COTTON IS UTILIZED.

How the Big Problem Is Solved in Texan Fields and Factories.

TWO OF ITS PIONEER PHASES.

Bagging and Oil Experiments on Trial in the Town of Sherman.

A PITTSBURGER SETS WHEELS GOING

SHERMAN, TEX., July 28.—There was a time when Texas did not encourage manufacturing. Two Ohio men who came down to furnish the skill for a new enterprise were hanged for their hardihood. That was the Tellico incident.

Some of the leading citizens of Central Texas got together and agreed that Texas should make her own lumber, grind her own flour and spin her own cotton. They selected Tellico for the location of lumber, flour and cotton manufacturing. They deputized the Hon. Thomas W. McRae to go North and buy the equipment. They contracted with the Ohio men to come down and set the mills going. Mr. McRae started North with the money to buy saws, stones and spindles. On the way he met the eminent statesman of that day, Robert Tombs. Mr. Tombs persuaded McRae that wild land in North Texas was a better thing than cotton manufacturing. Mr. McRae invested in 200,000 acres of land instead of in looms. The Ohio men came down according to contract and went to Tellico to set up the mills. There were no mills to set up.

Strung Up as Northern Abolitionists.

Without waiting to investigate the stories these men told, a mass meeting of Texans decided that the strangers must be abolitionists and hung them. After life was extinct papers arrived from the capitalists who had planned the mills showing the arrangement under which the men had come. Only one of the promoters of the Tellico manufacturing scheme, Judge A. B. Norton, of Dallas, is still living. There are many Texans, not old men, either, who remember very well the unfortunate mistake that was made in the reception of the skilled labor from Ohio.

Things have changed since then. The man who will come to Texas now and start a new industry will get backing and a banquet instead of a rope with a slip knot. At Sherman the people are a little prouder to-day of a six months' manufacturing experiment than of any other one thing within their community. The experiment is in the manufacture of seamless bags.

Raw cotton at the rate of five bales a day is taken from the farmers' wagons at one end of the factory. Finished bags at the rate of 3,000 a day are shipped out at the other end. Sherman put $150,000 into this experiment. A fine brick building, with room for double the present capacity of looms, was erected in the outskirts of the city. It is one-story, with great windows letting in all of the light and air there is. Provision is made for pumping in cold air in summer and warm air in winter. The very latest machinery and contrivances, such as automatic feeders for the furnaces and a superb electric light plant, are included in the equipment.

Evidences of Brain Work Everywhere.

Labor is saved at every turn. In the cotton room, where the raw material is received, a picking and breaking machine reduces the staple to sheets. Then comes the carding engine, with its myriads of little teeth, straightening out the fiber. Six rolls pass into one, and are mixed and long drawn out. Next comes a twisting together of strands and more drawing out to get the fiber so distributed that its greatest strength may be obtained. Again and again the strands are mingled and twisted and drawn out until the string which comes from the last mixing represents a portion of each of 72 rolls.

The next step is the spinning. Three rolls of the string are strung into warp yarn at the rate of seven and one-half inches of yarn for each inch of the rolls. And now come the looms. By a peculiar double up-and-down movement of the loom the long seamless bag gradually evolves from the mingling of the countless threads and the flying shuttle. When the desired length is reached the shuttle is stopped for a few movements of the loom and then another bag with seamless bottom and seamless sides is begun. The bag comes from the loom completed, with the exception of the turning down of the top edge and a seam by machine to prevent raveling.

The superintendent of the Sherman factory, after only six months' running, lays down the bags of Manchester, N. H., beside those from his own looms and invites comparison by microscope.

Cottonseed Oil Another Industry.

The man who shipped the first cottonseed oil cake to Great Britain lives in Sherman. His name is Captain Thomas Forbes. He was in the cotton business in New Orleans many years ago. At that time the use of the cottonseed for oil and cake was scarcely known.

Somewhere up the country a big planter occasionally ground a few hundred bushels of seed in a rude way, and sent it in the form of oil cake down to New Orleans. "I had seen some of these small lots of cake," said Captain Forbes, "and it struck me the cake might be used to fatten cattle in Great Britain. An English gentleman was visiting in New Orleans about that time. I told him of the cake and what I thought could be done with it. He said he had never seen anything of the kind, and was quite curious about it. I told him I'd send over some, but when I came to get the cake I discovered that it was harder to do than I had thought. By picking up a small lot here and a small lot there I collected 40 or 50 tons and sent it over.

"The business proved to be very profitable. Some of the scientific men on the other side took hold of the cake and analyzed it. They said, 'Here we can get more oil out of it than the Yankees do.' So they got up machinery, subjected the oil cake to another process and then fed the cake to their cattle. It was in 1846 I made this first shipment of oil cake to Great Britain. The business was even at that time profitable. But it is only in the last 15 years or so that the oil and cake from the cotton seed has come into such general use."

A Pittsburger Starts a Seed Mill.

The largest cottonseed mill in the world is rising from its foundations on the prairie east of Sherman. It will eat up 432 tons of cottonseed in 24 hours. That means the seed which grows with over 800 bales of cotton. A half ton of seed to a bale of cotton is the average.

Something more than a dozen years ago a young Pittsburger, who had a good schooling in machinery and its uses, came to Sherman and started a little seed mill in the outskirts of the city.

"That," said Banker Randolph, one of the solid capitalists of Sherman, "was almost before we, who had been here a lifetime, knew there was such a thing as oil in cottonseed. Mr. Tassey started in a very modest way. The first thing we knew about him he was making oil out there. He kept on independently increasing his plant and business. After he had made an eminent success of it we formed a stock company and backed him with all the money he wanted. But J. C. Tassey is entitled to the credit of giving Sherman the largest oil mill in the South and the largest cotton gin in the world. And now we are building an entirely new mill, which will have a front of 300 feet and will contain the finest machinery that can be devised. We are building with brick an stone and in the most substantial manner. But brick and stone and machinery do not make a successful cottonseed oil mill. That takes brains. We rely on Mr. Tassey to furnish them."

Fortunes Lost by Rash Experimenters.

The banker's reference to brains is full of meaning. There has been a great deal of money made in the cottonseed oil manufacture in Texas. There has been a great deal lost. A few years ago, after a very good season for the business, there was an epidemic of oil mill investment in the State. Every large town in the cotton-producing parts of Texas had its mill. There were no fewer than 30 of these enterprises. A bad year sent two-thirds of them to the wall. Last season was a good one for those mills which survived in Texas.

And now there is another epidemic of oil mill building likely to be followed by another assortment of wrecks. In the manufacture of cottonseed oil men play for big stakes. Few products are so fluctuating in price as those which come out of a cottonseed oil mill. The Sherman mill has sold oil at 55 cents and oil at 20 cents. It has sold oil cake at $20 a ton and oil cake at $10 a ton.

"The size of the cotton crop," Mr. Tassey explained, in the course of an interesting conversation about this peculiar industry, "has nothing to do with it. The market is speculative. In 1882 we had a good year, one of the best. In 1887 we had a fairly prosperous season. Last year was good. The elements of uncertainty in the business are men. Last year, for example, we had good crops in this country. In Europe the crops failed. There was a great demand for our oil cake for feeding, and we sold at profitable prices. Practically all of the oil cake goes abroad. This year Europe has good cereal crops and a good root crop. She will not need so much oil cake as she did last year, and she will not pay so much for what she does take.

