

SPRAY OF THE FALLS.

SATURDAY'S DAILY.

The members of Company A at their... The company roll was made one longer at evening by the name of P. Howe.

The people of Great Falls should... The engineering and Mining Journal parts of the following sales of Montana lands in the last week: Boston & Montana, 1081; Butte & Boston, 970; etc., 200.

Contractor William Roberts has received... On last evening's train three cars of lumber came from the May and Edna, four from the Barker and one from the old miller.

FROM TUESDAY'S DAILY.

At the Great Northern shops work progresses excellently. The brickwork in the roundhouse is almost done. Contractor Carlisle is at present in Minneapolis making arrangements for the building which may possibly be finished by yet this week.

Mr. George W. Taylor recovered his diamond ring which was advertised in the TRIBUNE as lost. It was found by Mr. Lora Lax, who was promptly paid the \$25 reward offered by Mr. Taylor.

J. W. Cornelius has been awarded the contract for the construction of four neat cottages for Barnes, Crowninshield & Wedsworth in the Black Eagle Falls addition. They will be finished this year.

It was about 6:30 Monday eve when the fire bell rang. The alarm was telephoned in from J. W. Cornelius' house and the fire proved to be near the corner of Sixth avenue north and Sixteenth street. It was in a dwelling owned and occupied by a German named Julius Radis.

It seems that a hanging lamp swung in the parlor. This fell and the inflammable oil saturated the carpet and took fire. It was but a moment till the house was in flames. Miss Emma Radis rushed into the second story to save a trunk.

The loss will probably amount to \$800 or \$900 for the house and more yet for the furniture, very little of which was saved. This was partly covered by insurance, but how much and in what companies could not be learned.

A Fishy Story.

WASHINGTON, Nov. 9.—John C. Fleming of Helena and Arthur L. Keene of Chicago arrived in Washington on Wednesday last and registered at a hotel. Last night Keene left the hotel suddenly and today the following interesting story of how he blocked the game of a pair of clever swindlers at the point of a revolver is told.

Within it are enclosed the wires. From the establishment several advantages result. The wires will no longer be formerly "grounded" by other wires. Then the cable is placed upon telegraph poles and the poles which the company now have on Central avenue will, therefore be removed. More room will thus be made on the avenue. The labor and material will require between \$300 and \$400. Work begins today.

Some Papaws. Jos. Hamilton, our popular sheriff, returned Saturday from visiting his parents in Emporia, Kansas. He also visited in St. Joe, where he met a brother he had not met in fifteen years. He says the recent election in Kansas took the wind out of the farmers' alliance movement and the party of Peffer and Simpson is already what might be called a back number.

The Manhattan has just received a select line of the best English Suitings. Call and inspect them.

BARNUM BOUND OVER.

Garr's Astonishing Confession Knocks All Underpinning From the Defense.

The Grand Jury Meets in Helena Next Week—What Then?

Friday before Commissioner Pomroy Ed Barnum was bound over in the sum of \$2,000 on a charge of robbing the mails. No testimony was offered by the defendant. P. M. Baum his attorney made a motion to dismiss the case on the ground that the evidence was not sufficient to hold his client but this was overruled. The case therefore goes over and will probably come before the grand jury next week.

From its inception to the present time the matter has been one of the strangest known in criminal records.

On the 29th of August Mrs. Barnum and Ed her son are brought to the city on a charge of robbing the mails. Stolen money is found directly in their possession and they are known to have control of the mail at the only point, in all probability, that the robbery could have taken place. Notwithstanding they stoutly maintain their innocence and waiving preliminary examination are bound over and bonds easily given.

Mr. and Mrs. Skinner about an hour after the wedding ceremony left for Sand Coulee, whither they accompanied the bride and groom. The bride and groom were also the recipients of many elegant presents.

Mr. J. B. Haggin, the principal stockholder in the Anaconda company, accompanied by the Messrs. Kizer, very prominent copper men of Baltimore, and Mr. Jas. T. Gardner, a geologist and coal expert, arrived in the city Sunday over the Great Northern, and spent the afternoon looking over Great Falls and its surroundings. A special train was placed at their disposal here and accompanied by Mr. Chas. O. Parsons, the party visited the Black Eagle and Rainbow falls and closely inspected the great work going forward at the former falls, including the dam, water power and the B. & M. smelter.

