past ten years without any further comment.

SUGAR CONSUMPTION IN THE UNITED STATES. Per Willett & Grays Report.

The total percentage of increase in consumption for 20 years beginning with 1881, is 138.77 per cent and the average increase per year is 6.94 per cent.

The consumption per capita has increased during the same period 57.69 per cent, showing an average of yearly increase of 2.88 per cent.

If conditions remain practically as they are, there will be an average annual increase of 7 per cent in the consumption over 1881, which was 993,532 long tons. This increase is due,

on one hand, to growth in population, and on the other, to the average annual increase in consumption of about three pounds per head.

In 1870 our per capita consumption was 33 pounds.

In 1881 our per capita consumption was 44.2 pounds.

In 1901 our per capita consumption was 69.7 pounds.

Our nation is the second largest consumer of sugar in the world, England taking first rank with a per capita of 91 pounds, and Italy among the lowest, with six pounds.

SUGAR CONSUMPTION OF UNITED STATES FOR 1901.

Domestic Cane and Beet 492,784 short tons

Insular Possessions, Hawaii, Porto Rico, and Philippines, 426,103 short tons

Foreign 1,738,107 short tons

Total 2,656,994 short tons

TOTAL IMPORTS OF SUGAR DURING CALENDAR YEAR 1901.

Reported by Treasury Bureau of Statistics: From Cuba 651,430 short tons

East Indies (chiefly Java) 343,338 short tons

West Indies and other Cane Countries 561,450 short tons

Europe—Beet Sugar 299,872 short tons

Total imports (excuusive of Insular Possessions) 1,856,090 short tons

To produce at home the sugar now imported, it would require an investment of local capital in additional factories beyond those now operating of one hundred and seventy-five million dollars.

With an average yield of one ton of sugar from one acre of beets, it would require the continual cultivation of 1,850,000 acres to produce the sugar we now import. Further, this vast acreage would be diverted from cereals and afford relief from over-production in 74 old line crops, which fact directly interests every American farmer.

To harvest the beets from this great acreage it would require 866,000 farmers for 60 days at \$1.25 per day, or it would furnish one day's labor at \$1.25 per day to 52,000,000 men. The farmers' pay-roll would be in this case, sixty-five million dollars.

To produce the sugar from these beets it would furnish employment to 67,000 workmen, skilled and unskilled, for 180 days, at \$2 per day, or one day's labor to 12,000,000 men.

The pay-roll for the factories in this case would be for wages and salaries, twenty-four million dollars.

The stimulus given to this special branch of agriculture is due, in a great measure, to the experiments, efforts and published documents furnished by the Department of Agriculture at Washington.

This branch of our government has expended thousands of dollars to encourage and educate our farmers in beet culture, and to find for them a fresh source of wealth and a new field for capital.

The best and staunchest friend of this infant industry, and of all other interests touching the American farmer, is the present Secretary of Agriculture, the Hon. James Wilson; a farmer himself and far seeing statesman, he has never lost faith in this nation's ability of growing on its own soil every pound of sugar consumed by its people.

THE BEET SUGAR INDUSTRY IN MICHIGAN.

There is not State in the Union better adapted for the development of the beet sugar industry than Michigan. With an equal climate, tempered by the waters of the Great Lakes, it is particularly free from drouths, violent storms and other climatic disturbances.

Possessed of a rich soil, great natural wealth and intelligent citizenship, near the great consuming centers, with unrivalled transportation facilities, both by water and rail, it is one of the many States in which this new industry should flourish.

Pursuant to the platform of the Republican party, adopted at St. Louis, Mo., June, 1896, "Favoring such protection as will lead to the production on American soil of all the sugar which the American people use." And upon the strength of this promise, emphasized in the enactment of the Dingley law of 1897, local capitalists of Bay City, Mich., organized a company in the fall of that year, constructed a factory and had it in operation, fall of 1898, at Bay City, Mich. This was the first factory in the State and is known as the Michigan Sugar Company.

The Michigan Experiment Station introduced the first beet seed and this State in 1897.

The progress of the industry in four years' time is certainly wonderful, as a few statistical figures will show.

SAGINAW SUGAR COMPANY'S FACTORY

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There are 17 beet sugar factories now in this State, including the factory at Charlevoix, Mich., now being constructed, with a combined daily capacity to work 9,300 tons of beets.

The investment in these plants, on the basis of \$1,000 for each ton daily capacity is \$9,300,000 and working capital on basis of \$100,000 for a 600 ton plant is \$1,550,000.

Total investment by Michigan sugar companies: ten million eight hundred and fifty thousand dollars.

ACREAGE AND BEET SUGAR PRODUCT OF MICHIGAN.

Campaign Factory Acres Lbs. 1898-9 1 3,200 5,271,406 1899-0 9 27,000 32,927,017 1900-1 10 36,000 56,661,265 1901-2 13 66,400 106,267,500 1902-3 17 102,231 less 12½ % A net of 89,000 178,000,000 (Estimated)

The returns just received from the 17 factories for season 1902 show 20,379 contractors, or farmers, raising beets, covering 102,231 acres, but owing to the wet and unfavorable season it has been thought best to discount this acreage by 12½ per cent, leaving net acreage for 1902, 89,000 acres, against 66,400 acres for 1901, or 4 1-3 acres per contract for 1902, against 3.9 acres for 1901.

With this acreage at 9 tons per acre, the crop for 1902 will be 800,000 tons beets, with a value to the Michigan farmer of over four million dollars. With a yield of one ton sugar per acre of beets, the production for campaign 1902-3 will be 89,000 short tons, with a market value of eight million dollars.

At an average labor cost to farmer of \$35 per acre—his expense practically all labor—the total item for farm labor is about three million dollars.

This amount for farm labor will furnish employment to 41,333 Michigan farmers for 60 days at \$1.25 per day, or one day's labor to 2,480,000 men at same wages.

With an actual labor cost to the manufacturer of \$1.50 per ton beets to produce sugar, the total item of wages and salaries paid by the factories will be, approximately, one million two hundred thousand dollars.

The factory pay-rolls will furnish means to 3,750 workmen and skilled operatives for 160 days at \$2 per day, or one day's labor at same wages to 600,000 men.

Thus there will be paid this season in Michigan, over \$4,000,000, for labor of 45,000 farmers and factory employes.

The 20,379 contractors raising beets during season 1902, represent the same number of families, and on the basis of five members to a family, there are 102,000 persons directly interested in the agricultural end of this Michigan industry.

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The money paid out for beets and labor goes to the many and not the few. It is widely distributed, quickly circulated, thus benefiting all lines of trade.

The Michigan sugar product for 1902-3 will more than take care of the consumption of that article by her citizens, estimating her population at 2,500,000 and present consumption at 70 pounds per capita.

Four years ago every pound of sugar consumed in this State was purchased outside, at a cost of over seven million dollars.

This money went out of the State and country, in the main, to swell the coffers of foreigners.

Now we are producers and every dollar remains, all accomplished within four years.

The by-products of sugar beet factories, spent pulp and crude molasses, are almost a wasted element in this country, having little value and, in many instances, a source of expense to get rid of by the manufacturers.

In early years these secondary products attracted little attention in Germany, but today, after thorough and practical experiments, a high estimate is placed on them by the German farmers for feeding purposes.

The spent pulp is used either in the fresh state, from siloes, or in a dry form after being prepared through a process of kiln drying which preserve it for many months and allows shipping long distances.

Eight and one-half tons of the wet will make one ton of the dry pulp, the latter selling in Germany for about \$20 per ton.

Taking 50 per cent of the weight of beets sliced a representing the wet pulp, we arrive at the following estimate as to the quantity and value of the Michigan output for 1902, providing our American farmer knew its value for feeding purposes. The 50 per cent of 800,000 tons beets gives us 400,000 tons wet, or 47,000 ton dry pulp, making the latter worth nearly one million dollars.

The waste or crude molasses, which is 3 to 5 per cent of the weight of beets, is valuable in Germany for mixing with cattle feed and making alcohol. In Michigan it had no value until last year. Consul General Mason, at Berlin, reports that it has a selling value in Germany of \$1.13 per 100 kilograms (220 pounds) in carload lots. In the making of alcohol from these crude syrups, more or less potash salts are recovered, which are of value as a chemical fertilizer.

