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DESERET EVENING NEWS: SATURDAY, DECEMBER 19, 1903.



University of Utah. This school has had a nominal existence for about 10 years, but its greatest development has of building and constructing materials occurred during the past two years. are especially interesting to architects And so rapid has this been of late that even many of its best friends are unacquainted with its progress.

In excellence of equipment it is now taking rank with the best mining schools in the country and surpasses some of the best known. These statements may be surprising but they are strictly in accord with the facts. The time then is past when any of Utah's sons need go outside of the state for a ments may be surprising but they are good technical education along the lines taught at the state school of mines.

This institution was established by an act of the Legislature to offer "studies | to the nature of work in the dynamo

gineering department of the jectors and a variety of meters, gauges, indicators and other instruments for testing purposes. The Richle machines testing the strength and resistance of sending away. The work in this laboratory is extremely practical, all the instruments and machines being those regularly em-

ployed in commercial plants. And here the students run the machines under all kinds of conditions, thus becoming fathe usual sensation one when in the presence of heavy running machinery. The same may be said with respect

00 JOSEPH F. MERRILL, PH. D.

Principal of the Utah State School of Mines.

and courses of instruction relating to laboratory. The student works with and and courses of instruction relating to mining, metallurgical, electrical, and such other branches of engineering as nortain to the pursuit and development, cal machines, varying in capacity from pertain to the pursuit and development | cal machi to 30 horse power. There are series, shunt, and compound in all its branches of the mining inmound direct current dynamos and mo-tors, alternating current generators of dustry of Utah." To accomplish this purpose the school two, and three phase synchro now offers four engineering courses, one. and induction motors of the lates types, rotary converters of special dethe latest each leading to a degree and requiring sign, constant current, constant poten-tial, phase voltmeter, and auto trans-formers for all kinds of transformer work, a great variety of arc lamps, about 80 portable electrical measuring four years for completion. These courses are mining engineering, electrical engineering, civil engineering and mechanical engineering, respectively, about so portable electrical measuring instruments, including voltmeters, am-meters and wattmeters, three marble switchboards to which all the machines and many of the instruments are wired, rheostats and other auxiliary apparafollow In each of them the aim is to prepare Ward. the student for the duties of the practical engineer in connection with the mining industry of this intermountain Fourth region. This industry is becoming so tus. Most of the machines with which this vast and varied that it demands the laboratory is equipped were specially made for it from the most recent de-Sixth services of specialists in many lines of engineering. The different courses Figns. For calibrating and testing the measnamed above wer: prepared with a view For calibrating and testing the meas-uring instruments used there are sev-eral standard resistance boxes, four standard cells, two silver voltameters, a Weston triple scale, semi-portable lab-oratory standard voltmeter, a similar standard amineter, a set of Lord Kel-vin's balances for current, volt, and West measurements, and two labora-Tenth of making such specialists and all studies that did not contribute to the end desired were rejected. Thus the course desired were rejected. Thus the course in mechanical engineering, for instance, differs in some respects from the courses in this branch of engineering usually offered elsewhere. The aim here Wing balances for current, volt, and Watt measurements, and two labora-tory standard instruments. This excel-lent set of standards is frequently made use of by electrical people in Sait Lake for testing the accuracy of their own is to familiarize mechanical engineering students with power plants and students with power plants and ore dressing mills, the latter subject seldom being made a part of the mechanical course as given elsewhere. Similarly the courses in civil and electrical engi-neering give special attention to cor-responding phases of the great mining to here. instruments. But the laborartory in which the pub-But the laborartory in which the pub-lie is likely to be most interested is the one now being equipped for the treatment of ores-the Metallurgical building. This building contains the milling, smelting, and assay labora-tories, all being equipped in the most correspond manner. Industry. Of necessity then all these courses of necessity then all these com-have a large amount of work in com-mon, such studies as mathematics, chemistry, physics, drawing, surveying, tories, all being equipped in the most approved manner. The milling room contains a Blake crusher, a bucket elevator, a mechani-cal sampler, crushing rolis, four revolv-ing screens, three shaking screens, course and fine jigs, hydraulic sizers, a Frue vanner, a Wilfrey table, a three stamp batterys amalgamating copper plates, a Huntington mill, a Cates