Mr. Haggin and party next visited Sand Coulee and closely inspected the coal measures of that region. The party spent over an hour under ground and apparently were greatly interested in the coal proposition.

In fact they had only expressions of appreciation and surprise for what they saw here and our readers may assuredly expect some grand results to follow in due time the visit of this distinguished party.

They left for Butte by special train about 5:30 p. m. Sunday.

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THOSE WEDDING BELLS.

Their Merry Peels Were Again Heard Monday Evening.

A pleasant surprise, no less to the Tribune than to its readers, is the marriage of Harry J. Skinner to Miss E. Welsh. The ceremony was performed at the residence of Dr. Longway, who is a brother-in-law of the bride. The nuptial knot was tied about 7:30 o'clock by the Rev. Mr. Kingman of the Episcopal church.

The bride wore a handsome full-train white faille silk, trimmed with chiffon and pearl-satin ribbon. Her raven-black tresses were adorned by a wreath of flowers and she carried a beautiful bouquet in her hand. No other ornaments were necessary to deck so lovely a bride. Not only lovely to look upon but as lovely in character. A residence of less than a year in our city has been sufficient for her to collect about her hosts of friends whose devotion has been called forth by her many womanly excellencies.

The groom is too well known (and too modest) to need much notice. Harry is an old-timer, a good democrat, and all-round good fellow. He is cashier of the bank of Sand Coulee and was at one time an attaché of the Tribune. Getting out of the newspaper business is what has made our friend what he is today—a happy, smiling Benedict—instead of a lean-visaged, seedy quill-pusher. There is no such good fortune for a newspaper man.

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J. B. HAGGIN'S VISIT.

He Views the Black Eagle and Rainbow Falls and Inspects the Coal Measures of Sand Coulee.

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FRESHING THE OPERA HOUSE.

The Contract Let to a Great Falls Concern—It Will be a Work of Art.

Messrs. Urquhart & Stevens, the well known interior decorators, have secured the contract for freshing the opera house and will put men at work on the same today under the supervision of Herman Ludeke. The ornamentation will be Romanesque, the whole to be decorated in beautiful amber and sienna tones. The grand entrance to the opera house will be done in solid relief and finished in antique bronze. The centres of all ornamental work on the ceiling will have clusters of electric lights, which, when turned on of an evening, will cast a mellow tint over the ornamental decorations. The proscenium arch, the largest in the state—eighteen feet wide—will be finished in ornamental stucco and have three large clusters of incandescent lights. It speaks well for Great Falls that a firm can be found here capable of undertaking such a difficult piece of interior decoration. That the work will be done satisfactorily to the board of managers familiar with the previous efforts of Urquhart & Stevens in that line will dare to dispute.

Court House Echoes.

Clouse J. S. Tufen filed notice of right to twenty-five inches of water from a certain spring on the southwest quarter of the northeast quarter of section 10, township 21 north, of range 3 east for agricultural and domestic purposes.

Bach, Cory & Co. filed suit against A. Dewey to collect \$125.

E. P. Cadwell vs. Charles McIntyre et al.; demurrer to complaint filed.

B. Harris vs. Rosengreen & Anderson; judgment for plaintiff amounting to \$306.10 in all.

The following actions were dismissed, settled:

Great Falls Meat Company vs. Carrie Wilson; Ellis Merton vs. Richard Merton; Mary Peppin vs. Clifford Peppin; J. C. Wells vs. J. C. Garnett et al.; R. T. Jones vs. T. J. Jones; T. Jones vs. T. J. Jones; T. G. Knapp & Co. vs. T. J. Jones; Isabella Matthews vs. A. L. Matthews.

Saturday's Election.

It is to be regretted that the voters of this city did not take a greater interest in the election held yesterday to settle the bond question. The total vote in the city was 212, and of that number who used their franchise six voted against the proposition. In detail the vote was as follows: First precinct, 126 for, 1 against; Second precinct, 80 for, 5 against. The outlying districts are yet to be heard from, but everyone seems pretty certain the returns when received will show a handsome majority for the bonds.

THE PROCESS OF SMELTING.

A Visit to the Montana Smelter and a Description of Its Workings.

How the Ore Goes from the Sample Mill to the Smelter and Becomes Bullion.

