

THE TECH

VOL. XXXIV. NO. 64.

BOSTON, MASS., WEDNESDAY, NOVEMBER 25, 1914.

PRICE THREE CENTS

A NEW MATHEMATICS COURSE AT INSTITUTE

Laboratory Work In Mechanical Calculation First Time In Country.

A new course called Mathematical Laboratory has been introduced by the Mathematics Department at Technology through the efforts of Dr. Joseph Lipka. This is said to be the first attempt in this country to give the course as a whole, although parts of work of similar nature may now be found in other colleges.

The subject includes the most modern methods of numerical, graphical and mechanical calculations, with particular emphasis on their relations to engineering and applied mathematics. The graphical part is the most important feature. Various means of obtaining solutions in arithmetic and algebraic processes of calculations as well as in calculus are taken up.

The construction of graphical charts which is rapidly becoming very important in the engineering world, is the main part of the graphical work. It is this phase of the subject for
(Continued on Page Six)

SENIOR DINNER

Westminster Hotel Chosen For Big Event.

The Senior Class will hold its annual dinner Thursday evening, December third, at 7.15. An innovation has been introduced this year in choosing the Westminster Hotel for the scene of activities. The committee in charge promises an excellent program, and wishes to remind all Seniors that the Class will have only a few more opportunities to assemble as a Technology organization.

Tickets were placed on sale at the Cage this morning and may also be obtained from T. Spear, R. V. Tiffany, or C. W. Wood.

NO T. C. A. TALK

Because of Thanksgiving coming on Thursday, the T. C. A. talk will be omitted this week. All Technology men who are to be here on Thanksgiving Day are invited by the Association to attend an informal gathering at the Boston, Y. M. C. A. in Jacob P. Bates Hall from 5 to 7.30 p. m.

GLEE CLUB

There will be no rehearsal of the Glee Club today, but a rehearsal on Monday at 4 o'clock. Men who cannot attend at four Monday should come at five.

WRESTLING TRYOUTS THIS AFTERNOON

Entrants To Beverly Meet Must Enter The Elimination Trials.

Elimination trials will be held this afternoon and Friday afternoon to decide what men of the squad are to represent Tech in the Beverly Y. M. C. A. Meet next Saturday night. Any man who expects to take part in this meet must enter these trials.

As Durkee will probably be unable to wrestle, there will be a vacant place in the 135-lb. class. There is also a possibility that Loo may not enter this meet, in which case another man in the 125-lb. class will be needed.

VARSITY BASKETBALL

Opportunity To Get On Varsity Team—Practice Today.

Practice for the Varsity Basketball Team will be held today and Friday at 4 o'clock at the Gym. Trips have been arranged to Loyola College at Baltimore, Navy at Annapolis, Pennsylvania State College at State College, Clarkson Tech at Potsdam, N. Y., St. Lawrence University, Canton, N. Y., New Hampshire State College at Durham, N. H., and to Wesleyan University at Middleton, Conn. Candidates may report either of the above days.

GYM TEAM PRACTICE

Gym Team practice will be held every night at five o'clock at the Gym. As the time is limited, the management wants every man to perfect his "stunt" for the exhibition to be given December fifth. The team is expected to make a good showing in the winter meets, judging from the progress made already.

JUNIOR PROM

Nominations for the Junior Prom Committee are now due and should be handed in at the Cage not later than 1 o'clock on Saturday, November 28th. At least ten signatures are required on each nomination paper. The committee is to be composed of five members.

MILITARY SCIENCE

There will be no Drill or Military Science lectures today or next Friday. This was announced by Major Cole to the different sections at the last lecture.

1918 Ballots Due. Cage. 2 P. M.

INDOOR TRACK MEETING ATTENDED BY MANY

Coach Kanaly Speaks About Work During The Indoor Season.

The Indoor Track Meeting held last Monday was attended by about sixty candidates for the team. Each man signified what event he wished to try out for, and handed in his name as a member of the track squad. Coach Kanaly then outlined the coming season, giving a schedule of events and an idea of what is expected of each man.

