

The Carlisle Arrow

A WEEKLY NEWSPAPER PRINTED DURING THE SCHOOL YEAR BY THE STUDENTS OF THE CARLISLE INDIAN SCHOOL

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FORD MOTOR COMPANY'S SCHOOL.

As the Carlisle Indian School now has 26 of its young men taking the students' course at the Ford Motor Company, *Arrow* readers will no doubt be interested to know something about the educational features of the great Ford plant.

The Ford English School was started in May, 1914, with one teacher and twenty pupils. The latter part of the same month, five night-school teachers took up the work for demonstration and found the plan employed to be very successful. In September following, a call was made for volunteer teachers from the plant. The response was so generous and the interest was so splendidly maintained that the enrollment was soon increased to 2,000. The enrollment still remains the same, as there is no space to accommodate more.

Graduating Classes.

On July 25th, 1915, the first class of 115 men was graduated. The second class, composed of 519 men, was graduated on February 27th, 1916. Both of these classes had their own president, who made an address in English at the graduating exercises. These classes represent over fifty nationalities. Each graduate receives a diploma signed by the officers of the company and those of the educational department certifying that they can read, write and speak English sufficiently for all common usages of life.

The Teachers.

The teachers are all volunteers who are willing to give their own time without pay in the spirit of "Help the other Fellow" to the work of teaching the foreigners English. All the teachers are employees of the company and come from every part of the plant. These men are put into a teachers' training class, which meets every week, and after six weeks training they are given classes as substitute teachers. They teach two school periods per week, each period lasting one and one-half hours.

The Method of Teaching.

The cumulative method of dramatic English teaching is used. This system is defined as a transposition of the Francis Gouth method originated in Germany about the year 1710, but differs from this and all other existing systems in that it furnishes instruction sheets and classroom programs for the guidance of the teacher, and also employs and emphasizes the cumulative method of dramatization. This method has been elaborated and largely revised by the Ford English School, and is given to the world through the educational department of the Ford Motor Company. This method is endorsed and is being pushed by The National Association of Dramatic English Teachers.

The Course.

The course consists of 68 lessons taught in 34 weeks, and in this length of time they teach a foreigner of any nationality to read, write, and speak simple English.

Americanization Day.

A historic event in which the school participated was the Americanization Day program of July 5th, 1915.

Two thousand Ford students and four thousand other Ford employees marched to the city hall, where they were met by the mayor and other city officials. Massed in front of the city hall they sang "America" and were taken to Belle Isle, where they participated in the Americanization Day program. It was this event which aroused the board of commerce and the board of education to undertake on a large scale the teaching of English by the Ford method in the Detroit night schools. From the beginning the work has spread to other cities and other corporations are taking up cumulative systems of dramatic English teaching initiated in the Ford plant.

The Teachers' Literary Club.

There is an organization of the teachers which meets for debate and social intercourse twice each month. They have a male quartette, saxophone orchestra, and debaters equal to any school literary societies of the country.

The Boosters' Club.

The Ford English School Boosters, or the F. E. S. B. Club, is an organization composed of those foremen or department heads throughout the plant who shall have served as judges on the debate at any regular meeting.

The American Club.

The American Club is an organization of the school alumni. All graduates are eligible. This club meets twice each month to hear a program of music, a short lesson on American history or geography and to see moving pictures on educational subjects. The members are taught patriotic songs, and to give the school and country yells.

Department of Mathematics.

The department of mathematics has an enrollment of 300 with a force of 26 teachers. These classes are open without charge to any English speaking employee of the plant. A course is taught embracing simple arithmetic, algebra, applied geometry, trigonometry, and practical mechanics.

Advanced English.

This department is maintained for any one in the plant who wants grammar, composition, parts of speech, etc. A class is maintained in practical psychology for the benefit of those interested.

Other Classes.

Classes in penmanship and public speaking are also conducted under the best teachers obtainable.

Results.

Since the school started in the plant the accidents in the production departments have decreased 54 per cent. A large force of interpreters were used before the school was started; now none are necessary.

The Carlisle boys are taking the courses in advanced English, shop mathematics, and mechanical drawing.

The making of men and good American citizens seems to be the chief aim of this great institution and the manufacture of automobiles only incidental—the by-product that pays the bills.