Anaconda is spoken of as the smelter city and Great Falls as the coming smelter metropolis. Ask any citizen of the city what great manufacturing industries the city has or will have and instantly comes the answer: "Great plants which shall smelt and reduce some of the ores of Butte and all of those of the Belt mountains as well as of many other districts." And so the citizen contents himself by answering "smelter," and the eastern investor looks at the great building the Boston & Montana is erecting and is astounded at its vastness then glances at the distant smoke of the Montana silver smelter and in an awestruck tone repeats the word "smelter."

Yet how many, even of the city's residents, have even seen the process or know what it means? Outside of a few old timers who have seen everything, how many have visited this, one of Great Falls' most important institutions? They number, according to Superintendent Emrich, very few.

The process of smelting is one of the most intricate and yet one of the most interesting of mechanical operations. A Tribune reporter called yesterday at the smelter and was by its courteous superintendent, Mr. C. W. Emrich, shown through the works.

Let the reader then imagine the ore placed on the car and its way to the future smelter metropolis. Arriving, a switch engine is attached to the car and soon it is bound for the Montana smelter. First it arrives at the weighing house where the car is run on to the scales. These are "standardized" each morning, and again after the empty car is weighed. The gross weight of car and ore is taken. Then the ore is examined and its character determined. If it is an oxide ore, that is, if it requires no roasting, it is sent to the lower yards where such ores are kept. If, on the contrary, it is a sulphide and needs to go through a roasting process it is sent first to the sampling mill.

It is at the sampling mill that one first notices the mathematical exactness which attends each detail of the process. Different ores of course are differently used, but take an average car. As it is unloaded every fifth or every tenth shovel is thrown to one side to be used as a sample. When the unloading is over the sample, which ultimately must go to the assayer, consists of a large amount of ore. This is elevated and dropped into a receptacle, the entrance to the big automatic sampling mill. From this on right and left two spouts extend downward. Through one of these passes such small portions of the ore as need no crushing. Through the other passes all the rest. It soon reaches a heavy pair of crushers and is then thrown up again through the elevator and into the receptacle. Then it descends again. Inside each of these spouts is a trunnion or revolving screen, which shakes the ore around and sifts it. Finally when sufficiently ground it strikes another set of crushers and is reduced still finer. Then through the elevator it again ascends and at length after repeated crushings it is fine enough to go into the other spout, and so far the work is done. But the sample as it now exists contains a great deal of ore, far too much to send to the assayer. It is heaped on the floor in a cone. This is cut into four quarters, two of which are taken. These are then again heaped into a cone and the process of quartering is repeated until the sample attains a proper size, some ten or fifteen pounds. The object of all this care is that each part and parcel of the entire sample and load may be represented in the assay. Next, it is taken to a drying room where all moisture is removed. The ore now thoroughly dried is ready to be finished as a sample. It is taken to another machine and ground to an almost infinitesimal powder. The sample is now ready for assay. This sampling mill is run by an engine of eighty horse power of the steam for which is furnished by boilers 1,000 feet away.

Meanwhile the body of the ore must go to the roaster. This has been run out on a track and placed in bins. These bins number eighteen and have a capacity of 300 tons each. They are now about two-thirds filled. One peculiarity noticed in the different layers which they contain, showing several colors. This is due to the fact that ore of the same class but of different kinds (not grades, for grade, according to Mr. Emrich, refers to values only) are placed in horizontal layers in the same bin. In the bins the superintendent pointed out siliceous lead concentrates from the Couer d'Alenes and several others.

From those bins the ore is removed and taken to the roasting department. This is entered from two doors each of which leads to a different set of furnaces. Ten furnaces are situated on each side. At the entrance the charge, which is taken in a car, is carefully weighed as an overcharge for the furnace might prove disastrous. It is then placed in a compartment in the rear of the furnace. Coal is shovelled in a compartment next the ore and the roasting begins. The object of the roasting process is to free the ore from the sulphide. Through a hole in the side of the furnace oxygen enters. Sulphurous acid is formed, this rises and the purpose of roasting is thus accomplished. A view through one of these holes proved a very pretty sight. Millions of little particles might be seen arising from the heated ore, looking like veritable salamanders sporting in the fire. It was as Supt. Emrich assured the reporter, the sulphurous acid making its escape. The charge stays in this compartment four hours and is then removed to a second, a little further from the furnace, then to a third, and so on until it is completed in the ninth, remaining in each compart-

ment four hours. The roasting process is then complete. A charge is 3,000 pounds of ore and the roasting costs the company about \$4 per ton. It remains in the furnace thirty-six hours. A charge is put into each furnace and withdrawn four times each twenty-four hours. Nine furnaces are now running and others will soon be started.

