HEDLEY CITY AND SIMILKAMEEN VALLEY

(Special correspondence of The Colonist.)

To a large proportion of the residents of British Columbia the names "Similkameen" and "Hedley" convey a very indistinct idea as to location and surroundings. Even those who have known the valley for years may not yet have visited the busy mining town which has sprung up within the last year at the mouth of Twenty-Mile creek. The trails over which for forty years ranchers and prospectors rode and packed, have given place to well-made roads and a traffic in mining machinery and supplies which gives constant employment to scores of teams notwithstanding the heavy rates which are necessarily charged.

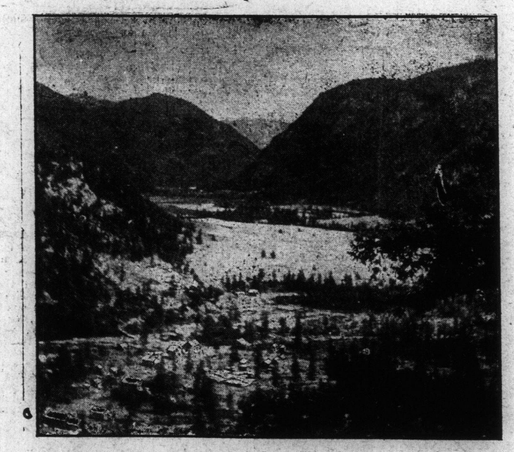
Roughly speaking the valley is about sixty miles in extreme length, commencing at Princeton and following a generally southeasterly direction to Keremeos where it turns sharply south and crosses the line into the United States about sixteen miles further down. The valley varies in width from a few hundred to three or four miles and through its entire length runs the swift and beautiful Similkameen river. Along its course are thousands of acres of fertile bottom lands. From these, sage covered benches rise sharply and extend to the neighboring hills which are covered with nutritious bunch grass so valued by stockmen. These benches also are marvelously fertile as soon as touched by water, and wherever irrigation has been

SCENE IN THE SIMILKAMEEN VALLEY

employed the farmer reaps a rich reward. The climate, though somewhat warmer than at the Coast, and for the most part very dry, is generally mild and healthful. Residents declare that there are very few days in the year upon which a man cannot work with comfort in the open air, either in winter or summer. Bronchial and catarrhal affections disappear as one breathes the crisp dry atmosphere filled with the pungent odor of the sage brush. The bottoms and benches abound with grouse and chicken, while in the hills are to be found the goat and bighorn. In fact few spots in the province are more inviting either to the sportsman or the settler.

Similkameen may be reached from either Spence's Bridge or Kamloops by stage to Princeton, thence to Hedley and Keremeos. But owing to the much shorter stage route, most travellers prefer coming in by way of Penticton. By this route also almost all the freight for the valley is brought. Leaving the main line of the C.P.R. at Siccamous the traveler proceeds by rail through Enderby, Armstrong and Vernon to Okanagan Landing. Thence by C.P. steamer 70 miles to Penticton at the foot of Lake Okanagan. From here stages run every Tuesday and Thursday to Keremeos, 30 miles, and to Hedley 50 miles, connecting there with the stage for Princeton and points farther west. A delightful summer trip could be had by a congenial party. Securing a team and light wagon at Kamloops the party could drive through the length of the Nicola valley, on through the Similkameen to Penticton and Summerland. The team could then be taken across the lake to Kelowna by steamer and from there the drive could be continued to Vernon, Enderby, Salmon Arm and back to Kamloops. If desired the trip could be extended to take in Camp McKinney, Midway, Greenwood, Phoenix and Grand Forks in the Boundary country. Throughout the entire journey the travelers would find splendid roads, an ideal climate, plentiful grass and water with charming camping grounds every few miles, and in season, abundant fishing and shooting. Many a weary and blase tourist who has exhausted the pleasures of all the popular summer resorts would find in such a trip new delight, while to the jaded man of business it would bring invigoration and an enlarged sense of the vastness and wealth of this beautiful province.