He said that in order to get the full benefit from his work, each man should come out four times a week, and that three times a week is the minimum. This is not at all demanding too much, because of the handiness of the Gym and the short time required for training each day. The track work requires only six or twelve minutes at most, while a Gym class occupies a whole hour. The advantage of Track over Gym in regard to time is at once evident. Track athletics, too, he stated, afford one of the best and most healthful exercises, and give men excellent moral training, by
(Continued on Page Six)

CIVILS TO MEET

"What We Owe To Germany" To Be Topic Of The Evening.

At the meeting of the Civil Engineering Society in the Union next Friday evening, Reverend Doctor Powers of Gloucester will address the gathering on the topic, "What We Owe To Germany." It is expected that the talk will be in the main a resume of the effects of German scientific investigations upon American progress.

One new member will be elected to the executive committee.

SOUTHERN CLUB DINNER

The Southern Club will hold its first dinner of the year at the Hotel Napoli on Wednesday, November 25, at 6 o'clock, instead of Thanksgiving Day as was stated in the notices sent out to the members. The committee requests the men who intend to be present to inform them so that adequate preparations may be made.

FRESHMAN BALLOTS DUE

Ballots have been sent to all members of the freshman class. These will be due at two o'clock today at the Cage, where extra ballots may be obtained. Dues may be enclosed with the ballot if not already paid.

TECH SHOW LYRIC COMPETITION OPENS

McDaniels To Be In Show Office Monday To Assist In The Fifteen Lyrics.

Last Monday, Stage Manager Coleman held a meeting of men intending to enter the Show Lyrics Competition. McDaniels, the author of this year's book, outlined the Show and explained the plot and the situations for which the "Getting A-Cross" lyrics must be written.

McDaniels will be in the Show Office
(Continued on Page Three)

ELECTRICAL SOCIETY

Trip Taken Last Monday By A Number Of Members.

Last Monday afternoon seventeen members of the Electrical Engineering Society visited the works of the International Engineering Co., Ltd., at South Framingham. The entire operation of boiler making was shown by two representatives of the company.

The sheet steel comes in at one end of the plant, is there laid out according to specifications, and then proceeds to the punching machine which punches the holes in the thick plate as rapidly and cleanly as a paper punch goes through paper. The material is then rolled into shape, assembled, set up, and arrives at the other end of the plant where it is ready to be tested.

COURSE IV SOCIETY

The Architectural Society will hold a smoker next Friday evening, November 27th, at 8 o'clock, in Room 42 Pierce. Professor J. O. Sumner will speak on the European War.

CALENDAR

Wednesday, Nov. 25, 1914.

Military Science and Drill Omitted.
1-1.30—Candidates for Circulation Manager of The Tech. Upper Office.
2.00—Freshman Ballots Due. Cage.
4.00—Varsity Basketball Practice. Gym.
5.00—No Glee Club Rehearsal. Union.
5.00—Gym Team. Gym.
P. M.—Elimination Trials for Wrestling Team: Gym.
6.00—Southern Club Dinner. Hotel Napoli.

Thursday, Nov. 26, 1914.

Exercises of the Institute suspended.
No T. C. A. Talk.
5.00—Reception to students at B. Y. M. C. A.
5.00—Gym Team. Gym.

JUNIOR PROM NOMINATIONS NOW OPEN

THE TECH

Entered as second-class matter, Sept. 15, 1911, at the postoffice at Boston, Mass., under the act of Congress of March 3, 1879.

Published tri-weekly during the college year by students of the Massachusetts Institute of Technology.

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Subscriptions, \$1.50 per year, in advance. Single copies, 3 cents.
Subscriptions within the Boston Postal District, and outside of the United States, must be accompanied by postage at the rate of one cent a copy.

WEDNESDAY, NOVEMBER 25, 1914.

IN CHARGE OF THIS ISSUE.

Editor: H. E. Lobdell, '17.
Associate: J. G. Fairfield, '16.
Assistants: A. E. Keating, '17; F. A. Stearns, '17; A. D. Nute, '17; K. M. Lane, '17; J. W. Damon, '18; F. H. Wells, '18; E. P. Travis, '18.