A report comes from Georgia that a dog entered a newspaper office and ate a quota of editorial copy, after which it went mad and was shot for the rabies. Some editorials have the same effect on humans.—*Wichita (Kans.) Eagle.*

COMING EVENTS

Saturday, April 1.—Roy Young—"Paganini and the Birds," 7:30 p. m.
 Saturday, April 8.—Band Concert, 7 p. m.
 Saturday, April 15.—Games. etc., Gymnasium, 7 p. m.
 Saturday, April 22.—Illustrated lecture—Our Native Birds, 7:30 p. m.
 Saturday, April 29.—School Sociable.
 Saturday, May 6.—General meeting, Auditorium.
 Saturday, May 13.—Band Concert.
 Monday, May 22.—Gymnastic Exhibition, Gymnasium, 7:30 p. m.
 Tuesday, May 23.—Baseball, 2:30 p. m.
 Tuesday, May 23.—Joint Entertainment, all Literary Societies, 7:30 p. m.
 Wednesday, May 24.—Competitive Military Drill, 2:30 p. m.
 Wednesday, May 24.—Final Band Concert.
 Thursday, May 25.—Field Day, 1:30 to 5:00 p. m.
 Thursday, May 25.—School Sociable.

THE WEEKLY ALMANAC.

March.—Began on a Wednesday and ends on a Friday.

Moon's Phases.

New moon April 2, at 11.21 a. m.
 First quarter April 10, at 9.35 a. m.
 Full moon April 18, at 12.07 a. m.

Today.

Sun rises 5.46 a. m.
 Sun sets 6.14 p. m.
 Day's length 12 hours 28 minutes.

Morning Stars.

Mercury, until April 14.

Evening Stars.

Jupiter, until April 1.
 Venus, until July 3.
 Saturn, until July 12.
 Mars, all the rest of the year.

SCHOOL SOCIABLE.

By Wilfred Eshelman.

Saturday evening, March 25th, the students held their monthly school sociable in the Gymnasium.

The students enjoyed themselves playing games or dancing. One of the dances was a quadrille, which looked natural to some of the students, as that is what they danced before coming to Carlisle.

The ice cream seemed to attract much attention, because one could see the boys and girls making in the direction of the Y. M. C. A. room all evening.

Y. M. C. A. MEETING.

By Andrew Beechtree.

In spite of the fine weather we had last Sunday, which usually has a tendency to draw the boys out to the country for walks, the attendance at the meeting was large. Lloyd Welch presided, and as usual the meeting was opened by a song. It was followed by another song, a Scripture reading, song, prayer, selection by a quartette, and a talk by Dr. Hutchison. His talk was on natural growth of life, pointing out what habits we should form and which we should despise. He spoke in such a way that he left a good impression on the minds of all his hearers. Before

the meeting was closed, Homer Lipps volunteered to speak and Clarence Welch to lead the next meeting.

The boys appreciate Mrs. Clevett's kindness in acting as pianist at these meetings.

FATAL ACCIDENT.

Saturday morning Mrs Charles Meck, a sister of Miss Albert, our instructor in laundering, fell to the pavement from a balcony on the second floor of her home on North Hanover street, receiving injuries from which she died Monday afternoon. Mrs. Meck was our dining room matron during Miss Zeamer's leave of absence last summer and she won the respect and affection of all because of her excellent qualities. The entire school extend their deepest sympathy to Miss Albert and the bereaved family.

PROTESTANT MEETING.

By Andrew Connor.

The meeting was conducted by Mary Welch, and was opened by the singing of a hymn, after which the Scripture was read by Effie Coolidge, followed by a song, and a prayer by Martha Wheelock.

The subject for the evening was, "The Construction of Hymns and Their Writers.

The speakers, Misses, Monteith, A. Owl, Printup, Seneca, Horsechief, J. Owl, Standing Bear, and West, gave some very interesting talks on the subject.

The small boys' quartette sang a song, which was very much enjoyed by all.

At the close of the meeting we enjoyed hearing our superintendent bring up many inspiring points.

HOLY NAME SOCIETY.

By Francis Ojibway.

The meeting was called to order by the vice president, Joseph Helms. The minutes of the previous meeting were read by the secretary, Maud Cook, after which the following program was rendered:

Piano solo—Rose Wildshoe.

Selection—Marion Paris.

Vocal duet—Relia Oshkosh and Charlotte Cadotte.

Piano solo—William Edwards.

Recitation—Catherine Vornwald.

Instrumental duet—George Merrill and Daniel Arapahoe.

Select reading—Margaret Raiche.

Selection—Mr. White's Quartette.

Guitar duet—Jane Gayton and Etta Waggoner.

Clarinet solo—Edward Ambrose.

Vocal solo—Irene Davenport.

Remarks—Pablo Herrera.

GENERAL NEWS NOTES.

The Susans and Invincibles are hoping to be as victorious in inter-society athletics as they were in their debates.

The girls of the Model Home, chaperoned by Miss Montion and Miss Bender, walked to cave Hill Sunday afternoon.

A post card has been received from Thomas Starr of Hanna, Okla. He states he is well and wishes to be remembered to all his friends.

Many of the girls are already packing for the first outing party, which leaves today. We wish them good luck in their undertakings this summer.

There is no doubt that there will be great excitement when the Standard representatives and the Invincible contestants meet in the Gym to engage in games and races.

