

**IMENTS IN THE BELT.**

Has Been Told Concerning New Eldorado of Montana.

Hundred Thousand Dollars Been Spent This Year in Development Work

A Commencement Has Been Made—What Will the Harvest Be?

"Some time comes harvest" is the truism and careful, bountiful rains invariably bring rich results so large as to seem mere stories of some far-away Eldorado frequently been told concerning resources of the Belt mountains, strangely enough, scarce even has been told. Realizing this, a reporter recently called E. E. Collins to see just what had been done this year and following is the result.

So many properties exist it is difficult to avoid omitting some. Here is elsewhere you went for development work. A shaft has been sunk and several tunnels are in. The are cross-cutting at the 300 level for the vein, and this extends in two or three weeks.

The development of the Benton between \$20,000 and \$25,000 have been. A shaft and working tunnel and a level has been run on the level 600 feet. As yet only a few have been shipped, still about 500 has been realized. Some 500 high grade ore are on the dump and more in sight.

L. A. L. have invested about \$15,000 in machinery and development, and shaft down 200 feet and some ore on dump.

Black Diamond's expenditures about \$50,000 and are represented by ninety feet, and by excellent veins.

Moorehead has put in about \$25,000 in the Florence about \$12,000. The mine has paid its way by shipping and by the sale of treasury stock.

Other companies which have been in the Queen of the Hills, have developed it and put in machinery, expending not less than \$100,000. Their efforts have been repaid in quantities of ore, little of which has been shipped.

At Galt, which recently struck it so has used up about \$100,000, including present contract for a tunnel, in quite a way.

Including the purchase money, about \$100,000 have been left in the shafts of Diamond E. A large three compartment working shaft, the largest in the belt, is being sunk. On the dump of this 2,000 tons of fine ore now lie and other things are in store.

The Great Falls Electric Light and Gas company is using the Northwest Thompson-Houston Electric company in the United States circuit, court to recover \$100,000 and costs on account of an alleged defective plant furnished by the latter company.

The latest from the Cumberland (Castle) is that the ore body has been struck in good shape at the 620-foot level in the new mine and the owners are buoyed up with the hope that the immense deposit goes down forever.—Husbandman.

Quite a large block of Queen of the Hills stock is reported as having changed hands yesterday. It amounted to about 6,000 shares and is said to have sold for \$2. Full particulars are not obtainable.

T. A. Wall says the crops about Kibbey after threshing are turning out to be 100 bushels of oats, 70 of hullless barley and 50 of wheat. This he says the threshers tally will prove.

The First National bank has let the contract for the fixtures to E. H. Andrews & Co. of Chicago. They are of a particularly elegant description. Exact figures could not be learned, but the contract calls for about \$3,500.

The work on the Fifteenth street bridge is still progressing. The temporary bridge is completed and yesterday work on the masonry began.

Judge Race has joined in marriage Charles M. Hitch and Miss Ada Verdon and John W. Rodgers and Miss Millie A. Wilson.

Twenty-two cars of cattle were shipped from Armington yesterday by S. S. Hobson of the Judith.

**SUNDAY'S DAILY.**

Parties coming in from Neihart recently say that the blast which took place a week ago yesterday and which was reported to have injured the Hudson company smelter did more damage than was thought at first. A large rock had to be removed from the railroad's right of way. It was located about 400 yards across the creek from the smelter. Eight tons of powder and a large amount of dynamite was put into the blast. The result was frightful. Great rocks were lifted into the air and carried to the smelter. The roof was entirely crushed in and a new one will have to be built. The machinery was also badly damaged.

The Great Northern company are having eight cars of powder and a large amount of dynamite to be completed on or before January 1st next. It is understood that the hauling of Boston & Montana ores will begin before that date and that the concentrator will be in operation before the new year. The railroad company is hustling to be ready for this business.

Mr. A. L. Skinner of Grand Rapids, Mich., a prominent politician of that city and state, and one of the staunchest of democrats, arrived in a city Sunday and will make a visit to the smelter with his son Harry, cashier of the Bank of Sand Coulee. Mr. Skinner visited Great Falls the first time about four years ago and says the change that has taken place is like enchantment.