The Similkameen valley is somewhat marred from the settler's point of view by the fact that a considerable portion of the best land is set apart in Indian reserves. But there is a large amount still to be brought under cultivation. There are many prosperous looking farms and ranches, but perhaps no one will think the comparison invidious if it is said that the most highly cultivated farm in the valley is that of Mr. Frank Richter. Mr. Richter is one of the earliest settlers in the valley, having come in during the sixties. He is a large property owner and his success has been the result of years of labor and enterprise. His present home is at Keremeos, where he has a fine and commodious modern dwelling and extensive farm buildings. A beautiful stream flows through the property and affords abundant means of irrigation. To the visitor who has seen the sage-covered land in its natural state a walk through Mr.



SIMILKAMEEN VALLEY, SHOWING A PART OF THE NEW TOWN OF HEDLEY, B. C.

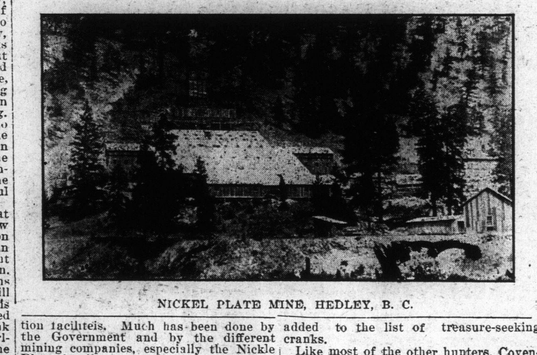
Richter's orchard is a revelation. The finest peaches, plums, apples and pears are produced, while small fruits grow in profusion. But the chief point of interest is perhaps his wonderful field of Alfalfa, one hundred and twenty acres in extent and sloping toward the river in billowing waves of verdure. From this he cuts three crops each season. A fourth comes too late to be cured and so is used for fall pasture. The average yield is about five tons to the acre and finds a ready sale at a most remunerative price.

Near Keremeos are the properties of the Ollalla Mining company. A force of about twenty-five men, under the management of Mr. W. C. McDougal, is at work. Large bodies of comparatively high-grade ore have been blocked out and the owners feel confident that their investment will bring a rich return. The Ollalla townsite is beautifully situated, and besides a well appointed store and hotel a number of comfortable residences have been erected.

Hedley City is situated at the foot of Hedley mountain on a piece of bottom land just at the junction of Twenty-Mile creek with the Similkameen river. Here is being erected the large stamp mill and concentrator which is to handle the product of the famous Nickle Plate mine. Mr. M. K. Rodgers of Seattle, the manager, is a mining man of large experience and indomitable energy and is fully convinced that his company has a splendid mine. The ore is arsenical iron, carrying good values in gold. To treat it the company is erecting a forty-stamp mill of most modern type, with which is connected a large concentrator. A cyanide plant will handle the tailings so that no values may be lost. The work is being done in the most complete and substantial manner, and so far has cost half a million dollars, while much more will be required before the mill is in running order. A flume three miles long is being constructed and will furnish power for the 1,000 horse-power electrical plant which is to be installed to run the mill and furnish compressed air for the mine. A commodious building with all modern improvements is being erected and will contain offices beside having a number of comfortable rooms for the accommodation of the office staff.

The mill is connected with the mine by a combined gravity and power tramway about three miles long which is nearing completion. At present the mine, which is at an altitude of 5,000 feet above the town, is reached by a steep and winding trail five miles long. The climb is made in from two and a half to three hours on horseback. When the tram is complete the trip can be made in twenty minutes. The mine is reached by a good road from Penticton, the distance covered being nearly twenty miles less than to Hedley. At the top of the mountain near the mine the ground is covered by waving bunch grass and a profusion of wild flowers, while the view down the valley is of surpassing beauty and grandeur. Mr. Jones, the superintendent, a mining man of large experience in Australia, lives at the mine, where there is also a store, bunk-house, boarding house and a number of dwellings for such of the staff and of the miners as are married. The mine and mill will not be running full blast till next summer, when the present force of about forty men will be greatly increased.