CALENDAR "DETAILS."

To Visit Literary Societies Tonight, March 31st.*Susans*:—Mr. DeHuff and Miss Montion.*Mercers*:—Miss McDowell and Mr. Shambaugh.*Standards*:—Mr. Bradley.*Invincibles*:—Miss Keck and Mr. Rocque.**To Visit Literary Societies One Week from Tonight.***Susans*:—Miss Keck and Mr. Rocque.*Mercers*:—Mr. DeHuff and Miss Montion.*Standards*:—Miss McDowell and Mr. Boltz.*Invincibles*:—Mr. Bradley.**To Inspect Dormitories, Sunday, April 2.**

(8.30 a. m.)

Large Boys' Quarters:—Mr. Peel and Miss Yoos.*Small Boys' Quarters*:—Mr. Weber and Miss McDowell.*Girls' Quarters*:—Miss Dunagan and Miss Wilson.**To Chaperon Girls to Sunday School, etc., April 2.**

(9:00 a. m.)

Miss Georgenson,
Miss Williams,
Mr. Gehringer,Miss Searight,
Mr. Nonnast.**To Accompany Girls Walking Sunday Afternoon.**

(4:00 p. m.)

Mr. Clevett,

Miss Snoddy.

**TEACHERS' STUDY HOUR DETAIL FOR WEEK
BEGINNING APRIL 3rd.**

Date.	Large Boys' Quarters.	Small Boys' Quarters.	Girls' Quarters
Monday, April 3.	Miss Hagan Miss Bender	Miss Williams	Miss Sweeney Miss Roberts
Tuesday, April 4.	Miss Wilson Miss Hagan	Miss Bender	Miss Williams Miss Sweeney
Wed'sday, April 5.	Miss Roberts Miss Donaldson Miss Wilson	Miss Bender	Miss Hagan Miss Williams Miss Sweeney
Thursday, April 6.	Miss Roberts Miss Donaldson Miss Wilson	Miss Bender	Miss Hagan Miss Williams Miss Sweeney

ENROLLMENT STATISTICS.

	Boys.	Girls.	Total.
Pupils on campus.....	319	178	497
Outing.....	95	72	167
On leave.....	2	0	2
Deserters.....	1	0	1
Total on rolls March 27.....	417	250	667

BEAR CREEK CLUB.*By Earl Wilber.*

Last Saturday afternoon the Bear Creek Club met at two o'clock in the Standard Hall. The house was called to order by President Bellefeuille, who with the secretary, James Leader, was elected at a former meeting.

The meeting was held in order to work out the constitution and by-laws of the club, and consider the name and motto.

There was many heated arguments between the members before the constitution was adopted. After all the arguments were brought to a peaceful conclusion, the following

officers were elected: Vice-president, George Warrington; censor, Fred Fleury; treasurer, Earl Wilber; manager of music department, Louis White; high chief advisor, Jacob Duran; manager of athletics, John McDowell; sergeant-at-arms, Joseph Helms.

THE BAND.*By Emanuel Ortego.*

The program for the next concert, which is to be given on the evening of April 8th, is worked out and ready. This program is to be given by the band and orchestra together.

Mr. Tyrrell has written some music for the Standard Society song, and it is suitable to the words in every respect. The members are faithfully trying to become acquainted with the music.

A number of march pieces were given out to the band to be practiced, and as soon as the weather permits they will be used in marching the students to their noon meals and also for parades.

GENERAL NEWS NOTES.

Alfred Wells left for Millersville State Normal last Monday, where he will continue his studies.

The boys of the "even" division of the third-year vocational class had their first test in geometry Monday morning.

Last Sunday twelve boys who are members of the Bible study classes visited Dr. Steck's class in the Lutheran Sunday School.

Little Robertson Denny has just recovered from the mumps, which had a tight grip on him for some two weeks or more.

The most interesting event to take place this week is the violin recital by Mr. Roy Young in the auditorium at 7.30 p. m. tomorrow.

Mr. William Madison of Independence, Mo., a Chippewa Indian, stopped off for a brief visit here a few days ago on his way to Washington, D. C.

Frank Vedernack, a Carlisle ex-student, was here visiting during the week. At present he has a job on the Pennsylvania Railroad line as machinist.

The chief number on the program of the Holy Name Society was the recitation by Marion Paris entitled, "The Farmer's Son and the Fish," which he recited with excellent effect.

We had some prominent visitors here this week, among whom were "Mutt and Jeff," members of a comedy company which gave a performance at the opera house. They attracted much attention.

Saturday afternoon the third-year vocational class met in the Y. M. C. A. Hall to organize a class. Henry P. Sutton was elected president; Miss Maude Cooke, recording secretary; and Miss Alta Printup, treasurer. The class colors are scarlet and white.