It Depends on Other Industries.

"There are other conditions which enter into this business. A big corn crop in this country means a big hog crop. That means lots of grease and less demand for cottonseed oil. The most of our oil product goes into the manufacture of compound lard. When the hog crop is large the oil man has to scratch his head to think how he will pull through. We have to commence buying and working up cotton seed before we know what the hog crop is going to be and what the demand for oil will be. Thus, before we know what our margin will be we are in the midst of our season. Then there are years when the seed rots on our hands. For some climatic reason the seed will not keep some seasons as it does others. I have seen $150,000 worth of seed lost by Texas mills in a single year just because it would not keep until it could be worked up."

All is not gold that glitters in the cottonseed oil business. For instance, there is the oil-cake feeding in this country. Some Texas cattlemen builded great expectations on the results of the early experiments.

"Under present conditions there is no money either to the mill or the cattlemen in feeding cake here," Mr. Tassey said. "I believe that every cattleman who has taken it up and followed it has lost. Two years ago cattle which were fattened on oil cake yielded a profit. That was on account of the high price of beef cattle. Last year the balance was the other way. There were men who fed 3,000 head of cattle here, but they made nothing.

"Cottonseed meal and hulls make the finest fattening food that can be given cattle. At the average prices they will fatten cattle cheaper than corn at 20 cents a bushel. But there must be a better balance between range and fed cattle than there has been to make this kind of feeding profitable."

The Cotton Acreage Cut Down.

Returns from the cotton acreage of North Texas show a decrease of 25 per cent as compared with last year. For the rest of the State the decrease is not quite so much. The average for the whole State is about 20 per cent. This reduction of acreage is in a degree more apparent than real. Last year's cotton crop in Texas was extraordinary in acreage and yield. The reduction of 25 per cent this year is in reality only about 10 per cent under two years ago. Low prices and the agitation over the cotton grower's condition prompted the North Texans to cut off one-fourth of their cotton ground and put it into corn and other grain.

But Mr. Tassey doesn't believe the Texas cotton grower's condition is as bad as it has been pictured. "Last year's cotton crop," he said, "was marketed at only about 8 per cent below the average price for ten years. I mean that in North Texas the man who picked and sold his cotton immediately came within 8 per cent of the average price for the whole ten years preceding.

"What the South mostly needs," said Mr. Tassey, "is manufacturers of cotton. I could talk to you all night about that, or I could tell you my opinion in a sentence. To put it the shortest way I would say 'For a man of enterprise with sufficient experience and capital, who wants a stable, legitimate business, the manufacture of cotton goods in the South presents to-day the finest opportunity in the United States.'"

HAD A JOLLY TIME.

Southside Turners Hold a Jollification in Their New Hall.

The Southside Turners held a jollification in their new hall on South Thirteenth street last evening. It was in honor of the active class participating in the last turnfest. The hall was tastefully decorated. The guests were there by special invitation, and none but Turners were allowed to be present. The festivities began early in the evening, and were continued to a late hour. The music was furnished by the Germania Orchestra. It is estimated that there were about 500 present. Refreshments were served shortly before midnight and were on an extensive scale.

SENT BACK TO BUFFALO.

Mrs. Horstein Tells a Sad Story of Desertion and Want.

Mrs. Kate Horstein applied at the Department of Charities yesterday for aid to reach her home in Buffalo. She told Chief Elliot she came to this country 12 years ago, and lived here for nine years. It was here she married John Horstein, and then left for Buffalo. He deserted her and her 1-year-old baby about three weeks ago and she supposed he came to Pittsburg and followed him. A thorough search here failed to get any trace of him and she wanted to return as she had no money nor friends here. She was given a ticket.

Nineteen Were Coroner's Cases.

The report of the Bureau of Health for the week ending July 23 shows a total of 132 deaths. Of these 6 were caused by typhoid fever, 11 by consumption, 3 by convulsions, 3 by heart disease and 19 by choleraic diarrhœa. Of the decedents 50 were under 1 year of age, 13 were from 1 to 2 years of age and 1 was between 80 and 90 years of age. Of the deaths 19 were Coroner's cases. With the population estimated at 255,000, this shows an annual death rate of 26.91 per 1,000.

Found Starving to Death.

Mrs. Mills, a cripple, was found starving to death at her home, No. 35 Enoch street, by Lieutenant Charles Gallant yesterday. The woman is the wife of Michael Mills, who is now serving a term in the workhouse for assaulting her. The case was reported to the Department of Charities.

A Suit for False Arrest.

John Armbruster yesterday entered suit against J. R. Campbell, of Brushton, for $1,000 damages. He claims that on July 9, 1892, Campbell arrested him without the least provocation or cause and put him in the lock-up at Wilkinsburg. He claims the arrest was false and unlawful.

He Tapped the Till.

Edward Otts, a boarder at Hotel Arlington, Penn avenue, was arrested yesterday afternoon by Lieutenant Orth for robbing the money box. He secured $7. Last week he took $35. He was yesterday caught in the act by Mrs. C. J. Burg, the proprietor's wife.

Room Renters and Boarding Houses Who Have

Used The Dispatch's Cent-a-Word advertising columns under Wanted Boarders and Rooms To Let find it the best.

ONE OIL TANK BURNED.

The Fire Was Gotten Under Control Yesterday Morning.

GORDON SANDERS AT M'DONALD.

Operations Are Active at Present in a Number of Ohio Counties.

HOW PETROLEUM WAS FIRST PRODUCED

The big fire at Meadow Lands which was reported exclusively in THE DISPATCH yesterday morning was gotten under control about 10 A. M. yesterday. It was tank No. 18 instead of No. 17 at first reported. It contained almost 30,000 barrels of oil, which was all consumed, but by hard work on the part of the employes the fire was confined to tank No. 18.

No one was injured, and the story of a brave man, clothed in an asbestos suit, venturing into the flames to shut a gate was a myth. Although the fire was within a couple of hundred feet of the Washington branch of the Panhandle, traffic was but slightly delayed. One train was held for ten minutes yesterday morning owing to an obstruction on the tracks.

The loss is from $23,000 to $25,000. The tank and oil belonged to the Southwest Pennsylvania Pipe Line Company. The oil burned with fiendish fierceness and the heat was so intense that few could withstand it long. With astonishing rapidity the fire grew and it was but a short time after the lightning struck it until the entire top of the immense tank was a seething mass of flames. Assistant Superintendent Egan was notified, and he immediately took the precautionary steps toward saving the numerous other tanks in dangerous proximity to the burning one. Embankments were thrown up around the tank by the 200 men whom the messengers, sent out by the officials, collected in an astonishingly brief period.

Threw Up Embankments.

The first work directed by the Superintendent, E. G. Wright, was the throwing up of an embankment about 40 feet away from the tank and when this was completed another was thrown up about 40 feet behind the first. These embankments extended around the tank and to complete them it required the united labor of 200 men about eight hours. A part of the men were furnished by Hallam Bros., a number were picked up around town and at 9 o'clock a reinforcement of 60 men came from Mansfield. The flames grew warmer as the work advanced and it took a great deal of humoring to keep the men at work. Many indeed did desert the ranks of the workmen and they that remained were able to work but three or four minutes at a stretch.