The whole valley and surrounding country is richly mineralized, and there are many promising claims in a more or less advanced state of development. The great drawback to the rapid advancement of this entire section of country is the lack of adequate transportation facilities. Much has been done by the Government and by the different mining companies, especially the Nickle Plate, in the way of building roads, but railway facilities are urgently needed. At present every ton of freight has to be brought from Penticton on wagons at a cost of $20.00 per ton. In the case of mining machinery the cost is prohibitive, except for properties of the most assured value, and even then is a heavy handicap upon progress. The large crusher for the Nickle Plate mine alone weighed 12,560 lbs., and the machinery as a whole amounts to many hundreds of tons. Men who are working their claims on a small scale have no means of getting their ore out for treatment, and are compelled to wait for better times. As soon as a railway goes through, this entire region will take an immense stride forward. A large market will be open to the business men and farmers of the Coast, and the Similkameen will become one of the busiest, as well as one of the most interesting and beautiful valleys in British Columbia



NICKEL PLATE MINE, HEDLEY, B. C.

MR. TART DECLARES FOR THE DESTRUCTION OF THE GOVERNMENT

Toronto Word.

Berthierville, Que., Aug. 30.—(Special.)—The demonstration which took place here today under the auspices of the Monk Club was equal to the best Conservative gatherings of the past and evoked from the Hon. J. Israel Tarte one of the ablest speeches of his life. Hundreds came from Montreal, Three Rivers, Sorel, and all the towns along the St. Lawrence, the number present being from three to four thousand.

It must be admitted that curiosity as to how far the ex-Minister would go was the dominant feeling; yet at the close of the meeting all felt that had any doubt existed as to where Mr. Tarte stood in Canadian politics it had been completely dispelled by the ex-Minister's frank and bold utterance. In a word he BURNED EVERY BRIDGE BEHIND HIM AND CAST OUT SOLIDLY FOR THE DESTRUCTION OF THE PRESENT GOVERNMENT.

RECEIVED AN OVATION.

When Mr. Thomas Chase Casgrain had eloquently spoken of Hon. Mr. Tarte's transition, welcoming him back to the old Conservative fold, the ex-Minister came forward and received an ovation. As usual he spoke in a most fearless manner. He declared that he wanted to cut short all false impressions and misrepresentations. He had never made a declaration during his protectionist campaign that he had not previously made in the House in the presence of Sir Wilfrid Laurier, and more than that, the Premier had never raised the slightest objection. During the absence of Sir Wilfrid, Mr. Tarte said, he had been traduced and vilified by a group of papers controlled by his colleagues, declaring that he had been enunciating a new policy. He had not been advocating a new policy, as the totality of the Conservative party had espoused it, and he did not believe the majority of the Liberals were against it. He explained, however, that the continued illness of Sir Wilfrid Laurier had created a new order of things. The Prime Minister was not hostile to fiscal reform, for he realized that the country was making imperious demands in this direction. The fact was, however, that since Sir Wilfrid's health began to fail the direction of the Liberal party had fallen into the hands of men whose one desire was to advance their own private interests and to secure the triumph of their personal designs.

HELD OUT FOR PROTECTION.

The speaker then proceeded to give the inside history of the tariff revision following the Liberal victory of 1900, and declared that HAD HE HELD HIS TONGUE THE REVISED TARIFF WOULD HAVE BEEN FAR LESS OF A PROTECTIVE NATURE THAN THAT WHICH WAS FINALLY ADOPTED BY THE GOVERNMENT. Hon. Mr. Fielding had, however, pledged the good faith of the Government that a further revision would be effected; yet in spite of this promise and in spite of the fact that the country demanded it, the ministry had culpably failed in their duty. Instead of keeping their word to the electorate, Mr. Tarte declared that they were seeking means to secure a new lease of power.

"I ask you," continued Mr. Tarte, "WHAT WOULD HAPPEN THE TARIFF IF THE PRESENT GOVERNMENT WERE SUCCESSFUL AT THE POLLS? I KNOW WHAT WOULD HAPPEN, FOR THE FACT REMAINS THAT THE GOVERNMENT IS COMPOSED OF FREE TRADERS. Hon. Mr. Paterson is the only protectionist, and although he is an honest man, his colleagues have no fear that he will hand in his resignation. Hon. Mr. Prefontaine has in the past expressed protectionist views, but he does not count at Ottawa. As a matter of fact, it requires more than fifteen years of municipal intrigue in order to become something at the capital of the Dominion."

Mr. Tarte then described amid much amusement the pilgrimage of leading Liberals, Senators Beique, Dandurand and others, to Ottawa in the vain attempt to prevent Mr. Prefontaine from becoming a minister of the Crown.