Saturday afternoon at Mt. Holly, Mr. DeHuff captured a few specimens of skunk cabbage which he has turned over to the teachers for their use in connection with the study of plant life. Skunk cabbage is already in full bloom and matures its flowers several weeks earlier than any other plant in these regions.

Last Friday evening Miss Julia Morgan, a Sunday school teacher at the Methodist Church, entertained her class at her home in Carlisle. The evening was spent in playing various kinds of games, after which refreshments, consisting of ice cream and cake, were served. After the refreshments Evelyn Metoxen and Frances Cornelius sang an Indian song. Rose Allen, Amy Smith, and Miss Margaret Morgan favored us with vocal solos. The evening was enjoyed by all present.

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AT THE BRINK OF THE RUBICON.

*Being a Little Preachment to the Carlisle Students
by the Superintendent.*

Caesar paused upon the brink of the Rubicon! What was the Rubicon? The boundary of Caesar's province. Why did he pause? Because of conscience. 'Twas that made Caesar pause upon the brink of the Rubicon. No wonder that he paused,—no wonder if, his imagination wrought upon by his conscience, he had beheld blood instead of water, and heard groans instead of murmurs! No wonder, if some Gorgon horror had turned him into stone upon the spot! But no! He cried, "The die is cast." He plunged! He crossed! And Rome was free no more.—*J. S. Knowles.*

Every boy and girl comes to a Rubicon. That Rubicon is Temptation. To pause and dally is to yield.

There was a law in Rome expressly forbidding any of its generals from crossing the boundaries of the Roman province without first obtaining the consent of the Roman Senate. Caesar did not have this consent. A rich country lay beyond the Rubicon. The desire to invade, conquer, and add new laurels to his crown of glory siezed him. Pausing to contemplate the personal reward of such a conquest he forgot his duty to his country and his obligation to maintain the peace and dignity of the Roman people. He plunged, and thus involved his country in a series of foreign wars which resulted finally in the decline and fall of the Roman Empire. And Rome lost her freedom all because one of her generals paused at the brink of the Rubicon and yielded to temptation.

Emerson once said, "We send our sons to college in order that the boys may educate them." That is to say, we are taught by our associates. A young man may leave school an accomplished scholar and a gentleman, and well prepared to perform his part in the world he is about to enter, or he may come away a blackguard, a spendthrift, a profligate, or a sot. It all depends upon how he employs his time and the company he keeps. No matter where we go or what our surroundings may be we will encounter temptation—we will come to a Rubicon. It requires great courage and persistent effort to lead clean, wholesome lives. "He that conquereth himself is greater than he that taketh a city." If we fail to overcome the temptations of youth we shall most likely fail to overcome the

greater temptations that beset life's pathway after we leave the paternal roof and the fostering care of sympathetic advisers. Therefore screw your courage to the sticking place and "stick." Begin now.

SHOP TALKS.

By ROY H. BRADLEY, *Director
Mechanic Arts Department.*

BRICKLAYING.—Lecture I.

The bricklayer is commonly expected to do any kind of brick work, whether plain or ornamental, required in the construction of buildings, including the setting of window sills and caps of cut stone or other material. Cut-stone door sills and ornamental belts are, however, as a rule set by stone masons, while sheet-iron cornices and cement brackets are set by men employed by the manufacturers of these products.

The bricklayer is essentially a wall builder, and a first essential of his trade is a knowledge of the various methods of bonding employed in the construction of walls. Bonding is the art of binding brickwork together so that it will stand up well, by properly alternating stretchers and headers, taking care that each joint is covered by a solid above and below and that enough transverse brick are laid to bind together the back and front wall. There are many different kinds of bonds, but that most commonly used is called the 4-inch bond. It consists of six or seven courses of stretchers and then a course of headers, care being taken to break joints properly. English and Flemish bonds are also used to some extent. The English bond consists of alternate courses of stretchers and headers; the Flemish bond of alternate stretchers and headers in the same course, breaking joints with courses above and below.

The bricklayer must be proficient, not only in the building of straight walls, both inside and outside, but also in the raising of outside and inside corners; in the carrying up of chimney flues; in the building of window frames; in the construction of arches and gables; and in the laying of pressed brick, terra-cotta trimmings, and other ornamental materials. All of this requires skill in handling the tools of the trade, which include trowel, chisel, hammer, plumb rule, level, line, and pins, scutch, jointer, brick saw and chopping block, and in manipulating the various materials which are used—brick and mortar.

Bricklaying includes any kind of brickwork required in the construction of buildings, whether plain or ornamental, the laying of machinery foundations, the construction of tunnels and sewers, the putting up of power plant chimneys, the setting of boilers, construction of bake ovens and of brickwork in blast and open hearth furnaces.