The inadequate checking facilities at the Gym have long been a subject for criticism. The unsystematic piling of the wraps causes the loss of considerable time, and renders it practically impossible to find anything in a hurry. The fact that the checks are often exhausted and the remaining property must be stowed promiscuously and claimed by "picking over" is a plain encouragement to theft. Of course the installation of new equipment so shortly before our removal to Cambridge is undesirable, but the necessities of this case and the small expense involved would seem to outweigh the former consideration.

The suggestion made by our correspondent for promoting the acquaintance of the freshmen with their candidates for class offices should be borne in mind for next year. A "beauty show" alone is a poor basis for making elections, as has been the case in past years in choosing the temporary officers; but in this case it would be a considerable adjunct in obtaining a really representative election.

The Union Victrola affords the busy Tech man an enviable opportunity to hear good music (or the other kind if he prefers it) without taking an entire afternoon or evening for the



As a striking example of the effect of the present European War upon the Canadian colleges, it may be mentioned that some forty-eight men of the University of Manitoba, including both students and members of the faculty, have already answered the call of the mother country and gone to the front. Most of the men enlisted as privates, many in the Engineers Corps.

The marvelous organization of the British War Office was instanced in the release of Dr. Boyd, the newly appointed Professor of Pathology at the Manitoba Medical College. Dr. Boyd was to commence his duties at the opening of the fall term. When the war broke out, the University Council received a cablegram signed by the foreign minister requesting leave of absence for Dr. Boyd, and, as if to ensure the message's safe delivery and the request being granted, a similar despatch was cabled to the Lieutenant Governor of the province, who in turn asked the University to accede to the request of the War office. Dr. Boyd had already gone to the front.

Football spectators will not be permitted to take a little "nip" so as to chase away the chill during the next Yale-Harvard game if Dr. Wiley, pure food expert, has his way. Dr. Wiley announces that he will petition the college authorities to have printed on the back of tickets a pledge that the holder will not take liquor to the game, and require each spectator to sign it.

COMMUNICATION

To The Editor of The Tech:

It seems to me that there is one weakness in the freshman election system. In spite of the fact that the class has been together for some eight weeks, no fellow can know anywhere near all of the nominees for office. I did not know any of the nominees for the M. I. T. A. A., so it was a question of either voting for someone I knew nothing about, which I wouldn't do, or not voting, which I did not want to do. I am sure that many others were in the same position.

Wouldn't it be a good plan to have a "beauty show" of the candidates just before election? Without doubt I know by sight a great many of the candidates whose names I do not know, and a beauty show would certainly help to make a fairer choice of officers.

Respectfully yours,
D. W. M., '18.

purpose. The record holders, however, are in a state bordering on collapse, and would well repay a little attention from the Union Committee. Another plague to the music-lover is the complacent individual whose strenuous but untimely efforts on the piano, superimposed on the Victrola's rendition of Caruso or Harry Lauder, produce the effect commonly known as "agony."

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Owing to a conflict in dates

Mr. Edgar of the Rogers

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play on Friday. He will

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those who wish to look over

his line.

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PATRONIZE
TECH ADVERTISERS

SHOW LYRICS (Continued from Page One)

ice Monday at five o'clock to assist any men who are having difficulty in putting their ideas together or to talk to any new men who wish to come out. The aim of the Show is to have a live "Tech Song" written for the book.

The following is the list of the lyrics:

1. "Down With Liquor"—Solo by Colonel Greene, a Southern gentleman—comic song on how he downs liquor—two verses and chorus.
2. "It's Great To Be A General's Daughter"—Solo by heroine, a French girl—two verses and chorus.
3. "The Pride of The Regiment"—by a chorus of soldiers—8 lines with no chorus.
4. "Love Is The Greatest Game Of Chance"—Solo by the hero—two verses with chorus.
5. "The Bathing at Nice Is So Nice"—A bathing song—Solo by a Technology Professor and a chorus of girls—two verses and chorus.
6. "When It Is Moonlight on the Riviera"—Quartet sung by two girls and two men—two verses and chorus.
7. "O'er Mountain Tops"—A Swiss Mountain Song—two verses, each ten lines long with a chorus suitable for yodeling.
8. "If They Would Only Hock der Kaiser"—A comic song, but not so as to cause offence to anyone—should be about the present war situation—two verses and chorus.
9. "I Could Stand All Your Kisses"—Solo by the hero—two verses and chorus.
10. "My Home in Georgia-Land."
11. "Dining on a Diner With Diner"—Both 10 and 11 are solos by a colored man and should be rag numbers with two verses and chorus.
12. "I'm Neutral"—A comic solo with one local verse pertaining to the Institute.
13. "Say, Boys, Let's Go Off on a Party"—Duet by two men—local hit on how Technology men enjoy life around the Institute—two verses and chorus.
14. "My Aeroplane Hero"—March number with a semi-military spirit—two verses and chorus.
15. "Canoeing Song"—A local hit concerning Technology and Riverside—two verses and chorus.