Throwing up the embankment was not the only measure that was adopted for the protection of the other tanks. A large boiler was procured and connections made with all tanks in the immediate vicinity. Had the burning oil broken through or overran the embankments it would have reached the surrounding tanks and it was with the view of extinguishing the flames by steam that the latter precautions were taken.

Shot Into the Tank.

When these measures of safety were complete, a six-pound field piece was put in position and after testing it a ball was fired into the tank at 20 minutes past one yesterday morning. The next instant a large stream of oil gushed from the burning caldron and settled to the ground within the inner trench. Someone threw a brand into the escaped fluid and it required only a second for the flames to kindle and shoot upward to join those escaping from the tank.

The scenic effect produced by the fire was superb, and it is estimated that fully 5,000 people came to see one of the largest oil fires in the history of the petroleum industry in Washington county. The oil and gas ignited immediately after the tank was struck, and with every minute from that time until the cannon did its work the flames grew in height and intensity. Dense volumes of smoke, mingled with fire, rose mountain high over the tank and sank again, only to be duplicated by another burst of grandeur and still another, which followed closely in its wake.

Wonderfully suggestive of what must have been the awful condition of affairs at Oil City and Titusville recently was the unrivaled scene presented as the powerful gas gave impetus to the flames and sent them upward to paint the clouds and accumulating smoke a ghastly lurid hue. Reflected onto the hillsides, the effect was equally magnificent and the country was lit up for miles in every direction.

The workmen were paid 60 cents to $1 an hour for their services.

Gordon Sand Wells Yesterday.

No big fifth sand wells were struck at McDonald yesterday, but some Gordon sanders were found. The production, which had been up to 21,500 on Tuesday; was down to 20,500.

The Forest Oil Company's No. 3 on the Campbell heirs' farm is so small that it may be rated as a dry hole. It is gassing considerably.

Only 50 feet from it is the Oakdale Gas Company's well on the Robb acre, which started at 65 barrels an hour, and is still making almost 20 an hour.

J. M. Guffey & Co.'s No. 2 on the Andy Shane farm, three-fourths of a mile southwest of the old No. 1 Meise, was reported last evening to be making 15 barrels an hour from the Gordon sand.

Greenlee & Forst's No. 2 on the Kirk farm, located 900 feet south and east from the Meise No. 1, is in the Gordon, and yesterday afternoon the owners reported it as making 20 barrels an hour.

The Forest Oil Company shot its old No. 2 on the Mrs. Campbell farm, in the Meise pool, and brought it up to 30 barrels an hour.

Greenlee and Forst's No. 6 on the Marshall property at Noblestown was putting out 65 barrels an hour yesterday. They intended to drill it deeper into the sand last evening, and they believed it would increase with deeper drilling. It is now only 3 or 4 feet in the sand.

Guffey, Jennings & Co.'s No. 2 on the Clark farm has been cased with the 5-inch and they expect to finish it up the first of next week. They will put the 5-inch casing in No. 1 Clark to-day.

Boyd Bros. are down 700 feet in their No. 2 on the Douthett farm, at Mars.

The Gauges.

The production of McDonald went down 1,000 barrels yesterday. The hourly gauges of the larger wells at McDonald yesterday were as follows: Robb No. 3, Florence Oil Company, 25; Sinclair Oil Company's No. 1, 30; Forst & Greenlee's No. 3 McMurray, 20; Woodland Oil Company's No. 2 Crawford, 20; People's Gas Company's No. 148, 20; Oakdale Oil Company's No. 2 Morgan, 20; Forst & Greenlee's No. 6 Marshall, 50; Jennings, Guffey & Co.'s No. 7 Herron, 20. The estimated production was 20,500, stock in the field, 50,000.

Runs and Shipments.

National Transit Company runs on the 27th were 33,295; shipments, 17,932.

Southwest runs, McDonald division, on the 27th, 22,550. Outside of the McDonald, 8,245. Buckeye Pipe Line, Macksburg division, 19,020. Runs, Lima division, 52,809; shipments, 47,777. Eureka Pipe Line, 11,640; shipments, 2,345. New York Transit shipments, 46,971. Southern Pipe Line shipments were 18,938.

The tidewater runs yesterday were 5,511; total, 96,217; average, 3,563. Shipments, none; total, 204,941; average, 7,590.

The tidewater runs on the 26th were 6,112; total, 90,705; average, 3,488 and shipments none.

Active Ohio Operators.

The following is a list of wells which have been recently completed or are going down in various parts of the Ohio field:

BOWLING GREEN—Black & Reese's No. 2 on the W. H. Ewing farm, situated in section 3, Plain township, Wood county, is holding at 300 barrels. No. 3, same farm, is drilling. The same company's well on the E. Coon farm, same section, is very light.

The Ohio Oil Company's No. 1 in the S. W. Whitmore farm, same section, is a 125-barrel producer. No. 2, same farm, is drilling.

Schumaker & Quigley's No. 3 on the M. Vernon farm, situated in section 35, is a good producer, doing 100 barrels a day.

The Brown Oil Company's No. 2 on the Norton Reed farm, situated in section 26, same township, is holding at 60 barrels. No. 3 rig is up on the same farm. The same company's No. 2 on the Peter Krump farm, in section 23, is a 250-barrel producer, and No. 5, same farm, is drilling. The same company has pulled No. 6 on the Brown Bros.' farm, situated in the same section.

Wortz & Wilcox's No. 2 on the D. Hampton farm, situated on the west half of the northeast quarter of the northeast of section 10, same township, is completed and good for 200 barrels. No. 3 on the same farm is drilling.

The Bowling Green Gas Company is drilling on No. 2 on the William English farm, situated in the east half of the northeast quarter of section 26, same township.

Work in Hancock County.

FINDLAY—Langmade & Black's No. 5 on the Hugh McMurray farm, section 14, Allen township, Hancock county, and marked as the David Dorsey farm, is a 50-barrel producer, and the lightest yet drilled on the farm.

Reupert & English's last venture on the Henry Nose farm, same section, is a failure as an oil producer.

John R. Ware & Co. have pulled the casing and abandoned No. 1 on the Poe heirs' farm, situated in section 14, same township.

The Peerless Refining Company has completed a 15-barrel producer on the John Kempher farm, situated in section 15, Portage township, same county.

The North Baltimore Gas Company has just completed a poor well on the L. M. Thomas farm, in section 19, same township.

G. S. Dorney is drilling a well on the R. Kempher farm, situated in section 15, same township.

Ware & Bentel are drilling on a well on the H. Kohlman farm, situated in the same section.

W. T. Robinson has pulled the casing and abandoned No. 4 on the G. S. Darney farm, situated in section 25, same township, and has completed No. 5, which is a 30-barrel producer, on the same farm.

The Ohio Oil Company has a well drilling on the J. W. Taylor farm, situated in the same section.

The Gennessee Oil Company is drilling on No. 8 on the C. Ryal farm, section 11, Findlay township.

E. Wannamaker & Co.'s No. 3 on the C. Reninger farm, same section, is completed and good for 15 bbls. a day.

Cook & Co. have a well drilling on the C. Gravel tract, section 11, same township.

Taylor & Co. have abandoned No. 1 on the Delaware addition, same township.