Conditions of employment.—The bricklayer is usually strong and healthy. The very nature of his work and the fact that it is mostly outdoor work are factors favorable to the maintenance of a vigorous constitution. As the work does not involve either eye strain or nervous strain, or any special dangers from machinery or from handling poisonous materials, the occupation may be classed as an extremely healthy one. As the work is of varied character it tends to stimulate the worker's interest.

Educational requirements.—The bricklayer should have at least the equivalent of a complete grammar school education and the required pre-vocational training; also he should be able to read and follow blue-print plans and specifications.

ALUMNI NOTES.

Hattie M. Miller, class 1905, has been transferred from Standing Rock, N. Dak., to Flandreau, S. Dak., as fourth-grade teacher. Miss Miller is also a graduate of the Bloomsburg Normal School, Pa.

The Nez Perces held a farmers' meeting at Lapwai, Idaho, recently. More than a hundred men and women were in attendance and interest was shown in the discussions. One session was devoted to considering "Legal Roads and Fences." Another session was given up to the discussion of "Successful Farming" by Ben Cloud; "Soils that produce most," by Clayton Dixon; "Raising Apples," by Stephen Reuben; "Better Horses," by Joseph Kentuck. All these speakers are Nez Perces.

The Indians decided to effect a permanent organization and appointed Corbett Lawyer, Stephen Reuben, Clayton Dixon, and Ben Cloud as a committee to prepare a constitution and by-laws for this purpose.

The above is taken from the Spokane (Wash.) *Review*. Corbett Lawyer is a graduate of Carlisle, class 1899, and Stephen Reuben was a student here twenty-three years ago.

OUTING ITEMS.

Edna Levering is trying to prove that a little girl can be very helpful to her country mother.

Nellie Thompson thinks her Folcroft home is the best place for her this summer. We think so, too.

Louise Taylor has made a good record this winter. We hope her summer's outing will be equally as beneficial to her.

Ida Harris has been the protector for her little country sisters as they traveled together to and from school all winter.

Catherine and Josephine Sawatis, each in different sections, are running a sisterly contest to see who will get the better grades in school.

Eleanor Houck is no longer one of the little girls. She says she is now "Company A." Some of her friends would hardly recognize her since she has grown so tall and large. Eleanor is in a Chester County Quaker home—one of Carlisle's best country homes—and we are sure Eleanor



Children of Mr. and Mrs. Lavender, full-blood Apaches.
Mr. Lavender is agency blacksmith
at Whiteriver, Arizona.

will realize her opportunity this year not only in home-making but in character building under such helpful environments.

Agnes Loran wants to keep a good country record by being helpful to her country mother and kind and patient with her little country sisters.

Gladys Moon's country mother reports that Gladys has improved. We are always pleased to know of the progress of our girls. Gladys can fry chicken "just right."

When Rose Skahkah returns to Carlisle she will be able to give us valuable information in chicken raising. Rose has numerous pets from whom the parting will be sad.

Sara Boyd has discovered some of the outing advantages and privileges and is endeavoring to make good use of of them to the satisfaction of her country mother and for her own development.

Our faithful Inga King has had to lose several days in school, owing to the illness of her little country sisters, but Inga does not pity herself. She simply smiles and says, "I'll work harder and I think I can pass all right."

Fanny Silas is now located in her new home at Drexel Hill. Fanny has had an excellent record and we feel sure she will give satisfaction and be very happy in her new home. Her former country mother remarked: "Fanny has a perfect disposition."

Julia Day's home and school report are good. Her country mother reports among several other improvements that Julia has learned to serve cakes *hot*. At times Julia has been lonesome for the other Carlisle girls, as she was the only Carlisle girl in that vicinity, but being the "only one" has many advantages.

GENERAL NEWS NOTES.

About sixty boys left for the outing yesterday.

Mary L. Hill, who has been sick, is speedily regaining her health.

Leon Miller gave a talk on "Cleanliness" Sunday evening at the prayer formation.

Christie Ransom is having very pleasant times at her home in Hogansburg, N. Y.

Alta Printup gave the plain dress-making class a brief talk on the history of the scissors.

Twenty-four girls went to communion Sunday morning at St. Patrick's Catholic Church.

Sunday was such a beautiful day the girls were allowed to remain out doors during the afternoon.

The Catholic students spent a very enjoyable Sunday evening listening to their program.

Messrs. Sexton, Dickerson, and Frank have left us to attend an electrical school in Massachusetts.

Friday afternoon Mr. Shambaugh took his entire detail to the Frog Shop to see the steel workers.

The girls went for a long walk Sunday afternoon and really enjoyed tramping through the mud.

The Catholics held their monthly program without the leadership of Father Feeser, who was called away.

A card received from Mayme Onhand, Pawhuska, Okla., states that she is well and getting along fine at her home.

One of the most interesting features at the Y. M. C. A. meeting last Sunday was the singing of the small boys' quartette.

The dress-making class is unexpectedly rushed this week in getting out a number of dresses that are needed by the outing girls.