The Michigan Chemical Co., a recent organization, built last year at Bay City the first alcohol factory, and operated it last winter, using the waste syrups from Michigan factories. The factory and tank car line represents an outlay of several hundred thousand dollars, and the alcohol business is certainly a remunerative one to our Government, for this company paid on 78 its first season's output an Internal revenue tax of \$1,166,00.

This industry in Michigan is doing much towards inaugurating good roads in many counties of our State, especially in Saginaw and Bay Counties, where vast sums have been spent to improve our highways. The cost of hauling the products of the United States to market or the nearest railway station is estimated by the report of the Industrial Commission at

\$900,000,000 yearly. This amount exceeds the entire cost of operating the entire railway system of the United States. This enormous cost comes largely from our poor highways for which our country is noted.

Much more could be said about the direct and indirect benefits spreading from this young infant of only four years' growth in this State but space forbids.

The unfortunate agitation in Congress last winter, when this promising agricultural industry was singled out to pay the whole "Moral debt of gratitude" this Nation owes Cuba for making her free and independent, has had for the present a serious effect upon its development in this country. Many new and prospective companies in different states are now "hung up" awaiting the favorable or unfavorable action of Congress.

With our labor and capital; with our climatic and soil conditions; with our energy and skill, is it not possible for us to grow on American soil, all the sugar we consume without sending abroad each year one hundred million dollars?

It is not necessary to make answer in the affirmative, for the rapid growth of the beet sugar industry in this country during the past five years gives the lie to the pseudo-economist, as it did twelve years ago when he declared that tin plate could not be produced in this country.

But to successfully continue its development we must have wise and beneficient laws; the fostering care and protection of our Government to support us against bounty fed sugars, the "Cartels" of Europe, and against the inroads of sugar produced by semi-slave and contract labor of tropical isles.

We would respectfully refer the reader to the speech of the Master of the National Grange, the Hon. Aaron Jones, made last January before the Ways and Means Committee in Washington, D.C. Without solicitation from the sugar beet growers or manufacturers, he

appeared before this committee, not alone in their behalf, but for the general welfare of all American farmers.

Broad in view, unprejudiced and patriotic, his earnest plea was THAT AN ATTACK ON ANY SPECIAL AGRICULTURAL INTEREST WAS AN ATTACK ON THEM ALL.

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CITY OF LANSING

The city of Lansing, which is at present making preparations on a generous scale for entertaining the National grange, has been for many years the favorite convention town in the state. There are several reasons for this, one of them, of course, being that as the state capital it has several points of attraction that no other town in the state possesses. Another reason is its favorable location as regards railroad facilities. Situated as it is nearly in the geographical center of the state it has railroads entering it from almost every direction giving it connection with the great centers, Chicago, Detroit, Buffalo, Cleveland and Toledo, besides the fine service in connection with Michigan towns and the direct connection over the Pere Marquette, with the Great Lakes and the North West.

The Pete Marquette, which is made up of several of the most important short lines in the state united first into one complete network throughout the state and finally absorbed into the great Pennsylvania system, affords direct connections with Detroit, Grand Rapids, Petoskey and the Upper Peninsula. The Saginaw branch of the Michigan Central furnishes connections with Saginaw, Bay City and Mackinac, as well as eastern and northern cities. This road has the distinction of having just finished for the city one of the finest stations in the state. The Lake Shore has a Lansing division that connects at Hillsdale with the main lines of the road, thus giving connection with Toledo, Bufralo and New York. The Chicago and Grand Trunk's main line runs through Lansing on its way from Chicago to the Atlantic coast, going through Port Huron.

It is probable that to these exceptional facilities, also, Lansing owes a part of its growth and prosperity during the past few years. People who were familiar with the town ten years ago, and having been absent, should return today, would not fail to be impressed first of all with the evidences of solid and substantial growth on every hand.

Natural resources partially account for this new prosperity as the facilities that the city possesses in the way of water power furnished by its rivers have been taken advantage of more and more.

Doubtless these advantages were dimly seen by the members of the legislature who voted in 1847 to place the state capitol at the junction of the Grand and Cedar rivers on a fine plateau that was even yet almost entirely covered by the dense forest. Today these things are counting as never before. In 1900 the population was 16,845. When the next census is taken the number will be nearer 25,000 and a good part of the increase will come in the persons of the workmen employed in the great factories that have lately been induced to come to the city and in the added number employed by

LANSING CITY COUNCIL

81 the branching out of establishments long connected with the city's history.

The American pioneer always had his even on the future, therefore Lansing, like most western cities, is laid out regularly with wide fine streets and splendid avenues that are now paved and bordered with shade trees for several miles. Five of its main streets, indeed, are paved with brick, one of them, Washington avenue being so paved its entire length, two and one half miles.

The first thing the stranger naturally looks for is the capitol building itself, and that is so fortunately placed that no matter from which direction the visitor enters the city it dominates the view and becomes naturally and unobtrusively the most important feature, architecturally, of the city. It is set impressively on a considerable eminence where

Michigan and Capitol avenues cross, and is surrounded by broad green lawns that are kept like velvet the whole season through. The building is of brick and stone; it is 345 feet long, 191 feet wide and 269 feet to the top of the lantern on the dome. It was begun in 1872 and finished in 1878 and cost \$1,500,000. Large as it is does not now furnish room for all the offices it should contain and an addition will be built very likely at no distant day.

Besides the governor's and the department offices, the building houses the state library, which is one of the finest collections of books owned by any state, the Supreme Court of the state is here, and the rooms of the State Pioneer and Historical society with its museum of antiques that recall and illustrate the past life and customs of the city and state.

There are at Lansing three other state institutions besides the capitol, all of which visitors wish to see and seeing they also admire. These are the Michigan Agricultural college, the first and most famous of its kind in the world; the Michigan School for the Blind and the Industrial School for Boys. The College will be found more fully described than it would be possible to do here. The other two institutions were founded early in the life of the state but neither has clung to ancient ideas that would have hindered growth, but has kept abreast of the best ideas in regard to such institutions, and each is a model of its kind.

The School for the Blind is in the extreme northwestern part of the city; it consists of a number of substantial brick buildings surrounded by lawns, flower beds and fine trees. The school has always been carried on with a view to furnishing the most practical education the could be given to the blind, and its courses have been recently remodeled and enlarged to still broader scope.

Visitors to the School of the Blind will not leave the part of the city in which that institution is located without seeing as much as possible of that splendid addition to Lansing's great manufacturing establishments, the Lansing sugar factory. This factory, the location 82 of which at Lansing is one of the results of the enterprise of the Business Men's associations, is owned largely by Michigan capital and controlled by Michigan men. The buildings stand

on the north bank of the Grand river and a spur of the Pere Marquette comes into the grounds to furnish the needed railroad facilities. The main building is of brick, 250 feet long and four stories high. It was built by the Kilby Co., of Cleveland, a company that has built a great number of such factories in all the sugar growing states and in consequence the Lansing factory is second to none in regard to equipment and facilities for producing fine sugar.

Last year was the Lansing Sugar Co's. first season, the buildings being only finished in time for the fall campaign. Although beet growing was a new enterprise in this locality and farmers had much to learn both as regards planting, caring for and handling the beets, yet so successful were the first year's attempts that new contracts in sufficient number were made without difficulty—many farmers doubling their acreage— and the second year's campaign which was begun Oct. 9, promises even greater things of all concerned than that of last year.

The company distributes seeds to its contractors, gives instructions and advice as to the best methods of care and culture, assists so far as possible, farmers to obtain help in weeding, hoeing and harvesting, and in short stands the farmer's guide, counselor and friend until the beets are weighed, delivered and paid for at the factory.

The process of sugar making cannot be described in an article like this but the wonder of a visitor to the factory grows as he follows the beets from the sheds where they are weighed and unloaded, as he watches them in the arms of the revolving machinery in the well where they are washed, sees them lifted to the top of the immense building and then follows them down, through machinery that slices them, grinds them, squeezes them until they are no longer beets but are merely juice and pulp. The process goes on. The visitor sees great vats of boiling syrup that is tested and worked over by the chemists until it issues out, somewhere at the bottom again, pure white granulated sugar at the rate of 500 barrels a day. Three hundred people find employment in the factory, of all grades of

workmen from the skilled machinist to the chemist who brings to bear the latest processors of science upon the production of this great staple.