sep-arator, an amalgamating pan and set-tler, two small cyaniding mills and the necessary sumps, and a filter press. Be-sides these there will be provided small jigs, tables, and hydraulic classifiers, shop work, etc., belonging to each. But in all these courses whether the student is studying physics, chemistry, mineralogy, or some branch of engi-neering he finds the same methods of instruction employed-a combination of the theoretical and of the practical. He the theoretical and of the practical. He is grounded in theory, not for the sake of theory alone, but that his practical work may have a meaning for him. His knowledge of the subjects taught be-comes practical knowledge, not be-cause he neglects the theoretical, but because he masters it and sees its ap-plication in his laboratory or field prac-tise. Indeed his laboratory work is largely designed for the purpose of bringing home to him, of making real to him, the knowledge he gets from his books and lectures. jigs, tables, and hydraulic classifiers, The smelting room is being equipped with the necessary furnaces, etc., to put into operation the commercial processes used in Utah. Resides these rooms the building con-Hesides these rooms the building con-tains others equipped for fire and wet assaying and matallurgical analysis. This plant will undoubtedly prove to be of great benefit to the mining inter-ests of the state, for it is intended for programming as well as for a laborahis books and lectures. Practise work in the shops, the labo-Practise work in the shops, the labe-ratories, the drawing rooms, and the field occupies a large part of the stu-dent's attention from the beginning to the end of his four years' course. He is thus occupied, on an average, not less than three hours per day during this entire time. Besides he spends from six to eight weeks during one emmone vacation in practical surveying investigation as well as for a labora-ory in which students will be practicaltory in which students will be practical-ly instructed in the various commercial milling and metallurgical processes. A few hundred pounds of ore can be taken to this plant, and by experiment-ing, the best process for its treatment can be discovered. The plant will be eminently adapted for just such pur-poses and as soon as this fact becomes generall known mining men will likely take advantage of the opportunities here afforded. And it is not too much to expect that mmer vacation in practical surveying at the mines But the facilities at the school of But the facilities at the singupon mines are not the only ones drawn upon mines are not the only ones drawn upon for giving practical instruction. The great variety of mines, smelters, and great variety of mines, smelters, and other ore reducing plants, power plants, sheps, and manufacturing establish-ments, almost at the doors of the school, all afford an invaluable means of practical instruction. For, being so near, these various works are frequent-ly visited by students and their instruc-tors for observation and study. The value of such visits is obvious. Now to state some of the facilities for take advantage of the opportunities here afforded. And it is not too much to expect that from this laboratory will come new and improved processes for the treatment of ores, which cannot now be treated successfully by present known methods, or, if successfully, then only partially so. Indeed there are friends of the school of mines now working for the private endowment of a research chair in this line of work. Could the proper man be secured for such a chair its endowment would prove to be one of the most profitable investments that could be made in Utah. Such a chair, properly filed, would soon give the school a national and even an interna-tional reputation, thus bringing stu-Now to state some of the facilities for practical work more specifically. Lab-oratory, or field, or shop work is done in connection with and as a part of nearly all the courses offered, but space will permit of a brief mention of the equipment of only a few c' the labo-ratorics. The others will have to be passed over with the remark that they are open for inspection each school day and visitors are always most welcome. To give the field work in surveying there are one three-inch telescope, eight modern transits and three levels, besides chains, steel tapes, flag poles. Now to state some of the facilities for school a national that even an interna-tional reputation, thus bringing stu-dents here from all parts of the coun-try. The result would also be an en-couragement to the mining industry by developing better methods for the treat. ment of ores. The future of the school of mines is besides chains, steel tapes, flag poles, leveling rods, stodia rods, etc. full of promise. Its graduates are show-ing and will show the wisdom of main-The equipment of the mechanical lab-oratory includes four Richle testing machines, steam, gas, oil, and hot air taining it. At present it is giving a

Continued Prosperity of City Schools

the system an enviable position

among the ornaments, of the state. The ease and precision with which the schools are being conducted, the regularity of their growth, together with the scope and comprehensiveness of their aim and purposes, give full credence to the fact that unlimited faith can be placed in the state. ment, that the kind of nutrimont, administered to the public school children, is conducive to regular, healthful and symmetrical growth.