Entirely new music has been set to the Standard song. It is arranged for a full orchestra and is the work of Mr. Tyrrell. It was first played and sung last Friday evening, at which time the Standards conferred honorary membership upon Mr. Tyrrell in appreciation of his services.

HERE IS OUR MOTTO.

No roll 'um,
 No smoke 'um,
 No chew 'um,
 No spit 'um,
 Heap work 'um,
 No loaf 'um,
 No drink 'um (Booze),
 Heap catch 'um (Bootleggers),
 No sell 'um (Land),
 Heap plant 'um (Corn),
 No spend 'um (Money),
 Heap kill 'um (Weeds),
 May be so,
 Catch 'um \$25.00.

—The Indian Scout.

A VISIT TO THE STEEL FOUNDRY.

By Theodore W. Frank and Arnold S. Holliday.

Through the kindness of Mr. J. P. Exton, general manager of the manganese steel department of the Frog and Switch Manufacturing Company, and with the permission of Mr. DeHuff and Mr. Bradley, both divisions of the blacksmith force, in charge of Mr. Shambaugh, visited the different shops of this company last Friday afternoon.

The first department that we visited was the foundry, where manganese steel is made by the Tropenas process, which is similar to the Bessemer process. Here pig-iron and scrap-iron are melted in a copula by putting in a layer of coke and then a layer of iron. Some limestone is added which is used as a flux. This flux causes the slag, or impurities, to rise to the top when the molten metal is poured into the ladles. When the iron becomes melted it settles to the bottom. It is then allowed to run from the copula into the ladles. A ladle is of similar shape and about the size of a large barrel, and is lined with fire clay and magnesite, which prevents the molten metal from burning through. An electric crane then carries the ladle to the converter in which the metal is poured. Air is blown through the converter, which decarbonizes and purifies the metal to some extent. When sufficiently purified, it is poured into the ladle and the slag, which forms on the top, is removed. The ladle is then transported to the crucible furnace, where a manganese alloy is melted. A certain amount of manganese is mixed with the metal, which recarbonizes it. This mixture is poured into the moulds, which forms the castings of the desired shapes. The product of this process is called manganese steel. The hardness, toughness, and malleability make this kind of steel the most durable known. Among the articles that are made from this steel are frogs, switches, and crossings used in railroad construction.

One of the castings under construction is a lip of a steam-shovel, which when completed, will weigh 2,600 pounds and is to be shipped to the Panama Canal. Another casting which attracted much attention was a jaw of an enormous stone-crusher. It is to be shipped to one of the lead and zinc mines near Butte, Mont. Some of the boys are very familiar with stone-crushers, and therefore they showed considerable interest.

We next visited the pattern department, where all of the patterns are made for the various articles that are to be cast. When a pattern is completed it is painted with shellac to prevent the sand from sticking to it.

The next place of interest we visited was the frog and switch construction department. Here the frogs and switches are put together.

On our return we visited the Axle Machine Company's factory, the power for which is furnished by a steam plant. The material is cut with shears to any desired length. It is then heated, stoved-up, and a collar formed, after which it is taken to the swages, thence to the hammer, and worked to the desired size before finishing. The finishing

is done by truing it up on the lathe and cutting threads for the nut.

These visits to the factories were very interesting as well as instructive, and coming at this particular time they were all the more so on account of our class having been asked the following questions in a recent examination:

1. What is ore?
2. What class of ore contains the largest percentage of iron.
3. What determines the value of an ore.
4. Name the different classes of pig iron and state the uses of each.
5. How is iron graded?
6. What methods are used for converting pig iron into wrought iron?
7. Describe in full the two methods.
8. What other name is sometimes given to the puddling process?
9. Why is it so named?
10. Explain the process of puddling.
11. How is the first product of the puddling process treated?
12. What is the object of this treatment?
13. What is steel?
14. Name the different qualities, giving the approximate carbon contents of each.
15. What is the old test for iron and steel?
16. How was "blister" steel produced?
17. By what process is cast or tool steel made?
18. What sort of vessel is used in melting the materials?
19. State the differences between making tool and soft steel.
20. What is an ingot?
21. What is the difference between an ingot of tool steel and an ingot of soft steel?
22. What is meant by the piped end of a tool steel ingot?
23. How are these ingots classified?
24. How is octagon tool steel made?
25. What processes are used in making soft steel?
26. Describe each.
27. Which is the most satisfactory?
28. Which is the most rapid?
29. Why is the product of the open-hearth process the best?
30. What is the purpose of "soaking" the ingots?

STICKING TO IT.