The Ohio Oil Company has abandoned No. 1 on the John Boyles farm, section 17, Liberty township. The same company has a rig up on the H. Whitmore farm, same section. No. 9 rig on the N. Poe farm, section 8, and No. 5 drilling on the S. Swartz farm, section 8.

Hardin, Seneca, Wyandot and Mercer.

DUNKIRK, O.—D. Higgins has completed a well on his farm situated in section 15, Blanchard township, Hardin county, and several miles southeast of this place. It was a light gas producer. Other operations will shortly be made for crude.

TIFFIN—The daily output of the Tiffin Agricultural Company's well on the bank of the river in the corporation of Tiffin, in section 19, Clinton township, Seneca county, is good for 40 barrels. G. E. Wenner has a rig up for a test well in the corporation.

LOWELL—The dry hole just completed by Beatty & Co. on the Beatty farm, situated in section 35, Crawford township, Wyandot county, has not discouraged the firm, as they are drilling on another, which is No. 3. The Upper Sandusky Oil Company is drilling on No. 2 on the Jacob Still farm, in Salena township, same county.

CELINA—The Mackinaw Drilling Company is drilling on its No. 4 on the F. J. Miller farm, situated in section 23, Franklin township, Mercer county, and on the south side of the reservoir.

Bradford Did Not Escape.

Reports from Bradford state that during the storm Wednesday afternoon the South Penn Oil Company's rig No. 19, on the Keating farm, on Indian creek, was struck by lightning and destroyed. The Franchot Bros. lost a rig on the Campbell farm through the same agency.

Personal.

Few men in the oil regions were better known than Captain James T. Bishop, who died at his home, No. 3337 Forbes street, Wednesday evening. He was 57 years of age, and had only been in Pittsburg a few years. For some time previous to his demise he had been connected with the Standard Oil Company, but before that he had been with James Amm and the American Oil Company.

He was a pioneer in Bradford and resided there for many years. He was City Controller of that city for a number of terms.

Captain Bishop was a veteran of the Rebellion, and was one of three soldiers who organized the first Grand Army post at Decatur, Ill., in 1866. He was a quiet, refined, unostentatious man and a courteous gentleman. He left a wife and several daughters, one of whom is the wife of E. A. Durham, of Bradford. The deceased was a prominent member of the A. O. U. W. He will be buried at 2 o'clock this afternoon.

The Origin of Petroleum.

Petroleum is one of the most widely distributed substances in nature, but the question how it was originally produced has never yet been satisfactorily determined, and continues a problem for philosophers. In 1889 the total production, says *Light, Heat and Power*, exceeded 2,600,000,000 gallons, or about 10,000,000 tons, and at 4 pence per gallon was worth about £44,000,000, while the recognition of its superior utility as an economical source of light, heat and power steadily increases.

Notwithstanding its importance in industry, the increasing abundance of the foreign supply and the ever widening area of production, practical men in England continue to distrust its permanence, and owing to the mystery surrounding its origin, and the paucity of indications where and how to undertake the boring of wells, they hesitate to seek for it, or even to extend the use of it whenever they would involve alterations of existing machinery. The object of this paper is to suggest an explanation of the mystery which seems calculated to dissipate that district, since it points to very abundant stores, both native and foreign, yet undiscovered, and even in some localities to daily renovated provisions of this remarkable oil.

How the Records Should Be Read.

The theories of its origin suggested by Reichenback, Berthelot, Mendeleef, Peckham and others made no attempt to account for the exceeding variety in its chemical composition, in its specific gravity, its boiling points, are all founded on some hypothetical process which differs from any with which we are acquainted, but modern geologists are agreed that, as a rule, the records of the earth's history should be read in accordance with those laws of nature which continue in force at the present day, e. g., the decomposition of fish and cetaceous animals could not now produce oil containing paraffine. Hence we can hardly believe it was possible if it can be proved that any of the processes of nature with which we are familiar are calculated to produce it.

The chief characteristic of petroleum strata are enumerated as:

First—The existence of adjoining beds of limestone, gypsum, etc.

Second—The existence of volcanic action in close proximity to them.

Third—The presence of salt water in the wells.

All writers have noticed the presence of limestone close to petroleum fields in the United States and Canada, in the Caucasus, in Burmah, etc., but they have been most impressed by its being "fossiliferous," or shell limestone, and have drawn the erroneous inference that the animal matter once contained in those shells originated petroleum; but no fish oil ever contained paraffine. On the other hand, the fossil shells are carbonate of lime, and, as such, capable of producing petroleum under conditions such as many limestone beds have been subjectee to in all ages of the earth's history.

Petroleum is Composed of Carbon.

All limestone rocks are formed under water, and are mainly composed of calcareous shells, corals, encrinites, and foraminifera—the latter similar to the foraminifera of "Atlantic ooze" and of English chalk beds. Everywhere under the microscope, the original connection of limestone with organic matter—its organic parentage, so to speak, and cousinship with the animal and vegetable kingdoms—is conspicuous. When pure it contains 12 per cent of carbon.

Now petroleum consists largely of carbon, its average composition being 85 per cent of carbon and 12 per cent of hydrogen, and in the limestone rocks of the United Kingdom alone there is a far larger accumulation of carbon than in all the coal measures the world contains. A range of limestone rock 100 miles in length by 10 miles in width, and 1,000 yards in depth, would contain 743,000,000,000 tons of carbon, or sufficient to provide carbon for 875,000,000,000 tons of petroleum. Deposits of oil-bearing shale have also limestone close at hand; e. g., coral rag underlies Kimmeridge clay, as it also underlies the famous black shale in Kentucky, which is extraordinarily rich in oil.

Volcanic Action Had a Hand in It.

As evidence of volcanic action in close proximity to petroleum strata, the mud volcanoes at Baku and in Burmah are described and a sulphur mine in Spain is mentioned (with which the writer is well acquainted), situated near an extinct volcano, where a perpetual gas flame in a neighboring chapel and other symptoms indicate that petroleum is not far off. While engaged in studying the geological conditions of this mine, the author observed that Dr. Christoff Bischoff records in his writings that he had produced sulphur in his own laboratory by passing hot volcanic gases through chalk, which, when expressed in a chemical formula, leads at once to the postulate that in addition to sulphur, ethylene and all its homologues, which are the oils predominating at Baku, would be produced by heating carbonate of lime with sulphurous and sulphureted hydrogen. So that these and all their homologues, in fact petroleum in all its varieties, would be produced in nature by the action of volcanic gases on limestone.

But much of the most abundant of the volcanic gases appear at the surface as steam, and petroleum seems to have been more usually produced without sulphurous acid, and with part of the sulphureted hydrogen replaced by steam or peroxide of hydrogen, which is the product that results from the combination of sulphureted hydrogen and sulphurous acid.

The Same Forces Now at Work.

It is explained that these effects must have occurred, not at periods of acute volcanic eruptions, but in conditions which may be, and have been, observed at the present time, wherever there are active solfataras or mud volcanoes at work. Descriptions of the action of solfataras by the late Sir Richard Burton and by a British Consul in Iceland are quoted, and also a paragraph from Lyall's "Principles of Geology," in which he remarks of the mud volcanoes at Girgenti, Sicily, that carbureted hydrogen is discharged from them, sometimes with great violence, that they are known to have been casting out water, mixed with mud and bitumen, with the same activity now as for the last 15 centuries.