The ore now ready for smelting is drawn from the roaster furnace and taken on cars to other bins in which such ores are deposited. As the charge on its car leaves the roasting department it is again carefully weighed to see what has been lost during the process and usually it is found that it weighs less by about 10 per cent. A sample is also taken and submitted to a careful chemical analysis to see what proportion of the metals sought to be saved has been lost. Another object in this examination is to test the ore and regulate the charge which shall go to the smelting furnace.

The bins in which the ore is deposited on its progress to the smelter proper number thirty-four and have an average capacity of 250 tons to the bin. These are designated as the lower bins. It will be remembered that certain ores termed oxide were sent to the lower yards as not requiring roasting. It is in these bins that oxide ores are also deposited. Among the oxides pointed out were the May & Edna, a well-known Barker ore; the Southern Cross, from Deer Lodge, containing about one and a quarter ounces of gold to the ton, but no silver; the Germania of Butte, running from sixty to eighty ounces in silver; the Silver Belle of Barker, and some iron ore from Mill creek, near Anaconda.

The charge floor of the smelter comes next in order, and this is the final destination of the ore. Into this then it is hauled and deposited in small bins which hold two or three tons and are situated in front of the furnaces. The furnace charge is carefully weighed on scales prepared by the superintendent. It consists of certain proportions of ore and lime which accompany it and is shoveled into the furnace through the feed door. Below this floor is what is termed the furnace floor of the smelter. Down to this some sixteen or eighteen feet in depth, extend the great furnaces. They are divided into different zones. At the base is what is called the zone of separation and here so far as the Montana smelter is concerned, the process concludes. Even as at the final day a division is made only instead of sheep and goats or wheat and chaff, the division is silver and bullion. From the front like a great stream of fire out pours the slag in molten state and perfectly white hot. It is carried away and dumped out of the road. The bullion comes out from the side and falls into a receptacle where the mingled, molten silver, lead and gold make a very pretty sight. From this receptacle it is ladled into molds and when it cools it is built in bars. These bars weigh about 98 pounds each and contain in the neighborhood of 1 1/2 ounces of silver to the ton, quite a good deal of lead and some gold. The year's shipments of silver amounts to between \$2,000,000 and \$3,000,000 and about \$700,000 in gold is sent east. This amount being calculated on the idea that the average stacks now running will run continuously during that period of time. From each bar of bullion sent in a carload a certain proportion is retained and sent to the assay office in order to determine the value of the shipment.

The assay office and chemical department are located in the same building and are presided over by P. A. Smith, assayer, and Max Heberlein, chemist. Each sample sent to this building is submitted to a careful analysis and its value is determined. Four packages are made from the sample. Of these one is sent to the assayer, one to the chemist, one to the owner, while the fourth is reserved for reference.

In fact throughout the system seems a most perfect one and Mr. Emrich proved a most perfect citizen in explaining its various excellencies and beauties.

Bucklen's Arnica Salve.

The best salve in the world for cuts, bruises, sores, ulcers, salt rheum, fever sores, tetter, chapped hands, chilblains, corns, and all skin eruptions, and positively cures piles, or no pay required. It is guaranteed to give perfect satisfaction, or money refunded. Price 25 cents per box. For sale by Lapeere Bros.

The People of Great Falls Know Better.

We find our competitors are working themselves up to white heat over selling a few dress lengths.

We never could do anything with a brass band, it is not our style. We just quietly than the screw of prices and our competitors begin to squirm.

We give the people of Great Falls credit for having more sense than to be humbugged into buying a little muslin at a cut price (we meet any of their prices, charging \$25.00 for dress suits we sell at \$15.00).

Come where you can depend on getting a square deal on everything you buy in Dry Goods.

STRAIN BROS.

Preparing for Hot Weather.

The following telegram from White-wright, Tex., indicates that the people in that vicinity do not intend to be caught unprepared:

White-wright, Tex., June 2, 1891. Chamberlain & Co., Des Moines, Iowa—Send us at once one gross Chamberlain's Colic, Cholera and Diarrhoea Remedy, 25 cent size, and two dozen 50 cent size. We are entirely out and have had nearly forty calls for it this week.

O. Y. RAYBURN & Co. This is just such a medicine as every family should be provided with during the hot weather. It never fails and is pleasant to take. For sale by Lapeere Bros., druggists.