A man who began life as a bundle boy in a department store will retire from the presidency of the oldest commercial bank in Chicago within a few weeks. His successor will be a man who began the economic struggle as a messenger boy. The retiring president is seventy-four years old and has been with the bank thirty-two years; the incoming executive is fifty-seven and has served the bank for twenty years. Each of these gentlemen ascribes his success to perseverance, to "sticking to the job." Perseverance, dogged tenacity of purpose, then, caused the rise of the bundle boy and the messenger boy. All right, but what about the hundreds of lads who started on an equal footing with these two—and ended nowhere? The two boys who succeeded had "something on" the others, as the slang mongers would put it. Probably it was brains. The old theory about the sure reward of honest application must take for granted, we think, a certain amount of native intelligence. Today there are too many honest but hungry drudges to permit of its being accepted as gospel, without amendment. The economic struggle is ruthless; he who achieves conspicuous success must have exceptional equipment.—Missoula Missoulain.

DOMESTIC ART DEPARTMENT.

Lecture and Demonstration for the Week Ending
March 31, 1916.*Pre-Vocational, First, Second, and Third Year Vocational.*

Monday, March 27th—

Sewing on belts:

(a) skill in hand sewing.

(b) why we baste.

Tuesday, March, 28th—

Kind of article to darn.

Wednesday, March 29th—

Aprons:

(a) shrinking gingham.

(b) material for apron and different uses; amount required; cost of kitchen apron.

Thursday, March 30th—

Darning.

Friday, March 31st—

Review.

First, Second, and Third Year Vocational.

Monday, March 27th—

Clothing for children.

Tuesday, March 28th—

"The Silk Worm"—By Mary Wilmet.

Wednesday, March 28th—

Things to be remembered in making our plain dresses.

Friday, March, 29th—

Review.

Third Year Vocational.

Monday, Tuesday, and Wednesday, March 29, 30, and 31—

Cutting, fitting, and making different style dresses.

Thursday, March 30th—

Lessons in millinery.

Friday, March 31st—

Lessons on cotton.

If there be a secret of longevity, it probably consists in a simple life; freedom of harassing cares and mental distress; moderation; and purity in everything. That is—pure air, pure food, pure water, a pure heart, a pure mind, a pure body, a pure life, pure motives, pure aims, and pure surroundings.

Anonymous.

GENERAL NEWS NOTES.

The girls are sorry to lose one of their classmates, Anna Boyd, who left for her home in Wisconsin on account of her father's illness.

The first country party left this morning and we were sorry to part with them, but we wish them success and a pleasant summer.

Last Thursday Sallie Greybeard and Alta Printup were promoted from the plain dress-making class to the advanced class.

Mr. Henry A. Larson, chief officer for liquor suppression in the Indian Service, is making a short visit at Carlisle.

On account of the unnecessary noise around the Quarters the "German Band" have suspended their Sunday morning concerts by order of the disciplinarian.

A letter was received by Miss Hagan from Ben Harrison, one of our apprentices at the South Bethlehem Steel works, stating that he likes his job very well and appreciates

the effort made here to get him into that place. He expects to visit Carlisle the latter part of April.

Amy Smith, Mary Welch, Lucy West, and Lizzie Allen had the pleasure of inspecting the Large Boys' and Small Boys' Quarters with Mr. Lipps last Saturday morning.

The ice cream sale last Saturday evening proved to be very successful and profitable to the Y. W. C. A. and the girls wish to thank the students for their generous patronage.

The girls who did not go to town were given the privilege of going to the Gym last Saturday afternoon to play games. They all got plenty of exercise and hope to go again soon.

Home and a Garden

THE two most fundamental incentives animating the normal man after the fires of youth cool down are the love of private ownership and the love of a home. Satisfy these instincts and contentment is not far off. And they are not so hard to satisfy.

Give men a home and a garden, be it ever so humble, and you appeal to elemental instincts. They are drawn out under the influence of the sun and the sky and of growing things. And he who plants in his own garden reaps not only food for his table, but food for his soul. He cultivates hope and faith and patience, the great garden trinity. Hope springs eternal in the garden. If our corn and potatoes are not fine this year, watch us next year. In a word, the garden humanizes. It feeds that reactive spontaneity in the human soul, without which life is nought.

O. F. HERSHEY.

HOW THE INDIANS USE LARVA.

When the Sioux Indians wish to bore a hole in wood to make a pipe stem or a musical instrument they remove the pitch from one end for a distance of an inch or so and place in the cavity a wood-boring larva taken from a dead ash tree. In order to accelerate the borer's work they sometimes heat the wood below it. The larva quickly cuts a smooth round hole, following the pith of the wood. The Indians regard the larva and the tube made in this manner as sacred. When the work is done the larva is carefully returned to the tree from which it was taken.

MERCER SOCIETY.

By Mary Horsechief.

The members met in their hall at the usual hour. Roll was called and each member responded with a quotation. After the transaction of business, the following program was rendered:

Song—Mercers.
 Recitation—Nellie Brown.
 Piano solo—Elizabeth Janis.
 Anecdotes—Nettie Standingbear.
 Vocal duet—Nancy Peters and Vera Green.
 Biographical sketch—Julia Grey.

