MECHANICAL ENGINEERING AND AGRICULTURE

PROF. G. L. WEL.

In the catalog of one of our large technical schools you will find noted that the mechanical engineering student of this school elects at a certain point in the course work that he will make a speciality of either mill, mill, marine, or locomotive engineering. We note, that the locomotive is considered by some of our foremost engineers as furnishing a field of work large enough for many individuals. There is a tendency today to specialize all professional work. Up to the present time, however, little or no effort has been made in this country, to train specialists in the designing, construction, and so on, of agricultural machinery. Courses in agricultural engineering are maintained, but such courses offer work more closely allied to that of the civil engineer than any other branch of engineering—that is, in work in land surveying, methods of irrigation, drainage, etc.

Does not the need exist for a quite extensive course in some of our agricultural colleges, of such a nature that young men may be trained in work similar to that of the mechanical engineer, with the same sort of touch for the mechanism of the work? Scarcely a day passes without the receipt of letters from individuals, urging organization, and in particular that they stand for himself. The difference between the high priced mechanic who can scarcely hold a position, consists largely in this, that the one uses his brains as well as his hands and studies how to improve and increase his usefulness, while the other does not.

The first evening of the session was devoted to horticulture and brought out a large local attendance of fruit growers. The speakers of this and following days were either from the College, the farm men and horticulturists who had been selected or invited to help in explaining the principles underlying the construction and design of farm machinery, but also the needs of the farmer, with regard to machines by practical experience with them.

The need for men trained as above mentioned is certain to increase, and not only is there a field for such men in the construction of agricultural machinery concerns, but also on large farms and plantations. An officer of a state institution, where instruction is given in both agriculture and mechanical engineering, states that on visiting a prominent agricultural machinery manufacturing, he found three of his former students, in designing work that served to keep employed a force of 1,500 men.

Farm work often demands machinery of quite intricate nature as far as mechanism is concerned—machine cutting any thread, were described. Some will say, after reading the foregoing, that there is no lack of need for a quite extensive course, largely in vigorous, and scientific designing of machinery was brought out.

A discussion of the course of work in the M. A. C. shops by Mr. Newell, was next on the program, Mr. Newell's talk describing the nature and extent of the work and the number of hours devoted to it, was then an appropriate in view of the specimens shop work on exhibition.

Prof. Weil closed the evening's program with a talk on Steam Engineering. The topics discussed were the fundamental facts and ideas are given as to the nature of heat, the efficiency of the steam engine, cylinder condensation, and the real object of increasing the steam pressure, and compound.

The second meeting, Thursday evening, was well attended, about 100 being present, and the program was similar to that of the first night but the work was of a more advanced nature and was listened to with marked attention.

Mr. Wastcott spoke again on the subject of Materials of construction. The practical application of knowledge gained was illustrated in the design of a riveted joint.

The subject of Machinist Design was further exemplified by Prof. Chamberlain in the design of a steam engine crosshead. Diagrams were used, and the method of construction was explained.

Following Prof. Chamberlain, Prof. Weil spoke, his subject being Steam Engineering. Indicator diagrams were presented, showing effective valve setting, and the use of the indicator for measuring the power of an engine. Prof. Weil related a number of personal experiences in connection with boiler and engine work.

Mr. Newell closed the program with a talk on the subject, Shop Racks, Screws, and screw cutting. Calculation of change gears for cutting any thread, were described.

After the close of this meeting, the scheme of starting a prototype machine was discussed. As a result of Prof. Weil's efforts, about thirty models gave in their names, and expressed a willingness to take part in the movement.

Besides the work of the two evenings, outlined above, a large number of shops were visited, and shopmen interviewed. On the whole, the institute was a success, attendance was good, and the interest shown was marked.
Advanced Algebra, for Freshmen, Prof. Babcock. Text: Van Velzer and Selchow's University Algebra. Class room, second floor, south side, College Hall. First meeting of class at 8 a.m. Tuesday, for which a list will be arranged, as announced on College Hall bulletin board.

Examinations in Mathematics, 8 a.m. Tuesday, Entrance Arithmetic and Plane and Solid Geometry; 2 p.m. Tuesday, Algebra.

American Literature, will probably be transferred to last half of term.