If you want to rent a house call on Phil Gibson.

A select line of goods for presents at the Bee Hive store.

Wilson Bros. goods in our Men's Furnishing department.—The Manhattan.

When in Great Falls stop at the Milwaukee house.

If you have second-hand furniture for sale call on us. We pay top prices. Dyas & Jones.

THE CASCADE BRIDGE.

Built by the King Iron Bridge & Manufacturing Company of Cleveland, O.

It Will Be Thrown Open January 1—It is to Be an Imposing and Durable Structure.

In order to learn how work on the bridge across the Missouri river at Cascade is progressing a Tribune reporter took a trip to that picturesque town yesterday in company with the northwestern agent of the King Iron Bridge Manufacturing company, Mr. M. A. Adams, and spent two hours inspecting the present stage of the work. County Commissioner Wegner and M. S. Parker, engineer in charge of bridges for Cascade county, were also of the party. The latter gentlemen expressed themselves as pleased with the progress already made on the work and were of the opinion that when completed it would be the peer of any similar structure in the state. They examined carefully the work done thus far and it is needless to say were favorably impressed with its durability and practicality.

The Cascade bridge when complete will have a total length of 780 feet, divided as follows: Two 200 and one 100 foot spans with approaches of 100 and 150 feet, respectively. It will be an iron structure throughout, including the piers or caissons. There are four sets of these, two in a set, all of which are in their proper position except the set adjoining the St. Clair side of the river, which is being put in now. The caissons or immense tubes stand on an end and from a distance one would naturally take them to be the smokestacks of sunken steamboats. They are held in position by piling driven on the inside, the between the piles and the tubes being filled with concrete, which fairly roots the caissons to the bottom of the river. The caissons in the middle of the river are 25 feet in diameter and of the best half-inch boiler iron. Those on the two banks of the river are four and a half feet in diameter and one quarter of an inch thick.

Each set of caissons is fastened together by heavy iron plates making a solid pier as firm and lasting as masonry. The bottom of the piers will be surrounded with crib work to be filled with rock, thus protecting the foundations of the caissons from being worn away by the current of the river. The cribs will project ten feet up stream making an efficient barrier against floating timber and loose ice. The nose of the crib or the apex of the V shaped part is usually called an ice-breaker and will be heavily ironed capable of withstanding the shocks of heavy cakes of ice.

The bridge will be what is called a mel-back trestle, taking its name from the shape of the trusses. There will be three of the latter, two 200 and one 100 feet in length resting on the top of the different piers. Most of the material required for them is already on the ground and if the weather remains reasonably pleasant Mr. Adams expects to have them in position in about a month. The bridge will be open for travel by the new way.

Mr. Adams has recently received the contract for building a similar bridge over the Missouri at Toston. He also built the bridges at Benton and at Red Bluff and at a number of other points in the state. The company he represents built two bridges across the Mississippi at Minneapolis and are getting a good share of the structural iron work for the world's fair buildings. The Cascade bridge, built by a company whose reputation is as extensive as the plains of Montana, bids fair to be a bridge which the citizens of this county and of Cascade and St. Clair can well be proud of.

New Etchings on Satin and Engravings at Calkins' Bookstore.

Finest Line of Picture Frames in the City at Calkins' Bookstore.

"August Flower"

Perhaps you do not believe these statements concerning Green's August Flower. Well, we can't make you. We can't force conviction into your head or medicine into your throat. We don't want to. The money is yours, and the misery is yours; and until you are willing to believe, and spend the one for the relief of the other, they will stay so. John H. Foster, 1122 Brown Street, Philadelphia, says: "My wife is a little Scotch woman, thirty years of age and of a naturally delicate disposition. For five or six years past she has been suffering from Dyspepsia. She became so bad at last that she could not sit down to a meal but she had to vomit it as soon as she had eaten it. Two bottles of your August Flower cured her, after many doctors failed. She can now eat anything, and enjoy it; and as for Dyspepsia, she does not know that she ever had it."

Thomas. Doubting Thomas. Every Meal.

Strayed. One large chestnut horse about ten years old, three white feet branded on left shoulder, also one bay horse about same age branded on left shoulder; were last seen near Sun River bridge. \$10 reward for their return to Great Falls & Caledonia railway Co., Great Falls.

Sheep Wanted. 100 Young Ewes to take on share by an experienced sheep man. Good range and plenty of feed. Inquire at Tribune office.