

# ANTON M. HOLTER, WHO CAME TO MONTANA A POOR BOY AND BECAME AN EMPIRE BUILDER, PASSES AT THE AGE OF NINETY

## PRESIDENT CLAPP ON MONTANA OIL

SAYS SOURCE OF PETROLEUM IS A GREENISH BLACK SAND CALLED COLORADO SHALE

First Gas Wells in State Found in Carbon County, First Commercial Gas at Havre; First Commercial Oil in Carbon and Then Came Cat Creek.

President C. H. Clapp of the University of Montana says the western part of the state is eliminated as an oil producing country because of the many fractures and upheavals that have taken place. The eastern part of the state is also eliminated because the source of the oil is so deep that to bore to the depth required to find oil would be prohibitive at the present time.

"The history of the rock formation may be divided into three parts," said Mr. Clapp. "The rocks in the western part of the state may be called the ancient rock, that in the middle of the state may be termed the medieval rock, and that of the eastern part the recent rock."

**First Gas Well.**  
"The first gas wells in the state were found in Carbon county in 1897, and the first great gas-producing well in the state was drilled at Havre in 1915. In the Sweetgrass hills there is some gas, but not in paying quantities. In 1916 oil in paying quantities was found in Elk Basin, and the output there is about 80,000 barrels a year. The Cat Creek oil field was discovered in 1919, causing a great impetus to the oil industry in the state. Since then many drillings have been made, some of them productive and some not."

"To be productive, an oil field must have four conditions. First, there must be a source of oil. This source is usually a greenish black shale, called the Colorado shale. It is rich in organic remains, either of plant or animal material. The pressure and heat that have been applied determine that quality of the oil found. There must also be a porous stratum to contain the oil. This stratum may be of sandstone, or limestone, and form a reservoir for the oil. This porous stratum must have an impervious covering, usually of shale, that will prevent the oil and gas from escaping. The whole of this structure must then be covered by what is called a cap rock, which is impervious. In some cases, where this cap rock is fractured, we find that a thick clay has prevented the escape of the oil and gas."

**Keeps in Oil and Gas.**  
"This cap rock, which is impervious, is like an overturned basin, keeping in all the oil and gas. Finally, there must be water pressure to force the oil near the surface. We may find the oil above the water, or we may find it in a state of emulsion."

"We find some relation between the coal fields and the oil fields, the different grades of coal determining the amount and quality of the oil produced. In general I may state that the more volatile matter contained in the coal the less oil is found although in the lignite areas there is little oil. The great oil fields are found where the distillation in the coal is great. The best yields of oil are found where the distillation is between 65 and 70 per cent."

**Depth Is a Factor.**  
"The depth of the well has a great deal to do with the possibilities of production. A well 1,000 feet deep may be drilled at a cost of about \$10,000. As the well goes deeper the cost of drilling mounts rapidly, so that well 7,500 feet deep would cost about \$75,000. A well about 4,000 feet deep is about the present limit of a profitable well, although they have been drilled to a depth of 7,000 feet in a few cases."

"The migration of oil is upward, and when a dome is found where the dips at the sides are steep the oil may be taken with greater ease. At any rate wherever the side dips are steep a test well is warranted in this state."

A. M. Holter, pioneer lumberman, merchant and mining operator, who built up a large fortune through his energy and enterprise, died at his home in Helena a few days ago, at the age of 90. He was singled out by King Haakon of Norway as one of the two Norwegians in the United States, the other being Senator Knute Nelson of Minnesota, who had achieved most in the new world.