Probably at all these solfataras, if the gases traverse limestone, fresh deposits of oil-bearing strata are accumulating, and the same volcanic action has been occuring during the many successive geological periods and millions of years; so that it is difficult to conceive limits to the magnitude of the stores of petroleum which may be awaiting discovery in the subteranean depths.

Gypsum may also be an indication of oil-bearing strata, for the substitution in limestone of sulphuric for carbonic acid can only be accounted for by the action of these hot sulphurous gases. Gypsum is found extensively in the petroleum districts of the United States, and it underlies the rich salt beds at Middlesboro, where, on being pierced, it has given passage to oil gas, which issues abundantly, mixed with brine, from a great depth.

The Oil Market.

The only quotation on the local floor was established by a bid of 51⅝ for August; no sales.

Refined oil—New York, 6c; London, 4⅝d; Antwerp, 13⅝f.

OIL CITY, July 28.—National Transit certificates opened at 51⅝c; highest, 51¾c; lowest, 51⅝c; closed, 51⅝c. Sales, 5,000 barrels; clearances, 48,000 barrels; shipments, 86,207 barrels; runs, 103,505 barrels.

NEW YORK, July 28.—Petroleum dull; no sales on either Exchange. Closing price, August option, 51⅝c.

BROWN'S FRENCH DRESSING

—FOR—

LADIES' & CHILDREN'S BOOTS AND SHOES.

Awarded highest honors at

Phila., '76 | Melbourne, '80
Berlin, '77 | Frankfort, '81
Paris, '78 | Amsterdam, '83

New Orleans, 1884-85, and wherever exhibited.

Paris medal on every bottle.

Beware of Imitations.

This blacking is in liquid form and is applied to shoes or other articles of leather by means of a sponge, attached to the cork by a wire, so that the blacking can be used by anyone without soiling the fingers. No polishing brush is required. It dries immediately after being applied, and will not soil the most delicate clothing. Sold by all dealers.

B. F. BROWN & CO., Boston, U.S.A., M'f'rs.

ap29-78-F

STEAMERS AND EXCURSIONS.

NETHERLANDS LINE FOR ROTTERDAM, Paris and London. Sailing from New York: S. S. Dubbledam, Wednesday, July 27, 8:00 a. m.; S. S. Veendam, Saturday, July 30, 9:30 a. m.

Steamers marked * sail to and from Amsterdam; all others to and from Rotterdam.

From pier foot of Fifth street, Hoboken.

First cabin, $45 and upward: second cabin, $41. Reduced excursion tickets. Steerage at low rates. For illustrated guide and passage apply to JOHN J. M'CORMICK, 639 Smithfield street, LOUIS MOESER, 616 Smithfield street, MAX SCHAMBERG & CO., 527 Smithfield street. jy28-D

CUNARD LINE—NEW YORK AND LIVERPOOL, VIA QUEENSTOWN—From Pier 40, North river. Fast express and mail service.

Etruria, July 16, 10 a. m. | Etruria, Aug. 13, 9 a. m.
Aurania, July 23, 5 a. m. | Aurania, Aug. 20, 3 p. m.
Umbria, July 30, 10 a. m. | Umbria, Aug. 27, 8:30 a. m.
Servia, August 6, 3 p. m. | Servia, Sept. 3, 2 p. m.

Cabin passage, $60 and upward, according to location; second cabin $35 and $40.

Steerage tickets to and from all parts of Europe at very low rates.

For freight and passage apply to company's office, 4 Bowling Green, New York. VERNON H. BROWN & CO., General Agents, or CHARLES P. SMITH, Third av. and Wood st., Agents for Pittsburg, Pa. jy11-D

WHITE STAR LINE—For Queenstown and Liverpool. Royal and United States Mail Steamers.

Germanic, Aug. 3, 2 p m | Germanic, Aug. 31, noon
*Teutonic, Aug. 10, 5 p m | *Teutonic, Sept. 7, 4 p m
Britannic, Aug. 17, 2 p. m. | Britannic, Sept. 14, noon
*Majestic, Aug. 24, 5 p m | *Majestic, Sept. 21, 4 p m

From White Star dock, foot of West Tenth street, New York.

*Second cabin on these steamers. Saloon rates, $60 and upward. Excursion tickets on favorable terms. Second cabin, $40 and $45. Steerage from or to the old country, $20.

White Star drafts payable on demand in all the principal banks throughout Great Britain. Apply to JOHN J. McCORMICK, 639 Smithfield street, Pittsburg, or H. MAITLAND KERSEY, General Agent, 29 Broadway, New York. my29-D

ANCHOR LINE.

Steamers Leave New York Every Saturday

For Glasgow via Londonderry.

Rates for Saloon Passage

By S. S. CITY OF ROME, $60 and upwards, according to accommodation and location of Room. Second Cabin, $30 & $35. Other Steamers, Cabin, $50 and upwards. Second Cabin $30. Steerage $19.

Passengers booked at through rates to or from any city in Great Britain or on the Continent.

Drafts on London Sold at Lowest Rates.

Book of information, tours and sailing lists furnished on application to Agents, HENDERSON BROTHERS, 7 Bowling Green, N. Y., or J. J. McCORMICK, 639 Smithfield st., Pittsburg; F. M. SEMPLE, 110 Federal st., Allegheny. apl1-77-F

SUMMER RESORTS.

HOTEL RATES AND GENERAL INFORMATION May be obtained at THE DISPATCH'S Business Office, Smithfield and Diamond.

NEW JERSEY.

Atlantic City.

THE MENTONE—Ocean end of South Carolina av. U. B. STUART.

THE OSBORNE, Corner Pacific and Arkansas avenues. MRS. R. J. OSBORNE.

THE HYGEIA, Corner of Pacific and New York avenues. Near the beach; excellent table; rates reasonable. M. LUNGER, Proprietor.

THE LEHMAN, Ocean end Pennsylvania avenue, Atlantic City, N. J. F. W. LEHMAN & CO.

THE MELROSE—Arkansas av., half square from beach. Rates $1 25 to $1 50 per day, $7 to $10 per week. C. H. HUDNUT.

HOTEL MONTEREY, Atlantic City, N. J. Ocean end of New York av. Cool situation. All comforts. Excellent table. E. K. NEWCOMER

HOTEL BRUNSWICK, Pacific near Tennessee ave.; new and first-class in all its appointments. CHARLES C. MURRAY, late of Colonnade Hotel, Philadelphia.

HOTEL BERKELEY, formerly Acme, EXTREME OCEAN END OF KENTUCKY AV. Opens June 15. New management. Enlarged. Newly furnished. Electric bells. Terms moderate. JAS. & GEO. BEW.

THE CHALFONTE. ATLANTIC CITY. Directly on the Beach. Sea water baths in house. Opened January 30, 1892. C. ROBERTS & SONS.

HOTEL WELLINGTON. Ocean end of Kentucky avenue, Atlantic City, N. J. M. A. & H. S. MILNOR. Circulars at Dispatch office.

THE IRVINGTON, ATLANTIC CITY, N. J. ON THE BEACH. CHAMBERS & HOOPES.

THE MANHATTAN, OCEAN END, SOUTH CAROLINA AVE American and European plan cafe attached. Open all the year. M. A. MELONEY.

HOTEL ALBION, Atlantic City, N. J. OPENS JUNE 25. Three minutes' walk from bathing grounds. Accommodations, 350. GUSTAV A. KNOBLAUCH.