When all the precious juice has been squeezed out of the beet the pulp has still a market value. Farmers buy it for feeding and for use as a fertilizer, and find their stock flourishing on this addition to their ordinary rations. This year the company has disposed by contract of all its pulp except such as is required by its contractors and it is shipped over a great part of 83 four states to be used for the purposes above mentioned. Last year experiments were made at the factory with feeding the pulp to sheep that were brought from Montana for the purpose. The experiment was so successful that it is being repeated this year.

The company is incorporated under the laws of Michigan with a capital of \$600,000. The officers and directors are: President, Benj. Boutell; vice-president, H. H. Larned; secretary and treasurer, L. S. Boutell. Directors—Benj. Boutell, H. H. Larned, L. S. Boutell, E. F. Cooley, W. B. Penoyer, John Mitchell and Martin Mullen. The agriculturist is Perry G. Towar.

Still at the north end of the city the visitor may find other evidences of the activity of the Business Men's association as well as institutions that have long been factors in producing the city's wealth. Of the former, the electric railway that runs northward is one of the most interesting. The road is not yet finished and is at present operated by steam, but the electrical equipment is being put in place, the Lansing terminus is being built and when finished it will be one of the finest examples of electric road building in Michigan. The Michigan Suburban Co. owns its private right of way from Lansing to St. Johns, which is as far north as it is yet finished; it has a road bed as solid as that of any steam road in the state; it has fine overhead bridges and its cars are to carry an equipment of quite new design, the invention of B. J. Arnold, president of the construction company that built the road. Much of the stock is owned by Lansing men. The road even in its unfinished condition furnishes a needed means of reaching the fine country north of Lansing and the people of the small towns to the north, as well as the farmers have an easy and

direct way of reaching, the capital. The road is destined to be an important factor in the commercial history of Lansing, reaching as it does all those in the neighborhood of the city who otherwise had no direct communication with it. The road was first begun by Frank L. Dodge, the late Martin V. Montgomery, Jacob Stahl, Isaac Hewitt, A. B. Darrugh and Dr. Stiles Kennedy. It has a capital stock of \$500,000. Present officers of the company are: Jno. E. Mills, president; Isaac Hewitt, vice-president; Frank L. Dodge, secretary; Myron Mills, treasurer; D. W. Johnston, manager. The present board of directors is composed of Jno. E. Mills, Frank L. Dodge, Isaac Hewitt, Stiles Kennedy, E. F. Percival and Myron Mills.

Situated at the north end of the city in order to take advantage of the fine water power are various mills and factories such as the Hildreth Motor and Pump Co., manufacturers of gas and gasoline engines and factory and mill supplies which is rapidly branching out in every way; the Auto Body Co., a new comer in the field but one whose future is bright with promise. Christian Breisch & Co's. Pearl mills, to which additional and extensive improvements are being made; 84 and the North Lansing Milling Co's. mills which are a branch of Thoman & Co's. establishment.

The Lansing Brewing Co. is another substantial business enterprise at the north end of the city. It was incorporated in 1898 for \$25,000. Has a capacity of 15,000 barrels a year, uses two modern twelve-ton ice machines and employs twenty men. The president and general manager of the company, Lawrence Price, is probably connected with as many of the business enterprises of the city as any one man. He is a member of the Business Men's association and also sits in the council among the city fathers.

The Lansing Spoke Co., situated in the northeast corner of the city, near the Pere Marquette and Michigan Central railroads, is one of the solid progressive manufacturing enterprises of the city. Five years ago this company did the greatest amount of business of any concern of its kind in the state and from that period it has steadily advanced until today it stands among the largest spoke manufacturing companies in America. There is

used in the annual output nearly five million feet of lumber. The members of the firm are E. S. Porter and L. J. Driggs. Both are members of the Business Men's association.

The Lansing Business Men's association so frequently referred to in the course of this article is exactly what its name implies. It is an organization of some of the most enterprising as well as some of the busiest men in the city who, recognizing the advantages, natural and acquired of this city determined to change conditions so that people could not say of Lansing what is usually said of a state capital that it is "pleasant but very slow." The industrial depression that was so marked everywhere from 1893 to 1897 had its effect in Lansing as everywhere. As prosperity slowly returned to the country at large, Lansing felt it likewise and quickly the enterprising men of the community began to take advantage of it. In January, 1901, the association was organized with about 200 members. A board of directors was appointed to look about and secure as quickly as possible manufacturing concerns that would be willing to locate in a town where every kind of reasonable inducements were offered to companies that desired to establish themselves in favorable conditions and acquire wealth at the same time for themselves and for the city. Diligent effort was made to secure good live factories with the almost phenomenal result of landing twelve the first year, the past year fewer new concerns have located here but at present Lansing can boast of no vacant houses or stores, although nearly 200 dwellings were built during the season of 1902. The present officers of the association are: Harris E. Thomas, president; Elgin Mifflin, vice-president; J. Edward Roe, treasurer and Orien A. Jenison, secretary.

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There are now in Lansing between sixty and seventy manufacturing concerns, some of which are known all over the world.

Among the latter would come the name of Hugh Lyons & Co.

In the Labor Day parade, Sept. 1, the firm of E. Bement's Sons made a display that amazed even Lansing, well as that great concern is known in its native city. Both as regards quantity and quality its output compares favorably with that of the foremost manufacturers of stoves and farming implements in the world. And the world is its market. Every railroad that comes into Lansing has a track connecting it with Bement's establishment, and over each track goes out the hundreds of cars carrying stoves and agricultural implements to every spot on the globe where there is earth to be turned by a plow, or food to be cooked and houses to be warmed by artificial heat.

This world wide market was won and is kept by nothing less than the superiority of the articles that are manufactured under this company's roofs. The name of E. Bement's Sons on a stove means that the stove is a thing of beauty as well as of utility. The Palace stoves have long been famous. They are made in many excellent styles, have all ordinary improvements besides many special advantages not found in other stoves. The material that goes into them is the best pig iron cast into smooth and strong shapes. All the fittings are elaborate and as pleasing as it is possible to make them. The progress toward the present perfection of product has been great from the beginning. From the time when an immense plain stove that generated a great amount of heat and wasted half of it, there has been a steady improvement. The up-to-date stove produced in this establishment wastes no heat. It uses all the fuel put into it to the best advantages, spreading it evenly and thoroughly. Scientific principles have been brought to bear upon the ancient problem that was long considered solved by a simple device that merely contained fire, and a modern stove bears but a faint family resemblance to the old time fire-pot that was thought to be the acme of ingenuity as compared with the fireplace.

The other branch of the company's business, that of making agricultural implements, is on about an equal scale with the stove making and it is of equal excellence. In both departments there is but one motto, excel. The list of agricultural implements includes plows, harrows, cultivators, corn planters, cotton planters and kindred articles. Each year

improvements have been made in these things which create a doubt that anything else can be done for improvement, but each year sees some clever touch, some ingenious device added that makes more nearly for perfection.

The magnificent plant that the company operates is well worth a visit from any strangers in Lansing. Two 86 full blocks near the center of the city are covered with the shops and offices. There are blacksmith shops, machine shops, a model foundry with an immense moulding floor; there are finishing shops, cleaning rooms and repair shops. To these have been added a large building made entirely of cement which constitutes a great addition to the warehouse facilities required. Buildings of cement are new and this one builted. The entire equipment of machinery and appliances is thoroughly modern and up-to-date.

Prominent among the manufacturing concerns recently brought to Lansing through the agency of the Business Men's association is the great industrial enterprise known as the Olds Motor Works. Bringing this establishment was not quite like bringing in a stranger as twenty years ago the Olds. Co. was established in Lansing; was using a building eighteen by twenty feet. In 1885 the company put its first gasoline engine upon the market. The time having arrived when gasoline was to be used as a motive power in shops of all kinds, the placing of this engine was sufficient to create a demand and the Olds Co. is now one of the largest makers of stationary gas engines in the world. Building is added to building each year in order to make sufficient room for the great plant necessary to supply the demand.

In 1887 Mr. Olds made his first automobile and so started the second great branch of the company's business. This machine had three wheels; it weighed 1,800 pounds and used steam and gasoline to furnish motive power. The following year, after a great deal of experimenting, this machine was rebuilt, but was finally abandoned.

In 1891 the company brought out another machine that was an improvement over the last. This machine was used a couple of years and was finally sold to a patent medicine

company in London that used it as a great advertisement. In 1895 a really fine machine was made and was used constantly for three years. This, however, cannot be compared with the beautiful machines of many patterns that are put on the market under the name of the Oldsmobile today. For speed, ease of running and for beauty there are none that can match them.