STRONG COBDENITES.

Returning to the free traders in the cabinet, Mr. Tarte said Sifton, Fielding and Fitzpatrick were just as strongly imbued with the principles of Cobden as Sir Richard Cartwright himself, and he added: "Sir Wilfrid Laurier has no fixed ideas on the subject, although he began his career as a protectionist." In speaking of his late leader, Mr. Tarte said they had parted good friends, the differences between them being wholly political. Again the ex-Minister repeated that Sir Wilfrid would not be opposed to a revision of the tariff, but his ministers would not hear of it.

WHEN LAURIER DISAPPEARS.

Then Mr. Tarte warned his fellow countrymen as to the position of this province when Laurier disappears from the political scene. His departure, the speaker added, cannot be long delayed, as all know that Sir Wilfrid requires absolute rest. Who, he asked, will be left? Prefontaine, Bernier and Fitzpatrick, and I do not want anything to do with such a lot. MR. FIELDING AND SIR FREDERICK BORDEN ARE THE ONLY TWO MEN WHO CAN HOLD THEIR OWN IN THEIR PROVINCES, AND FEELING THAT DEFEAT AWAITS THEM, THEY ATTEMPT TO TAKE ADVANTAGE OF THE SHORT TIME LAURIER REMAINS TO THEM TO SNATCH A NEW LEASE OF POWER."

HOPE IN PROTECTION.

The speaker said his duty was to call the country's attention to the state of things and to ask his fellow countrymen to awake to a sense of their duty. He appealed to all good men in both parties to join hands and secure that special reform which the country demands. PROTECTION, he added, IS THE FUTURE OF CANADA. Then he stated how he had told Sir Wilfrid that when he entered his government it would be impossible for him to agree with his colleagues and also that he had ALWAYS REFUSED TO CALL HIMSELF A LIBERAL, GLORYING IN THE FACT THAT HE HAD FOR YEARS BEEN ATTACHED TO THE GREAT CONSERVATIVE PARTY.

Mr. Tarte gave his full adhesion to Mr. Chamberlain's programme, and declared that he would stump the country in favor of the cause he had so much at heart. He also discussed the Grand Trunk Pacific, and although he was not going to say that it would ruin the country, he declared it to be an unwise measure, being carried through with indecent haste. He also referred to the men whom he had gorged with favors, and who were ready to vilify and spit in his face the day after he resigned. This, however, did not trouble him very much, as he felt quite happy in his present absolute independent position. He called upon the province of Quebec to do its duty, and the French-Canadians to act like men and not be the slaves of party. He declared that should a general election take place at once and result favorable to the government, SIR WILFRID LAURIER WOULD NOT REMAIN PREMIER TWO MONTHS, AND THAT THE TARIFF WOULD BE LOWERED AT ONCE.

AGAINST PREMIER PARENT.

Hon. Mr. Tarte also spoke strongly against Hon. Mr. Parent, and declared that when Premier Marchand died he had been in favor of Hon. Senator Beique as his successor.

Powerful addresses were also delivered by Hon. Thomas Chapeis and Hon. P. E. Leblanc, closing one of the most interesting political demonstrations held in Quebec province for many a day.

"Was your son graduated as a lawyer?" "Well, he thinks so now. He hasn't had a case, yet, you know." —Judge.

Gas Man—I came (hic) to see y'r gas meter. Lady of the House—But you're been drinking. "Orders of company. Now I see double."—Life.

SEARCHING FOR LONG LOST TREASURE CAVE

Herbert Coventry, who says he comes from London, England, arrived at Middlebury, Vt., recently on his way to Bristol, whither he goes in search of the treasure house of the Algonquin Indians, which, according to tradition, is located in hidden caves in the side of South mountain.

He was in great spirits when he left, and, like many another who has made the search, was sure he would unearth the long lost wealth in short order. Old inhabitants who have seen other treasure hunts regard the man as one more added to the list of treasure-seeking cranks.

Like most of the other hunters, Coventry has a map, which he is sure will guide him to the piles of silver ingots supposed to have been originally discovered by one De Grau, a Spaniard, nearly two hundred years ago. And a grewsome affair this map is, for the outlines and locations are all tattooed on human skin. It was this map that first called public attention to the hunter.