Analytic Geometry, for Mechanical Sophomores, Professor Babcock. Text-book, Wentworth's Analytic Geometry. Class room in Botanical Laboratory at 3 p.m., College Hall, south side. Class will meet daily at 10 a.m. First meeting Tuesday morning, for which prepare on pp. 1-4 of text book.

Botany, for Sophomores, Dr. Beal. Text, Rossey's Botany for High Schools and Colleges. The class will meet in the Botanical Laboratory on Tuesday at 4 p.m.

Civil Engineering, elective for Agricultural Seniors, Professor Veldron. Johnson's Surveying should be obtained by each member of the class, but instruction will be largely by lectures. Class will meet in Engineering class room in College Hall. The time of meeting cannot be announced until elections are made on Monday evening. Provide note book for first meeting.

Drawing, Prof. Holdsworth. Students will come according to catalog, all meeting in the class room, third floor, north side, College Hall. Mechanicals have Mondays, Wednesdays and Fridays. The material for first day is a tablet of free-hand drawing paper and any pencil you happen to have. The instructor will select the material with the class.

Electrical Engineering, elective for Mechanical Seniors, Prof. Woodworth. Text, Slinger & Brookes Electrical Engineering (36 edition). Meet at Physical Laboratory at 10 a.m., Tuesday. Class room on second floor, west side, College Hall. The instructor will select the material with the class.

Freshman Class will meet in West Shop, Tuesday, Feb. 25, at 10 a.m.

Physics, for Agricultural and Mechanical Freshmen, Prof. Woodworth. Text, Atkinson's Gianet. Meet in Physical Laboratory at 10 a.m., Thursday, Wednesday and Thursday of this week. Laboratory practice two hours per week for Mechanical Freshmen, at time to be announced.

Plane Geometry, for Mechanical Freshmen. Prof. Babcock and Fashby. The class will meet on second floor, south side of College Hall, Tuesday morning at 9 a.m. for registration and division into sections. Bring Szilasi and Smith's Geometry.

Political Economy, elective for Seniors, Prof. Hedrick. Text, Walker's Political Economy. Time to be arranged.

Rhetoric, for Sophomores, Prof. Noble. Text, Gesell Text Book in Practical Rhetoric. Mechanicals in English class room at hours announced in catalog; agricultural students at 8 a.m. and mechanical at 9 a.m. from Tuesday morning to the last Tuesday in April. The Paragraph. Only those who have passed rhetoric will be eligible to this class.

For the benefit of students wishing to take this course who have not passed freshman rhetoric, an examination in the latter subject will be given Tuesday afternoon. All such students should consult Prof. Noble Tuesday evening at the latest, to arrange an hour for the examination.

Rhetoricals, for Sophomores, D. J. Crosby. Burke's Spasch on Conciliation with America. Meet at hours given in the catalog. Mechanicals on Wednesdays and Agricultural on Tuesdays.

Rhetoricals, for Mechanical Freshmen, D. J. Crosby. Hamill's New Science of Elocution. A division will meet on Wednesday, at 11 a.m., Wednesday and Thursday. Examinations for advanced standing in both Sophomore and Freshman rhetoric will be given on Tuesday afternoon to those who arrange for the tests with the instructor on Tuesday morning.

Shakespere, Read Hamlet. Meet in class room at 4 p.m. Thursday.

Stock Feeding for Juniors, Prof. Smith. Meet in Agricultural lecture room at 11 a.m. Tuesday. Bring note books. Provision will be made later for assignment of student labor.

RECEPTION TO PRESIDENT SNYDER.

Last Friday evening fully one hundred people gathered at the parlor of the Men's Literary Club to welcome our new president, Dr. Snyder. The guests as they arrived were received in the receiving room by Hon. C. J. Moros, Dr. Snyder, Prof. and Mrs. Barrows, Prof. and Mrs. Holdsworth, Prof. and Mrs. Weil, and Prof. and Mrs. Babcock.

After the company had arrived and shaken hands all around they repaired to the library and partook of light refreshments while the guests were received in the music of mandolin and guitar furnished by Messrs. Partridge and Eastman.

The program for the evening was spent in making the acquaintance of our new executive and in renewing old acquaintances. Quite a number of students who have just returned from the Jacksonville Convention—Mr. E. F. Partridge and Mr. A. L. Barber—had not yet got back. Among the visitors present were Mr. and Mrs. C. A. Gower and Mr. and Mrs. Elgin Millfin of Lansing; Mr. F. H. Stone of Hillsdale; Mr. E. J. M. Partridge of Hastings; and Mr. L. C. Brooks, '92, of Sarnia.