Since the close of last year, one special feature of the schools has passed the probationary stage and is now an assured success-the department work. It is to be remembered that two years ago the Franklin school look the inago the Frankin school took the h-itiative in this work. Last year at-tempts were made by three or four buildings, while today the excellence of department work is contributing to the department work is contributing to the efficiency of the fourteen foremost schools of the city. This system of instruction, which is the fourteen foremost

no more or less than the German pub-lic school plan, has now its merited The work demands exceptional ability on the part of the department teacher in some special branch. All the pupils of the saventh and ability of recognition through its results. the part of the department teacher in some special branch. All the pupils of the seventh and eighth grades are brought under tutelage in that one part of the curriculum, while a teacher in another branch imparts instruction to the through her specializing, has been able to confine her energies, time and re-flection to the branch or branches which have bee assigned her. From an economic standpoint it places the "good old way" beyond the vale of competition. The tax on energy and school room succe is reduced to a school room space is reduced to a

minimum. Owing to the unfavorable financial conditions of the schools of last year, a strict economic plan has been ex-ecuted for the present one. The force of 346 teachers has been reduced to 339. But, further, it must be under-stood that this corps of teachers has under its control 12,400 pupils, as compared with 11,600, the enrollment of last year. This shows a decrease of 7 in the corps of teachers and an increase of 800 in the enrollment.

This praiseworthy reduction has been made without any apparent injury to pupil or teacher. In order to make such a plan practicable, the superinsuch a plan practicable, the superin-tendent has dispensed with supervisors in music and drawing. Mr. Wetzell, whose sole work last year was super-vision in music, has added the title of principal to that of supervisor of music. The art department has found an able instructor in Mr. Deibert Parwho is also assistant in the man-training department. Mr. Samuel ual training department.

HE excellency of the Salt Lake City public schools has given the system an enviable position

European citles of note. The personnel of the principals has been subjected to very little change. The name of Dryden R. Coombs of the Ulutah occurs as the only addition to the corps.

The completion of the Lafayette building still remains a matter of the future. Principal John H. Coombs has been accorded the principalship with a corps of probably 10 or 12 teachers. It is estimated that this building, which will be model and up-to-date in every respect, will represent an expenditure of \$120,600. The conservative methods of the su-

perintendent have been fruitful in res-urrecting some of the branches of the school curriculum, which have been school curriculum, which have been neglected and even relegated. His Mews on modern pedagogy have impressed the schools with the fact that methods and not matter should be regarded as changeable. The past year has estab-lished a new standard of promotion from the eighth grade to the High school. Oral and silent reading have received considerable emphasis. Spelling has been given its former position of importance. The idea that penman-hip should cease with the third or fourth grade is discouraged; on the other hand, the principles of pe other hand, the principles of permitti-ship are being taught even in the high-er grades. Rapidity and accuracy in calculation is the alm sought for in arithmetic. Besides these revivals, lan-guage work has been re-adjusted. The intoierable provincialisms and barbari-tles of speech are to be fought system-tical and the fundamental principles. other branch imparts instruction to the same classes. The past year has proved that the work is more thorough, inas-much as the department teacher through her specializing, has been able to confine her energies, time and re-flection to the branch or branches the teacher branch or branches abled the superintendent to gather data which have greatly determined his recommendations of methods to pursue. A closer acquaintance with the work of the individual teacher on the part o

the principal marks the progress of the past year. His personal inspection and instructorship of classes in each room, at internals not exceeding one month, is already being regarded as perfunc-tory. The old adage, "As the teacher, so the school," has been made to read, "As the principal, so the school." More than ever before the principals More than ever before the principals are directing their energies toward the support of the high school. Owing to the peculiar local conditions, a deter-mined effort has been and is being nut forth to furnish the high school with a full quota of graduates. The ninth grade at the Bryant is successfully ab-sorbing an element on the East Side which, were no such instruction afford-ed in that locality, would enter private ed in that locality, would enter private

Institutions. The prospects for nine months school are encouraging, and in view of the fact that no financial crisis threatens to darken the horizon, the board of education the superintendent, principals, teachers congratulate them Doxey has been given charge of the Fremont, but still continues to super-vise manual training. These three gen-tlemen have contributed much to the

 Morgan
 647

 Plute
 644

 Rich
 660

 Salt Lake
 158

 San Juan
 158

 Sanpete
 4,999

 Sevler
 2,888

 Summit
 2,798

 Tooele
 1,657
 5,014 Uintah 1.843 15,465 Totals 89,725 88,902

2,908 2,748

1,766 1,830

8,638 1,549

1,631

3.254

14.247

8, 48, 63

11.878.77

2,990.22

68,288.90

31.978.64

25.860.29

34,394.0

7.398.69

94,693.74 28,565.86

29,130.05

19,450

80.377

11,214

STATE REVENUES FOR THE PUBLIC SCHOOLS.