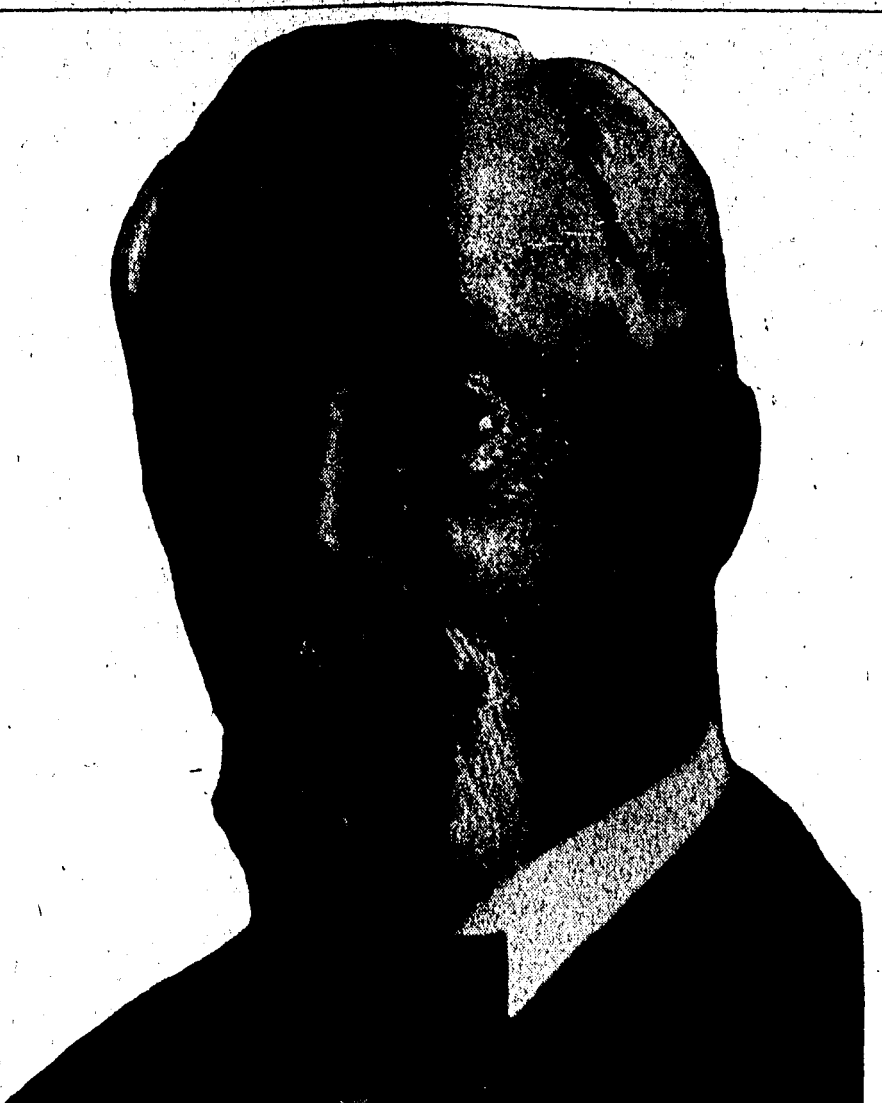
Mr. Holter was born at Moss, a village on the eastern shore of Christiania Fjord, Norway, June 29, 1831. His parents were Folen and Bertha M. (Flogstad) Holter. He was third in a family of five, having two older brothers and a younger brother and a sister. Following the death of his father, who was lost at sea, his mother was left with scanty means of support and he went to live with a paternal uncle with whom he remained on his farm until he was 17 years old, learning to read fairly well and to write some, thus qualifying for his confirmation, when 15, as a member of the Lutheran church.

**Came Here a Youth.**  
Although his early ambition was to become a sailor the fate of his father deterred him from following this vocation and he learned the carpenter's trade. At the age of 23 he came to the United States by way of Quebec. While en route the train on which he was speeding to Chicago was wrecked near London, Canada, and five passengers were killed. This was in 1854.

His stay in Chicago was brief and he pushed to Decorah, Idaho, where he secured work at carpentering at \$20 a month, while inferior workmen were receiving \$1 a day. Mr. Holter, however, saved money and by judicious investments soon accumulated \$3,000. He then went to St. Louis and in 1860, with his brother, Martin M., journeyed to Colorado, locating near what is now Idaho Springs and South Clear creek.

In the fall of 1863, Mr. Holter and his partner, E. Evenson, brought a sawmill to Virginia City, Mont., which they put up in Rams Horn gulch, 18 miles away. In 1864 they started lumber yards at Virginia City and Nevada City. That summer he and his two partners, Norellus and Olson, built the waterworks at Virginia City, not an easy task. Piping and hydrants were made of logs and they paid \$150 each for three-inch augurs, made in a neighboring blacksmith shop. In 1864 Mr. Evenson went to Denver and purchased a second-hand planing mill, but being unable to secure sawmill machinery, he loaded his train with flour and other provisions and started for Virginia City.