Dr. Snyder leaves at once for Pittsburg to get his work in shape for moving here the first of April.

THE SPRAYING OF PLANTS.

REVIEWED BY PROF. E. B. TAFT.

E. G. Loebrock, '86, Instructor in Horticulture at Cornell University, has just issued a work entitled "The Spraying of Plants." It was written as a thesis for the degree of Master of Science.

It gives the early history of liquid applications in this country and Europe, with particular attention to the later developments in the country. The application is the use of Paris green and other arsenical sprays.

Considerable space is devoted to the materials and forms of spraying, and to the application of spraying and to spraying devices and machinery. One chapter treats of the action of spraying mixtures upon insects and fungi, upon the host plant, upon weeds and upon the value of the crop. The most troublesome insects and diseases of a great variety of our cultivated plants are described and illustrated, and specific directions for treating them are given.

It is the most complete treatise upon the subject ever
COPPER PANS FOR BOILING SAP.


I am thinking of using copper pans for making maple syrup. Are copper pans all right for this purpose? Some people have told me that they are not advisable, and I should appreciate your answer greatly.

Copper pans are better than those made of sheet iron or galvanized iron, because copper is a better conductor of heat than iron, and evaporation will take place more rapidly in copper pans. If the copper is kept clean and free from oxide it will not color the syrup.

DR. R. C. KEDZIE.

PROCEEDINGS OF THE BOARD.

February 20.

The Farm Department was authorized to set out a row of pies along the entire west side of the farm for a limited basis, and to provide also the two and one-half acres on the east side of highway and south of the river.

Secretary Butterfield, Dr. Barnard and Prof. Vedder were elected delegates to the Good Roads Convention, March 3.

Mr. Garfield was elected delegate to the National Organization of Institute Workers at Watertown, W. S.

The recommendation of the Special Faculty Committee regarding the publication of the Record was, that the text of the President and the President and President of the Committee on Publication; that the students be invited to cooperate in the publication of the Record, according to a plan subsequently to be formulated; and that Prof. F. S. Kedzie, Prof. O. L. Wall and Prof. R. T. Taft be the committee on publication from the Faculty, was adopted.

L. G. Lewis was authorized to continue during the spring term at his discretion a course in physical culture for the students, provided that no extra expenses be incurred for instruction.

Of the record of the Special Faculty Committee the following recommendations were adopted:

That short special courses be provided as soon as possible;

That something be done to get in touch with the district agents;

That a short preparatory course be provided;

That a course for ladies be provided as soon as the finances of the College will allow;

That the experiment be tried of organizing a board hall under private management, with a single requirement that the board be not over two dollars per month in the matter of fees and meals. The student in question on the part of students, the details being left to the Special Committee and the Secretary.

That a special effort be made to discourage expensive entertainments at the College, and to encourage plain, simple, and inexpensive social and individual life.

And that the President and Secretary of the College and Dr. Edwards be a committee to consider the matter of advertising, and make a special report to the Board.

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C. M. Pierce of Elva, Mich., who took a prominent part in the Tuscola County Institute, thinks farmers do not hold together enough in their organizations, "are too fickle minded, go off on too many tangents to make a success when they remain long enough with one another."

And this is what one of Tuscola county's farm daughters thinks about keeping the boys and girls on the farm: "As to the best means of keeping the boys and girls in the farm, I have only one word to offer: education."

There is no observation of its cultivation. Had no observation of its cultivation. And I can recommend to you, the Scotch gooseberry tart.

"An Englishman is a Britisher, and a Scotchman is a Briton; but a Scotchman who has never been in England is not a Britisher.

"Wheat is raised only incidentally, and then not for profit, but to preserve a rotation in crops, and to secure advantageous ground for grass seed.

Cabbage, cabbages, and similar vegetables grow luxuriantly and are a great source of profit to the gardener. The method of culturing in do not differ from our own."

"I know of no more honorable calling than that of farming, and no man can ever make a failure of anything else."

E. H. Read of Ionia Co., Institute, Ionia, Jan. 23, '96, by Mr. L. E. Slussar, President of Mancelona village, in conversation of the world.

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