THE MANSION, LARGEST HOTEL. OPEN ALL THE YEAR. ORCHESTRA FROM JUNE TO OCTOBER. CHARLES McGLADE.

Cape May.

HOTEL LAFAYETTE, JOHN TRACY & CO., Proprietors. Open June 18; all modern improvements; located directly on the beach; terms $3 to $5 per day. Apply to JOHN TRACY & CO., Washington Hotel, Phila. Pa., or Cape May, N. J.

THE STOCKTON, CAPE MAY, N. J., A First-Class Hotel, Will open June 4th and remain open until October 1st. F. THEO. WALTON, Proprietor.

Other Resorts.

PARKER HOUSE, Sea Girt, N. J., directly on ocean front. Woods in rear. Gas and electric bells. All modern improvements. Thirteenth season. Open all the year. THOS. DEVLIN, Prop.

CONTINENTAL HOTEL, SEA ISLE CITY, N. J., Now open. Directly on the beach. Large, spacious rooms. Hot and cold baths. Elevator. Terms reasonable. T. C. GILLETTE & CO.

HOTEL ALLAIRE, Spring Lake, N. J. NOW OPEN. DIRECTLY ON THE BEACH. E. M. RICHARDSON.

PENNSYLVANIA.

PINE HEIGHTS INN AND COTTAGES, Allegheny Mountains, location unsurpassed; most picturesque region of Pennsylvania; all modern improvements; purest water and finest air; steam heat; tennis; open about June 20; illustrated circular. A. H. GRIER, Birmingham, Huntingdon county, Pa.

HOTEL OLIVER and beautiful Glen Park, At Ellwood City, within forty miles of Pittsburg, on the P. and W. or Ft. Wayne railroads. A charming inn, high elevation, the most picturesque scenery east of the Rockies. Lawn tennis, steam yachting, fishing, good liveries, etc. L. B. NIXON, Proprietor.

BEDFORD SPRINGS, BEDFORD, PA. "THE CARLSBAD OF AMERICA." HOTEL OPENS JUNE 2d. L. B DOTY, Manager.

MOUNTAIN HOUSE CRESSON SPRINGS. On the Summit of the Allegheny Mountains, Main line Penna. R. R. All trains stop. Will open JUNE 25th. For circulars and information, address WM. R. DUNHAM, Supt., Cresson, Cambria county, Pa.

STURTEVANT HOUSE. NEW YORK. American plan $2 50 to $3 50 per day. European plan $1 00 per day upward. THE STURTEVANT HOUSE Is the most central in the city; near all elevated roads, street car lines, principal places of amusement and large retail stores. All the comforts of home with the additional conveniences of the metropolis is offered our guests. THE STURTEVANT HOUSE, Broadway, 28th and 29th sts., New York, N.Y.

RAILROADS.

PITTSBURG AND LAKE ERIE RAILROAD Company. Schedule in effect May 15, 1892, Central time.—DEPART—For Cleveland, *8.00 a. m., 1.55, 4.20, *9.45 p. m. For Cincinnati, Chicago and St. Louis; *1.55, *9.45 p. m. For Buffalo, 8.00 a. m., 4.20, *9.45 p. m. For Salamanca, *8.00 a. m., *1.55, *9.45 p. m. For Youngstown and New Castle, 6.00, *8.00, 11.30 a. m., *1.55, †3.20, *4.20, *9.45 p. m. For Beaver Falls, 6.00, 7.00, *8.00, 11.30 a. m., *1.55, 3.20, *4.20, 5.20, *9.45 p. m. For Chartiers, ¶5.30, 5.35, 6.00, ¶6.45, 7.00, 7.37, *7.50, ¶8.00, 8.30, *9.10, 11.30, ¶11.45 a. m., 12.10, 1.00, 2.00, 3.30, 4.05, ¶4.20, *4.25, 5.10, 5.20, *8.00, ¶9.45, 10.00 p. m.

ARRIVE—From Cleveland, *6:30 a. m., *12:30, 5:15, *7:30 p. m. From Cincinnati, Chicago and St. Louis, *6:30 a. m., *12:30, *7:30 p. m. From Buffalo, *6:30 a. m., 12:30, 9:30 p. m. From Salamanca, *6:30, *10:00 a. m., *7:30 p. m. From Youngstown and New Castle, *6:30, ¶7:25, *10:00 a. m., *12:30, 5:15, *7:30, 9:30 p. m. From Beaver Falls, 5:20, *6:30, 7:25, *10 a. m., *12:30, 1:20, 5:15, *7:30, 9:30 p. m.

P., C. & Y. trains for Mansfield, 7:37 a. m., 12:10, 4:05 p. m. For Espien and Beechmont, 7:37 a. m., 4:05 p. m.

P., C. & Y. trains from Mansfield, 7:31, 11:59 a. m., 2:37 p. m. From Beechmont, 7:31, 11:50 a. m.

P., McK. & Y. R. R.—DEPART—For New Haven, *8:20 a. m., *3:00 p. m. For West Newton, *8:20 a. m., *3:00, 5:25 p. m.

ARRIVE—From New Haven, *9:00 a. m., *4:07 p. m. From West Newton, 6:35, *9:00 a. m., *4:07 p. m.

For McKeesport, Elizabeth, Monongahela City and Belle Vernon, *6:40, 11:05 a. m., *4:00 p. m.

From Belle Vernon, Monongahela City, Elizabeth and McKeesport, *7:40 a. m., 12:55, *5:05 p. m.

*Daily ¶Sundays only. ‡To and from New Castle only.

City Ticket Office, 639 Smithfield Street.

STEAMERS AND EXCURSIONS.

ALLAN LINE ROYAL MAIL STEAMSHIPS, GLASGOW to PHILADELPHIA VIA DERRY and GALWAY. The most direct route from Scotland and North and Middle of Ireland. ACCOMMODATIONS UNSURPASSED. Intermediate, $30. Steerage, $19.

STATE LINE. SERVICE OF ALLAN LINE STEAMSHIPS. NEW YORK and GLASGOW via Londonderry, every Fortnight.

Aug. 11........State of Nevada..........noon
Aug. 25........State of Nebraska.........noon
Sept. 8........State of California........11 A. M.

Cabin, $40. Second Cabin, $30. Steerage, $19. Apply to J. J. McCORMICK, 639 Smithfield st. jel5-D

RAILROADS.

PENNSYLVANIA RAILROAD.

IN EFFECT JUNE 12th, 1892.

Trains will leave Union Station, Pittsburg, as follows (Eastern Standard Time):—

MAIN LINE EASTWARD.

Pennsylvania Limited of Pullman Vestibule Cars daily at 7:15 a. m., arriving at Harrisburg at 1:55 p. m., Philadelphia 4:45 p. m., New York 7:00 p. m., Baltimore 4:40 p. m., Washington 5:55 p. m.

Keystone Express daily at 1:20 a. m., arriving at Harrisburg 8:25 a. m., Baltimore 11:15 a. m., Washington 12:20 p. m., Philadelphia 11:25 a. m., New York 2:00 p. m.

Atlantic Express daily at 3:30 a. m., arriving at Harrisburg 10:30 a. m., Philadelphia 1:25 p. m., New York 4:00 p. m.