**Active in Virginia City.**  
He was snowed in at Snake river, lost most of his outfit and brought what remained on pack animals to Virginia City at a cost of 10 cents a pound. But nails were then selling at \$150 a keg, in smaller quantities at \$2 a pound; flour, which had brought \$150 a sack, dropped to \$60, and Mr. Holter reshipped the flour to Helena, selling it there for \$100 a sack. In 1865 he purchased a second-hand portable steam engine and boiler and set it up on Ten Mile



Anton M. Holter, whose busy career came to an end in Helena a few days ago. He came to Montana with very little money and built up many industries.

creek, eight miles west of Helena, in connection with the planing mill brought by Mr. Evenson from Colorado. This was the first planing mill in Montana.

While lumber at Virginia City had brought \$125 a thousand for common and \$140 for sluce and flume lumber, the Helena price was only \$100 for common, and this price soon dropped to \$40. In June, 1865, Mr. Holter bought Mr. Evenson's interest and took as partner his brother, Martin, forming the firm of A. M. Holter & Brother. By the winter of 1865-6 common lumber had advanced to \$70. The mill was kept busy night and day and they made a little money, but being compelled to operate with inexperienced hands, accidents occurred and several men were killed. In the fall of 1866 Mr. Holter went east and was a month on the road to Chicago. The fare to Omaha by stage was \$350 in gold dust, or \$700 in currency. Deducting stop-overs, they made the trip in actual travel of 17 days and nights, the quickest time then on record. Mr. Holter purchased in the east a new steam sawmill, machinery for a sash and door factory, appliances for a distillery and a stock of merchandise. Some of these articles were over two years in reaching their destination.

**A Dangerous Journey.**  
During his visit to Chicago Mr. Holter was married, April 6, 1867,

to Miss Mary P. Loberg, a Norwegian girl, and she journeyed to Montana via St. Louis, and on the Missouri river to Fort Benton. Mr. Holter returned on the overland stage of the Smoky Hill route, via Denver and Salt Lake City. Seventeen passengers took the stage at Salina, Kan., and by the provident care of the stage company each man was provided with a rifle and ammunition. While they were not attacked by Indians, they found the stage stations along the route burned and the stock killed. Once the passengers laid three days and nights in a haystack. They drove the same mule team three stages—75 miles—on account of the burning of the stations and the slaughtering of the stock. As they passed one of these stations it was in flames, with the roof just falling in, indicating the close proximity of the Indians. After 25 days of threatening peril they reached Helena in safety.

Mr. Holter, however, was extremely anxious concerning his bride. At Salt Lake City he was informed that the steamer Gallatin, on which his wife had taken passage, had been captured by the Indians, while she was told that the overland stage had been attacked and the passengers slain.

On his return to Helena, Mr. Holter erected a store on Main street. (Last Cance gulch), where the Pittsburgh block later was built, and in the fall of 1867 the brothers opened a general store. In 1868-69 the sash and door factory and the distillery were completed, the first plants of their kind established in Montana. The saw and planing mill burned in March, 1869; one month later the first big fire occurred in Helena and the firm lost \$40,000.

**Pioneered in Mining.**  
Peculiar interest attaches to Mr. Holter's connection with the introduction of concentrators. He was a pioneer in this mining industry. In 1871 the Rumley mine was discovered and purchasing an interest in it, he opened negotiations with Frederick Utsch, of Cologne, Germany, for his right in the American patent of the Utsch concentrating jig. Mr. Holter for years retained the document, written in German, conveying the right "in consideration of 60 German rix-marks for each machine," to use the jigs in America. Mr. Holter had one of them shipped to Montana, and in the early 70's he erected the first concentrator in the Rocky mountains on the Rumley mine.

It was soon evident that the machinery erected was not of sufficient strength for the work and was a failure, except to show what might be accomplished by stronger machinery. The value of these works Montana understands better than any other portion of the world through Mr. Holter's persistency in their introduction.