In Chicago the past summer where a trial was made by the Automobile club of that city which was a test both for machines and drivers, the Oldsmobile came out with two blue ribbons and a certificate on merit, which was by far the finest record made by any machine in the race.

The Oldsmobile weighs only 580 pounds but will carry a weight of 2,000. The light weight enables it to run on roads that would be impassible with a heavy machine. It has a gasoline capacity of from 100 to 150 miles, and it will start with a moment's manipulation. It has the regular wagon track of four feet seven 87 inches; the wheels are 28 inches in diameter and are fitted with heavy 2 1-2 inch pneumatic tires. The perfection of lightness and ease of running which has been obtained naturally decreases the expense for fuel. There is no jar to the steering lever, as it is attached to the body and not to the running gear. The base of the steering lever is connected with the front wheels through a spring. This spring absorbs all vibration caused by irregularities in the road, yet in no way does it affect the ragidity of the steering mechanism. The motor is started, while sitting in the carriage, by means of a stationary crank at the end of the seat. The speeds are controlled by one lever, which is moved forward for the speeds ahead and backward for the reverse. The highest speed is obtained by increasing the speed of the motor; this is accomplished by means of a foot lever, which acts upon the governor, and also by varying the time at which the ignition takes place.

The Olds company now operates six large plants, three of which it owns, the others being leased. Two of these plants are in Lansing, the one recently brought here being the largest. There are thirty-two or thirty-three large buildings of the company's own and more

are being constantly built. Both the engines and the automobiles made by this company are famous and take their places among the finest that the world produces.

Another great establishment that from a small beginning has grown to be of great importance and to have become widely known is the Lansing Wheelbarrow Co. One of the factors of the general prosperity that has come to Lansing, the company has at the same time prospered in its individual business, particularly within the past three or four years. The capital stock has been constantly increased, nearly half a million being the latest figure, and its workmen will number over five hundred when the addition to the factory now in process of erection is finished.

Besides this addition, which is to be finished early in December, plans are being drawn for a still larger one to be built early in the spring. There is also a large branch establishment to be built at Memphis, Tenn., where articles particularly adapted for the southern trade will be manufactured.

The concern is about twenty years old; it was organized into a stock company in 1881 when S. A. Eaton was induced to bring his small plant from Hudson to the capital city. The factory was built beside the Grand river upon which the logs used for the wheelbarrows were floated. Along with the demand for better products in every kind of farm implement came that for better wheelbarrows. There is now on the company's ground an immense lumber yard where the logs are piled and seasoned from which are made the company's famous "push buggies." In the twenty years the company has grown to be the largest manufacturers 88 of wheelbarrows in the United States and the trade is rapidly extending into foreign countries. At home there are branch establishments at Detroit, Chicago, Minneapolis, Philadelphia, St. Louis and New Orleans.

Besides the hundreds of thousands of wheelbarrows of every description this company makes warehouse trucks of all kinds, hand carts, sleigh runners, horse pokes, coal chutes,

coal cars, rubber tired wheels, and, when the new building is completed another article will be added in the form of road scrappers.

The present officers of this company are: E. W. Sparrow, president; F. Thoman, vice-president; B. F. Davis, treasurer and A. C. Stebbins, secretary.

Some of the officers of the Wheelbarrow company are also officers in the Lansing Wagon Works company, another enterprise of which this city is justly proud. This company's plant consists of eight brick buildings besides the engine room, dry kilns, storage rooms and warehouses. About 150 men are employed in the manufacture of vehicles, besides a large force of traveling men. It is estimated that this year's output will be worth more than \$300,000.

The officers of the company are Frederick Thoman, president; T. B. Cooley, vice-president; E. F. Cooley, secretary and treasurer, and J. A. Meyers, manager. The establishment is about 20 years old; it has a fine business reputation and has achieved a deserved success. In the past two years, especially, the capacity of the establishment has been increased extensively to furnish room for the increased output. There is an immense Michigan trade and the firm has, besides, branches in Rochester, N. Y., Minneapolis, Kansas City, Council Bluffs, Sioux Falls, S. D., and Dallas, Tex. The home site covers a number of acres and there is carried an average of 1,000,000 of the best quality of lumber of which the "Lansing wagon" is built.

The company's output is made up of farm and team wagons of all sorts, buggies, carriages and spring vehicles, and the materials used and the methods of construction are such that its products are everywhere received and recognized among the best. The general prosperity reaches this company as well as every one else, and the coming years promise to excell even the past in prosperity and success.

The Michigan Condensed Milk company has its general offices at Detroit and its factories at Lansing and Howell. The president of the company is Gen. Russell A. Alger, of Detroit.

The company was organized in 1892, and there is probably no similar concern in the country with a better reputation. The main building in this city is a three story brick structure which contains machinery and appliances of the latest and most approved sort. The last report of the state factory inspector says that the details of management as regards cleanliness and care for hygienic conditions puts the establishment on a par with anything in Michigan. It 89 is a popular saying that the floors could be dusted with a lady's handkerchief without soiling the linen.

Milk is brought to the factory from all the surrounding country, the best granulated sugar is used and the reputation of the canned product is of the finest. About 100 people are employed in the Lansing factory.

One of Lansing's oldest industries are the mills owned and operated by Thoman and Brother, in which are manufactured fine grade flours. The company owns a mill at North Lansing besides the substantial brick building in the central portion of the town. The members of the firm are among the most substantial business men in Lansing and Frederick Thoman, the senior member of the firm, is a director of stockholder in many of the city's most successful financial institutions.

The Rikerd Lumber Co. in spite of the fact that it suffered a disastrous fire during the past year, is a flourishing enterprise with an extensive plant and employs a good number of men. The work the factory turns out is as fine as can be procured anywhere. The officers of the Rikerd Lumber Co. are: W. C. Winchester, president; H. W. Rickerd, vice-president and manager; George West, secretary, and E. S. Porter, treasurer.

Clark & Co., carriage makers, have a fine large establishment on Grand street. Starting in 1865 as a horse-shoer's shop the business has developed until the company uses 100,000 feet of floor space, keeps 125 men at work all the time and sends out five traveling salesmen. Last year's business was a hundred per cent better than that of any

previous year. The record speaks for itself. The officers are: President, A. Clark; vice-president, F. G. Clark; secretary-treasurer, A. A. Nichols.

The Maud S Wind Mill & Pump Company is another of lansing's' thriving manufacturing establishments that has become an integral part of the city's wealth. Beginning in 1888 in a small way, the institution has grown strong and prosperous, through solid worth and honest enterprise. Force pumps and wind mills of exclusive patterns are, as the firm name implies, the chief items of the company's output. Like many other articles made in Lansing, the Mand S pump and wind mills are greatly sought after in their native land and by foreign dealers and consumers. The firm has an export office in New York and in the United States the goods are handled by leading jobbers, some of whom have sold no other pumps and wind mills since Mand S set the pace for other concerns.

Besides the two main articles, the Mand S company makes a complete line of wood and steel tanks. The machinery used for all of the output was exclusively designed for this firm's use.

The company operates its own galvanizing plant and every piece of steel in a wind mill is galvanized after it has been completed in the machine shop. The mills can't wear out. The company employs 75 men the year round. The officers and directors of the company are: 90 E. F. Cooley, president; C. S. Smith, secretary; F. E. Cooley, treasurer.

Lansing is particularly fortunate in the possession of a variety of establishments that contribute to the city's wealth. Molitor, North & Moyers, for instance, is a well known institution that turns out high grade harrows and cultivators. The company started in business in 1896; it has a large plant in the northeast portion of the city and employs fifty men. The firm is composed of A. F. Molitor, F. J. North and D. H. Moyers, three young and hustling men who know that success comes with energy and hard work.

The American Cut Glass Company was brought to the city by the Business Men's Association. The main factory is in Chicago and the thriving branch located here is housed

in a fine building the Lansing Improvement Co.'s addition. Wm. C. Anderson, of Chicago, is president and general manager of the company and P. H. Healey is superintendent of the local factory. Fine glass is produced in this establishment and orders are always crowding to the limit.

The Brown Lumber Company is one of the city's' standbys. The firm has a modern plant and has a big business all over the state.