Harrisburg Accommodation daily, except Sunday, 5:25 a. m., arriving at Harrisburg 2:50 p. m.

Day Express daily at 8:00 a. m., arriving at Harrisburg 3:20 p. m., Philadelphia 6:50 p. m., New York 9:35 p. m., Baltimore 6:45 p. m., Washington 8:15 p. m.

Mail train Sunday only, 8:40 a. m., arrives Harrisburg 7:00 p. m., Philadelphia 10:55 p. m.

Mail Express daily 12:50 p. m., arriving at Harrisburg 10:00 p. m., connecting at Harrisburg for Philadelphia.

Philadelphia Express daily at 4:30 p. m., arriving at Harrisburg 1:00 a. m., Philadelphia 4:25 a. m., and New York 7:10 a. m.

Eastern Express at 7:10 p. m. daily, arriving Harrisburg 2:10 a. m., Baltimore 6:20 a. m., Washington 7:30 a. m., Philadelphia 5:05 a. m. and New York 7:40 a. m.

Fast Line daily, at 8:10 p. m., arriving at Harrisburg 3:30 a. m., Philadelphia 6:50 a. m., New York 9:30 a. m., Baltimore 6:20 a. m., Washington 7:30 a. m.

Cresson and Ebensburg Special Saturdays only, 2:50 P. M.

All through trains connect at Jersey City with boats of "Brooklyn Annex," for Brooklyn, N. Y., avoiding double ferriage and journey through New York City.

Johnstown Accom., except Sunday, 3:40 p. m. Greensburg Accom., 11:30 p. m. week days, 10:30 p. m. Sundays. Greensburg Express 5:15 p. m., except Sunday. Derry Express 11:00 a. m., except Sunday.

Wall Accom. 5:25, 6:00, 7:40, 8:35, 8:50, 9:40, 10:30, 11:00 a. m., 12:15, 12:50, 1:20, 2:30, 3:40, 4:00, 4:50, 5:15, 6:00, 6:45, 7:25, 9:00, 10:10, 11:30 p. m., 12:10 night, except Monday. Sunday, 8:40, 10:30 a. m., 12:25, 12:50, 2:30, 4:30, 5:30, 7:20, 9:30, 10:30 p. m. and 12:10 night.

Wilkinsburg Accom., 5:25, 6:00, 6:15, 6:45, 7:00, 7:25, 7:40, 8:10, 8:35, 8:50, 9:40, 10:30, 11:00, 11:10 a. m., 12:01, 12:15, 12:30, 12:50, 1:20, 1:30, 2:00, 2:30, 3:15, 3:40, 4:00, 4:10, 4:25, 4:35, 4:50, 5:00, 5:15, 5:30, 5:45, 6:00, 6:20, 6:45, 7:25, 8:20, 9:00, 9:45, 10:30, 11:00, 11:30 p. m. week-days, and 12:10 night, except Monday. Sunday, 5:30, 8:40, 10:30 a. m., 12:25, 12:50, 1:30, 2:30, 4:30, 5:30, 7:20, 9:00, 9:30, 10:30 p. m., 12:10 night.

Braddock Accom., 5:25, 6:00, 6:15, 6:45, 7:00, 7:25, 7:40, 8:00, 8:10, 8:35, 8:50, 9:40, 10:30, 11:00, 11:10 a. m., 12:01, 12:15, 12:30, 12:50, 1:20, 1:30, 2:00, 2:30, 3:15, 3:40, 4:00, 4:10, 4:25, 4:30, 4:35, 4:50, 5:00, 5:15, 5:30, 5:45, 6:00, 6:20, 6:45, 7:25, 8:20, 9:00, 9:45, 10:20, 11:00, 11:30 p. m. week-days, and 12:10 night, except Monday. Sunday, 5:30, 8:00, 8:40, 10:30 a. m., 12:25, 12:50, 1:30, 2:30, 4:30, 5:30, 7:20, 9:00, 9:30, 10:30 p. m., 12:10 night.

SOUTHWEST PENN RAILWAY.

For Uniontown 5:25 and 8:35 a. m., 1:20 and 4:25 p. m. week-days.

MONONGAHELA DIVISION.

ON AND AFTER MAY 25, 1891.

For Monongahela City, West Brownsville and Uniontown 10:40 a. m. For Monongahela City and West Brownsville 7:35 and 10:40 a. m., and 4:50 p. m. On Sunday, 8:55 a. m. and 1:01 p. m. For Monongahela City only, 1:01 and 5:50 p. m. week-days. Dravosburg Accom., 6:00 a. m. and 3:20 p. m. week-days. West Elizabeth Accom. 8:35 a. m., 4:15, 6:30 and 11:35 p. m. Sunday, 9:40 p. m.

WEST PENNSYLVANIA DIVISION.

ON AND AFTER JUNE 20, 1892.

From FEDERAL STREET STATION, Allegheny City:—

For Springdale, week-days, 6:20, 8:45, 9:25, 10:40, 11:50 a. m., 1:30, 2:25, 4:00, 5:00, 5:45, 6:10, 6:20, 8:10, 10:30, and 11:40 p. m. Sundays, 12:35 and 9:30 p. m.

For Butler, week-days, 6:20, 8:45, 10:40 a. m., 3:15 and 6:10 p. m.

For Freeport, week-days, 6:55, 8:45, 10:4 a. m., 3:15, 4:00, 5:00, 8:10, 10:30 and 11:40 p. m. Sundays, 12:35 and 9:30 p. m.

For Apollo, week-days, 10:40 a. m. and 5:00 p. m.

For Paulton and Blairsville, week days, 6:55 a. m., 3:15 and 10:30 p. m.

The Excelsior Baggage Express Company will call for and check baggage from hotels and residences. Time cards and full information can be obtained at the ticket offices—No. 110 Fifth avenue, corner Fourth avenue and Try street and Union station.

CHAS. E. PUGH, General Manager. J. R. WOOD, Gen'l Pass'r Agent.

From Pittsburgh Union Station.

Pennsylvania Lines.

Trains Run by Central Time.

Northwest System—Fort Wayne Route

DEPART for Chicago, points intermediate and beyond: *1.20 a.m., *7.10 a.m., *12.20 p.m., *1.00 p.m., *8.45 p.m., †11.30 p.m. ARRIVE from same points: *12.05 a.m., †1.15 a.m., *6.00 a.m., *6.35 a.m., *5.55 p.m., *6.45 p.m.

DEPART for Toledo, points intermediate and beyond: †7.10 a.m., *12.20 p.m., *1.00 p.m., †11.20 p.m. ARRIVE from same points: †1.15 a.m., *6.35 a.m., †6.45 p.m.

DEPART for Cleveland, points intermediate and beyond: †6.10 a.m., *7.10 a.m., *1.30 p.m., *11.05 p.m. ARRIVE from same points: *5.50 a.m., †1.55 p.m., *5.55 p.m., †6.50 p.m.

DEPART for Martins Ferry, Bridgeport and Bellaire: †6.10 a.m., †1.30 p.m., †4.10 p.m. ARRIVE from same points: †9.00 a.m., †1.55 p.m., †6.50 p.m.

DEPART for New Castle, Erie, Youngstown, Ashtabula, points intermediate and beyond: †7.20 a.m., †12.20 p.m. ARRIVE from same points: †1.25 p.m., †8.40 p.m.