In 1877 Mr. Holter purchased an interest in the Parrot mine and in 1880 the Parrot Silver and Copper company was organized; in 1878 he and Mr. Newell invented and patented a wooden amalgamating pan. In 1879, to benefit his impaired health, he took a trip of eight months to Europe, spending most of the time in Sweden and Norway. In 1882 Holter & Brother erected a sawmill on Stickney creek and started a lumber yard at the mouth of Sun river, on the site of the city of Great Falls. In 1880 he was one of a company that purchased the Elkhorn mine, at Ketchum, Ida., and in 1881 he became interested in the Maginnis and Kit Carson mines in Montana and in the Peacock, Helena and White Monument mines in Idaho, and in 1883 in the Helena Mining and Reduction company; their smelter in East Helena was erected in 1888. In 1884 Mr. Holter was connected with the first street railway and electric light plant in Helena; in 1886 with others, he organized the Helena Concentrating company, with plant at Wardner, Ida.; purchased an interest in the Helena and Victor Mining company; organized the Livingston Coal and Coke company; opened its mines and built a washing plant at Cokedale, in Park county. In 1887 he established the Holter Lumber company and the A. M. Holter Hardware company.

In 1888 he purchased the Helena Frisco properties at Wardner, Ida., and erected a large concentrator (destroyed by the labor riots in 1892 and later rebuilt), and in 1890 he and others organized the Cascade Land company; in 1892-3 he did development work in the Trail Creek district, now Rossland, B. C., and in company with other Helena parties he purchased the Blue Canyon coal mines in 1891; he began construction work on the Bellingham Bay & Eastern railway in 1892, and assisted in organizing the Coeur d'Alene Hardware company at Wallace, Ida. Mr. Holter was largely interested in the Peck concentrating plant at Corbin and in one at East Helena. In 1898 he was prominent in the organization of the Sand Point Lumber company at Sand Point, Ida., which later became the Humbird Lumber company.

In 1892 Mr. Holter, with his family, made five months' trip to Europe.

Mr. Holter was a republican, but without caring for office, he was called upon to hold positions of trust. In 1878 he was elected to the territorial council; in 1881 he was a member of the city council of Helena and later was elected to the house of representatives of the state, serving in both the first and second sessions. He was one of the first school trustees elected in 1869, and was the first republican elected to this office in Lewis and Clark county. He was largely interested in the building of the first school house in Helena, which cost \$25,000, over \$11,000 being realized from the sale of county warrants.

Financially, politically and socially, his career shows a distinct and unqualified success.

## SIX MONTHS OLD PULLETS LAY EGGS; HATCH CHICKS

Joseph N. Kenck, of East Helena, was around town last week telling a tale about "chickens" that should interest poultry fanciers and experts, for he, or rather Mrs. Kenck who handles the fowls at the Kenck home, believes that one fallacy relating to pullets has been exploded. The birds are not supposed to lay before they are six months old, and none to set for a year.

However, this is what happened: The latter part of last January, 37 young chicks were hatched. By the middle of May—three months and a half after being hatched—the pullets began laying. This was surprising; but on June 19, one of the pullets insisted upon setting, so 15 pheasant eggs were secured from the state fish and game commission and the pullet was given a chance to demonstrate. July 14, she came off the nest with 11 young pheasants which some day will be marks for the sportsman's gun. Mr. Kenck says he expects to be

## MONTANA'S LUMBER INDUSTRY BOOMING

SAWMILLS RUNNING FULL BLAST AND CONDITIONS ARE BACK TO NORMAL AGAIN.

Great Northern's Discovery That Larch Is Best for Rail Ties Helps Revival; 27,000,000 Feet of Timber Sold to Sawmill in Somers in One Order.

Virtually every sawmill in Flathead and Lincoln counties is running full blast and the lumber industry is back to normal after a period of limited production, it was reported last week by Henry Good, member of the state highway commission and a well known lumberman.

Good on July 1 completed delivery to the Somers Lumber company of 27,000,000 feet of timber, one of the biggest "drives" he has handled in 30 years' experience in logging in that region. He employed 400 men in the fall, winter and spring months. For about two months he will not carry on any operations and most of his men have gone to the harvest fields. They will return in September.