**BOSTON & MONTANA SMELTER**

**How Work Is Progressing at the Great Plant—Soon to Be Completed.**

**Power Houses on Either Side of the Dam Are Nearing Completion**

**The Great River Soon to Be Harnessed—How It Will Do the Bidding of Man.**

The great plant of the Boston & Montana company is approaching completion at a rate commensurate with such a gigantic undertaking. A visitor to the dam cannot fail to be impressed with such an idea. The past few months have wrought considerable change in the appearance of things in general there on both sides of the river. Through all the days of the past summer the hammer, the mallet, the saw and the drill have kept up their music in sympathy with the ceaseless roar of the Black Eagle falls. The result thus far is gratifying alike to the citizens of this city and to the officers and projectors of the enterprise.

The principal pieces of work under way about which much has already been published are the concentrator, the smelter, and the two power houses. There are also other buildings and improvements being carried on which will play their part when the work is running at full tilt.

**THE CONCENTRATOR.**

The concentrator is nearly completed on the outside and in another week, weather permitting, it will be completely enclosed. As is customary with structures of that class, it is constructed on sloping ground and from a distance appears to consist of six adjoining buildings, one lower than the other. It is 200 feet in length, 150 in width and about 10 in height. The frame work is substantial, built to stand all the jar and strain to which it may be exposed. The clamping on the outside is covered with building paper, over a rubber sheet of waterproofing, to prevent the escape of steam and to keep the machinery dry.

Nearly all of the machinery to be used in the concentrator is already set in the proper place. To one not acquainted with Colton washers, slime tables, separators, Fraymovers, etc., it is difficult to comprehend just the part those machines play in a well equipped concentrator. At present one sees nothing but a bewildering mass of machinery wrought in various odd and fantastic shapes. When all work in this field is said to be no hard matter to understand how the pieces of ore start in at the crusher or breaker, pass through Cornish rolls, Colton washers and separators, then into the revolving slime tables, then into the classifiers, and finally into the concentrator and is ready to be smelted. The waste rock and slime have disappeared from the ore during its tortuous journey from the crusher to the classifier and the "concentrator" contain largely copper, silver, lead and more or less gold, according to the nature of the ore, and other minerals.

For the benefit of those unacquainted with the process of concentration it might do well to state that this concentrator will have four rock breakers and crushers, sixty-four Colton washers, or as they are commonly called, "jigs," twenty-four Evans slime tables and twenty Fraymovers. It will have a daily capacity of 600 tons and is so built that it can be increased whenever the company see fit. The various machines in the concentrator with the exception of the slime tables which are of wood, were made by Fraser & Chalmers of Chicago, and in each case take their name from the party who invented them. When supplied with more machinery, as it undoubtedly will be at no distant date, this will be the largest concentrator in the state.

**THE SMELTER.**

Work on the smelter is also progressing very satisfactorily. The foundation walls are about completed and soon as the material, which is on the way, arrives, the structure will be put up. It is to be of iron and comes from the Berlin Manufacturing company ready to be put together. Later on it is thought will publish a description of the process by which the copper and other metals will be separated.

**MACHINE SHOP.**

Near the concentrator a machine shop is in course of erection. It is 40x140 and covered with corrugated iron. In it there will be many kinds of iron and wood lathes, drilling machines, etc., in fact everything required to repair and keep in order the machinery of so large a plant.

**POWER HOUSES.**

The power house, located a few hundred feet below the dam, in which the water-wheels that will furnish the power to run the plant will be placed, is also being built. At present the workmen are at the foundations. It will be built of brick and stone, two stories high, 165 feet long and 40 feet wide. In this building there will be seven Victor turbine wheels with a combined horsepower of 2,582. Each wheel will derive its water from the flume through an iron penstock nine feet in diameter. A fuller description of the wheels will be found in the article on the electrical power house in another column. The center of the wheels will be twenty feet above the tail race and twenty feet below the top of the dam, giving a total fall of forty feet, as is also explained elsewhere.

The power will be transmitted from the wheels to the concentrator, the smelter and the other buildings in which it will be used, by means of manilla cables, the latter being better adapted

for such use than common wire cables. Six hundred of the horse power will be transmitted to the smelter and the concentrator and the balance will be used in generating electricity with which to treat the metals and in furnishing power for other mechanical purposes. It is safe to say the big plant will be in operation by February, 1902.