Coventry explained that several years ago he met in the London slums a Spaniard who was suffering from an incurable disease. The man was starving, and as he was too proud to ask aid the Englishman saw to it that he was properly cared for in a public hospital. He spoke some English and proved to be so interesting a character that Coventry, who was an insurance solicitor, frequently visited him. The man said that his family had formerly been wealthy, and once he declared that if he could get well enough to go to America he would soon recoup his fortunes.

"There are enough silver ingots in a hidden chamber in the side of an American mountain to make a dozen men fabulously rich," he said, according to the story related by Coventry.

"I am a descendant of Robert de Grau, who over 200 years ago discovered the treasure-house of the Algonquin Indians, near what is now the town of Bristol, Vt., in America. The tribe was fleeing from the Iroquois at the time, and, in attempting to save his own life and that of his son, my ancestor stumbled upon the treasure in a secret cavern. Part he removed to Spain, where he became immensely wealthy and a power in the kingdom. He intended to remove the rest, and in fact started for America, carrying with him a map of the mountain.

"On the way over he was taken ill with 'black death,' died, and was buried at sea. The man fell into the hands of the first mate of the ship and he took up the search. He found the spot on the mountain, but a landslide had obliterated the mouth of the cave and he was never able to locate the treasure, though he spent two years in the quest.

"The mate, whose name was Parish, or Paris, eventually died and the map passed through several hands. It came to me in a most peculiar way. About ten years ago, while cruising off the coast of India, I befriended an old sailor. He gave me the map, which I immediately recognized as the one drawn on sheepskin by my ancestor. He said he got it from a sailor who voyaged between Hongkong and New York.

"The parchment was badly worn and was so discolored that the drawings were almost obliterated. I suggested that a copy could be made on paper, whereupon the sailor declared that he knew of a scheme whereby the precious outlines could never be lost."

Coventry, in relating the tale, said that the man pulled up his hospital shirt, rolled over on his chest, and told him to look on his back. There between the shoulders was the map tattooed in the skin with India ink.

"When I die I want the surgeon to remove the skin and give it to you," he said to me. "It will be a grewsome relic for the museum, but if you follow it up you will be a rich man." He called in a surgeon and made him swear that he would carry out his wish, and then he seemed easier. That night he died, and later the map was turned over to me. I didn't think much of the man's story at the time, and I laid the 'parchment' away with some private papers.

"I discovered that the man's story, so far as his ancestor's search was concerned, was undoubtedly true, and, further, that the Algonquins did lose their treasure during the Iroquois raids. Other facts have come to my knowledge, and I am now confident that the ingots are still in the treasure-house. I shall search for them all summer if necessary."

While Coventry is somewhat mixed in his data, it is, nevertheless, true that many believe the Indian treasure still lies in a hidden vault, and that it comprises untold wealth. So strong was this belief some years ago that several solid business men living at Montpelier organized a stock company to remove the rocks at the mouth of the caves. This proved impossible, and drilling was resorted to. After $20,000 had been expended the enterprise was abandoned. Today the entire face of the ledge is honeycombed with holes and shafts.

According to a story told severeal years ago by a centenarian, the original De Grau, accompanied by his son of twelve years, came to America when there were few settlements north of Boston. He decided to prospect that country.

He journeyed by slow stages up the Connecticut river to what is now Bellow's Falls, and then turned west, crossing the Green mountain range and then following Otter creek north. While encamped one night near what was later New Haven, Vt., he was apprised by a friendly Algonquin scout that the Iroquois, a powerful branch of the Five Nations, were on the warpath and had routed his tribe.

De Grau and his son found the mouth of a passageway leading into the side of the mountain. The two crawled in. They found that a rocky cut led toward the cliff.

De Grau found that the passageway ended in a cave which showed evidence of having been visited by redskins. The cave opened into a larger chamber and this led to another. Finally the pair struck a series of underground vaults. In the last one De Grau saw, by the aid of a torch, a crack in the wall. He stuck the end of the torch into this and a section of the wall moved. The man then saw that a slab fitted on rough grooves covered an opening. Removing the slab, he saw tons of silver ingots in a circular chamber hewn out of solid rock.