The Lansing Gas Light Company furnishes the city with an adequate supply of lighting and heating gas of good quality. The works has a capacity of 175,000 cubic feet and the demand will produce a constant increase in the supply. The company has within a few months purchased a splendid site on the Grand river at North Lansing, opposite the sugar factory to which the whole establishment will, within a year or two, be removed.

Clippert, Spaulding & Co. make 8,000,000 first quality brick in a year and the plant is one of the finest and most complete in Michigan. Lansing's building boom would not have been so forward had there not been such a firm at hand to supply material, while the splendid facilities for shipment allow this company to send its bricks all over the state. The officers of the company are O. E. Spaulding, president; vice-president, secretary and treasurer, A. C. Bird. The company was incorporated one year ago, as successors to the firm of Clippert & Spaulding, that had done business in Lansing for 35 years. Its capital stock is \$30,000.

Lansing has two telephone companies, the Michigan and the Citizens' company and both are growing both inside and outside the city in a way to please both the companies and the citizens.

Among the wholesale establishments of the city are the Michigan Supply company which is owned by E. F. Cooley and was founded by him in the early seventies. It takes rank as one of the city's leading business concerns. It handles a full line of wrought iron pipe, 91

fittings, engine trimmings, tools and supplies for tubular wells, rubber and leather beltings and mill supplies of all kinds.

The Austin-Burrington Grocery Company is another protege of the Business Men's Association. It has an immense wholesale stock of groceries and does a fine business.

Northrop, Robertson & Carrier, one of the solid old houses in the city, deals in a large way in drugs and spices and like articles.

It is impossible to give, in an article like this, anything approaching a complete list of all the business institutions that are rapidly building up Lansing into one of the most flourishing cities in the state. There are many of them like the Tent & Awning Company, W. K. Prudden & Co., who make fine vehicles, the Capitol Electric Engineering Company, the Lansing Veneered Door Company, the Artificial Stone Company, Queen Bee Cigar Company, Sullivan & Company, bottlers of soft drinks, the Kneeland Crystal Creamery Company, Lansing Pure Food Company, and along list besides that swell the roll to satisfying proportions.

The Hammell Cigar Company, with the mayor of the city as president, and founder, needs little advertising. His company is as widely and favorably known as the genial mayor himself. The business is housed in a fine three-story brick factory in the eastern part of the city and employes one hundred hands. Twelve brands of cigars are manufactured by the firm, all made by hand. The company annually makes and distributes three million cigars.

The Michigan Knitting Co. was organized in 1889 and was incorporated in 1891 with a paid in capital of \$25,000. Year by year its business has increased and its force of enployes correspondingly became greater, until now the factory workers number 250. The steady growth of the firm also demonstrated that the enlarging business necessitated commmodious quarters, and the company moved from its factory to the large three-story brick factory which had formerly been occupied by the Lansing Pant & Overalls Co. One hundred knitting machines were installed in the big factory building and are always

kept busy. There are annually sent out 25,000 dozen pairs of gloves, besides all sorts of underwear. The president of the company is Fred Thoman, the vice-president, L. R. Taft, and the secretary-treasurer-manager is J. Himmelberger.

The city of Lansing owns its own electric light and water plant. It has over forty miles of water mains; it has twelve miles of electric railway; two building and loan associations. It has twelve hotels; a fine opera house, a national and a State bank and twenty-two public buildings and society halls, which includes the two beautiful homes that are being built for the Elks and the Masons.

The city has not develop on the material side alone. 92 It has nineteen schools with a splendid corps of teachers; it has a splendid state library and a fine city library which is soon to be housed in a building paid for by Andrew Carnegie, to cost \$35,000. There are twenty-four churches of all denominations and sixty-two secret, benevolent and fraternal societies. It has a flourishing Young Women's Christian Association, a grand Industrial Aid society and one public and one private hospital with corps of trained nurses.

There is besides a state institution that ranks among the first of its kind in the country, that offers one of the most instructive and interesting examples of reformatory institutions that could be seen anywhere. This is the Industrial School for Boys. No pleasanter way to spend a half day can be found than to visit this noble institution. There 700 boys, rescued from surroundings where temptation to lawlessness or crime abound, are admirably housed, fed, clothed and taught, and sent out into the world fitted by training to become what the largest percentage do become, honest, useful and self supporting citizens.

All that is done for these boys could not be told under a volume and no visitor to Lansing should miss a visit to this institution, which is on Pennsylvania avenue, two blocks from the Michigan Central station.

The Industrial School is governed by a board of four trustees, consisting of the following: Governor A. T. Bliss, Lansing, ex-officio member; Jacob Stahl, Lansing, treasurer; F. B. Sayre, Flushing, president, Wm. McPherson, Jr., Howell, secretary.

The superintendent, J. E. St. John, has been at the head of the school for ten years, and is recognized as one of the leading officials of institutions of this kind in the United States.

Maple Wood Violet Farm at the southern limit of the city is one of the interesting local establishments that are of importance of the city as well as to the owners. There are several large violet houses, where are grown hundreds of thousands of these fragrant flowers every year, besides a fine office and heating plant. Shipments of violets to Chicago and Detroit are made from early October to late spring and this requires the help of many nimble fingers. Girls living in the city are hired for the work of picking, tieing and preparing boxes for shipment. When the flowers are in full bloom the place well repays the interested visitor for the hour spent in seeing the establishment.

The Bates & Edmonds Motor Company manufactures gas and gasoline engines, the best of this kind. About fifty men are employed in this, one of the most rapidly expanding institutions in the city. See page 112.

Not many weeks ago there was received in this city by relatives of a former Lansing man, a letter written from Sydney, Australia, in which he speaks of finding in a store which he entered an article manufactured by the firm of Hugh Lyons & Company. The incident 93

MANUFACTURED BY HUGH LYONS & CO.

speaks for itself as showing how extensive is the territory which is reached by this, one of Lansing's most prosperous manufacturing concerns. No similar institution

in the United States probably is comparable in size to this company's establishment. The firm makes display fixtures of every kind, wax figures, papier-mache forms, show cases, triplicate mirrors, store stools and in short every variety of article needed for the numerous uses of the modern store. Everything moreover, connected with its line, is manufactured in its own establishment beginning with the raw material and ending with the finished product.

As above indicated, the firm's market is the world. From the home plant at Lansing and from its retail stores in New York and Chicago goods are sent where-ever the modern storekeeper desires to display his

Mr. Lyons, the originator of the enterprise, and to whose energy and business ability much of its success is due, is president of the company. Former governor, Cyrus G. Luce, is vice-president; Governor Luce's son, H. D. Luce, is secretary, and Elgin Mifflin is treasurer.

Incomplete as this sketch necessarily is, enough has been said, it is hoped, to give visitors a little idea of the spirit of enterprise that is at work in this city, and some of the effects achieved. It is enough, certainly, to show that Lansing is not a dead town but is very much alert, and to show that it has many attractions to offer not only to its transient guests but to those who desire to secure a home or business opportunities under favorable conditions.

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Program

WEDNESDAY, NOVEMBER 12.

Forenoon. 11:00—Open in Sixth degree; close in the Sixth degree and open in the Fourth degree.

Appointment of Committee on Credentials.

Recess for dinner.

Afternoon. 1:30—Report of Committee on Credentials.

2:00—Address of Worthy Master Aaron Jones, followed by reports of other National Grange officers.

Evening. 7:30—Public reception.

Welcome to Michigan—Gov. A. T. Bliss.

Response—Aaron Jones, Master of National Grange.

Welcome of Michigan Granges—Worthy Master Geo. B. Horton.

Response—N. J. Bacheider, Secretary of National Grange.

Welcome to Our City—Mayor Jas. F. Hammell.

Response—Mrs. Olivia J. C. Woodman.

9:20—Public reception in Executive Parlors by Governor Bliss.

THURSDAY, NOVEMBER 13.

Forenoon. Regular Order of Business.

Afternoon. 1:30-4:30—Exemplification of Subordinate degree work.

First degree—Vermontville Grange.

Second degree—Cedar Grange.

Third degree—Capitol Grange.

Fourth degree—Danby Grange.

Evening. 7:30—Juvenile degree—Capitol Juvenile Grange.

8:15—Fifth degree—Ingham County Pomona Grange.

9:15—Sixth degree—State Grange.

FRIDAY, NOVEMBER 14.

Forenoon. Visit School for the Blind and Lansing Sugar Company's plant.

Regular Order of Business.

Afternoon and Evening at Opera House. Afternoon and evening will be devoted to conferring the Seventh degree.