**THE POWER HOUSES.**

**How the Great Missouri is Harnessed and Made to Do the Bidding of Man.**

The electric power house on this side of the river at the dam will soon be completed and before many days the water wheels therein will be propelled by the waters of the Missouri. Workmen are busy putting in the wheels and laying the brick walls of the building. It is to be quite a pretentious structure 165 by 40 feet and two stories in height. Resting on solid stone foundations, with brick walls, it will be a substantial building. A tower on one corner of the building will give it an artistic and pleasing appearance.

**THE WATER POWER.**

Running down from the head-gates of the dam to the lower end of the power house is an iron penstock, some 400 feet in length and nine feet in diameter. This iron pipe made by Pollock & Sons of Youngstown, O., is of the best milled steel, one-quarter of an inch in thickness and is strong enough to stand the greatest possible internal pressure. The penstock came in fragments or sections, which were afterwards riveted together, the same as any other ordinary boiler. There are three branch penstocks connecting with the main one. Each of these will supply water for a double Victor turbine wheel, making six wheels in all. These wheels will have a combined horsepower of one thousand, which is deemed sufficient to furnish all the electrical power needed for several years. An allowance has been made in some and quantity of water to increase the horsepower 500 whenever the company desire.

The Victor turbine wheels to be used were manufactured and put in place by the Stillwell & Jones Manufacturing company of Dayton, Ohio, and are of cast iron and steel. They set on horizontal shafts, are supplied with governing and on the outside look like anything but water wheels. The wheels proper are only 22 and 23 inches in diameter, and to look at them one can scarcely credit their ability to create the horsepower mentioned. But on considering the position in which they are placed, the fall of the water and the consequent force, the secret of their great power is readily discovered. As mentioned, each of these turbines is double, or, in other words, each of the three branch penstocks leading from the main penstock ends in a large iron cylinder nine or ten feet in diameter and of about the same length, in which are two wheels. The cylinder is in a horizontal position with one of the 22-inch wheels at each end. These are made of steel and work on about the same plan as the ordinary turbine wheel. To be more explicit we will suppose the cylinders full of water which is pressing in from the penstock with superhuman force. It has no means of escape except through the wheels. In passing through them it strikes against their iron paddles or buckets causing the wheels to revolve. After passing through them the water goes down through vertical tubes into the tail race and so on back to the river. The bottom of each of the tubes is about twenty feet below the center of each wheel, which is equivalent to a fall of that number of feet. Any school-boy versed in natural philosophy knows why water runs through a siphon—because the "suction" in the lower end of a siphon draws it through. It is the same with the "suction" on the bottom of the escape pipe leading from one of the wheels. It tends to the force of the wheel-power equivalent to a twenty-foot fall. As the wheels are twenty feet below the top of the dam there is a total fall of forty feet.

**THE ELECTRICAL PLANT.**

The power will be transmitted from the wheels to the dynamo by safety clutch pulleys. The dynamo will be in the second story of the power house. It will be four 50 amp, two 13,000 incandescents and two 80-horse power dynamo—just double the present capacity.

The company expect to have one or two dynamo running by water power in about ten days to relieve the steam plant which is overcrowded, owing to a lack of boiler capacity. When the water is turned on for the first time there will be present prominent electricians from Butte, Helena and other points who are anxious to see the plant work. The power houses on both sides of the river were designed by Mr. H. A. Herrick of Spokane who also planned the power stations in that city. Too much praise cannot be given him for the engineering skill he has displayed.

Priestley's Black Henriettas are without a peer in the world. The best dry goods houses in the trade only carry them. Conrad carries a full line.

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

**STRAIN BROS. BARGAINS.**

Our beautiful fall line of Dress Flannels are in and open up nice, and we can say to our many customers that you can buy as pretty a dress and have as nice a line to select from as there is in the city at prices about 20 per cent cheaper than other places. We mean just what we say, 20 per cent saved.

Winter Jackets and Cloaks, newest styles, perfect fitting. Call early while the stock is so large and varied. They are going fast.