Circulation Manager Candidates in the Upper Office of The Tech between one and one-thirty any day.

FRESHMAN WRESTLING

Freshmen who intend to take wrestling are to meet the other men of their weights in elimination bouts until all have had a try-out. The winners of these bouts will remain on the squad until defeated by candidates in their respective classes. The contestants who do not win a place will return to regular gym work until they defeat some member of the team.

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NAVAL ARCHITECTURAL SOCIETY HAS DINNER

Mr. Cahan Of Commercial Com-
pany Talks On Building
Of Tow Boats.

The Naval Architectural Society held the first of a series of informal dinners last night at the Cafe de Paris, with Mr. F. D. Cahan of the Commercial Tow Boat Company as the speaker of the evening. Nearly all of the upper classmen in Course XIII and a few of the Naval Constructors were present. Professors Everett and Keith represented the Faculty.

President Bent, as toastmaster, said that with such an auspicious beginning a very successful year for the Society was assured. He then introduced Mr. Cahan, who told of the construction and operation of tow boats, together with many of his own experiences in this work. Mr. Cahan said in part: "I used to think when I was a young man that anything was good enough for tow boat equipment, but found after I got acquainted with the business that it is absolutely necessary to equip successful tow boats with the best obtainable, as far as machinery is concerned.

"A modern tow boat has the same or better equipment and as many units as a steamship and it all has to be installed in a very small space. My opinion is that it takes a better man to lay out a tow boat and do it right on account of the space allowed, than any other branch of naval architecture. To show you the necessity of keeping tow boat equipment up, look at the enormous ships they have to handle at the most dangerous time of their voyage, docking and taking them out of dock. They use the tow boats for fenders for the ships, consequently they are subject to a great deal of wear and tear. It is certainly exciting to see several little harbor boats puffing and pushing away at an ocean liner trying to get her into her dock.

"The ordinary ocean boat burns about 16 tons of coal per day. The engines are mostly triple expansion and we get down as low as 1 3-4 lbs. of coal per-horse power, per hour, including all auxiliaries, which is good for slow running engines. A modern ocean tow boat is electrically lighted, steam heated, steers by steam, officers all have separate rooms. Men would rather work on them as they get out on deck and see what is going on about them. The stoke holes and engine rooms are open and they are not confined below as they would be on a ship. In some cases the watches are longer but the extra comfort compensates for that."

Mr. Cahan then related some of his personal experiences. He told of one tow boat which his company bought that had too great a displacement aft. To make her have the proper trim her bottom was filled with concrete. This produced some very interesting results. The engine, which was practically set upon a concrete base, had no appreciable vibration. In fact, there was so little vibration that it was found unnecessary to bracket any steam pipes. The experiment was a

ENGINEERING AND SCIENTIFIC NOTES

At the time Congress made the appropriation to cover the cost of the Panama Canal it was severely criticised by many people throughout the country, as being entirely too extravagant. The total sum spent on this engineering work, as recently announced by the United States government would be only sufficient to run the present European War for ten days.

A Pacific Coast highway for automobiles is being linked up of the best roads and when completed by the end of next year will connect San Diego, Cal., and Vancouver, B. C. The route passes through the principal towns and is entirely over hard-surfaced roads. The highway is to be extended later to Alaska.