Debate.

Resolved, That the seven modern wonders of today are more wonderful than the seven wonders of old.

Affirmative—Hattie Snow and Cora LaBlanc.

Negative—Agnes Hatch and Marie Garlow.

The visitors were Mr. Denny and Miss Donaldson, the advisory member.

Mamie Green favored us with a piano solo.

The judges, who were Anna Boyd, Bessie Hall, and Clara Archambault, gave their decision in favor of the negative.

INVINCIBLE SOCIETY.

By Simon Dwight.

The meeting was called to order at the usual hour by the president, who read a few verses from the Bible, after which the society song was sung under the leadership of Pablo Herrera. After all business was transacted, the following program was rendered:

Declamation—Andrew Peters.
 Essay—Alex Roy.
 Extemporaneous speech—Thomas Montoya.
 Vocal solo—Louis White.
 Select reading—James Holstein.
 Oration—Richard Boles.

Debate.

Resolved, That \$5,000 is far better for a young man entering business than a college education.

Affirmative—Thomas Miles and Benjamin Guyon.

Negative—Meroney French and Kiutus Jim.

The judges for the evening were Pablo Herrera, Marion Paris, and James Holstein.

The judges decided in favor of the affirmative.

The house was opened for general debate and the following members gave short talks: Benjamin Guyon and Kiutus Jim.

The visitors for the evening were Miss Snoddy and Miss Reichel, the advisory member.

STANDARD LITERARY SOCIETY.

By J. J. Sumner.

The meeting was opened at the usual hour at the Standard Hall by President Joseph Helms. After the new composition of the Standard song was harmonized by the orchestra and the first roll call, the following program was rendered:

Music—Standard Orchestra.
 Declamation—Leon A. Miller.
 Essay—Robert Warrington.
 Impromptu—Charles Roe.
 Oration—William Mountain.
 Biographical sketch of Thomas Babington Macaulay—Francis McMahon.

Debate.

Resolved, That the foreign resources developed with American capital are injurious to the United States.

Affirmative—H. P. Sutton and Steven Smith Jr.

Negative—J. I. Helms and Francis Ojibway.

The house was opened for general debate and the following members responded: Leon Miller, Homer Lipps,

Fred Walker, and Dennis Thomas. Music was rendered by the Standard Orchestra and a piano solo was given by William Edwards.

For the good of the society Mr. Peel, the advisory member, Miss Austin, and Mr. Tyrrell each gave short but timely remarks.

The judges for the evening were Theodore Bellefeuille, George May, and George Warrington. They gave their decision in favor of the affirmative.

SUSAN SOCIETY.

By Rhoda Fobb.

The meeting was called to order at the usual hour by the president. Roll was called and each member present responded with a quotation. Next in order was the confirmation of new members and Daisy Eshelman was confirmed. After the usual transaction of business, the following program was rendered:

Song—Susans.
 Piano solo—Sara Fowler.
 Story—Alice Gardner.
 Anecdotes—Lizzie Lieb.
 Recitation—Rhoda Fobb.
 Story—Sadie Metoxen.
 Quintette selection—Maude Cook, Mamie Heaney, Rose Heaney, Sara Fowler, and Myrle Springer.
 Oration—Agnes Owl.
 Story—Lucile Lipps.

The visitors were Mr. Meyer, Mr. Gehringer, and Mrs. Foster. They gave some helpful remarks which we all appreciated.

GENERAL NEWS NOTES.

"Sprig has cub.

Welcub, beautiful sprig!"—Dadiel Jodes.

Troop B has organized an indoor baseball team.

Elizabeth Keiser is a new arrival from Poplar, Mont.

Robert Broker, on his way home, stopped at Detroit to see his brothers, Fred and Henry.

The boys of the "odd" division vocational class are enjoying their geometry lessons very much.

The girls are glad to have their classmate, Eva Jones, with them again after a two week's stay at the hospital.

Don Ortego writes from Whiteoaks, N. Mex., that he is getting along well and finds his work very interesting.

The painters are nearly through painting the interior of the annex building, which will be used as a Teachers' Quarters.

Stephen Smith and Edward Woods have joined the corps of waiters in the Dining Hall. Edward surely can "sling the gravy."

The boys of the carpenter shop have been very busy for the past two weeks in getting the lumber prepared to make seventy-five tables.

E. E. McKean, one of our former disciplinarians, who is now located at Klamath Agency, Oreg., renews his subscription to *The Arrow* and sends kindest regards to faculty and students.

The orchestra has been somewhat strengthened by the presence of Abbie Somers, who was formerly a member before going home. Abbie handles the guitar with great ability and we are glad to have her with us.