The Engineering Society.

The Engineering Society held its first meeting for this term, Tuesday evening, January 16; the essayist, Howard North, the topic, "The Westinghouse Air Brake." The construction of the different parts of the apparatus was shown by drawings and blue prints. In a brief review, the apparatus consists of an air pump, for compressing air, a main reservoir for storing compressed air, an engineer's valve, for controlling the apparatus, train pipes, connecting the apparatus from one end of the train to the other, an auxiliary reservoir, triple valve and brake cylinder under each car, for storing and handling compressed air. The air pump, operated by steam from the engine boiler, compresses air, forcing it into the main reservoir, train pipes, triple valves and auxiliary reservoir. By opening the engineer's valve, the passage between main reservoir and train pipe is closed, and a passage opened for the escape of air from the train pipe to the outside atmosphere; part of the air being thus allowed to escape, the pressure of what remains in the pipe is reduced, and the compressed air in the auxiliary reservoir under each car attempts to rush into the train pipe to equalize the pressure. This movement operates the triple valve so as to close the passage into the train pipe, and to open a passage into the brake cylinder. The air rushing into the brake cylinder forces its piston to the opposite end of the cylinder. The piston rod is attached directly to the levers that apply the brakes to the wheels, and by the pushing out of the piston, the brakes are applied to the wheels with a force dependent upon the amount of air exhausted from the train pipe, and consequently under the entire control of the engineer.

The brakes remain applied until the engineer, by properly turning the engineer's valve, re-opens the passage from the main reservoir to the train pipe, and the flow of air restores the train pipe pressure. This restoration of pressure operates the triple valve so as to close the passage between auxiliary reservoir and brake cylinder, and to open a passage from the brake cylinder to the outside atmosphere. Through this passage the air in the brake cylinder escapes, and a coil spring in the other end of the cylinder pushes the piston over to its normal position, releasing the brakes.

The governing principle of air brake operation is that the reduction of air pressure in the train pipe applies the brakes, and the restoration of uniform pressure in the train pipe and auxiliary reservoirs releases the brakes.

Athletic Meeting.

At a meeting of the Athletic Association held Thursday noon, but little business was transacted owing to small attendance. W. T. Cantlind, '92, was elected by the association as a member of the committee to select the base ball team. A committee of five was appointed to solicit members for the association. By a unanimous vote the association declared itself in favor of holding the next State Field Meet at Des Moines instead of Marshalltown, provided Des Moines would offer sufficient inducements.

German Seminary.

The first meeting of the German Seminary on Wednesday evening was one of unusual interest and importance. Miss Barber read an interesting and well prepared paper, as an introduction, on the "Chief sources of information regarding Goethe's life and works." She sketched many of the numerous German works in the library, giving extracts and reviews. The new feature of voluntary reports which has been adopted will prove both beneficial and entertaining. Mr. Hornby gave an interesting report on Walter von der Vogelweide.

Foot-Ball Benefit.

SHERMAN'S PHANTASMA.

The foot-ball team must be put upon a sound financial basis next year if we expect to have and maintain a winning team. Funds are needed at once to pay off debts remaining from the season just passed to give assurance for next year. Instead of soliciting subscriptions, the managers have decided to endeavor to raise the necessary amount by giving an entertainment and for this purpose have engaged the famous "Sherman's Phantasms." This is a beautiful production, full of merit and something that will please and interest everyone. Remember that it is for the benefit of our foot-ball team, and let every student come out and enjoy himself and at the same time help to place the team upon a solid footing. Prices, $0 and 35 cents.

Notice.

Oration for the home contest must be handed in on or before Jan. 29, 1892.

MARY ALFORD,
President Home Association.

Enrollment 901.

The number of students so far enrolled in the University is as follows:

<table>
<thead>
<tr>
<th>Department</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law Department</td>
<td>354</td>
</tr>
<tr>
<td>Medical Department</td>
<td>161</td>
</tr>
<tr>
<td>Homeopathic Medical Department</td>
<td>146</td>
</tr>
<tr>
<td>Dental Department</td>
<td>37</td>
</tr>
<tr>
<td>Pharmacy Department</td>
<td>50</td>
</tr>
</tbody>
</table>

Total: 901

Baconian Club.

Mr. Spannus read a carefully prepared and interesting paper on "Glass, and its Solubility in Water," before the Baconian Club last evening. Glass is a fused compound of an acid like silicie or boric acid, with at least two bases like potash and lime. The Egyptians were probably the first makers of glass, the art of coloring glass as well as making a transparent glass being understood by them. Glasses containing alkali in considerable proportion are more subject to atmospheric influence, becoming lusterless and cloudy. Window panes in breweries or laundries, where particularly subject to warm, moist atmospheres, are often attacked, the glass gradually losing its transparency, and flakes peeling off. Experiments show that a glass containing 72.1 per cent Si O₂, 15.5 per cent Ca O, and 12.4 per cent N₂ O₃, will if pulverized and boiled in water, lose 9 per cent of its weight. Glasses containing 77.3 per cent Si O₂, 6.4 per cent Call, and 16.3 per cent N₂ O₃, loses 32 per cent of its weight under same treatment. In general, the purity of the ingredients is a very important matter in manufacture; iron is especially objectionable as it gives the glass a greenish color.