SATURDAY, NOVEMBER 15.

Forenoon. Visit Olds Automobile Works, Industrial School for Boys, and Agricultural College.

12:00—Reception by the College Faculty and banquet at the Woman's Building.

SUNDAY, NOVEMBER 16.

Special services in all churches—morning and evening.

Memorial services in honor of prominent Grange workers who have died during the year.

MONDAY, NOVEMBER 17.

Forenoon. Regular Order of Business.

Afternoon. Visit Condensed Milk Works and Bement's Agricultural Implement Shops.

Evening. 6:00—Banquet given by E. Bement's Sons.

Regular Order of Business.

TUESDAY, NOVEMBER 18.

Regular Order of Business.

WEDNESDAY, NOVEMBER 19.

A trip to the Furniture City (Grand Rapids).

THURSDAY, NOVEMBER 20.

A trip to the City of the Straits (Detroit).

FRIDAY, NOVEMBER 21.

Regular Order of Business.

SATURDAY, NOVEMBER 22.

Home.

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Reader:

The few firms that have advertising space in this Souvenir are all reliable and the very best of their kind. We invite you to read their ads carefully and, if you have occasion to buy anything in their lines, to trade with them rather than to try the "hit and miss" plan and usually miss it. You will find nearly everything you want handled by some of these people

from a threshing machine gasoline engine, cream separators, wind mills and tank heaters, to gents and ladies' furnishings. For library books and home reading see D. A. Wright's ad.

Whether you live in LANSING or LOS ANGELES We will sell you a quality considered, for less money than you can buy at home, and WE WILL PAY THE FREIGHT. Why? Because we are Grangers and will show our appreciation of Grange patronage by dividing our profit with you.

PIANO

We carry the Largest and Best Stock in Central Michigan. Make your headquarters with us and we will entertain you with good music whether you are a buyer or not.

POST MUSIC CO.

219 WASHINGTON AVE. NORTH LANSING, MICHIGAN

The Lansing Business University.

The Lansing Business University was incorporated under the state laws of Michigan in 1897, and since March 1898 it has been under the personal management of Prof. H. J. Beck, who is also president of the company.

The L. B. U. is now one of the most popular business schools of the state and is noted for its thorough instruction and successful graduates.

In the Commercial department actual business is taught from start to finish, by the celebrated Cabinet method, and Graham shorthand and Touch typewriting are taught in the Shorthand department. Students are permitted to take as many extra studies as they like, in any department, without extra charge.

A very complete and thorough course in Telegraphy has been recently added, and the outlook is very promising for this department. Typewriting is taught in connection with Telegraphy with such other studies as the student may desire. You pay for time only in this school and take just such branches as you wish. All the work is done under personal instruction and competent teachers are employed in each department.

The L. B. U. pays the student's car fare to Lansing, from any part of the state, which gives the young people of Michigan an equal chance to get a thorough business education at the L. B. U., regardless of distance. Special arrangements are made with students from other states which are gladly explained to those who are interested. For catalogue or particulars of this institution address the LANSING BUSINESS UNIVERSITY CO., Lansing, Mich.

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THE KNEELAND OMEGA CREAM SEPARATORS

FAMOUS EVERYWHERE MADE AT LANSING, MICHIGAN. ALL INTERESTED ARE CORDIALLY INVITED TO CALL AND SEE THESE MACHINES IN ACTIVE OPERATION

Our Motto: The Best Machine at the Best Price

Agents Wanted Everywhere Where We Have None

KNEELAND CRYSTAL CREAMERY CO.

OFFICE AND WORKS, MICH. AVE. E., OPP. M. C. R. R. DEPOT

97

Bement Peerless Plows

Look Out For Infringements and Imitations

BEMENT PLOWS TURN THE EARTH

Every quality and feature that could contribute in making a perfect implement is embodied in the construction of this plow. It is positively the lightest draft plow ever put in a field; it turns the most satisfactory furrow; it handles easiest; it is most durable, most rigid under the hand.

Strongest, Handsomest and Best

All materials are most carefully selected from the highest grades. Only Skillful and experienced mechanics are employed under the inspection of practical and successful manufacturing experts

E. Bement's Sons Lansing Michigan.

98

THE MOST INTERESTING PLACE IN MICHIGAN

Is the Immense Plant of the Advance Thresher Company at Battle Creek, where its nearly one thousand employees are busy the year round—ten hours a day—building MONEY MAKING MACHINERY for the threshermen of the world, Husker-Shredders too that will astound the farmers with the amount of work they will daily accomplish.

99

NATIONAL JUNIOR GAS ENGINES

"BUILT TO DO WORK."

AN EFFICIENT and reliable water-works within itself. Excellent fire protection at a moment's notice. Pumps hourly 35 barrels of water to a height of over 100 feet at a cost of I ct. We build other styles of engines.

This cut illustrates our 1½ H.P. engine with pump attached. The gasoline is contained in the cast-iron base of the engine, insuring safety. All working parts of the pump are of bronze. It has the finest quality of cut gears. Both engine and pump are very strongly built. The workmanship is of a very superior quality. They are built in large quantities at a time, in a most modern shop, which secures absolute duplication of parts and a **PRICE WITHIN REACH OF ALL** *Built by WOLCOTT WINDMILL CO.*, **Saginaw, Michigan, U. S. A.**

100

ATLAS FEED AND MILLING COMPANY SOLE MANUFACTURES OF THE CELEBRATED ATLAS GLUTEN MEAL PEORIA, ILL.

Since we commenced the manufacture of Atlas Gluten Meal, in 1894, it has been our aim constantly to improve the method of manufacture, and we are now putting on the market an article which, by its high percentage of *Protein* and *Fat*, and its great digestibility, ranks amongst the most valuable concentrated feeds offered.

During the seasons of 1894 and 1895 large quantities of Atlas Gluten Meal were placed in the domestic market, but from the fall of 1895 to the summer of 1901 the feed became introduced into the English, German, French, and Belgian markets, and the greater portion of our output was exported to these countries where the strict inspection and supervision of the feed trade, together with the high feeding value and the great uniformity of the Atlas Gluten Meal, combined to establish its reputation as one of the best and most reliable feeds in these markets. The European farmer, as is well known, buys by official analysis only, and Atlas Gluten Meal became a favorite and stable article in these markets. The feed is too valuable to be exported, and the high prices prevailing in the domestic market last season induced us to again enter the home market, and during the seasons of 1901 and 1902 our entire product has been sold in the in the domestic market, and the feed has been introduced in every dairy State in the Union.

From the many testimonials and records of feeding tests which have reached us during the last year, we are now able to give an accurate estimate of the value of Atlas Gluten Meal as compared with other feed stuffs, and as a result of our compilation, beg to state that Atlas Gluten Meal, fed pound for pound, produces as much milk and butter fat as Linseed Meal, Cottonseed Meal and Sugar House Gluten Meal; from 8 to 12 per cent more milk than Sugar House Gluten feed and Corn Germ Meal; from 12 to 20 per cent more than Wheat Bran, Brewers' Grains, Oats and Hominy feed; from 16 to 25 per cent more than equal mixture of Corn Meal and Bran, and from 20 to 25 per cent more than pure Corn Meal. The feed is highly relished by the animals, and is as safe as Wheat Bran, the legumes and grasses. It will never cause garget, and never throw the animals off its feed. The feed has also a high value as aiding the animal in assimilating and digesting the coarser roughages generally used on the farms.

How to user the Feed to the Greatest Advantage —From a number of feeding reports we find the best ration to be five parts of Atlas Gluten Meal, three parts of Wheat Bran, one part of pure Linseed Meal (Cottonseed Meal may be substituted for the Linseed Meal but the former is the best.) From this mixture feed according to the size of the animal and the work it performs. The feed is most generally fed dry, either on a table or by scattering over chopped hay or straw. When silage is used it should be scattered over the silage.

If above rules are conformed to, the result will very soon show in the increased flow of milk. The quality of the milk and butter is unsurpassed, and when butter has been submitted to expert tests, as has been done by the New Hampshire and Massachusetts Experimental Station, it has been scored very high.

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RECOMMENDATIONS

While most feeders prefer to make their own tests and records, a few extracts of letters from different parts of the country can do no harm and are respectfully submitted.

QUALITY

Showing the Protein and Fat to be 47½ Per Cent as Guaranteed.

Middletown, Conn., January 10, 1902.