The place is now known as "Money Digger's Caves."

MEANING OF CHRISTIAN NAMES.

Susan is Hebrew, a lily.
Alma is Latin, the kindly.
Guy is French, the leader.
Margaret is Greek, a pearl.
Job is Hebrew, the mourner.
Rachel is Hebrew, the lamb.
Paul is Latin, the small one.
Edwin is Saxon, the conqueror.
Lionel, Latin, is a little lion.
Clara is Latin, the bright one.
Hugh is Dutch, the lofty man.
Adeline is German, the princess.
Martin is Latin, the martial one.
Gilbert is Saxon, bright as gold.
Jacob is Hebrew, the supplanter.
Lucius is Latin, the shining one.
Ernest is Greek, the serious one.
Peter is of Latin origin, the rock.
Eunice is Greek, the fair victory.
Florence is Latin, the blooming one.
Leonard, German name, is lionlike.
Ruth is Hebrew, and means beauty.
Sophia is Greek, and means wisdom.
Arabella is Latin, the beautiful altar.
Sarah, Hebrew name, means princess.
Rosamond is Saxon, the rose of peace.
Caesar, Latin name, means hairy man.
Agatha is a Greek name, the good one.
James is of Hebrew origin, the beguiler.
Ursula, Latin name, means a she bear.
Isaac, a Hebrew name, means laughter.
Oliver is of Roman origin, an olive tree.
Lucy is the feminine of the Latin Lucius.
Edith and Editha are Saxon, happiness.
Douglas is Gaelic, signifying dark gray.
Daniel is Hebrew, meaning God is judge.
Keturah, a Hebrew name, means incense.
Meredith is Celtic, the roaring of the sea.
Esther is a Hebrew word, meaning secret.
Dagmar is German, the joy of the Danes.
Agnes is of German origin, the chaste one.
Moses, a Hebrew name, means drawn out.
Matthew, a Jewish name, signifies a gift.
Roxana is a Persian name, the day dawn.
Harold, the champion, is of Saxon origin.
Huldah, from the Hebrew, means a weasel.
Naomi is a Hebrew name, the alluring one.
Eugenia and Eugenie are French, well born.
Constantine is Latin, signifying the resolute.
Catherine, a Greek name, means the pure one.
Deborah is of Hebrew descent, signifying a bee.
Dorcas is from the Greek, signifying a wild rose.—Chicago Tribune.

The world produces 250 million tons of grain yearly.

HOW A BATTLESHIP IS BUILT ON PAPER

When Uncle Sam decides to build a warship there must be something over 1,200 plans drawn and approved by the government before the vessel can be constructed. These plans alone, in the case of a first-class battleship, such as the Vermont, the contract for which has recently been awarded to the Fore River Ship and Engine Company near Boston, Mass., cost the builders about $75,000. For the steel plates of the hull, to take a single large item, 500 distinct and separate plans are necessary. The 800 or 900 plans necessary for the hull as a whole range from a small sheet of paper twelve inches square to a big sheet 11 feet long by two feet and a quarter wide; and each plan must be duplicated in at least a dozen blue prints to facilitate the work of the shops and save the original drawings from being worn out by constant handling.

At a rough estimate this means that over 18,000 square feet of paper will be covered with drawings before the yard begins hull construction—to say nothing of over 10,500 square feet of paper that will be used in preparing the schedules of materials by which the yard will order the various supplies necessary for construction. To make the hull of a war vessel more paper is used than would serve to wrap it in afterwards. Meantime the engine department and the electrical department must prepare their own plans on a similar scale of detailed munificence, the result being, all told, that about 1,200 separate drawings will be necessary before the battleship has been accurately made on paper.