Hesperian Program.

Declamations - Julia Crawford, "The Sioux Chief's Daughter."

Music: "Jerry an 'Me."' - Inez Kebo.

Declamations - Eva Miller.

Debate: Resolved, That the indulgence in luxury is detrimental to social progress. Affirmed by Bessie Parker and Mae Lomas. Denied by Zizzle Moore and Mam Bloom.

The efforts of Dr. Littig, a course of lectures by Professor Boerner, have been arranged for Medical students. The class meets every Thursday in the new Chemical Laboratory.
Only four contestants were present to select judges for the Oratorical Contest. It is understood, however, that there are quite a number of others who will enter, and it all take an active interest we will have a rousing contest.

The growth of the seminary bespeaks the growth of S. U. I. The seminary work is valuable chiefly because it enables the student to go beyond the scope of the text book. It stimulates him to do original research, and thus enables him to become perfectly acquainted with the subject considered. Another important feature is that the growth of our seminaries has had a beneficial effect upon the library, in that more new books have been secured in order to successfully prosecute the work. Each department grows in proportion to the interest taken in the Seminary work, and hence the growth of our seminaries contribute in a great measure to the expansion of our University.

The members of the Delta Tan Delta fraternity were most agreeably entertained last evening, by Mr. and Mrs. Carson and sons, assisted by Mrs. Frank Carson, at their residence. Besides the members of the fraternity, there were present Messrs. Powell, Hill, Purdy and Farrell.

It will be a great privilege to the students to hear Mr. Stagg, on athletics, this evening. It is to be hoped that this lecture will be the introduction to a series of lectures to be delivered every year on athletics. If we want athletics to prosper at S. U. I., it is necessary to keep in close contact with the most advanced ideas on this very important subject.

Professor Sampson has introduced a new spirit in foot ball at Leland Stanford Jr. University. The Sequoia says: "Professor Sampson is, undoubtedly, just the man we have been waiting for, having had an experience in introducing foot ball into the S. U. I., which now has one of the best western teams."

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Local and Personal.

Professor Alvin Noble is visiting friends in the city.

H. O. Warren, L. '22, returned to the University Thursday.

The Junior Pharmacists are having their class picture taken at James’. George C. Cook, '22, has been obliged to go home on account of sickness.

The Hesperians will give their first program for the term this evening.

Next week the class in psychology will consider the Theory of Aesthetics.

The latest news from Des Moines is that there will be no visiting committees from the legislature to inspect the Medical department.

The lectures on Insanity, on Medical Jurisprudence, and on Skin Diseases, began this week in the Medical department.

Mrs. T. W. V. has elected the following officers: President, Mary Holt; vice-president, Helen Copeland; secretary, Mae Lomas; treasurer, Rebeka Gitchrist; executive committee, Mary Alford, M. N. Q. T., Jessamine Jones and Annabel Collins. Other members are the following: Sophia Moore, Julia Crawford, Geneva Horne, Kate Barber, Bertha Horak and Frances Rogers.

Mr. C. G. Holt is in the city for a few days visiting his sister, Miss Mary Holt.

Mrs. R. J. Bowman, of Davenport, is spending Saturday with her son and daughter, Charles and Miss Bessie Bowman.

Miss Veda Shaffer, formerly of '22, is expected to be the guest of Kappa Kappa Gamma during Sunday and Monday.

H. E. Gray, of Miller, South Dak., and John Kennedy and wife, of Peterson, Iowa, have entered the Medical department.

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MRS. TRAVIS’ dancing school to-night.

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The ladies' class in gymnastics continues to meet twice a week, the same as last term—Monday at 4 P. M. and Thursday at 4:30 P. M. The class is increasing, and the work is much enjoyed. A new feature is the opening of the gymnasium to ladies exclusively on Tuesday evening.

There will be a meeting of the football team and candidates for the team next Thursday at 1 o'clock p. m. Mr. Kallenberg will give a talk on "Training." Let every man make it a point to be at the Central building at one o'clock sharp, as a part of the men will have to leave at 1:30.

Allen T. Sanford, Captain.

Dr. Andrews gave an amusing report in Baconian last evening of the estimated distance apart of the centers of atoms of hydrogen and oxygen in water. "The ratio of one-half inch distance to the distance from the earth to the sun is one hundred and fifty millions times greater than the distance between centers of the atoms of hydrogen and oxygen."

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No. 25 - Riverside Passenger (arrives) 10:20 a. m. No. 26 - Cedar Rapids Passenger ... 4:35 p. m.
No. 26 - Clinton Passenger .... 4:55 p. m. No. 26 - Riverside way freight will only carry passengers between above points .................................. 4:55 p. m.

TRAINS SOUTH.

No. 4 - Burlington Passenger .... 4:47 p. m. No. 4 - Monticello Passenger ... 5:25 p. m.
No. 26 - Muscatine Passenger .... 5:25 p. m. No. 26 - Town City Passenger (arrives) 5:25 p. m.
No. 26 - Clinton Passenger .... 5:25 p. m. No. 26 - Clinton and Riverside way freight will only carry passengers between above points .................................. 5:25 p. m.

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