Atlas Feed & Milling Co., Peoria, III.

Dear Sir:—The carload of Atlas Gluten Meal that we bought of you arrived all right, and I have received the analysis from the Connecticut Agricultural Experimental Station. It analyzed 36.44 per cent of Protein. At what price would you send another carload delivered in Middletown?

Yours truly, F. B. Ashton, Box 966.

Epping, N. H., January 14, 1902.

Atlas Feed & Milling Co.

Gentlemen:—I am pleased to report that our New Hampshire Experimental Station find upon analysis that your gluten contains

Moisture 5.66

Protein 36.19

Fat 11.27

Daniel W. Ladd.

FLOW OF MILK

Makes More Milk than Gluten Meal or Cottonseed Meal.

CRYSTAL SPRING FARM.

C. H. Ellsworth, Prop.

Breeder of A. J. C. C. Jerseys and Berkshire Swine. Summit Station, B. & M. R. R.

Worcester, Mass., February 13, 1902.

Atlas Feed & Milling Co.

I have been feeding your Atlas Gluten Meal since about January 1st to fifty Milch cows. I am very much pleased with it. I can make more milk with it than with the same weight of Chicago Gluten or Cottonseed Meal. What is your price now in sacks or bulk?

Yours truly, C. H. Ellsworth.

Sixteen Cows Increase the Milk Flow Twelve Gallons Per Day.

Buxton, III., January 11, 1902.

Dear Sirs:—I would like for you to quote me prices on Atlas Gluten Meal, it being recommended to me by Mr. J. T. Donnewald of Carlyle, Ill., as a great milk producer, it increasing the flow of milk on sixteen of his cows from 32 to 44 gallons per day.

Hoping to receive a prompt answer from you, I remain, Yours truly, J. C. Beckmeyer.

This is from the Home of the Cottonseed Meal. Flow of Milk Increased 22 Per Cent. Officer of E. W. Amsden, Propr. EAST COAST POULTRY & DAIRY FARM.

Ormond, Fla., March 8, 1902.

Atlas Feed & Milling Co.

Here is the record of nine cows before and after feeding Gluten for week ending February 21st. Total pounds Milk from nine cows, 1,208.4. Began feeding Gluten 3 pounds, Bran 4 pounds, C. S. Meal a pound. Total yield for week ending February 28th, 1,308 3/4 pounds. I then fed equal parts Gluten and Bran, four pounds each, and for week ending March 8th, 1,470 3/4 pounds. All other feeds being the same. A gain over week ending February 21st of 202½ pounds, or about 128 quarts. I weigh all feed and all milk at each milking so that I know whether I have any cows that are in order or not.

E. W. Amsden.

The above are the writer's voluntary expressions without any solicitations on our part. We have on file hundreds of letters from different parts of the country all of the same tenor and contents.

WHAT WE GUARANTEE

The Company guarantees its feed to contain 47½ per cent Protein and Fat on dry basis.

To contain less than 9 per cent Moisture.

To keep indefinitely if kept in a dry, cool, place.

To be of equal feeding value, in hot as well as cool weather and in any climate.

The feed is put up in 125-lb. bags, each bag marked as prescribed by the different Agricultural Stations, and with the Company's trade mark.

The Milling Company will try to have not less than one dealer in each dairy territory handle the feed, and if you apply to your own dealer he can easily procure it for you. If your dealer does not keep the feed write us and we will be glad to serve you and ship large or small quantities, as required.

102

Grand Rapids & Indiana Ry.

Can be used to good advantage by those living near it who wish to attend the meeting of the National Grange in Lansing, November 12 to 22, 1902.

Hunters can take advantage of our special Hunters' Rates to the famous Hunting Grounds of Northern and Western Michigan—one and one-third fare. You will be interested in our 48-page booklet, with 250 pictures of Northern Michigan, which will be sent you free upon request. Full information regarding schedules, rates, etc., can be had by addressing C. L. Lockwood, G. P. & T. A. Grand Rapids, Mich.

DR. BARBER'S ELECTRICAL AND SURGICAL INSTITUTE DISEASES OF THE NERVOUS SYSTEM PRIVATE AND CHRONIC DISEASES X-RAY DIAGNOSIS

Cancer and Tuberculosis are cured with the X-Ray. Electricity cures many blood diseases. Goiter, Varicocele, Superfluous Hairs, Moles, Warts and Tumors.

OFFICE IN HOTEL CLEMENT 413 Washington Ave. South, LANSING, MICH.

Wabash Line THE Banner Route TO ALL IMPORTANT CITIES.

It has its own rails between ST. LOUIS, KANSAS CITY, CHICAGO, OMAHA, DES MOINES, TOLEDO, DETROIT, NIAGARA FALLS and BUFFALO.

And through car lines to DENVER, NEW YORK AND BOSTON.

Luxurious Parlor, Sleeping, Dining, Observation-Cafe and Chair Cars, compose its trains.

103

5 Great Irrigated Valleys

Arkansas Valley, Colorado. Altitude 3,400 to 4,600 ft.; beet sugar factories, thousands of acres of alfalfa, millions of cantaloupes; extensive orchards, flocks of sheep; largest irrigated section in the U. S. Extensive cattle feeding and dairy interests; population doubled in five years.

Pecos Valley, New Mexico. Altitude 3,000 to 4,000 ft.; 175 miles long, on edge of great plains' cattle pastures affording profitable home market for alfalfa and grain; noted for its large orchards and fine quality of fruits and vegetables; artesian belt with 300 flowing wells.

Rio Grande Valley, New Mexico. Altitude 3,700 to 5,300 ft.; 350 miles long; great sheep raising section; mining in adjacent mountains; adapted to fruit raising and small farms.

Salt River Valley, Arizona. Altitude 1,000 ft.; 60 miles long and 20 miles wide; special industries—early oranges, live stock, vegetables, small fruits, alfalfa, bee culture.

San Joaquin Valley, California. Altitude 50 to 400 ft.; 250 miles long, 50 miles wide; wheat raising, live stock, oil wells, alfalfa, raisin and wine grapes, olives, figs, citrus and deciduous fruits, almonds, walnuts, lumbering and mines in mountains.

All Five Valleys have never failing water supply, extensive systems of irrigating ditches and rich soil, insuring profitable crops. Pleasant climate, especially in winter. Thriving towns, affording good markets. Directly reached by the **SANTA FE.**

For information about farm lands, manufactures and general business openings, address GENERAL PASSENGER OFFICE A. T. & S. F. Ry. System *Great Northern Bldg.*CHICAGO Santa Fe

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Hudson House For last twenty-two years State Grange Headquarters RATES \$2.00 PER DAY A. B. CASTERLIN, Prop.

WHEN IN LANSING STOP AT THE BEST The Hotel Wentworth FRANK WENTWORTH, Prop. MICHIGAN AVE. STEAM HEAT ROOMS WITH BATH ELEGANT LARGE SAMPLE ROOMS Lansing, Mich

Rates. \$1.25 per day Steam Heat Throughout

Hotel Butler I. M. BROWN PROPRIETOR

Washington Ave. and Kalamazoo St. Electric Cars to all Depots LANSING, MICH.

TIMELY TOPICS

SIXTEEN-PAGE WEEKLY, ONE DOLLAR

A Veritable Review of Reviews! Only every week. Just the paper for the Home. It gives in a non-partisan light all the news worth knowing from all over the world. You get the cream and save time and money. Send for a sample copy, free. Address **HENRY R.**

PATTENGILL, Editor LANSING, MICHIGAN

105

SOME FINE MICHIGAN BOOKS

"MICHIGAN HISTORY" Cloth, 112 pp. 25 cents.

CIVIL GOVERNMENT OF MICHIGAN Cloth, 128 pp. 25 cents.

MICHIGAN SCHOOL LAW Cloth, 126 pp. 25 cents.

MICHIGAN HISTORICAL AND GEOGRAPHICAL CARDS (As Educational Game.) 50 cents.

Address, H. R. PATTENGILL PUBLISHER, LANSING, MICHIGAN.