DEPART for New Castle, Jamestown, Youngstown and Niles, †3.45 p.m. ARRIVE from same points: †8.40 a.m.

DEPART for Youngstown, *12.20 p.m. ARRIVE from Youngstown, *6.45 p.m.

Southwest System—Pan Handle Route

DEPART for Columbus, Cincinnati, Indianapolis, St. Louis, points intermediate and beyond: *1.10 a.m., *8.20 a.m., *8.45 p.m., *11.15 p.m. ARRIVE from same points: *2.20 a.m., *6.00 a.m., *5.50 p.m.

DEPART for Columbus, Chicago, points intermediate and beyond: *1.10 a.m., †12.05 p.m. ARRIVE from same points: *2.20 a.m., †3.05 p.m.

DEPART for Washington, †6.15 a.m., †8.35 a.m., †1.55 p.m., †3.30 p.m., †4.45 p.m., †4.50 p.m. ARRIVE from Washington, †6.55 a.m., †7.50 a.m., †8.50 a.m., †10.25 a.m., †2.35 p.m., †6.25 p.m.

DEPART for Wheeling, *8.30 a.m., †12.05 noon, †2.45 p.m., †6.10 p.m. ARRIVE from Wheeling, †8.45 a.m., †3.05 p.m., *5.50 p.m.

Special Notices.

PULLMAN SLEEPING CARS AND PULLMAN DINING CARS run through, East and West, on principal trains of both Systems.

LOCAL SLEEPING CARS running to Columbus, Cincinnati, Indianapolis, Cleveland, Toledo and Chicago are ready for occupancy at Pittsburgh Union Station at 9 o'clock p. m.

TIME TABLES of Through and Local Accommodation Trains of either system, not mentioned above, can be obtained at 110 Fifth Avenue and Union Station, Pittsburgh, and at principal ticket offices of the Pennsylvania Lines West of Pittsburgh.

*Daily. †Ex. Sunday. ‡Ex. Saturday. ¶Ex. Monday.

JOSEPH WOOD, General Manager. E. A. FORD, General Passenger Agent.

BALTIMORE AND OHIO RAILROAD. Schedule in effect May 22, 1892. Eastern time.

For Washington, D. C., Baltimore, Philadelphia and New York, *8 00 a m and *9 20 p m.

For Cumberland, *6 50, *8 00 a m, ‡1 10, *9 20 p m.

For Connellsville, *6 50, *8 00, ‡8 30 a m, ‡1 10, ‡4 15, ‡5 00 and *9 20 p m.

For Uniontown, ‡6 50, *8 00, ‡8 30 a m; ‡1 10, ‡4 15 and ‡5 00 p m.

For Mt. Pleasant, ‡6 50 and ‡8 00 a m; ‡1 10, ‡4 15 and ‡5 00 p m.

For Washington, Pa., *7 20, ‡8 10 and ‡9 30 a m., *4 00, ‡4 45, *7 30 p m.

For Wheeling, *7 20, ‡8 10 and ‡9 30 a m, *4 00, *7 30 p m.

For Cincinnati and St. Louis, *7 20 a m and *7 30 p m.

For Columbus, *7 20 a m and *7 30 p m.

For Newark, *7 20 a m and *7 30 p m.

For Chicago, *7 20 a m and *7 30 p m.

Trains arrive from New York, Philadelphia, Baltimore and Washington, *6 20 a m, *8 30 p m. From Columbus, Cincinnati and Chicago, *8 50 a m, *8 40 p m. From Wheeling, *8 50 and *10 45 a m, ‡4 15, ‡7 55 and *8 40 p m.

Parlor and sleeping cars to Baltimore, Washington, Cincinnati and Chicago.

*Daily. ‡Daily except Sunday. §Sunday only. ‖Saturday only. ¶Daily except Saturday.

The Pittsburg Transfer Company will call for and check baggage from hotels and residences upon orders left at B. & O. ticket office, corner Fifth avenue and Wood street, and 639 Smithfield street.

J. T. ODELL, General Manager. CHAS. O. SCULL, Gen. Pass. Agent.

ALLEGHENY VALLEY RAILWAY CO. Taking effect June 26, 1892, trains will leave and arrive at Union station, Pittsburg, eastern standard time: Buffalo express—Leaves at 8:20 a. m., 8:50 p. m. (arriving at Buffalo at 5:45 p. m. and 7:20 a. m.); arrives at 7:05 a. m., 6:35 p. m. Oil City and DuBois express—Leaves 6:00 a. m., 8:20 a. m., 1:30 p. m.; arrives 1:00, 6:35, 10:20 p. m. Emlenton—Leaves 3:45 p. m.; arrives 10:00 a. m. Kittanning—Leaves 9:05 a. m., 5:00 p. m.; arrives 8:55 a. m., 5:55 p. m. Braeburn—Leaves 6:50 a. m., 12:05 p. m., 5:20 p. m., 6:15 p. m.; arrives 6:40 a. m., 8:05 a. m., 1:45 p. m., 7:40 p. m. Valley Camp—Leaves 10:15 a. m., 2:30, 9:30, 11:30 p. m; arrives 6:40 a. m., 12:30, 4:40, 11:40 p. m. Hulton—Leaves 7:50 p. m.; arrives 9:20 p. m. Sunday trains—Buffalo express—Leaves 8:20 a. m., 8:50 p. m.; arrives 7:05 a. m., 6:35 p. m. Emlenton—Leaves 9:05 a. m.; arrives 9:15 p. m. Kittanning—Leaves 12:40 p. m.; arrives 10:15 p. m. Braeburn—Leaves 9:50 p. m.; arrives 7:10 p. m. Pullman parlor buffet car on day trains and Pullman sleeping car on night trains between Pittsburg and Buffalo. Ticket offices, No. 110 Fifth avenue and Union station.

DAVID M'CARGO, Gen'l Supt. | JAMES P. ANDERSON, Gen. Pass. Agt.

PITTSBURG AND WESTERN RAILWAY—Schedule in effect May 15, 1892 (Central time). Depot cor. Anderson st. and River av., Allegheny. Depart for Chicago, *2:00 p. m. Solid train with Pullman sleeping car. For Kane, Bradford, †7:10 a. m. For Clarion, †7:10 a. m., †2:00 p. m. For Foxburg, *7:10 a. m., †2:00, †4:25 p. m. For Buffalo, Erie, Meadville, †7:10 a. m. For Greenville, Mercer, Grove City, †7:10 a. m., †2:00 p. m. For Akron, Cleveland, †7:10 a. m., *2:00 p. m. For New Castle, *7:10 a. m., *2:00, †3:05 p. m. For Butler, †6:30, *7:10, †9:30 a. m., *2:00, †4:25, †5:15 p. m.

Trains arrive: From Kane, †6:45 p. m.; Clarion, †11:30 a. m., †6:45 p. m.; Foxburg, †9:05, †11:30 a. m., †6:45 p. m.; Erie, †3:50 p. m.; Greenville, Mercer, †11:30 a. m., †3:50 p. m.; Akron, *11:55 a. m., †6:45 p. m.; New Castle, †9:05, *11:55 a. m., *6:45 p. m.; Butler, †7:00, †9:05, †11:30 a. m., †3:50, *6:45 p. m.; from Chicago, *11:55 a. m.

*Daily. †Except Sunday.