These hundreds of plans do not consist, as one might at first imagine, in plan after plan of the vessel until Uncle Sam smiles approval and says, "Go ahead. That suits me exactly." As a matter of fact, Uncle Sam has a very complete notion of what is going to suit him exactly before the contracting shipbuilders touch pencil to paper, and the shipbuilder's work is based upon yet another series of mysterious-looking blue prints that come from the government. The first plan for every class of war vessels, with the single exception of the lively little torpedo boats and their equally lively little destroyers, are drawn by the government before either Fore River, Newport News, the Cramps, or any other shipbuilding establishment is invited to bid for the task of finishing them. But these first plans, although they represent the labor of three government departments, the Bureau of Construction and Repairs, the Bureau of Equipment and the Bureau of Ordnance, are simply a statement of the kind of vessel wanted and are supplemented by a bound volume of specifications that covers between 200 and 300 pages. It is this interesting volume that the management of the shipbuilding establishments has to reduce in terms of profit and cost before it decides upon the minimum price for which it can build the vessel, pay about four years' wages to a thousand workmen and put a little something in the bank on its own account. In the case of the Vermont the final cost per pound is estimated at 15 cents, or three times the cost per pound of a thoroughly modern steel schooner.

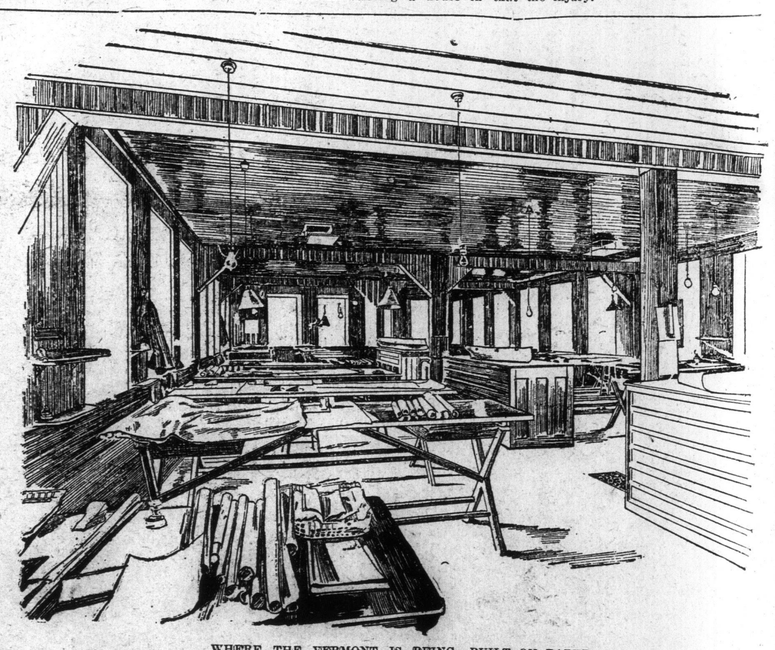
No object, either on land or sea, could be more carefully specified in its every detail than a modern war vessel. When the government orders a canvas gun cover, for example, the specifications state definitely how many stitches to an inch are to be taken in sewing the canvas and these stitches are not to be averaged up but there must be just so many of them in every inch, no matter at what point the government inspector who supervises the making of the cover may choose to count them. If the number is not parallel with the specification the right number of stitches must be put in—at the expense of the company. This small example is an exact illustration of what "specifications" mean as they apply to a war vessel, although as a rule the specifications that reach the modern shipyard concern themselves only with the hull and machinery of the vessel. But they include every bolt that goes into the hull, every beam that supports her decks and platforms, and every inch of the miles of pipes and wire that connect her engines, dynamos and conning towers with the various mechanisms that they are designed to operate. In the Vermont there are more than 20,000 of these bolts, and electric wires alone sufficient to distribute an amount of power that would supply light to the streets and houses and run the trolley cars for a city of 25,000 inhabitants.

Putting these specifications into actual plans—in other words, building the warship on paper with rule, T-square, and compass—takes about twelve months of steady work and requires the serpreparing blue prints of the completed drawings. From the government point of view everything that is drawn on paper is a plan, and everything that goes into the vessel must first be drawn on paper. Building a war vessel is different from building a house in that the engineers, naval architects, draughtsmen and photographers. All through this period a special electrical apparatus is busy construction. The armor plan of a warship is therefore one of the longest tasks of a shipyard's draughtsmen. Other large and more complicated plans are those that provide for the working of gun mounts, ammunition hoists, and other important sections of her inner mechanism. And in this respect no two vessels are alike, even "twin warships" being like other twins in that they look alike but usually act differently. Still another series of delicately complicated plans are those that provide for the arrangement of tubes, wires and other means of connecting every part of the ship with every other part, for not only must space be economized to the finest practical point but every part of the system must be readily accessible in case of necessary repairs at short notice.