A receiving station, for handling radio messages direct from Norway, is to be erected at Chatham, Mass., on Cape Cod, by the Marconi Company. Aerial masts 415 feet in height are being put up. These are composed of 15 and 10 foot steel sections bolted together.

The Hipwell Manufacturing Company, Pittsburgh, Pa., has recently put on the market a new type of flashlight, which has the distinction of possessing an effective range of 200 feet. In appearance, the Hipcoscope (the name under which this new type of flashlight is being sold) does not differ greatly from the so-called minor type of flashlight. All improvements were made with a view to producing greater efficiency from the miniature tungsten light which is employed. The Hipcoscope is fitted with two high-power lenses which concentrate the light and project it with the aid of a true parabolic reflector in the desired direction.

Five students from the University of Washington succeeded in carrying a motion-picture camera to the summit of Mt. Rainier and photographing the crater and Columbia Crest, the highest point of the peak. The altitude of Mt. Rainier, according to the latest government survey, is fourteen thousand four hundred and eight feet. This is the highest point to which a motion-picture camera has ever been carried.

complete success, much to the surprise of everyone.

It is very difficult according to Mr. Cahan, to produce a durable type of barge. Barges are subjected to the roughest kind of usage in loading and unloading. The shovel operators are careless and drop the huge iron shovels on the ship's bottom regardless of consequences. It is not unusual for them to remove a portion of the ship instead of a shovel full of coal.

Gas engines, in Mr. Cahan's opinion, are not very desirable in tow boats. They do not allow of the quick maneuvering which is absolutely necessary in docking. A stalled engine might cost thousands of dollars in docking a transatlantic liner.

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"Fill my pipe with Tuxedo and I'm content. You can't beat Tuxedo for mildness and purity."

J. N. Marchand

MACLAURIN SPEAKS ABOUT CO-OPERATION

Gives Address Before College Presidents On Last Friday Evening.

At the meeting of the New England College Presidents held last Friday evening at the Boston City Club, President Maclaurin gave an address on "Co-operation." In it, Dr. Maclaurin spoke of the co-operation with the State to which Technology has recently given so much consideration. The primary function of all colleges and universities is now and always has been to train individuals so that they will do their jobs well. He suggested that those professors and instructors in the higher institutions of learning might be able to solve some of the countless problems presented in the administration of modern cities and states on account of their being better informed as to the teaching of experience, and broader in their interests and sympathies.

The co-operative effort is doing excellent work in a quiet way—work which will doubtless be extended throughout the state as other institutions take their part in it. This co-operative spirit has shown itself most effectively in this community in the recent agreement between Harvard and Technology for carrying on the work of engineering as a joint effort.

SUNDAY FORUM

The Y. M. C. A. Discussion Group, or Forum as it is called, will have for its speaker this Sunday Mr. Frank Palmer Speare, director of education at the Y. M. C. A. schools. Mr. Speare has built up a school system that has placed the Huntington School on a level with Exeter Academy. He will have as his topic "Are You Building a Career?" These discussion meetings are followed by a social hour and musical program. The Forum extends through the T. C. A. a cordial invitation to Technology men to attend, and as there will be no speaker in the Union this week, those Tech men who have found something worth while in the Thursday talks will be gladly welcomed at the Y. M. C. A. Sunday at 3.45.

ENGLISH HIGH

The members of the classes of '08, '09, '10 and '11 of the English High School will hold a joint banquet at the Hotel Nottingham, Dec. 1, 1914, at 7 o'clock. Mr. J. F. Casey, the Principal of the School for more than thirty years, has resigned. He is to be given a sendoff by the alumni. Tickets may be obtained from B. Landers, '15.

CHESS TOURNAMENT

Entries for the Chess Meet to decide the championship of the Institute are due Friday. Men who wish to compete must leave their names at the Cage for E. H. Neumann. All students are eligible for this tournament.

News Men, Lower Office next Monday at one-thirty.

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MATH. LABORATORY
(Continued from Page One)

which there is an increasing demand among all technical men. Further study is also given of numerical solutions of algebraic equations of the higher powers, and of transcendental and differential equations. The different methods of checking results for accuracy in arithmetical and logarithmic computations are also considered.