The gross revenues of the state for school purposes for the current school year, by counties, tog her with the four leading cities, are given by State Superintendent of Schools Nelson's report as follows:

39,315.40 MVIS...... Amery...... rand...... 12,17.18 lron Juab..... 47,485,00 Kane..... 8,748,63 Millard.... 29,327.52 Piute
 Rich......
 10.859.26

 Salt Lake.....
 188.830.97

 San Juan......
 2.990.22
 36.681.16 Tooele...... Uintah... Washington 141,963.7 60,455.31 444,855.73 Weber.... Salt Lake City.... Ogden.... Provo.... Logan

Total \$1,699,480.51

* Not reported.

Utah Lithia Water-The Best.

HE year of 1903 has been a busy one in the police department and the criminal division of the city

court, presided over by Judge C. B. Diehl. There has been a vast number of cases disposed of and the amount of fines and foreitures that has fallen into the city's coffers for 11 months has footed up to a neat little sum.

The receipts of the department for the eleven months ending Nov. 30, 1903, were \$17,816.50, as against \$17,894 for a like period last year. The receipts by months were as follows:

at the cozy apartment in Harlem where

JUNE.

SEPTEMBER.

OCTOBER.

Number cases disposed of239

NOVEMBER.

Utah Lithia Water-The Best,

THE YOUNG LILLIAN.

Miss Lillian Russell's daughter is to fol-

woman, who surprised her friends last

make her professional debut in "The Girl

Mr. Einstein installed his bride. The





CITY SCHOOL CENSUS. The following table shows the comparative figures of the school population of this city for the years 1902-3. They discolse the fact that this year's increase over last is 522. The figures 1903 1902. 421

52

430

298

422

444

608

492

43

69

819

164

386

Fifth Ninth Eleventh 553 Twelfth Thirteenth Fourteenth Fifteenth Sixteenth Seventeenth 801 Sixteenth Eighteenth Nineteenth

 Sinceret
 558

 Twentieth
 557

 Twenty-first
 527

 Twenty-second
 496

 Twenty-third
 173

 Twenty-fourth
 590

Annex and Thirty-first ... 312 Swenty-fifth wenty-sixth 304 ewenty-seventh 333 Twenty-eighth Twenty-ninth

 $166 \\ 153$ 142 454 286 15,987 | Kane.... 549



Among the industrial institutions of our state showing the most steady growth and development is that of Solomon Bros. As early as 1890 they built a shoe factory on the site where the Grant Bros. Livery building now stands. They are the pioneers of the shoe manufacturing industry of this inter-mountain region and have built up a business which will likely be perpetuated for many years to come. Beginning with a small amount of capital, the brothers united their plant to meet the demands of trade. The size of their present factory, a cut of which is here shown, is 40x100 feet. The lower floor is used for the bottoming and finishing, the upper one for the stock-cutting, fitting and packing departments. The amount of sole leather cut up reaches 2,000 sides annually. The factory's capacity is about 1.000 pairs a week. From 40 to 6 hands are regularly employed and wages paid amount to about \$15,-100.

49 to 45 hands are regularly employed and wages paid amount to about \$15, * (***). The factory is well equipped with the best kinds of machinery, enabling them to make Goodyear Welt and McKay sewed shoes in fine goods and standard screw fastened shoes in heavy lines. Their goods are shipped extensively throughout Utah and Idaho, while a good portion is sold in their own store at 70 south Main street, and their custom made shoes go all over the civilized world. The store also carries the Douglas shoe and other well known eastern makes. The durability of the goods has made them widely celebrated, as no shoddy is ever used, and only the best grades of leather ever purchased. The firm also does an extensive repairing business, for which they are equipped better than any other establishment in the inter-mountain region. The frugal and industral characteristics of James and Alfred Solomon, coupled with good judgment and keen foresight, have placed them among the most conservative business one of the most successful in the state.