The plan for a bolt—the perfect mechanical drawing, that is, whereby the Fore River Ship and Engine Company in Massachusetts proves to the United States government at Washington that it has read, pondered and put in practice the volume of specifications under which it signed a contract to build Battleship No. 20, as the Vermont is officially known—is a good example of the exigencies under which a modern war vessel is put together. Very likely, if a visitor should pick up a bolt after it had been actually manufactured and was waiting to be used in the vessel, it would seem much like any other bolt; but the government inspector would be able to point out the differences, verify them by measuring the angles, and show the astonished visitor that not only had the bolt been cast to order for that particular vessel but, very likely, that a machine had been made to order to cast the bolt. For an ordinary vessel of commerce the bolts would have been bought ready made in open market. In a war vessel every part of its mechanism, even the smallest, is designed to have a specific value in increasing her strength and fighting power, and the government therefore scrutinises with impartial severity the plans for the great marine engines that must drive the vessel day and night; for the ammunition hoists that are to keep her guns supplied and busy during the possible engagement; for the mechanism that is to aim the guns and protect the vessel from the recoil of their tons of explosives; the bolts that are to hold her steel plates together; or the little wheel and truck that runs a sliding door between the captain's cabin and his morning bath-tub. The smallest plan in those necessary to put the Vermont finally into commission is the carefully studied and exactly described drawing of a future hammock hook.

All these plans go forward in general groups, the ship being divided into hull and engines and electrical arrangements, and the work of the yard follows these lines of division. The two departments start their drawing simultaneously, the engineering department, whose share, naturally includes hundreds of minor bits of machinery, driving rods, pistons, cranks, valves and gauges, as well as the big engines and dynamos in toto, making rather less than the number of plans made by the department of hulls. These plans, moreover, are always subject to change by the government, acting on the advice of its own experts. Every change is recorded on the shipbuilder's first draft by a star stamped on the exact spot in the ship's anatomy where the change has been deemed advisable and annotated on the margin with an exact description which refers it to the final series of new plans that have thus been made necessary.

Any change the government makes in its original specifications—such changes, for instance, as are often the result of an added experience in naval architecture gained by some minor mishap to a foreign vessel either in ordinary cruising or in naval manoeuvres—is much added to the cost of the vessel to the government, and every deviation from the original specifications—which very rarely happen to a modern shipyard and is then invariably very soon discovered by the lynx-eyed government inspector—must be remedied at the cost of the company. Despite the hundreds of plans made in the shipyard, it may be noted moreover that Uncle Sam is his own warship designer, and the plans are simply a tangible expression of the way in which the shipbuilders propose to carry out the countless details specified by the government experts. And when everything is completed and the big war vessel is not only built on paper but launched, ready to receive her ordnance and go into commission, the government files a duplicate of every plan—not of the original draft but of yet another new one containing all the changes developed in process of construction—from the smallest hammock hook to the biggest engine or gun mount. From these final, complete drawings, whatever happens to the vessel, the government is able immediately to order the material necessary to repair the injury.



WHERE THE VERMONT IS BEING BUILT ON PAPER.

A Corner of the Fore River Drafting Room in which the New Battleship's 1200 Plans are Under Way.

In moulding grave or vault of stone
Bury me body, blood and bone,
Since like the wind upon the hill
My Soul is unimprisonable.
And when I make the final change,
My glad, undying soul shall range
Plains, mountains, oceans, ocean-shores—
All God Almighty's out-of-doors.
And range it shouting over space,
Or rest in some untrodden place.
—Gouverneur Morris in September Outing.

---

you can't nail the parts together or make them fit as you go along. Every plate of unbending steel, of which no two are exactly similar, has its individual place in the ship, every rivet hole has its individual place in the steel plate, and every plate must therefore have been carefully planned on paper before it becomes a part of the ship's vices of a small army of expert engin-

CHANGEABLE TABLE.

Gunner—"I saw a cane that could be converted into a chair."

Gayer—"That's nothing. I saw a table that could be carried in the pocket."

Gunner—"You must be joking. What kind of a table was it?"

Guyer—"A time table."—Chicago News