In addition to our very large new stock we have bought out Shoos, Charlton & Co's stock of Dry Goods and Shoes—some \$10,000—and you can get great bargains. Do not be deceived by jealous competitors who would try to make people believe that this stock is old and shorn, for it is a well-known fact that the stock has just been four months out of the wholesale houses and will give a more favorable impression than goods packed away by them in the cellars and garrets to be brought out this year as new.

Money refunded if goods are not as represented.

**STRAIN BROS.**

**NEW AND HANDSOME HOME.**

**Great Falls to Be a City of Fine Residences—Good Start in That Direction.**

**Description of the New and Elegant Residence Built by Mr. J. Bookwalter of the Town-site Company.**

Great Falls is to be of course a great manufacturing center, the chief of western smelting points, a far-reaching commercial mart, the focus of all the railroads of the new northwest, a mining and financial center and much more—but in addition to all of these, and not of the least importance, Great Falls will be a city of beautiful residences and homes. Already a good start in that direction has been made. Fourth avenue north with its thrifty trees and attractive residences would do credit to a city many times older than this. On this avenue as well as on Third and others further north, and on the high ground or ridge that extends in a semi-circle from Prospect hill around to Central avenue are sites for residences that vie with any in the state and it is only a matter of a few years until here will be some of the most attractive homes in the northwest.

The fact that many of our citizens are already providing themselves with handsome and comfortable homes tells in itself of the confidence they place in Great Falls and shows that they are not here to "make a stake" and leave, but that their household gods have been firmly and permanently fixed in this home of their choice.

Among the many elegant residences of the city that of J. Bookwalter, general agent of the Town-site company, which is now nearly completed, is deserving of particular mention. It has a pleasant and easily located on a plot 100x120 feet at the corner of Fourth avenue north and Fifth street and is a three-story structure with basement, being in every respect of the word a "modern" residence. It is a frame, but so substantially and thoroughly built that neither brick nor stone would be more impervious to the wind or cold. The whole house is brick-lined, sided with matched flooring, covered with building paper, and then weather boarded, the material throughout being of the very best. The architectural design is neat and attractive and such as would draw attention anywhere; but it is in the interior arrangement and finish and in the general convenience and comfort everywhere observable that one finds most to admire.

On the north and east side is a large veranda crossing which one enters the octagonal shaped vestibule, which takes the place of the ordinary hall. This is floored with parquetry, a combination of oak and ebony, and is finished in oak. A double glass window in front gives a glimpse of a handsome appearance. A door to the right leads into the parlor, finished in tanbrack to paint and one to the left into the library and living room, finished in cherry. In the rear of the living room is the dining room, finished in tanbrack natural. These three rooms are connected by arches in cherry. The staircase leading from the living room is of the same material and has a double hand that gives it a pleasing effect. Connecting with the dining room on the west is the kitchen which is a model of convenience.

On the second floor the rooms are all finished in tanbrack natural. Here are Mr. and Mrs. Bookwalter's bedroom, two servant's rooms, a model bath room and the bathroom, the latter connecting by a doorway with the kitchen. In the third story is a well lighted studio, a bedroom and a warehouse. There are altogether twelve rooms and in point of convenience the arrangement could hardly be improved upon. Every room has one or more closets and apparently every available foot of space has been utilized. The house is furnished throughout with hot and cold water, heated by hot water and lighted by electricity. If there is anything in the way of modern improvements lacking the reporter in his casual inspection did not note it.

The basement is not the least important part of the building. Here is the hot water furnace with its separate coal and kindling departments, the laundry and drying rooms and the vegetable department, perfectly secure from the broods of Jack Frost.

Ventilation is an item to which Mr. Bookwalter paid special attention and to which, more than anything else, he "points with pride." Without going into details we will simply say that every room has its insulating current of fresh air and ventilators through which the heated air passes out, thus creating a circulation and guaranteeing the best of ventilation.

Mr. Bookwalter is now occupying a portion of the house, which will not be entirely finished for about ten days. The mantle in the living room is unfinished and the painters still have some work to do. Mr. P. C. Putnam, has had charge of the construction of the building and that he has performed his task in a painstaking and workmanlike manner cannot be doubted for a moment. Mr. B. pays him the very highest compliment on this score. The plumbing and heating was done by Hotchkiss & Hawkins and in a very satisfactory manner. F. A. Hammond & Co. furnished the lumber and mill work, the painting was well done by Leon & Woodley, and the plastering by Frank Elbitt. In each case the owner has only words of praise for his workmen and contractors.