The course is so arranged that study in detail may be made of the different computing instruments, both as to their use and ideas of constructions. Among the instruments are the slide rule, which is now used so much in everyday as well as engineering calculations, the arithmometer, and an instrument for obtaining areas of irregular surfaces, besides the inter-graph.

The subject is elective and, notwithstanding the fact that the student takes it in addition to his other studies, more than sixteen men from the third and fourth years are in the laboratory under the instruction of Dr. Lipka. If the trial proves successful, the subject will eventually become one of the required list.

NEWS MEETING

There will be a meeting of all News Men on The Tech next Monday at one-thirty in the Lower Office. Especially important matters will be discussed.

BOAT CLUB MEETING

The meeting of the Boat Club officers on Monday adjourned without anything definite having been decided upon. Letters have been sent to the Alumni and other colleges regarding the purchase of rowing machines.

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TECHNOLOGY CHRISTIAN ASSOCIATION'S WORK

Presented To Student Body In Form Of A Circular And Mailing Card.

The Technology Christian Association has sent out to Tech men a circular and mailing card which will probably present to the student body the work of the Association in a new light. The Bible Study work of the Association is a branch comparatively unknown to the student body as a whole. There are at present seven regular Technology groups for the study and discussion of present day questions and, as stated in the circular, new groups will be organized anywhere at any time that not less than five men select to meet. The Technology Christian Association is anxious that these study groups should attract the students and has as its aim the organization of congenial groups of fellows for discussion of live topics, for the study of "real problems in stress and strain, tests for the resisting properties of moral fibre," as the circular states.

CANDIDATES NEEDED

Circulation Department Offers Splendid Opportunity.

The Circulation Department of The Tech needs candidates for position of Assistant Circulation Manager, and all who wish to enter the contest will be required to report at once. The work consists of attending to the files and mailing list and keeping the accounts of the newsboys. Manager Knieszner will be in the Upper Office every day from one to one-thirty to meet candidates.

Gym Team. Five today. Gym.

TRACK MEETING
(Continued from Page One)

getting them into the habit of facing a hard proposition and putting in all they have to win out. He cited the example of a student at the Institute who had never been able to face an exam until he learned the habit of doing his best against anything, by participating in the track meets.

He prophesied that the competition for the relay teams would be strong, and said that this year Technology would need stronger teams than ever in order to win the big meets. The loss of the big Cross Country meets this year he attributed to the lack of keen competition in practice meets, and said that our chances indoors are good if our men put more seriousness into their training. Our standing at the B. A. A. meet has always been high, our teams having lost only twice in seven years, and each time through a fluke. This year our time will probably have to be faster in order to have a winning team. This means faithfulness in training by the runners.

The provisional list of winter work as he gave it is as follows:

- Dec. 19—Practice meet.
- No work during Xmas vacation.
- Jan. 2—Preliminary 390-yd. trials.
- Jan. 6—720-yd. trials.
- Jan. 8—Indoor Interclass Meet.
- Jan. 20—Final 390-yd. trials.
- No training during mid-year exams.
- Jan. 23—Coast Artillery Games (Army).
- Jan. 30—I. A. A. A. (Mechanics Building).
- Feb. 6—B. A. A. meet.
- Feb. 13—'17 vs. '18, or Lowell and Andover meet.
- Feb. 20 or 22—Providence meet.
- Feb. 20—'17 vs. '18, or Lowell and Andover meet.
- Feb. 27—N. E. A. A. Championships.



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Mar. 6 or 8—Madison Square Garden, N. Y.
Mar. 6—Final Dual Meet for '18.

TRADE DISCOUNTS

Tech Show has a number of tailor and photographic trade advertisements. Those wishing to obtain merchandise of these kinds at a discount may see C. C. Carpenter at the Tech Show Office.

FACULTY NOTICE

The exercises of the Institute will be suspended on Thanksgiving Day, Thursday, November 26th.

CLASSIFIED AD

LOST—Marksman's medal with inscription "M. B. M. 1913." Please return to The Tech office.

Varsity Basketball Practice today at four at the Gym.

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THURSDAY, NOV. 26, 1914

THANKSGIVING DAY