WHILE LOOKING AROUND TOWN FOR BOOKS, BIBLES, STATIONERY, PICTURES, (Unframed or Framed), WALL PAPER WINDOW SHADES OR OFFICE SUPPLIES, Call on **A. M. EMERY 116 WASHINGTON AVENUE NORTH**

We Pay the Freight

We pay the freight on **FURNITURE**, **CARPETS AND DRAPERIES** bought of us to all points in Michigan

Special Invitation to Grangers to make themselves at home in our store

LONGYEAR BROS. 120 & 122 North Washington Ave. LANSING, — MICHIGAN 106

WE GIVE OUR ENTIRE ATTENTION TO LADIES' AND MEN'S FURNISHINGS, WITH THE RESULT THAT WE ARE ALWAYS IN POSITION TO SHOW YOU THE VERY LATEST TOGGERY. SOME SATISFACTION IN KNOWING YOU ARE GETTING THE BEST QUALITY MONEY CAN BUY AND AT SAME TIME KNOWING THE STYLE IS CORRECT. A CORDIAL INVITATION EXTENDED TO ALL VISITORS TO INSPECT OUR SHOWING IN HATS, TIES, SHIRTS, UMBRELLAS, UNDERWEAR AND GLOVES.

ELGIN MIFFLIN

Of the many sights in Lansing <u>you</u> ought to <u>see</u> **WOODWORTH'S STOCK OF SHOES**Anything and Everything in FOOTWEAR Prices and Styles Right 115 Washington Avenue
North

THE MAPES COMPANY 207 & 209 WASHINGTON AVENUE SOUTH LANSING, MICHIGAN

WANTS YOUR TRADE YOU WANT THEIR GOODS Call and See What You Can Do With Them in the Line of CLOTHING, HATS, CAPS AND GENT'S FURNISHINGS The Largest and Finest Assortment to Pick From in Central Michigan—All New and Upto-Date Merchandise

ROGERS, GIDDINGS & CO. HIGH-CLASS CLOTHIERS <u>AND FURNISHERS</u>

Everything that you expect from a first-class haberdashery can be found here 218

WASHINGTON AVENUE SOUTH

107

The Jewett & Knapp Store

To the many visitors who will be attracted to the Capital City by the convening of the National Grange we extend a hearty welcome and the freedom of our store. This establishment afford unequaled opportunities for shopping, also as a place for meeting your friends, being centrally located and near our loading hotels. The needed things, the looked for things, the things you have been figuring on for your Autumn and Winter outfitting are all here and ready. Come in to see and admire; buy if the price appeals to you.

New Dress Goods, New and Beautiful Silks and Velvets, New Laces and Ribbons, all the best kinds of Underwear and Hosiery, Table Linen, Towels and Napkins, Bed Comfortables and Blankets, Hundreds of New Cloaks, Suits and Furs, Silk and Wool Waists, Cotton and Silk Petticoats, Lace Curtains, Tapestry Curtains and Couch Covers, Besides all the little things, Be sure and pay us a visit, it matters not if you do not wish to buy, this is a store for the people and you are always welcome.

JEWETT & KNAPP LANSING'S RELIABLE STORE 222-224 WASHINGTON AV., S. LANSING, MICH.

Michigan State Land Office Lansing

All lands owned by the State are controlled by this office. There are no local agents. Business can be done by letter.

Total number of acres of State lands of all classes subject to entry July 1st, 1902: Swamp, 73,013; School, 65,076; College, 61,552; State Building, 40; Salt Spring, 240; Asylum, 1,002; Tax Homestead, 211,994; Total, 412,921.

EDWIN A. WILDEY, Comm'r State Land Office.

FOR DRY GOODS AND CLOTHING GO TO H. KOSITCHEK & BROS. 113 Washington Ave. North 210 Washington Ave. South

108

Library Books for Home and School.. AT WHOLESALE PRICE

When in want of any good books for the home or school library, correspond with me.

I can furnish any book recommended by the State Department of Public Instruction.

In fact, I can furnish any book desired, at a very low rate.

SEND ME YOUR LIST

D. A. WRIGHT

\$5.00—\$10.00—\$15.00 Libraries for District Schools, Primary Schools, Grammar Schools.

Establish a School Library and secure your share of the library fund. ADD to your library by securing the best new books.

WRITE me at once for a large, new illustrated catalogue, which will be seat Free, containing a list of choice books in History, Travel, Geography, Biography, Natural History, Patriotism, Ethics, Fables, Fairy Tales, Botany, Literature, Industry, Etc.

Orders filled for all leading magazines and periodicals.

Save money by writing me for club rates on any periodicals desired.

D. A. WRIGHT, Lansing, Mich.

Correspondence Solicited

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THERE IS NO DOUBT IN THE MINDS OF USERS THAT THE U. S. SEPARATOR IS THE MOST DURABLE BUT IF THERE IS IN THE MINDS OF OTHERS THE FOLLOWING LETTER OUGHT TO REMOVE IT:

Hazelwood Co., Colfax, Wash., Sept. 10, 1902.

Spokane, Wash.

Gentlemen: In reply to yours of the 9th inst., will say in the last four years there have been something like 75 U. S. Cream Separators sold from this creamery, and all the extras that have been furnished by us are as follows:—

One crank with handle, cost \$2.75

One crank shaft, cost 1.26

Express on same, 2.25

This covers all extras that we have any knowledge of, and we wish to say that it was no fault of the separator that these parts gave way, it was the fault of the party who had been running said separator. JERSEY CREAMERY, By E. H. Hinchcliff.

THAT THE U. S. SEPARATOR SKIMS AND CLEANEST was proven at the Model Dairy of the Pan-American Exposition, where it established the World's Records, with its average of .0138 for 50 consecutive runs, and this same fact has been proven many times by tests all over the country. Write for illustrated catalogue. VERMONT FARM MACHINERY, CO., Bellows Falls, Vt.

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DO YOU WISH TO PROVIDE

For Yourself For a Debt For a Business Loss

If You Live?

For Your Wife, Children, Dependents, or a Benevolent or Other Institution, if you Die?

IF SO, do it while you may, by taking Cash-and-Paid-Up-Value Policy *The Massachusetts Mutual Life Insurance Company.* These values, fixed by the Massachusetts law, are more liberal than are provided for by any other-State; and as they are plainly state in each Policy issued, you have before you at all times the exact terms upon which you can, at the end of the third or any subsequent year, withdraw from the Company, should circumstances lead you to change your mind. Write E. A. Holden, Lansing, Mich., for particulars or information. He will gladly give either.

IMPORTANT

It is more important to have your life insured than to have your house insured. You are sure to die, while you house may, and probably will never, burn. If you are going to take

life insurance, the best is none too good. There is none better than *The* Massachusetts Mutual

Write E. A. Holden, Lansing, Mich., for a sample Policy, Paid-Up and Cash Values. Don't carry that assessment insurance any longer. Take old line where you do not have t die to win.

State Pioneer and Historical Society

How little do we realize that history is making every day! Those who had the shaping of early Michigan history are fast passing away. The implements, utensils, manners, customs, of pioneer life will soon be gone. The story of the early settlement of townships and counties will soon be forgotten and lost forever unless preserved by an organized effort.

The State Pioneer and Historical Society calls upon the Granges and Grangers to cooperate heartily in the matter, and in collecting curios and relics for the Society. There's an old wooden plough somewhere in the State. It should be sent to the Society in Lansing to be preserved in the State collection, and thus serve as an object of great interest to thousands who annually visit the Capitol. So with many other interesting things.

The stories and accounts of early settlement should be preserved for record. The grange can do much in this matter to second the efforts of the State Society.

The grange and school libraries are the only ones receiving free the fine publications of the Society. A feeling of reciprocity should animate the Grange, especially when, by so doing, the history of the rural pioneers is preserved.

Let each Grange and Granger get into communications with the State Pioneer and Historical Society as soon as anything worthy of note or preservation comes to the surface. Address the Secretary of the Society, Lansing Mich.

October 16, 1902,

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OVIATT WAGON COMPANY, Lansing, Mich., U.S.A.

Molitor, North & Moyers Manufactures of Agricultural Implements, Spring Tooth Harrows, Cultivators Lansing, Michigan, U. S. A.

Manufacturers of FARM WAGONS TRUCKS DRAYS DELIVERY WAGONS RURAL MAIL WAGONS

WAGON AND CARRIAGE RUNNERS

112

4 H. P. MOUNTED ENGINE. JUST THE THING FOR FARMERS.

BATES & EDMONDS MOTOR COMPANY LANSING, MICHIGAN

MANUFACTURES OF GAS AND GASOLINE <u>ENGINES</u> FOR ALL PURPOSES *Write Us for Catalogue and Full Information* FACTORY ON MILL STREET