All in all, it is a residence of which Great Falls, as well as Mr. and Mrs. Bookwalter, may well feel proud.

C. E. LeMunyon is showing some very handsome views, including Two Medicine lake, Mount Echo and the High-wood range.

The finest, most palatable and best tasting mixed drinks in the city are to be found at the Hoffman.

Joe Conrad's store is always crowded with contented buyers. His trade extends all over the state.

When in Great Falls stop at the Milwaukee house.

**THE TRIBUNE BUILDING.**

Which the Same is the Handsomest Newspaper Office in the State.

This is a very good cut of the Tribune building. It was built last year and completed in December when the Tribune took possession of its new home.



THE TRIBUNE.

The building is practically three stories, the basement, which is used as the press room, being about six feet above the sidewalk. The entire building is occupied by the Tribune. The front is of pressed brick and cut stone and in design and finish is one of the neatest in the city. The cost of the building was \$75,000.

**AN OLD LAND MARK.**

The Dearborn Crossing as it Used to Be and Is Now.

APRIL 28, 1891.

Editor Tribune:—A place well known to Montanians of our early days is the Dearborn crossing on the early freight route from Benton to Helena. It is at the crossing of Dearborn creek, about half way from San River crossing to Helena, and being the only natural pass crossing the stream, all the freight for western Montana and Idaho of a necessity went through here. Even the creek here was very difficult to cross, especially with wagons heavily loaded, or in winter, and a bridge was built and toll collected for crossing. This bridge proved to be quite a bonanza, as there was a continual crossing of freight teams, both going and returning, single outfits paying as high as four and five dollars. The town was correspondingly prosperous, being a camping place for the large freight parties, and large quantities of money were spent at this point, but somewhat strangely it has left no monument behind.

There is a bright little hotel that seems heartbroken and a sad and small store that live mostly on the memories of the past. The proprietors of the respective places are so glad to see persons that treat them like brothers and like a typical French hotel de hote or shop keeper charge them accordingly. There is a nice school house there that at one time must have accommodated a fair sized school but the term commenced this fall with three scholars and for some reason two of them quit, which left the landlord's small boy to take everything prepared all alone. The lad said he tried it for a week, mostly for the teacher's sake, but said it was too much and besides it was too lonely to have to "talk" to one girl all the time though she was a splendid teacher.

This place that has passed so nearly into antiquity has one kick yet left and this is fed by hope, the connecting link of the world. Close to the place have been discovered some mines of coal of excellent quality. These have been partly developed by some Helena people who own them, but will never be worked until railroads reach them. This, perhaps, may be at no distant day, for the abrupt and almost canon-like Dearborn that was the cause of so much annoyance and expense to the freighters has the only available pass for a railroad across the main range of the Rockies from Great Falls west to this coast.

There is something peculiar about the scenery surrounding this region, especially in crossing the high divide between it and the mission. It is an account, perhaps, of the stubby pine and peculiarly dark porphyry stone that forms the small range. This stone is a kind of granite and has no seams and in consequence the hillsides when bare present a solid face as smooth as a monument. Often high columns of rock stand out alone like obelisks and the narrow valleys, silent streams and moaning pines put a person in mind of that "narrow house" so well described in one of Whittier's exquisite poems. This feeling of the grave may not be particularly interesting to many, but those gigantic and impenetrable walls of stone will cause one to wonder and to ponder as he approaches the lost city of Dearborn.

**TRAVELER.**

The leading and reliable dry goods house of Conrad is without doubt the best store in the state.

Charles W. Cole, the well known hackman, is now running a night hack and will attend promptly to all orders. Telephone No. 16.

Self-sealing Jars, all sizes, for fruit at the Bee Hive store.

We have two good organs for sale cheap. Dyas & Jones.

**Wanted.**

Any one having good horse and lot for sale on North side at a bargain should see us at once.

Have you seen Conrad's line of Fall and Winter Garments. They are stylish and cheap.

Insure your household goods with Phil Gibson.

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

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