Discovery by the Great Northern Railway company that Montana larch (tamarack) is the most durable wood obtainable in the northwest for railroad ties has had a large share in restoring the lumbering industry, Good said. Formerly the railroad shipped in Oregon fir for its ties, but now big picking plants have been established in this state and the tamarack is being shipped to all parts of Montana and into North Dakota. Subsidiary corporations of the railroad own large areas of forest land and with this supply and the supply available from state and federal forests there will never be any shortage of material for ties, Good believes.

Of the 27,000,000 feet logged out this year by Good, 18,000,000 feet came from privately owned land and most of the remainder from state owned land. Many other logging contractors brought out large quantities, the Somers company alone obtaining 13,000,000 to 15,000,000 feet in addition to the amount handled by Good.

The I. W. W. members, who formerly created so many disturbances in the northwestern timber regions in Montana, have been quiet for several months, Good reports. Their leaders, he believes, have warned them that jobs are none too plentiful and that now is the time to hang on to a job if one has it.

called a "nature fakir" as well as a prevaricator, but that he can prove that the pullet referred to both laid and hatched before she was six months old.

## F. J. PERRA IS NEW HEAD OF MONTANA RETAIL MERCHANTS



F. J. Perera

At the recent convention at Helena of the Montana Retail Merchants' Association a new president was elected, F. J. Perera of Great Falls being honored by elevation to the position. Mr. Perera has been one of the live wires of the local merchants' association of the Electric City and is an indefatigable worker for better organization among the merchants

of the state and for good merchandising methods. He is working with the executive committee of the association, composed of O. F. Tait of Carter and G. W. Merkle of Belt, on an extensive and constructive program for the ensuing year for the state merchants' association, and will shortly make an announcement concerning this that will interest every merchant in Montana.

## SON OF GRANVILLE STUART HAS PUNCHED COWS 41 YEARS

By TEDDY BLUE.  
In 1880, when Granville Stuart started in the cattle business with the old D-S outfit, his son, Charlie, was sent with the first herd that was trailed from the Madison river to what is now Fergus county. He was only a boy, but took to the business like a duck to water. For several

cowpunchers roaming through the country with a pack outfit in a Dodge car. Believe me, times have changed. From the Yellowstone river to the Bow river in Canada there is not a man living or dead that knows the history of that part of the cattle range like Charlie Stuart. He knows every outfit that ever ran cattle



THE LAST OF A GREAT HERD—This photograph, taken by Mrs. Joe Reynolds at the Long X ranch in Valley county, shows the butchering of the last Long X calf in 1920, and marks the closing out of one of the best known cow outfits on the Northern Montana range. Charlie Stuart, son of Granville Stuart, the famous pioneer who discovered gold in Montana in 1858, is seen standing at the right in the picture.

years he wrangled the horses, and when the cattle were moved to the north side of the Missouri river in 1886, 87 and 88, Charlie went with them and has been there ever since. When the D-S moved up to the Shelby country, Charlie quit the outfit and worked for several years for John Survant, who ran the Circle Diamond outfit, with headquarters at Malta. He also worked for the Coburn outfit. In 1905 he went to work for the Long X, one of the best known outfits in Northern Montana. He punched cows for them for 14 years, and when they closed out their outfit, he rode the range for their horse outfit.

This year Charlie is working for his old wagon boss, Norval Wallace, who ran the Long X for so many years and now has a cow outfit of his own on Squaw creek, in Garfield county. Charlie and Norval Wallace came to see me a short time ago, and it sure did look queer to see two old

there, big or little. He can tell you where every cowpuncher moved to. The plains were like an open book to him, and lots of cowpunchers have told me that you can't lose Charlie, but I know that, myself.

Charlie is the best story teller on the range and has a wonderful memory. He has always been a great reader. In the 36 years I have known him I have never heard him say an ill word of a cowpuncher. They all look good to that old boy. He is a great admirer of Charlie Russell, the artist. He says Russ never makes a mistake—every strap and buckle is right. His horses and men are just as they were in the old range days, and that is the great charm Russell's pictures have for us old cowpunchers.

Charlie Stuart is the only man in Montana I know who has ridden the range for 41 years straight for wages, and he is still going strong.



Cigarette

To seal in the delicious Burley tobacco flavor.

It's Toasted

